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MOTIVATIONS FOR PUBLIC EQUITY OFFERS:
AN INTERNATIONAL PERSPECTIVE

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ABSTRACT

This paper examines the extent to which investment financing and market-timing explanations motivate public equity offers. We consider a sample of 16,958 initial public offerings and 12,373 seasoned equity offerings from 38 countries between 1990 and 2003. We provide estimates of the change in each accounting variable for each dollar raised in an equity offer, and for each dollar of internally generated cash. Our estimates imply that firms invest 18.8 cents in R&D and 7.3 cents in capital expenditures for an incremental dollar raised in an equity offer during the year following the offer, rising to 84.8 cents and 14.3 cents when the change is measured over a four-year period. These findings are consistent with one motive for the equity offer being to raise capital for investment. However, firms also hold onto much of the cash they raised, and this fraction is higher when the firm has a high q . In addition, firms are more likely to issue secondary shares, which are usually sold by insiders, when q is high, enabling insiders to benefit personally from potential overvaluation. These results suggest that market timing as well as investment financing is a motivation for equity offers.

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The relation between equity markets and firms' real decisions is an old and still extremely important topic in finance. Understanding this relation is complicated by the fact that there are a number of channels through which equity markets can affect firms. First, firms can raise capital to finance investments by selling equity in the public market. Additionally, if equity prices are higher than warranted by firms' fundamentals, then by issuing equity, firms can increase the value of existing shares at the expense of new shareholders.¹ Finally, when firms sell equity for the first time in an initial public offering, the firm changes in a number of ways that increase the liquidity of insiders' portfolios and the firm's access to capital. Thus, there are at least three possible, not necessarily mutually exclusive, motives for equity offerings: to finance investments, to transfer wealth from new shareholders to existing shareholders, and to increase liquidity for both insiders and the firm.

The academic literature has not yet distinguished fully between these explanations. The only empirical paper that addresses the question of the motivation for initial offerings is Pagano, Panetta, and Zingales (1998). These authors find that for a sample of Italian IPOs, the predominant reason why firms go public is to rebalance their capital structure and to exploit mispricing rather than to raise capital for financing investments. For seasoned offerings, a number of papers have addressed the mispricing explanation; Loughran and Ritter (1995) and Baker and Wurgler (2000) are notable contributions. In addition, Greenwood (2005) finds that higher cash holdings lead to lower future returns at the aggregate level, consistent with firms issuing equity when their shares are overvalued rather than when they have a particularly high demand for capital.

However, these papers do not link the equity issues with the subsequent firm-level investments. The literature is remarkably silent on the fundamental question underlying equity issues (and other capital raising activities): How is the money raised in the offering used by the firms that raise it? This paper provides systematic evidence on this question as well as other potential motives for issuing publicly-

¹ Discussion of the possibility of selling overvalued equity to finance investments goes back at least to Keynes (1936), p. 151. For further discussion and tests of this idea, see Fischer and Merton (1984), Barro (1990), Blanchard, Rhee, and Summers (1993), Stein (1996), and Baker, Stein and Wurgler (2003).

traded equity. It relies on a sample of 16,958 initial public offerings and 12,373 seasoned equity offerings from 38 countries, covering the 1990-2003 period. The focus is on the ultimate use of the capital raised, how this use varies with firm valuation, and how this variation is consistent with alternative motivations for equity offers.

To understand the reasons for equity offerings, it is important to distinguish between equity offerings that raise capital and those that do not. One aspect of equity offerings not emphasized by the corporate finance literature is the fact that firms have a choice of what kind of shares to offer. Firms can issue new, primary shares, or offer existing shares held by insiders, which are known as secondary shares. Only primary share issuances can be used to finance investments, since they lead to capital inflows to the firm while secondary share offers do not.²

We first document the extent to which firms offer primary and secondary shares in public equity offerings across the different regions in our sample. We find that the proportion of primary shares sold is roughly 80% in IPOs and 60% in SEOs. For IPOs, this fraction varies internationally, with Asian countries typically having the highest fraction of primary shares, European countries having the lowest, and the United States in between. Cross-regional variation in SEOs is smaller than in IPOs, although European countries still exhibit the lowest proportion of primary shares.

To examine the effect of equity offerings on investment, we next consider a variety of alternative accounting variables designed to capture the uses of the capital raised in the IPOs and SEOs. While it is almost definitional that new capital into the firm has to show up somewhere on the books, there are a number of alternative possible uses for the capital. We examine increases in total assets, inventory, capital expenditures, acquisitions, R&D, cash, and long-term debt reduction. We measure the increases in each variable over a variety of time intervals, ranging from one year to four years, and compare them across the types of shares being offered.

² Existing theoretical models on IPOs do not seem to incorporate the two types of shares simultaneously. For example, Chemmanur and Fulghieri(1999)'s model considers sale of primary shares to fund a new investment project, while Zingales(1995) and Mello and Parsons(1998) focus on the sale of secondary shares and does not model new investment and production activity.

Univariate statistics on changes in these variables following IPOs indicate that primary only offerings have the highest increases in most of the variables, followed by combined offerings and secondary only offerings. Moreover, the magnitude of primary issues is significantly correlated with increases in capital expenditure, R&D expenditure and cash holdings up to four years after the IPO. In contrast, the value of the secondary offerings is not related to these variables in most cases.

We next formally estimate the increase in the accounting variables that represent possible uses of the capital raised following IPOs. In doing so, we control econometrically for other sources of funds, firm size, as well as year and country fixed effects. The largest increase is for cash holdings; for every dollar raised in the IPO, cash holdings rise by 1.067 cents in the year after the IPO. This decreases to 88.8 cents over a four-year period after the IPO as the money is spent on various projects. The largest expenditures appear to be on R&D and capital expenditures, which increase by 18.8 cents and 7.3 cents respectively per dollar raised in the year following the IPO, and by 84.8 cents and 14.3 cents over a four-year period. These results are consistent with the investment financing motivations for the equity offer and suggest that capital raising is a lumpy process, so that firms raise capital and spend it over a relatively long period of time.

We estimate similar equations predicting the uses of funds on the sample of SEOs. As for IPOs, there are substantial and statistically significant increases in investments, including R&D, capital expenditures, acquisitions and inventory. This finding suggests that one motivation for SEOs is to raise capital for investments. In addition, firms appear to save a substantial fraction of cash raised in SEOs, which declines somewhat as the time horizon gets longer. This high savings rate could reflect firms' issuing equity when their stock price is high, even if they do not have unusually good investment opportunities.

Finally, we explore the extent of market timing motivations in a more direct manner by relating Tobin's q with the issuance and investment decisions in SEOs. First, we examine how the fraction of types of shares sold in an SEO is affected by potential mispricing. If firms sell shares because the stock price is particularly high, we expect that self-interested managers would sell a higher fraction of their

personal shares through a secondary offering. In contrast, if we observe a firm issuing equity at times when the price is relatively low, then we would expect a higher proportion of shares sold to be primary. We find that, controlling for other factors, a higher abnormal valuation proxied by Tobin's q or residuals from a first-stage regression of q on fundamentals implies a higher fraction of secondary shares in the offering. These results are consistent with market timing stories; when equity values, reflected by q , are high, managers are more likely to sell their own shares in a secondary offering so that they can benefit personally.

We also examine whether the sensitivity of investment to primary capital raised in SEOs varies according to the level of Tobin's q . We do so because SEOs done to take advantage of high valuation should occur in firms with relatively high q 's. To the extent that these SEOs do provide additional capital, the new funds should be more likely to be kept as cash. However, when the purpose of the SEO is to provide capital for investments, we expect to see more of the money raised to be used to pay for these investments. Consistent with this intuition, we find that following an SEO, firms with low Tobin's q 's spend relatively more on capital expenditures and long term debt reductions than firms with high q 's. In contrast, firms with high q tend to keep more cash from a marginal dollar raised than do low q firms. These findings suggest that when firms with low q 's do seasoned offerings, the purpose of these offerings is to fund investments, while firms with high q 's are more likely to do seasoned offerings to take advantage of their higher valuation.

Overall, the results suggest that equity offerings are done both to raise capital for investment and to exploit favorable market conditions. Firms sometimes issue public equity to take advantage of a hot market. When they do so they are more likely to use secondary offerings so that they can profit personally or if they do issue primary shares, then they tend to keep the proceeds as cash. However, firms also issue equity when stock prices are less favorable. In these cases, the offerings are more likely to be composed of primary shares and they tend to use the funds they raise to finance R&D, to purchase inventory, to make capital expenditures and to reduce long-term debt.

The remainder of the paper is organized as follows: Section I describes our data sources and our sample. Section II provides the distribution of primary and secondary shares offered in IPOs and SEOs across the 38 countries. Section III presents the averages of subsequent increases in assets and expenditures for each of the three IPOs offer types and estimates the relation between the capital raised and increases in investments. Section IV estimates similar equations examining the relation between capital raised and increases in investment for SEOs. Section V reports the relation between Tobin's q of the firm doing the offering and the proportion of secondary shares in the offering. It also presents results indicating how the valuation, reflected by q , affects the use of these proceeds. Section VI is a short conclusion.

I. Data Sources and Sample Description

A. Data Sources

We obtain our IPO and SEO data from SDC Global New Issues Database. This database provides information on total proceeds and the number of primary and secondary shares offered for each IPO and SEO. WorldScope provides the accounting data for our sample of equity offers. We augment WorldScope with Standard and Poor's Xpressfeed, which provides U.S. and international data comparable to Compustat. SDC has very limited coverage for non-U.S. offers prior to 1990, so we set our sample period to be from January 1990 to December 2003.

