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Three Essays on Foreign Corporate Ownership

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Abstract

The dissertation examines foreign ownership in Korea during 1998-2003. The capital market opening in Korea following the 1997 Asian financial crisis provides a unique opportunity to investigate the changes in corporate ownership structure. The abolition of investment ceilings and various restrictions for the foreign investment allow us to document the greater influences of foreign institutional ownership in the Korean stock market. I empirically investigate (1) the role of foreign ownership in dividend policy, (2) the link between foreign investors and labour cost, and (3) the relationship between the foreign ownership and the level of corporate donations. Using a large firm level dataset, the panel data techniques are used to examine the effects of foreign equity ownership. The analysis shows that foreign ownership is significantly related to higher dividends, labour costs, and corporate donations. These findings highlight the role of foreign ownership in influencing management practices.

In memory of my Grandfather, whose aspirations for his grandson rose to Nobel Laureate heights, and whose hopes prompted me to make him proud with this dissertation.

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My utmost respect and gratitude goes to my supervisor Professor Diane Reyniers for her great support and invaluable advice throughout the past six years of Ph.D. study. I am especially grateful for her detailed instructions, comments, criticisms, and encouragement in the whole process of writing this dissertation. Her insistence on rigorous analysis helped to channel my thoughts and made this work so much better for it. I will be forever grateful for what she has taught me about aiming for the highest standards of scholarship.

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I have also benefited from discussions with other faculty members at the Managerial Economics and Strategy group at LSE. I would particularly like to express my appreciation to Dr. Jörn Rothe, Professor Michael Barzelay, and Sir Geoffrey Owen for their friendly encouragement and constructive criticism.

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Preface

The goal of this thesis is to investigate the role of foreign ownership in Korea after the market liberalization that followed the 1997 Asian financial crisis. The thesis consists of three separate but connected essays. The first essay investigates the relatively unexplored relationship between dividends and ownership structure in an emerging market setting. The second essay examines the impact of foreign ownership on labour cost. The third essay is a contribution to the current debate on the impact of ownership on corporate philanthropy.

An earlier version of the first essay was published in the Proceedings of the 2006 Academy of Management Annual Meeting. Earlier versions of the other two essays were presented at the 26th and 29th Strategic Management Society Annual International Conferences. I would like to thank the anonymous reviewers and the participants at the conferences for their helpful comments and suggestions.

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Essay One:

FOREIGN OWNERSHIP AND DIVIDENDS

ABSTRACT

This paper investigates the relatively unexplored relationship between dividends and ownership structure in an emerging market setting. Using a unique panel dataset of foreign ownership and firm attributes of listed Korean firms, we first characterize foreign ownership after the full capital market liberalization in 1998. Foreign investors in Korea tend to overweight larger and profitable firms with large export sales and underweight highly leveraged firms with low market-to-book ratio. Then we explore the effects of the rise in foreign ownership on dividend policies in Korea. Firms make higher dividend payouts as the shareholdings of foreigners increase. This result is consistent with the agency theory view of dividends, i.e. dividends can substitute for direct monitoring of firms by large external shareholders.

1. INTRODUCTION

Several studies (e.g., Falkenstein, 1996; Kang and Stulz, 1997; Gompers and Metrick, 2001; Dahlquist and Robertsson, 2001; Chan et al., 2005) have examined the preferences of institutional investors. Kang and Stulz (1997) find that foreigners investing in Japan tend to underweight smaller and highly leveraged firms. They argue that foreigners invest in firms that they are better informed about to reduce the costs associated with informational asymmetries. As Kang and Stulz, Dahlquist and Robertsson (2001) find foreign owners of Swedish firms show a preference for large firms, firms paying low dividends, and firms with large cash positions on their balance sheets.

However, we have limited understanding of holdings of foreign investors in emerging markets. This study deepens the understanding of foreign investors by identifying firm attributes that are common to foreign shareholdings in the Korean stock market. Korea, an emerging market that opened its doors to foreign investors following the 1997 Asian financial crisis, serves as an excellent case study on changes in dividends and ownership structure. Variations in dividends and ownership structure are hard to observe as Myers (1984) documents that dividends are, for unknown reasons, "sticky" (have low variation over time and resistance to change), and ownership changes are difficult to document (La Porta et al., 1999). By analyzing the repeated observations for all non-financial firms listed in Korea during period 1998-2003, we explore the panel variation in share ownership and firm characteristics.

We find following results: foreign investors in Korea tend to overweight larger, profitable firms with large export sales, and

underweight highly leveraged firms with low market-to-book ratio. Consistent with the traditional agency theory of dividends where it is argued that dividends can substitute for other monitoring devices (Rozeff, 1982; Easterbrook, 1984), we also find that the level of foreign ownership is positively associated with dividend payouts, controlling for various firm characteristics.

The paper is structured as follows. Section 2 describes the rise in foreign ownership in Korea following the full market liberalization in 1998. In Section 3, we outline previous empirical evidence on ownership preferences and characterize foreign ownership in individual Korean firms for the period 1998-2003. In Section 4, after reviewing the literature on ownership and dividend policy, we provide a brief overview of the dividend policy trends in Korea. Section 5 reports and discusses empirical results on the determinants of dividends using panel probit and Tobit estimations. Section 6 discusses the potential endogeneity issues and provides further robustness checks. Section 7 concludes.

2. FOREIGN OWNERSHIP IN KOREA

2.1. Stock Market Liberalization

The Korean government "traditionally" controlled all the internal and global financial capital flows very tightly (Chang, 1993). Although formal financial liberalization can be traced back to the 1980s, these reforms were "cautious and slow in terms of ... order and speed" (Park, 1996, p.252). The Korean government only started relaxing its control over the financial sector from the early 1990s as a consequence of Korea's economic success (Chang et al., 1998). Korea's securities market was opened to foreign investment for the first time in 1992 as foreign investors were allowed to own directly up to 3% of a publicly traded company with an aggregate limit of 10% for all foreign investors on an individual stock.

Table 1.1 shows the chronology of the individual and aggregate foreign investment ceilings for listed companies. The investment ceiling was gradually relaxed until 1997 as the Korean government's timetable for intended full liberalization was set for the end of 2000 (The Korea Securities Dealers Association, 2002). However, with the sudden onset of the financial crisis in 1997, the liberalization process and market opening accelerated following the International Monetary Fund (IMF) directives set in December 1997. The investment ceilings on listed companies were completely removed by May 1998.[1]

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[1] Except for some government-regulated companies (e.g., Korea Tobacco and Ginseng Co., Korea Electric Power, Korea Gas Corporation) which have a 40% aggregate limit for foreign investors.

Table 1.1. Stock Market Opening Process

Date	Individual Limit	Aggregate Limit
January, 1992	3%	10%
December, 1994	3%	12%
July, 1995	3%	15%
April, 1996	4%	18%
October, 1996	5%	20%
May 1997	6%	23%
November 1997	7%	26%
December 1997	50%	55%
May 1998	100%	100%

The table shows the investment restrictions for foreign ownership. The first column shows the dates for "Securities and Exchange Act" reforms relaxing the investment ceiling for foreign investment in listed companies. The second and third columns show the investment limitations for foreign individual and aggregate ownership, respectively.

2.2. Foreign Investors in Korea: A first look

All "foreign investors"[2] are required to register (directly or through a proxy) with the Korean Financial Supervisory Service (FSS). This registration is required for foreigners investing in domestic securities including stocks, bonds, trust funds, stock index futures, stock index options and commercial papers. The Korean FSS tracks ownership of all publicly traded securities and publishes data on a yearly basis which can be obtained from the Korea Information Service Corporation.[3] Our dataset includes all non-financial Korean firms listed on the Korea Stock Exchange

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[2] The Korean Financial Supervisory Service refers to "foreign" as an individual of foreign nationality; a corporation established under foreign laws; a government or public entity of a foreign country; or an international financial organization or association established by a treaty.

[3] FSS started to provide this data publicly from 1998 but discontinued the service in 2003.

and KOSDAQ Stock Market from 1998 to 2003.[4] For each firm, we have the percentage of total equity held by foreign investors at the end of each year. Our unbalanced panel data has repeated observations for a minimum of 608 firms in 1998 and a maximum of 1,111 firms in 2003.

In 1998, there were 8,480 foreign investor registered with the Korean Financial Supervisory Service. U.S. and U.K investors comprised almost half of the registered foreign investors and their combined market value exceeded 60% of total foreign investors' market capitalization. The Financial Supervisory Service also reports that among these foreign investors, more than 65% were financial institutions and their market values accounted for 99.7% of the total foreign investor's market capitalization.[5] Therefore, we estimate that U.S. and U.K. financial institutions comprise about sixty per cent of the total value of foreign investment in Korea.

2.3. Foreign Ownership and the Korean Stock Market

The increased presence of foreign ownership in the Korean stock markets is shown in Figure 1.1. The white bars in Figure 1.1 show the aggregate market capitalization of the firms during the period 1998-2003. The gray-coloured part of the bars illustrates foreign ownership in terms of market value. During this period, the portion of foreign ownership in the Korean market increased from 18.7% to 38.2% of total market capitalization.

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[4] We exclude financial firms because financial data for financial firms are not comparable to those of nonfinancial firms (e.g. La Porta et al, 2002). In addition, many financial firms were the first to go through restructuring following the 1997 financial crisis. Many de-listings, mergers, privatizations, and foreign LBOs limit data collection.
[5] The rest, 0.3% of total foreign investors' market capitalization, is held by foreign individual investors.

Their market value has increased from 16.90 trillion Korean won in 1998 to
over 100 trillion Korean won in 2003.[6]

Figure 1.1. Foreign Ownership in the Korean Stock Market
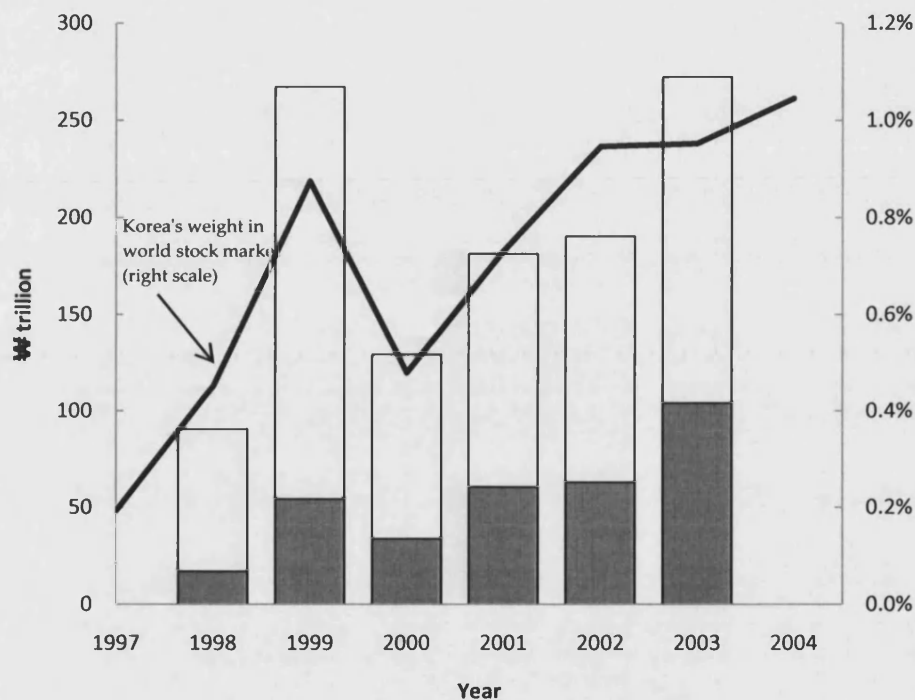
The figure shows foreign ownership in the Korean stock market on a
yearly basis over the period 1998-2003. The bars depict the total market
capitalization of the Korean stock market as well as foreign investors'
share in the Korean stock market (gray bar). Both total market value and
the foreign ownership value are expressed in terms of trillion Korean Won
(₩) and are reflected on the left scale. The fluctuating line in the figure
shows yearly observations of Korea's weight in the world market over the
period 1997-2004, reflected on the right scale.

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[6] ₩100 trillion (KRW) is approximately equal to $83 billion (USD) (using the exchange
rate quoted at the end of year 2003). To put this figure into perspective, in 2003,
Microsoft Corporation was the world's largest company by market capitalization with
$264 billion.

The fluctuating line illustrates Korea's weight in the global stock market.[7] At the end of 1997, Korea's market capitalization only accounted for about 0.2 per cent of total world stock market capitalization. Seven years later, Korea's weight in the world market increased to more than one per cent of world's total market capitalization. From 27th largest in 1997 by market capitalization, Korea became the 14th largest out of 56 stock exchanges around the world in 2004.

2.4. Foreign Ownership by Industry

Table 1.2 provides a summary of foreign ownership by industry at the end of 2003. Our sample can be classified into 41 industries by two-digit Korean Standard Industry Classification (KSIC). We present the summary for the ten largest industries by market capitalization. The first two columns present the number and the market capitalization of the firms in each industry. The largest industry category is "Electronic and Communication Equipment" with market capitalization of 95.5 trillion Korean Won. The 148 firms in this industry account for about 35.1% of the total market capitalization in our sample. The second and third largest industries are manufacturers of "Motor Vehicles" and "Basic Metals", at about 8.5% and 7.2%, respectively.

Columns three and four report the presence of foreign ownership for each industry. 46.1% of foreign investment is allocated to the "Electronic and Communication Equipment" industry. Among the 148 firms in this industry, 119 firms (80.4%) have positive foreign ownership.

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[7] Korea's weight in the global stock market is calculated as the ratio of total market capitalization of Korean companies to the total market capitalization of the world's 56 stock exchanges (data source: World Federation of Exchanges).

Table 1.2. Foreign Ownership in the Korean Stock Market, by Industry

Industry	Firms in Industry		Firms with Foreign Ownership	
	N	MCAP (in %)	N (in %)	MCAP (in %)
Electronic & Communication Equipment	148	95.5 (35.1)	119 (80.4)	47.93 (46.1)
Motor Vehicles	47	23.1 (8.5)	36 (76.6)	9.52 (9.2)
Basic Metals	58	19.6 (7.2)	37 (63.8)	10.66 (10.2)
Utilities	10	16.4 (6.0)	9 (90.0)	4.23 (4.1)
Chemicals	126	15.9 (5.8)	103 (81.7)	3.45 (3.3)
Telecommunications	10	14.9 (5.5)	6 (60.0)	6.57 (6.3)
Professional Services	36	14.9 (5.5)	28 (77.8)	4.65 (4.5)
Wholesale Trade	67	10.0 (3.7)	47 (70.1)	0.96 (0.9)
General Construction	45	7.8 (2.9)	35 (77.8)	2.04 (2.0)
Transportation Equipment	7	7.6 (2.8)	6 (85.7)	2.23 (2.1)
Others	557	46.8 (17.2)	396 (71.1)	11.79 (11.3)
All	1111	272.3 (100.0)	822 (74.0)	104.0 (100.0)

The table shows foreign ownership by industry on the Korean stock markets in 2003. The first two columns show the total number of firms (N) and the total market capitalization (MCAP) in trillion Korean Won. The percentage of an industry's capitalization to total market capitalization is shown in parentheses. The third column shows the number of firms with positive ownership and corresponding percentage to the total number of firms in the industry. The last column presents the market capitalization of foreign ownership in the industry with the percentage of total foreign ownership shown in parentheses.

2.5. Top Holdings of Foreign Investors

Table 1.3 provides a summary of top ten holdings of foreign ownership in 2003. The second column presents the two-digit industry classification. The next three columns present the firm's foreign ownership, total market capitalization and foreign ownership as a percentage of total market capitalization. Samsung Electronics is the largest company in the portfolio held by foreign investors. Foreign investors control 60 per cent of the company with a corresponding investment of 40.85 trillion Korean won. The second and third largest companies held by foreign investors are POSCO and Hyundai Motor Company. The holdings are consistent with Merton (1987)'s observation that investors invest in the securities they know as these companies are well known companies in the global market. [8] As seen in the table, all top ten holdings are very large companies. It indicates that foreign investors seem to hold more shares in large firms. We have also checked this pattern of the data for the whole sample period (1998-2003), and found the same pattern for all years. Foreigners' preference for large firms seems to be robust both over time and industries.

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[8] POSCO is the world's second largest steel maker by market value. Hyundai Motor Company is the world's fourth largest automaker in terms of units sold.

