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Firm Performance and Ownership by Financial Institutions:
The Case of Cyprus

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Abstract

There is an ongoing debate in the economic literature as for the reasons behind various types of financial institution-firm ties and their impact on firm performance. On the one hand, close financial institution-firm relationships are credited for increasing firms' access to capital and reducing agency costs and thus improving firms' performance. On the other hand, critics of this view argue that conflicts of interests may arise from the opportunity the financial institutions (FIs) have to participate in rent-seeking activities implying that affiliated firms should perform worse. In this research study, we examine empirically the determinants of this relationship for a panel of major firms in Cyprus. In particular, we proceed by assessing the impact of share ownership by FIs on firms' profitability, considering for various types of FIs (*i.e.*, banks and non-banking FIs, domestic and foreign FIs). Moreover, we test for possible non-linearities in the determination of the relationship rather than imposing a priori a linear structural form. Our dataset includes 124 Cyprian firms listed in Cyprus and foreign stock exchanges obtained by the OSIRIS database of Bureau van Dijk for the period 2006-10. Our estimation results provide no significant evidence to support the hypothesis of either higher or lower profitability for affiliated Cyprian firms. Results obtained via the conduction of auxiliary estimations provide support in favor of the conflict of interest hypothesis, implying that firms' profitability benefits arising from increased access in capital are offset by financial institutions' engagement in rent-seeking activities.

1. Introduction

Since the pioneering work of Berle and Means (1932) on the separation of ownership and control and the more recent development of agency theory (Jensen and Meckling, 1976; Fama and Jensen, 1983; Jensen, 1989), a large body of empirical literature has emerged examining the relationship between firm performance and ownership concentration. In the frame of the modern corporation, the agency problem takes the form of divergent of interests between shareholders and managers. Shareholders wish to maximize their profits, while managers act on behalf of their own interests that may diverge from profit-maximizing behavior. Increased ownership concentration has been often cited to account for better management monitoring which in turn obviate agent problems enhancing firms' profitability (Demsetz and Lehn, 1985).

Although the determinants of this relationship seem to be rather clear, the problem becomes complicated when ownership concentration is associated with ownership by financial institutions (FIs). Beside management monitoring, a lot of other issues arise regarding the effects of ownership concentration on firm performance. These problems are associated with the additional role of FIs as holders of debt. The dual role of financial institutions as shareholders and creditors affect the performance of the firms with many controversial ways. In their influential works, Campbell and Kracaw (1980), Diamond (1984), and Fama (1985) describe the channels through which large FIs produce information about the firm and use it on their credit decisions. Under the existence of scale economies in information production, these theories predict that firms with ties to FIs (hereafter affiliated firms) will enjoy increase access to funds with lower cost of capital (Petersen and Rajan, 1994). Hence, affiliated firms should perform better. On contrary, Demsetz (1983) argued that firm's organization is an endogenous outcome of competitive selection and thus there is no relation between ownership structure and profitability. Moreover, according to Rajan (1992), the ownership of equity can increase FIs power and concomitant ability to extract surplus from client firms and thus affiliated firms should realize profitability losses.

Recent arguments on the relation between equity ownership by FIs and firm profitability are also controversial. On the one hand, affiliated firms should enjoy easier and less costly access to capital, in terms of loans. Furthermore, from a signaling perspective, ownership by FIs could indicate higher quality, making it easier to attract additional equity from the market (e.g. bonds, issue of new shares, etc.).

Consequently, affiliated firms should have a comparative advantage leading to higher profitability and growth compared to non-affiliated. On the other hand, firm performance can be negatively affected in the case that FIs choose to exploit their unique position to further their own interest over the interest of other shareholders participating in rent-seeking activities or influencing management to undertake less risky projects in case that the bank is financing the project (Agarwal and Elston, 2001).

