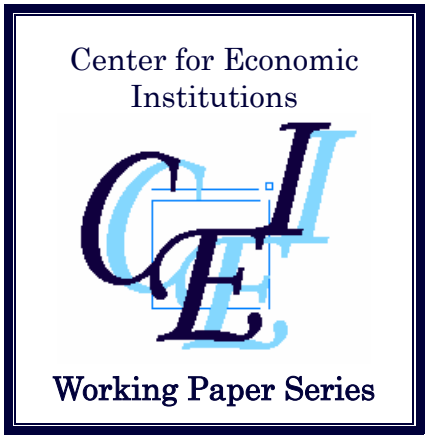
Center for Economic Institutions

Working Paper Series

CEI Working Paper Series, No. 2004-6

Business Groups and Tunneling: Evidence from Private Securities Offerings by Korean Chaebols

Jae-Seung Baek
Jun-Koo Kang
Inmoo Lee



Institute of Economic Research
Hitotsubashi University
2-1 Naka, Kunitachi, Tokyo, 186-8603 JAPAN
Tel: +81-42-580-8405
Fax: +81-42-580-8333
e-mail: cei-info@ier.hit-u.ac.jp

Business Groups and Tunneling: Evidence from Private Securities Offerings by Korean Chaebols

This version: January 2004

Jae-Seung Baek, Jun-Koo Kang, and Inmoo Lee*

ABSTRACT

Using a comprehensive sample of equity-linked private securities offerings by Korean firms from 1989 to 2000, we examine whether such offerings can be used as a mechanism for wealth transfer between issuers and acquirers. For deals involving issuers and acquirers in the same business group (chaebol), the announcement returns for chaebol-affiliated issuers with good past performance are lower than those for other types of issuers if the price discount is larger. In contrast, this deal leads to more value creation for chaebol-affiliated acquirers than other types of acquirers. Furthermore, well-performing chaebol-affiliated acquirers experience a larger wealth loss than other types of acquirers if they buy securities from poorly performing issuers in the same chaebol. We also find that chaebol firms with good past performance tend to sell private securities at a low price to their member firms. This evidence is consistent with tunneling within business groups.

* Baek is from the Department of Trade, College of Economics and Business, Hankuk University of Foreign Studies, Seoul, Korea, Phone: +82-31-330-4936, email: jbaek@hufs.ac.kr; Kang is from the Department of Finance, Eli Broad College of Business, Michigan State University, East Lansing, MI 48824-1121, Phone: 517-353-3065, email: kangju@pilot.msu.edu; and Lee is from the College of Business Administration, Korea University, 1, Anam-dong 5-ga, Sungbuk-goo, Seoul 136-701, Korea, Phone: +82-2-3290-1954, email: inmoo@korea.ac.kr. Lee acknowledges financial support from the Asian Institute of Corporate Governance at the Korea University.

The widespread use of pyramid ownership structures and cross-holdings among firms belonging to a business group allows controlling shareholders to exercise full control over a firm despite holding a relatively small portion of its cash flow rights.[1] This divergence between ownership and control raises concerns of tunneling – that controlling shareholders of the business group have strong incentives to siphon resources out of firms to increase their wealth (Johnson, La Porta, Lopez-de-Silanes, and Shleifer, 2000). Although tunneling creates a severe agency problem between controlling and minority shareholders and imposes a serious friction on the efficient functioning of a capital market, systematic evidence of its existence is scarce. One notable exception is the study of Bertrand, Mehta, and Mullainathan (2002), who use a sample of 18,600 Indian firms during the period 1989 to 1999 to examine tunneling in pyramidal ownership structures of business groups. They show that the ultimate owners of the pyramids have strong incentives to divert resources from firms low down in the pyramid towards ones high up in the pyramid. In a similar vein, Bae, Kang, and Kim (2002) find that minority shareholders of firms within the top 30 Korean business groups typically lose out from their acquisitions, but that the controlling shareholders gain from the same deals. These results are consistent with the existence of tunneling among firms belonging to business groups.

In this paper, we extend this literature by providing direct evidence of tunneling among group firms. To gain a better understanding of tunneling from a different perspective than those found in the existing literature, we analyze the valuation effect and the pricing of equity-linked private securities offerings by Korean firms from 1989 to 2000. Our objective is to examine the extent to which firm value is related to the controlling shareholder's incentive to carry out tunneling. Unlike previous studies, we focus on the financing decisions of group-affiliated firms, not on their investment decisions. We study the private financing activities of group firms because they represent a setting where interests of controlling and minority shareholders frequently diverge; thus,

tunneling could be a major motivation behind some of these activities. To the extent that tunneling takes place in a subtle way and is hard to detect, our focus on private issues also increases the possibility of detecting the relation between tunneling and firm value. For example, private issues tend to draw less attention from stock market investors and regulatory agencies because they essentially view such issues as a private matter. Therefore, the incentive for controlling shareholders to tunnel tends to increase with these issues, which makes the tests for exploring the extent of tunneling activity around private securities offerings more powerful and convincing. Private securities offerings (PSOs) can also involve several interesting forms of tunneling, such as dilutive share issues that discriminate against minority shareholders, deep discount issues to benefit controlling shareholders, issuing securities at inflated prices by poorly performing firms to well-performing firms in the same group, etc.[2] This variety provides a rich setting for the investigation of the market's ex-ante valuation of the financing decisions motivated by tunneling.

The issuance of bonds with warrants (BWs) by Samsung SDS, the Samsung Group's systems integration unit, to the controlling shareholder's family illustrates how tunneling takes place between the member firm and the controlling shareholder. Samsung SDS was an unlisted company, but its shares were traded in the over-the-counter market. In February 1999, Samsung SDS issued 23 billion Korean won worth of BWs through a private placement to Chairman Lee Kun-Hee's son, Lee Jae-Yong, and several others. The BWs, which carry an 8 percent interest and mature in three years, give holders the right to convert them into 2.3 million shares of common stock at a price of 7,150 won per share, one year from the date of issuance. This conversion price was far lower than the share price of 54,750 won at the over-the-counter market. Activists for the rights of minority shareholders criticized Samsung SDS for selling its new BWs to Lee Jae-Yong in a bid to help him gain managerial control after the company goes public, running counter to the interests of other shareholders (*Korea Herald*, June 5, 1999 and May 10, 2000).[3]

We focus on Korean firms since they have certain characteristics that make them particularly well suited to an investigation of tunneling. In particular, many Korean firms belong to business groups known as chaebols. An important feature of a chaebol is that it has an inherently weak governance structure[4] and that a single family usually controls all firms in it. Firms belonging to a chaebol also maintain substantial business ties with other firms in the group, are bound together by a nexus of explicit and implicit contracts, and are connected by an extensive arrangement of reciprocal shareholding agreements. In general, a chaebol's owner-managers put up a relatively small portion of the total stake in the group, but cross-shareholding among member firms allows them to have full control over all member firms. Although having both control rights and ownership vested in one individual minimizes the agency problem that arises from the separation of ownership and control (Jensen and Meckling, 1976), it creates another type of agency problem: the owner-managers of a chaebol can easily expropriate other investors in the firm by tunneling resources out of the firm to maximize their welfare (Johnson et al., 2000). These characteristics of chaebol firms allow us to examine whether the valuation effect of PSOs is related to tunneling motivated by the owner-managers.

Our paper is also related to the literature that examines the stock-price reaction to PSOs in other countries. The existing literature shows convincingly that the announcement of new private equity issues by U.S. and Japanese firms is associated with an increase in the firms' stock price (Wruck, 1989; Hertzel and Smith, 1993; Kato and Schallheim, 1993; Kang and Stulz, 1996; Barclay, Holderness, and Sheehan, 2003).[5] Similarly, there are positive announcement effects for private convertible bond issues in contrast to the negative announcement effects for public convertible bond issues (Fields and Mais, 1991). Wruck (1989) finds that the change in firm value at the announcement of a private sale of equity is strongly correlated with the resulting change in ownership concentration, and argues that the positive announcement effect for private equity

offerings is largely due to anticipated monitoring by block shareholders. On the other hand, Hertzel and Smith (1993) argue that private equity offerings convey information that the issuing firm's equity is undervalued and thus can be used as a solution to mitigate the Myers and Majluf (1984) underinvestment problem. While these papers emphasize the positive role of private placements either in creating an outside blockholder who monitors management or in resolving asymmetric information about firm value, our paper focuses on the dark side of PSOs by studying how firm value is affected when the main motivation behind placing securities privately is to transfer resources between firms.[6]

We find that PSOs by Korean firms are associated with a positive announcement effect for the shareholders of the issuing firms. However, the positive gains are mainly from PSOs by non-chaebol issuers. Chaebol issuers that sold securities privately to firms in the same group realize insignificant announcement returns. Furthermore, for the deals involving issuers and acquirers in the same chaebol, the announcement and long-run returns for issuers with good past performance are lower than those for other types of issuers if the price discount is larger. In contrast, the same deals lead to more value creation for chaebol-affiliated acquirers than other types of acquirers. These results suggest that PSOs facilitate a particular form of tunneling in which transfers are made from issuers with good performance to acquirers. At the same time, well-performing chaebol-affiliated acquirers experience a larger wealth loss than other types of acquirers if they buy securities from poorly performing issuers in the same chaebol. This result implies that resources can also be tunneled into poorly performing issuers out of well-performing acquirers. In addition, we find that the announcement returns for issuers are positively related to equity ownership by foreign investors, suggesting that foreign investors play an instrumental role in restricting tunneling. However, when chaebol firms with concentrated equity ownership by owner-managers sell their private securities to other firms in the same group, or when chaebol firms sell these securities at a

deep discount to other member firms, the announcement and long-run returns are lower. Further analysis shows that our results for issuing firms are mainly driven by the deals in which owner-managers personally acquire private securities at the offerings rather than the cases in which affiliated firms in the same chaebol are involved in the deals. Finally, we find that the chaebol firms with good past performance tend to sell private securities at a low price to other member firms in the same chaebol. These results are consistent with the existence of tunneling in Korean PSOs.

Overall, our findings for chaebol-affiliated firms are in contrast to those of previous studies that document the positive role of PSOs, and support the tunneling view for business groups. They also suggest that the controlling shareholder's incentive to carry out tunneling should be factored in when the value of chaebol-affiliated firms is being evaluated.

The paper proceeds as follows. In Section I, we develop the testable implications of the tunneling view for private placements of securities. Section II describes the data and provides summary statistics for important variables. Section III provides the cumulative abnormal returns for issuers, acquirers, and portfolios of non-issuing firms in the same chaebol. Section IV reports the results from cross-sectional regressions. Section V reports the results from the robustness tests. Section VI summarizes and concludes the paper.

I. Testable Implications of the Tunneling View

Firms that conduct equity-linked PSOs tend to draw less attention from market participants and regulatory agencies than do those that conduct public security offerings since they are typically sold to a few investors with negotiated terms (Wruck, 1989). Such a loose scrutiny tends to make tunneling easier for firms placing securities privately than those placing securities publicly. Furthermore, the owner-managers of chaebol-affiliated firms that conduct PSOs have strong opportunities to engage in tunneling since the buyers of these securities sometimes belong to the

same group. Given that all the major decisions of each member firm in the chaebol are in the hands of the controlling family, rather than professional management, and that the legal protection against expropriation of minority shareholders was weak in Korea during our sample period, the chaebol's owner-managers may have strong incentives to siphon resources out of the issuers (acquirers) to increase their or the acquirers' (issuers') wealth. These arguments suggest that deals involving issuers and acquirers in the same chaebol have greater potential for affecting firm value than do other types of deals. Therefore, the tunneling view predicts that announcement returns of chaebol issuers (acquirers) who are more likely to tunnel resources out of the acquirers (issuers) will be higher than those of other issuers (acquirers). In contrast, announcement returns of chaebol issuers (acquirers) who are more likely to be tunneled will be lower than those of other issuers (acquirers).