From all IPOs reported in SDC, we first eliminate those observations that do not contain information on the total number of shares sold or the breakdown of these shares into primary and secondary shares. We also exclude IPOs where the reported value of proceeds is inconsistent with the offer price and the number of shares sold by more than \$5 million. A total of 2,301 IPOs and 7,090 SEOs were dropped using these initial filters. Since our focus is on public equity offers, we additionally

exclude all private placements and rights offerings (16,415 SEOs).³ We then exclude the following firms from our sample:

- (a) All utilities (3 digit SIC's from 491 to 494) : 250 IPOs, 508 SEOs
- (b) All financials(1 digit SIC 6) : 5,057 IPOs, 3,858 SEOs
- (c) All privatizations: 173 IPOs, 160 SEOs.⁴
- (d) All telecoms(2 digit SIC 48): 655 IPOs⁵, 682 SEOs
- (e) All transition economies: 1,117 IPOs, 164 SEOs from China, Hungary, Poland and Russia
- (f) All nations with fewer than 10 IPO's during the sample period: 89 IPOs from 32 countries, 338 SEOs from 45 countries

These requirements are imposed to identify a sample of non-regulated private firms that issue publicly-traded equity.⁶ After applying these filters, we end up with a sample of 16,958 IPOs and 12,373 SEOs from 38 countries, each occurring between 1990 and 2003.⁷

B. Equity Issues Around the World

Table I presents descriptive statistics on our sample. Panels A-1 and A-2 present the number of IPOs and SEOs across different regions over time while Panels B-1 and B-2 report the total value of proceeds raised in IPOs and SEOs, respectively. The U.S. is by far the largest IPO market in our sample, accounting for 27% of all IPOs in terms of numbers and 45% in terms of total proceeds.⁸ European IPOs are somewhat modest both in numbers and value in the early 1990s, but start to pick up in the mid 1990s and surpass the U.S. in the total number of IPOs by the late 1990s. Asian IPOs peak in the mid 1990s and then drop significantly in 1998-99 after the financial crisis of 1997. Although Asian IPOs comprise 37%

³ Forty percent of private placements and rights offerings are from Australia. These offerings tend to be very small.

⁴ The privatizations are identified from Boutchkova and Megginson (2000), Belke and Schneider (2003), and *Hoover's Online*. For all IPOs which raised more than \$100 million that are not identified as privatizations in the previous two papers, we manually checked *Hoover's Online* to verify whether the IPO was a privatization or not. For those IPOs that were not identified on *Hoover's Online*, we checked the company's website if it had one as of June 2004. Subsequent SEOs by these firms are also excluded from the sample.

⁵ Telecoms are similar to utilities in terms of regulations, and many of them also overlap with privatizations.

⁶ Concurrent issues both in domestic market and in foreign market in the form of ADRs or direct cross listings are counted as one issue, and the total proceeds and the number of shares are aggregated after adjusting for differences in currencies.

⁷ Roughly two-thirds of the IPOs and half of the SEOs do not have accounting information just prior to the issue, partly because our accounting data stops at 2001.

⁸ The amount raised through ADRs is included in the country of origin rather than in the U.S. Canadian domestic IPOs from 1990 to 1992 are all dropped according to the initial filter, and their coverage stops at 2001 in our dataset.

in terms of numbers, they only account for 12% of the total proceeds, implying that Asian IPOs are generally smaller on average than other IPOs.⁹

The cross-regional pattern for SEOs is somewhat similar to IPOs. The U.S. is the largest issuer, with 37% of the issues and 49% of the proceeds. Other regions are noticeably smaller, with none accounting for more than 20% of the total issues or proceeds. Unlike the IPO time series, SEOs continue both in U.S. and also worldwide, even after the market decline in 2000, with the total number remaining fairly constant at close to one thousand per year. The proceeds raised in the SEOs decline with the stock market after 2000, so that the amount in 2003 is only 40% of 2000. However, the magnitude of the decline is proportionately smaller compared to IPOs, where the proceeds in 2003 is less than a quarter of 2000. This time-series pattern suggests that IPOs may be more sensitive to market valuations than SEOs.

II. Primary vs. Secondary Offers

Equity offers vary along a number of dimensions, an important one of which is the type of shares being sold to the public. Firms have a choice of selling new, ‘primary’ shares, or existing, ‘secondary’ shares. A primary offering increases the number of shares outstanding and raises capital for the firm, while secondary offerings keep the number of shares outstanding constant and has no revenue consequences to the firm. A third type of offering is a combination of the two, selling some new shares and some previously-owned shares.

Table II presents statistics on the three types of equity offers in our sample. Panels A-1 and A-2 report the number of IPOs and SEOs that belong in each of the three categories, while Panels B-1 and B-2 present total proceeds from each type.¹⁰ Panels B-1 and B-2 also separate combined offerings into primary shares and secondary shares and report the proceeds for each type within the combined category. Clearly, primary offerings are the most common, comprising 76.2% of IPOs and 60.7% of SEOs. Pure secondary offerings are relatively uncommon especially for IPOs, accounting for only 1.7% of IPOs and

⁹ Almost 60% of Asian IPOs are from India, and Indian IPOs tend to be very small. The median value of proceeds in India is only US\$ 0.7 million, compared to the global median of US\$30 million.

¹⁰ The detailed breakdown by each country is provided in the Table I of the Appendix.

18.7% of SEOs, while the remaining 22.2% of IPOs and 20.7% of SEOs are combinations of primary and secondary offerings. We can infer the total value raised from primary shares and secondary shares respectively by separating out the proceeds from the combined category into those raised from primary shares and those raised from secondary shares and adding them back into proceeds from primary only and secondary only offerings. The last five columns of panels B-1 and B-2 in Table II present these calculations.

Overall, 79% of the total proceeds in IPOs are comprised of new capital raised through primary shares. However, there are distinct cross-regional variations. Other than Japan, Asian IPOs tend to offer mostly primary shares, with primary offerings accounting for more than 95% of the proceeds of the IPOs. In contrast, European IPOs exhibit relatively higher percentages of secondary only (12.8% of the proceeds) and combined offerings (33.5%), and lower percentage of primary only offerings (53.8%). These differences could potentially reflect differences in the institutional environment and are consistent with the high rate of secondary offerings in Europe that has been documented elsewhere. In the Pagano, Panetta, and Zingales (1998) sample, for example, only 41% were primary-only offerings and 49% were secondary-only. Similarly, Jenkinson and Ljungqvist (2001) report that 67% of IPOs in Portugal and 23% in Germany were entirely secondary in the 1980s and early 1990s. In addition, Jenkinson and Ljungqvist report that European IPOs have begun using a higher proportion of primary offerings since the early 1990s. Both the fact that Europe has traditionally had a high proportion of secondary offerings, as well as the recent change towards primary offerings within Europe, suggest that perhaps the conclusions of Pagano, Panetta, and Zingales (1998) should be reexamined, since that study contains only 69 IPOs from one European country in the 1980s.

For SEOs, the proportion of primary shares is relatively smaller than in IPOs, accounting for 58% of the total proceeds. Unlike IPOs, cross-regional differences seem to be less apparent, although European SEOs still exhibit the lowest proportion of primary shares. For the U.S., the breakdown is

broadly consistent with the numbers reported in Asquith and Mullins (1986) for an earlier time period.¹¹ At first, the pattern of seasoned offerings containing more secondary issues may seem counterintuitive since the insiders in a publicly traded firm can sell their shares directly in the open market. However, regulations regarding the disclosure of insider trading restrict insiders from selling freely in the market, leading them to resort to SEOs for selling their secondary shares.

III. Investment Financing as a Motivation for Initial Public Offerings

Going public is generally considered a watershed moment in a firm's history, being associated with a number of important changes. Once a firm is publicly-traded, there is a market in which executives and other insiders can sell their shares. In addition, the firm can raise capital in public equity (and possibly debt) markets, and the firm faces increased disclosure and regulatory requirements. Yet, one possible explanation for going public that is sometimes overlooked is the capital that is raised at the time of the issue.

One empirical study examining the motives for IPOs is Pagano, Panetta, and Zingales (1998). These authors find that in their sample of Italian IPOs from the 1980s, investments do not increase following the IPO, suggesting that demand for capital is *not* a major reason for going public. The extent to which these findings extend to a broader sample of firms in other countries in other time periods is clearly of interest.

A. Univariate Analysis of Increases in Investments across IPO Offer Types

A clear prediction of the hypothesis that firms issue equity to raise capital for investments is that investments should be larger for firms raising capital through an equity issue than they would have been had the firms not done the equity issue. We do not, of course, know what firms' investments would have been had they not raised capital. We do, however, have a sample of firms that did secondary equity issues that were not associated with capital raising, because the revenues from those sales do not belong to the

¹¹ Asquith and Mullins (1986) report that out of 266 SEOs by U.S. industrial firms from 1963 to 1981, 48% were primary only, 32% were secondary only, and 20% were combined offerings. In our U.S. subsample, primary-only SEOs comprise 46% of the sample, secondary-only SEOs 14%, and combined offers 40%.

firm. We expect investments to increase more for firms that do primary issues than those doing secondary issues, with combined issues in between. We first compare univariate statistics on possible uses of funds for firms doing alternative types of equity offers. Subsequently, we estimate econometrically the expected use of incremental dollars raised in equity offerings.

We measure changes in seven accounting variables, each of which captures a potential use of the funds raised. In particular, we consider changes in total assets, inventory, capital expenditure, acquisition, R&D, and cash, as well as reductions in long-term debt.¹² The first five variables are meant to capture possible ways in which the capital could be invested in real assets, while changes in cash holdings and reductions in long-term debt measure possible uses of the funds other than direct investment. To minimize the impact of outliers, we focus on a logarithmic transformation of each variable. For balance sheet items (total assets, inventory, and cash), we calculate the log of one plus the change in each variable normalized by total assets prior to the IPO: $\ln[(V_t - V_0)/\text{total assets}_0 + 1]$, where V is the variable being measured, year 0 is the fiscal year end just prior to the IPO and year t is number of years after year 0. For income statement and cash flow statement items (capital expenditure, acquisition, R&D and reduction in long-term debt), we consider the log of one plus the accumulation in each variable since the IPO, normalized by total assets prior to the IPO: $\ln[(\sum_{i=1}^t V_i)/\text{total assets}_0 + 1]$.

Table III reports the means and medians of this normalized increase for each variable, broken down by offer type. This table computes the changes for periods between one year and four years in length. It also presents t-statistics for comparisons of means between the primary-only and combined groups, and between the combined and secondary-only groups, as well as the Mann-Whitney z-statistic for comparison of medians.

