

Foreign Ownership, Firm Value and Currency Depreciation: Evidence from Indonesia

Abstract

This paper intends to investigate the relation between firm value and foreign ownership when the currency depreciation is present. The sample is listed companies in Jakarta Stock Exchange for period 1994 – 2004. We employ two principal measurements, namely market value (Tobin's Q and market capitalization growth) and fundamental value (Return-on-assets /ROA and net income growth). This paper finds that at the time of depreciation, generally, firms have higher firm value, but it fall in the year after depreciation. Our findings also show that currency depreciation decreased firm value of local firm more significantly than foreign owned firms. In such a case, firm with majority foreign ownership is predicted as firm with a high firm value. This paper also finds that debts contribute to the firm value deteriorating, due to currency depreciation.

Key words: currency depreciation, firm value, ownership

JEL Classification: D21, F3, G32

1. Introduction

This paper intends to investigate the relation between firm value and foreign ownership in period of currency depreciation in Indonesia. Instead of a cross-country analysis, this paper prefers to explain cross-firm differences in firm value within one country. It should be a good case in studying the heterogeneity of the firms and its impact on firm values with regard to the different institutional context across firms within a country.

Studies on the relation between ownership and firm value itself have been a subject of numerous studies, both empirical and theoretical. The central analysis is commonly relied on agency theory which basically explains the conflict of interest between inside corporate decision makers and outside shareholders (Berle and Means, 1932; Jensen and Meckling, 1976). Following these theories, several studies have been employed to understand a link between various corporate governance system and corporate valuation.

Shleifer and Vishny (1997) explain that controlling insider owners and management have incentives to pursue their own benefits at the expense of outside shareholders' interest, resulting in suboptimal firm value. Agency theory delineates the conflict of interest between owners and managers, insiders and outsiders, majority and minority shareholders as one of the basic concern of the corporate governance studies nowadays. Meanwhile, the first generation studies of corporate governance focuses on the agency problem in developed countries, whereas the second generation of those studies is concerned with the comparative studies across countries, especially developing countries.

Across countries studies on agency theory were pioneered by the seminal works of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997) by arguing that differences among countries in the structure of laws imply to the differences investor protection and then agency problem. They also accentuated that in many emerging countries agency problem are more severe due to the absence of strong legal protections and other governance mechanisms.

Further, firms in countries with better shareholder protection have higher Tobin's Q than those where such protection is weaker (La Porta et al., 2002).

It is a common understanding that the basic corporate governance infrastructure is underdeveloped and the monitoring of insiders by indigenous outside investors and institutions is inadequate in developing countries (Khanna and Palepu, 1999). In Asian countries, where firms are usually owned by state or family, the corporate governance issues should be more vibrant than in developed countries. Claessens, Djankov and Lang (2000) describe that the problem of corporate governance is aggravated in situations where many firms are controlled by family or group and where cross and pyramid ownership may create a divergence between ownership and control. Claessens, Djankov, Fan and Lang (1999) have demonstrated that higher cash flow rights are associated with higher market valuation, but higher voting rights correspond to lower market valuation.

Regarding the Asian crisis, Baek, Kang and Park (2002) show that during the 1997 Korean crisis *chaebol* firm with higher ownership concentration by unaffiliated investors experience a smaller reduction in their share value. They also found that firms with higher disclosure quality and alternative sources of external financing also suffer less. Meanwhile, for the case of Korean financial crisis, Choi and Yoo (2006) find that foreign investors positively affect firm performance by active monitoring, complementing domestic institutional investors. However, the effects of indigenous factors such as family and *chaebol* affiliation are insignificant (Choi and Yoo, 2006).

Many researches show that institutional context across countries and across firms should be important factors explaining firm values. It is therefore interesting to conduct an empirical investigation on the relation between corporate governance system and firm value based on specific institutional context.