Table 1.3. Top 10 Holdings by Foreign Investors in 2003

Company	Industry	Foreign MCAP (trillion ₩)	Total MCAP (trillion ₩)	FOREIGN OWNERSHIP
Samsung Electronics	Electronic and Communication Equipment	40.85	68.03	60.0%
POSCO	Basic Metals	9.64	14.50	66.5%
Hyundai Motor Company	Motor Vehicles	6.08	11.09	54.8%
KT Corp.	Telecommunications	5.78	12.70	45.5%
Korea Electronic Power	Utilities	3.97	13.70	29.0%
LG Electronics	Electronic and Communication Equipment	2.75	8.18	33.6%
Samsung SDI	Electronic and Communication Equipment	2.50	6.53	38.3%
Shinsegae	Retail	2.19	4.31	50.9%
Hyundai Mobis	Motor Vehicles	1.86	5.44	34.3%
SK Corp.	Professional Services	1.51	3.48	43.5%

The table shows foreign owners' top ten holdings in Korea by market capitalization. First column shows the two-digit KSIC industry classification. Second column shows the foreigners' share in terms of market value. The last column shows the percentage of foreigner's market value to total market capitalization.

3. FIRM CHARACTERISTICS AND FOREIGN OWNERSHIP

3.1. Existing Empirical Findings

Existing empirical studies have observed some patterns in stock preferences of different types of investors. The first comprehensive documentation of stock holders' preferences is by Falkenstein (1996). Using cross-sectional data of U.S. mutual fund equity holdings for the period 1991-1992, Falkenstein shows that mutual funds have a significant preference for stocks with high visibility and low transaction costs, and avoid stocks with low idiosyncratic volatility.

Taking the same approach, Gompers and Metrick (2001) find that during the period 1980-1996, American institutional investors (with more than $100 million) invested in stocks that are larger, more liquid and have had relatively low returns in the previous year. On the other hand, recent literature has shown that smaller firms with low debt, low insider ownership, high profits and high cash reserves are targets for hedge funds in U.S. stock market (Brav et al., 2008; Klein and Zur, 2009) and similar stock characteristics are sought by activist (mainly U.S. and U.K.) hedge funds in Japanese firms (Buchanan, Chai and Deakin, 2009).

Non-U.S. studies have focused on the holdings of foreign investors. For example, Kang and Stulz (1997) examine the foreign investor (non-Japanese) preference for Japanese firms for the period 1975-1990 and show that foreign investors tend to invest in large, financially solid, and well-known firms. Dahlquist and Robertsson (2001) find that foreigners (non-Swedes) in the Swedish stock market prefer large firms, firms paying low dividends, and firms with large cash holdings for the period 1993-1997. Covrig et al.

(2006) find these preferences for large and globally well-known firms to be consistent for foreign mutual fund managers from 11 developed countries. In addition, Ferreira and Matos (2008) find that foreign institutions in 27 countries tend to overweight firms with good governance and those cross-listed in the U.S.

3.2. Firm Characteristics

In this section, we characterize *FOREIGN OWNERSHIP* (measured as the percentage of shares owned by foreign investors) using our dataset of ownership and firm attributes of Korean firms. The following firm characteristics are chosen to enable easy comparisons with the existing studies.

(i) *FIRM SIZE*: Firm size is measured as natural log of total assets

(ii) *LEVERAGE*: This capital structure variable measures long-term financial distress. It is calculated as total debt divided by total assets.

(iii) *MARKET-TO-BOOK*: Market-to-book ratio is a valuation measure of the firm. It is defined as the market value divided by the book value of equity. Low ratios are referred to as "value firms" while "growth firms" have higher ratios.

(iv) *ROA*: Return on assets is measured as net income divided by the book value of total assets.

(v) *EXPORT INTENSITY*: Export intensity is measured as export sales divided by total sales. It is a proxy measure to test Merton's (1987) investor recognition hypothesis: overseas

investors will be more familiar with firms with large sales abroad (Dahlquist and Robertsson, 2001).

(vi) *DIVIDEND PAYOUT*: Dividend payout ratio is defined as the value of (cash) dividends paid divided by net income

3.3. Empirical Results

In this section, we examine the investment behaviour of foreign ownership in Korea. To analyze the relations between foreign ownership and the different firm characteristics, we run multivariate Tobit regressions. We use the censored regression model proposed by Tobin (1958) to adjust for potential biases that may be caused by the prevalence of zero foreign ownership observations in the sample (Heckman, 1979).[9] The estimations are carried out on a year-by-year basis from 1999 to 2003, as well as in a panel regression.

The regression results are reported in Table 1.4. The numbers of left-censored firms which have zero foreign ownership are reported. In 1999, there were 230 firms without any foreign ownership which is equivalent to 38% of firms in the stock exchange.

We find positive and statistically significant coefficients for *FIRM SIZE* and *MARKET-TO-BOOK* for all years. The coefficients for *LEVERAGE* are negative and statistically significant for most of the years. *EXPORT INTENSITY* is only marginally significant at 10% for some years. The relationship between previous year's *DIVIDEND PAYOUT* and *FOREIGN OWNERSHIP* is not significant for 1999 to 2002. We only find a positive

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[9] OLS estimations or truncated estimations using sample firms with only positive foreign ownership may create various problems. See Wooldbridge (2002) for more discussion.

and significant relationship between previous year's *DIVIDEND PAYOUT* and *FOREIGN OWNERSHIP* for the last year (2003) of our sample.

In the panel regression, we confirm the individual year results. We find statistical significance for size, market-to-book ratio and leverage ratio.

3.4. Robustness Check

Another way to measure the presence of significant ownership is to identify the investors with at least 5 per cent ownership. This indicator for a significant or large shareholding block has been widely used to study corporate ownership (e.g., Shleifer and Vishny, 1986; Claessens et al., 2000; Hoskisson et al., 2002). In this section, for robustness purposes, we provide further evidence of the determinants of significant foreign ownership using a probit regression analysis.

Table 1.5 reports the results of our probit estimations using the same set of independent variables as in Table 1.4. The results are similar to the Tobit estimations reported in Table 1.4. The coefficients for *FIRM SIZE* are significant at the 0.1% level for all individual years in our sample. In the panel regression, the probability of a presence of five per cent or more foreign ownership appears to be positively influenced by previous year's *FIRM SIZE* and *EXPORT INTENSITY*, and negatively by *LEVERAGE*.

In this regression, we find stronger support for the firm recognition hypothesis as *EXPORT INTENSITY* is positive and significant for most of the sample years. Merton (1987) argues that investors simply prefer familiar firms and Huberman (1999) shows that familiarity also breeds investment. Our finding is consistent with Dahlquist and Robertsson (2001) who find that foreign investors prefer export oriented firms in their Swedish sample.

Another noteworthy pattern in Table 1.5 is the magnitude of *DIVIDEND PAYOUT* coefficient changes shown in the year-by-year cross-sectional estimations. The *DIVIDENT PAYOUT* coefficient is -0.52 and significant at 5% level in 1999. The coefficients gradually increase to a significant and positive value of 0.16 in 2003. These interesting results are further discussed in the later sections of this paper as we investigate the determinants of dividend policy in Korea during our sample period.

We also performed several more robustness checks on our results. The estimation results including the industry dummy variables also yield consistent results.

3.5. Foreign Ownership and Information Asymmetry

To sum up, foreign investors in Korea seem to prefer large firms with low leverage, high market-to-book ratio, and large export sales. The overall results are consistent with previous studies on foreign ownership (Kang and Stulz, 1997; Dahlquist and Robertsson, 2001).

Foreign investors may prefer large and low leveraged firms because foreign investors are likely to find themselves less informed about local firms than domestic investors (e.g., Dahlquist and Robertsson, 2001; Choe et al, 2005). Kang and Stulz (1997) argue that informational asymmetries are the driving force behind foreign investors' biases.

Table 1.4. Determinants of Foreign Ownership: Tobit Regression

Independent Variable	Dependent Variable: FOREIGN OWNERSHIP					
	1999	2000	2001	2002	2003	Panel
Intercept	-24.75 ***	-20.77 ***	-24.39 ***	-25.40 ***	-27.27 ***	-16.41 ***
	(-6.54)	(-7.18)	(-10.21)	(-11.60)	(-15.16)	(-14.03)
FIRM SIZE $_{(t-1)}$	4.79 ***	4.81 ***	5.54 ***	5.16 ***	6.01 ***	3.90 ***
	(9.97)	(9.76)	(14.35)	(12.71)	(19.24)	(16.54)
LEVERAGE $_{(t-1)}$	-5.06	-8.77 **	-9.49 ***	0.36	-3.01 *	-1.11 **
	(-1.39)	(-2.92)	(-4.15)	(1.05)	(-2.14)	(-2.65)
MARKET-TO-BOOK $_{(t-1)}$	12.16 ***	0.36 *	4.79 ***	5.47 ***	9.72 ***	0.27 ***
	(5.07)	(2.16)	(4.67)	(6.35)	(9.82)	(3.13)
ROA $_{(t-1)}$	-0.55	6.18	3.23	1.99	-1.18	-0.07
	(-0.13)	(1.38)	(0.92)	(1.44)	(-1.21)	(-0.17)
EXPORT INTENSITY $_{(t-1)}$	3.25	4.25 +	2.76	0.53	2.30 +	1.59
	(1.43)	(1.69)	(1.60)	(0.36)	(1.64)	(1.51)
DIVIDEND PAYOUT $_{(t-1)}$	-1.23	-0.06	1.21	0.71	1.64 *	0.27
	(-1.20)	(-0.06)	(1.35)	(0.71)	(2.09)	(0.71)
Pseudo R^2 (%)	3.41	3.25	4.92	4.48	5.06	
F-Statistics	20.66 ***	17.37 ***	50.42 ***	28.45 ***	50.42 ***	
Wald χ^2						291.59 ***
Left-Censored Observations	230	274	320	258	289	1371
Uncensored Observations	378	429	508	712	822	2849

Note: Heteroskedasticity-consistent t-statistics are reported in parentheses.
+Significant at the 10% level; * Significant at the 5% level; **Significant at the 1% level; *** Significant at the 0.1% level

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Table 1.5. Determinants of Foreign Ownership: Probit Regression

Independent Variable	Dependent Variable: 1 if FOREIGN OWNERSHIP ≥5% and 0 if FOREIGN OWNERSHIP <5					
	1999	2000	2001	2002	2003	Panel
Intercept	-2.43 ***	-2.39 ***	-2.75 ***	-3.16 ***	-3.03 ***	-4.31 ***
	(-7.05)	(-9.32)	(-11.34)	(-13.37)	(-14.40)	(-15.19)
FIRM SIZE (t-1)	0.42 ***	0.36 ***	0.46 ***	0.49 ***	0.50 ***	0.69 ***
	(8.70)	(7.82)	(10.37)	(11.60)	(13.77)	(13.39)
LEVERAGE (t-1)	-1.21 **	-0.70	-1.11 ***	-0.61 +	-0.70 **	-1.42 ***
	(-2.94)	(-1.48)	(-3.96)	(-1.94)	(-2.96)	(-6.20)
MARKET-TO-BOOK (t-1)	0.89 ***	0.02 +	0.30 **	0.37 ***	0.65 ***	0.02
	(3.78)	(1.65)	(2.65)	(4.62)	(6.13)	(1.08)
ROA (t-1)	-0.60	0.80	0.46	0.61	0.00	0.11
	(-1.15)	(1.81)	(1.11)	(1.62)	(0.08)	(1.10)
EXPORT INTENSITY (t-1)	0.32	0.39 *	0.32 +	0.09	0.35 *	0.52 *
	(1.62)	(2.07)	(1.80)	(0.53)	(2.36)	(2.54)
DIVIDEND PAYOUT (t-1)	-0.52 *	-0.21	0.02	0.04	0.16 *	0.03
	(-2.07)	(-0.94)	(0.25)	(0.50)	(2.26)	(0.34)
Pseudo R² (%)	19.71	15.67	17.81	18.55	19.71	
Wald χ²						237.13 ***
Number of Observations	608	703	828	970	1111	4220

Note: Heteroskedasticity-consistent t-statistics are reported in parentheses.

+Significant at the 10% level; * Significant at the 5% level; **Significant at the 1% level; *** Significant at the 0.1% level

4. DIVIDENDS AND FOREIGN OWNERSHIP

4.1. Dividends and Agency Theory

Since Modigliani and Miller's seminal studies (1958, 1961) showing the irrelevance of dividend policy, there has been a considerable amount of research identifying the rationale and determinants of corporate dividend policy. Agency theory is the most frequently cited explanation for the dividend puzzle. In adopting the agency theory argument of Jensen and Meckling (1976), Rozeff (1982) constructs a model in which dividends serve as a mechanism to reduce agency costs by distributing cash resources to shareholders. Easterbrook (1984) argues that by distributing resources in the form of cash dividends, firms' internal funds become inadequate which forces managers to seek external finance which is more effective than internal finance with respect to monitoring and disciplining management.

Rozeff argues that dividends provide indirect control benefits in the absence of active monitoring of a firm's management by its shareholders. According to this view, managers' and shareholders' interests are potentially in conflict in regards to dividend payments. Jensen (1986) argues that managers are reluctant to pay out dividends as they tend to act in their own interests, preferring instead to retain resources under their control. Easterbrook argues that outside shareholders have the opposite view of dividends. He argues that by virtue of their voting power, external shareholders may counter a tendency for managers preferring the excessive retention of cash flow. External shareholders who are likely to be exploited (La Porta et. al., 2002) can exert pressure on firms to pay out dividends.

Dividends potentially reduce agency costs and information asymmetry between insiders and outsiders (e.g., Bhattacharya, 1979; Miller and Rock,

1985). By paying dividends, firms undergo a market audit which serves to motivate managers to both reveal new information and reduce agency costs in order to secure future funds. Moh'd et al., (1995) argue that shareholders value this benefit of reducing both agency costs and information asymmetries as the benefit of monitoring exceeds the cost of new funding.

4.2. Review of Empirical Evidences

Recent empirical studies have emphasized the relationship between ownership and dividend policy. Short et al. (2002), and Grinstein and Michaely (2005) find that large shareholders, especially financial institutions, have a preference for cash dividends. Mancinelli and Ozkan (2006) find further support for this positive relationship between large shareholders and dividends in Italian firms.

Gugler and Yurtoglu (2003) argue that the identity of the large shareholders, whether they are insider or external shareholders, is important. Truong and Heaney (2007) using a large number of firms from 37 countries argue that firms are more likely to pay dividends when the largest shareholder is not an insider. Using the U.K. panel dataset, Khan (2006) shows that a positive relationship exists for insurance ownership and dividends in large firms.

Empirical evidence on the relationship between foreign ownership and dividends is rather limited as many empirical studies on foreign ownership treat dividend payouts as an exogenous variable to ownership. Dahlquist and Robertsson (2001) find that foreign investors in Sweden prefer firms paying low dividends while Covrig et al. (2006) find that foreign fund managers have no preference for high dividends.

4.3. Worldwide Dividend Trends

Figure 1.2 shows the mean dividend payout ratios for large industrial companies from the world's major stock exchanges. [10] The average dividend payout ratio has fallen during this period 1998-2003 for all major exchanges except for Korea and EURONEXT. The average dividend payout ratio for the industrial stocks from the New York Stock Exchange was about 16% while the average industrial stocks listed in Korea Stock Exchange was about 20% during the sample period.

However, La Porta, Lopez-de-Silanes, Shleifer and Vishny (henceforth LLSV, 2000) argue that differences in dividend policy can be explained by the different levels of legal protection of minority shareholders. They find higher dividends in common law countries (where legal protection is generally higher) and argue that "dividends are an outcome of effective legal protection of shareholders, which enables minority shareholders to extract dividend payments from corporate insiders" (LLSV, 2000, p.27). In supporting the agency approach of dividends, LLSV argue that dividends can serve as a substitute for effective legal protection for external shareholders.

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[10] Large Industrials are companies that belong to Industry Classification Benchmark code of "2000".