We consider differences between offer types to examine the linkage between new, primary capital coming into the firm, and increases in subsequent investment. The numbers in Table III indicate that except for a few cases, increases are the largest in the primary-only group, followed by the combined

¹² Capital expenditures, acquisitions and reduction in long-term debt are directly taken from the cash flow statement, and reflect cash outflows from investing and financing activities.

group. IPOs that only offer secondary shares exhibit the lowest increases in most cases. Moreover, the differences in increases of these variables between IPO offer types are generally statistically significant.

The correlation between IPO type and the increases in total assets probably reflects that primary offers are used at the fastest growing firms. Firms that are growing the fastest are likely to have the greatest demand for external capital, to pay for both direct investments and indirect investments.

While the correlation between increase in total assets and IPO type could come through a number of channels, the correlation between the increases in the investment variables (inventory, capital expenditures, acquisitions, and research and development) and the type of IPO provides more direct evidence. In particular, it seems likely that firms increasing investments most rapidly have the greatest demand for capital, and thus choose to issue primary shares when they go public. A desire to fund investments in inventory, capital expenditures, acquisitions and research and development could lead some firms to go public. In contrast, firms that go public to allow managers to cash out through secondary offers will have, on average, a lower demand for capital. As a result, we could observe the pattern documented in Table III, in which primary offers are associated with higher increases in investment than secondary offers.

Increases in cash could be due to firm's motivations to enhance financial flexibility independent of the valuation in the market or it could be a result of active market timing efforts without investment opportunities as suggested by Greenwood (2005). We attempt to distinguish between these two possibilities in Section V.

In summary, the differences in normalized increases in the seven variables across different types of IPO offerings for various horizons suggest that the firms in each group might have different motivations for going public. Firms issuing primary shares appear to use the capital both to increase investment, and to increase financial flexibility, presumably to be able to fund future investments.

Yet, while these comparisons are suggestive, they omit at least four potentially important considerations. First, Table II documents that type of IPO is highly correlated with the place of issue and accounting variables are likely to be so as well, for no other reason than the fact that accounting is done

differently in different countries. Second, Jenkinson and Ljungqvist (2001) suggest that there has been a secular trend towards primary issues at least in Europe, which should be controlled for econometrically. Third, the univariate comparisons make no use of the quantity of equity that is issued, which certainly could affect the use of the funds. Finally, we do not consider differences within the ‘combined’ category; presumably a firm that issues 99% primary shares and 1% secondary is different from one that issues 99% secondary and 1% primary. We next consider the normalized increases in our accounting variables in a multivariate setting, controlling for these factors.

B. Multivariate Analysis of Changes in Accounting Variables across IPO Offer Types

To estimate the uses of the capital raised in the equity offering, we rely on a specification that allows primary capital from the equity offering, secondary capital from the equity offering, and other sources of funds to enter the specification separately. We normalize each by total assets and take the log of one plus the normalized cash flow as a way of minimizing the effect of outliers.¹³ We also include the log of total assets as a control for size and fixed effects for year and country, and use heteroscedasticity-consistent standard errors clustered by two-digit SIC industry.¹⁴ For each of seven possible uses of the capital raised, we estimate:

$$(1) \quad Y = \beta_1 \ln \left[\left(\frac{\text{primary capital}}{\text{total assets}_0} \right) + 1 \right] + \beta_2 \ln \left[\left(\frac{\text{secondary capital}}{\text{total assets}_0} \right) + 1 \right] + \beta_3 \ln \left[\left(\frac{\text{other sources}}{\text{total assets}_0} \right) + 1 \right] \\ + \beta_4 \ln [\text{total assets}_0] + \sum_{i=1990}^{2001} \theta_i \text{year_dummy} + \sum_{j=1}^{38} \lambda_j \text{country_dummy} + \varepsilon$$

where $Y = \ln[(V_t - V_0)/\text{total assets}_0 + 1]$ for $V =$ total assets, inventory or cash, and

$$= \ln[(\sum_{i=1}^t V_i / \text{total assets}_0) + 1] \text{ for } V = \text{capital expenditure, acquisition, R\&D}$$

or reduction in LT debt

$$\text{other sources} = \ln[(\sum_{i=1}^t (\text{total sources of funds}_i - \text{primary capital}) / \text{total assets}_0) + 1]$$

¹³ We also repeat the analysis without the log transformation using the quantile (median) regression approach. The results are similar to the logarithmic results discussed below.

¹⁴ We exclude those IPOs where the value of the total asset prior to the IPO is less than 5% of the total proceeds (2.9% of the sample) from the following regressions. Including these IPOs in the regressions yields similar results.

and $t = 1, 2, 3, 4$ years after the IPO. Total sources of funds include internally generated cash flows from the firm's continuing operations as well as other sources of funds from investment and financing activities.^{15 16}

Table IV presents estimates of Equation (1), omitting the country and year fixed effects as well as the coefficient on total assets for the sake of brevity. The coefficients on primary capital raised in the IPO and on other sources of capital are mostly positive and significantly different from zero. In contrast, the coefficients on the value of secondary shares sold are generally small and statistically insignificant from zero. While it is not surprising that the coefficients on secondary capital sales are zero given that the revenues from these sales do not belong to the firm, they do suggest that the results are picking up a true, rather than a spurious relation between new capital and investment.

Comparing the coefficients between those on new capital from the equity offering with those from other sources of capital, which is primarily internally-generated, makes it possible to draw inferences about the underlying reasons for the equity offering. In other words, differences in coefficients are likely to reflect differences in propensities to use alternative sources of capital for alternative uses. The results in Table IV indicate that the coefficients on primary capital raised in equity offerings are substantially larger than the corresponding coefficients for the other sources of capital for two years in the equations estimating the changes in capital expenditures and up to four years in R&D, and cash. These findings suggest that the funds raised in an IPO are more likely to be used for investments in new capital and research. In addition, the coefficients on changes in cash holdings suggest that new capital raised is more likely to be saved as cash than are internally generated funds.

In contrast, the coefficients on acquisitions and on long-term debt reductions are larger on internally-generated capital than on new capital. This pattern indicates debt reductions and acquisitions

¹⁵ Specifically, total sources of funds is the sum of funds from operations, sale of property, plant and equipment, long term debt issuances, and sale of common and preferred stock. This variable is available In WorldScope. In Compustat Xpressfeed, this variable needs to be constructed from the component variables.

¹⁶ We have also estimated this equations including firm age as another independent variable with similar results. This variable is only available for approximately 1/3 of the sample, so we choose to report the results without this variable in the equation.

are more likely to be paid for by internally-generated than new capital. This result differ from Pagano, Panetta, and Zingales (1998), who suggest that capital raised in IPOs tends to be used to pay off long-term debt. Overall, the comparisons between the estimated uses of internally-generated and new capital are consistent with the view that capital raised in IPOs is used to fund new investments.

There is a consistent pattern between the coefficients for the equations representing different time horizons used in computing the dependent variables. For the equations representing changes in expenditures on inventory, capital expenditures, acquisitions and R&D, the coefficients on primary capital are generally increasing over time. This pattern suggests that the capital raised is not used all at once but rather partially saved and used in the future. Consistent with this pattern is the fact that the corresponding coefficients on changes in cash holdings have the opposite pattern. These coefficients decrease with the time horizon of the dependent variables, suggesting that firms initially hold the capital as cash and pay it down over time.

A useful way to compare the effects of new capital across different uses is to calculate from each equation the change in the accounting variable implied from a dollar increase in new capital. This value provides a consistent way of comparing the relative importance of alternative uses of the cash raised.¹⁷ We also report the implied changes from a dollar increase in other sources as a benchmark. The results of these calculations are also presented in Table IV. For the total assets variable, the implied change from a dollar increase in primary capital is close to one for one year after the IPO, which is not surprising since the book value of assets mechanically increases dollar for dollar whenever new capital is raised.¹⁸ Nonetheless, the fact that the implied change in assets for a dollar raised is close to a dollar suggests that the specification we use is picking up real rather than spurious effects.

¹⁷ The calculations are based on a median-sized firm in 1996 in US. For example, the dollar changes in inventory for $t = 1$ is calculated as follows: Median primary capital is 24, median secondary capital is 0, median total sources is 33.9 and median total assets prior to IPO are 24.4. (All units are in \$US mil). Using these inputs together with coefficients from table IV yields 0.00742 as the predicted value of the log transformation, implying a predicted change of 0.182 in inventory. Then we add one to median primary capital and repeat the above procedure, which results in a predicted change of 0.199 in inventory. The difference in the two predicted changes represents the dollar changes in inventory for 1 unit increase in primary capital, which is given by 0.017.

¹⁸ If some of the new capital were used to pay off debt, then increase in total assets may be less than one for one.

For the other variables, the implied change per dollar raised is the largest for the change in cash holdings. These estimates imply that a large fraction of each dollar raised is kept in cash holdings; in year one, firms hold 106.7 cents in cash for every dollar they raise, decreasing over time to 88.8 cents when changes are computed over four years. While the numbers are somewhat difficult to take literally, as the model predicts that the expected change in spending is more than \$1 for every dollar raised, they do suggest that firms keep a substantial fraction of the funds raised as cash, for at least four years after the IPO. This finding is consistent with the view that one of the motivations for going public could be to time the market so as to take advantage of a high valuation.

In contrast, implied changes in investment variables increase over time. In the first year after the IPO, it implies that for every dollar raised, R&D increases by 18.8 cents, capital expenditures by 7.3 cents, inventory by 1.7 cents, and acquisitions by 2.9 cents. Over a three-year horizon, R&D rises by 64.6 cents, capital expenditures by 17.9 cents, inventory by 2.2 cents, and acquisitions by 3.8 cents. This effect is likely due to firms spending cash acquired in the IPO over a several year time period. The relative use of the funds seems clear; by far the largest fraction of money raised in the IPO is used to fund R&D and capital expenditures, although firms still hold on to much of the cash they raised. A much smaller fraction is used to increase inventories and engage in acquisitions. Moreover, implied changes incurred by a dollar increase in internally-generated capital are generally smaller than those incurred by new capital, except for acquisitions and debt reduction. All these results are consistent with the demand for an infusion of new capital to fund investments being an important motivation for IPOs.