To test these implications of the tunneling view for PSOs, we examine the announcement returns of the subsamples of both chaebol issuers and chaebol acquirers who are more likely to experience tunneling effects. The wealth transfer is more likely to occur for deals involving issuers and acquirers in the same chaebol, especially when issuers with good past performance sell their shares to the acquirers at deep discounted prices, or when issuers with poor past performance sell their shares to acquirers with good past performance at inflated prices. Ownership structure will also certainly have an influence on tunneling activities. Below, we describe more detailed testable implications of the tunneling view for different groups of issuers and acquirers.

First, we investigate private placements of equity by chaebol firms in which shares are sold at a low price to either owner-managers or their families. We also examine cases in which chaebol firms sell shares at a lower price to firms in the same group. According to the tunneling view, these transactions facilitate wealth transfer from the issuers to the acquirers. Therefore, such transactions increase the value of chaebol acquirers, but have an adverse effect on the value of issuers in the same group.

Tunneling can also take place if chaebol firms with good past performance sell their shares at a discounted price to firms in the same group. The tunneling view predicts that announcement returns of these issuers will be lower than those of other issuers, but announcement returns of chaebol acquirers will be higher than those of other acquirers. In contrast, rescue purchases, in which chaebol firms that had good performance prior to the issuance buy shares from poorly performing issuers in the same chaebol, predict the opposite.

Private convertible bonds and BWs offerings can be used in a similar way by setting the conversion value or strike price very low compared to the current stock price without having the deep-in-the-money option value reflected in the price of those securities.

Ownership structure such as equity ownership by controlling shareholders and equity ownership by foreign investors can also play an important role in tunneling activities within firms that belong to business groups. A priori, the effect of controlling ownership on firm value is unclear. For example, if owner-managers of chaebol firms are more concerned with maximizing their own utility or the total value of their chaebol than with maximizing the value of an individual member firm (Johnson et al., 2000; Bae et al., 2002), issuing (acquiring) firms where owner-managers own a large concentration of shares will have a more severe agency problem and thus are more likely to be adversely affected at the time of the issue announcement. In contrast, if concentrated ownership in issuing (acquiring) firms by owner-managers minimizes the agency problem that arises from the separation of ownership and control (Jensen and Meckling, 1976) and provides fewer incentives for owner-managers to transfer resources from issuing (acquiring) firms to acquiring (issuing) firms, it could have a positive or neutral effect on the value of issuing (acquiring) firms.

According to Shleifer and Vishny (1986), outside ownership can provide incentives for shareholders such as foreign investors to monitor managerial performance and take actions that enhance firm value. Foreign investors tend to hold equity in a few selected affiliated firms with

good performance (Kang and Stulz, 1997), which suggests that they are likely to be victims rather than beneficiaries of tunneling if tunneling takes place. Therefore, foreign investors have a strong incentive to monitor the chaebol owner-managers and discourage them from engaging in tunneling. These arguments suggest that foreign ownership of issuers (acquirers) is positively related to abnormal returns for issuers (acquirers).

We also consider the value-weighted portfolio returns of other firms within the same chaebol in the analysis. Since a chaebol can be viewed as a portfolio of firms, PSOs by a member firm have the potential to affect the value of both issuing firms and other non-issuing firms in the group. For example, if the deal involving a poorly performing issuer and a well-performing acquirer in the same chaebol maximizes the aggregate value of the group, then the issue announcement might be good news for the other firms in the group, even though it is bad news for the acquiring firm. Alternatively, other members of the chaebol might experience increases in value because the market expects that if those member firms were to get into trouble, they too would be bailed out (Bae et al., 2002). However, to the extent that this deal sends bad signals to the market about the quality of the governance structures the chaebol adopts, it could have a negative impact on the value of other member firms.

II. Data

Our sample consists of private sales of equity-linked securities by nonfinancial firms listed on the Korea Stock Exchange (KSE) during the period 1989 to 2000. The types of securities we consider include common stock, convertible bonds, and BWs. We obtain our sample by checking various sources, including the Korea Securities Research Institute (KSRI)'s database, the Korea Listed Companies Association (KLCA)'s database, the KLCA's monthly publication, *Sang Jang*, KOSCOM's CHECK2000 database, and the KSE's Korea Investor's Network for Disclosure

System (KIND System). To avoid having results confounded by multiple issues that cluster during a short time period, we eliminate issues that occur within a 10-day interval before and after the announcement of the offering. We collect the offering announcement dates from one of the major daily economic newspapers, the *Korea Economic Daily*, a publication that is essentially the Korean equivalent of the *Wall Street Journal*. We obtain the stock price data from the Korea Investor Service (KIS)'s KIS 2000 database and financial data from the KLCA and KIS's FAS2000 databases. Our restrictions result in a final sample of 262 offerings.

Since the measure of tunneling within firms belonging to the business group requires stock return data, we define a chaebol as the business group that has at least two listed member firms. Our definition of a chaebol is much broader than that of other studies where a chaebol is usually defined as one of the 30 largest business groups. Since "the top 30" is an arbitrary category that the Korean government creates for its own purposes and the issue of tunneling is relevant not only to the large business groups but also to other small business groups, our definition of a chaebol allows us to measure the tunneling effect more accurately. We identify each firm's chaebol affiliation using the KIS 2000 database.

Table I reports the distribution of announcements of PSOs by type and by year. Private convertible bond offerings (PCBOs) were the most frequent events (149 cases), followed by 60 cases of private equity offerings (PEOs) and 53 cases of private bonds with warrants offerings (PBWOs). While not reported, out of the 262 PSOs, 116 (44.3 percent) were issued by chaebol-affiliated firms. Out of these 116 issues, 100 were issued by firms belonging to the top 30 chaebols and in 77 cases, issuers and acquirers belonged to the same chaebol (hereafter called the "intra-group deals"). There was some clustering of the issues during the Asian financial crisis. More than 80 percent of the PEOs, 64 percent of the PCBOs, and all of the PBWOs occurred during the period 1997 to 2000. For private convertible bonds and private BWs, no offerings were made from 1993 to

1996. This was mainly due to the Korean government's policy of restricting the issuance of private equity-linked securities out of concern that these securities were sometimes used against the interests of minority shareholders. The Korean government stopped imposing this restriction in 1997. Except for a period in the early 1990s when PCBOs were popular, PSOs were rare events until recently.

To compare the frequency distribution of the PSOs with that of the public equity offerings, Table I also shows the frequency distribution of rights offerings and Initial Public Offerings (IPOs) by year. There were 1,775 rights offerings and 522 IPOs during our sample period. The predominance of rights offerings in Korea is not surprising given the findings of Cronqvist and Milsson (2003) who show that to avoid the possibility of an increase in monitoring by blockholders, firms controlled by a family prefer to use uninsured rights offerings. To examine whether the equity issuing activity depends on the market condition as was shown in other markets (Loughran and Ritter, 1995), the last column of the table also reports the annual returns of the Korea Composite Stock Price Index (KOSPI). Unlike with the U.S. case, we do not observe any significant relation between the equity offering activity and the stock market condition.

[Insert Table Ⅰ here]

In Table II, we present the summary statistics of a sample of 262 issuing firms. The average offering size for the total sample is 19.9 billion won, with a median of 10 billion won. Although the average offering size for a subsample of 77 intra-group deals is larger than that for a subsample of 185 other deals (25.3 billion won compared to 17.7 billion won), the median offering sizes of these two subsamples are the same (10 billion won each).[7] For the total sample, the offering size on average accounts for 5.8 percent of total assets. The mean ratios of offering size to total assets for intra-group deals and other deals are 7.4 percent and 5.2 percent, respectively. The difference in the ratios of offering size to total assets between the two groups is statistically significant. The medians

show a similar pattern. The offering size (in terms of both the won amount and relative size to total assets) of PEOs is on average greater than that of PCBOs or PBWOs, and these differences are more pronounced for intra-group deals.

[Insert Table Ⅱ here]

For PEOs, we measure the discount as the ratio of the difference between the share price on the announcement day and the offer price to share price on the announcement date. For PCBOs (PBWOs), we use the conversion price (strike price) instead of the offer price.[8] For the total sample, the mean and median discounts are -5.6 percent (i.e., a premium of 5.6 percent) and 4.3 percent, respectively. The discounts range from a maximum of 98.8 percent to a minimum of -825.9 percent. The fact that the median shows the discount while the mean shows the premium suggests that the sample consists largely of issues with a discount, but does include a few cases with a relatively large premium. When we exclude the premium of more than 100 percent in the sample, the mean and median discounts are 4.7 percent and 5.2 percent, respectively.

For a subsample of intra-group deals, the mean and median discounts are -14.0 percent and 0.0 percent, respectively. The corresponding numbers for a subsample of other deals are -2.2 percent and 6.9 percent, respectively. The difference in average premium between intra-group deals and other deals is statistically significant, suggesting that the deals involving firms in the same chaebol tend to carry a higher offer price than other deals.

The further breakdown of the total sample into PEOs, PCBOs, and PBWOs shows that larger premiums for intra-group deals are mainly from PEOs. For PEOs, the mean and median discounts for intra-group deals are -26.9 percent and -5.4 percent, respectively. For other deals, the corresponding numbers are -10.2 percent and 0.2 percent, respectively. The tests of mean differences between these two subgroups strongly reject the null hypothesis of equality.

Leverage (total debt / total assets) is significantly higher for issuers in intra-group deals than

those in other deals. For the total sample, the mean (median) leverage ratios for intra-group deals and other deals are 87.7 (78.3) percent and 71.6 (70.4) percent, respectively. The higher leverage ratio for intra-group deals is also observed for the subsamples of PEOs, PCBOs, and PBWOs.

Past performance of the firm, which we measure by the industry-adjusted ratio of net income to total assets (ROA), shows that firms privately issuing securities underperform relative to their industry peers. The mean and median industry-adjusted ROAs for the total sample are -1.8 percent and -0.5 percent, respectively. The mean and median industry-adjusted ROAs for issuers in intra-group deals are, respectively, -2.0 percent and -0.4 percent, and those for issuers in other deals are, respectively, -1.9 percent and -0.6 percent. The tests of median differences between these two subgroups strongly reject the null hypothesis of equality.

The average equity ownership by the controlling shareholder (including the largest shareholder, her/his family members, and affiliated firms) for the total sample is about 21.4 percent. Controlling ownership is not statistically different between issuers in intra-group deals and those in other deals. Equity ownership by foreign investors for the total sample averages 10.8 percent, with a median of 3.6 percent. The average foreign equity investment is significantly larger for issuers in intra-group deals (14.3 percent) than for those in other deals (9.4 percent).

III. Market's Responses to PSOs

We calculate the abnormal returns for the issuing and acquiring firms around the time of the announcement of private sales of securities by using standard event-study methodology. We implement the test procedure by computing ex post abnormal returns as:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}), \tag{1}$$

where R_{it} and R_{mt} are the daily return of the firm i at time t and the daily KOSPI return at time t, respectively. The coefficients $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the ordinary least squares estimates of the intercept and slope, respectively, of the market model regression. To compute the abnormal returns, we estimate the firm-specific parameters $\hat{\alpha}_i$ and $\hat{\beta}_i$ with an ordinary least squares regression, using 200 daily returns beginning at day t = -220 and ending at t = -21 relative to the announcement date. The daily abnormal return is accumulated to obtain the cumulative abnormal return (CAR) from day -t before the announcement date to day +t after the announcement date. We use t-statistics to test the hypothesis that the average CARs are equal to zero and sign-rank test statistics to test the hypothesis that the CARs are distributed symmetrically around zero.

