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ON THE RELATIONSHIP BETWEEN A BANK'S EQUITY HOLDINGS AND BANK PERFORMANCE*

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Abstract

The purpose of this paper is to provide empirical evidence on the effects of a banks' equity holdings in firms on the bank's performance. The analysis is based on accounting measures of Spanish banks, from 1992 to 2000. The findings support a positive relation between total equity stakes and bank performance. Furthermore, we find different implications depending on the type of bank holdings considered. The results indicate that the effects on bank performance are the best when holdings are in group and nonfinancial firms.

Keywords: bank equity holdings; bank performance; group firms; related diversification; panel data.

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1. Introduction

As in other European and Asian countries, banking laws in Spain do not legally restrict banks from holding blocks of equity in firms. Consequently, block holdings are rather extensive and it is very common for banks to hold equity of financial and nonfinancial firms, to which they also lend capital (Mayer, 1990). These equity holdings could give banks considerable voice in corporate governance, and both costs and benefits associated with a close bank-firm relationship could exist (Morck et al., 2000).

The current study does not question whether banks should be allowed to own equity stakes or how large these should be,¹ but rather is concerned about the effects that the bank's equity ownership has on the bank's performance. Given that the extant literature has given little explicit consideration to the effects of bank equity ownership on the banks' own performance, our purpose is to provide empirical evidence on the potential profits achieved by banks from their equity ownership in other financial and nonfinancial firms.

¹ The regulation of a bank's ability to hold equity in nonfinancial firms is discussed in Bhattacharya and Thakor (1993). Recent studies have shown that regulations that limit bank investments in the equity of nonfinancial firms create a distortion and force the bank to use alternative contracts in order to finance the firms (Santos, 1999).

The influence of this participation on bank performance is relevant in countries with bank oriented systems, where banks have traditionally been involved in industry. Particularly in Spain, it is very common to find banks with large shareholding portfolios, in both financial and nonfinancial firms. Many industrial groups are organized around banks that act as main creditors and major shareholders.

The empirical work is carried out by examining the case of Spanish banks. We focus exclusively on the analysis of stable equity ownership, i.e. long-term investments. In this category of stable bank equity ownership, it is important to distinguish between equity ownership and the rights to control that derive from it. There are cases in which the bank holds shares of a firm integrated into the bank's group, in which case it is expected that the bank will have more control due to its role as major shareholder. There are other cases of bank shareholdings in firms that are not integrated into the group, in which case the bank may also have an important block holding but would be expected to have less control than in group firms. Moreover, it is also important to differentiate the bank's equity holdings in terms of closeness between the bank's and firm's activities, i.e. the financial or nonfinancial nature of the firm. It is likely that these different typologies of bank equity holdings will have different implications on bank performance.

The paper proceeds as follows. In Section 2, we present the conceptual framework. In Section 3, we describe the data and outline the methodology used in this paper. Section 4 presents the empirical results. Finally, in Section 5 we conclude with the discussion of the results.

2. Theoretical Background

Banks as Large Block Shareholders

Since Diamond (1984) suggested that banks, as financial intermediaries, served as corporate monitors, many other theoretical and empirical studies have described the close bank-firm relationship as a mechanism of monitoring managers and mitigating problems of asymmetric information. Many of these studies have documented bank-firms relationships, notably in Japan and Germany where banks, in addition to being lenders, play a substantial corporate governance role by holding a stake in their borrowing firms' equity (Sheard, 1989; Aoki, 1990; Sharpe, 1990; Rajan, 1992; Thadden, 1995; Morck et al. 2000, among others).

This dual role of banks as creditors and shareholders lets them become more involved in the firm's financial transactions, and they are generally well-informed about the firm's activities (Amsden and Hikino, 1991; Sheard, 1994; Hoshi, 1994; Cai et al., 1999). In the presence of capital market imperfections, they are able to bear informational and monitoring costs, resulting in improved investment decisions (Hoshi et al. 1991; Morck et al., 2000; Park, 2000; Kang et al., 2000). Banks have incentives and capabilities to become involved in the firms' decision-making processes, and they can be considered as a corporate governance mechanism (Gorton and Schmid, 2000). The costs of financial distress are

lower for those firms that maintain close bank ties (Hoshi et al, 1990; Kester, 1991)². Additionally, an informed bank holding equity in the firm provides a quality signal to uninformed third parties. Thus banks are seen as long-term investors who oversee firm investments and organize internal capital markets, rather than acting as anonymous and myopic investors (Porter, 1992). Therefore, we could expect that the firm will obtain more advantages than disadvantages from its close relationship with the bank. Consequently, the bank could benefit, through its holding, from the improved investment decisions of the firm.