Given these opposing arguments, it is not surprising that the empirical evidence on the relationship between share ownership by FIs and firms' performance has been described as mixed (Barucci and Mattesini, 2008). Morck et al. (2000) found a nonlinear relationship between Tobin's q and bank shareholding in Japan. Uchida (2009) showed that Japanese firms which experience a substantial decline in the percentage ownership by banks improve their accounting performance. McGuire (2009) indicated that Japanese firms with strong bank ties are less profitable and face higher interest payments. In Germany, Gorton and Schimd (2000) recorded an improvement in performance from bank shareholding, while Elston (2004) revealed that bank influenced firms have higher survival rates than independent firms. However, Chirinko and Elston (2006) reported a negative but insignificant relationship between bank control and firm profitability. Similar results were obtained by Agarwal and Elston (2001) who found that bank-influenced firms in Germany do benefit from increased access to capital; however there is no evidence to support the hypothesis of either higher profitability or growth for bank-influenced firms. Giannetti and Ongena (2009) shed some additional light suggesting that at least in transition countries, the ownership of bank itself may be an important determinant. Uchida (2009) also indicated that the origin of the institutional investor matters. His results showed that Japanese firms achieved performance improvements when non-Japanese investors' ownership replaces bank ownership.

Although both theoretical arguments and empirical results of the relevant literature are controversial, all studies in this area seem to share a common belief. They all identify ownership concentration and governance characteristics as the key elements in the determination of this relationship. Broadly speaking, the literature in this field identifies two systems of corporate governance and corporate finance, namely, the bank-based system or universal banking system where Germany and Japan constitute prototypical examples, and the capital market-based system or

Anglo-Saxon System where UK and USA are representative cases (See Shleifer and Vishny 1997). The former is characterized by coalitions of active shareholders (mainly banks) who finance the firms, concentrated ownership, and dependent boards of directors. The latter is characterized by passive shareholders, dispersed ownership, and independent boards of directors, while the managers instead of the owners have the substantial control of the firms. Furthermore, firms are mainly based on capital market for their finance and in a much lesser extend on external financing.

Two silent features strand out from the literature as it was drawn above. First, the majority of the existing work in the relative field focuses on countries underlined by the bank-based system. Second, the existent literature covers only major advanced countries (*i.e.* Japan, Germany), neglecting other developed economies that can be characterized by a low-controlled and dynamic system of corporate governance. In this paper, we attempt to contribute to the relative literature by examining a special example of corporate governance: the case of Cyprus. In particular, we investigate the effects of ownership by FIs on the performance and growth of Cyprian non-financial firms. There are two main reasons that make Cyprus an interesting case study. The first is related with its governance characteristics. The corporate governance system in Cyprus can be seen as a mixture of the two basic systems analyzed above, having borrowed characteristics from both of them. Although, ownership by FIs is rather dispersed, the latters play a significant role in firms' financial decisions, operating as the main providers of finance. Moreover, non-banking FIs have an active role in Cyprus in contrast with countries underlined by the universal banking system where banks are the dominant players of financial sector. Finally, there is a substantially high and growing number of foreign FIs that operate in Cyprus that may affect differently the direction and the magnitude of the relation under question.

The second reason is related with the business environment in Cyprus. Although it is a small country, it is characterized by an open economy with rather impressive growth rates in recent years, low unemployment rate and low inflation rate. Moreover, the financial sector has experienced a rapid growth in recent years, both in terms of the level of financial intermediation and the range and quality of services (Georgiadou, 2002). Finally, while financial insitutions are small in international standards, they operate as fully-fledged universal institutions and they are considered well developed. These particular characteristics of the Cypriot corporate governance and finance system render its investigation of a particular

interest. Moreover, in the absence of an empirical study focusing on open economies with dynamic banking sector in Europe, the results obtained by the case of Cyprus may be valuable also from a policy point of view.

Given the characteristics of corporate governance and finance, we proceed in this paper by assessing the impact of share ownership by FIs on firms' profitability, considering for various types of FIs (*i.e.*, banks and non-banking FIs, domestic and foreign FIs). Moreover, we test for possible non-linearities in the determination of the relationship rather than imposing a priori a linear structural form. Our dataset includes 124 Cyprian firms listed in Cyprus and foreign stock exchanges obtained by the OSIRIS database of Bureau van Dijk for the period 2006-10. Our estimation results provide no significant evidence to support the hypothesis of either higher or lower profitability for affiliated Cyprian firms. Results obtained via the conduction of auxiliary estimations provide support in favor of the conflict of interest hypothesis, implying that firms' profitability benefits arising from increased access in capital are offset by financial institutions' engagement in rent-seeking activities.