Figure 1.2. Global Comparison of Dividend Payout Ratio
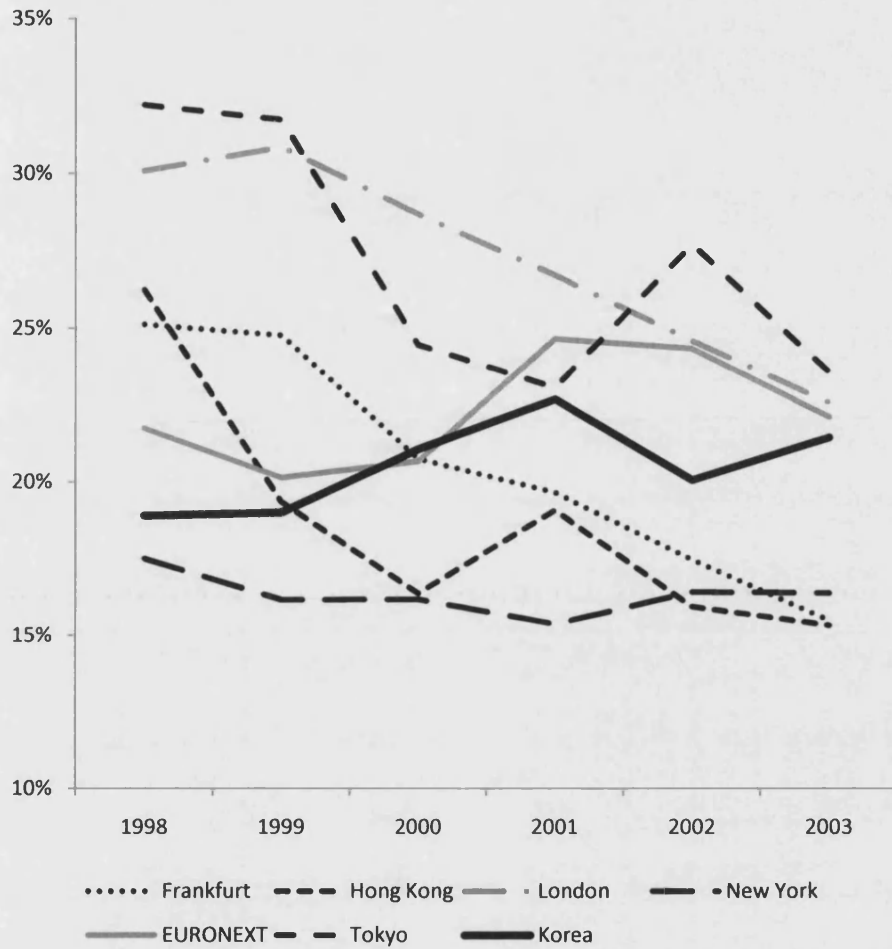
The figure shows the time trend (1998-2003) of mean dividend payout ratios for Industrial stocks (Industry Classification Benchmark = 2000) from the world's major stock exchanges and Korea. Dividend payout ratio is calculated as the ratio of value of cash dividends paid to net income.

4.4. Increasing Dividends in Korea

The concept of dividend payments, returning cash to investors, is a relatively new financial concept in Korea. However, the total value of cash dividends paid out in the Korean stock market has dramatically risen over the period 1998-2003.

Contrary to Fama and French (2001)'s finding of "disappearing" dividends in the U.S., we find the dividend payments rising in Korea. In Figure 1.3, the bars show the aggregate value of cash dividends paid to all shareholders. During the period 1998-2003, the aggregate value of dividends paid has increased from 1.27 trillion to 5.84 trillion Korean Won.

Another new phenomenon in the Korean stock market during this period is the rise of foreign ownership as we have discussed in the earlier sections. The fluctuating line illustrates foreign investor's weight in the Korean stock market. Foreign investors' portions in the Korean stock market have increased from 18.7 per cent in 1998 to over 38 per cent of total market values in 2003.

Figure 1.3. Total Dividend Payments and Foreign Ownership in the Korean Stock Market
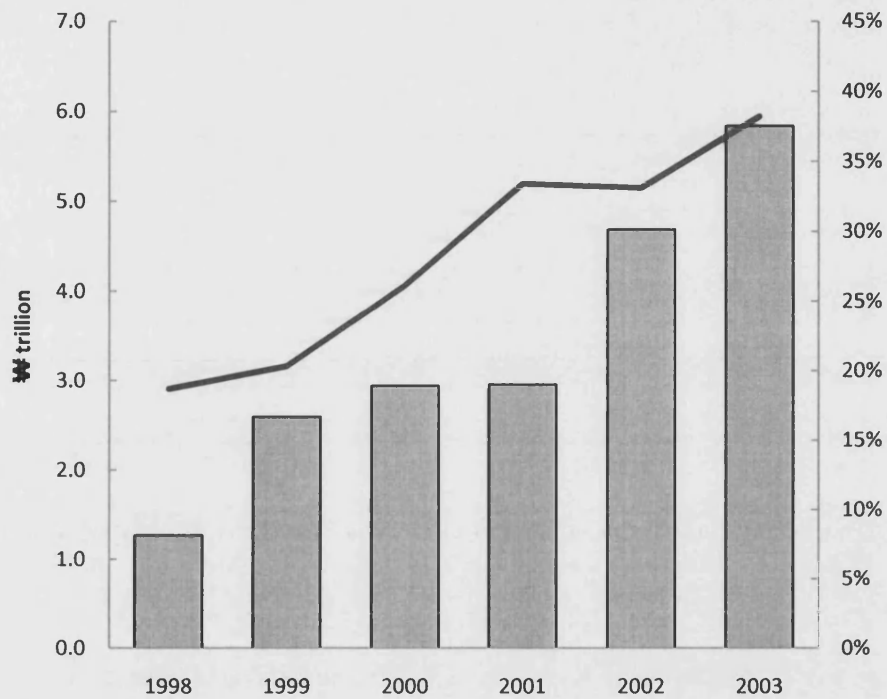
The figure shows the rise in dividends and foreign ownership on a year-by-year basis over the period 1998-2003. The bars depict the aggregate value of dividend payments made to all shareholders in the Korean stock market, reflected on the left scale. The fluctuating line in the figure shows the yearly observations of foreign investors' weight in the Korean stock market, reflected on the right scale.

5. DETERMINANTS OF DIVIDENDS

In this section, we conduct various empirical analyses of the relationship between foreign ownership and firms' dividend policy. We focus on two decisions involving dividend policy: (1) whether or not to pay dividends, and (2) how much to pay.

5.1. Measuring Dividends

We have several dependent variables that measure firms' dividend policy.

- *DIVPAY*: Dummy variable equal to 1 for firms that have non-zero dividends and 0 otherwise
- *DIV/SALES*: Ratio of total cash dividends to net sales
- *DIV/TA*: Ratio of total cash dividends to book value of total assets.
- *DIV/NI*: Ratio of total cash dividends to net income, also known as dividend payout ratio.

The most commonly used measure of dividends is dividend payout ratio, (*DIV/NI*). However, Khan (2006) argues that scaling dividends by total sales rather than net income is preferred because of the non-zero or non-negative property of total sales. The ratio of dividends to total assets has also been used in the recent literature (LLSV, 2000; Grinstein and Michaely, 2005). To ensure that our results are not driven by the scaling factor of dividends, we repeat our estimations using all of these dividend measures.

Figure 1.4. Time Trend of Dividend Measurements
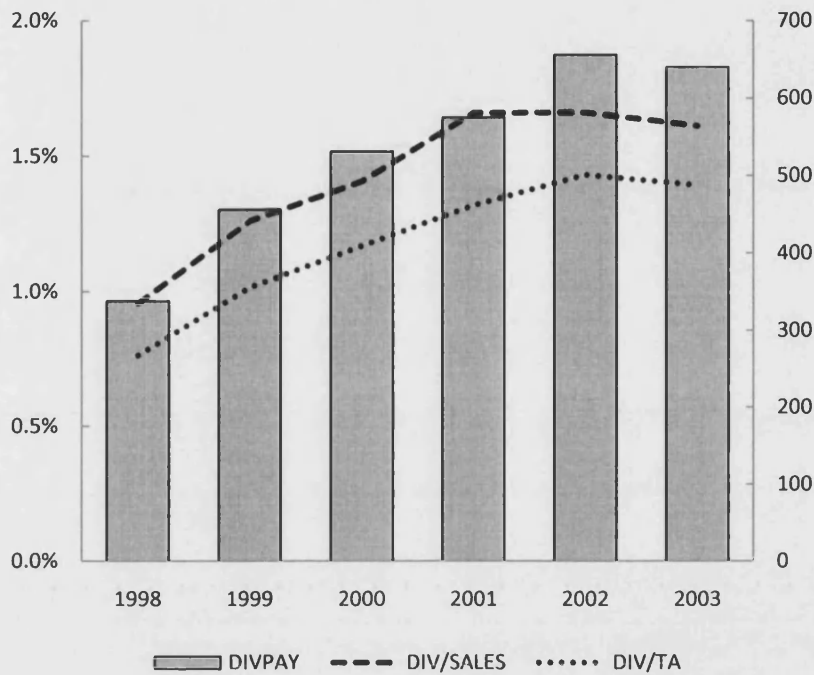
The figure shows the time trend of our dependent variables over the period 1998-2003. The bars depict the number of firms paying dividends (DIVPAY) in Korean stock market, reflected on the right scale. The fluctuating lines in the figure show the yearly observations of dividends to sales (DIV/SALES), and dividends to total assets (DIV/TA) ratios, reflected on the left scale.

Figure 1.4 shows the time trend of our dependent variables for our sample period 1998-2003. The bars show the number of firms paying dividends (*DIVPAY*). The two fluctuating lines show the market mean value of *DIV/SALES*, and *DIV/TA*, over time. Firms in the Korean stock market, on average, returned less than 1% of their total sales to shareholders in 1998. This ratio increases over time. In 2003, firms

returned on average more than 1.5% of their total sales to shareholders as
cash dividends.

Table 1.6. Descriptive Statistics and Correlation Matrix

	Variables	Mean	SD	1	2	3	4	5	6	7	8
1	DIVPAY	0.600	0.490								
2	DIV/SALES	0.009	0.016	0.461*							
3	DIV/TA	0.007	0.010	0.611*	0.721*						
4	DIV/NI	0.179	0.465	0.315*	0.235*	0.262*					
5	FIRM SIZE	4.616	1.481	0.151*	-0.006	-0.059*	0.068*				
6	LV	0.520	0.610	-0.172*	-0.151*	-0.166*	-0.047*	0.055*			
7	MB	0.566	1.779	0.001	0.083*	0.090*	-0.009	-0.128*	-0.071*		
8	ROA	0.003	0.499	0.133*	0.077*	0.112*	0.030*	0.032*	-0.166*	0.026	
9	FOREIGN (%)	5.091	11.917	0.168*	0.113*	0.172*	0.066*	0.327*	-0.040*	0.047*	0.034*

Notes: * Significant at the 5% level (two-tailed test)

5.2. Descriptive Statistics

Table 1.6 presents the descriptive statistics and correlation coefficients. The table shows mean and standard deviations for all our dependent variables, firm characteristics variables, and foreign ownership variable discussed in the earlier section. *FOREIGN OWNERSHIP* is positively and significantly correlated with all dividend measures: *DIVPAY* (0.168), *DIV/SALES* (0.113), *DIV/TA* (0.172) and *DIV/NI* (0.066).

To provide an initial assessment of the differences between firms that pay dividends and do not, we compare the firm characteristics in Table 1.7. We have 3,196 observations for dividend paying firms (DIVPAY = 1) and 2,135 observations for non-paying firm (DIVPAY = 0). Columns (1) and (2) report mean and median values for the firms that pay dividends. The next two columns report the same summary statistics for firms that do not pay dividends. Columns (5) and (6) report the univariate test results comparing the dividend paying and non-paying firms. The t-statistics for the mean differences and Wilcoxon signed-rank tests for the median differences are given. The results show significant differences (at 0.1% level) between the groups in both mean and median for *FIRM SIZE, LEVERAGE, ROA,* and *FOREIGN OWNERSHIP*.

The summary statistics on *FIRM SIZE,* measured as the log of total assets, indicate that the dividend paying firms are larger than the firms that do not pay dividends. The next variable relates dividend policy to firm's capital structure. The average book value debt to total asset (*LEVERAGE*) is lower for the firms that pay dividends. The significant differences between firm's profitability measured, return on asset (*ROA*), indicates that the profitable firms pay higher dividends. Dividend paying firms also

have higher valuation ratio, measured as the market-to-book ratio. However, the *MARKET-TO-BOOK* is only significant for its median values.

On the ownership differences, dividend paying firms have higher foreign ownership: an average of 6.726% foreign ownership (about 4 percentage points higher than the firms do not pay dividends).

Table 1.7. Dividend Payers vs. Non-Payers

	Summary Statistics				Tests for Difference Between	
	DIVPAY=1		DIVPAY=0		the Groups	
	Mean	Median	Mean	Median	t-stat on Diff.	Wilcoxon
Variables	(1)	(2)	(3)	(4)	(5)	(6)
FIRM SIZE	4.799	4.531	4.342	4.057	11.183***	12.300***
LEVERAGE	0.435	0.442	0.649	0.599	-12.719***	-22.924***
MARKET-TO-BOOK	0.568	0.335	0.564	0.268	0.078	9.295***
ROA	0.057	0.047	-0.079	-0.017	9.828***	39.465***
FOREIGN OWNERSHIP	6.726	0.400	2.644	0.030	12.428***	15.133***

Notes: The first two columns report the mean and median of the characteristics for the dividend paying firms. Columns 5 and 6 report the t-statistics for the average difference, and the Wilcoxon signed rank statistics for the median difference.
   *   *Significant at the 5% level*
   ** *Significant at the 1% level*
   *** *Significant at the 0.1% level*

5.3. To Pay or Not to Pay

We use a probit regression model for panel data to examine the role of foreign ownership in firms' decisions whether or not to pay. While controlling for the relevant firm characteristics presented in Fama and French (2001), we estimate the probability of firm's decision to pay dividends (DIVPAY=1). We also include year and industry dummy variables to control for industry effects and time effects across the sample.

The results of panel probit estimations are reported in Table 1.8. The regression results are consistent with those in Table 1.7. The results suggest that larger firms, firms with lower debt ratios, and firms with higher market-to-book ratio and return on assets (ROA) are more likely to pay dividends. The dividend decision is also related to foreign ownership. The estimated *FOREIGN OWNERSHIP* coefficient is positive and statistically significant (at 0.1 per cent level).

The third column reports the calculated marginal probability effects at the multivariate point of means. The marginal effects imply that a marginal change in foreign ownership from the sample average of 5.091% is associated with a 0.41 percentage point increase in the probability of firm paying dividends, other things equal. Overall, controlling for firm characteristics, we note that the greater the foreign shareholdings, the more likely firms are to pay dividends.

Table 1.8. Panel Probit Analysis of Dividend Paying Firms

Independent Variables	Dependent Variable: *DIVPAY*		
	Coefficient	t-statistics	Marginal Probability
Intercept	0.9194	1.22	
FIRM SIZE	0.4841 ***	10.00	16.40%
LEVERAGE	-4.3822 ***	-17.08	-148.46%
MARKET-TO-BOOK	0.0345 *	2.47	1.17%
ROA	0.1847 **	3.31	6.26%
FOREIGN	0.0121 **	3.27	0.41%
Industry Dummy	Included ***		
Year Dummy	Included ***		
Wald χ^2	446.43 ***		
Number of Firms	1111		
Number of Observations	5331		

Notes: Industry dummies and year dummies are not reported but both are jointly significant.
* Significant at the 5% level; **Significant at the 1% level; *** Significant at the 0.1% level

5.4. How Much to Pay?

We now investigate the levels of dividend payouts. We estimate the effects of firm characteristics and foreign ownership on three dividend payout ratios (*DIV/SALES, DIV/TA,* and *DIV/NI*). We use a panel Tobit model because the dividend distribution is censored from below at zero.[11] As we discussed in the previous section, about 40 percent of our sample firms do not pay dividends, thus showing a zero dividend ratio. Therefore, OLS estimates of coefficients might be inconsistent and biased towards zero (Greene, 1981). The Wald chi-square test indicates that all specifications of

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[11] Greene (2004) raises concern for "incidental parameters problem" in panel Tobit models. He finds a large positive finite sample bias when T is very small (T=2 or 3). However, given our panel estimates are based on our sample year of T=6, our estimates are less affected by the potential bias and inconsistency concerns (as Greene recommends $T = 5$ or more).

all models are statically significant (at 0.1% level) as a whole. Industry dummies and year dummies are included as they are all jointly significant.

Table 1.9 reports the Tobit regression results. The results are consistent with the probit regression analysis reported in Table 1.8. We find positive and significant relationships between dividend payouts and *FIRM SIZE*, and *ROA*, suggesting that larger and profitable firms are more likely to pay higher dividends. The estimate coefficients for *LEVERAGE* in all models are negative and significant as expected. We also find that the coefficients for *MARKET-TO-BOOK* ratio are positive and significant (except for the model (3) where the dependent variable is *DIV/NI*).

These results are consistent with the existing empirical findings (e.g., Fama and French, 2001; Khan, 2006; Mancinelli and Ozkan, 2006; Truong and Heaney, 2007) except for the positive and significant relationship we find for *MARKET-TO-BOOK* ratio. Our results suggest that "growth firms" are more likely to pay higher dividends which may be paradoxical to our common understanding of dividends. However, this finding gives first empirical support to LLSV (2000)'s "agency substitution" theory that we expect high growth firms to have higher dividend payouts than low growth firms in countries with low shareholder protection.[12]

On the results regarding the foreign ownership, we consistently find positive and significant relationship between foreign ownership and the level of dividend payouts. These results can be interpreted as a support for

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[12] Korea's investor protection scores are relatively low. Korea's "cash flow rights," and "control rights" are scored at 0.18 and 0.24, respectively. Compared to 27 countries sample mean of 0.29 for "cash flow rights" and 0.39 for "control rights," Korea has one of the lowest scores (LLSV, 1998, 2002). However, Armour, Deakin, Lele and Siems (2009) criticize these cross-sectional studies of investor protection as they show legal rules evolve over time. For example, by using the time-series data of investor protection of 19 countries, Chai, Deakin, Sarkar and Singh (2009) provide first empirical evidences on the effects of investor protection on firm-level competition.

our argument that higher level of foreign ownership is associated with more dividends. These results are consistent with the agency theory on dividends (Rozeff, 1982; Easterbrook, 1984).