However, despite the extensive literature, the international evidence on the benefits for the firms from bank ties is not conclusive. Neither all the studies nor on all countries have concluded that bank equity participation has a positive effect on improving firm performance or solving agency problems (Limpaphayom and Polwitoon, 1999). Some studies on the relationship between firms and banks seriously question the positive influence of banks, in terms of yielding higher profits or growth rates for the firm. In fact, banks can also take advantage of their situation and, as large shareholders, they can use their voting power to secure private benefits (Barclay et al., 1993). Burkart et al. (1997) demonstrate that, when large shareholders monitor the firm, they may conflict with performance-based schemes and their tight control may constitute an expropriation threat. The privileged information that the bank has about the firm is a further source of power that can also allow banks to appropriate surplus from client firms (Rajan, 1992; Mahrt-Smith,

² Some researchers have found this evidence for Japanese banks, while evidence for Germany and Spain is mixed (Berlin et al., 1996; Zoido, 1997).

2000). In short, the bank's ownership may be large enough to influence corporate governance, and the bank's interests could not be aligned with those of the rest of the shareholders. As a result, the benefits from the close relationship between firm and bank could be appropriated by the bank (Weinstein and Yafeh, 1998).

For instance, in Japan, keiretsu-affiliated firms (with close ties with a main bank) have higher debt ratios than independent firms (Nakatani, 1984; Meric et al., 2000). In return for providing capital, banks are able to extract rents from their client firms through higher interest rates (Caves and Uekusa, 1976; Weinstein and Yafeh, 1998). Concerning a firm's performance, Prowse (1992), in a comparison of keiretsu-affiliated firms and independent firms, does not find a significant relation between concentrated ownership and firm performance. Meric et al. (2000) show that independent firms have significantly higher operating profit margins and higher return on assets ratios, although the return on equity ratios of the two categories do not differ significantly. Alternatively, Morck et al. (2000) find support for a negative relation between equity ownership by a main bank and firm value. This is because moderate and high ownership levels increase a bank's power to appropriate surplus from client firms.

In Germany, with regard to loan pricing, Elsas and Krahen (1998) provide a comparison between the credit policy of *house banks*³ and normal banks, and they find no evidence for price differentiation. In terms of results, evidence is found supporting the positive influence of banks on firm performance by using accounting-based measures (Cable, 1985), as well as market-based measures (Gorton and Schmid, 2000).

³ These are banks with close connections to industry, acting as their major bank.

Finally, in Spain, banks appear to benefit from increased lending activity with affiliated firms. In fact, Cuervo-Cazurra (1999) shows that the presence of a bank among the top three shareholders is positively related to firm's leverage and bank debt. However they do not seem to use their position to increase financing costs, but the firms benefit from lower credit costs (Zoido, 1998). In terms of firm value, the evidence is mixed. Berges and Sánchez del Villar (1991) do not find a significant impact of bank holdings on market-to-book value of equities. Zoido (1998) separately explores two different samples. In the sample of firms quoted on the stock market, the bank equity participation is positively related to the firms' market-to-book value. However, in the sample of non-quoted firms, the bank shareholder role is not related to accounting performance measures. Cuervo-Cazurra (1999) finds that the bank equity ownership is negatively associated with the firm's accounting measures of profitability.

Recent works still debate the potential benefits for and costs to the firms resulting from close bank ties (Kang et al. 2000; Gorton and Schmid, 2000; Dewenter et al., 2001). To the best of our knowledge, the effects on banks have not been investigated as thoroughly. For instance, Park (2000) theoretically analyzes the effect of the banking affiliation on both the firm's and bank's investment efficiency. Following this line of thought, we are interested in providing empirical evidence on the effects of bank equity ownership on bank performance.

In summary, the bank can benefit from the improved efficiency of the firm derived from the bank monitoring activities. The bank can also expropriate part of the firm rents. Moreover,

the bank could achieve other businesses through its relationship with the affiliated firms, such as a potential increased lending activity with affiliated firms⁴.