The paper proceeds as follows: Section 2 provides a description of equity ownership of Cyprian firms and considers testable implications on firms' performance. Section 3 describes data and presents empirical models. Section 4 discusses empirical results, and finally section 5 concludes the paper.

2. Financial System, Governance Characteristics and Hypotheses Formulation for Cyprus

The size of the Cypriot banking sector can be described as extremely high in relation to the standards of the economy. In 2011, assets of the entire system equaled nearly 8.5 per cent of GDP (Sayhid *et al.*, 2011- IMF Report), while the main principles of the system were four types of institutions, *i.e.*, domestic commercial banks, cooperative credit institutions, subsidiaries of foreign banks, and branches of foreign banks.[1] Domestic commercial banks had assets of 92 billion Euros in 2011, while three banks account approximately 98 per cent of these assets.[2] Cooperative credit institutions had assets of 16.9 billion Euros, while the corresponding figures for

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[1] Note that these figures do not account for the contribution of non-banking FIs in Cyprus. Hence, the relative size of the financial sector in total exceeds significantly the 8.5 per cent of GDP.
[2] Marfin Bank and Bank of Cyprus comprise about 88 per cent of assets.

subsidiaries and branches of foreign banks were 35.3 and 7.6 billion Euros, respectively. Moreover, the share of financial intermediation to GDP almost doubled during 90s from 4.9 per cent in 1995 to 7.5 per cent in 2000 revealing the dynamics of the Cypriot financial sector (Georgiadou, 2002).

Despite these high figures in the growth rates of the financial sector, the participation of FIs in the corporate governance of the Cyprian firms is rather lower than one would expect. Focusing on the major Cyprian firms, there are four features that underline ownership concentration and firms' financial decisions. First, managerial ownership is substantially high and in many cases firm's manager owns the outstanding percentage of the shares of the firm. Second, ownership by FIs can be characterized as dispersed albeit significant. In particular, equity ownership by FIs was on average approximately 15 per cent during the period 2006-10 for dependent firms. Third, firms are mainly based on external financing to cover their capital requirements rather than directing to capital market. In particular, the majority of the dependent firms tend to borrow from affiliated FIs that typically own shares in the firm. Finally, firm's board of directors is commonly independent of FIs' employers.

Given the distinct features that underline the financial and governance system in Cyprus, the effects of ownership by FIs on firms' performance are mainly related with external financing decisions and in a lesser extent with agency costs and management monitoring. It is clear that FIs might be important mainly because of their role as providers of debts for firms. Equity ownership by FIs is not concentrated, but both domestic and foreign banks and non-banking FIs may play a significant role in Cypriot corporate governance. The high levels of managerial ownership reduce substantially the possibility of arising agency problems, while managers' monitoring seems to be limited and insignificant without enhancing agency costs.

Given the particularities of the Cypriot governance system, the main question is whether Cypriot firms are benefited by increase access to capital and to what extend FIs tend to participate in rent seeking activities overcharging firms. In order to provide an answer to this question, we follow Gorton and Schmid (1996) and Chrinko *et al.* (1999) to formulate three hypotheses adjusted to the particularities and requirements of the Cypriot case:

1. *The coincidence of interest hypothesis:* Firms enjoy increase access to capital with better terms. FIs' presence creates an internal capital market reducing information asymmetries, which in turn enhances firms'

profitability. According to this hypothesis, FIs act on behalf of firms' interests and one should expect that firm performance would increase monotonically as long as equity ownership by FIs increases.

2. *The opposed interests hypothesis:* FIs use their concomitant ability to extract surplus from client firms at the expense of the firm performance. FIs behave as monopolists overcharging firms in terms of interest rates without providing to the latters increased access to funds. Under this hypothesis one should expect that firm performance would decrease monotonically as long as equity ownership by FIs increases.