IV. Capital-Raising as a Motivation for Seasoned Equity Offers

Equity is also issued in seasoned equity offers by firms that are already publicly-traded. Potential motivations for these offers have been much discussed in the corporate finance literature. The tradeoff theory suggests that firms should issue equity to fund investments when their leverage ratio is higher than their target ratio, while the pecking order theory predicts that when equity offers occur, they will be used to fund investments as a last source of financing. In contrast, market-timing arguments predict that firms

will issue equity to take advantage of high stock prices. These arguments are not mutually inconsistent; it is likely that some equity offers could occur for each reason. It is even possible that overvaluation could *cause* additional investment, as is suggested in the model of Shleifer and Vishny (2003).¹⁹

Yet, there has been little empirical work documenting the extent to which demand for investment and mispricing can explain why firms issue equity. More specifically, if equity offerings are used to fund investments, we do not know which type of investments they typically fund, and which tend to be funded from internally-generated capital. This section applies the methods discussed above for IPOs to a large sample of SEOs with the goal of addressing these questions.

A. Univariate Analysis of Increases in Investments across SEO Offer Types

Table V presents the means and medians of normalized increases for the seven accounting variables, broken down by SEO offer type. For each category, the secondary-only offerings coincide with the significantly smaller growth rates for each of the seven variables than either primary or combined offers. This pattern is consistent with the primary offerings raising capital for investments, as well as to increase liquidity through increasing cash and decreasing long-term debt. Perhaps surprisingly, the combined offerings tend to have larger growth rates than the primary-only ones for each variable except R&D. This difference is potentially due to a failure of the univariate statistics to control adequately for other factors. We next attempt to control for such factors in a multivariate setting.

B. Multivariate Analysis of Changes in Accounting Variables across SEO Offer Types

Table VI presents estimates of an equation predicting changes in each of the seven accounting variables following SEOs, using the specification presented in Equation (1). As with IPOs, the specification includes primary and secondary capital separately, funds from other sources of capital, as well as a control for firm size and dummies for country and year.

The results for SEOs are similar to IPOs in two respects. First, the value of primary issues is positively correlated with most of the variables except for debt reduction, whereas proceeds from secondary shares are mostly unrelated to these variables. Second, proceeds from primary capital are

¹⁹ These authors focus their discussion on mergers, but the same argument could be applied to any investment.

mainly used in R&D and held as cash, while internally generated capital is used for acquisitions and debt reductions.

However, the effect of fresh capital on cash holdings seems to be substantially smaller in SEOs than in IPOs. For example, in Table VI, the change in cash holdings implied by a dollar increase in primary capital in SEO is 62.1 cents for year one and 46.8 cents for year four. In comparison, the corresponding implied changes for IPOs from Table IV are 106.7 cents and 88.8 cents. This difference suggests that market timing motivations may be more apparent in IPOs than in SEOs, consistent with the time series evidence reported in Table I.

The implied increase following a dollar increase in other sources of funds is the largest for reductions in long-term debt. Moreover, the implied increase in long-term debt reduction incurred for a marginal dollar of internally generated funds is much larger than that incurred by a marginal dollar raised in a seasoned equity offering. This pattern is broadly consistent with Pulvino and Tarhan (2003), who show that a dollar increase in internally generated cash flows has larger effect on debt reduction than on increases in investment.

V. Market Timing as a Motivation for Seasoned Equity Offers

In the previous two sections, we have argued that demand for capital for investments appears to be an important motivation for issuing public equity. We also documented that equity-issuing firms hold on to cash they raise for some time, especially after the IPOs, consistent with these firms timing the market. In this section, we examine this possibility in a more direct manner by relating Tobin's q to the proportion of secondary shares sold in SEOs and the sensitivity of investment to primary shares. We restrict the tests in this section to SEOs since the tests require information on Tobin's q prior to the equity offering.

A. Tobin's q and the Proportion of Secondary Shares Offered

The distinction between primary and secondary sales of equity makes it possible to examine alternative theories of equity issuance. Primary share issuance should be observed when the firm has a

demand for capital, while secondary issuances should coincide with a high demand on the part of the managers for liquidity.²⁰ In addition, if a firm's stock is overvalued, Baker and Wurgler (2000) argue that managers have incentives to issue more of it, while if the stock is undervalued, managers will, at least at the margin, choose sources of financing other than equity.²¹

The Baker and Wurgler argument also has predictions for the type of equity offering. If a firm is issuing equity because managers feel the stock is overvalued, then the difference between the current stock price and true value represents rents transferred from investors to the selling shareholders. In primary issues, these rents are shared by all shareholders; however, when the firm issues secondary shares, they are kept by the selling shareholders. Since managers themselves presumably are one of the selling shareholders, we expect to observe the fraction of shares made up of secondary shares to be higher when the motivation for the sale is that the stock is overvalued.

We now examine this hypothesis empirically. As a measure of valuation, we rely on Tobin's q , estimated by the book value of assets minus book value of equity plus market value equity over the book value of assets as of the closest fiscal year end prior to the SEO announcement. However, there are likely to be factors that cause rational deviations of observed q from 1. For example, the presence of intangible assets, or a book value of assets that substantially deviates from its market value can affect q , even if the market values the firm correctly. We follow Blanchard, Rhee, and Summers (1993) and estimate an equation predicting expected q as a function of a number of accounting variables.

One statistical issue when estimating q cross-sectionally is that q is bounded below by 0, but not bounded above. Thus if we were to use q as the dependent variable, the residuals would likely be skewed and not normally distributed. In addition, the regression coefficients would in large part be determined by

²⁰ Information on the identity of the seller of secondary shares is only available for about 20% of the sample. In what follows, we are assuming that at least some of the shares sold belong to the firm's managers.

²¹ Baker and Wurgler (2000) is only one of a number of studies supporting this view. Perhaps the most telling piece of evidence is that in their survey of CFOs of public corporations, Graham and Harvey (2001) find that two-thirds identify the amount to which their stock is overvalued or undervalued as an important consideration in the decision to issue equity. See Baker, Ruback, and Wurgler (2004) for a survey and discussion of this literature.

a few observations with very large q 's. As a partial correction for this problem, we use the log of q rather than its level as the dependent variable in the first-stage regression. We estimate the following model:

$$\ln[Q_i] = \alpha + \sum_{t=3}^{-1} \beta_t \left(\frac{sales_{it}}{asset_{it}} \right) + \sum_{t=3}^{-1} \gamma_t \left(\frac{sales_{it}}{sales_{i(t-1)}} \right) + \sum_{t=3}^{-1} \delta_t \left(\frac{op.income_{it}}{asset_{it}} \right) + \sum_{t=3}^{-1} \phi_t \left(\frac{dividend_{it}}{price_{it}} \right) + \sum_{t=3}^{-1} \lambda_t \left(\frac{R \& D_{it}}{asset_{it}} \right) + \varepsilon_i$$

The estimation results are given by;

$$\begin{aligned} &= 0.51 - 0.24(s/a)_{.1} + 0.14(s/a)_{.2} + 0.10(s/a)_{.3} + 0.09(s_1/s_2) + 0.01(s_2/s_3) + 0.14(s_3/s_4) + 0.22(i/a)_{.1} + 0.29(i/a)_{.2} \\ &\quad (11.39) \quad (-3.66) \quad (1.54) \quad (1.27) \quad (1.40) \quad (0.25) \quad (3.69) \quad (1.08) \quad (1.12) \\ &+ 0.22(i/a)_{.3} - 6.70(d/p)_{.1} - 1.10(d/p)_{.2} - 0.07(d/p)_{.3} + 0.28(R\&D/a)_{.1} + 1.55(R\&D/a)_{.2} + 1.28(R\&D/a)_{.3} \\ &\quad (0.63) \quad (-6.27) \quad (-1.44) \quad (-1.41) \quad (1.51) \quad (3.37) \quad (2.87) \end{aligned}$$

where t-stats for each coefficient is reported in the parenthesis with an R^2 value of 0.348.

Fitted values from this regression represent estimates of expected log q 's, conditional on the factors in the regression specification. Residuals from this regression come from a number of sources, including model misspecification. However, one important factor that will make up the regression residual is any potential misvaluation of the security. Therefore, the residual from this regression is a potential proxy for the level of overvaluation or undervaluation of the stock.

Table VII reports the results from regressing the proportion of secondary shares offered in SEOs on fitted values of $\ln[q]$ and residual $\ln[q]$ as well as the raw $\ln[q]$. In the first four columns, the main regressors are raw $\ln[q]$. Because raw q can also reflect rational valuations, we also regress the proportion of secondary shares on the fitted $\ln[q]$ and residual $\ln[q]$ from the first stage regression in columns (5) and (6). Columns (1) and (2) use the full sample that has information on q , while in columns (3) and (4), the observations are restricted to be the same as in columns (5) and (6) where we require enough information for the first stage estimation. Country and year fixed effects are included in all specifications.

The results in Table VII indicate that the proportion of secondary shares is positively and significantly related to both $\ln[q]$ and to the residuals from the first-stage regression. This finding appears to be robust to choice of specification and is consistent with the view that firms are more likely to issue

secondary shares when their shares are relatively overvalued. Presumably, when stocks are overvalued, insiders take advantage of the valuation and sell their shares in a secondary offering.

B. Tobin's q and Cross Sectional Difference in Sensitivity of Investments to Fresh Capital

In addition to the *type* of offering, high valuations potentially affect the *use* of the proceeds from the offering. To the extent that high valuations lead to equity offerings because of mispricing, we expect the proceeds to be kept as cash or other liquid assets. Alternatively, if high valuations reflected by q 's occur because of high investment opportunities, then we would expect the proceeds of equity offerings from high q firms to be used primarily to fund investments.

To test this hypothesis, we first sort the sample of by q in each country, and divide each country into three equal-sized terciles. We then interact dummies indicating whether the firm is in the high q group, the medium q group, or the low q group with alternative sources of capital; proceeds raised from primary shares and internally generated capital. The resulting estimates of this equation are presented in Table VIII. Panel A contains coefficient estimates and t-statistics and Panel B reports the implied changes in the dependent variables when primary capital or other sources of funds is increased by a dollar. Panel B also provides p-values from comparing coefficients between primary capital and other sources as well as between low q firms and high q firms. As before, all regressions include country and year fixed effects as well as $\ln[\text{total assets}]$ and dummies for low q and high q firms, which are omitted for the sake of brevity.