Since the bank can be considered as a well-informed investor, we would expect rational behavior, i.e. that banks would direct their investments toward the most profitable projects. In a first valuation, the bank considers the investment in a firm as an investment choice to obtain profitability for its assets. In this sense, a positive deal should be expected from investments in the firm when the bank has assessed both the advantages and disadvantages and has measured both the direct and the indirect effects. In short, we expect to find evidence on the positive relation between bank equity ownership and bank performance.

Related or unrelated? To control or not to control? These are the questions

The bank decides to hold shares in a firm or, in other words, the bank decides to diversify its investment portfolio. This can become a complex decision, since it involves defining the type of market chosen for entry, i.e. the degree of relatedness with the bank's traditional activities, and the control that the bank will have in the firm.

As regards the first question, the bank has two basic choices: 1) to hold shares in financial firms, which could be understood as related diversification; or 2) to hold shares in

⁴ Of course, there could be costs or disadvantages that the bank must face, such as an excessive risk concentration. Nevertheless, we are only focusing on one of the two classical dimensions that investors consider when evaluating an investment, which is the profitability.

nonfinancial firms, which is an unrelated diversification. The implications of the diversification policy can differ substantially in both cases.

The potential association between firm diversification and performance has been one of the most widely researched topics in strategic management. The pioneering research by Rumelt (1974) found that firms with interrelated business portfolios appeared to have higher levels of profitability than firms following strategies of diversification into unrelated businesses. His conclusions are based on the idea that strategic interrelationships among businesses can help to achieve competitive advantages by means of internal sharing of resources among different business units. Therefore, related diversification would presumably allow the firm to gain a competitive advantage, because skills and resources could be more easily transferred among businesses. These arguments have been tested by many subsequent studies, which have supported Rumelt's original findings. However many others have found the opposite, resulting in equivocal results and considerable disagreement on the superiority of related diversification over unrelated diversification (e.g. Robin and Wiersema, 1995). Chatterjee and Wernerfelt (1991) suggest that unrelated diversification can be the better choice in specific instances, and the firm's resource profile can explain the type of diversification chosen. They also note that other factors could influence the type of market chosen to compete in, such as expected growth of the market, margins of profitability or regulation.

Based on the context of this paper, banks having shares in one or more financial institutions can be considered as related diversification. The profitability of traditional financial activities has shown a downward trend during the last years. In fact, European banks have

faced increasing levels of competition both from other banks and from the capital market as a consequence of European Union directives. This deregulation process, which has undermined the monopoly power of banks, combined with the convergence and stability of interest rate policies followed by the European Union's member countries, have reduced bank interest rate margins (see, for example, Saunders and Schumacher, 2000). In the case of Spain, these authors report monotonically decreasing bank interest rate margins over the period 1988-1995.⁵ These changes have led banks to prefer other potentially more profitable though riskier businesses, such as equity stakes in the capital of nonfinancial firms, thus intensifying their involvement in industry.

In terms of the degree of relatedness, holdings in financial firms allow the bank to share more strategic resources and knowledge than in the case of unrelated businesses. Nevertheless, bank holdings in nonfinancial firms are more attractive in terms of profitability because of their potential to generate higher profit rates, in contrast to the declining margin rates in traditional financial activities.

In any case, the ability of the bank to exercise control in the firm in which it has a stake must be considered. The potential advantages of a related diversification strategy could

⁵ It is also true that liberalization of the financial markets in the European Union has reduced the bank's market power, facilitating corporate borrowing in capital markets (as suggested by Weinstein and Yafeh, 1998, in relation to financial liberalization in Japan during the 1980s). However, Spanish firms continue to have few alternatives to bank debt. In fact, the market for corporate issued debt is still underdeveloped in Spain (Nieto and Tribó, 2000).

disappear if the bank does not have effective control over the firm decisions. In this situation, the previous arguments about the potential benefits of related diversification would not be directly applicable. It should be noted that we are not exactly dealing with business units under a bank's control, but rather with a bank holding equity stakes in other financial firms. This means that, although the bank effectively controls the firm, the potential advantages of internal resource sharing are limited in such a case. It is likely that the links among the different financial firms in which the bank has equity stakes will not be as strong as in the case of business units belonging to the same corporation.

Therefore, we should not necessarily expect that a bank's equity stakes in financial firms will yield higher levels of profitability than those in nonfinancial firms. It may be possible that the bank will be more involved in a nonfinancial firm's decision-making process and will be better positioned to extract private benefits. In short, we should not conclude without considering the bank's ability to control the firm. We need to answer the second question in order to have enough criteria to evaluate the implications of the bank's equity holdings on its performance.