This research is concerned with the role of foreign ownership on firm value in Indonesia, where currency depreciation broke severely in July 1997. Crisis becomes an important context by which institutional specific factors could aggravate the impact of crisis on firm level. By bringing the firm-level data from Indonesia, this study intends to examine the relation between currency depreciation and the value of the firms. We use Tobin's Q, market capitalization growth, Return-on-Assets, and net income growth for firm value proxies.

2. Related Previous Studies

2.1. Definition of currency depreciation

In Indonesia, currency depreciation means currency crisis. However, for the formal definition of currency crisis, Krugman (1999) say that there is no generally accepted formal definition of a currency crisis.

Athukorala and Warr (2002) define currency crises as rapid outflows of financial capital in anticipation of a possible currency depreciation, inducing depletion of reserves, financial instability and subsequent of economic contraction. And in technical definition, Forbes (2002) includes countries in a currency crisis if the local currency depreciated by 10 percent or more to US currency. In Indonesia, at the aftermath of the adoption of floating exchange rate system on August 14th, 1997, Indonesian Rupiah (IDR) depreciated sharply to United States Dollar (USD); from 4,950 IDR/1 USD in December 1997 to 15,000 IDR/1 USD in June 1998.

The studies vary with respect to how a "crisis" is defined. However, most of studies focus on devaluation episodes. Kaminsky, Lizondo, Reinhart (1998) define a crisis is a

situation in which an attack on the currency leads to a sharp depreciation of the currency, a large decline on international reserves, or a combination of two¹.

Currency crises are typically defined as “large” changes in some indicator of actual or potential currency value. Alternative criteria have been employed in the literature for identifying “large” changes in currency value or pressure relative to what is considered “normal.” Some studies employ an exogenous threshold rate of depreciation common to all countries in the analysis (e.g., Frankel and Rose, 1996).

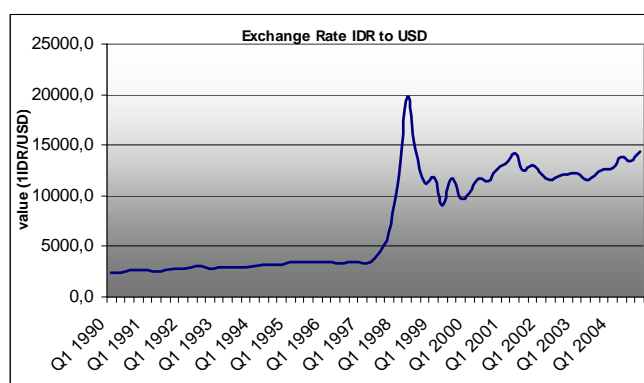
This paper uses the exchange rate indicator for detecting the crisis. It is very conventional method in identifying crisis by graphical observation of exchange rate fluctuation. In graph (1) below we can see that during 1998 – 1999, exchange rate depreciation of Indonesian Rupiah (IDR) to US dollar was very high. Before 1997, basically, there is no significant fluctuation, since the currency depreciation was managed with pegged-exchange rate system.

On August 14th, 1997 Bank Indonesia released the new exchange rate policy by floating rate in the market mechanism. It was the ending of pegged exchange rate policy. After that, the exchange rate of IDR to US dollar fluctuates dynamically and depends to the market mechanism.

We define 1996 as a pre-crisis period, 1998 as a period of crisis, and 2000 as a post-crisis period.

¹ Kaminsky, Graciela, Saul Lizondo, and Carmen M. Reinhart (1998), Leading indicators of currency crisis, IMF Staff Papers, Vol.45, No.1

Graph1. Exchange Rate of IDR to US dollar



2.2. Ownership and firm value

Since seminal works on agency theory, the debate on the role of ownership structure on corporate performance is always vibrant. Ownership structure is considered to play an important role in a firm, particularly in determining the directions and goals of the firm which influence on performance, and in turn, effect shareholders' as well as stakeholders' benefits (La Porta et al, 1998; Jensen, 2000).