The results from Table VIII indicate that the effect of primary capital on subsequent investment varies according to the level of q prior to the SEO. Firms with low q 's are more likely to use the funds they raised in increasing inventory, capital expenditures, acquisitions and reducing long-term debt compared to high q firms. In contrast, firms with high q 's are more likely to hold on to the cash they raised than low q firms. These differences between high q firms and low q firms are mostly significant for capital expenditures, debt reduction and cash holdings. For example, the implied increase in capital expenditures by increasing primary capital by a dollar is 22.6 cents for low q firms but only 3.6 cents for high q firms in the first year after the SEO. Over time this increases to 67.9 cents for low q firms but only

up to 16.4 cents for high q firms. On the other hand, cash holdings increase by 38.2 cents for low q firms but up to 56.4 cents for high q firms in the first year after the SEO. Over 4 years this decreases to 23.1 cents for low q firms and 42.0 cents for high q firms, still almost twice as much as the low q firms.

These results suggest that the relative importance of market timing versus raising capital for investment depends on the firm level Tobin's q 's. High q firms appear to be more focused on timing the market, whereas low q firms seem to be issuing seasoned equities to meet their demand for capital. This finding also suggests that our estimate of q reflects valuation rather than investment opportunities, since high q firms are less likely to invest out of marginal funds than are low q firms.²²

V. Conclusion

Public equity offerings are one of the most visible and most studied events in finance. Yet, the basic question of why firms issue publicly-traded equity has received relatively little attention from the empirical literature. We provide some evidence on this question, using a sample of 16,958 IPOs and 12,373 SEOs from 38 countries. We estimate the actual use of the funds raised in both initial and seasoned offers. In doing so, we control explicitly for the type of shares issued. We also consider how a measure of the firms' over or undervaluation affects the issuance, both in terms of the types of shares issued and the use of the proceeds.

Our results suggest that equity offers are used both to raise capital to finance investment, and also to time equity markets to take advantage of high valuations. Our estimates indicate that new capital raised in equity offerings is used to finance investments. They imply that R&D expenditures increase by 19 cents for a marginal dollar of capital raised in the first year following an IPO, and by 17 cents per marginal dollar raised in the first year following an SEO. These figures increase to 85 cents per dollar raised if the changes are computed over the four-year period following IPOs and 54 cents for the four-year period following SEOs. We find similar relation, albeit smaller, for capital expenditures. These

²² Lian (2005) finds that SEO firms with intense insider trading prior to the issuance do not invest more but keep the extra money in cash balances for years. This finding suggests that both the insider trades and the equity offerings are motivated by the same thing, most likely high firm valuations.

estimated expenditures are substantially, and statistically significantly, larger than the comparable numbers for a marginal dollar of internally-generated cash. They strongly suggest that one motive behind the equity offer is to raise capital to finance this investment.

We also find evidence consistent with the view that some equity offers are made to take advantage of high valuations. Firms keep much of the money they raise in the equity offer as cash in the firm; this fraction is substantially higher when the firm has a high value of Tobin's q , indicating that it is potentially overvalued. In contrast, expenditures on investments are higher for low q firms than for high q firms. In addition, SEOs done by firms with high value of q tend to have a higher fraction of secondary shares, suggesting that insiders are taking advantage of the high valuation to sell some of their shares. Overall, these results are consistent with view in which equity offers are sometimes used to finance investment, and sometimes, when a firm is valued very highly by the market, to exploit the high valuation both for the shareholders' and managers' benefits.

The ability of equity markets to provide financing for firms outside the U.S. and the U.K. has been widely questioned (see La Porta et al. (1997)). Yet, we find that primary offerings are the predominate form of equity offerings in most of the world especially for IPOs, and primary offerings appear to be correlated with a number of factors measuring the demand for capital. These findings are at least suggestive of the idea that firms around the world do in fact use equity markets to raise capital for investment. The extent to which they do so, and the factors that determine across countries the differences in equity markets are important issues not analyzed here, and of course would be good topics for future research.

References

- Asquith, Paul, and David W. Mullins, 1986, Equity Issues and Offering Dilution, *Journal of Financial Economics* 15, 61-89.
- Baker, Malcolm, Richard Ruback, and Jeffrey Wurgler, 2004, Behavioral Corporate Finance: A Survey, NBER Working Paper No. W10868.
- Baker, Malcolm, Jeremy C. Stein and Jeffrey Wurgler, 2003, When Does the Market Matter? Stock Prices and the Investment of Equity-Dependent Firms, *Quarterly Journal of Economics* Vol 118 Issue 3, 969 – 1005.
- Baker, Malcolm and Jeffrey Wurgler, 2000, The Equity Shares in New Issues and Aggregate Stock Returns, *Journal of Finance* 55, 2219-2257.
- Barro, Robert J., 1990, The Stock Market and Investment, *Review of Financial Studies* III, 115–132.
- Belke, Ansgar and Friedrich Schneider, 2003, Privatization in Austria: Some Theoretical Reasons and First Results about the Privatization Proceeds, *Privatization Experiences in the EU-Part II*, November 1-2, CESifo, Villa La Collina, Cadenabbia/Italy.
- Blanchard, Olivier, Changyong Rhee, and Lawrence Summers, 1993, The Stock Market, Profit, and Investment,” *Quarterly Journal of Economics* CVIII, 115–136.
- Boutchkova, Maria K. and William L. Megginson, 2000, Privatization and the Rise of Global Capital Markets, *Financial Management* Winter 2000, 31-76.
- Chemmanur, Thomas J. and Paolo Fulghieri, 1999, A Theory of the Going Public Decision, *Review of Financial Studies* 12, 249-279.
- Fischer, Stanley, and Robert C. Merton, 1984, Macroeconomics and Finance: The Role of the Stock Market, *Carnegie-Rochester Conference Series on Public Policy* XXI, 57–108.
- Graham, John, and Campbell Harvey, 2001, The Theory and Practice of Corporate Finance: Evidence from the Field, *Journal of Financial Economics* Vol. 60 Issue 2/3, 187-243.
- Greenwood, Robin, 2005, Aggregate Corporate Liquidity and Stock Returns, Working Paper, Harvard Business School.
- Jenkinson, Tim and Alexander Ljungqvist, 2001, Going Public: The Theory and Evidence on How Companies Raise Equity Finance, 2nd Edition, Oxford University Press.
- Keynes, John Maynard, 1936, *The General Theory of Employment, Interest and Money*, London, Macmillan.
- La Porta, Rafael, Lopez-de-Silanes, Florencio, Shleifer, Andrei and Robert W. Vishny, 1997, Legal Determinants of External Finance, *Journal of Finance* 52, 1131-1150.

- Lian, Jie(Olivia), 2005, Insider Trading and Market Timing of Seasoned Equity Offerings, Working Paper, University of Texas.
- Loughran, Tim, and Jay Ritter, 1995, The New Issues Puzzle, *Journal of Finance* 50, 23-51.
- Mello, A. S. and J. E. Parsons, 1998, Going Public and the Ownership Structure of the Firm, *Journal of Financial Economics* 49, 79-109.
- Pagano, Marco, Panetta, Fabio, and Luigi Zingales, 1998, Why Do Companies Go Public? An Empirical Analysis, *Journal of Finance* 53, 27-64.
- Pulvino, Todd, and Vefa Tarhan, 2003, Allocating a Dollar of Cash Flow: Investment, Financing, and Distribution Decision Sensitivities, Working Paper.
- Shleifer, Andrei, and Robert W. Vishny, 2003, Stock market driven acquisitions, *Journal of Financial Economics* 70, 295-312.
- Stein, Jeremy C., 1996, Rational Capital Budgeting in an Irrational World, *Journal of Business* LXIX, 429-455.
- Zingales, Luigi, 1995, Insider Ownership and the Decision to Go Public, *Review of Economic Studies* 62, 425-448.

Table I
Sample Descriptive Statistics

This table presents the descriptive statistics for the equity offerings in the sample. Panels A-1 and A-2 present the number of IPOs and SEOs across different regions over time and Panels B-1 and B-2 report the total amount of proceeds raised in IPOs and SEOs, respectively. The last row in each panel reports the relative proportion of each region. The sample period is from 1990 to 2003.

Panel A-1: Number of IPOs									
Year	Asia (ex Japan)	Japan	Australia & NZ	Cont'l Europe	UK	Latin Am	US	Canada	Total
1990	67	3	4	13			152	3	242
1991	317	55	4	28	2	6	299	2	713
1992	534	17	26	26	15	9	410	4	1,041
1993	717	83	58	45	17	17	523	169	1,629
1994	1,172	135	92	77	90	33	445	161	2,205
1995	1,090	166	27	91	47	6	461	126	2,014
1996	899	139	51	128	143	15	668	198	2,241
1997	223	131	57	200	121	11	449	202	1,394
1998	84	76	26	242	60	3	247	131	869
1999	135	95	84	369	32	3	395	88	1,201
2000	322	189	126	396	168	6	313	102	1,622
2001	209	142	45	110	70	3	70	30	679
2002	221	109	55	53	51	1	64	1	555
2003	254	106	73	23	42	3	51	1	553
Total	6,244	1,446	728	1,801	858	116	4,547	1,218	16,958
%	36.8	8.5	4.3	10.6	5.1	0.7	26.8	7.2	100.0

Panel A-2: Number of SEOs									
Year	Asia (ex Japan)	Japan	Australia & NZ	Cont'l Europe	UK	Latin Am	US	Canada	Total
1990	9	1		20	3		141	7	181
1991	9		3	44	3	6	365	5	435
1992	25	9	4	32	2	9	353	11	445
1993	47	28	3	72	5	13	446	227	841
1994	82	66		106	111	21	293	174	853
1995	76	89	4	70	95	18	432	127	911
1996	56	172	2	87	117	24	509	218	1,185
1997	105	83	5	137	84	24	423	161	1,022
1998	49	80	1	156	95	7	295	93	776
1999	131	222	5	123	77	4	306	268	1,136
2000	152	223	17	207	248	3	311	277	1,438
2001	118	147	34	152	272	8	207	185	1,123
2002	124	209	38	95	224	11	199	15	915
2003	215	237	12	91	288	10	250	9	1,112
Total	1,198	1,566	128	1,392	1,624	158	4,530	1,777	12,373
%	9.7	12.7	1.0	11.3	13.1	1.3	36.6	14.4	100.0