To control or not to control? The ability to influence and participate in the firm's decisions is intimately related to the bank's power of control. As Lins and Servaes (1999) show, the effect of diversification is different across countries, because a number of differences exist between corporate organizational structures and institutional environments. They found that ownership concentrated in the hands of insiders enhances the valuation of diversified firms in Germany, where bank ownership is not limited and where ownership concentration is higher than in Japan and the U.K. Thus, the implications of the diversification strategy will

predictably be different according to the ownership concentrated in the hands of the bank, and consequently to its power of control. In other words, the results obtained by banks from their holdings in financial and nonfinancial firms could differ substantially depending on their ability to control the firms.

It is very common to find banks creating their own groups, where they act as the head and hold a controlling share in the companies. The group constitutes a decision unit, and the bank can direct or indirectly control the firms' decisions. As a result, we would expect the bank to be more involved in the management decisions of firms belonging to its group.

Concerning control, which is measured by the ratio of large voting rights to cash flow rights (Frank and Mayer, 2001), we can distinguish between two basic categories of bank holdings: those motivated by control and those that are simply holding companies. The bank has more extensive stakes in the member firms of its bank group than in other firms. Consequently, the bank's scope and interest in influencing management decisions should be different for bank group firms versus other firms (Morck and Nakamura, 1999).

A financial group can solve problems in the capital market. The bank, acting as central office or headquarters, is able to acquire information and allocate resources in the best way, based on profitability criteria. When the bank holds shares in affiliated firms, it seems to have more control and can acquire privileged information, because of the concentration of the equity control rights and the very close relationship between the bank and the firm. Therefore the bank will have the ability to actively influence in the firm's decisions.

Large group shareholders are usually stable shareholders, and this characteristic makes them operate in long time frames (Gerlach, 1992; Dewenter and Warther, 1998) and isolates the firm from requirements associated with short-term fluctuations (Brioschi et al., 1989; Buzzacchi and Colombo, 1996). Therefore, a bank investing in group firms is considered as a stable investor, with the power to control and well-informed about the firm's operation. Thus the firm is able to decide in a consistent way with a longer-term orientation (Hoshi et al., 1990).

Additionally, corporate grouping helps to reduce the bankruptcy risk (Hoshi, 1994; Cai, et al., 1999). The firm's creditors may interpret group membership as a favorable signal for the firm. The creditors may anticipate an efficient investment behavior and increased solvency in financial distress, because the firm has strong financial relationships with a bank (Khanna and Rivkin, 2001). Consequently, the incidence of financial distress and the bankruptcy risk to the firm can be reduced.

Based on these arguments, we can first expect the firm to display a more efficient investment behavior in the case of group firms, which will allow it to obtain better results and increase the firm's value for shareholders, and accordingly for the bank. The financial group structure can facilitate an efficient allocation of funds, because information problems within the group's internal capital markets are less severe than those faced by external financial markets. This firm's over-performance benefits the bank because, through its holding, it is a firm shareholder.

Secondly, from their privileged situation as block holders, the banks may potentially use this position to extract rents from their client firms or promote their own interests at the expense of other shareholders (Shleifer and Vishny, 1997). The bank is able to do this because of private information and the ability to control the firms. As an active decision-maker, the bank can achieve certain businesses that directly benefit it, such as new credit lines for the firm and other businesses obtained as a result of its relationship with the firm.

We expect the effects of holdings on bank performance to be better in the case of holdings in group firms because of the control that the bank can exercise, and the different behavior expected of a large shareholder. The group holdings can be in both financial and nonfinancial firms. As we argued above, in the first case the bank can additionally benefit from synergies that could not exist in the latter case. With regard to related diversification, the bank could be at a certain disadvantage because financial activities belong to a sector in which potential profit rates are very limited. Moreover, unrelated diversification in a group may make it more difficult to monitor and coordinate businesses. In this situation, the group must invest in creating coordination mechanisms that facilitate the sharing of information, so the benefits of creating a group could not be sufficient to offset the disadvantages or costs (Khanna and Papelu, 2000).

In the next sections we try to empirically analyze the potential advantages and disadvantages that different typologies of equity holdings by bank have on bank performance.