Table 1.9. Panel Tobit Analysis on Dividend Payout Ratios[13]

| Independent Variables | Dependent Variables | | |
	DIV/SALES	DIV/TA	DIV/NI
	(1)	(2)	(3)
Intercept	0.0150 *	0.0126 *	0.2000
	(2.11)	(2.55)	(1.06)
FIRM SIZE	0.0028 ***	0.0011 ***	0.0855 ***
	(6.87)	(3.94)	(7.65)
LEVERAGE	-0.0496 ***	-0.0278 ***	-0.9942 ***
	(-21.59)	(-20.52)	(-14.50)
MARKET-TO-BOOK	0.0006 ***	0.0005 ***	0.0052
	(4.18)	(5.30)	(0.97)
ROA	0.0027 ***	0.0020 ***	0.0619 **
	(4.12)	(4.91)	(2.88)
FOREIGN	0.0001 **	0.0001 ***	0.0020 *
	(2.73)	(6.12)	(2.07)
Industry Dummy	Included ***	Included ***	Included ***
Year Dummy	Included ***	Included ***	Included ***
Wald χ^2	727.29 ***	760.65 ***	392.95 ***
Number of Firms	1111	1111	1111
Left-censored Observations	2135	2135	2135
Uncensored Observations	3196	3196	3196

Notes: Industry dummies and year dummies are not reported but both are jointly significant; t-statistics are reported in parentheses below the coefficient estimates.
* Significant at the 5% level; **Significant at the 1% level; *** Significant at the 0.1% level

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[13] Decomposition analysis has been performed to demonstrate the relative importance of different explanatory factors. The variance of the dependent variable (DIV/TA) is explained by: FIRM SIZE (1.05%), LEVERAGE (11%), MARKET-TO-BOOK (0.4%), ROA (34.95%), FOREIGN (1.92%), Residuals (50.68%).

5.5. Persistence of Dividends

Lintner (1956) argue that firms are reluctant to reduce cash dividend payments since it may be viewed as a negative signal of future performance. In order to allow for this concept of persistence or state dependence in dividend policy behaviour, we include past dividends in the above models.

Table 1.10 reports the dynamic Tobit regression results. The coefficient estimates for lagged dividends are large and significant for models (1) and (2) where we use *DIV/SALES* and *DIV/TA* as the dependent variables. The size of the coefficient is consistent with the "dividend smoothing" behaviour noted by Lintner (1956) that firms adjust dividend payments gradually over time. However, in model (3) where we use *DIV/NI* as the dependent variable, the lagged *DIV/NI* is not significant.

Most importantly, the estimated results for all other determinants in our dividend models are consistent with the previous probit and Tobit regression analysis reported in Tale 1.8 and Table 1.9 even after controlling for the lagged dividends.

Table 1.10. Dynamic Panel Tobit Analysis on Dividend Payout Ratios

Independent Variables	Dependent Variables		
	DIV/SALES	DIV/TA	DIV/NI
	(1)	(2)	(3)
Intercept	0.0094	0.0059	0.2527
	(1.78)	(1.83)	(1.12)
Lagged Dividends[14]	0.4582 ***	0.5649 ***	-0.0252
	(23.21)	(21.95)	(-0.98)
FIRM SIZE	0.0019 ***	0.0009 ***	0.0887 ***
	(6.05)	(4.59)	(6.38)
LEVERAGE	-0.0325 ***	-0.0183 ***	-1.0772 ***
	(-16.17)	(-14.86)	(-12.67)
MARKET-TO-BOOK	0.0007 *	0.0005 *	-0.0132
	(2.09)	(2.52)	(-0.73)
ROA	0.0018 ***	0.0012 ***	0.0596 *
	(3.54)	(3.95)	(2.49)
FOREIGN	0.0001 **	0.0001 ***	0.0029 *
	(2.90)	(5.20)	(2.51)
Industry Dummy	Included ***	Included ***	Included ***
Year Dummy	Included ***	Included ***	Included ***
Wald χ^2	1458.84 ***	1523.73 ***	334.16 ***
Number of Firms	1111	1111	1111
Left-censored Observations	1692	1692	1786
Uncensored Observations	2528	2528	2434

Notes: Industry dummies and year dummies are not reported but both are jointly significant; t-statistics are reported in parentheses below the coefficient estimates.
* Significant at the 5% level; **Significant at the 1% level; *** Significant at the 0.1% level

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[14] DIV/SALES $_{(t-1)}$, DIV/TA $_{(t-1)}$ and DIV/NI $_{(t-1)}$ are used for model (1), (2) and (3), respectively.

6. DISCUSSION OF POTENTIAL ENDOGENITY

In the previous section, like the existing studies on ownership and dividends (e.g., Rozeff, 1992; Easterbrook, 1984; Gugler and Yurtoglu, 2003; Khan, 2006; Mancinelli and Ozkan, 2006), we have treated foreign ownership as exogenous variable in the dividend policy regressions. Recent research in strategy has also emphasized the impact of ownership on firm level strategy (Gedajlovic and Shapiro, 1998; Hoskisson et al., 2002) and found strong evidence of the impact of ownership on international diversification (Tihanyi et al., 2003), R&D strategy (Baysinger et al., 1991), and corporate social responsibility (Johnson and Greening, 1999). In addition, the identity and preference of owners also have impact on small business growth in the short run (Johnson, Conway and Kattuman, 1999), and human resource management practices (Bryson, Gomez, and Kretschmer, 2007) in U.K.

However, there is equally convincing evidence supporting the argument that higher dividends induce increased shareholdings of institutional ownership (Grinstein and Michaely, 2005), largest shareholders (Truong and Heaney, 2007), and domestic funds (Covrig et al., 2006). In addition, Allen et al. (2000) argue that firms paying dividends attract more institutional investors in the U.S. because dividends are taxed at lower rate or even untaxed for some institutions. However, this tax clientele effect does not apply in Korean stock markets as dividends can be taxed more for foreign investors depending on bilateral tax treaty agreements.[15]

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[15] Income tax withholding rates for the U.S. investors on dividends are 10 or 15%, and Capital gains are 0 or 11%, depending on the percentage of shares owned. The bilateral tax treaties between U.K. and Korea grants the U.K. investors of 0% tax rate on capital

One possible way to tackle this potential endogeneity problem is to use instrumental variables methods like two-stage least squares (2SLS). However, finding valid instrumental variable(s) in corporate finance literature, especially for firm ownership are known to be difficult (Himmelberg et al., 1999). Nevertheless, to address the potential endogeneity effect, we first apply the Wu-Hausman specification test to test for endogeneity (Wu, 1973; Hausman, 1978).[16] Wu-Hausman test for exogeneity has been conducted for all dividend models and foreign ownership. The tests suggest that there is no significant endogeneity between them, allowing us to use the standard Tobit model over two-stage Tobit model.

In addition, our results presented in Section 3 and 9 do support our view that dividend outcomes are endogenously determined by exogenous foreign ownership. Table 1.4 reports that dividend payout at *t-1* does not affect foreign ownership in the following year, at *t*. Yet, in Table 1.9 reports the finding that foreign ownership has positive and significant relationship with dividend payouts, controlling for relevant firm characteristics. These results suggest that it is indeed the presence of foreign ownership which increases dividends rather than high dividends increasing foreign ownership.

Lastly, we conduct a few more robustness checks to strengthen our argument. First, we take companies with significant increases in level of foreign ownership in the first years (1998-1999) of stock market opening and show that these companies do not have higher dividend ratios than the

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other companies. These comparisons are reported in Table 1.11. Those companies with significant increases in foreign ownership from 1998 to 1999, on average, did not pay higher dividends than the other companies (i.e., the difference in mean and median values for these two groups are not statistically significant).

Table 1.11. Comparison of Significant Increases in Foreign Ownership (1998-1999) and Others

	Summary Statistics				Tests for Difference Between	
	ΔFO (1999) $\geq$ 5%		ΔFO (1999) < 5%		the Groups	
	Mean	Median	Mean	Median	t-stat on Diff	Wilcoxon
Variables	(1)	(2)	(3)	(4)	(5)	(6)
DIV/SALES (1999)	0.010	0.007	0.008	0.004	1.666	1.832
DIV/TA (1999)	0.007	0.006	0.007	0.004	0.530	1.445
DIV/NI (1999)	0.198	0.093	0.171	0.108	0.572	0.458

Notes: The first two columns report the mean and median of the dividend variables for the firms that had significant increases in foreign ownership. Columns 5 and 6 report the t-statistics for the average difference, and the Wilcoxon signed rank statistics for the median difference.
* Significant at the 5% level; **Significant at the 1% level; *** Significant at the 0.1% level

Table 1.12. Comparison of Significant Foreign Ownership in 2003 and Others

	Summary Statistics				Tests for Difference Between	
	FO (2003) $\geq$ 5%		FO (2003) < 5%		the Groups	
	Mean	Median	Mean	Median	t-stat on Diff	Wilcoxon
Variables	(1)	(2)	(3)	(4)	(5)	(6)
DIV/SALES (2003)	0.014	0.010	0.007	0.0002	6.578 ***	9.263 ***
DIV/TA (2003)	0.012	0.010	0.006	0.0001	8.610 ***	8.889 ***
DIV/NI (2003)	0.229	0.168	0.166	0	2.418 *	5.867 ***

Notes: The first two columns report the mean and median of the dividend variables for the firms that have significant foreign ownership. Columns 5 and 6 report the t-statistics for the average difference, and the Wilcoxon signed rank statistics for the median difference.
* Significant at the 5% level; **Significant at the 1% level; *** Significant at the 0.1% level

Then, we take companies with high levels of foreign ownership at the end of our sample period (year 2003), and show that these companies have higher dividend ratios than other companies. Table 1.12 shows that those firms with significant foreign ownership, measured as 5% or more foreign ownership, pay higher dividends than those firms with less than 5% of foreign ownership. On average, the firms with significant foreign ownership in 2003 have 1.3 to 2 times higher dividend ratios than the other firms.

These two simple exercises further support our argument that rises in foreign ownership in Korea led more firms to pay dividends and increase dividend payout levels.

7. CONCLUSION

By using a rich panel dataset on foreign ownership and firm-specific attributes, we characterize foreign ownership in Korean firms with great detail. Foreign investors seem to prefer larger and export oriented firms with low leverage and high market-to-book ratio. Our findings are unique to other empirical studies that capture the stock preferences of investors as our data captures the investment behaviour of foreigners in relatively unknown, emerging, and recently liberalized stock market.

The study also contributes to the limited empirical literature on ownership structure and dividends in emerging markets. We find that dividend policy is a function of firm size, capital structure (measured as leverage ratio), valuation (measured as market-to-book ratio) and profitability (measured as return on assets). Most importantly, we find that foreign ownership has significant influence on dividend policy that the firm adopts.

Our results are consistent with the agency model of dividends argument set forth by Rozeff (1982) and Easterbrook (1984). In addition, the evidence of high dividend payouts in companies with high levels of foreign ownership in post-1997 financial crisis and subsequent market liberalization support the view that external shareholders extract dividend payments from corporate insiders as a substitute for effective legal protection (LLSV, 2000).

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Essay Two:

FOREIGN OWNERSHIP AND LABOUR COST

ABSTRACT

This study examines the impact of foreign ownership on the firm's labour cost using a panel data of 496 publicly traded Korean companies during the post Asian financial crisis period of 1998-2003. It shows that foreign ownership is positively related to labour cost but this positive effect is significantly weaker for firms with weak financial performance than those with strong financial performance. These results provide support to the view that foreign investors take both monitoring and disciplinary roles for publicly traded firms.

The capacity of the new Employment Insurance system will be strengthened to facilitate the redeployment of labor, in parallel with further steps to improve labor market flexibility.

– "Memorandum on the Economic Program" attached to the "Letter of Intent of the government of Korea" to the IMF, December 3, 1997.

1. INTRODUCTION

The Korean labour market underwent employment restructuring following the 1997 Asian Financial Crisis and subsequent International Monetary Fund (IMF) bailout. Conditions of the $65 billion IMF bailout were: the Korean government had to contain inflationary pressure through tight monetary and reduced fiscal policies, fundamentally reform the banking and financial sector and find a way to limit corporations' excessive reliance on short-term financing. Acceptance of the IMF's financial market liberalization demands led to a dramatic increase in equity ownership of publicly traded Korean firms by U.S. and U.K. institutional investors.[1]

The IMF particularly emphasized that the Korean labour market was too rigid and called for reforms to improve its flexibility. However, Kim and Bae (2004) argue that even without this pressure from the IMF, Korean government officials had already come to the conclusion that securing labour market flexibility was essential to improve the competitiveness of Korean corporations. Thus the Korean government encouraged firms to implement employment restructuring programs by reforming labour laws. These reforms allowed firms to dismiss workers based on firms' "urgent

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[1] In terms of market value, foreign investors' share in Korean equity markets increased from 14.6% in 1997 to over 40% in 2004.

managerial need".[2] Consequently, many firms adopted various and bold employment restructuring programs. As Kim and Kim (2003) document, some firms utilized the financial crisis as an opportunity to eliminate redundant labour forces encountering strong resistance.

Whether it was achieved by numerical flexibility (e.g. boosting early retirements while reducing work hours, overtime and recruitment) or by functional flexibility (e.g. salary freezes and reducing bonuses and benefits), the ultimate goal of late 1990s labour restructuring was to reduce expenditures on labour. Consequently, the unemployment rate in Korea rose sharply from 2.1 per cent in August 1997 to modern Korea's peak at 8.6 per cent in February 1999.

Given this turbulent macro-economic environment, the purpose of this paper is to examine the explanatory factors of firm-level drivers of employment cost reduction and to shed some light on the impact of ownership structure on labour cost. Using a sample of 496 firms over the 1998-2003 period, we empirically examine the impact of the (stronger) presence of U.S. and U.K. institutional investors on total labour cost.

The remainder of the paper is arranged as follows. In Section 2, we review existing empirical results and outline possible theoretical links between foreign ownership and labour cost. Section 3 reviews the downsizing methods and reports our results. Section 4 details the data and methodology for estimating the total labour costs. Section 5 provides descriptive evidence on the development of labour flexibility during 1998-2003, and empirically tests for the impact of foreign ownership on labour cost. Section 6 provides concluding remarks.

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[2] For more, see the discussions of Crotty and Lee (2002); Lee and Lee (2003).

2. BACKGROUND AND LITERATURE REVIEW

2.1. Traditional Employment Practices in Korea

Traditional Korean human resource management is characterized by the principles of seniority-based wage and long-term employment. Under the traditional long-term employment system, a recent graduate would be hired and trained internally to perform various jobs through rotations and transfers, and receive pay based on the length of service (Bae and Rowley, 2001). In this system, there are no formal layoffs for permanent employees such as those evidenced in the US or European systems (Bae and Lawler, 2000).

This concept of "permanent employment" has been widely studied in the Japanese context (Dore, 1973; Ahmadjian and Robinson, 2001). Although Korea's human resource management has limited arrangements compared to the "Japanese sense"[3] (Kim and Bae, 2004), the long-term employment system has cultivated employees' loyalty and commitment to the firm (Rowley and Bae, 2002).

Yet, the financial crisis of 1997 led many managers to abandon their traditional employment practices including the permanent employment ideology. Faced with the urgency for corporate survival, most companies undertook bold restructuring and downsizing programs in an attempt to stay in business. Reforms took place in every dimension of human resource management from the recruitment and selection process to the revaluation of remuneration systems. As noted by Kim and Bae (2004,

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[3] For more detail discussion of traditional Japanese permanent employment practices, see Cole (1972).

p.16), "most management lost their sense of direction, but retained a change-is-good mentality."

2.2. Downsizing Studies

As many Korean corporations abandoned their permanent employment practices, "downsizing", a relatively new concept in the Korean labour market, became a new phenomenon. Downsizing, more common in the Anglo-Saxon business models, is regarded as a strategic choice of permanent job cuts in an effort to improve operating efficiency in competitive circumstances, but not necessarily because of declines in business (Cascio, 1993; DeWitt, 1998). Freeman and Cameron (1993:12) further define downsizing as "a set of activities, undertaken on the part of the management of an organization, designed to improve organizational efficiency, productivity, and/or competitiveness. It represents strategy implemented by managers that affects the size of the firm's work and the work processes used." Based on these ideas, Yoshikawa et al. (2005) argue that employment is regarded as a discretionary expense and firms are constantly looking for ways to improve their operating efficiency.

It is also assumed that downsizing will lead to reduced costs and increased flexibility and ultimately improved profitability. Evidence of the actual effects of downsizing on profitability is hard to find, as the empirical work reports mixed results (Worrell et al., 1991; Lee, 1997; Cascio et al., 1997; Wayhan and Werner, 2000; Chadwick et al, 2004).