Table I— *Continued*

Panel B-1: Total Amount of Proceeds (US\$ mil) raised at IPOs									
Year	Asia (ex Japan)	Japan	Australia & NZ	Cont'l Europe	UK	Latin Am	US	Canada	Total
1990	1,193	832	23	448			4,245	70	6,811
1991	3,001	3,657	196	1,522	201	587	10,506	43	19,711
1992	3,821	396	1,533	774	1,278	509	16,471	71	24,853
1993	4,524	3,606	909	3,366	567	1,663	19,600	2,916	37,151
1994	9,436	6,298	2,433	4,252	4,323	2,100	15,005	2,114	45,961
1995	7,822	7,385	1,206	10,786	2,318	717	21,844	886	52,964
1996	6,262	5,435	1,165	9,903	5,467	944	32,688	1,691	63,555
1997	7,845	2,174	1,094	10,955	5,566	1,157	23,693	2,717	55,201
1998	1,645	2,148	209	15,093	5,328	44	19,341	1,278	45,086
1999	7,129	5,152	1,226	25,893	3,853	383	42,751	438	86,824
2000	5,123	10,854	1,336	34,847	6,534	692	32,866	1,283	93,534
2001	5,920	4,180	453	5,578	1,769	1,813	22,265	531	42,509
2002	4,794	2,204	506	3,084	3,539	122	11,813	1	26,063
2003	4,418	4,221	2,221	254	2,856	81	6,734	1	20,785
Total	72,932	58,543	14,509	126,754	43,598	10,812	279,822	14,038	621,009
%	11.7	9.4	2.3	20.4	7.0	1.7	45.1	2.3	100.0

Panel B-2: Total Amount of Proceeds (US\$ mil) raised at SEOs									
Year	Asia (ex Japan)	Japan	Australia & NZ	Cont'l Europe	UK	Latin Am	US	Canada	Total
1990	513	30		1,672	966		6,353	65	9,598
1991	251		461	1,976	969	386	24,412	149	28,604
1992	706	789	694	1,690	2,186	960	23,633	261	30,918
1993	986	1,686	380	8,108	989	1,081	29,477	12,040	54,748
1994	3,889	2,977		9,950	4,060	1,731	20,711	5,305	48,622
1995	3,962	6,092	169	4,033	3,634	1,705	36,063	6,166	61,824
1996	3,086	8,394	76	12,910	6,210	1,319	43,473	4,608	80,076
1997	4,603	3,224	1,205	20,907	4,962	3,265	37,903	7,835	83,904
1998	1,990	2,859	81	19,387	6,252	534	40,518	4,087	75,707
1999	6,554	21,269	149	30,739	4,119	1,387	55,013	7,352	126,581
2000	9,727	25,858	546	30,457	14,068	3,814	76,601	7,594	168,665
2001	3,737	7,240	1,038	20,117	10,875	3,597	30,734	4,724	82,062
2002	4,007	7,833	372	14,460	4,682	3,635	26,347	2,316	63,652
2003	9,008	13,324	540	6,828	5,980	2,795	30,951	604	70,030
Total	53,017	101,576	5,710	183,235	69,952	26,209	482,187	63,105	984,991
%	5.4	10.3	0.6	18.6	7.1	2.7	49.0	6.4	100.0

Table II**Distribution of IPO and SEO Offer Types**

This table presents the distribution of IPO and SEO offer types across the regions in our sample. An IPO or an SEO is characterized as primary only, secondary only or combined offering, according to the type(s) of shares being sold. Panels A-1 and A-2 present the distribution based on the number of IPOs and SEOs and Panels B-1 and B-2 provide breakdown according to the total proceeds raised. The relative proportion of each offer type is reported in parentheses. The sample period is from 1990 to 2003.

Panel A-1: Number of IPOs							
Region	Primary only issues		Secondary only issues		Combined issues		Total issues
	Number	%	Number	%	Number	%	
Asia(ex Japan)	5,990	(95.9)	69	(1.1)	185	(3.0)	6,244
Japan	196	(13.6)	9	(0.6)	1,241	(85.8)	1,446
Australia & New Z	637	(87.5)	22	(3.0)	69	(9.5)	728
Continental Europe	1,276	(70.8)	100	(5.6)	425	(23.6)	1,801
UK	751	(87.5)	9	(1.0)	98	(11.4)	858
Latin Am	73	(62.9)	11	(9.5)	32	(27.6)	116
US	3,096	(68.1)	53	(1.2)	1,398	(30.7)	4,547
Canada	897	(73.6)	9	(0.7)	312	(25.6)	1,218
Total	12,916	(76.2)	282	(1.7)	3,760	(22.2)	16,958

Panel A-2: Number of SEOs							
Region	Primary only issues		Secondary only issues		Combined issues		Total issues
	Number	%	Number	%	Number	%	
Asia(ex Japan)	689	(57.5)	482	(40.2)	27	(2.3)	1,198
Japan	1,011	(64.6)	416	(26.6)	139	(8.9)	1,566
Australia & New Z	100	(78.1)	25	(19.5)	3	(2.3)	128
Continental Europe	791	(56.8)	514	(36.9)	87	(6.3)	1,392
UK	1,382	(85.1)	195	(12.0)	47	(2.9)	1,624
Latin Am	110	(69.6)	24	(15.2)	24	(15.2)	158
US	2,086	(46.0)	634	(14.0)	1,810	(40.0)	4,530
Canada	1,337	(75.2)	19	(1.1)	421	(23.7)	1,777
Total	7,506	(60.7)	2,309	(18.7)	2,558	(20.7)	12,373

Table II — *Continued*

Panel B-1: Total Amount of Proceeds (US\$ mil) raised at IPOs															
Region	Primary		Secondary		Combined (primary & secondary) issues						Total		Total		Total
	only issues		only issues		primary		secondary		combined total		Primary		Secondary		issues
	amount	%	amount	%	amount	%	amount	%	amount	%	amount	%	amount	%	amount
Asia(ex Japan)	68,037	(93.3)	1,382	(1.9)	2,327	(3.2)	1,186	(1.6)	3,513	(4.8)	70,364	(96.5)	2,568	(3.5)	72,932
Japan	6,937	(11.9)	246	(0.4)	31,253	(53.4)	20,106	(34.3)	51,359	(87.7)	38,191	(65.2)	20,352	(34.8)	58,543
Australia & NZ	10,657	(73.4)	1,606	(11.1)	686	(4.7)	1,561	(10.8)	2,247	(15.5)	11,343	(78.2)	3,166	(21.8)	14,509
Cont'l Europe	68,152	(53.8)	16,187	(12.8)	18,794	(14.8)	23,620	(18.6)	42,414	(33.5)	86,947	(68.6)	39,807	(31.4)	126,754
UK	24,697	(56.6)	2,637	(6.0)	8,705	(20.0)	7,558	(17.3)	16,264	(37.3)	33,403	(76.6)	10,196	(23.4)	43,598
Latin Am	7,710	(71.3)	426	(3.9)	1,414	(13.1)	1,262	(11.7)	2,677	(24.8)	9,124	(84.4)	1,688	(15.6)	10,812
US	174,576	(62.4)	20,039	(7.2)	55,891	(20.0)	29,315	(10.5)	85,207	(30.5)	230,468	(82.4)	49,354	(17.6)	279,822
Canada	10,348	(73.7)	2	(0.0)	2,982	(21.2)	706	(5.0)	3,688	(26.3)	13,330	(95.0)	708	(5.0)	14,038
Total	371,115	(59.8)	42,526	(6.8)	122,054	(19.7)	85,314	(13.7)	207,368	(33.4)	493,169	(79.4)	127,840	(20.6)	621,009

Panel B-2: Total Amount of Proceeds (US\$ mil) raised at SEOs															
Region	Primary		Secondary		Combined (primary & secondary) issues						Total		Total		Total
	only issues		only issues		primary		secondary		combined total		Primary		Secondary		issues
	amount	%	amount	%	amount	%	amount	%	amount	%	amount	%	amount	%	amount
Asia(ex Japan)	29,196	(55.1)	21,153	(39.9)	1,692	(3.2)	976	(1.8)	2,668	(5.0)	30,888	(58.3)	22,128	(41.7)	53,017
Japan	57,501	(56.6)	26,901	(26.5)	7,013	(6.9)	10,162	(10.0)	17,175	(16.9)	64,514	(63.5)	37,062	(36.5)	101,576
Australia & NZ	3,145	(55.1)	2,216	(38.8)	146	(2.6)	203	(3.6)	349	(6.1)	3,291	(57.6)	2,419	(42.4)	5,710
Cont'l Europe	68,269	(37.3)	101,364	(55.3)	5,339	(2.9)	8,262	(4.5)	13,602	(7.4)	73,608	(40.2)	109,627	(59.8)	183,235
UK	35,522	(50.8)	28,559	(40.8)	3,459		2,411		5,870		38,981	(55.7)	30,971	(44.3)	69,952
Latin Am	9,490	(36.2)	6,637		5,330	(20.3)	4,753	(18.1)	10,082	(38.5)	14,819	(56.5)	11,390	(43.5)	26,209
US	182,558	(37.9)	113,547	(23.5)	109,785	(22.8)	76,298	(15.8)	186,083	(38.6)	292,343	(60.6)	189,844	(39.4)	482,187
Canada	43,612	(69.1)	3,341		12,296	(19.5)	3,856	(6.1)	16,152	(25.6)	55,908	(88.6)	7,197	(11.4)	63,105
Total	429,293	(43.6)	303,717	(30.8)	145,060	(14.7)	106,921	(10.9)	251,981	(25.6)	574,352	(58.3)	410,639	(41.7)	984,991

Table III

Average Normalized Increases in Assets and Expenditures Following IPOs by Offer Type

This table presents the mean and median increases in assets and expenditures following an IPO. Increase in assets (total assets, inventory, cash) is defined as $\ln[(V_t - V_0)/total\ assets_0 + 1]$, and increase in expenditures (CAPEX, acquisition, R&D, reduction in long term debt) is defined as

$\ln[(\sum_{i=1}^t V_i / total\ assets_0) + 1]$, where 0 denotes the fiscal year end just prior to the IPO and t denotes number of years after year 0. t-statistics and Mann-Whitney z-statistics for comparisons of means and medians between primary only and combined, and between combined and secondary only group are also provided. Bold letters indicate statistical significance at less than 5%. The sample period for this table is from 1990 to 2001.