3. Data and Methodology

Sample and Variables

Our sample consists of an unbalanced panel of 88 banks from 1992 to 2000 (744 observations), all of which are national banks operating in Spain on December 31, 2000. Data from the annual balance sheets and income statements have been obtained from the Spanish Association of Private Banks. The number of banks varies from 77 in 1992 to 88 in 2000. The variables used in the study are defined as follows.

Dependent variable

Bank performance has been measured by using the well known return on assets (ROA), which is one of the most widely used measures of performance (e.g., Keats and Hitt, 1988). Although it would be desirable to employ bank performance indicators based on market values, the number of Spanish banks quoted on capital markets is too small for reliable estimation of regression models. However, as pointed out by Robins and Wiersema (1995), accounting-based measures of performance have the advantage of being close connected to the decision variables controlled by managers. Moreover, from the point of view of the purpose of this paper, ROA has the advantage (over, for instance, the return on equity: ROE) of being a measure of performance expressed in terms of total assets, and equity stakes are a fraction of them.

Independent variables

These variables measure different types of bank equity holdings⁶. It is important to remember that we only consider variables reflecting equity stakes in the capital of firms with which the bank maintains stable ties. Also, in order to eliminate the influence of the bank's size, all shareholding variables indicated below have been expressed as a percentage of total assets (and multiplied by 100).

TOT: Total equity stakes to total assets ratio. It includes equity stakes in group and nongroup firms, as well as in financial and nonfinancial firms.

GR: Equity stakes in group firms to total assets ratio. It includes equity stakes in firms in which the bank can exercise effective control. Specifically, they are firms belonging to the bank's consolidated group, which is considered as a decision unit with the bank acting as the head.

NGR: Equity stakes in nongroup firms to total assets ratio. It includes equity stakes in firms that do not belong to the bank's consolidated group but have stable ties to the bank. Specifically, they are firms in which the bank owns at least 20% of the equity, or 3% in the case of firms quoted on capital markets.

FIN: Equity stakes in credit companies to total assets ratio, i.e. equity holdings considered as related diversification (financial activities) and belonging to one of the two following categories:

⁶ These entries are defined by Spanish Law according to European Union Directive 86/635.

GRFIN: equity stakes in financial group firms to total assets ratio.

NGRFIN: equity stakes in financial nongroup firms to total assets ratio.

NFIN: The rest of equity stakes in firms which are not classified as credit companies, and also belonging to one of the two following categories:

GRNFIN: equity stakes in nonfinancial group firms to total assets ratio.

NGRNFIN: equity stakes in nonfinancial nongroup firms to total assets ratio.

The relations among the independent variables are shown in Figure 1. Some descriptive statistics for the dependent and independent variables are contained in Table 1.

Model Description

In order to estimate the effects of the different types of equity ownership on bank performance, we posit the following panel data models:

$$ROA_{it} = \alpha + u_i + \beta_1 TOT_{it} + e_{it} \quad (1)$$

$$ROA_{it} = \alpha + u_i + \beta_1 FIN_{it} + \beta_2 NFIN_{it} + e_{it} \quad (2)$$

$$ROA_{it} = \alpha + u_i + \beta_1 GR_{it} + \beta_2 NGR_{it} + e_{it} \quad (3)$$

$$ROA_{it} = \alpha + u_i + \beta_1 GRFIN_{it} + \beta_2 GRNFIN_{it} + \beta_3 NGRFIN_{it} + \beta_4 NGRNFIN_{it} + e_{it} \quad (4)$$

where $i = 1, 2, \dots, 88$ is the individual (bank) subscript and $t = 1992, 1993, \dots, 2000$ is the time subscript; α and β_j are the model parameters; e_{it} is the residual term; and u_i represents the individual effect. Model (1) investigates the influence of total stakes (TOT) on bank performance (ROA). Model (2) distinguishes between equity stakes in financial (FIN) and nonfinancial (NFIN) firms. Model (3) distinguishes the potentially different effects on bank performance of equity stakes in group (GR) and nongroup firms (NGR). Finally, Model (4) includes equity stakes in both financial and nonfinancial group firms (GRFIN and GRNFIN respectively), and also in financial and nonfinancial nongroup firms (NGRFIN and NGRNFIN respectively).