However, the result of the empirical works on this relation is mixed. The effects of ownership structure on firm performance are theoretically complex and empirically ambiguous. One of the most referred works in this field is the subject on the relation between ownership concentration and firm performance. Shleifer and Vishny (1986) pioneer the work in this subject by arguing that concentrated ownership commonly improve performance by increasing monitoring and alleviating the free-rider problem in takeovers.

Meanwhile, Morck, Shleifer, and Vishny (1988) and McConnell and Servaes (1990) provide evidence of a positive relationship between institutional ownership and Tobin's Q. Their researches also delineate that the relation between percentage ownership and firm performance is nonlinear. The implication is that two firms with identical overall percentage ownership by large blockholders are not always to have similar control organizations. It will be depended on the identity of the large blockholders.

Lauterbach and Vaninsky (1999), by bringing the Israeli firms find that family owner-managed firms appear least efficient in generating profits. Furthermore, they show also that non-owner managed firms perform better than owner-managed firms. And in general, their findings suggest that the modern form of business organization, namely the open corporation with disperse ownership and non-owner managers, promotes performance.

Kumar (2004) by using panel data framework of Indian firms, show that a large fraction of cross-sectional variation, in firm performance can be explained by unobserved firm heterogeneity. The shareholding by institutional investors and managers affect firm performance non-linearly, after controlling for observed firm characteristics and unobserved firm heterogeneity. He also found that the foreign shareholding pattern does not influence the firm performance significantly.

Yamneesri, Lodh and Herath (2006) confirm that there is a positive association between controlling ownership and firm performance. Also, it is found that firms with controlling ownership have higher performance than those with non-controlling ownership in Thailand. In particular, the results show that family-controlling ownership has a positive and significant relationship to both measures – market returns and profitability. A less significant relationship is found for domestic - corporation-controlling ownership and foreign-controlling ownership.

In the case of China's privatized firms, Wei, Xie and Zhang (2005) find that state and institutional shares are significantly negatively related to firm value, as proxied by Tobin's Q, whereas foreign ownership is significantly positively related to firm value.

Claessens (1997) find that for the case of Czech and Slovak Republics, the more concentrated ownership is, the higher prices are. Claessens and Djankov (1999) examine firms in the Czech Republic and find that firm profitability and labour productivity are both positively related to ownership concentration.

2.3. Multinational dimension and firm value

Many studies are concerned with various multinational dimensions. It includes multinational operation, multinational diversification, location, foreign board, foreign equity etc. It is important to note that the findings of these various researches on multinational dimension show the mixed evidence.

One of the most familiar researches in this field is about the relation between foreign ownership and productivity. Aitken and Harrison (1999) demonstrate that foreign equity participation is positively related to plant productivity for small Venezuelan enterprises. It can be cited also the study of Sinha (1993) that find foreign equity participation is associated with higher productivity. Also the study of Haddad and Harrison (1993) by using a panel of Moroccan manufacturing firms which find that although foreign-owned firms had higher productivity levels, they did not have faster rates of productivity growth.

Meanwhile, many studies are concerned with the multinational operation and diversification. Denis et al., (2002) and Christophe and Pfeiffer (2002) demonstrate that multinational operations are negatively related to firm value. Meanwhile, other researches documented the inverse results². Pantzalis (2001) shows that the impact of multinational operation on firm value should depend upon the economic development of the foreign countries where the firm operated.

Another strand of study focuses on the board composition. Oxelheim and Randoy (2003) by Nordic sample, show that the participation of foreign investor in board is positive for the firm. In the context of equity market, there is a common understanding that foreign investors will perform better than local investors because of their superior information or

² See for example, Misshra and Gobeli (1998); Morck and Yeung (1991).

expertise. Grinblatt and Keloharju (2000) show this finding for the case of Finland, whereas Seasholes (2003) find the same conclusion for the case of Taiwan.