In addition to the mixed results, many empirical downsizing studies share a critical limitation in defining what constitutes downsizing. The common indicator for downsizing is a dichotomous measure which takes a value of 1 if there is a significant workforce reduction (Cascio et al., 1997;

Wayhan and Werner, 2000; Ahmadjian and Robinson, 2001; Littler and Innes, 2004; Love and Nohria, 2005; Vincente-Lorente and Suárez-Fonzález, 2007). An employee reduction of 5 percent or more is widely accepted as significant downsizing as it is "more likely to occur through concentrated efforts to reduce the workforce than through attrition" (Ahmadjian and Robinson, 2001, p.632).

2.3. Foreign Ownership and Human Capital

Research based in agency-theory has raised the role of ownership in human capital investments (Blair and Roe, 1999; Yoshikawa et al., 2005). These studies demonstrate that owners play an important role in the shaping of resource allocation decisions as recent research has emphasized that owners are heterogeneous and have different preferences (Hoskisson et. al., 2002). However, there are only a few empirical papers that directly link foreign ownership to employment practices. Ahmadjian and Robinson (2001)'s Japanese study finds a positive relationship between foreign ownership and downsizing. Buchanan, Chai and Deakin (2009) argue that foreign activists hedge fund bring the notion of "shareholder capitalism" to their investments in Japan and demand immediate attention to shareholder value. Yoshikawa et al. (2005), also using Japanese data, find a negative relationship between foreign ownership and average wage. Yoshikawa et al. assert that compared to domestic owners, foreign owners have limited interest in safeguarding long-term human capital investments and are more likely to push for a reduction in wage to cut total labour costs.

The consensus of existing empirical evidence suggests that foreign institutional investors want labour flexibility to pursue their short-term financial objectives. Our analyses challenge the existing hypothesis and

findings that more foreign ownership leads to downsizing or divestment of (human capital) assets. In this paper, we contribute to the limited findings in the literature by studying the unique phenomenon that took place post 1997 financial crisis in Korea: the economic pressures to reduce labour cost and the rise in foreign ownership.

3. DOWNSIZING

3.1. Method

The sample consisted of a pooled cross-sectional time series of data on 430 publicly traded Korean firms collected from the KISVALUE database during the period of 1999-2004. We included only firms that were publicly listed in all years of this period. We excluded financial firms, and the firms with foreign ownership restrictions in place. From this sample, 31 firms were dropped due to missing dependent variable. The sample was categorized into 16 industries by the stock sector classification provided in the database. They include construction, machinery, non-metallic mineral products, services, textile and wearing apparel, fishery, transportation equipment, transport and storage, distribution industry, food and beverages, medical and precision machines, medical supplies, electrical and electronic equipment, paper and wood, iron and metal products, and chemical.

3.2. Dependent Variable

The dependent variable is a *downsizing* event defined as a decrease in the number of the permanent employees of 5 percent or more between year *t-1* and year *t*. A dichotomous measure of downsizing has advantage over a continuous measure that captures both an increase and a decrease in employment for its easier interpretation in studying downsizing (Ahmadjian and Robinson, 2001; Cascio et al., 1997; Suarez-Gonzalez, 2002). Changes of 5 percent or more are likely to be interpreted as concentrated efforts to reduce the workforce than as attrition (Ahmadjian and Robinson, 2001).

Freeman and Cameron (1993:12) defines downsizing as "a set of activities, undertaken on the part of the management of an organization, designed to improve organizational efficiency, productivity, and/or competitiveness. It represents strategy implemented by managers that affects the size of the firm's work and the work processes used." Consistent with this definition, Korean firms' downsizing in the post 1997 financial crisis was a result of strategic managerial decisions to reduce employment.

3.3. Independent Variables

Firm size is the log of total assets (Ahmadjian and Robinson, 2001; Gedajlovic and Shapiro, 2002).

Return on assets (ROA) is a performance measure computed as the ratio of net income to total assets. ROA reflects firm's profitability in relation to the capital invested. Previous studies have found ROA to be a stable and reliable measure of firm performance (Thomsen and Pedersen, 2000; Gedajlovic and Shapiro, 2002).

Sales growth is the percentage growth in sales between year *t-1* and *t* (Huselid, 1995; Ahmadjian and Robinson, 2001).

Foreign ownership is the percentage of total shares held by foreign owners. These measures have been used reliably in past studies (Kochnar and David, 1996; Gedajlovic and Shapiro, 2002).

Chaebol is a dummy variable for firms that belong to one of the top-30 *chaebol* groups (Black and et al., 2006).

3.4. Model Specification

Our data consists of a panel of 430 firms observed over 5 years. The dependent variable is a *downsizing* event defined as a decrease in the number of the permanent employees of 2, 5, or 10 percent or more between year *t* and year *t-1*. We followed a variation of discrete-time event history methodology (Allison, 1984; Yamaguchi, 1991). We used a panel probit model to estimate the possibility of a downsizing event in a given year in a pooled sample of each organization observed during each of the five years:

$$P(t) = \Phi \left[a + b_1 x_{1(t-1)} + \varepsilon \right]$$

(3)

where *P(t)* is the probability of downsizing event occurring at time *t* and x_1 is a set of time-varying covariates.

3.5. Panel Probit Results

Table 2.1 presents the panel probit analyses results. We find negative and significant relationship between downsizing and return on assets (ROA), and foreign ownership. The results are contradictory with existing literature that suggests more foreign ownership leads to downsizing. In contrary to some existing studies that raise concerns for myopic pressures from foreign investors to downsize in an effort to cut costs, our results of do not support this view.

Table 2.1. Panel Probit Analyses for Downsizing of 2%, 5%, and 10% or More

Independent Variables	downsizing 2% (1)	downsizing 5% (2)	downsizing 10% (3)
Intercept	-0.829	-0.468	-0.457
	(0.770)	(0.698)	(0.661)
Firm Size (t-1)	0.026	-0.020	0.030
	(0.037)	(0.033)	(0.031)
Return on asset (t-1)	-0.665 ***	-0.694 ***	-0.588 ***
	(0.112)	(0.182)	(0.179)
Sales growth (t-1)	-0.121	-0.299 **	-0.343 **
	(0.112)	(0.107)	(0.103)
Foreign ownership (t-1)	-0.012 **	-0.012 ***	-0.011 ***
	(0.004)	(0.003)	(0.003)
Chaebol group firms (t-1)	-0.195	-0.168	-0.147
	(0.122)	(0.109)	(0.100)
Industry controlled	YES	YES	YES
Year controlled	YES	YES	YES
Wald Chi2	121.23 ***	143.40 ***	120.29 ***
% of firms downsized	42.44%	35.84%	29.44%

Joint significance on 1 digit industry dummy: chi2(14) = 74.65***

Joint significance on year dummy: chi2(4) = 17.51**

Notes: N=2150 (balanced panel data on 430 firms x 5 years). Each equation contains unreported industry and year dummies. Robust standard errors are in parentheses.

*   *Significant at the 5% level*
**   *Significant at the 1% level*
*** *Significant at the 0.1% level*

3.6. Limitations of Downsizing Studies

The limitation of this estimation is that the results only capture the changes in permanent employees as firms are only required to report the number of permanent employees. Reduction in total employee count can come from many means: reduction in hiring, early retirements, sending employees to affiliates and outright layoffs. Since our employment data is defined as the number of company workers as reported to shareholders in annual reports, we were unable to distinguish the types of downsizing. However, we know from anecdotal evidence that during our sample period, many firms have replaced permanent employees with part-time or contingent workers.

In the absence of specific information on the type of downsizing, effects on total labour costs are ambiguous. For example, if downsizing involved low-wage employees, average wage per employee will rise. Conversely, a reduction in high-wage employees will lower the average wage per employee.[4] Firms' total labour cost can be reduced by cutting the wages of each employee and/or by laying off employees. Therefore, the empirical studies on downsizing do not allow us to draw any conclusions regarding its effects on labour cost. This can potentially produce inconsistent results in the Korean context as many firms encouraged early (honorary) retirement programs to replace permanent employees with a temporary or contingent workforce. The net effect on the number of employees is not clear, given the availability of several actions management can take to

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[4] The existing efficiency wage literature (e.g. Medoff, 1979; Yellen, 1984; Milgrom, 1988) has shown that firms (employees) choose (prefer) layoffs over across the board wage reductions. However, the Korean context may differ as some firms that implemented "work-hour reduction," and/or "work share" programs to avoid employee layoffs were often praised by the media (for an example, see Cho and Chang (2007)'s case study of Yuhan-Kimberly).

reduce total labour costs (e.g. attrition, lay-offs, early retirements, voluntary severance programmes, divestures, reduction in hiring, sending employees to affiliates or spin-offs, etc...). This indicates that the dummy variable approach to downsizing may not be the optimal way to examine corporate labour restructuring.[5] Given these potential limitations of downsizing studies discussed, in the next section, we focus on the determinants of total labour cost, defined as the sum of all direct labour expenditures.

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[5] However, the approach of using a dummy variable (converting a continuous variable (number of employees) to a binary variable (changes of 5% or not)) for downsizing can be more robust if "downsizing" events can be identified and confirmed by secondary sources such as newspapers or company statements (Love and Nohria, 2005).

4. LABOUR COST

4.1. Method

The relationship between foreign ownership and labour costs discussed in Section 2 are tested using firm-level panel data. Equation (1) describes the baseline model:

$$log(total\ labour\ Cost)_{i,t} = \alpha + \beta_1\ (foreign\ ownership)_{i,\ t-1}$$
$$+ \Sigma\ \beta_k\ (control\ variables)_{i,\ t-1} + \varepsilon_{i,t}$$

$$(1)$$

where α is a constant; $\varepsilon_{i,t}$ is the error term of firm i at time t; our primary coefficient of interest is the coefficient on foreign ownership, β_1.

We adopt a lagged specification, examining the relationship between previous year's values of independent variables, and this year's total labour cost, in an effort to mitigate concerns of reverse causality. Similar specifications have been widely used in the finance literature to help infer causality (e.g., Hartzell and Starks, 2003; Villalonga and Amit, 2006).

4.2. Data

The data comes from the Korea Investors Services (Kisvalue-2) database which reports firm profile, financial information, and ownership information. The sample consists of panel data on 520 non-financial firms[6] listed on the Korean Stock Exchange (KSE) between 1998 and 2003. The unbalanced panel yields 2,332 firm-year observations. However, we have

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[6] We exclude financial firms because valuation ratios for financial firms are not comparable to those of nonfinancial firms (e.g. La Porta et al., 2002).

24 firms with incomplete labour cost information, reducing the sample to 496 firms.

4.3. Dependent Variable

Given the potential limitations of downsizing studies discussed in the previous section, we focus on the determinants of total labour cost, defined as the sum of all direct labour expenditures. It includes all salaries and wages, bonuses, severance and retirement grants, and stock option compensations to both executives and all employees including part-time and contingent workers. It captures the total amount of resources allocated to labour. Following the labour economics literature[7], our dependent variable, *log(total labour cost)*, is the natural log transformation of total labour cost.

4.4. Independent Variable

The independent variable of interest in our study is foreign ownership. *Foreign ownership* is defined as the percentage of shares held by non-Korean shareholders. The majority of these foreigners are US and UK institutional investors.[8] With the recent availability of ownership data, such measures have been widely and reliably used in past studies (e.g., Chang, 2003).

4.5. Control Variables

Control variables introduced in Eq. (1) are *firm size, Tobin's q, sales growth, firm age,* and *Chaebol group firm.* Previous empirical research

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[7] Many empirical labour economics studies (e.g., Nickell and Bell (1996) and Dustmann et al. (2009)) use the log transformation to make the distribution of the wage variable more symmetric.

[8] For detailed decomposition of foreign ownership, see Chai (2006).

suggests these variables as predictors for executive compensation and downsizing.

Firm size is measure by the log of the book value of total assets. *Tobin's q*, is calculated as the total market value of equity divided by book value of total assets. Using Tobin' q, we control for the presence of growth opportunities as Mehran (1995) and Hartzell and Starks (2003) have found positive significant effects of lagged Tobin's q on executive compensation. *Sales growth* is calculated as the percentage of growth in total sales. Managers pay close attention to sales growth as a key business survival indicator in an uncertain business environment (Ahmadjian and Robinson, 2001), and Huselid (1995) has found sales growth to be a significant factor influencing firms' human resource strategy. *Firm age* is measured as the number of years since the firm's establishment. However, the theoretical arguments for the role of firm age in human capital are inconclusive as there is contradictory empirical evidence.[9]

Chaebol group firm is an indicator variable which equals one if a firm belongs to the top-30 *Chaebol* business groups identified by the Korean Fair Trade Commission. Business groups are a collection of firms which are linked together by common ownership and interlocking family shareholdings. In a study of Korean *Chaebol* firms, Chang (2003) found that group companies serve as an organizational structure for appropriating quasi rents, which accrue from access to scarce and imperfectly marketed inputs such as capital and information. Groups can boost the profitability of member firms as they fill the voids left by the missing institutions that normally underpin the efficient functioning of product, capital, and labour

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[9] In downsizing study, Ahmadjian and Robinson (2001) find a negative relationship while Vicente-Lorente and Suárez-González (2007) find a positive relationship between firm age and downsizing.

markets (Khanna and Rivkin, 2001). Thus, *Chaebol* group firms, compared to non-*Chaebol firms*, may have more flexible tools and resources to resist or offer alternative solutions to capital market pressure.

5. EMPIRICAL RESULTS

5.1. Descriptive Statistics

Table 2.2 presents descriptive statistics. It shows the means and standard deviations of the sample firms' *log(total labour cost)* and lagged values of *Tobin's q, Sales growth, foreign ownership, firm age, and Chaebol group firms*. Our dependent variable, *log(total labour cost)*, is significantly and positively correlated with lagged values of *firm size* (0.789), *foreign ownership* (0.313), *firm age* (0.212) and *Chaebol group firms* (0.448), and negatively correlated with *Tobin's q* (-0.113). Multicollinearity should not be a problem here as the mean variance inflation factor (VIF) was below 4 for all variables in the regression model.[10]

Table 2.2. Descriptive Statistics and Correlation Matrix

Variables	Mean	SD	1	2	3	4	5	6
1 *log(total labour cost)*	2.212	1.523						
2 *Firm size* $_{(t-1)}$	5.424	1.442	0.789*					
3 *Tobin's q* $_{(t-1)}$	0.312	0.400	-0.113*	-0.130*				
4 *Sales growth (%)* $_{(t-1)}$	12.671	84.765	-0.033	-0.064*	0.089*			
5 *Foreign ownership (%)* $_{(t-1)}$	6.594	12.819	0.313*	0.359*	0.226*	-0.014		
6 *Firm age* $_{(t-1)}$	33.695	12.846	0.200*	0.212*	-0.199*	-0.040*	-0.136*	
7 *Chaebol group firms* $_{(t-1)}$	0.206	0.405	0.448*	0.538*	-0.020	-0.029	0.007	0.041*

*   *Significant at the 5% level*
**   *Significant at the 1% level*
*** *Significant at the 0.1% level*

To provide an initial assessment of the differences between *Chaebol* group firms and non-*Chaebol* firms, we compare the firm characteristics in Table 2.3. Columns (1) and (2) report mean and median values for the

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[10] A commonly used rule of thumb for detecting multicollinearity is VIF value of 10 or more (Baum, 2006).

Chaebol group firms. The next two columns report the same summary statistics for the non-*Chaebol* group firms. Columns (5) and (6) report the univariate test results comparing *Chaebol* and non-*Chaebol* firms. The t-statistic for the mean differences and the Wilcoxon signed rank statistics for the median differences are given. The results show significant differences between the groups in both mean and median total labour costs, firm size and foreign ownership. The average total labour cost for *Chaebol* group firms and non-*Chaebol* group firms are 115.33 billion won[11] and 17.18 billion won, respectively. On average, the *Chaebol* group has higher presence of foreign ownership than the non-*Chaebol* firms. No significant differences in sales growth were found and the significant difference in firm age and Tobin's q were only found in one of the tests.

Table 2.3. Characteristics of *Chaebol* group and non-*Chaebol* firms

Variables	Summary Statistics				Tests for Differences Between the Groups	
	Chaebol Groups firms		Non-*Chaebol* firms		the Groups	
	Mean	Median	Mean	Median	t-stat of Diff.	Wilcoxon
	(1)	(2)	(3)	(4)	(5)	(6)
Total labour cost (billion ₩)	115.33	39.80	17.18	6.33	18.205 ***	21.993 ***
Firm size	6.93	7.00	5.02	4.92	35.230 ***	27.401 ***
Tobin's q	0.30	0.17	0.31	0.21	0.292	-4.045 **
Sales growth	7.83%	5.69%	13.92%	5.58%	1.462	0.521
Foreign ownership	11.92%	4.05%	5.03%	0.29%	12.345 ***	14.863 ***
Firm age	34.40	33	33.10	32	2.289 *	1.838

Notes: The first two columns report the mean and median of the characteristics for the Chaebol group firms. Columns 5 and 6 report the t-statistics for the average difference, and the Wilcoxon signed rank statistics for the median difference.