For instance, Model (3) can be interpreted as follows. ROA can be easily expressed as a weighted average of the return from different kinds of assets. Assuming that A_1 and A_2 are the amount of bank equity stakes in group and nongroup firms respectively, and that A is the total bank assets, then $A_3 = A - A_1 - A_2$ represents the rest of the bank's assets. Also, assuming that B_1 , B_2 and B_3 are the bank's profit from its equity stakes in group and nongroup firms and from the rest of its assets, respectively, then obviously $B = B_1 + B_2 + B_3$ is the bank's total profit. Thus, for a given bank, ROA can be expressed as:

$$ROA = \frac{B}{A} = \frac{B_1}{A_1} \frac{A_1}{A} + \frac{B_2}{A_2} \frac{A_2}{A} + \frac{B_3}{A_3} \frac{A_3}{A}$$

where A_1/A and A_2/A represent our variables GR and NGR respectively, and B_1/A_1 , B_2/A_2 and B_3/A_3 represent the return on equity stakes in group firms, on equity stakes in nongroup

firms and on the rest of the bank's assets, respectively. β_1 and β_2 are estimates of the unknown rates of return B_1/A_1 and B_2/A_2 , respectively. Moreover, taking into account that $A_1/A + A_2/A + A_3/A = 1$, α accounts for the effect of the rest of the bank's assets.

4. Empirical results

The estimation results of the four models are included in Table 2. It is a well known fact that if individual effects exist, traditional OLS regression procedures using pooled data provide biased estimates. In such cases, panel data procedures provide consistent estimates of coefficients. The individual effect, u_i , can be considered as fixed or random. It is clear that the fixed effects model is a particular case of the random effects model when the variable representing the individual effects is nonstochastic. However, as pointed out by Hsiao (1986), when the random individual effects are correlated with the regressors, the random effects model leads to biased estimates of the coefficients. In such cases, treating these effects as fixed leads to the same results as in the case in which such correlation is explicitly included in the model. Therefore, the question of treating the effects as fixed or random is important when the estimates differ widely between the two models.

We report the Hausman χ^2 statistic, which tests the null hypothesis that the random and fixed effects model estimates are not significantly different. It shows that the estimator with the random and fixed effects models are not significantly different for each model, at the 5 percent level. Therefore, since there are no significant differences between them, only the results obtained with the random effects estimation are reported. These individual effects

can result from managerial differences, assets portfolios differences, etc. among the banks under study⁷.

Moreover, when estimating our models, it should be considered the possibility of endogeneity of the regressors, which does not allow to differentiate the cause and the effect. In this situation standard estimation procedures are likely to have biased and inconsistent coefficients. The cause of endogeneity bias is the correlation between the endogenous variables and the error term. Therefore we need estimates of the endogenous variables expressed exclusively in terms of exogenous factors.

A possible solution could be to use instrumental variables for the independent variables, but identifying valid instruments is a difficult task. The variables that may be used as instruments for the explanatory variables may also determine the dependent variable. Nevertheless, given that panel data is available, lagged endogenous variables may be employed as instruments. To analyze the validity of the instruments, the Sargan test is used. The test statistic follows a Chi-square distribution.

⁷ Time effects have also been considered in the models. However, we have obtained that these effects are irrelevant for all models. Therefore, time effect variables have not been added to the models. Furthermore, in order to control the bank's size effect, the log of bank's total assets was included. Given that this control variable was never significant, it has been dropped in the final models. However, as we have already noted, the size effect is captured through our independent variables, which are defined as a percentage of the bank's total assets.

The Sargan statistics indicate no evidence against the validity of the instruments, suggesting that an endogeneity problem could be latent. Therefore, all the estimations shown in the table are computed with lagged explanatory variables as instruments as a solution to the endogenous variables problem.

The Wald statistic for each model is reported at the bottom of the table. It tests the null hypothesis that all parameters in the regression are jointly zero. All models are statistically significant at the 1 percent level.

The first column of Table 2 contains the estimation of Model (1), i.e. the regression of ROA against the ratio of total equity stakes to total assets. The coefficient of TOT is positive and significant, confirming the expected positive effect of total shareholdings on the bank's performance. In other words, banks are able to take advantage of their situation as large and stable shareholders. There are two alternative explanations of this evidence. On the one hand, the bank through its equity holdings in the firm, could benefit from the firm's improved management. On the other hand, the bank could achieve private benefits from the firm.

The second column shows the estimation results of Model (2), i.e. the effects on bank performance of shareholdings in financial (FIN) and nonfinancial (NFIN) firms. The results show that the coefficient of NFIN is positive and significant below the 1 percent level, while the coefficient of FIN is not significant. Thus, unrelated diversification seems to have positive effects on bank performance, whereas these effects are not observed in the case of related diversification. This result may be due to the potential of bank holdings in

nonfinancial firms to generate higher profit rents, in contrast to the declining margin rates in traditional financial activities.