Meanwhile, Kang and Stulz (1997) find no evidence that foreign investors perform better than local investor in Japan. The same conclusion is carried by Choe, Kho and Stulz (2005) for the case of Korea. For the case of Indonesia, Sato (2004) show that state and foreign-owned listed companies performed better than domestic private companies. She also found that there is no evidence that domestic private firms with dispersed ownership and with non-family/ownership perform better than those with concentrated family/individual ownership, whereas companies where management was not separated from ownership did not perform significantly worse than those where management and ownership were separated.

Dvorak (2005) bring an interesting case for Indonesia in which domestic investors have higher profits than foreign investors. He also found that domestic clients of global brokerage have higher profits than foreign clients of global brokerages, suggesting that the combination of local information and global expertise leads to higher profits.

3. Data and Methodology

3.1. Data

This paper begins the study by analyzing the financial ratio of listed companies in Indonesia by using the accounting data provided by the Jakarta Stock Exchange (JSX) and Indonesian Capital Market Directory published by ECFIN (Institute for Economic and Finance Research) in various publications.

The accounting data covers the period 1994-2004. We include all non-financial sectors and exclude the financial sector, since the debt structure of banks and investment institutions is not comparable to that in other sectors. All variables of data are deflated by wholesale price

index (WPI) in 2000 for gaining the current value. This paper includes 238 listed companies with at least 5 consecutives years.

For ownership structure we access directly to the annual report of the firms documented by JSX. We note ownership structure in 1996 for proxy of ownership in before crisis period and 2003 for post-crisis.

3.2. Simple model

For capturing the impact of currency depreciation on the firm value, we employ equation as written as follows. Some variations of this model are used by Forbes (2002), Desai, Foley and Forbes (2004).

$$Y_{it} = \phi_1 Inflation_t + \phi_2 Dep_{(t-1)} + \phi_3 Dep_{(t)} + \phi_4 Dep_{(t+1)} + \mu_5 Dep_{(t-1)} * FOE \\ + \mu_6 Dep_{(t)} * FOE + \mu_7 Dep_{(t+1)} * FOE + \varepsilon_{it}$$

where i is a subscript for each firm, j for industry and t for each year. Y_{ijt} represent firm value, which are Tobin's Q, market capitalization growth or the change of market capitalization³, Return-on-Assets (ROA) and net income growth. We use the definition of Tobin's Q proposed by Chung and Pruitt (1996) and Charreaux (1991), which is market value of equity plus book value of debt deflated by book value of asset (equity and debt).

Dep represents depreciation dummy. The depreciation dummy variables are respectively set equal 1 for observations from one year before *Depreciation* ($t-1$), the year of *Depreciation* (t), one year after *Depreciation* ($t+1$). In this study, we include macro variable

³ Change of market capitalization are calculated by equation as follows: $\frac{X_{(t)} - X_{(t-1)}}{X_{(t-1)}}$

for controlling the estimation, namely inflation⁴. Foreign-owned enterprises (FOE) dummy is created as 1 for firms with more than 50 percent of foreign ownership participation.

For gaining better explanation of the relation between foreign ownership and firm value, we use Probit and Logit model for the likelihood of firm value. In this case, we define dummy dependent variable for the firm value. For that case, we create 1 for firms with high value and 0 for low value. In defining high and low firm value, we use the median of all firm value of the sample and define high firm value if firm has a higher value than median value for all firms.

This paper employs the conventional method of a discrete regression model to analyze the determinants of firm value. The likelihood of financial distress is modeled as follows.

$$y_i = X_i\beta' + \mu_i$$

Where

$$y_i = \begin{cases} 1 & \text{if } y_i > 0, \text{ i.e. firm } i \text{ is high value} \\ 0 & \text{otherwise} \end{cases}$$

X_i is the set of exogenous (independent) explanatory variables and μ_i is the error term.