We estimate abnormal returns for non-issuing affiliates using the portfolio approach. Specifically, we estimate the market-model parameters using the return of the value-weighted portfolio of non-issuing firms in the same group. We then estimate the daily abnormal returns of the portfolio using the market model parameters and accumulate the daily abnormal returns to obtain the portfolio CAR from day -t to day +t.

Table III presents the CARs for issuing firms. We report the results for the total sample as well as the subsamples classified according to the involvement of group-affiliated acquiring firms in the deals and the type of securities. The average CAR (-1, 1) and CAR (-5, 5) for the total sample are 1.88 percent and 2.97 percent, respectively, and significant at the 0.01 and 0.05 levels. These results are consistent with those for U.S. issuers conducting private sales of equity (Wruck, 1989; Hertzel and Smith, 1993; Barclay, Holderness, and Sheehan, 2003). In contrast, the mean and median CARs (-10, 480) are -42.02 percent and -47.91 percent, respectively, both of which are significant at the 0.01 level. These results are also consistent with the findings of Hertzel, Lemmon, Linck, and Rees

(2002) and Barclay, Holderness, and Sheehan (2003), who show the long-run underperformance following private sales of equity by U.S. firms.

[Insert Table Ⅲ here]

The subsample results show that the significance of the mean CAR (-1, 1) and CAR (-5, 5) mostly comes from issuers in other deals. The mean CAR (-1, 1) and CAR (-5, 5) for issuers in other deals are 1.90 percent and 3.31 percent, respectively. They are all significant at the 0.05 level. Although the average CARs for issuers in intra-group deals during the same intervals are positive, they are not significant. Furthermore, the median CAR (-10, 480) for intra-group deals is significantly smaller than that for other deals (-71.97 percent compared to -42.88 percent). The fact that the short-term CARs for issuers in intra-group deals are not significant and their long-term performance is worse than other types of firms conducting private sales of securities suggests that factors that determine the valuation effects of the PSOs are different for chaebol and non-chaebol firms and that tunneling can be a major motivation behind some chaebol firms' financing activities.

To more closely show different patterns of stock price movement for the issuers in intra-group deals and those in other deals, in Figure 1 we plot the CARs from day -10 to day +480 around the event date. The CARs for the issuers in intra-group deals increase up to day -5 and then start falling until day +480. For the issuers in other deals, the CARs also increase before day -5. Unlike the CARs for the issuers in intra-group deals, the CARs for the issuers in other deals continue to rise even after the announcement date and level off at day +50. The CARs start falling below zero after around day +70.

[Insert Figure Ⅰ here]

The classification by the type of securities indicates that firms conducting PEOs experience a mean CAR (-1, 1) of 3.92 percent and a mean CAR (-5, 5) of 6.41 percent. Both announcement returns are significant at the 0.05 level. The corresponding returns for firms conducting PCBOs and

PBWOs, however, are not significant. The CARs (-10, 480) are negative for all three types of securities offerings and those for intra-group deals are always smaller than those for other deals.

Panel A of Table IV reports the returns of purchasing firms around PSO announcement dates. For most deals in our sample, there are usually multiple acquirers involved in the sale. In such instances, we identify the firm that purchases the largest portion of private securities as the lead acquirer. Out of 262 issues, 43 lead acquirers are individuals and 149 lead acquirers are unlisted firms, so our return analysis for acquirers is conducted using a sample of 70 listed purchasing firms. Among 70 firms, 31 were acquirers in intra-groups deals and 39 were acquirers in other deals. We find that the mean CAR (-1, 1) for acquiring firms is 0.72 percent, with a median of -0.83 percent. None of these CARs is significant. The breakdown of the sample by the type of securities shows a similar pattern. The average and median CARs (-1, 1) for acquirers in the subsamples of PEOs, PCBOs, and PBWOs are all small and insignificant. In contrast, the mean and median CARs (-10, 480) for acquiring firms in the total sample are -37.12 percent and -29.65 percent, respectively, both of which are significant. Given that issuing firms experience long-run underperformance following private sales of equity-linked securities, the negative long-run returns for acquiring firms may be expected since these two groups of firms are linked by securities issued by issuing firms. In other words, the stock price change of issuing firms from day -10 to day +480 affects the stock price of acquiring firms during the same period via a change in the market value of equity-linked security holdings in issuing firms.

[Insert Table Ⅳ here]

Panel A of Table IV also reports the value-weighted portfolio returns of non-issuing firms that belong to the same chaebol as the issuer. If the main motivation behind placing securities privately by the controlling shareholder is to tunnel resources out of the affiliated firm and transfer them to other firms, PSO announcements will have value implications not only to issuing firms but also to

other member firms in the same chaebol. Out of our sample of 116 chaebol issuers, 8 do not have any listed non-issuing member firms except for the listed purchasing firms. So, our analysis for the value-weighted portfolio returns of non-issuing firms is conducted with 108 portfolios. We find that the mean CAR (-1, 1) of a value-weighted portfolio is -0.27 percent, with a median of -0.21 percent. The mean and median CARs (-5, 5) are -0.87 percent and -0.46 percent and the mean and median CARs (-10, 480) are -13.92 percent and -12.95 percent, respectively. These CARs are not significant. A similar pattern is observed for the subsamples of the three types of securities offerings. In tests not reported here, we also experiment with equally weighted portfolio returns and obtain results that are qualitatively similar.

Panel B of Table IV shows the CARs (-1, 1) for both acquirers and issuers in 70 deals according to whether acquirers and issuers belong to the same chaebol or not. The acquiring firms in intra-group deals realize significant and negative abnormal returns. The mean and median CARs (-1, 1) of acquiring firms in intra-group deals are -0.61 percent and -1.05 percent, respectively, both of which are significant. The corresponding returns for issuing firms in intra-group deals, however, are not significant. In contrast, the returns for acquiring and issuing firms in other deals show an opposite pattern. Although the mean and median CARs (-1, 1) of issuing firms are positive and significant, 6.56 percent and 0.62 percent, respectively, those of acquiring firms are insignificant. These results indicate that the managerial objectives of chaebol firms in intra-group deals are different from those of firms in other deals.

IV. Multivariate Analysis

Given that it is in the interests of the controlling shareholders to tunnel resources in subtle and hard-to-detect ways (Bertrand et al., 2002), the relatively small magnitude of the CARs for issuers in the intra-group deals and non-issuers in the same chaebol, and the lack of their statistical

significance in Tables III and IV may not be surprising. For example, when tunneling is detected later by investors or regulatory bodies, the controlling shareholders can receive severe penalties from the stock market and face various sanctions from regulators. The controlling shareholders, therefore, tend to choose the form of tunneling that minimizes penalties and sanctions and this makes the existence of tunneling difficult to detect by the market participants. Alternatively, tunneling could take place in both directions, from issuers to acquirers or from acquirers to issuers, so the announcement effects of these two opposite forms of tunneling tend to offset each other. To avoid the measurement problems associated with the subtlety of tunneling, in this section we further identify the subgroups of deals in which tunneling effects are more likely to occur and examine whether the announcement effects of these groups are different from those of other groups in the multivariate regression framework.

A. Cross-Sectional Regression Analysis for Issuers

In Table V, we use the CAR (-1, 1) for the issuer as the dependent variable. In tests not reported here, we also experiment with CARs (-1, 0) and CARs (-5, 5) and obtain results similar to those reported in this paper. All regressions are estimated using ordinary least squares (OLS).[9] As a measure of tunneling effects, we use the variables discussed in Section I as the independent variables: i) equity ownership by the controlling shareholder; ii) equity ownership by foreign investors; iii) discount; iv) industry-adjusted ROA; and v) a dummy variable for intra-group deals. We further bifurcate intra-group deals into two different subgroups based on whether the securities are sold to the owner-managers or other affiliated firms in the same chaebol. To discriminate the tunneling effects between intra-group deals and other deals, we interact the dummy variables for intra-group deals with the variables related to tunneling as specified above. The regressions also control for firm size (log of total assets), leverage (total debt over total assets), size of offerings

(offer amount over total assets), industry dummy variables, and dummy variables for the type of securities.

[Insert Table Ⅴ here]

In regressions (1) and (2) of Table V, we regress the CARs for issuers on ownership structure, discount, industry-adjusted ROA, the dummy for intra-group deals, and other control variables. The CARs display a strong negative association with the private placement discount. Given that the wealth transfer from issuers to purchasers is more likely to occur if the discount is larger, this result is consistent with the tunneling view. We also find that the coefficient on equity ownership by foreign investors is positive and significant at the 0.10 level. To the extent that foreign investors are independent from management, this result supports the view that unaffiliated outside investors play an instrumental role in preventing firms from engaging in tunneling activities. The coefficient on the industry-adjusted ROA, however, is not significant. A potential explanation for the insignificance of issuers' past performance is that firm performance can have two offsetting effects on announcement returns. First of all, a poor performance of issuing firms can increase the possibility of tunneling from purchasers to issuers. At the same time, however, it can also deteriorate issue terms of PSOs because poorly performing firms would have more difficulty in obtaining external financing. Equity ownership by the controlling shareholder is positively related to the CARs, suggesting that firms with higher ownership concentration by owner-managers are more likely to undertake value-increasing actions (Jensen and Meckling, 1976).

To further examine the role of controlling ownership in intra-group deals, in regression (3), we add an interaction term between the controlling ownership and the intra-group deal dummy. The coefficient on equity ownership by the controlling shareholder is positive and significant at the 5% significance level, suggesting that among issuers in other deals, larger controlling ownership generally leads to more significant increases in the announcement returns. The coefficient on the

interaction variable, however, is negative and significant at the 5% significance level. This result indicates that relative to other issues, the market reacts negatively to issue announcements of intra-group deals in which owner-mangers of issuing firms have concentrated equity ownership. Taken together, these results suggest that the positive relation between equity ownership by the controlling shareholder and the CARs for the total sample is mainly driven by the subsample of other deals. To the extent that concentrated ownership by owner-managers makes it easier for them to engage in tunneling within a business group, our results for intra-group deals support the tunneling view.

In the fourth regression, we add an additional interaction term between the discount rate and the intra-group deal dummy. If the issuing firms sell securities at a deep discount for tunneling purposes to firms in the same chaebol, we would expect a negative relation between the CAR for the issuing firms and this interaction term. Consistent with our expectation, the interaction variable has a coefficient of -0.037 with a *t*-statistic of -1.95. In contrast, the coefficient on the discount rate is -0.003 and not significant. Therefore, unlike intra-group deals, the discount has little statistically discernible effect on the CAR for the issuing firms in other deals.

The next regression further confirms the importance of controlling ownership and discount variables in explaining the CAR for the issuing firms in the intra-group deals. In this regression, we use an interaction term between the discount and the indicator variable for intra-group deals in which the controlling shareholder of issuing firms has equity ownership above the sample median. The coefficient on this term is significantly negative, indicating that issuing firms that sell securities to the firms in the same group suffer more when discounts as well as controlling ownership are larger.

To investigate the joint impact of private placement discounts and the past performance of issuing firms on announcement returns, in the sixth regression, we use an interaction term between the discount rate and the indicator variable for intra-group deals in which issuing firms have an

industry-adjusted ROA above the sample median. We expect that tunneling is more likely to occur from issuers to acquirers if the issuers with good past performance sell securities at a lower price to the firms in the same chaebol. Consistent with our hypothesis, the coefficient on the interaction term is significantly negative with a *t*-statistic of -2.29.