3. *The conflict of interest hypothesis:* Firms realize increased access to capital but also increased interest payments. FIs reduce information asymmetries but they also take advantage of firms' private information extracting monopolistic profits. In this case, FIs face a trade-off between their profits arising from higher interest payments and those arising from their shares' value. Under this hypothesis, one should expect either a non-monotonic or an insignificant relation between firms' performance and ownership by FIs.

3. Data and Empirical Model

The analysis is based on financial statements and ownership data of Cypriot firms listed in Cyprus and foreign stock exchanges provided by OSIRIS database of Bureau van Dijk. Osiris database provides information for 124 non-financial firms located in Cyprus for the time period 2003-2010. Nevertheless, due to a significant low number of observations at the beginning of the period, the first three years were excluded from our analysis. Hence, our final dataset includes the same number of firms (*i.e.*, 124 firms) covering though the period 2006-2010. Analytical definitions of the variables used in the study are given in the Appendix section.

Table 1 presents descriptive statistics of the key financial ratios for the 124 Cypriot firms. The numbers reported in the second column of the table are the average values over panels and periods. Profitability ratios were found to be negative on average, implying that firms in the sample have not properly utilized their capital

during the period 2006-2010.[3] It seems that firms invested high amounts of capital while the returns on these investments were significant lower. The relative high level of leverage contributed further to the aggravation of the problem. However these profitability problems do not seem to have been accompanied by sustainability problems (solvency ratio: 53,67 per cent), indicating that Cypriot firms were still able to meet their debt obligations. Finally, EBITDA, and EBIT Margin ratios were all positive on average for the period under investigation, emerging the ability of the Cypriot firms to control their expenditures.

Table 2 reports the number of the firms in the sample having at least one FI as shareholder.[4] Note that the summation across various types of FIs exceed their total number, since in many cases different types of FIs own shares of the same firm. The table classifies FIs into four categories according to their type (*i.e.*, banks and non-banking FIs) and their origin country (*i.e.*, domestic and foreign). In total, 51 firms out of 124 were identified to have at least one FI owning shares of the firm. Non-banking FIs were found to own shares of 43 firms, while the corresponding figure for banks was almost half (20 firms). Across all types of FIs, foreign FIs were met more frequently as holders of firms' shares in comparison with domestic ones.

Our empirical model is based on a simple non-linear (quadratic) structure to estimate the effect of ownership by financial institutions on firm performance. In order to account for the potential impact of differences in the type and origin of FIs, we adopt four different empirical specifications as follows:

Model 1: $ROA_{it} = b_0 + \sum_j b_j C_{jit} + \gamma_f FI_{it} + \gamma_{ff} FI_{it}^2 + \varepsilon_{it}$

Model 2: $ROA_{it} = b_0 + \sum_j b_j C_{jit} + \gamma_b B_{it} + \gamma_{bb} B_{it}^2 + \gamma_N NB_{it} + \gamma_{NN} NB_{it}^2 + \varepsilon_{it}$

Model 3: $ROA_{it} = b_0 + \sum_j b_j C_{jit} + \sum_k \gamma_f^k FI_{kit} + \sum_k \gamma_{ff}^k FI_{kit}^2 + \varepsilon_{it}$

Model 4: $ROA_{it} = b_0 + \sum_j b_j C_{jit} + \sum_k \gamma_b^k B_{kit} + \sum_k \gamma_{bb}^k B_{kit}^2 + \sum_k \gamma_N^k NB_{kit} + \sum_k \gamma_{NN}^k NB_{kit}^2 + \varepsilon_{it}$

where the subscripts *i* and *t* refer to firms and time periods, respectively. *ROA* denotes profitability measures as returns on assets, C_j is a vector of *j* control variables

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[3] The negative mean values in profitability ratios were mainly generated during the sub-period 2009-2010.