    *   *Significant at the 5% level*

    **   *Significant at the 1% level*

    *** *Significant at the 0.1% level*

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[11] 115.33 billion won is approximately 57 million British pounds using the average exchange rate during the sample period.

5.2. Model Selection and Baseline Results

Table 2.4 reports the baseline regression results for the labour cost equation using three different econometric methodologies: pooling regression, random effect model, and fixed effect model. Column 1 is estimated using pooled ordinary least squares (OLS) which assumes that the unobservable individual effect is zero. However, this assumption is too strong given the likelihood of large heterogeneity across industries and firms. To control for individual firm heterogeneity and omitted variable bias, the next two columns report the estimates using the random effect and fixed effect model (Wooldridge, 2002).

To identify which empirical methodology – pooled OLS, random effect, or fixed effect regression – is most reliable, we perform two statistical tests. The first test is the Lagrangian Multiplier (LM) test developed by Breusch and Pagan (1980). The null hypothesis is that the individual effect is zero. The chi-square statistic (36.28) reported in Table 2.4 rejects the null hypothesis at the 0.1% significance level. This indicates that the cohort effect is not zero and that pooled regression is not appropriate for this model. The regression coefficient on foreign ownership from the pooled regression is equal to 0.005 and is significant at the 5% level. The regression coefficients on foreign ownership from the random and fixed effect model are both 0.003, significant at the 1% and 5% level respectively. The coefficients estimated from the pooled OLS regression are much larger than those estimated from the random or the fixed effect models suggesting that ignoring individual firm effects leads to an over-estimation of the impact of foreign ownership on labour cost. The second test is the Hausman specification test (Hausman, 1978) to compare the random effect and the fixed effect models. The null hypothesis that the random effect

model is more efficient (has smaller asymptotic variance) than the fixed effect model is rejected at the 0.1% level. Thus, the fixed effect model is most appropriate in estimating our labour cost model.

Model (3) shows that the level of total labour cost is significantly positively related to foreign ownership.[12] A 5% increase in foreign ownership is associated with 1.51% (exp^0.003*5) increase in labour cost in the following year.

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[12] Here we treat the effect of foreign ownership to be the same for all size firms. Table 2.8 in the Appendix 1 reports the regression results where we include an interaction term, *(Firm Size * Foreign Ownership)*. The interaction term is significant and positive.

Table 2.4. Regression Models (OLS, Random Effect and Fixed Effect)

Independent Variables	Dependent Variable: log(total labour cost)		
	Pooled OLS	Panel random effect	Panel fixed effect
	(1)	(2)	(3)
Intercept	-2.274***	-1.805***	-1.217***
	(0.085)	(0.173)	(0.341)
Firm Size (t-1)	0.812***	0.644***	0.430***
	(0.017)	(0.034)	(0.070)
Tobin's q (t-1)	0.016	0.077*	0.063*
	(0.051)	(0.031)	(0.028)
Sales growth (t-1)	0.000	0.001***	0.001***
	(0.000)	(0.001)	(0.000)
Foreign ownership (t-1)	0.005*	0.003**	0.003*
	(0.002)	(0.001)	(0.001)
Firm age (t-1)	0.002	0.013***	0.031***
	(0.001)	(0.003)	(0.008)
Chaebol group firms (t-1)	0.084	0.188**	0.111+
	(0.065)	(0.054)	(0.059)
Observations	2332	2332	2332
(Groups)		496	496
Adjusted R2	0.625	0.612	0.503
F-statistics	683.15***		22.57***
Wald chi2		599.56***	
LM test	Chi2 (1) = 36.28***		
Hausman test	Chi2 (6) = 58.21***		

Notes: The Lagrangian Multiplier test (LM test) is used to test the random effect model versus the pooled OLS regression. The Hausman specification test is used to test the fixed-effect model versus the random effect model. For the pooled OLS regression, the Huber/White/Sandwich estimators of standard errors are shown in parentheses. For random and fixed effect model regressions, the heteroscedasticity consistent robust standard errors are shown in parentheses.

+   *Significant at the 10% level*
*   *Significant at the 5% level*
** *Significant at the 1% level*
*** *Significant at the 0.1% level*

5.3. Financial Performance and the Role of Foreign Ownership

In the previous section, we have shown that foreign ownership has a significant positive effect on labour cost, suggesting that ownership structure plays an important role in firms' human resource management. However, this positive effect of foreign ownership is contradictory evidence to the previous empirical findings on the role of foreign ownership. Ahmadjian and Robbins (2005) argue that firms with more foreign investors are likely to have a "clash of capitalism" with Japanese managers as an ideology of U.S. investor capitalism pushes for maximizing shareholder value. Their theory suggests a negative relationship between foreign ownership and labour cost. Yoshikawa et al. (2005) show that foreign ownership is only associated with wage intensity when performance is low suggesting that the agency conflicts between Japanese managers and foreign shareholders are only present when firm performance is low.

To test for differences in the role of foreign ownership for high versus low firm performance, we modify equation (1) to the following:

$$log(total\ labour\ Cost)_{i,t} = \alpha + \beta_1\ (low\ financial\ performance)_{i,\,t\text{-}1}$$
$$+ \beta_2\ (foreign\ ownership)_{i,\,t\text{-}1}$$
$$+ \beta_3\ (low\ financial\ performance)_{i,\,t\text{-}1}$$
$$x\ (foreign\ ownership)_{i,\,t\text{-}1}$$
$$+ \Sigma\ \beta_k\ (control\ variables)_{i,\,t\text{-}1} + \varepsilon_{i,t}$$

$$(2)$$

where *low financial performance* is a dummy variable which is equal to 1 if return on equity (ROE) is negative, and 0 otherwise. For robustness, we

also use return on asset (ROA) as an alternate measure for financial performance. Both ROE and ROA are the most widely used fundamental ratios which investors use to evaluate their investments. Return on equity (ROE) measure the rate of return on the ownership interest of the common stock owners while return on asset (ROA) gives an indication of the management's effectiveness on generating return on assets.

The regression results are reported in Table 2.5. Model (1) reports the baseline fixed effect model (Equation 1) result as shown in Model (3) from Table 2.4. Models (2) and (3) in Table 2.4 report the modified (Equation 2) results which includes the moderating effects of *low financial performance* dummy variable on *foreign ownership*. The estimations in model (2) use negative ROE to indicate *low financial performance* and the estimations in model (3) use negative ROA to indicate *low financial performance*. The effects of both measures are negative and significant to total labour cost.

We find evidence supporting the theory that foreign ownership has a disciplining role in preventing overspending in labour. The estimated values of β_3 are significant and negative for both measures of low financial performance. For firms with negative ROE, the coefficient for foreign ownership is $\beta_2 + \beta_3$ and, for other firms (with ROE $\geq$ 0), it is β_2. The results imply that foreign ownership has a positive impact on labour cost for profitable firms. However, for firms with low financial performance, the foreign ownership's impact on labour cost is negative ($\beta_2 + \beta_3$ equals -0.01).

The results reported so far are robust in assumption that industry effects were subsumed under individual firm effects. However, there may be significant heterogeneity in firm characteristic across different industries. To check the robustness of our previous results, we control the industry effects by using the industry mean to adjust the variables in the model.

Each variable is adjusted by deducting the mean of the industry to which the firm belongs. Models (4) - (6) present the results using the industry-adjusted variables[13].

Again we find a significant and positive relationship between foreign ownership and labour costs, which implies that firms with more foreign ownership than the industry mean spend more on labour than those with less foreign ownership than the industry mean. The analyses yield consistent results for all estimated coefficients including control variables. We find a significant and positive relationship between labour cost and firm size, Tobin's q, and firm age. The relationship between labour cost and the *Chaebol* group firms is only significant at 10% level.

The results confirm the finding that foreign ownership has a positive impact on human capital investment and that this positive impact is only present for firms with strong financial performance.

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[13] Another way of controlling for industry effect is to use industry dummy variables in random effects model. However, since Hausman specification test indicated that fixed effect model is more efficient, it is more appropriate to use the industry adjustment approach.

Table 2.5. Low Financial Performance, Foreign Ownership, and Labour Cost

Independent Variables	Dependent Variable: log(total labour cost)					
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-1.217***	-1.242***	-1.258***	0.003	0.019*	0.021*
	(0.341)	(0.341)	(0.345)	(0.005)	(0.008)	(0.009)
Firm Size (t-1)	0.430***	0.441***	0.449***	0.430***	0.441***	0.449***
	(0.070)	(0.071)	(0.073)	(0.070)	(0.071)	(0.073)
Tobin's q (t-1)	0.063*	0.064*	0.062*	0.063*	0.064*	0.062*
	(0.028)	(0.027)	(0.027)	(0.028)	(0.027)	(0.027)
Sales growth (t-1)	0.001***	0.070***	0.070***	0.001***	0.070***	0.070***
	(0.000)	(0.013)	(0.013)	(0.000)	(0.013)	(0.013)
Foreign ownership (t-1)	0.003*	0.003*	0.003*	0.003*	0.003*	0.003*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
low financial performance (ROE) (t-1)		-0.066*			-0.066*	
		(0.027)				
low financial performance (ROE) (t-1)		-0.004*			-0.004*	
x Foreign ownership (t-1)		(0.002)			(0.002)	
low financial performance (ROA) (t-1)			-0.066*			-0.066*
			(0.030)			(0.030)
low financial performance (ROA) (t-1)			-0.004*			-0.004*
x Foreign ownership (t-1)			(0.002)			(0.002)
Firm age (t-1)	0.031***	0.030***	0.029***	0.031***	0.030***	0.029***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Chaebol group firms (t-1)	0.111+	0.119+	0.118+	0.111+	0.119+	0.118+
	(0.059)	(0.061)	(0.060)	(0.059)	(0.060)	(0.060)
Industry mean adjusted	NO	NO	NO	YES	YES	YES
Adjusted R2	0.503	0.515	0.522	0.539	0.553	0.563
F-statistics	22.57***	18.15***	18.13***	22.57***	18.15***	18.13***

Notes: Low financial performance (ROE) is a dummy variable which is equal to 1 if return on equity (ROE) is negative, and 0 otherwise. The heteroscedasticity consistent robust standard errors are shown in parentheses.

+   *Significant at the 10% level*
*   *Significant at the 5% level*
**   *Significant at the 1% level*
***   *Significant at the 0.1% level*

5.4. Changes in Foreign Ownership and Changes in Labour Cost

In the previous sections, we have shown there is a significant relationship between foreign ownership and labour cost while controlling for various firm characteristics. Although we have used lagged specifications to infer causality, one can construct an equally persuasive argument for reverse causality: foreign owners may be attracted to firms that engaged in labour restructuring, rather than causing labour reforms. One alternative approach to tackle this potential endogeneity argument is to use instrumental variables in two-stage or three-stage models. However, Himmelberg et al. (1999) expresses critical concerns about this approach as finding valid and consistent instrumental variables for firm ownership are difficult to find.

Thus, in an effort to make our argument more plausible, we present the descriptive statistics for the changes in variables in Table 2.6 and compare the firm characteristics between the groups of firms which had 5% or more increases in foreign ownership and the others (less than 5% increase) during our sample period of 1998-2003. Columns (1) and (2) report the mean and median values for the firms which had 5% or more increases in foreign ownership from 1998 to 2003. The next two columns report the same summary statistics for the firms which had less than 5% increases in foreign ownership. Columns (5) and (6) report the univariate test results comparing the two groups. The t-statistics for the mean differences and the Wilcoxon signed rank statistics for the median differences are given. The results show significant differences between the groups in both mean and median for the Δ *(total labour cost)* and Δ *(Tobin's q)*. The average changes in

total labour cost were greater for the firms which had 5% or more increase in foreign ownership.

Table 2.6. Characteristics of Firms with 5% or More Increases in Foreign Ownership

	Summary Statistics					
	Δ foreign ownership ≥ 5%		Δ foreign ownership < 5%		Tests for Differences Between the Groups	
	Mean	Median	Mean	Median	t-stat on Diff.	Wilcoxon
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Δ Total labour cost (billion ₩)	27.241	4.117	1.573	1.301	3.699***	5.451***
Δ log(total labour cost)	0.276	0.382	0.150	0.291	1.380	2.253*
Δ Tobin's Q	0.171	0.131	-0.020	-0.008	5.403***	7.011***
Δ Sales	138.727	99.481	31.476	12.434	9.755***	7.589***

Notes: The first two columns report the mean and median of the characteristics for the group of firms which had 5% or more increases in foreign ownership from 1998 to 2003. Columns 5 and 6 report the t-statistics for the average difference, and the Wilcoxon signed rank statistics for the median difference.

*   *Significant at the 5% level*
**   *Significant at the 1% level*
***   *Significant at the 0.1% level*

We can also check whether a change in foreign ownership has a longer-run impact on change in labour cost over the entire sample. If foreign owners have a significant influence on labour cost as our results imply, then as foreign ownership increases over time, we can expect to see a corresponding change in labour costs.

By using the calculated changes (the changes in variables across our sample period, that is, 2003 values less 1998 values) reported in table 2.6, we regress the changes in total labour cost on changes in *foreign ownership*, controlling for potential confounding variable changes (*firm size, Tobin's q,* an *sales growth*) on changes in total labour cost. Table 2.7 reports the results of this regression. We find a strong positive relation between the long-run

change in total labour cost and the long-run change in foreign ownership. The results of Table 2.7 further support the hypothesis that foreign investors have a significant impact on labour cost.

Table 2.7. OLS Regression on the Long-run Changes in Foreign Ownership and Total Labour Cost

	Dependent Variable: Δ total labour cost
Independent Variables	(1)
Intercept	1.914***
	(0.530)
Δ Firm Size	9.480**
	(2.856)
Δ Tobin's Q	-1.323
	(1.322)
Δ Sales growth	0.080**
	(0.002)
Δ Foreign Ownership	0.316**
	(0.105)
Adjusted R2	0.020
F-statistics	5.90***

Notes: The Changes in variables are measured as the difference between the firms' total labour cost over the years 1998 to 2003. The Huber/White/Sandwich estimators of standard errors are shown in parentheses.

    *   Significant at the 5% level
    **   Significant at the 1% level
    ***   Significant at the 0.1% level

6. DISCUSSION AND CONCLUSION

Labour markets and government policies are both affected by the process of liberalization and globalization (Downes, Gomez & Gunderson, 2004). The financial crisis experienced in Korea and the consequent financial market liberalization and corporate restructuring during the late 1990s and early 2000s offer a valuable opportunity to examine organizational change. In response to the call for corporate restructuring, the Korean government relaxed its traditional labour laws and allowed firms to abandon "permanent employment" practices and pursue labour flexibility. Labour flexibility was achieved by cutting employment and substituting permanent union workers with non-regular, non-union workers in order to reduce labour costs.

The objective of this study was to examine the relationship between economic and capital market pressures to disinvest in human capital. This paper extended earlier empirical studies on the relationship between ownership structure and human capital. It examined the relationship using a unique Korean panel dataset. Since many Korean firms were going through aggressive corporate restructuring during our sample period, this study allowed us to capture the role of foreign ownership in post-crisis times. Thus, this paper empirically examined the influence of previous period's foreign ownership and financial performance on labour costs in publicly listed Korean firms.

We found that foreign ownership is positively related to the level of labour costs, and that this positive effect is significantly weaker for firms with weak financial performance (measured as negative ROE or ROA) than those with strong financial performance. The relationship between foreign

ownership and labour cost is robust to alternative econometric methodologies. These results support the hypothesis that foreign investors influence total labour cost. The results are also consistent with previous studies that suggest owner plays a monitoring role. For example, Mehran (1995) and Hartzell and Starks (2003) provide evidence of investor monitoring in executive compensation. Bushee (1998) and Kim et al. (2008) provide evidence of institutional investors monitoring R&D expenses.

The financial crisis in the late 1990s forced Korean firms to turn away from their earlier practice of "over investment" in human resources, characterized by high employment security and training commitment, and to seek a new human resource management strategy. Our results provide support for the view that foreign ownership has a disciplining role for firms with weak financial performance. Contrary to previous studies that raise concern about the myopic view of foreign investors on maximizing shareholder value by cutting cost at all levels, our results imply that foreign owners take a monitoring role and support the investments in human capital if firms can deliver strong financial performance.