V	t	N				Mean					Median			Mann-Whitney	
		Total	IPO offer type			IPO offer type				IPO offer type			z-stat		
			prim only	sec only	comb -ined	prim only	sec only	comb -ined	prim v comb	t-stat	prim only	sec only	comb -ined	prim v comb	v sec
Δ Total Assets	1	5,497	3,455	105	1,937	0.94	0.16	0.69	11.33	8.55	0.73	0.11	0.53	9.85	9.91
	2	4,725	2,945	90	1,690	1.13	0.35	0.94	7.15	7.17	0.93	0.29	0.79	6.25	8.09
	3	3,692	2,260	74	1,358	1.21	0.58	1.09	3.65	4.99	1.04	0.49	0.96	3.21	5.37
	4	2,870	1,745	58	1,067	1.28	0.68	1.19	2.25	4.18	1.12	0.60	1.07	1.85	4.32
Δ Inventory	1	5,348	3,352	100	1,896	0.07	0.03	0.06	3.29	2.11	0.01	0.01	0.01	1.34	1.40
	2	4,575	2,847	86	1,642	0.16	0.06	0.13	3.39	2.80	0.04	0.01	0.03	1.47	2.46
	3	3,579	2,194	72	1,313	0.22	0.08	0.18	3.67	2.71	0.07	0.03	0.05	1.93	2.40
	4	2,774	1,694	52	1,028	0.27	0.12	0.22	3.11	2.11	0.10	0.03	0.07	1.95	1.81
Σ CAPEX	1	5,043	3,300	96	1,647	0.19	0.09	0.16	3.96	3.46	0.11	0.06	0.10	1.63	5.19
	2	4,271	2,783	83	1,405	0.40	0.17	0.37	2.67	4.94	0.26	0.13	0.26	0.17	6.58
	3	3,292	2,116	68	1,108	0.56	0.29	0.54	1.00	4.60	0.39	0.22	0.42	-1.66	5.69
	4	2,536	1,622	53	861	0.69	0.40	0.69	0.09	4.09	0.52	0.31	0.56	-2.39	4.69
Σ Acquisition	1	4,124	2,735	65	1,324	0.07	0.02	0.08	-0.21	2.09	0.00	0.00	0.00	-1.69	1.34
	2	3,401	2,237	58	1,106	0.18	0.07	0.19	-0.77	2.25	0.00	0.00	0.00	-2.79	2.80
	3	2,640	1,705	47	888	0.27	0.14	0.26	0.32	1.79	0.00	0.00	0.03	-2.36	2.12
	4	2,088	1,340	36	712	0.33	0.12	0.33	0.23	2.28	0.00	0.01	0.07	-3.23	1.61
Σ R&D	1	2,797	1,827	38	932	0.31	0.04	0.19	9.32	4.10	0.19	0.02	0.14	6.87	4.17
	2	2,392	1,541	35	816	0.63	0.10	0.40	9.30	4.37	0.48	0.05	0.31	7.02	4.10
	3	1,880	1,162	33	685	0.82	0.16	0.60	6.44	4.18	0.65	0.09	0.47	4.64	3.69
	4	1,464	869	27	568	0.97	0.23	0.77	4.07	3.82	0.80	0.12	0.67	2.66	3.51
Δ Cash	1	5,480	3,444	104	1,932	0.64	0.04	0.44	9.85	7.43	0.34	0.01	0.21	7.20	9.17
	2	4,711	2,937	89	1,685	0.56	0.06	0.44	5.75	5.77	0.22	0.01	0.17	3.73	7.43
	3	3,679	2,252	74	1,353	0.51	0.12	0.45	2.10	4.24	0.14	0.02	0.15	-0.16	5.13
	4	2,859	1,739	58	1,062	0.49	0.13	0.46	0.86	3.68	0.13	0.02	0.16	-1.34	4.63
Σ LT Debt Reduction	1	4,229	2,810	65	1,354	0.20	0.11	0.21	-0.67	2.82	0.07	0.03	0.09	-2.21	3.06
	2	3,561	2,337	54	1,170	0.31	0.18	0.29	1.44	2.19	0.16	0.08	0.16	0.16	2.32
	3	2,799	1,790	45	964	0.45	0.27	0.40	2.35	1.74	0.25	0.13	0.24	1.47	2.21
	4	2,217	1,393	35	789	0.59	0.35	0.50	3.05	1.48	0.35	0.21	0.32	2.40	1.80

Table IV

The Effect of the Type of Capital on Subsequent Increases in Assets and Expenditures in IPOs

The dependent variable for asset-based variables (total assets, inventory, cash) is $Y = \ln[(V_t - V_0)/total\ assets_0 + 1]$, and for expenditures (CAPEX, acquisition, R&D, reduction in long term debt) is $Y = \ln[(\sum_{i=1}^t V_i / total\ assets_0) + 1]$. Independent variables are primary capital, secondary capital, other sources of funds, all of which are normalized by total assets, and $\ln[total\ assets]$. All regressions include year and country fixed effects. Coefficient for $\ln[total\ assets]$ and fixed effects are omitted for the sake of brevity. Dollar changes are the implied change in the dependent variable when primary capital or other sources of funds is increased by \$1 (for a median-sized firm in 1996 in the U.S.) Bold letters indicate statistical significance at 5%, using heteroscedasticity-consistent standard errors clustered by industry (2 digit SIC). The sample period for this table is from 1990 to 2001.

$$Y = \beta_1 \ln\left[\left(\frac{\text{primary}}{\text{total asset}_0}\right) + 1\right] + \beta_2 \ln\left[\left(\frac{\text{secondary}}{\text{total asset}_0}\right) + 1\right] + \beta_3 \ln\left[\left(\frac{\text{other sources}}{\text{total asset}_0}\right) + 1\right] + \beta_4 \ln[total\ assets_0] + FE + \varepsilon$$

<i>V</i>	<i>t</i>	N	$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right]$		$\ln\left[\frac{\text{secondary}}{\text{total asset}_0} + 1\right]$		$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right]$		p-value		\\$ change		<i>R</i> ²
			β_1	t-stat	β_2	t-stat	β_3	t-stat	$\beta_1 = \beta_2$	$\beta_1 = \beta_3$	primary capital	other sources	
Δ Total Assets	1	3,161	1.001	47.47	0.063	3.74	0.259	15.64	0.00	0.00	1.028	0.372	0.84
	2	2,402	0.839	33.28	0.050	1.12	0.387	13.99	0.00	0.00	0.841	0.351	0.77
	3	1,771	0.627	13.40	0.098	3.38	0.519	17.37	0.00	0.06	0.682	0.342	0.75
	4	1,326	0.499	7.92	0.129	2.72	0.596	11.40	0.00	0.34	0.598	0.362	0.73
Δ Inventory	1	3,093	0.034	1.96	-0.016	-0.64	0.023	2.40	0.08	0.45	0.017	0.016	0.07
	2	2,348	0.034	1.03	-0.046	-0.82	0.051	4.30	0.19	0.51	0.016	0.022	0.11
	3	1,736	0.043	0.77	-0.080	-1.32	0.103	4.24	0.15	0.24	0.022	0.033	0.18
	4	1,305	0.012	0.19	-0.055	-0.74	0.131	4.03	0.57	0.03	0.006	0.037	0.19
Σ CAPEX	1	3,137	0.131	6.12	-0.026	-1.02	0.057	4.40	0.00	0.00	0.073	0.044	0.19
	2	2,375	0.244	6.59	-0.011	-0.19	0.120	7.41	0.00	0.00	0.155	0.069	0.33
	3	1,750	0.239	5.30	-0.004	-0.05	0.216	9.05	0.03	0.60	0.179	0.099	0.39
	4	1,309	0.175	3.64	0.007	0.10	0.287	7.71	0.12	0.04	0.143	0.119	0.43
Σ Acquisition	1	3,016	0.054	2.53	-0.029	-1.75	0.077	4.96	0.02	0.11	0.029	0.058	0.13
	2	2,225	0.091	2.89	-0.050	-1.28	0.156	5.17	0.04	0.07	0.053	0.084	0.20
	3	1,624	0.056	1.11	-0.101	-1.70	0.222	5.58	0.13	0.00	0.038	0.092	0.25
	4	1,198	0.017	0.29	-0.037	-0.46	0.254	3.86	0.68	0.00	0.013	0.097	0.27
Σ R&D	1	1,956	0.299	8.60	0.001	0.01	0.033	4.63	0.00	0.00	0.188	0.029	0.48
	2	1,452	0.523	8.37	0.030	0.40	0.050	3.48	0.00	0.00	0.388	0.034	0.54
	3	1,042	0.723	8.08	0.094	0.95	0.059	2.01	0.00	0.00	0.646	0.032	0.53
	4	758	0.861	6.63	0.110	0.65	0.090	2.17	0.01	0.00	0.848	0.044	0.54
Δ Cash	1	3,152	0.981	57.98	0.116	3.73	0.144	6.94	0.00	0.00	1.067	0.219	0.79
	2	2,395	0.824	21.06	0.172	3.54	0.214	8.05	0.00	0.00	0.894	0.210	0.66
	3	1,766	0.758	14.07	0.253	3.85	0.246	8.86	0.00	0.00	0.894	0.176	0.58
	4	1,322	0.725	8.42	0.225	2.19	0.268	11.25	0.01	0.00	0.888	0.166	0.54
Σ LT Debt Reduction	1	3,112	0.032	1.54	-0.073	-3.01	0.105	4.80	0.00	0.01	0.018	0.082	0.15
	2	2,341	-0.007	-0.29	-0.150	-3.47	0.140	5.12	0.01	0.00	-0.004	0.074	0.18
	3	1,728	-0.087	-2.50	-0.242	-3.16	0.230	7.12	0.05	0.00	-0.057	0.092	0.23
	4	1,284	-0.159	-3.76	-0.331	-3.25	0.296	6.36	0.05	0.00	-0.113	0.107	0.29

Table V

Average Normalized Increases in Assets and Expenditures Following SEOs by Offer Type

This table presents the mean and median increases in assets and expenditures following an IPO. Increase in assets (total assets, inventory, cash) is defined as $\ln[(V_t - V_0)/total\ assets_0 + 1]$, and increase in expenditures (CAPEX, acquisition, R&D, reduction in long term debt) is defined as

$\ln[(\sum_{i=1}^t V_i / total\ assets_0) + 1]$, where 0 denotes the fiscal year end just prior to the IPO and t denotes number of years after year 0. t-statistics and Mann-Whitney z-statistics for comparisons of means and medians between primary only and combined, and between combined and secondary only group are also provided. Bold letters indicate statistical significance at less than 5%. The sample period for this table is from 1990 to 2001.