To understand the circumstances under which tunneling effects of controlling ownership and discount rates are more detrimental, in regression (7), we examine whether the results for intra-group deals vary across those in which securities are sold to the owner-managers and those in which they are sold to the firms in the same chaebol. We use four interaction terms: the interaction term between the controlling ownership and the dummy variable for sales to the owner-manager, the interaction term between the controlling ownership and the dummy variable for sales to the affiliated firms, the interaction term between the discount rate and the dummy variable for sales to the owner-manager, and the interaction term between the discount rate and the dummy variable for sales to the affiliated firms. The results show that only the coefficients of the interaction variables involving sales to the owner-manager are significant and negative. These results suggest that the presence of owner-managers in person in the intra-group deals prompts more negative reaction from the stock market.

Among other control variables, firm size is significantly and negatively related to the announcement period returns. To the extent that large issuing firms have more resources and play a key role in tunneling resources, the negative coefficient on firm size is consistent with the tunneling effect.

Overall, our results support the view that chaebol owner-managers with high concentrated ownership are likely to be involved in inefficient corporate transactions. These results support the existence of tunneling effects in firms belonging to business groups in emerging markets.

However, one obvious issue in using pooled data of private placements of equity, convertible

bonds, and BWs is that, as is shown in Table II, issue and issuer characteristics of these three groups are somewhat different from each other and therefore our results in Table V could be driven by a particular group of sample firms even though we have controlled the types of security offerings by including dummy variables. To ensure that this is not the case, we re-estimate the regressions by the type of securities offerings. Since the subsample of PBWOs includes only seven cases of intra-group deals, we do not perform the regression analysis for this subsample.

The regression estimates for the subgroups are reported in Table VI. For the subsample of firms conducting private equity offerings, the CARs (-1, 1) for issuing firms are negatively related to both the interaction term between the discount and the intra-group deal dummy, and the interaction term between the discount and the indicator variable for intra-group deals in which the controlling shareholder of issuing firms has equity ownership above the sample median. On the other hand, for the subsample of private convertible placements, the coefficients on the interaction term between the controlling ownership and the intra-group deal dummy (particularly the deal involving owner-managers), and the interaction term between the discount and the indicator variable for well-performing issuing firms in intra-group deals are negative and highly significant.[10] Although the results for these two subgroups are not exactly the same as those for the total sample, they are consistent with the tunneling view and suggest that our main results regarding the tunneling effect are not specific to a certain group of firms.

[Insert Table Ⅵ here]

B. Cross-Sectional Regression Analysis for Acquirers and the Value-weighted Portfolio of Non-issuing Chaebol Firms

To more closely examine the existence of tunneling effects, we examine whether financial and ownership structure of issuing firms have any impacts on the cross-sectional variation of abnormal

returns for purchasing firms and non-issuing firms that belong to the same chaebol as the issuer.

In Table VII, we use the CAR (-1, 1) for the lead acquirer as the dependent variable. In addition to the independent variables used in Table V, we include acquirers' financial characteristics such as industry-adjusted ROA, equity ownership by issuers in acquiring firms, firm size, and leverage as explanatory variables. To capture the tunneling from acquirers to issuers, we also include a dummy variable that takes a value of one if bad issuers (issuers with industry-adjusted ROAs below the sample median) sell securities privately to good acquirers (acquirers with industry-adjusted ROAs above the sample median).

[Insert Table Ⅶ here]

The most important finding from Table VII is that the coefficient estimate on an interaction term between the discount rate and the indicator variable for intra-group deals in which issuing firms have industry-adjusted ROAs above the sample median is 0.250 (*t*-statistic = 2.05) for acquirers. This finding, coupled with the finding that the coefficient on the same variable is negative and significant in the previous regression for the issuers, suggests the possibility of the wealth transfer from the issuing firms with good past performance to the acquiring firms. Along the same line, the coefficient estimate on the interactive dummy variables of the intra-group deal dummy and the bad issuer / good acquirer dummy is -0.119 with a *t*-statistic of -1.86. Since this result means that acquirers with good performance experience a larger wealth loss than other types of acquirers if they buy securities from poorly performing issuers in the same chaebol, it implies that resources can also be tunneled into poorly performing issuers out of well-performing acquirers.

However, the coefficients on the other two interaction variables – an interaction term between the discount and the intra-group deal dummy, and an interaction term between the discount and the indicator variable for intra-group deals in which the controlling shareholder of issuing firms has equity ownership above the sample median – turn out to be negative. These results are inconsistent

with the tunneling view. The tunneling hypothesis predicts these interaction variables to be positive. A possible explanation for the negative coefficients is that the sample used in the regressions of Table VII consists only of listed firms and does not include chaebol owner-managers who personally acquire private securities from issuers. Since the previous regression of Table V shows that the tunneling effects of discount and controlling ownership variables in intra-group deals are pronounced only when chaebol owner-managers are buyers of private securities, the coefficients on these two interaction variables in Table VII are estimated less precisely.

Further findings from Table VII are that the CARs for acquirers are positively and significantly related to the issuing firm's controlling ownership, industry-adjusted ROA, and discount. These results are consistent with the tunneling hypothesis because acquiring firms are more likely to get benefits when they purchase securities privately from firms with concentrated controlling ownership, those with good past performance, and those selling securities at a significant discount.

Regarding the acquirers' characteristics, equity ownership by issuers in acquirers is significantly negative. This result is also consistent with the tunneling view since issuing firms with a larger ownership stake in acquiring firms can exercise more influence on acquiring firms to engage in purchases of private securities at less favorable terms.

In summary, the results of Table VII are generally consistent with those of Table V and further confirm the importance of tunneling in determining firm values during the period of private placements of securities.

Table VIII shows the results from regressing the value-weighted portfolio CAR (-1, 1) of non-issuing firms on the issue and issuer characteristics used in Table V. The results show that CARs (-1, 1) are negatively and significantly related to an issuer's controlling ownership and discount. The coefficient on the discount is significantly more negative for intra-group deals, particularly when an issuer's industry-adjusted ROA is above the sample median. We also find that for intra-group deals,

the effect of the private placement discount on the value of non-issuing firms is more detrimental when owner-managers of the chaebol are personally involved in the private placement transactions. Overall, the results for non-issuing firms are similar to those for issuing firms, suggesting that for intra-group deals, the factors that affect the shareholder wealth of issuing firms also affect the shareholder wealth of non-issuing affiliated firms in the same direction. Taken together, our results indicate that the market perceives private placements of securities by a chaebol-affiliated firm as group-wide events, so investors expect that if non-issuing member firms were to get involved in private placement of securities, they too would become either the victims or beneficiaries of tunneling as in the case of issuers.

[Insert Table Ⅷ here]

In sum, the results from the multivariate analyses of announcement period returns for issuers, acquirers, and non-issuing firms in the same chaebol support the tunneling view that the chaebol owner-managers make financing decisions with little regard for maximizing the shareholder wealth of the individual firm, but with great regard for maximizing their own private benefits or the value of the whole group.

V. Additional Tests

To determine if the cross-sectional variation of issuer returns is robust to the period during which cumulative abnormal returns are calculated, we use as the dependent variable the long-run (days -10 to 480) returns of issuing firms instead of short-run (days -1 to 1) announcement returns and report the results in Table IX. The results indicate that our findings for the regressions of the CARs (-1, 1) mirror those of the CARs (-10, 480). The sign and significance of the coefficients on all interaction terms involving the dummy for intra-group deals remain about the same except for an interaction term between the discount rate and the indicator variable for intra-group deals in which

the controlling shareholder of issuing firms has equity ownership above the sample median. Although the coefficient on this interaction variable has a predicted sign, it is not significant.

[Insert Table Ⅸ here]

An alternative way to show the extent of tunneling within firms belonging to a business group is to examine how the pricing of the placements is related to tunneling variables used in the previous section. If tunneling takes place from the acquiring (issuing) firm to the issuing (acquiring) firm in the same business group, the chaebol firms in intra-group deals are expected to pay considerably more (less) to their member issuing firms than firms in other deals. To address this issue, in Table X, we use the price discount as the dependent variable and the variables used in Table V as the explanatory variables. We find that the coefficient on the interaction term between equity ownership by controlling shareholders and the dummy for intra-group deals is negative and significant (*t*-statistic = 2.87) in regression (3), while the coefficient on the dummy for intra-group deals is positive albeit insignificant (*t*-statistic = 1.32). This result suggests that in order to protect their interests in issuing firms, the controlling shareholders with larger ownership are less likely to sell firms' securities at a discounted price. An alternative explanation is that these shareholders are more likely to engage in a particular type of tunneling activity in which the transfer of resources is made from acquirers to issuers.

[Insert Table Ⅹ here]

In regression (4), we find a positive and significant relationship between the price discount and an interaction term of industry-adjusted ROA and the dummy for intra-group deals. However, the price discount does not have any significant relationship with the dummy for intra-group deals per se. These results imply that issuing firms with good past performance are more likely to transfer resources from themselves to acquiring firms by selling securities at a discount. The last regression shows that our results are mainly driven by the deals in which securities are sold to the chaebol

owner-manager. In unreported tests, we also check the factors that determine the pricing of private securities separately for the subsample of PEOs and the combined subsample of PCBOs and PBWOs. We find that variables that are significant in Table X are also significant for the subsample of PEOs. For a combined subsample of PCBOs and PBWOs, the coefficient on the interaction term between industry-adjusted ROA and the dummy for intra-group deals is again positive and significant with a *t*-statistic of 4.62, but the coefficient on the interaction term between equity ownership by controlling shareholders and the dummy for intra-group deals is not significant (*t*-statistic = -1.47). In sum, the results from the pricing of the placements further confirm the existence of tunneling in PSOs.

VI. Summary and Conclusion

Using a comprehensive sample of private placements of securities by Korean firms during the period 1989 to 2000, we examine the existence of tunneling within business groups. We document that announcement returns for chaebol-issuing firms in intra-group deals are at best close to zero and sometimes significantly negative. This contrasts with the evidence on positive and statistically significant abnormal returns for private securities issue announcements by U.S. and Japanese firms.

Further analysis shows that both short- and long-run abnormal returns for chaebol issuers are related to the extent of tunneling within member firms. Chaebol issuers with concentrated ownership by the controlling shareholders experience significantly lower cumulative abnormal returns when they engage in intra-group deals. The result supports the proposition that the substantial discretionary power held by controlling shareholders in chaebol firms allows them to receive private benefits that do not accrue to other shareholders, resulting in inefficient financing decisions. The detrimental effect of controlling ownership is more pronounced when owner-managers are personally involved in the deals. The abnormal returns for chaebol issuers are also

lower when they sell securities at a discount to the firms in the same chaebol, particularly when securities are sold to the owner-managers or when issuers perform well before the issue. These results again support the view that tunneling is one of the major motivations behind private financing activities of the chaebol firms.

We also examine the abnormal returns for acquirers and non-issuing firms in the same chaebol as the issuer and find results that are consistent with the tunneling view. The announcement returns for chaebol acquirers are higher when they purchase securities at a discount from affiliated firms with good performance. In contrast, well-performing chaebol-affiliated acquirers experience a larger wealth loss than other types of acquirers if they buy securities from poorly performing issuers in the same chaebol. The regressions for value-weighted portfolio returns of non-issuing firms display a similar cross-sectional variation as those for returns of issuers.

The analysis of the factors that determine the pricing of private placements shows that for deals involving issuers and acquirers in the same chaebol, the firms with good past performance tend to sell their securities at a low price.

Our evidence points to a dark side of private securities offerings in Korea that is consistent with tunneling within business groups. In recent studies, focusing on investment decisions of group-affiliated firms, Bertrand et al. (2002) and Bae et al. (2002) examine the existence of tunneling within business groups and find evidence that supports its existence. Our findings, coupled with the findings of these two papers, suggest that owner-managers in business groups indeed have strong incentives to siphon resources out of member firms, and use both investment and financing decisions as a means to achieve this goal. Concentrated ownership by chaebol owner-managers and cross-shareholding practices within chaebol firms seem to be largely responsible for these distorted incentives of chaebol owner-managers.