Our findings suggest a monitoring or disciplining role of capital markets. An important area for future research is which forms of labour flexibility have greater impact on labour efficiency which then may lead to firm performance. As discussed before, there are numerous ways firms can enhance labour flexibility (e.g. changes to working hours without layoffs, reduction in working hours, hiring freezes, voluntary retirement, outsourcing, base pay reduction, wage freezes, bonus and benefits reduction, dispatch to an affiliated company, redeployment to other departments after training, etc). A detailed analysis of the effects of these labour flexibility "tools" on firm performance would help us understand

better how external monitoring can lead to maximizing effective use of internal resources for all stakeholders.

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APPENDIX 1

Table 2.8. Panel Fixed Effect with an Interaction Term

Independent Variables	Dependent Variable: *log(total labour cost)*
	(1)
Intercept	-1.104**
	(0.340)
Firm Size (t-1)	0.419***
	(0.070)
Tobin's q (t-1)	0.058*
	(0.027)
Sales growth (t-1)	0.070***
	(0.014)
Foreign ownership (t-1)	0.002*
	(0.001)
Firm age (t-1)	0.029**
	(0.009)
Chaebol group firms (t-1)	0.123+
	(0.068)
*Firm Size * Foreign Ownership* (t-1)	0.001*
	(0.000)
Adjusted R2	0.524
F-statistics	19.31***

Notes:
+   *Significant at the 10% level*
*   *Significant at the 5% level*
**   *Significant at the 1% level*
*** *Significant at the 0.1% level*

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Essay Three:

FOREIGN OWNERSHIP AND DONATIONS

ABSTRACT

This paper empirically examines the relationship between firm ownership structure and corporate charitable donations. Using a panel data set of 1,017 listed Korean firms, we find that larger firms with higher advertising intensity and lower export intensity 'give' relatively more, suggesting that charitable donations are both strategic and discretionary corporate expenditures. In addition, the study explores the effects of ownership structure on corporate philanthropy. We find a positive relationship between charitable donations and foreign ownership. However, we do not find a significant effect of corporate philanthropy on financial performance, indicating that donations appear to be "revenue" neutral.

1. INTRODUCTION

This study investigates the role of corporate ownership structure in determining corporate charitable donations. Previous papers have sought to investigate charitable donations as an indicator of corporate philanthropy (Johnson 1966; Navarro, 1998). Since donations are a measurable and visible component of business social performance (Amato and Amato, 2007), many empirical studies have used this *a priori* indicator for the level of corporate philanthropy. These studies have linked corporate philanthropy to advertising (Brammer and Millington, 2004), board composition (Wang and Coffey, 1992), various stakeholders (Clarkson, 1995), visibility (Campbell and Slack, 2006), and reputation (Brammer and Millington, 2005). However, many previous empirical papers in this area suffer from sampling limitations due to the lack of accounting disclosure in corporate donations. Thus the findings from rigorous empirical analysis based on reliable longitudinal data are limited (Adams and Hardwick, 1998, for example, used only 1994 data drawn from 100 random U.K. listed companies).

Our findings add to the literature in four important ways. First, by using accounting data of corporate donations, we overcome some of the potential sampling bias problems experienced in previous studies. Many existing empirical studies in the field have noted this problem as the major limitation in the field (Seifert et al., 2003; Amato and Amato, 2006). Second, we add to the literature on the strategic determinants of corporate donations by introducing a role for firms' export intensities in corporate philanthropy. Third, we explore the relationship between equity ownership and corporate philanthropy by using a unique Korean corporate

ownership panel dataset. Lastly, the paper empirically examines the much debated link between corporate philanthropy and corporate financial performance.

We find, in keeping with previous studies, that larger firms with higher advertising expenditures relatively 'give' more. We also show that firms with lower export intensity give relatively more to charity. We find strong evidence of a positive relationship between foreign ownership and charitable donations. However, we do not find a significant link between corporate philanthropy and financial performance.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature on corporate philanthropy. Section 3 describes the data and outlines the empirical models used in the analysis, and Section 4 discusses the empirical results. In Section 5, the limitations of this study are discussed and suggestions for future research are given. Finally, Section 6 details the implications of these results.

2. CORPORATE PHILANTHROPY, OWNERHSIP, AND PERFORMANCE

In this section, we explore the three determinants of corporate philanthropy. Then we provide a review of both conceptual and empirical findings that link corporate philanthropy to corporate ownership structure and financial performance.

2.1. Determinants of Corporate Donations

Firm Size and Industry

Many of the empirical studies on corporate philanthropy emphasize the role of firm size on corporate donations (McElroy and Siegfried, 1985; Adams & Hardwick, 1998). Useem (1988) argues that firm size is the most important determinant of corporate giving and that large firms contribute regardless of profit levels. Useem also argues that industry differences serve as a structural determinant of corporate donations as industries with high levels of public contact such as retailing or banking typically give more than firms in low contact industries such as mining. The need for controlling for industry factors has been supported by many empirical studies including Seifert et al. (2003) and Amato and Amato (2007).

Resource Availability

Another widely accepted view in the literature on corporate philanthropy stems from the slack resource view, addressed in the works of McGuire et al. (1988) and Ullmann (1985). The argument is that profitable firms can afford to give more as shown in Waddock and Graves

(1997) and that a significant and positive relationship exists between social performance and prior profitability. More recent research has extended this argument by testing for the effect of different proxies for firm resources, i.e. cash flow, profitability and the debt ratio of the firm (Seifert et al. 2003; Brammer and Millington, 2006).

Strategic Philanthropy

The term "strategic philanthropy" has been used to support the argument that corporate philanthropy is not pure charity and that corporate donation expenditures are subject to managerial discretion aimed at helping the company's bottom line. Much pioneering research in corporate philanthropy has argued that charitable donations are part of a strategic plan (e.g., Fry et al., 1982; Mescon and Tilson, 1987) and corporate donation is a tool to increase reputation or brand name. For example, donations may improve consumer perceptions of firms (McWilliams and Siegel, 2000) and increase reputation among peers (Brammer and Millington, 2005). These consistent empirical findings further support the views of Amato and Amato (2007) and Seifert et al. (2004) that donation serves as advertising.

2.2. Corporate Donations and Ownership

Although corporate philanthropy has been documented as an effective way for a firm to fulfil its social responsibility (Berman et al., 1999), the benefits of "strategic philanthropy" may not satisfy the interests of stakeholders. While Clarkson (1995) documents the need for the CEO to balance the interests of multiple stakeholders such as employees, customers, suppliers, shareholders, and the local community in evaluating corporate

social performance, the agency theory perspective puts more weight on conflicting interests between top management and shareholders as Ullmann (1985) argues firms incur unnecessary costs by giving away shareholders' money. Some view corporate giving as 'social currency for the CEO' and an attempt by executives to enhance their self-image and prestige (Harley, 1991) supporting the view that corporate involvement in philanthropy does not maximize shareholder wealth (Atkinson and Galaskiewicz, 1988).

However, more recent research has documented various stakeholder groups' pressure to pursue corporate philanthropy. Wang and Coffey (1992), using a sample of 78 Fortune 500 firms from the year 1984, find positive relationships between charitable contributions and higher insider stock ownership, and more female and minority board members. The finding that firms with female directors engage more in charitable activities is replicated by Williams (2003) using a sample of 185 Fortune 500 firms for the 1991-1994 time period.

Brammer and Millington (2004) document that corporate donations determined by profits have weakened during the 1990s compared to earlier periods as firms have become more responsive to demands by stakeholders such as ethical fund managers in the U.K. Despite the widely recognized influence of shareholders, few studies have investigated the role of ownership structure. Graves and Waddock (1994) find that the number of institutional investors is positively related to corporate social performance, and Johnson and Greening (1999) find a positive relationship between pension fund investments and corporate social performance. Cox et al. (2004) extend the literature by documenting that long-term institutional investment is positively related to corporate social performance, using 600

of the largest U.K. firms. Although this research uses different indicators for 'social performance' (measures collated by independent research companies), the results suggest investors may differ in their preferences regarding corporate philanthropy.

2.3. Corporate Donations and Firm Performance

There have been various conceptual and empirical attempts to study the relationship between corporate philanthropy and financial performance (e.g., Griffin and Mahon, 1997; Rowley and Berman, 2000). However, there is no conclusive consensus. For example, Wokutch and Spencer (1987) and Orlitzky et al. (2003) find a positive relationship between corporate philanthropy and financial performance, whereas Berman et al. (1999) and Seifert et al. (2004) do not find a significant relationship. More recent empirical findings have suggested a non-linear relationship between corporate philanthropy and financial performance (Brammer and Millington, 2008; Wang et al., 2008). However, these studies also report contradictory findings.

3. DATA, VARIABLE MEASUREMENT AND EMPIRICAL DESIGN

3.1. Data

Most of the studies in corporate philanthropy have been hindered by limited data availability. Previous studies on corporate donations have heavily relied on third-party references such as The *Taft Corporate Giving Directory*, the Foundation Center data, and the United States Inland Revenue Service (IRS) data. However, the studies that use the *Taft Corporate Giving Directories* (e.g. Seifert et. al., 2003; Wang et. al., 2008) are limited to the (about 1,000) largest corporate firms that give at least $200,000 per year. The alternative method, using the IRS data, suggested by Fry et al. (1982), is limited to firms with $250 million or more in total assets. For U.K. studies, firm's "Directors' Reports" have been used to study charitable contributions since the Companies Act of 1967 requires firms to disclose donations over £200. However, the data also contains contributions to political entities and it is difficult to distinguish between political and charitable purposes (Cowton, 1987).

Our data comes from the Korean Investors Services (KISVALUE-3) database, which reports firm profile, financial accounting, and ownership information. The corporate donations amount, the main variable of interest in our study, is sourced from the firms' annual financial statements. Having more reliable and audited corporate donations data is one of the main advantages we gain from the Korean accounting practice of reporting charitable donations as an expense in the income statement for publicly traded firms. Thus our sample includes all listed non-financial firms on the

Korea Stock Exchange (KSE) and Korea Securities Dealers Automated Quotations (KOSDAQ) between 1998 and 2003.

While most of the empirical literature on the corporate philanthropy is based on cross sectional data, our longitudinal data allows us to account for the changes in the variables over time to estimate the effects of the various independent variables on corporate donations. This advantage of using panel data over a pure cross-sectional data can add value beyond the current empirical findings (Baltagi, 2005).

Our panel data is unbalanced with a minimum number of observation of 3 years and a maximum of 6. The average number of years that a firm is present in the dataset is 5.2 years. The sample size reaches the maximum of 1,017 firms in year 2001 and a minimum of 672 firms in 1998.

3.2. Corporate Donations: A first look

Our current understanding of global corporate philanthropy trends is limited. International comparisons are difficult to make given the variation in data collection methods. However, a general trend study in the US and the UK by Campbell et al. (2002) shows that British corporate contributions are increasing but the ratio of charitable donations to profits is still lower than for American firms. Brammer and Millington (2008) report £426,000 as the average charitable donation by UK firms during 1990-1999. Meijer et al. (2006) report that in the Netherlands, 43 per cent of total estimated giving of 2.27 billion euro in 2003 was contributed by corporations.

Figure 3.1 charts the Korean corporate philanthropy trends for the period 1998–2003. The bars in Figure 3.1 show the yearly aggregate donations by all listed firms. Corporate philanthropy plays a significant role in Korean society. The average aggregate donation by corporations for

the whole period was 820 billion won[1] and according to Kim (2003), 82 per cent of total charitable donations in 2003 are estimated to have come from corporations. The fluctuating line in Figure 3.1 illustrates the mean value of corporate donation intensity calculated as the ratio of total donations to total sales. On average, publicly listed firms spent about 0.1 per cent of total sales on charitable donations.
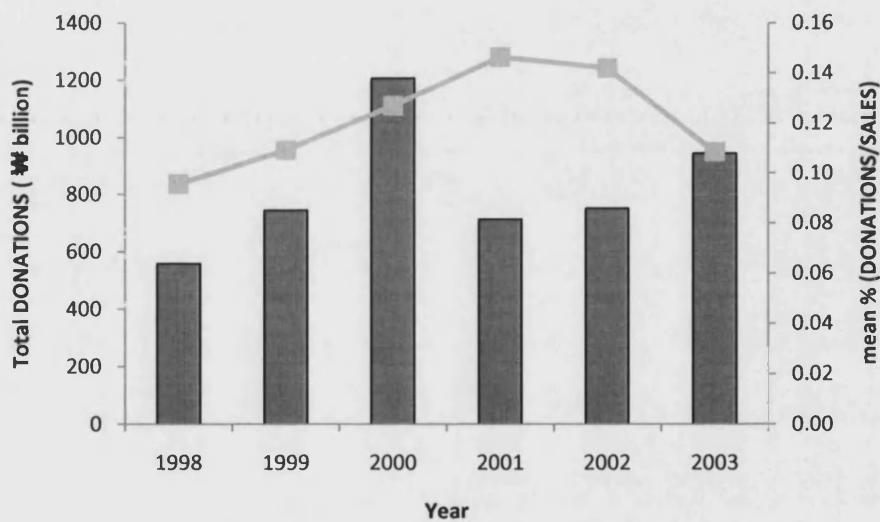
Figure 3.1. Time Trend of Corporate Donations

The figure shows corporate donations on a year-by-year basis over the period 1998-2003. The bars depict the total corporate donations of the Korean stock market, reflected on the left scale. The line in the figure shows the donation intensity measured as the ratio of total donations to total sales of the firm, reflected on the right scale.

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[1] ₩820 billion Korean Won is approximately equal to $683 million (USD) (using the exchange rate quoted at the end of year 2003).

Table 3.1 provides the yearly ranking of the top ten donors. Panel A ranks by the total amount and Panel B ranks by donation intensity which is scaled by sales. Consistent with the previous literature, larger firms generally support higher levels of giving than smaller firms (Stanwick and Stanwick, 1998). Large, global, and *Chaebol* (conglomerate) corporations dominate the rankings in Panel A. In fact, more than 50 per cent of total corporate donations come from these top ten donors. However, the rankings presented in Panel B tell a different story. For example, SK Telecom's 35.1 billion won donation ranked fourth in terms of total amount but in the relative ranking based on the donation to sales ratio, SK Telecom ranked only ninth by donating less than 1 percent of firm's sales in 1998. After controlling for the effects of firm size, many small and medium enterprises make up the top donors list. For example, Handsome Corporation, engaged in the manufacturing and sales of men and women's apparel, donated over 3 per cent of sales during the period 1999-2003.

Table 3.1. Top Ten Corporate Donors

Year	1998		1999		2000		2001		2002		2003	

Panel A. List of top 10 Companies in terms of DONATIONS

Rank	Company	DONATIONS (Won)	Company	DONATIONS (Won)	Company	DONATIONS (Won)	Company	DONATIONS (Won)	Company	DONATIONS (Won)	Company	DONATIONS (Won)
1	POSCO	171.35	Samsung Electronics	139.06	POSCO	438.51	SK Telecom	111.15	Korea Electric Power	76.83	Korea Electric Power	125.09
2	Korea Electric Power	82.22	POSCO	110.69	Samsung Electronics	170.53	Korea Electric Power	103.00	SK Telecom	67.43	KT Corporation	105.28
3	Samsung Electronics	56.03	SK Corporation	75.81	Korea Electric Power	156.17	POSCO	73.43	KT Corporation	56.59	Samsung Electronics	104.56
4	SK Telecom	35.10	KT Corporation	73.74	SK Telecom	44.16	KT Corporation	54.72	POSCO	43.52	POSCO	97.37
5	KT Corporation	19.97	Korea Electric Power	71.47	KT Corporation	31.75	Samsung Electronics	29.85	Hyundai Heavy Ind.	41.21	Cheil Ind.	49.99
6	Samsung SDI	19.16	SK Telecom	23.66	Hyundai Heavy Ind.	30.83	SK Corporation	22.91	Samsung Electronics	35.31	KT&G Corporation	42.71
7	Daesang	8.64	Hyundai Heavy Ind.	16.15	SK Corporation	29.73	KT&G Corporation	22.32	SK Corporation	23.22	Samsung SDI	32.06
8	Korean Air	7.03	Samsung SDI	9.93	Korea Gas Corp	21.16	Samsung SDI	19.04	Korea Gas Corp	22.30	Korea Gas Corp	31.10
9	Hyundai Motors	6.48	Korean Air	9.58	Korean Air	18.28	Kumho Industrials	17.55	Daewoo Engineering	21.97	SK Telecom	25.78
10	Samsung Electro-Mech.	5.91	Hanjin Heavy Ind.	9.52	Kolon Ind.	10.82	Hyundai Heavy Ind.	16.89	KT&G Corporation	20.31	Nongshim	18.88

Panel B. List of top 10 Companies in terms of DONATIONS/ SALES

Rank	Company	DONATIONS/SALES (%)	Company	DONATIONS/SALES (%)	Company	DONATIONS/SALES (%)	Company	DONATIONS/SALES (%)	Company	DONATIONS/SALES (%)	Company	DONATIONS/SALES (%)
1	Korean Airport Service	2.53	Handsome Corp	3.96	Handsome Corp	6.23	Handsome Corp	4.66	Handsome Corp	3.87	Handsome Corp	3.59
2	DSP Entertainment	2.07	Korean Airport Service	1.84	Genexel-Sein	4.12	Samchundang Pharm.	3.32	HanalL Pharm	2.20	Youlchon Chemical	3.43
3	Dongil Technology	1.96	Inits Corp	1.64	POSCO	3.75	Nanoen Tek	2.41	Handysoft	2.17	Kwangjin Ind.	2.65
4	Handsome Corp	1.66	Korea Cast Iron Pipe	1.49	Choheung Corp	2.91	Handysoft	1.93	Woojin Chemical	2.08	Tong Yang Major Corp	2.21
5	Cheil Communications	1.65	Synopex	1.38	Green Cross Foldings	2.36	Kyundong Pharm	1.92	Samchundang Pharm.	2.04	Cheil Ind.	2.20
6	POSCO	1.54	Mirae Corp.	1.29	Samchundang Pharm.	2.00	Turbotek	1.86	Seobu Truck Terminal	1.96	KT&G Corp	1.96
7	Daeduk GDS	1.23	Asia Cement	1.26	Kyungdong Pharm.	1.96	SK Telecom	1.78	Yeshin PJ	1.79	Asia Cement	1.88
8	Asia Cement	1.02	Bohae Brewery	1.21	Wonpung Mulsan	1.81	Korea Information Serv.	1.71	Asia Cement	1.72	K & Company	1.80
9	SK Telecom	0.99	Samyang Genex	1.13	Korean Airport Service	1.82	Asia Cement	1.67	Sekonix	1.69	Korea Cast Iron Pipe	1.59
10	Samyang Genex	0.98	Wonpung Mulsan	1.12	Virtualtek Corp	1.55	FIT Inc.	1.44	Kyungdong Pharm.	1.35	Korean Airport Service	1.52

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3.3. Variable Measurement

Dependent Variable

Our main dependent variable (*Donations*) is the ratio of donation expenditures to sales. This measure has been widely used in previous studies to control for the effects of firm size (e.g. Williams, 2003; Wang et. al., 2008).