The potentially different effects on bank performance of shareholdings in group and nongroup firms are investigated by Model (3), i.e. the regression of ROA against GR and NGR. It is interesting to note that the coefficient of GR is positive and significant at the 1 percent level whereas the coefficient of NGR is not, implying that the effects of holdings on performance are better in the case of holdings in group firms. Therefore, the advantages of creating a group, in terms of appropriation of firm's benefits, seem to be sufficient to offset the monitoring and coordinating cost.

Finally, Model (4) includes the four typologies of holding equity: financial and nonfinancial both in group and nongroup firms. The results indicate that, while the coefficient associated with bank equity stakes in group and nonfinancial firms (GRNFIN) is positive and significant below the 1 percent level, the rest of the variables are not significant. In other words, the advantages of unrelated diversification are only achieved through a group controlled by the bank, whereas bank equity stakes in financial firms do not seem to have effects on bank performance, not even in the case of they are in group firms.

5. Discussion and conclusions

During the last few decades, a significant stream of theoretical and empirical research has analyzed the bank-firm relationship, focusing mainly on the firm's perspective. However,

little explicit attention has been paid to the effects of this relationship from the bank's point of view. This study tries to shed some light on this.

As in many other countries, it is very common among Spanish banks to own equity stakes in firm capital. Consequently, equity holdings may give banks a considerable voice in corporate governance. Specifically, the purpose of this paper is to provide empirical evidence on the benefits achieved by banks from their equity ownership in firms. In order to do so, we use a panel of Spanish banks from 1992 to 2000. The variables used in the study are entries from the annual balance sheets and income statements. Bank performance has been measured by using the well known return on assets. To measure bank holdings, we only consider the bank's equity stakes in the capital of firms with which the bank maintains stable ties, thus excluding temporary investments. Moreover, we distinguish between the effect on bank performance of equity stakes in financial and nonfinancial firms, as well as between group and nongroup firms. Our hypotheses have been tested by using panel data procedures.

We find that the effect of total shareholdings on bank performance is positive, which confirms that banks can take advantage of their situation as large shareholders by exercising their voting power and using privileged information about the firm to secure private benefits. This confirms the results obtained by Weinstein and Yafeh (1998), who find that benefits from the close relationship between firms and banks in Japan are appropriated by the banks. Moreover, it is likely that banks, when acting as stable, active and well-informed investors, will select the most profitable investments from among the different alternatives available on the market.

Concerning the potentially different effects on bank performance of shareholdings in financial and nonfinancial firms, our results show that bank equity stakes in nonfinancial firms yield higher levels of profitability than those in financial firms. Therefore, it seems that the potential advantages of related diversification cannot be achieved. This result may be due to the decrease in bank interest rate margins observed during the last few years, which has made traditional financial businesses relatively less profitable than other nonfinancial businesses. However, apart from profitability there could be other factors influencing the type of market chosen to compete in, such as the firm's resource profile, expected growth of the market or regulation (Chatterjee and Wernerfelt, 1991).

We then draw our attention to the potentially different effects on bank performance of shareholdings in group and nongroup firms. The results confirm our hypothesis that the effects of shareholdings on bank performance are better in the case of holdings in group firms. These better effects of holdings in group firms may be due to the ability of the bank to exercise control. In this sense, it can be expected that the bank will be more involved in the management decisions of firms belonging to its group, thus facilitating the appropriation of benefits. These effects could be also due to the improvement on the firm's management which consequently benefits the bank.

Finally, we jointly analyze the potential effects of holding equity in both group and nongroup firms according to the relatedness of these businesses with the bank's main activity. The results indicate that only equity stakes in group nonfinancial firms have a significant positive effect on the bank's performance. This finding suggests that the

potential advantages of investing in nonfinancial firms can only be achieved when the bank, acting as the group's head, is able to control the firm's decisions. Thus it seems that the benefits from unrelated diversification, where the bank can obtain higher levels of profitability than in traditional financial businesses, are high enough to offset the monitoring and coordinating costs of creating a group.