REFERENCES

Bae, Kee-Hong, Jun-Koo Kang, and Jin-Mo Kim, 2002. Tunneling or value added? Evidence from mergers by Korean business groups. *Journal of Finance* 57, 2695-2740.

Baek, Jae-Seung, Jun-Koo Kang, and Kyung Suh Park, 2003. Corporate governance and firm value: Evidence from the Korean financial crisis. *Journal of Financial Economics*, forthcoming.

Barclay, Michael J., Clifford G. Holderness, and Dennis P. Sheehan, 2003. Private placements and managerial entrenchment. Unpublished working paper, University of Rochester.

Bertrand, Marianne, Paras Mehta, and Sendhil Mullainathan, 2002. Ferreting out tunneling: An application to Indian business groups. *Quarterly Journal of Economics* 117, 121-148.

Claessens, Stijn, Simeon Djankov, Joseph P. H. Fan, and Larry H. P. Lang, 1999. Expropriation of minority shareholders in East Asia. Unpublished working paper, World Bank.

Claessens, Stijn, Simeon Djankov, and Larry H. P. Lang, 2000. The separation of ownership and control in East Asian corporations. *Journal of Financial Economics* 58, 81-112.

Cronqvist, Henrik, and Mattias Nilsson, 2003. The choice between rights offerings and private equity placements. Working paper, University of Chicago.

Fields, L. Paige, and Eric L. Mais, 1991. The valuation effects of private placements of convertible debt. *Journal of Finance* 46, 1925-1932.

Hertzel, Michael, and Richard L. Smith, 1993. Market discounts and shareholder gains for placing equity privately. *Journal of Finance* 48, 459-485.

Hertzel, Michael, Michael L. Lemmon, James S. Linck, and Lynn Rees, 2002. Long-run performance following private placements of equity. *Journal of Finance* 57, 2595-2617.

Jensen, Michael C., and William H. Meckling, 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3, 305-360.

Johnson, Simon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, 2000. Tunneling. *American Economic Review* Papers and Proceedings 90, 22-27.

Kang, Jun-Koo, Yong-Cheol Kim, and Rene M. Stulz, 1999. The underreaction hypothesis and the new issue puzzle: Evidence from Japan. *Review of Financial Studies* 12, 519-534.

Kang, Jun-Koo, and Rene M. Stulz, 1996. How different is Japanese corporate finance? An investigation of the information content of new security issues. *Review of Financial Studies* 9, 109-139.

Kang, Jun-Koo, and Rene M. Stulz, 1997. Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan. *Journal of Financial Economics* 46, 3-28.

Kato, Kiyoshi, and James S. Schallheim, 1993. Private equity financings in Japan and corporate grouping (keiretsu). *Pacific-Basin Finance Journal* 1, 287-307.

La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer, 2002. Investor protection and corporate valuation. *Journal of Finance* 57, 1147-1170.

Lemmon, Michael L., and Karl V. Lins, 2003. Ownership structure, corporate governance, and firm value: Evidence from the East Asian financial crisis. *Journal of Finance* 58, 1445-1468.

Loughran, Tim, and Jay R. Ritter, 1995. The new issue puzzle. *Journal of Finance* 50, 23-51.

Mitton, Todd, 2002. A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics* 64, 215-241.

Myers, Stuart, and Nicholas Majluf, 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13, 187-221.

Shleifer, Andrei, and Robert W. Vishny, 1986. Large shareholders and corporate control. *Journal of Political Economy* 94, 461-488.

Wruck, Karen H., 1989. Equity ownership concentration and firm value: Evidence from private equity financings. *Journal of Financial Economics* 23, 3-28.

Footnotes

[1] Claessens, Djankov, and Lang (2000) document a large divergence between cash flow rights and control rights for many East Asian firms. Claessens, Djankov, Fan, and Lang (1999), La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2002), Mitton (2002), Baek, Kang, and Park (2003), and Lemmon and Lins (2003) find that firm value is negatively related to the separation of the cash flow and control rights of the controlling shareholders.

[2] Johnson et al. (2000) show that tunneling can take many different forms. For example, it can take an illegal form of outright theft or fraud. It can also take more subtle legal forms, such as transfer pricing to benefit controlling shareholders, providing loan guarantees to prop up troubled firms in a business group by other listed group members, excessive executive compensation, etc.

[3] In another controversial deal, the Samsung Group was also criticized for Samsung Everland's purchase of a 20.7 percent stake in Samsung Life Insurance at the per-share price of a mere 9,000 won in 1997, compared with the unlisted insurer's per-share value of over 300,000 won (*Korea Herald*, July 8, 2000).

[4] Although chaebol firms have undertaken significant structural reforms to strengthen their corporate governance structures in recent years, several important corporate governance systems including outside members of the board of directors, external forces such as hostile takeovers and proxy contests, and the legal system to protect outside investors, were not well established during our sample period. See Bae et al. (2002) and Baek et al. (2003) for a detailed discussion of corporate governance systems in Korea.

[5] Hertzel, Lemmon, Linck, and Rees (2002), however, show that the stock market performance of U.S. firms issuing private equity is significantly lower than that of non-issuers over a three-year period after the offering, and view this as evidence of overoptimistic reactions by investors during

the announcement period. Kang, Kim, and Stulz (1999) also document the long-run underperformance following private sales of equity by Japanese firms.

[6] In a recent paper, Barclay, Holderness, and Sheehan (2003) show that for private placements of equity with no public interaction between the issuer and the acquirer, stock returns for issuing firms are positive but small at the issue announcement, and negative over 120 days after the offering. They argue that these results are consistent with the view that private placements of equity help management solidify their control of the firms. While their paper also examines the dark side of PSOs by focusing on management entrenchment as a potential motivation behind placing securities privately, our focus differs from theirs in that we examine controlling shareholders' incentives for tunneling within firms belonging to business groups.

[7] Out of 77 intra-group deals, 34 are sales to the owner-managers and 43 are sales to the firms in the same group.

[8] As far as the convertible bond price (the price of bonds with warrants) correctly reflects the value of the conversion option (warrants value), issuing convertible bonds (bonds with warrants) with the conversion (strike) price being set less than the market price should not be a problem. However, if the value of the conversion option (warrants value) is not fairly reflected in bond prices and instead is set assuming at-the-money (i.e., the conversion (strike) price is the same as the market price), our definition of discount will measure potential gains or losses from the purchase of securities.

[9] In our regression analyses, we also experiment with White's heteroskedasticity-adjusted standard errors in computing t-statistics and obtain results that are qualitatively similar to those reported in the paper.

[10] In an unreported test, we also experiment with a combined sample of convertible and warrant bond issues and obtain results similar to those reported here.

Table I
Distribution of Private Placements of Securities by Year and by Type of Securities

The sample consists of private sales of equity-linked securities by nonfinancial firms listed on the Korea Stock Exchange (KSE) during the period 1989 to 2000. The sample is obtained by checking various sources, including the Korea Securities Research Institute's database, the Korea Listed Companies Association (KLCA)'s database, the KLCA's monthly publication, *Sang Jang*, KOSCOM's CHECK2000 database, and the KSE's Korea Investor's Network for Disclosure System. To avoid having results confounded by multiple issues that cluster during a short time period, issues that occur within a 10-day interval before and after the announcement of the offering are eliminated. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same chaebol. A chaebol refers to a business group that has at least two listed member firms. The numbers in the private offerings columns represent sample observations in each category. The numbers in the rights offerings and IPOs columns represent the total number of rights offerings and initial public offerings, respectively. KOSPI returns are the annual returns of the Korea Composite Stock Price Index.

	Private offerings			Total: (1) + (2) + (3)			Public offerings		KOSPI returns
	Equity (1)	Convertible bonds (2)	Bonds with warrants (3)	Total	Intra-group deals	Other deals	Rights offerings	IPOs	
1989	1	0	0	1	0	1	155	124	0.30%
1990	0	10	0	10	1	9	126	43	-23.50%
1991	1	30	0	31	1	30	124	22	-12.20%
1992	0	13	0	13	2	11	112	4	11.00%
1993	1	0	0	1	1	0	162	8	27.70%
1994	2	0	0	2	0	2	106	31	18.60%
1995	3	0	0	3	2	1	142	28	-14.10%
1996	2	0	0	2	2	0	106	51	-26.20%
1997	2	40	21	63	26	37	84	23	-42.20%
1998	17	24	2	44	21	23	79	3	49.50%
1999	16	26	30	72	13	59	162	31	82.80%
2000	15	6	0	21	6	15	86	4	-52.35%
Total	60	149	53	262	77	185	1,775	522	

Table II
Sample Characteristics of Private Placements of Securities by Involvement of Group-affiliated Acquiring Firms in the Deals and by Type of Securities

The sample consists of private sales of equity-linked securities by nonfinancial firms listed on the Korea Stock Exchange (KSE) during the period 1989 to 2000. The sample is obtained by checking various sources, including the Korea Securities Research Institute's database, the Korea Listed Companies Association (KLCA)'s database, the KLCA's monthly publication, *Sang Jang*, KOSCOM's CHECK2000 database, and the KSE's Korea Investor's Network for Disclosure System. To avoid having results confounded by multiple issues that cluster during a short time period, issues that occur within a 10-day interval before and after the announcement of the offering are eliminated. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same chaebol. A chaebol is a business group that has at least two listed member firms. For private sales of equity, the discount is calculated as the ratio of the difference between the share price on the announcement date and the offer price to share price on the announcement date. For convertible bonds and bonds with warrants, the conversion price and the exercise price are used instead of the offer price, respectively. Equity ownership by the controlling shareholder includes ownership by the largest shareholder, her/his family members, and affiliated firms. The mean is reported on top and the median is reported in square brackets. Bold numbers are used for the cases where there are significant differences in the mean (median) between intra-group deals and other deals based on the t-test (Wilcoxon z-test) at the 0.05 level or lower.

Characteristic	Total			Equity			Convertible Bonds			Bonds with Warrants		
	Total (n=262)	Intra-group deals (n=77)	Other deals (n=185)	Total (n=60)	Intra-group deals (n=21)	Other deals (n=39)	Total (n=149)	Intra-group deals (n=49)	Other deals (n=100)	Total (n=53)	Intra-group deals (n=7)	Other deals (n=46)
Offer amounts (in billions of won)	19.9 [10.0]	25.3 [10.0]	17.7 [10.0]	35.4 [5.12]	39.1 [8.0]	33.7 [5.1]	15.0 [10.0]	**20.8** [10.0]	**12.2** [10.0]	15.8 [11.0]	17.0 [20.0]	15.7 [10.5]
Total assets (in billions of won)	1138.4 [286.6]	1136.3 **[198.8]**	1139.2 **[335.5]**	1527.9 [189.5]	681.5 **[164.2]**	1983.6 **[189.5]**	1200.6 [436.4]	1370.7 **[271.2]**	1127.5 **[513.5]**	508.1 [95.3]	**892.4** **[842.6]**	**449.6** **[198.6]**
Offer amounts / total assets (%)	5.8 [3.3]	**7.4** **[5.4]**	**5.2** **[2.6]**	7.1 [3.6]	**10.8** **[6.3]**	**5.2** **[1.9]**	5.0 [2.6]	**6.4** **[5.1]**	**4.3** **[1.7]**	6.7 [4.6]	**4.1** [3.8]	**7.1** [4.9]
Discount (%)	-5.6 [4.3]	**-14.0** **[0.0]**	**-2.2** **[6.9]**	-21.3 [0.0]	**-26.9** [-5.4]	**-10.2** [0.2]	-3.6 [5.2]	**-18.5** **[0.0]**	**3.8** **[10.0]**	5.6 [3.9]	**7.0** **[0.0]**	**5.4** **[4.2]**
Total debt / total assets (%)	76.3 [71.5]	**87.7** **[78.3]**	**71.6** **[70.4]**	89.4 [78.3]	**108.1** **[89.6]**	**79.3** **[73.2]**	75.7 [71.6]	**82.5** [74.0]	**72.4** [71.5]	63.5 [62.9]	66.8 [63.8]	63.6 [61.9]
Industry-adjusted ROA (%)	-1.8 [-0.5]	-2.0 **[-0.4]**	-1.9 **[-0.6]**	-2.6 [-0.1]	-2.8 [-0.3]	-2.5 [0.1]	-1.7 [-1.3]	-2.1 [-1.4]	-1.4 [-1.3]	-0.1 [0.9]	**1.8** **[1.5]**	**-0.4** **[0.4]**
Equity ownership by the controlling shareholder (%)	21.4 [18.3]	21.0 [17.2]	21.4 [18.4]	26.8 [28.2]	27.2 [20.0]	26.5 [28.3]	19.1 [17.3]	19.5 [16.3]	19.2 [17.4]	21.6 [19.9]	19.0 [17.9]	22.0 [19.6]
Equity ownership by foreign investors (%)	10.8 [3.6]	**14.3** [4.0]	**9.4** [3.1]	11.7 [3.0]	16.2 [2.7]	9.2 [4.1]	10.6 [2.1]	13.5 **[4.0]**	9.2 **[1.5]**	10.4 [7.9]	14.5 **[18.2]**	9.7 **[7.4]**