[4] The numbers were calculated with respect to 2010.

devoted to control size and equity effects, FI denotes financial institutions, B and NB denote banks and non banking financial institutions, respectively, and $k = f, d$ stands for domestic and foreign FIs. Following the relative literature, we have considered for three control variables: the natural logarithm of total assets, total current liabilities divided by total assets and short term debts divided by total assets. Finally, ε_{it} is assumed to be a normally distributed error term, and b's and γ's are parameters to be estimated.

In order to test the validity of the hypotheses drawn in the previous section, we further employ the following auxiliary regression model:

Model 5: $$lever_{it} = b_0 + \delta_f FI_{it} + \delta_{ff} FI_{it}^2 + \varepsilon_{it}$$

where *lever* variable stands for the level of leverage proxied by the debt ratio,[5] and δ's are parameters under estimation.

The firms in the sample were initially classified into two groups, *i.e.*, affiliated and non-affiliated firms. A firm was labeled as affiliated if at least one FI owned shares of the firm and as non-affiliated if no FI was met among the owners of the firm. Table 3 presents the mean and median values of the variables used in our regression models for each group of firms separately. During the 2006-10 period, both returns to assets and net income ratios were found to be positive (negative) on average for affiliated (non-affiliated) firms, implying profitability gains (losses) for the period under investigation. Total Assets were slightly higher for the group of affiliated firms. Focusing on debt ratios, both total current liabilities and short term debts ratios were found to be slightly higher for affiliated firms, without however presenting significant differences between the two groups. Finally, equity ownership by FIs was on average approximately 15.89 per cent for affiliated firms during the analyzed period.

4. Empirical Results

Given the panel nature of our dataset, we initially proceeded by formal hypotheses testing in order to choose the appropriate regression model that better fits to our data.

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[5] Alternative variables were also used for measuring leverage level. Nevertheless, the results are quite robust presenting no significant variations with those reported here.

Following standard procedure, we first adopted an F-test to examine whether pooled OLS model outperforms fixed effect model along all five empirical specifications. Next, the Hausman test was applied in order to test whether error terms were related to explanatory variables, which would imply more consistent parameters' estimates for random effects than for fixed effects model. Hypotheses testing results indicated in all cases that the fixed effects model is the appropriate estimation method for our empirical models. Moreover, we employed the generalized likelihood-ratio (LR) test to examine for possible non-linearities in the determination of the relation under study. The results rejected the null hypothesis (quadratic terms equal zero) in all models, implying the existence of a non-linear relationship between ownership by FIs and firms' profitability.[6] Given the results of the hypotheses testing, we adopted here a fixed effect estimation procedure, allowing also for the existence of non-linearities along all empirical models.

Tables 4-6 report the fixed effects regression results for the first four empirical models as they were presented in the previous section. For approximating ownership by financial institution, we first used a dummy approach and next two different indicators, *i.e.*, the number of FIs that own shares of the firm and the total percentage of shares owned by FIs. Table 4 reports the estimation results obtained by using the dummy approach for approximating ownership variables.[7] The dummy variable equaled one if one or more FIs owned shares in the firm and zero otherwise. Across all four empirical specifications, the parameter estimates of control variables were found to be statistically significant at least at the 5 per cent level. Total assets variable was found to be positively related with ROA ratio, implying that larger firms in the sample performed better during the analyzed period. On contrary, both debt ratios, *i.e.*, total current liabilities and short term debts, were found to exceed a negative relation with ROA, indicating that firms in the sample with higher debts presented lower profitability rates over the period 2006-2010. Focusing on ownership variables, the strong majority of the parameters were found to be positive (except of foreign FIs and foreign banks) but in all cases statistically insignificants. This result provides evidence in favor of the conflict of interest hypothesis, implying that productivity

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[6]This test was conducted using the generalized likelihood ratio test statistic, $LR = -2\{\ln L(H_0) - \ln L(H_1)\}$, where $L(H_0)$ and $L(H_1)$ denote the values of the likelihood function under the null (H_0) and the alternative hypothesis (H_1), respectively.