The probability of firm value can be modeled as a logit model as follows.

$$\text{prob}(y_i = 1) = \frac{\exp X_i\beta'}{1 + \exp X_i\beta'}$$

4. Results

4.1. Descriptive analysis

We expect to find the empirical evidence on the different responses of firms with different characteristic on their ownership to the currency depreciation. To be more specific, we are concerned with the different behavior around financial crisis between firms with

⁴ Measured by $\frac{WPI_t - WPI_{t-1}}{WPI_{t-1}}$, where WPI is wholesales price index

dominant foreign ownership (FOE) and local ownership (local firms). By these findings, we can explain how different firm value among firms in Indonesia and how ownership structure matters on firm value.

Our specific question is whether FOE performs better due to the 1997 financial crisis in Indonesia where most firms have been experiencing low investment level following the crisis. In many previous studies, it is found that FOE is much easier to resolve the financing problem when the crisis hit. Access to the global capital market and access to headquarter could be important factors which are not owned by local firms.

Concerning on the data descriptive, we can find in the table (2) that the mean of Tobin'Q declined slightly from pre-depreciation year (1996) to during depreciation (1998), and rebounded in post-depreciation year (2000). Meanwhile, ROA for profitability proxy dropped significantly from 4.5 percent in pre-crisis year, into -1.9 during depreciation year, whereas in post-depreciation period it increased into 1.8 percent.

Table 2 is about here

Debt-equity ratio augmented during the depreciation period and in post-depreciation year. In 1996, Debt-equity ratio was 55.4 percent, during period increased into 89.56 percent, and in post-depreciation year 82.1 percent.

4.2. General effect

Currency depreciation in around Asian countries was started by Thai Baht depreciation in July 2, 1997. The impact to Indonesian Rupiah (IDR) was severe in July 24, 1997. Due to political and social problem in domestic country, depreciation on IDR becomes

the most extreme case in around Asian countries. Mid-May 1998 riots spread around the country followed by the presidential succession from Soeharto to his vice president⁵.

Concerning our study, we construct depreciation period as 1998 since highest level of currency depreciation happened in 1998. Since rupiah have been floated since July 1997, we define period of currency depreciation as 1996 (instead of 1997). And period of post crisis is defined as 1999 since the fluctuation of exchange rate started to be mild⁶.

In the year 2000, the rupiah experienced renewed depreciation with increased volatility. The Standard & Poor's (rating agency) had also downgraded sovereign long-term and short-term debt (from CCC+ and C to become Selective Default/SD). All these factors had encouraged private individuals and corporations to sell rupiah for US dollars so that the exchange rate weakened to a lower level. The rupiah subsequently lost its support and weakened from early April 2000 due to social unrest, political uncertainties and the threat of disintegration of several regions in Indonesia. The main factor was declining investor confidence in line with difficult social and political conditions ahead of the Annual Session of the People's Consultative Assembly. From then until the end of 2000, the rupiah weakened further due to the strengthening of the US dollar against major currencies during the period, coupled with increasing corporate demand and social unrest related to terrorist bombing acts at a number of religious places at year end⁷.

Our main concern of this research is to investigate the relation between currency depreciation and firm value. Table (3) demonstrates the results. Our empirical evidence show that generally Tobin' Q and market capitalization growth increase during the depreciation period and decrease in one year after depreciation.

⁵ For further information on timeline of financial crisis see table 1

⁶ For exchange rate fluctuation see graph 3 in appendix

⁷ For complete information around this issue, see BIS Papers No 24, "Foreign exchange intervention and policy: Bank Indonesia experiences 1997 - October 2004". Bank of International Settlements,

The coefficient on the depreciation dummies from table (3) should be interpreted as the value of Tobin's Q and market capitalization growth to mean Tobin's Q and market capitalization growth, respectively, of all samples. Table (3) demonstrate that the coefficient estimates indicate that Tobin's Q increase significantly in the year of depreciation, and then fall in the year after depreciation. However, the value of Tobin's Q in one year after depreciation is still above the value level in the year before depreciation.