Table III
Cumulative Abnormal Returns for Issuing Firms around the Announcement Date

The sample consists of private sales of equity-linked securities by nonfinancial firms listed on the Korea Stock Exchange during the period 1989 to 2000. We obtain the initial public announcement date of the issue from the *Korea Economic Daily*, a publication that is essentially the Korean equivalent of the *Wall Street Journal*. We compute abnormal returns using the market model. We estimate the market model by using 200 trading days of return data ending 20 days before the issue announcement. We use the Korea Composite Stock Price Index return as the benchmark. The daily abnormal return is accumulated to obtain the cumulative abnormal return (CAR) from day -t before the announcement date to day +t after the announcement date. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same chaebol. A chaebol is a business group that has at least two listed member firms. The mean is reported on top and the median is reported in square brackets. All returns are in percentages. The numbers in the test-of-difference rows are p-values for the test where the mean/median is equal for issuers in intra-group deals and those in other deals. ***, **, and * denote the significance of the parameter estimates at the 0.01, 0.05, and 0.10 levels, respectively.

		Sample size	CAR (-1,1)	CAR (-5,5)	CAR (-10.480)
Total	Total	262	1.88*** [0.17]	2.97** [1.07]**	-42.02*** [-47.91]***
	Intra-group deals	77	1.83 [0.08]	1.69 [0.67]	-57.18** [-71.97]**
	Other deals	185	1.90** [0.74]	3.31** [1.07]**	-35.61** [-42.88]**
	Test of difference: t-test (Wilcoxon z-test)		0.859 (0.321)	0.439 (0.326)	0.260 (0.077)
Equity	Total	60	3.92** [0.28]	6.41** [2.41]**	-72.27*** [-92.77]***
	Intra-group deals	21	2.96 [-0.43]	2.80 [0.33]	-104.87*** [-102.10]**
	Other deals	39	4.44** [0.59]	8.40*** [3.86]**	-55.12** [-88.63]**
	Test of difference: t-test (Wilcoxon z-test)		0.628 (0.450)	0.235 (0.116)	0.210 (0.127)
Convertible Bonds	Total	149	1.35 [0.18]	1.81 [0.83]	-22.86** [-36.54]***
	Intra-group deals	49	1.50 [0.15]	1.55 [0.67]	-31.62 [-55.32]*
	Other deals	100	1.28 [0.74]	1.94 [0.88]	-18.59* [-23.52]**
	Test of difference: t-test (Wilcoxon z-test)		0.892 (0.341)	0.896 (0.386)	0.577 (0.148)
Bonds with Warrants	Total	53	1.05 [0.35]	2.34 [1.32]	-63.51*** [-69.27]***
	Intra-group deals	7	0.77 [1.46]	-0.49 [1.77]	-107.18 [-114.27]
	Other deals	46	1.09 [-0.53]	2.77 [1.40]	-56.83** [-57.23]**
	Test of difference: t-test (Wilcoxon z-test)		0.898 (0.401)	0.503 (0.361)	0.414 (0.243)

Table IV
Cumulative Abnormal Returns for Purchasing Firms and Non-issuing Portfolios around the Announcement Date

The sample of purchasing firms consists of nonfinancial firms listed on the Korea Stock Exchange (KSE) that purchase the largest portion of equity-linked securities during the period 1989 to 2000. The sample of non-issuing portfolios consists of nonfinancial firms listed on the KSE that are not involved in private sales of equity-linked securities, but belong to the same group as the issuers. We obtain the initial public announcement date of the issue from the *Korea Economic Daily*, a publication that is essentially the Korean equivalent of the *Wall Street Journal*. We compute abnormal returns for purchasing firms using the market model. We estimate the market model by using 200 trading days of return data ending 20 days before the issue announcement. We use the Korea Composite Stock Price Index return as the benchmark. The daily abnormal return is accumulated to obtain the cumulative abnormal return (CAR) from day -t before the announcement date to day +t after the announcement date. We estimate abnormal returns for non-issuing affiliates using the portfolio approach. We estimate the market-model parameters using the return of the value-weighted portfolio of non-issuing firms in the same group. We then estimate the daily abnormal returns of the portfolio using the market model parameters and accumulate the daily abnormal returns to obtain the portfolio CAR from day -t to day +t. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same chaebol. A chaebol is a business group that has at least two listed member firms. The mean is reported on top and the median is reported in square brackets. All returns are in percentages. The numbers in the test-of-difference columns are p-values for the test where the mean/median is equal for firms in intra-group deals and those in other deals. ***, **, and * denote the significance of the parameter estimates at the 0.01, 0.05, and 0.10 levels, respectively.

Panel A: CARs by the type of securities

		Sample size	CAR (-1, 1)	CAR (-5, 5)	CAR (-10,480)
Total	Purchasing firms	70	0.72 [-0.83]	-1.16 [-0.48]	-37.12*** [-29.65]**
	Non-issuing portfolios	108	-0.27 [-0.21]	-0.87 [-0.46]	-13.92 [-12.95]
Equity	Purchasing firms	10	1.60 [-0.85]	2.00 [2.05]	-15.14 [-28.69]
	Non-issuing portfolios	18	-0.05 [-0.99]	1.81 [-1.41]	-10.51 [-20.06]
Convertible Bonds	Purchasing firms	51	0.94 [0.32]	-1.61 [0.38]	-46.10*** [-40.16]***
	Non-issuing portfolios	77	-0.15 [-0.01]	-0.92 [-0.03]	-14.83 [-9.95]
Bonds with Warrants	Purchasing firms	9	-1.51 [-3.16]	-2.13 [-1.63]	-10.66 [-12.37]
	Non-issuing portfolios	13	-1.27 [-1.29]	-4.23 [-4.81]	-12.33 [-21.45]

Panel B: CARs (-1, 1) by intra-group deals

	Purchasing firm		Issuing firm		Test of difference (A-B)		Test of difference (C-D)	
	Intra-group deals (A)	Other deals (B)	Intra-group deals (C)	Other deals (D)	t-test	Wil-Coxon Z-test	t-test	Wil-Coxon Z-test
Total	-0.61* [-1.05]**	-0.14 [-0.68]	1.62 [1.06]	6.56*** [0.62]**	0.469	0.411	0.069	0.253
Sample size	31	39	31	39				

Table V
Regression of Cumulative Abnormal Returns [CAR (-1, 1)] for Issuers on Issue and Issuer Characteristics

The sample consists of private sales of equity-linked securities by nonfinancial firms listed on the Korea Stock Exchange during the period 1989 to 2000. We compute abnormal returns using the market model. We estimate the market model by using 200 trading days of return data ending 20 days before the issue announcement. We use the Korea Composite Stock Price Index return as the benchmark. Equity ownership by the controlling shareholder includes ownership by the largest shareholder, her/his family members, and affiliated firms. For private sales of equity, the discount is calculated as the ratio of the difference between the share price on the announcement date and the offer price to share price on the announcement date. For convertible bonds and bonds with warrants, the conversion price and the exercise price are used instead of the offer price, respectively. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same chaebol. A chaebol is a business group that has at least two listed member firms. t-statistics are reported in parenthesis. ***, **, and * denote the significance of the parameter estimates at the 0.01, 0.05, and 0.10 levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	-0.009 (-0.50)	0.271*** (2.98)	0.274*** (3.03)	0.265*** (2.95)	0.258*** (2.90)	0.275*** (3.04)	0.224** (2.46)
Equity ownership by the controlling shareholder: (A)	0.080* (1.80)	0.053 (1.16)	0.113** (2.11)	0.119** (2.22)		0.052 (1.14)	0.115** (2.23)
Discount: (B)	-0.022** (-2.58)	-0.026*** (-3.05)	-0.299*** (-3.30)	-0.003 (-0.17)	-0.002 (-0.13)	-0.023*** (-2.72)	0.003 (0.23)
Equity ownership by foreign investors	0.046 (1.30)	0.065* (1.78)	0.068* (1.86)	0.071** (1.97)	0.070* (1.91)	0.062* (1.70)	0.062* (1.77)
Industry-adjusted ROA	0.096 (1.45)	0.033 (0.42)	0.038 (0.49)	0.020 (0.26)	0.036 (0.47)		0.019 (0.25)
Equity ownership by the controlling shareholder is above the median (dummy): (C)					0.016 (1.13)		
Industry-adjusted ROA is above the median (dummy): (D)						-0.004 (-0.32)	
Securities are sold to the owner-manager or firm in the same chaebol (dummy for intra-group deals): (E)	-0.009 (-0.65)	-0.008 (-0.54)	0.031 (1.32)	0.035 (1.47)	-0.008 (-0.55)	-0.004 (-0.31)	
Securities are sold to the owner-manager in the chaebol (dummy): (F)							0.015 (0.55)
Securities are sold to the firm in the same chaebol (dummy): (G)							0.028 (1.03)
(A) × (E)			-0.186** (-2.05)	-0.214** (-2.35)			
(B) × (E)				-0.037* (-1.95)			
(B) × (C) × (E)					-0.035** (-2.02)		
(B) × (D) × (E)						-0.218** (-2.29)	
(A) × (F)							-0.236** (-2.10)
(B) × (F)							-0.061*** (-3.21)
(A) × (G)							-0.086 (-0.79)
(B) × (G)							0.001 (0.06)
Log of total assets		-0.013** (-2.77)	-0.013*** (-2.94)	-0.013*** (-2.86)	-0.012*** (-2.61)	-0.013*** (-2.80)	-0.011** (-2.41)
Total debt / total assets		-0.043* (-1.75)	-0.044* (-1.84)	-0.048** (-2.01)	-0.039* (-1.65)	-0.045* (-1.94)	-0.046** (-2.04)
Offer amounts / total assets		-0.091 (-0.92)	-0.102 (-1.03)	-0.102 (-1.03)	-0.079 (-0.80)	-0.105 (-1.10)	-0.031 (-0.32)
Type of securities (dummies)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.035	0.073	0.086	0.096	0.086	0.090	0.121
F-value	2.04	2.65	2.81	2.91	2.82	2.91	2.92
No. of observations	261	252	252	252	252	252	238

Table VI

Regression of Cumulative Abnormal Returns [CAR (-1, 1)] for Issuers on Issue and Issuer Characteristics by Type of Securities

The sample consists of private sales of equity and convertible bonds by nonfinancial firms listed on the Korea Stock Exchange during the period 1989 to 2000. We compute abnormal returns using the market model. We estimate the market model by using 200 trading days of return data ending 20 days before the issue announcement. We use the Korea Composite Stock Price Index return as the benchmark. Equity ownership by the controlling shareholder includes ownership by the largest shareholder, her/his family members, and affiliated firms. For private sales of equity, the discount is calculated as the ratio of the difference between the share price on the announcement date and the offer price to share price on the announcement date. For convertible bonds, the conversion price is used instead of the offer price. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same chaebol. A chaebol is a business group that has at least two listed member firms. t-statistics are reported in parenthesis. ***, **, and * denote the significance of the parameter estimates at the 0.01, 0.05, and 0.10 levels, respectively.