[7] Note that in the case of the dummy approach, no quadratic terms could be considered.

gains for affiliated firms obtained by increased access to capital might be counterbalanced by higher interest payments.

Table 5 reports the estimation results obtained by using total number of FIs to measure ownership variables. Again, all control variables were identified to be statistically significant at the 5 per cent level (except of total assets variable in models 1 and 2), retaining the same signs with those reported above. As far as ownership variables, the picture is also quite similar. The majority of first order parameters were estimated to be positive, while second-order parameters do not present consistency across the four models. In all cases, the regression models failed to generate any statistically significant results for ownership variables. Table 6 replicates the same set of regressions using though total equity share owned by FIs to measure ownership variables. The results do not present any significant variations, since the majority of the parameters of the control variables were found statistically significant retaining their signs, while both first and second order parameters of the ownership variables were insignificant at the 5 per cent level.

In total, our empirical findings failed to generate a significant relationship between ownership by FIs and Cypriot Firms' profitability. This result holds across all four model specifications considered in this study, independently of the various measures used to approximate ownership by FIs. These findings are in favor of the conflict of interest hypothesis as this formulated for the Cypriot case in the second section of the study, implying that firms' profitability benefits arising from increased access in capital are cancelled out by FIs' engagement in rent-seeking activities. In order to test further the validity of this hypothesis, we employ an auxiliary regression model (Model 5) to examine the relation between ownership by FIs and level of leverage as the latter is measured by total debts ratio.

Table 7 presents the fixed effects estimation results of Model 5. The results indicated that ownership by FIs is positively and significantly related with level of leverage, while this relation tends to be linear and monotonic (positive but insignificant second order parameter). This finding suggests that indeed affiliated firms in the sample enjoy increase access in capital mainly in terms of loans from affiliated FIs. In order to provide full support in favor of conflict of interest hypothesis, an additional auxiliary regression model is required to examine the relationship between ownership by FIs and firms' interest payments. Nevertheless, due to data limitations in interest payments, we are unable to proceed with the

empirical estimation of this model. However, to the extend that the initial hypotheses formulation is valid for the Cypriot case, the estimation results presented above provide adequate empirical evidence in favor of the conflict of interest hypothesis.

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5. Conclusions

In this paper, we empirically examined the relationship between ownership by FIs and firms' profitability for the case of Cyprus. Given the particularities of Cypriot case, we formulated three testable hypotheses to empirically identify the determinants of this relationship. Our analysis was based on financial statements and ownership data of Cypriot firms listed in Cyprus and foreign stock exchanges provided by OSIRIS database of Bureau van Dijk, including in total 124 firms for the period 2006-2010. We proceeded by assessing the impact of share ownership by FIs on firms' profitability, considering for differences in types and origins of FIs (*i.e.*, banks and non-banking FIs, domestic and foreign FIs). Moreover, we tested for possible non-linearities in the determination of the relationship rather than imposing a priori a linear structural form.

Our estimation results failed to provide significant evidence to support the hypothesis of either higher or lower profitability for dependent Cyprian firms. This finding in addition with results obtained from auxiliary estimations provided support in favor of the conflict of interest hypothesis, implying that firms' profitability benefits arising from increased access in capital were offset by financial institutions' engagement in rent-seeking activities.

Appendix –Definition of Variables

We provide below an analytical description of all variables and ratios used within the purposes of this study. The definitions for the majority of the variables are similar with those reported in the Data Guide of Osiris Database.

TOTAL ASSETS: The sum of total current assets, long term receivables, investments in unconsolidated companies, other investments, net property, plant and equipment and other assets, including intangibles.

TOTAL CURRENT LIABILITIES: All short term liabilities, namely: accounts payable, short-term debt, current portion of long term debt, and other current liabilities.

TOTAL LIABILITIES & EQUITY: Includes total liabilities and debt and shareholders' equity.

RETURN ON TOTAL ASSETS: Profit before Tax divided by total assets.

ROA (RETURN ON ASSETS): Net income after preferred divided by average total Assets for the year.

LIQUIDITY RATIO: Current Assets Stocks divided by current liabilities.