Market capitalization growth has a same tendency with Tobin's Q in which it increase at the time of depreciation, and then fall bellow their pre-depreciation levels in the hear after depreciation.

Table 3 & 4 are about here

Table (4) shows that depreciation dummies in general do not significantly relate with firm profitability, as measured by Return-on-Assets and net income growth. However, the period of depreciation is related negatively to firm profitability in significant level. We can say that depreciation destroys strongly the firm profitability since the drop of net income growth is relatively immense.

4.3. Foreign ownership effect

From table (3) we can see that tobin's Q of firm with majority foreign ownership is significantly lower than local firm in pre-depreciation year. Unfortunately, during and post-depreciation dummies have no significant relation with tobin Q. In this case, it seems that tobin's Q of foreign-owned enterprises is indistinguishable from those of local firms at the time depreciation and in year after depreciation. By market capitalization growth, it is shown that firms with majority foreign ownership have higher level of Q value at the time of depreciation and in the year after depreciation.

Another important sign is that firm size is positively and significantly related to market capitalization growth, whereas inflation has a negative and significant relation with

market capitalization growth. Meanwhile, debt is not important variable for both, tobin's Q and market capitalization growth.

Table (4) also demonstrates that firm with majority foreign ownership is indistinguishable from local firms in their profitability, in pre-, during and post-crisis period. By an exception for the case of ROA in the year after depreciation in which firm with majority foreign ownership is predicted as having a higher value of ROA.

4.4. Probability for firm value

This paper also considers the probability model for investigating the corporate values. We use two measurements of firm value, namely tobin's Q and ROA as dependent qualitative variables. We are concerned with the main question of how variables such as firm size, debt-equity ratio and foreign ownership imply to the firm values. To deal with firm value, we create dummy variable, with are high tobin's Q if firm has a higher-median value and ROA, respectively.

Table (5) demonstrates that size, debt-equity ratio and foreign ownership are positively related to the good tobin's Q, as measured by higher-median value of tobin's Q. Meanwhile, debt equity ratio is negatively related to high profitability. It means that firm with higher level of debt would be predicted as a firm with low profitability.

5. Conclusion

The main concern of this paper is to investigate the relation between currency depreciation and firm value in the midst of currency depreciation period. Explicit question of this paper is whether firms with majority foreign ownership have higher value following currency depreciation in Indonesia.

This paper finds that at the time of depreciation generally firm have higher firm value than before depreciation, but it fall in the year after depreciation. Our findings show that due to currency depreciation decreased firm value of local firm more significantly than foreign owned firms.

Tobin's Q of firm with majority foreign ownership is significantly lower than local firm in pre-depreciation year. It is also shown that tobin's Q of foreign-owned enterprises is indistinguishable from those of local firms at the time depreciation and in year after depreciation. By market capitalization growth, it is shown that firms with majority foreign ownership have higher level of Q value at the time of depreciation and in the year after depreciation. This research also finds that firm with majority foreign ownership is

indistinguishable from local firms in their profitability, in pre-, during and post-crisis period. By an exception for the case of ROA in the year after depreciation in which firm with majority foreign ownership is predicted as having a higher value of ROA.

Meanwhile, size, debt-equity ratio and foreign ownership are positively related to the good tobin's Q. Our research confirms that firm with majority foreign ownership is predicted as firm would have high firm value.

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Table 1. Timeline of Financial Crisis	
1997	
July 2	Thai Baht is floated and depreciates by 15-20 percent
July 11	Widening of rupiah band
July 24	Currency meltdown with severe pressure on baht, ringgit, peso and rupiah
August 14	Ending of rupiah band and immediate plunge
November 1	16 banks closed, with promise of more to follow. Deposits were not guaranteed
November 5	Three-years standby agreement with IMF approved
Mid-December	Almost half of Indonesian bank deposits exit the system
1998	
Mid-January	Further downward pressure on the rupiah
January 27	Bank deposits formally guaranteed by the new super-agency: Indonesia Bank Reconstruction Agency
March 11	President Soeharto re-elected
Mid-May	Widespread rioting
May 21	Vice president Habibie succeeds Suharto as president