	Equity issues				Convertible bond issues			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Intercept	0.637*** (2.90)	0.449** (2.10)	0.735*** (3.36)	0.390 (1.67)	0.223* (1.69)	0.208 (1.54)	0.1828 (1.38)	0.252* (1.89)
Equity ownership by the controlling shareholder: (A)	-0.249 (-0.89)		-0.153 (-1.52)	-0.167 (-1.44)	0.215** (2.98)		0.103* (1.69)	0.177*** (2.53)
Discount: (B)	-0.007 (-0.28)	0.001 (0.02)	-0.045*** (-3.50)	-0.004 (-0.19)	-0.021 (-0.68)	-0.003 (-0.11)	-0.003 (-0.21)	-0.030 (-0.98)
Equity ownership by foreign investors	0.198** (2.41)	0.158* (1.86)	0.169* (1.96)	0.175** (2.60)	0.039 (0.88)	0.034 (0.75)	0.029 (0.67)	0.011 (0.25)
Industry-adjusted ROA	-0.175 (-1.13)	-0.152 (-0.99)		-0.217 (-1.66)	0.134 (1.34	0.125 (1.21)		0.123 (1.22)
Equity ownership by the controlling shareholder is above the median (dummy): (C)		-0.018 (-0.64)				0.025 (1.28)		
Industry-adjusted ROA is above the median (dummy): (D)			-0.021 (-0.64)				0.013 (0.78)	
Securities are sold to the owner-manager or firm in the same chaebol (dummy for intra-group deals): (E)	-0.057 (-0.95)	-0.014 (-0.41)	0.008 (0.22)		0.064** (2.14)	-0.006 (-0.32)	-0.003 (-0.20)	
Securities are sold to the owner-manager in the chaebol (dummy): (F)				-0.034 (-0.65)				0.044 (1.07)
Securities are sold to the firm in the same chaebol (dummy): (G)				0.045 (0.79)				0.028 (0.77)
(A) × (E)	0.175 (0.99)				-0.375*** (-2.77)			
(B) × (E)	-0.048* (-1.83)				0.010 (0.27)			
(B) × (C) × (E)		-0.054** (-2.08)			)	-0.011 (-0.32)		
(B) × (D) × (E)			-0.095 (-0.54)				-0.393*** (-2.83)	
(A) × (F)				0.074 (0.46)				-0.609*** (-2.85)
(B) × (F)				-0.053** (-2.31)				-0.080 (-0.83)
(A) × (G)				0.105 (0.58)				-0.150 (-0.96)
(B) × (G)				-0026 (-0.46)				0.036 (0.98)
Log of total assets	-0.023** (-2.33)	-0.016 (-1.65)	-0.027*** (-2.82)	-0.013 (-1.29)	-0.012* (-1.85)	-0.010 (-1.42)	-0.009 (-1.41)	-0.013* (-1.93)
Total debt / total assets	-0.125** (-2.08)	-0.108* (-1.82)	-0.149** (-2.46)	-0.133*** (-2.75)	-0.010 (-0.33)	-0.013 (-0.40)	-0.016 (-0.56)	-0.013 (-0.43)
Offer amounts / total assets	-0.059 (-0.28)	-0.017 (-0.08)	0.037 (0.18)	0.007 (0.04)	-0.039 (-0.26)	0.003 (0.02)	-0.028 (-0.20)	0.028 (0.18)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.261	0.223	0.208	0.306	0.046	0.000	0.051	0.089
F-value	2.68	2.49	2.37	3.32	1.64	0.84	1.78	1.98
No. of observations	58	58	58	54	146	146	143	141

Table VII

Regression of Cumulative Abnormal Returns [CAR (-1, 1)] for Acquirers on Issuer and Acquirer Characteristics

The sample consists of nonfinancial firms listed on the Korea Stock Exchange that purchase the largest portion of equity-linked securities during the period 1989 to 2000. We compute abnormal returns using the market model. We estimate the market model by using 200 trading days of return data ending 20 days before the issue announcement. We use the Korea Composite Stock Price Index return as the benchmark. Equity ownership by the controlling shareholder includes ownership by the largest shareholder, her/his family members, and affiliated firms. For private sales of equity, the discount is calculated as the ratio of the difference between the share price on the announcement date and the offer price to share price on the announcement date. For convertible bonds and bonds with warrants, the conversion price and the exercise price are used instead of the offer price, respectively. The bad issuer / good acquirer dummy takes a value of one if the issuer's industry-adjusted ROA is below the sample median, the acquirer's industry-adjusted ROA is above the sample median, and the issuer and acquirer are within the same chaebol. A chaebol is a business group that has at least two listed member firms. t-statistics are in parenthesis. ***, **, and * denote the significance of the parameter estimates at the 0.01, 0.05, and 0.10 levels, respectively.

	(1)	(2)	(3)	(4)
Intercept	-0.354* (-1.73)	-0.300 (-1.31)	-0.323 (-1.46)	-0.302 (-1.43)
Issuer/issue characteristics:				
Equity ownership by the controlling shareholder: (A)	0.183** (2.23)		0.154** (2.09)	0.181** (2.45)
Discount: (B)	0.114*** (3.43)	0.083** (2.62)	0.035 (1.66)	0.058*** (2.73)
Equity ownership by foreign investors	0.082 (0.49)	0.202 (1.18)	0.352* (1.89)	0.281 (1.55)
Industry-adjusted ROA	0.290*** (3.22)	0.278*** (2.92)		
Equity ownership by the controlling shareholder is above the median (dummy): (C)		0.027 (1.24)		
Industry-adjusted ROA is above the median dummy): (D)			0.270*** (2.91)	
Securities are sold to the firm in the same chaebol (dummy for intra-group deals): (E)	0.048 (1.27)	0.028 (0.97)	0.034 (1.24)	0.058* (1.83)
Bad issuer / good acquirer dummy: (F)				0.052 (0.98)
(A) × (E)	-0.105 (-0.65)			
(B) × (E)	-0.129*** (-3.07)			
(B) × (C) × (E)		-0.083** (-2.16)		
(B) × (D) × (E)			0.250** (2.05)	
(E) × (F)				-0.119* (-1.86)
Log of total assets	-0.008 (-1.01)	-0.007 (-0.85)	-0.011 (-1.24)	-0.010 (-1.12)
Total debt / total assets	0.065** (2.01)	0.059* (1.73)	0.069** (2.05)	0.006 (0.19)
Offer amounts / total assets	0.128 (0.71)	0.249 (1.34)	0.273 (1.42)	0.196 (1.06)
Type of securities (dummies)	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Acquirer characteristics:				
Industry-adjusted ROA	-0.064 (-0.50)	-0.068 (-0.47)		
Equity ownership by issuers in acquirers	-0.182** (-2.21)	-0.213*** (-2.48)	-0.166* (-1.93)	-0.083 (-0.89)
Log of total assets	0.022*** (3.07)	0.017** (2.12)	0.019*** (2.56)	0.008* (1.66)
Total debt / total assets	-0.059 (-0.81)	-0.007 (-0.10)	0.025 (0.36)	0.108* (1.66)
Adjusted R^2	0.374	0.307	0.328	0.214
F-value	3.43	2.92	2.99	2.25
No. of observations	70	70	70	70

Table VIII
Regression of Cumulative Abnormal Returns [CAR (-1, 1)] for the Portfolio of Non-issuing Firms on Issuer Characteristics

The sample of the portfolio of non-issuing firms consists of nonfinancial firms listed on the Korea Stock Exchange that are not involved in private sales of equity-linked securities, but belong to the same group as the issuers. We estimate abnormal returns for non-issuing affiliates using the portfolio approach. We estimate the market-model parameters using the return of the value-weighted portfolio of non-issuing firms in the same group. We estimate the market model by using 200 trading days of portfolio return data ending 20 days before the issue announcement. We use the Korea Composite Stock Price Index return as the benchmark. Equity ownership by the controlling shareholder includes ownership by the largest shareholder, her/his family members, and affiliated firms. For private sales of equity, the discount is calculated as the ratio of the difference between the share price on the announcement date and the offer price to share price on the announcement date. For convertible bonds and bonds with warrants, the conversion price and the exercise price are used instead of the offer price, respectively. Intra-group deals refer to private sale of equity-linked securities to acquirers in the same chaebol. A chaebol is a business group that has at least two listed member firms. t-statistics are reported in parenthesis. ***, **, and * denote the significance of the parameter estimates at the 0.01, 0.05, and 0.10 levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	0.030 (1.51)	-0.121 (-1.32)	-0.126 (-1.37)	-0.120 (-1.30)	-0.114 (-1.20)	-0.121 (-1.36)	-0.164* (-1.72)
Equity ownership by the controlling shareholder: (A)	-0.098** (-2.22)	-0.102** (-2.34)	-0.104** (-2.39)	-0.089* (-1.76)		-0.054 (-1.19)	-0.053 (-1.18)
Discount: (B)	-0.024** (-2.50)	-0.026*** (-2.67)	-0.013 (-0.90)	-0.014 (-0.91)	-0.026* (-1.80)	-0.025*** (-2.79)	-0.024* (-1.79)
Equity ownership by foreign investors	0.062 (0.86)	0.012 (0.16)	0.013 (0.17)	0.017 (0.22)	0.020 (0.25)	0.012 (0.16)	0.014 (0.19)
Industry-adjusted ROA	-0.104 (-0.81)	-0.144 (-1.06)	-0.109 (-0.78)	-0.124 (-0.87)	-0.132 (-0.92)		0.085 (0.59)
Equity ownership by the controlling shareholder is above the median (dummy): (C)					-0.013 (-1.25)		
Industry-adjusted ROA is above the median (dummy): (D)						0.009 (0.84)	
Securities are sold to the owner-manager or firm in the same chaebol (dummy for intra-group deals): (E)	-0.012 (-1.04)	-0.013 (-1.05)	-0.015 (-1.19)	-0.005 (-0.22)	-0.013 (-0.97)	-0.013 (-1.09)	
Securities are sold to the owner-manager in the chaebol (dummy): (F)							0.065 (0.87)
Securities are sold to the firm in the same chaebol (dummy): (G)							-0.008 (-0.33)
(A) × (E)			-0.020 (-1.03)	-0.019 (-1.03)			
(B) × (E)				-0.069 (-0.62)			
(B) × (C) × (E)					0.002 (0.11)		
(B) × (D) × (E)						-0.115*** (-2.71)	
(A) × (F)							-0.529 (-0.94)
(B) × (F)							-0.148** (-2.32)
(A) × (G)							0.121 (0.88)
(B) × (G)							-0.010 (-0.57)
Log of total assets		0.009* (1.94)	0.010** (2.01)	0.009* (1.85)	0.008* (1.69)	0.007* (1.67)	0.014*** (2.69)
Total debt / total assets		-0.060 (-1.62)	-0.064* (-1.71)	-0.059 (-1.55)	-0.058 (-1.50)	-0.032 (-0.94)	-0.146*** (-3.71)
Offer amounts / total assets		0.243** (2.21)	0.248** (2.25)	0.253** (2.28)	0.238** (2.10)	0.333*** (3.24)	0.318*** (3.01)