As concluding remarks, we would like to point out some suggestions for future research. It would be interesting to analyze where the bank's benefits come from. Firstly, they could come from higher interest payments, as suggested by Weinstein and Yafeh (1998). Secondly, the bank could benefit from an increase in its lending business, as suggested by Meric et al. (2000), among others, who find that bank affiliated firms appear to have higher debt ratios than independent firms. Also it would be interesting to analyze the ability of the bank to obtain other businesses through its relationship with the affiliated firms. Thirdly, the bank could also benefit from the firm's improved management, and with that the improvement on the firm's investment efficiency, resulting from the control exercised over the firm.

Moreover, the analysis of the effects of equity holdings on bank performance could not be completed without considering the risk assumed by the bank. In fact the investment return is not the only relevant feature to consider before deciding to invest, but the investment risk is other basic dimensions to take into account. In principle, it is likely to expect that equity holdings increase the risk supported by the bank, since any shareholder assumes more risk than any debtholder. Therefore, a deep and rigorous analysis on the effects of equity holdings on bank risk is required, given that there are many other factors

that should be considered when dealing with the bank risk taking. It could be the subject of future research.

Finally, this work presents some limitations. On the one hand, the use of measures of performance based on market values could enhance the study. However the reduced number of Spanish banks quoted on capital market would make difficult the empirical analysis. On the other hand, we only have available aggregated data for each bank and each category of equity ownership. In other words, we have the total value of equity holdings of each bank in the whole set of firms in which the bank participates, and we are able to differentiate them into the four categories defined. Nevertheless it would be desirable to further disaggregate them, in order to know the individual characteristic of each firm, such as percentage of ownership owned by the bank, concentration of other shareholders, etc.

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FIGURE 1: VARIABLE RELATIONS

GRFIN	GRNFIN	GR	TOT
NGRFIN	NGRFIN	NGR	
FIN	NFIN		
TOT			

TABLE 1: DESCRIPTIVE STATISTICS

Variable	Mean	St. Dev.
ROA	1.6164	10.5701
TOT	2.1119	6.9922
GR	1.8659	6.1934
NGR	0.2460	1.0631
FIN	0.6545	2.6976
NFIN	1.4574	6.3764
GRFIN	0.6156	2.6828
GRNFIN	1.2503	5.5087
NGRFIN	0.0389	0.2563
NGRNFIN	0.2071	1.0322

TABLE 2: EMPIRICAL RESULTS

VARIABLE	MODEL (1)	MODEL (2)	MODEL (3)	MODEL (4)
TOT	0.2878 (0.000)	-	-	-
FIN	-	0.2168 (0.314)	-	-
NFIN	-	0.3038 (0.000)	-	-
GR	-	-	0.3878 (0.002)	-
NGR	-	-	-0.5218 (0.425)	-
GRFIN	-	-	-	0.1916 (0.376)
GRNFIN	-	-	-	0.5552 (0.004)
NGRFIN	-	-	-	-0.3626 (0.846)
NGRNFIN	-	-	-	-1.2279 (0.209)
CONSTANT	1.2227 (0.016)	1.2451 (0.015)	1.2318 (0.016)	1.2742 (0.015)
Wald χ^2	14.34 (0.0002)	15.46 (0.0004)	14.26 (0.0008)	16.14 (0.0028)
Hausman χ^2	2.16 (0.1413)	0.57 (0.7539)	5.35 (0.0690)	3.10 (0.5420)
Sargan χ^2	16.08 (0.0001)	14.39 (0.0008)	16.43 (0.0003)	14.57 (0.0057)

The Table reports the G2SLS estimates of the following random effects models (p-values in parenthesis):

$$ROA_{it} = \alpha + u_i + \beta_1 TOT_{it} + e_{it} \quad (1)$$

$$ROA_{it} = \alpha + u_i + \beta_1 FIN_{it} + \beta_2 NFIN_{it} + e_{it} \quad (2)$$

$$ROA_{it} = \alpha + u_i + \beta_1 GR_{it} + \beta_2 NGR_{it} + e_{it} \quad (3)$$

$$ROA_{it} = \alpha + u_i + \beta_1 GRFIN_{it} + \beta_2 GRNFIN_{it} + \beta_3 NGRFIN_{it} + \beta_4 NGRNFIN_{it} + e_{it} \quad (4)$$

All models have been estimated with 656 observations from 1992 to 2000, using the lagged explanatory variables as instruments. The Wald statistic tests the joint significance of the regression. The Hausman specification test analyses the appropriateness of the random effects model. The Sargan test analyses the validity of the lagged explanatory variables used as instruments.