Source: Taken from Blalock, Gertler and Levine 2005, have been adapted from Enoch, Baldwin, Frecaut and Kovanen 2001

Table 2. Summary of statistic descriptive

Total Period					
Variable	Obs	Mean	Std. Dev.	Min	Max
Tobin's Q	2460	1,1519	1,0918	0,0790	30,0695
Market Capitalization growth	1945	0,4229	2,1429	-0,9533	34,5756
Return on asset	2460	0,0727	3,1612	-36,0200	145,5558
Net-income growth	2128	-4,6018	157,8120	-6940,7390	677,5145
Debt-equity ratio	2460	0,7092	0,9337	0,0004	30,0695
Firm size	2458	21,9974	1,5961	13,7803	26,6212
1996					
	Obs	Mean	Std. Dev,	Min	Max
Tobin's Q	216	1,2217	1,2529	0,3513	17,2610
Market Capitalization growth	181	0,4708	1,2740	-0,7834	10,8338
Return on asset	216	0,0459	0,0662	-0,3676	0,6616
Net-income growth	166	-0,0277	5,2814	-58,4970	26,5970
Debt-equity ratio	216	0,5545	0,5353	0,0344	7,9127
Firm size	216	22,1044	1,3408	18,6580	25,8856
1998					
	Obs	Mean	Std. Dev,	Min	Max
Tobin's Q	236	1,1744	1,4878	0,2547	22,3372
Market Capitalization growth	212	-0,4138	0,6371	-0,9533	5,4158
Return on asset	236	-0,0192	0,1319	-1,1781	0,2640
Net-income growth	216	-2,4469	7,6985	-44,4641	42,1790
Debt-equity ratio	236	0,8956	1,4804	0,0644	22,3372
Firm size	236	21,9066	1,6621	13,7803	25,6231
2000					
	Obs	Mean	Std. Dev,	Min	Max
Tobin's Q	238	1,3011	0,8046	0,3124	6,7581
Market Capitalization growth	223	0,0401	2,8851	-0,9272	34,5756
Return on asset	238	0,0189	0,1223	-0,7799	0,4044
Net-income growth	236	-0,1019	3,7271	-13,0026	33,9727
Debt-equity ratio	238	0,8210	0,6202	0,0467	4,7984
Firm size	237	21,8864	1,6549	15,5721	26,3130

Table 3. Result for Market Value regression

Estimates techniques are pooled OLS roust (with heteroscedasticity correction from White) and Random Effects. Breusch and Pagan Lagrangian multiplier (LM) test is employed to choose which estimate should be more efficient. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively. Standard deviation is reported in parentheses for specifications. FOE is foreign-owned firm dummy.

	Tobin's Q				Market cap growth			
	OLS		RE		OLS		RE	
Depreciation (t-1)	0,1832	**	0,1832	**	0,2003	*	0,2003	
	0,0926		0,0814		0,1120		0,1666	
Depreciation (t)	0,3996	***	0,3996	***	1,9585	***	1,9585	***
	0,1510		0,0818		0,2606		0,1612	
Depreciation (t+1)	0,2102	***	0,2102	***	-0,3190		-0,3190	**
	0,0560		0,0817		0,2169		0,1590	
FOE*Depreciation (t-1)	-0,4073	***	-0,4073		-0,2202		-0,2202	
	0,1246		0,2905		0,2726		0,5799	
FOE*Depreciation (t)	-0,0367		-0,0367		0,6562		0,6562	*
	0,2007		0,1904		0,6817		0,3601	
FOE*Depreciation (t+1)	0,0920		0,0920		0,7457		0,7457	**
	0,1859		0,1904		0,5367		0,3634	
Inflation	0,1302		0,1302	*	-0,8067	***	-0,8067	***
	0,1029		0,0801		0,0748		0,1586	
Firm Size	0,0150		0,0150		0,0644	**	0,0644	**
	0,0256		0,0138		0,0262		0,0281	
Debt-equity ratio	-0,0002		-0,0002		0,0012	*	0,0012	
	0,0002		0,0004		0,0007		0,0008	
Constant	0,7262		0,7262	**	-1,0749	*	-1,0749	*
	0,5630		0,3052		0,5664		0,6204	