SOLVENCY RATIO: Shareholders Funds divided by total Assets.

LOANS / TL & EQUITY: Loans divided by total liabilities and equity.

BANK LOANS / TL & EQUITY: Bank loans divided by total liabilities and equity.

SHORT TERM DEBT: Sum of short notes payable, current loans & overdraft, short commercial paper, bills of exchange, short-term discounted bills.

LEVERAGE: Total long-term and short-term liabilities divided by total assets.

EBITDA MARGIN: EBITDA: divided by operating revenue.

EBIT MARGIN: EBIT divided by operating revenue.

NET INCOME: Revenues minus costs.

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TABLES

Table 1. Sample summary statistics of financial ratios (124 Cypriot Firms from 2006-2010).

Ratios	Mean	Median	St. Dev
Key Financial ratios			
Return on total assets (%)	-0.56	1.30	17.83
ROA (%)	-0.92	0.91	16.87
Loans / TL & Equity (%)	4.29	2.61	5.54
Bank Loans / TL & Equity (%)	19.11	15.60	15.66
Liquidity ratio	1.92	0.82	5.88
Solvency ratio (%)	53.67	54.18	30.35
EBITDA margin (%)	19.49	14.71	28.72
EBIT margin (%)	9.29	6.43	27.96

Table 2. Number of firms having FIs as shareholders.

Ratios	Total	Domestic	Foreign
FIs	51	24	36
Banks	20	13	18
Non-banking FIs	43	21	27

Table 3. Descriptive statistics for affiliated and non-affiliated firms for the time period 2006-2010.

Ratios	Mean	Median	Mean	Median
	Affiliated Firms		Non-Affiliated Firms	
ROA (%)	1.691	2.180	-3.129	0.179
Net Income / Total Assets	0.088	2.066	-7.228	0.149
Log of Total Assets	10.806	10.884	10.215	10.276
Total Current Liabilities / TA	0.270	0.184	0.332	0.219
Short term Debts / Total Assets	0.103	0.053	0.118	0.077
Share Ownership by FIs (%)	15.885	8.870	-	-

Table 4. Firm Fixed Effects Regression Results. (Dummy Approach)

Explanatory variable	Dependent Variable: Returns on Assets			
	(1)	(2)	(3)	(4)
Constant	-0.276	-0.271	-0.295	-0.299
	(1.58)	(1.55)	*(1.68)	*(1.70)
Control Variables				
Log of Total Assets	0.030	0.030	0.032	0.033
	*(1.90)	*(1.88)	*(2.00)	*(2.02)
Total Current Liabilities/TA	-0.137	-0.137	-0.135	-0.135
	**(4.24)	**(4.23)	**(4.20)	**(4.17)
Short-term Debts/TA	-0.249	-0.250	-0.248	-0.247
	**(2.58)	**(2.60)	**(2.58)	**(2.56)
Ownership by Banks				
Banks		0.001		
		(0.08)		
Domestic Banks				0.019
				(0.57)
Foreign Banks				-0.014
				(0.55)
Ownership by non-Banking FIs				
Non-Banking FIs		0.013		
		(0.87)		
Domestic Non-Banking FIs				0.028
				(1.50)
Foreign Non-Banking FIs				0.001
				(0.08)
Ownership by FIs				
FIs	0.014			
	(0.96)			
Domestic FIs			0.029	
			(1.63)	
Foreign FIs			-0.001	
			(0.02)	
R^2	0.092	0.092	0.099	0.098

Note: In parenthesis, we report standard errors. * and ** indicate statistical significance at the 5 and 1 per cent level, respectively.