Independent Variable

The key independent variable is the ownership structure of the firm. *Foreign ownership* is the percentage of equity ownership held by foreign investors. During our sampling period, many firms had changes in their ownership structure as the financial market liberalization took place following the 1997 Asian financial crisis (See the discussion in Chang et. al, 1998). Therefore we can observe the effects of changes in equity ownership structure on corporate philanthropic activity.

Control Variables

Previous studies have shown that several variables can influence the level of corporate charitable donations. These include firm size (Useem, 1988), leverage (Brammer and Millington, 2006), profitability (Seifert et al., 2003) and advertising (Amato and Amato, 2007). *Firm size* is measured as the natural logarithm of total assets. *Leverage* or debt ratio is defined as the ratio of total debt to total assets. *Firm performance* is measured as return on assets (ROA). *Advertising* is measured as the ratio of total advertising expenditure to total sales.

In this study we suggest a new variable, *export intensity* which is defined as the ratio of foreign sales to total sales. Waddock and Graves (1997) and Saiia et al. (2003) allude to the fact that corporate philanthropy expenditures are geared towards close stakeholders such as local (domestic or regional) customers. Therefore we predict that firms engaged more in domestic markets (lower export intensity) are also more likely have higher *Donations.*

Institutional and cultural settings can also shape corporate philanthropy. Chang (2003) shows that *Chaebol* groups have great societal impacts given their embedded Korean industrial settings. As Brammer and Millington (2005) find a positive relationship between the level of a firm's philanthropic expenditures and its reputation, Korean public sentiment may expect higher involvement of *Chaebol* groups in charitable engagement. *Chaebol groups* is a dummy variable that takes a value of 1 if a firm belongs to one of the top 30 business groups specified by the Korean Fair Trade Commission.

Lastly, we control for industry effects on charitable donations by using the two-digit KSIC codes.

3.4. Model Specification

As we have cross-sectional time-series data, the ordinary least squares (OLS) method is not appropriate because it does not correct for within-firm autocorrelation and cross-sectional heteroscedasticity. To control for these issues, we employ the Generalized Least Squares (GLS) random-effects estimator for panel data as a Hausman test reveals that the estimated panel

error is not correlated with independent variables, an assumption necessary for use of the random-effects model.[2]

4. EMPIRICAL RESULTS

4.1. Determinants of Corporate Philanthropy

Table 3.2 reports descriptive statistics and correlations matrix for the main variables used in this study. *Donation* has a positive correlation with *firm size* and *advertising,* and a negative correlation with *leverage* and *export intensity.* The correlation between the level of donation and firm performance is small and not significant. A significant and positive correlation also exists between *donation* and *foreign ownership.* As a cautionary measure, we examined the variance inflation factors (VIFs) to detect multicollinearity. All of the VIF scores are below 5 and the mean VIF score was below 2 for all variables in the regression model. A commonly used rule of thumb for avoiding multicollinearity problem is to have VIF value of 10 or lower (Baum, 2006). Therefore the analysis is not affected by problems with multicollinearity.

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[2] Although Hausman test indicate that the random effect model is more efficient than the fixed effect model, we report the regressions results for the fixed effect model to demonstrate the robustness of our estimates in Appendix 1.

Table 3.2. Descriptive Statistics and Correlation Matrix

Variables	Mean	SD	1	2	3	4	5	6
1. Donation	0.11	0.30						
2. Firm size	4.68	1.48	0.045*					
3. Debt ratio	0.52	0.36	-0.038*	0.046*				
4. Firm performance	0.00	0.49	-0.002	0.023	-0.170*			
5. Advertising	0.01	0.03	0.062*	-0.010	-0.086*	-0.025		
6. Export Intensity	0.26	0.30	-0.062*	0.122*	-0.002	0.009*	-0.209*	
7. Foreign ownership	5.14	11.77	0.033*	0.321*	-0.045*	0.033*	0.056*	0.080*

Notes: Significant at the $p<0.05$ level; N=5,156.

The main results are shown in Table 3.3. Model 1 is a basic model of the influences on corporate donations based on the previous literature. *Firm size* and *advertising* have a positive and significant effect on the level of corporate donations. However, *profitability* is not significant and *leverage* is only marginally significant (at $p<0.10$).

Model 2 extends the analysis by including *export intensity*. As hypothesized, *export intensity* has a negative effect on the level of corporate philanthropy (at $p<0.001$) meaning firms with more domestic sales engage more in corporate philanthropy activities, all other things being equal.

Model 3 controls for the institutional and cultural differences between *Chaebol* group firms and non-*Chaebol* group firms. *Chaebol* groups' corporate donation levels are not significantly different from the non-*Chaebol* groups. It may be that *Chaebol* groups' total contribution is higher than the other firms in absolute terms.[3] However, when controlling for other determinants of corporate donations, the level of corporate

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[3] Unreported univariate sample t-test indicates *Chaebol* firms have a statistically higher mean donations expenditures than non-*Chaebol* firms (t=8.47, p=0.000).

philanthropy by these corporate leaders was not higher than for the other firms.

Finally, Model 4 reports the effects of ownership on corporate philanthropy. The basic pattern of statistical significance for the other variables found in Models 1-3 remains controlling for firm size, leverage, profitability, advertising, export intensity, and *Chaebol* groups. Although the coefficient for the foreign ownership variable is small, the results indicate a significant and positive relationship between foreign ownership and corporate donations.

The overall statistical significance of the estimation models is tested using a Wald Chi-square test. The test shows that all models are statistically significant ($p < 0.001$).

Table 3.3. Determinants of Corporate Philanthropy

Variables	Dependent Variable: Donation (Donation/Sales*100)			
	Model 1	Model 2	Model 3	Model 4
Intercept	0.096	0.118 +	0.092	0.105 +
	(0.062)	(0.062)	(0.061)	(0.061)
Firm size	0.014 *	0.019 **	0.024 ***	0.021 **
	(0.007)	(0.007)	(0.007)	(0.007)
Debt ratio	-0.059 +	-0.059 +	-0.059 +	-0.056
	(0.036)	(0.036)	(0.036)	(0.035)
Firm performance	-0.014	-0.014	-0.014	-0.014
	(0.014)	(0.014)	(0.014)	(0.014)
Advertising	1.137 ***	0.941 ***	0.913 ***	0.879 ***
	(0.287)	(0.278)	(0.281)	(0.284)
Export Intensity		-0.105 ***	-0.105 ***	-0.107 ***
		(0.020)	(0.020)	(0.021)
Chaebol groups			-0.043	-0.046
			(0.028)	(0.028)
Foreign ownership				0.001 *
				(0.000)
R^2	0.23	0.24	0.24	0.24
Wald χ^2	560.37 ***	647.72 ***	652.88 ***	653.00 ***

Notes: Industry dummy variables are included but not reported in the table (joint significance test for industry dummies is significant at $p<0.001$ level); robust standard errors are shown in parentheses.
*Significant at the + $p<0.10$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$ level.*

4.2. Does Corporate Philanthropy Add Market Value?

In the previous section, we tested for the determinants of corporate philanthropy. We found that larger firms with higher advertising and domestic sales and foreign ownership have significantly larger corporate giving levels. Some scholars have argued that "doing well on this" can lead to higher financial performance. However, as we briefly discussed in section 2.3, empirical evidence on the corporate philanthropy-financial performance relationship is inconclusive. So in this section, we attempt to test whether corporate philanthropy enhances financial performance.

The model specifications are similar to the one in the previous section, except that the dependent variable is financial performance. Corporate financial performance is measured as *Tobin's q*, a common accounting-based ratio of the market value of a company's stock to the value of a company's equity book value. *Tobin's q* was approximated as the sum of market value of equity and book value of debt divided by the sum of book value of total assets at the year end. The sample mean for Tobin's q is 1.08 with standard deviation 1.84.

The key independent variable is *donation*, the level of corporate philanthropy, as defined earlier. The correlation with *Tobin's q* is reported in Table 3.4.

Table 3.5 presents the results: Model 1 estimates the effects of a few basic control variables we have used in the earlier models: *firm size, leverage, profitability, advertising, Chaebol groups*. Most of the variables had the expected signs and significant coefficients. Smaller firms tended to have higher levels of *Tobin's q*. *Leverage, profitability* and *Chaebol group* showed positive and significant effects on *Tobin's q* and *advertising* had a marginally significant effect ($p < 0.10$) on financial performance.

In Model 2, the level of corporate giving was added to assess its possible effect on financial performance. It was found to have no significant effect on *Tobin's q*. This non-significant relationship between corporate philanthropy and financial performance is consistent with previous studies (Berman et al., 1999; Seifert et al., 2004).

In Model 3, we test for the non-linear relationship Wang et al. (2008) proposed by adding a quadratic term for giving. By adding both *donation* and its squared term, we did not find a significant relationship. In conclusion, the results of this analysis suggest that, contrary to some contemporary thinking, charitable donations do not affect financial performance.

Table 3.4. Correlations with Tobin's q

Variables	Tobin's q
Donation	-0.003
Firm size	-0.107 *
Leverage	0.265 *
Profitability	-0.025
Advertising	0.138 *
Export intensity	-0.033 *

Notes:Significant at the p<0.05 level; N=5,156.

Table 3.5. Financial Performance Models

Variables	Dependent Variable: Tobin's q		
	Model 1	Model 2	Model 3
Intercept	0.917 ***	0.917 ***	0.916 ***
	(0.102)	(0.103)	(0.103)
Firm size	-0.113 ***	-0.113 ***	-0.113 ***
	(0.014)	(0.014)	(0.104)
Leverage	0.655 ***	0.655 ***	0.656 ***
	(0.120)	(0.120)	(0.120)
Profitability	0.114 **	0.114 **	0.114 **
	(0.040)	(0.040)	(0.040)
Advertising	9.320 +	9.316 +	9.301 +
	(5.514)	(5.522)	(5.544)
Export intensity	0.058	0.058	0.060
	(0.118)	(0.117)	(0.116)
Chaebol groups	0.106 *	0.106 *	0.106 *
	(0.047)	(0.047)	(0.047)
Donation		0.001	0.015
		(0.013)	(0.055)
(Donation)²			-0.001
			(0.004)
R²	0.26	0.26	0.26
Wald χ²	667.47 ***	667.82 ***	664.530 ***

Notes: Industry dummy variables are included but not reported in the table (joint significance test for industry dummies is significant at p<0.001 level); robust standard errors are shown in parentheses.
*Significant at the + p<0.10; *p<0.05; **p<0.01; ***p<0.001 level.*

5. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This study has some limitations that future research could address. First, our analysis has focused exclusively on a single aspect of corporate philanthropy: charitable donations. Firms can engage in many other forms of corporate philanthropy, e.g., community volunteering. Charitable donations may not be the optimal method for the firm to engage in corporate social responsibility. Future studies could address this issue. Second, our study uses an audited accounting measure of corporate donations. Although we believe this is a more reliable and accessible data source and prevents some of the sampling and data collection problems raised in previous research, the pitfall of using this data is that we do not know where and who received the donations. A future study which surveys corporate philanthropic activity in detail can test whether the proximity relationship exists as our findings on export intensity variable suggest.

Finally, the corporate philanthropy literature generally lacks global comparisons. As we believe this is the first comprehensive non-western corporate donation study, future research can extend this study by providing an international comparison which incorporates institutional factors such as regulatory incentives (e.g., tax benefits on donations) and the level of giving culture.

6. CONCLUSION

We have analyzed the relationships between firm size, leverage, profitability, advertising, export intensity, business groups, industry, and ownership structure on corporate philanthropic expenditures for a sample of 1,017 Korean firms. The aim of this study was to re-examine the theories of corporate philanthropy by conducting a robust empirical analysis. By using the most comprehensive charitable donations data set, we can confirm previous findings that larger firms with higher advertising expenditures engage in higher levels of charity.

We also contribute to empirical research on strategic corporate philanthropy by introducing the effect of export intensity. Our findings suggest that corporate philanthropy has a negative relationship with export intensity. The significant relationship between domestic sales and corporate philanthropy supports the argument that corporate philanthropy is a discretionary and strategic corporate expenditure aimed at generating local goodwill. This, in turn, creates a positive social image, induces stakeholder support and can also provide insurance-like protection for the firm's relational assets (Fombrun et al., 2000; Goodfrey, 2005).

However, we only found a weak relationship between leverage (debt ratio) and firm giving. This finding implies that companies may engage in corporate philanthropy simply because their peers do (Galaskiewicz and Burt, 1991) or there may exist some cultural or societal level of corporate giving.

Another main contribution of this research relates to the importance of ownership effects on corporate philanthropy. We have found a positive

and significant relationship between corporate giving and foreign ownership.

The positive effects of foreign ownership on corporate philanthropy can be explained by several factors. It may be that the long-term value, either financial benefit or strategic goodwill, from corporate philanthropy is valued more by long term investors such as foreign institutional investors. This finding sheds some light on the role of foreign investors. Conflicting evidence exists on corporate social responsibility (CSR) by foreigners. While Logsdon and Wood (2005) argue that global multinational enterprises (MNEs) often fail to respond effectively to CSR issues of importance in their host countries, Chapple and Moon (2005) find that globalization enhanced the adoption of CSR in Asia. The finding that foreign ownership has a positive effect on corporate philanthropy while *Chaebol* groups have no significant effect is a controversial finding for an emerging market like Korea.

Lastly, we have tested for the much debated relationship between corporate philanthropy and corporate financial performance. The hypothesis that corporate philanthropy can enhance market value was not supported.

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APPENDIX 1

Table 3.6. Determinants of Corporate Philanthropy (fixed effect models)

Variables	Dependent Variable: Donation (Donation/Sales*100)			
	Model 1	Model 2	Model 3	Model 4
Intercept	0.112 **	0.119 **	0.101 **	0.111 ***
	(0.036)	(0.035)	(0.030)	(0.028)
Firm size	0.017 *	0.021 *	0.026 **	0.022 **
	(0.007)	(0.008)	(0.007)	(0.007)
Debt ratio	-0.165 ***	-0.163 ***	-0.163 ***	-0.155 ***
	(0.028)	(0.028)	(0.027)	(0.028)
Firm performance	-0.053	-0.049	-0.049	-0.051
	(0.075)	(0.075)	(0.075)	(0.028)
Advertising	1.745 *	1.471 *	1.433 *	1.382 *
	(0.695)	(0.656)	(0.646)	(0.675)
Export Intensity		-0.094 **	-0.094 **	-0.098 **
		(0.031)	(0.031)	(0.032)
Chaebol groups			-0.037	-0.041
			(0.031)	(0.031)
Foreign ownership				0.002 +
				(0.001)
R^2	0.07	0.12	0.13	0.11
F-statistics	14.23 ***	12.91 ***	12.25 ***	11.00 ***

Notes: Robust standard errors are shown in parentheses.
Significant at the + $p<0.10$; *$p<0.05$; **$p<0.01$; ***$p<0.001$ level.

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