Observation	2458	2458	1943	1943
R-squared	0.0152	0.0151	0.1212	0.1108
Breusch and Pagan Lagrangian multiplier test	201.22	***	3.33	*

Table 4. Result for Profitability Regression

Estimates techniques are pooled OLS roust (with heteroscedasticity correction from White) and Random Effects. Breusch and Pagan Lagrangian multiplier (LM) test is employed to choose which estimate should be more efficient. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively. Standard deviation is reported in parentheses for specifications. FOE is foreign-owned firm dummy.

	ROA		Net Income growth	
	OLS	RE	OLS	RE
Depreciation (t-1)	-0,0893	-0,0893	-0,8376	-0,8376
	0,1035	0,2375	1,0603	13,3664
Depreciation (t)	-0,2503 **	-0,2503	-42,8054	-42,8054 ***
	0,1116	0,2388	35,5336	12,0612
Depreciation (t+1)	-0,1131	-0,1131	-0,0180	-0,0180
	0,1060	0,2384	1,1805	12,0392
FOE*Depreciation (t-1)	0,0342	0,0342	-0,7506	-0,7506
	0,0224	0,8478	1,2528	51,4072
FOE*Depreciation (t)	0,0216	0,0216	9,9871	9,9871
	0,0521	0,5557	42,2825	27,6725
FOE*Depreciation (t+1)	0,0629 **	0,0629	-2,1778	-2,1778
	0,0274	0,5557	2,0950	27,6763

Inflation	-0,1855	-0,1855	-2,5831 **	-2,5831
	0,1296	0,2337	1,1677	12,2382
Firm Size	0,0027	0,0027	2,7078	2,7078
	0,0280	0,0402	2,5482	2,1178
Debt-equity ratio	-0,0001	-0,0001	-0,0683	-0,0683
	0,0002	0,0013	0,0672	0,0635
Constant	0,0881	0,0881	-58,8153	-58,8153
	0,7204	0,8907	56,1472	46,8737
Observation	2458	2458	2126,000	2126
R-squared	0.0008	0.0013	0.0081	0.0075
Breusch and Pagan Lagrangian multiplier test		0.01		0.02

Table 5. Probit and Logit regression for corporate values

Corporate values as qualitative dependent variables, measured by dummies for Tobin's Q and Return-on asset (ROA). We define 1 for firm with Tobin's Q and ROA value higher than median of Tobin's Q and ROA of all samples, and 0 otherwise. *, **, *** denote significance at the 10, 5 and 1 percent levels, respectively. Standard deviation is reported in parentheses for specifications.

	Tobin's Q				ROA			
	Probit		Logit		Probit		Logit	
Size	0,0544	***	0,0926	***	0,1307	***	0,2422	***
	0,0179		0,0298		0,0168		0,0285	
Debt-equity ratio	1,7524	***	2,8583	***	-0,1861	***	-1,2860	***
	0,0980		0,1668		0,0285		0,1274	
FOE	0,3960	***	0,6596	***	0,2668	***	0,3434	***
	0,0777		0,1295		0,0753		0,1247	
Constant	-2,3638	***	-3,9565	***	-2,7823	***	-4,5383	***
	0,3947		0,6607		0,3712		0,6183	
Observations	2458		2458		2458		2458	
Pseudo R-squared	0.1475		0.1463		0.0403		0.0806	
Likelihood Ratio	502.53		498.51		137.43		274.74	
Probability LR	0.0000		0.0000		0.0000		0.0000	