Table 5. Firm Fixed Effects Regression Results.(Ownership measured by Number of FIs)

Explanatory variable	Dependent Variable: Returns on Assets			
	(1)	(2)	(3)	(4)
Constant	-0.201	-0.220	-0.459	-0.416
	(1.16)	(1.09)	(1.80)	(1.59)
Control Variables				
Log of Total Assets	0.023	0.025	0.028	0.027
	(1.41)	(1.57)	*(1.73)	*(1.66)
Total Current liabilities/TA	-0.137	-0.137	-0.135	-0.135
	**(4.28)	(4.28)	**(4.26)	**(4.24)
Short-term Debts/TA	-0.253	-0.230	-0.230	-0.227
	**(2.64)	**(2.39)	**(2.42)	**(2.36)
Number of Banks				
Banks		-0.011		
		(1.06)		
(Banks)^2		0.001		
		(1.61)		
Domestic Banks				0.005
				(0.17)
(Domestic Banks)^2				0.000
				(0.03)
Foreign Banks				-0.006
				(0.60)
(Foreign Banks)^2				0.001
				(1.46)
Number of non-Banking FIs				
Non-Banking FIs		0.015		
		(1.54)		
(Non-Banking FIs)^2		-0.001		
		(0.16)		
Domestic Non-Banking FIs				0.016
				(0.84)
(Domestic Non-Banking FIs)^2				0.004
				(0.79)
Foreign Non-Banking FIs				0.034
				(0.27)
(Foreign Non-Banking FIs)^2				-0.001
				(0.20)
Number of Financial Institutions				
FIs	0.008			
	(1.57)			
(FIs)^2	-0.000			
	(0.07)			
Domestic FIs			0.012	
			(0.69)	
(Domestic FIs)^2			0.004	
			(0.97)	
Foreign FIs			-0.002	
			(0.41)	
(Foreign FIs)^2			0.000	
			(1.30)	
R^2	0.096	0.097	0.101	0.103

Table 6. Firm Fixed Effects Regression Results. (Ownership Vars: Shares owned by FIs)

Explanatory variable	Dependent Variable: Returns on Assets			
	(1)	(2)	(3)	(4)
Constant	-0.219	-0.232	-0.212	-0.078
	(1.22)	(1.03)	(1.19)	(0.41)
Control Variables				
Log of Total Assets	0.025	0.031	0.024	0.017
	(1.54)	(1.54)	(1.49)	(0.97)
Total Current liabilities/TA	-0.145	-0.466	-0.129	-0.461
	**(4.31)	**(5.44)	**(3.76)	**(5.41)
Short-term Debts/TA	-0.245	-0.050	-0.263	-0.025
	**(2.51)	(0.42)	**(2.69)	(0.21)
Percentage of Ownership by Banks				
Banks		0.417		
		(1.00)		
$(Banks)^2$		-0.400		
		(0.87)		
Domestic Banks				5.342
				(0.58)
$(Domestic\ Banks)^2$				-26.76
				(0.55)
Foreign Banks				0.409
				(0.97)
$(Foreign\ Banks)^2$				-0.378
				(0.83)
Percentage of Ownership by non-Banking FIs				
Non-Banking FIs		0.091		
		(0.45)		
$(Non\text{-}Banking\ FIs)^2$		0.078		
		(0.28)		
Domestic Non-Banking FIs				-0.204
				(0.78)
$(Domestic\ Non\text{-}Banking\ FIs)^2$				0.427
				(1.33)
Foreign Non-Banking FIs				0.596
				(1.46)
$(Foreign\ Non\text{-}Banking\ FIs)^2$				-0.732
				(0.85)
Percentage of Ownership by FIs				
FIs	0.124			
	(0.72)			
$(FIs)^2$	-0.080			
	(0.36)			
Domestic FIs			-0.258	
			(1.06)	
$(Domestic\ FIs)^2$			0.392	
			(1.29)	
Foreign FIs			0.357	
			(1.64)	
$(Foreign\ FIs)^2$			-0.334	
			(1.15)	
R^2	0.091	0.089	0.092	0.092

Table 7. Auxiliary Regression Results. (Ownership Vars: Shares owned by FIs)

Explanatory Variables	Dependent variable: Leverage	
Constant	0.293	0.281
	**(19.05)	**(16.37)
Share Ownership by FIs	0.178	0.745
	*(1.78)	*(2.12)
(Share Ownership by FIs)^2	-	-0.584
	-	(1.12)
R^2	0.030	0.040