Type of securities (dummies)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.096	0.138	0.139	0.133	0.091	0.199	0.248
F-value	2.17	2.32	2.23	2.08	1.77	2.91	2.77
No. of observations	100	100	100	100	100	100	92

Table IX
Regression of Cumulative Abnormal Returns [CAR (-10, 480)] for Issuers on Issue and Issuer Characteristics

The sample consists of private sales of equity-linked securities by nonfinancial firms listed on the Korea Stock Exchange during the period 1989 to 2000. We compute abnormal returns using the market model. We estimate the market model by using 200 trading days of return data ending 20 days before the issue announcement. We use the Korea Composite Stock Price Index return as the benchmark. Equity ownership by the controlling shareholder includes ownership by the largest shareholder, her/his family members, and affiliated firms. For private sales of equity, the discount is calculated as the ratio of the difference between the share price on the announcement date and the offer price to share price on the announcement date. For convertible bonds and bonds with warrants, the conversion price and the exercise price are used instead of the offer price, respectively. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same chaebol. A chaebol is a business group that has at least two listed member firms. t-statistics are reported in parenthesis. ***, **, and * denote the significance of the parameter estimates at the 0.01, 0.05, and 0.10 levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	-0.911***	-0.644	-0.668	-0.769	-0.297	-0.650	-0.491
	(-4.00)	(-0.52)	(-0.54)	(-0.63)	(-0.24)	(-0.53)	(-0.40)
Equity ownership by the controlling shareholder: (A)	1.643***	1.664***	2.388***	2.355***		1.559**	2.187***
	(2.74)	(2.75)	(3.32)	(3.33)		(2.58)	(3.19)
Discount: (B)	-0.970***	-0.961***	-0.976***	-0.478**	-0.754***	-0.953**	-0.432*
	(-5.90)	(-5.80)	(-5.92)	(-2.03)	(-3.45)	(-5.81)	(-1.96)
Equity ownership by foreign investors	0.169	0.186	0.235	0.248	0.240	0.147	0.190
	(0.34)	(0.37)	(0.47)	(0.51)	(0.48)	(0.30)	(0.40)
Industry-adjusted ROA	-0.255	-1.495	-1.398	-1.612	-1.263		-2.236
	(-0.29)	(-1.44)	(-1.35)	(-1.57)	(-1.20)		(-1.26)
Equity ownership by the controlling shareholder is above the median (dummy): (C)					2.261		
					(1.39)		
Industry-adjusted ROA is above the median (dummy): (D)						0.053	
						(0.31)	
Securities are sold to the owner-manager or firm in the same chaebol (dummy for intra-group deals): (E)	-0.385**	-0.281	0.167	0.171	-0.293	-0.277	
	(-2.10)	(-1.47)	(0.54)	(0.56)	(-1.52)	(-1.14)	
Securities are sold to the owner-manager in the chaebol (dummy): (F)							0.244
							(0.67)
Securities are sold to the firm in the same chaebol (dummy): (G)							0.368
							(1.00)
(A) × (E)			-2.181*	-2.339**			
			(-1.84)	(-2.01)			
(B) × (E)				-0.916***			
				(-2.91)			
(B) × (C) × (E)					-0.047		
					(-1.46)		
(B) × (D) × (E)						-2.656**	
						(-2.11)	
(A) × (F)							-3.359**
							(-2.24)
(B) × (F)							-1.702***
							(-2.76)
(A) × (G)							-1.039
							(-0.71)
(B) × (G)							-0.802***
							(-2.66)
Log of total assets		-0.001	-0.008	-0.001	-0.005	-0.004	-0.004
		(-0.02)	(-0.13)	(-0.01)	(-0.08)	(-0.07)	(-0.07)
Total debt / total assets		-0.391	-0.394	-0.521	-0.403	-0.224	-0.762**
		(-1.22)	(-1.24)	(-0.64)	(-1.24)	(-0.73)	(-2.55)
Offer amounts / total assets		-1.864	-1.945	-1.865	-1.637	-1.369	-1.993
		(-1.35)	(-1.41)	(-1.38)	(-1.17)	(-1.03)	(-1.53)
Type of securities (dummies)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.159	0.173	0.181	0.207	0.159	0.178	0.270
F-value	6.32	5.26	5.17	5.56	4.57	5.08	6.01
No. of observations	254	245	245	245	245	245	231

Table X
Regression of the Price Discount on Issue and Issuer Characteristics

The sample consists of private sales of equity-linked securities by nonfinancial firms listed on the Korea Stock Exchange during the period 1989 to 2000. For private sales of equity, the discount is calculated as the ratio of the difference between the share price on the announcement date and the offer price to share price on the announcement date. For convertible bonds and bonds with warrants, the conversion price and the exercise price are used instead of the offer price, respectively. Equity ownership by the controlling shareholder includes ownership by the largest shareholder, her/his family members, and affiliated firms. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same chaebol. A chaebol is a business group that has at least two listed member firms. t-statistics are reported in parenthesis. ***, **, and * denote the significance of the parameter estimates at the 0.01, 0.05, and 0.10 levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.240* (1.91)	1.642** (2.42)	1.607** (2.40)	1.829*** (2.73)	1.806*** (2.75)	2.091*** (2.93)
Equity ownership by the controlling shareholder: (A)	-0.661** (-2.04)	-0.826** (-2.42)	-0.196 (-0.49)	-0.894*** (-2.71)	-0.209 (-0.54)	-0.278 (-0.69)
Equity ownership by foreign investors	-0.109 (-0.41)	-0.002 (-0.01)	-0.026 (-0.10)	0.001 (0.00)	-0.031 (-0.11)	-0.186 (-0.68)
Industry-adjusted ROA (B)	1.042* (1.94)	0.897 (1.51)	0.967* (1.65)	0.056 (0.09)	-0.056 (-0.09)	-0.163 (-0.24)
Securities are sold to the owner-manager or firm in the same chaebol (dummy for intra-group deals): (C)	-0.169* (-1.68)	-0.162 (-1.51)	0.228 (1.32)	-0.083 (-0.77)	0.351** (2.04)	
Securities are sold to the owner-manager in the chaebol (dummy): (D)						0.562*** (2.67)
Securities are sold to the firm in the same chaebol (dummy): (E)						0.071 (0.32)
(A) × (C)			-1.846*** (-2.87)		-2.024*** (-3.21)	
(B) × (C)				4.075*** (3.18)	4.402*** (3.49)	
(A) × (D)						-3.390*** (-4.12)
(B) × (D)						2.395** (2.21)
(A) × (E)						-0.321 (-0.38)
(B) × (E)						4.561*** (3.23)
Log of total assets		-0.063* (-1.86)	-0.068** (-2.03)	-0.073** (-2.19)	-0.080** (-2.42)	-0.090** (-2.52)
Total debt / total assets		-0.213 (-1.19)	-0.218 (-1.23)	-0.178 (-1.01)	-0.180 (-1.04)	-0.269 (-1.58)
Offer amounts / total assets		-0.195 (-0.27)	-0.287 (-0.40)	-0.448 (-0.62)	-0.569 (-0.80)	-0.533 (-0.73)
Type of securities (dummies)	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.076	0.085	0.112	0.119	0.151	0.191
F-value	3.68	3.12	3.63	3.81	4.45	5.02
No. of observations	261	252	252	252	252	238

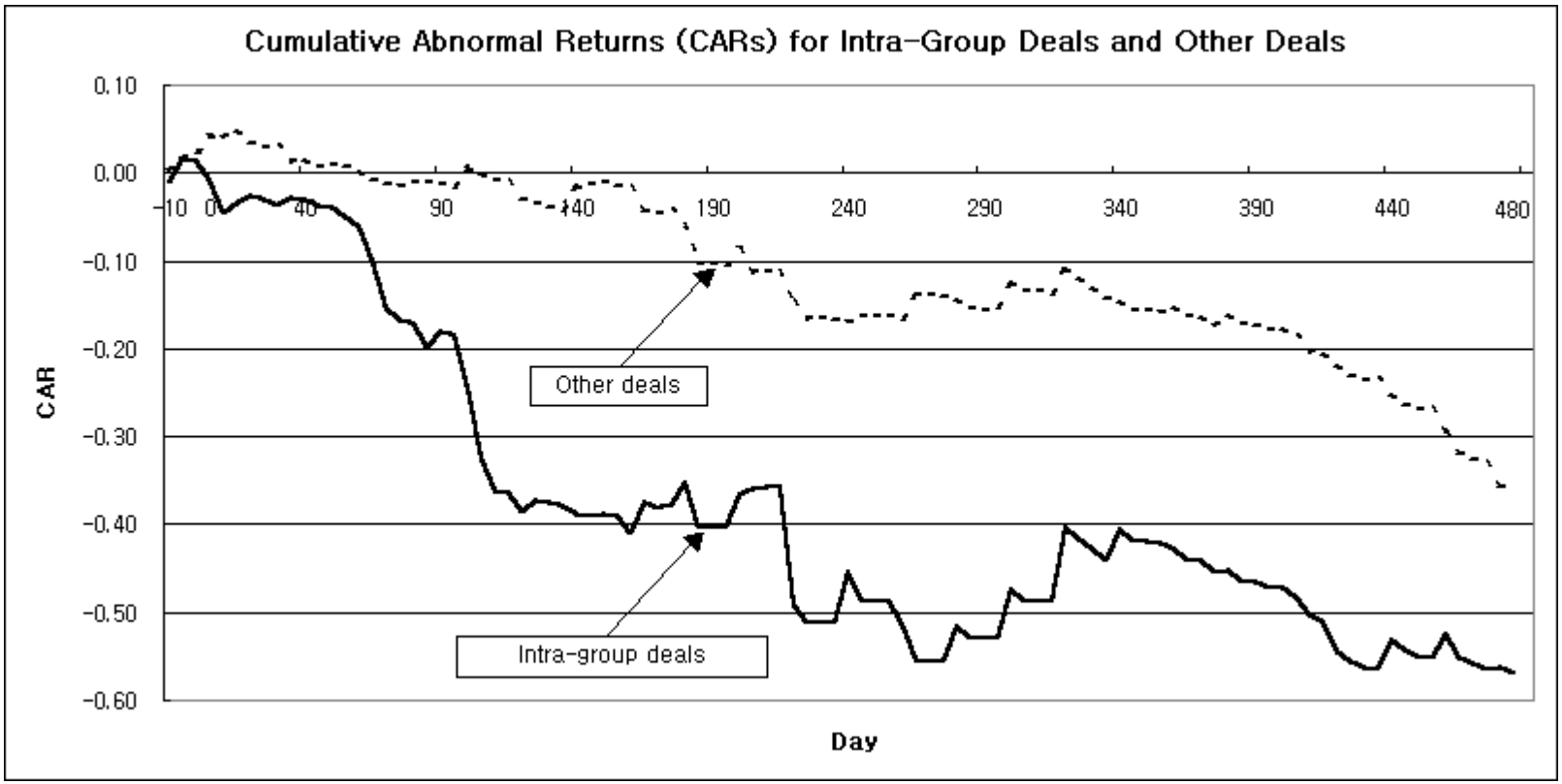


Figure 1. Cumulative Abnormal Returns from Day -10 to Day +480 around the Issue Announcement

The sample comprises 262 nonfinancial firms listed on the Korea Stock Exchange between 1989 and 2000. We obtain the initial public announcement date of the issues from the *Korea Economic Daily*. We compute abnormal returns using the market model. We estimate the market model by using 200 trading days of return data ending 20 days before the issue announcement. We use the Korea Composite Stock Price Index return as the benchmark. Intra-group deals refer to private sales of equity-linked securities to acquirers in the same business group that has at least two listed member firms. Other deals refer to those that are not intra-group deals.