V	t	N				Mean				Median			Mann-Whitney		
		Total	IPO offer type			IPO offer type				IPO offer type			z-stat		
			prim only	sec only	comb -ined	prim only	sec only	comb -ined	prim v comb	t-stat	prim only	sec only	comb -ined	prim v comb	v sec
Δ Total Assets	1	6,457	3,529	1,193	1,735	0.48	0.26	0.66	-10.77	20.45	0.34	0.14	0.53	-13.09	23.77
	2	5,185	2,873	928	1,384	0.63	0.41	0.90	-11.57	17.86	0.50	0.29	0.79	-13.58	19.41
	3	3,884	2,192	686	1,006	0.72	0.51	1.01	-9.42	14.12	0.60	0.40	0.93	-11.07	15.15
	4	2,967	1,735	524	708	0.79	0.61	1.10	-7.78	11.20	0.67	0.50	1.00	-8.69	11.42
Δ Inventory	1	6,083	3,321	1,105	1,657	0.04	0.03	0.07	-6.72	7.63	0.01	0.01	0.02	-8.19	6.84
	2	4,959	2,733	877	1,349	0.08	0.06	0.13	-6.93	8.63	0.02	0.02	0.04	-7.43	6.03
	3	3,730	2,090	657	983	0.12	0.09	0.17	-5.30	7.05	0.03	0.03	0.06	-5.41	5.42
	4	2,795	1,619	485	691	0.15	0.12	0.21	-3.91	5.79	0.05	0.04	0.08	-4.89	4.69
Σ CAPEX	1	6,024	3,269	1,083	1,672	0.14	0.10	0.16	-3.97	8.74	0.08	0.07	0.10	-7.62	11.01
	2	4,784	2,627	832	1,325	0.29	0.21	0.34	-5.07	10.29	0.18	0.15	0.24	-7.37	11.70
	3	3,569	1,978	621	970	0.43	0.30	0.49	-3.70	10.21	0.30	0.23	0.37	-5.60	10.50
	4	2,703	1,550	470	683	0.54	0.39	0.61	-2.94	8.43	0.40	0.32	0.47	-3.95	7.76
Σ Acquisition	1	5,381	2,871	918	1,592	0.11	0.05	0.10	1.14	6.20	0.00	0.00	0.00	-1.57	3.34
	2	4,283	2,313	708	1,262	0.18	0.11	0.20	-2.17	6.32	0.00	0.01	0.02	-4.03	4.54
	3	3,193	1,741	529	923	0.22	0.16	0.26	-2.27	4.72	0.02	0.03	0.05	-2.70	2.81
	4	2,394	1,361	384	649	0.26	0.20	0.31	-2.40	3.62	0.04	0.04	0.07	-2.23	2.23
Σ R&D	1	3,186	1,616	531	1,039	0.14	0.05	0.13	1.12	8.84	0.05	0.02	0.05	1.57	6.12
	2	2,495	1,280	398	817	0.29	0.11	0.27	1.07	8.60	0.12	0.04	0.12	2.05	5.34
	3	1,837	938	299	600	0.37	0.16	0.37	0.30	6.94	0.17	0.07	0.14	2.12	3.82
	4	1,346	716	232	398	0.44	0.22	0.40	1.19	4.51	0.22	0.10	0.12	3.22	1.28
Δ Cash	1	6,431	3,514	1,187	1,730	0.18	0.06	0.26	-7.07	15.37	0.04	0.01	0.10	-8.31	17.08
	2	5,167	2,864	923	1,380	0.16	0.08	0.24	-5.63	9.93	0.03	0.01	0.06	-5.78	9.84
	3	3,866	2,183	681	1,002	0.15	0.08	0.23	-4.59	7.44	0.03	0.01	0.06	-5.19	7.60
	4	2,953	1,728	520	705	0.16	0.11	0.24	-3.87	5.29	0.04	0.03	0.06	-3.64	4.85
Σ LT Debt Reduction	1	5,457	2,898	934	1,625	0.11	0.09	0.15	-5.92	6.74	0.03	0.02	0.04	-2.97	4.63
	2	4,339	2,324	717	1,298	0.20	0.17	0.25	-4.21	4.98	0.09	0.08	0.09	-1.30	2.55
	3	3,234	1,761	527	946	0.30	0.27	0.37	-3.94	4.16	0.16	0.14	0.19	-2.21	2.67
	4	2,453	1,402	392	659	0.40	0.34	0.49	-3.66	4.39	0.23	0.19	0.28	-2.61	3.72

Table VI

The Effect of the Type of Capital on Subsequent Increases in Assets and Expenditures in SEOs

The dependent variable for asset-based variables (total assets, inventory, cash) is $Y = \ln[(V_t - V_0)/total\ assets_0 + 1]$, and for expenditures (CAPEX, acquisition, R&D, reduction in long term debt) is $Y = \ln[(\sum_{i=1}^t V_i / total\ assets_0) + 1]$. Independent variables are primary capital, secondary capital, other sources of funds, all of which are normalized by total assets, and $\ln[total\ assets]$. All regressions include year and country fixed effects. Coefficient for $\ln[total\ assets]$ and fixed effects are omitted for the sake of brevity. Dollar changes are the implied change in the dependent variable when primary capital or other sources of funds is increased by \$1 (for a median-sized firm in 1996 in the U.S.) Bold letters indicate statistical significance at 5%, using heteroscedasticity-consistent standard errors clustered by industry (2 digit SIC). The sample period for this table is from 1990 to 2001.

$$Y = \beta_1 \ln\left[\left(\frac{\text{primary}}{\text{total asset}_0}\right) + 1\right] + \beta_2 \ln\left[\left(\frac{\text{secondary}}{\text{total asset}_0}\right) + 1\right] + \beta_3 \ln\left[\left(\frac{\text{other sources}}{\text{total asset}_0}\right) + 1\right] + \beta_4 \ln[total\ assets_0] + FE + \varepsilon$$

<i>V</i>	<i>t</i>	N	$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right]$		$\ln\left[\frac{\text{secondary}}{\text{total asset}_0} + 1\right]$		$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right]$		p-value		\\$ change		R ²
			β_1	t-stat	β_2	t-stat	β_3	t-stat	$\beta_1 = \beta_2$	$\beta_1 = \beta_3$	primary capital	other sources	
Δ Total Assets	1	5,004	0.926	33.85	0.243	6.20	0.363	11.86	0.00	0.00	0.967	0.314	0.68
	2	3,894	0.735	36.46	0.258	4.43	0.527	14.12	0.00	0.00	0.902	0.364	0.66
	3	2,858	0.586	10.16	0.289	3.03	0.631	13.74	0.00	0.59	0.864	0.377	0.66
	4	2,138	0.512	6.06	0.365	3.90	0.673	15.95	0.26	0.10	0.900	0.368	0.65
Δ Inventory	1	4,842	0.056	2.26	0.006	0.22	0.019	4.27	0.07	0.14	0.047	0.013	0.09
	2	3,797	0.068	2.42	-0.009	-0.20	0.051	3.20	0.12	0.50	0.057	0.024	0.12
	3	2,788	0.080	1.83	0.030	0.45	0.091	4.00	0.47	0.80	0.072	0.033	0.18
	4	2,086	0.163	2.62	0.064	1.00	0.097	3.71	0.33	0.29	0.156	0.029	0.20
Σ CAPEX	1	4,987	0.069	4.25	0.000	0.00	0.114	3.67	0.08	0.15	0.059	0.081	0.20
	2	3,877	0.167	3.82	0.024	0.48	0.182	4.28	0.07	0.83	0.157	0.097	0.30
	3	2,841	0.178	4.37	0.046	0.56	0.272	5.49	0.10	0.23	0.196	0.121	0.39
	4	2,129	0.200	3.04	0.075	0.65	0.323	6.71	0.26	0.19	0.248	0.125	0.45
Σ Acquisition	1	4,834	0.135	3.07	-0.128	-4.87	0.160	6.66	0.00	0.44	0.124	0.122	0.22
	2	3,750	0.142	2.97	-0.057	-1.45	0.217	6.49	0.01	0.01	0.142	0.122	0.28
	3	2,731	0.113	2.70	-0.077	-1.52	0.247	6.37	0.01	0.00	0.127	0.112	0.29
	4	2,019	0.092	1.76	-0.064	-0.99	0.259	6.46	0.06	0.00	0.110	0.097	0.31
Σ R&D	1	2,744	0.200	4.81	0.037	1.01	0.012	1.52	0.03	0.00	0.166	0.008	0.36
	2	2,077	0.374	7.07	0.042	0.50	0.025	1.62	0.02	0.00	0.304	0.011	0.44
	3	1,482	0.518	6.69	0.158	1.23	0.046	1.87	0.08	0.00	0.441	0.016	0.44
	4	1,064	0.594	7.75	0.251	1.56	0.089	2.72	0.12	0.00	0.535	0.025	0.42
Δ Cash	1	4,992	0.619	19.87	0.242	14.41	0.121	5.10	0.00	0.00	0.621	0.101	0.52
	2	3,886	0.425	8.67	0.166	10.68	0.175	5.72	0.00	0.00	0.425	0.098	0.37
	3	2,851	0.357	11.20	0.177	3.86	0.219	6.68	0.00	0.00	0.397	0.098	0.36
	4	2,132	0.375	4.85	0.290	4.14	0.221	5.28	0.40	0.06	0.468	0.086	0.33
Σ LT Debt Reduction	1	4,921	0.016	0.70	-0.087	-3.22	0.145	4.58	0.02	0.00	0.014	0.108	0.18
	2	3,811	0.006	0.17	-0.145	-3.08	0.222	5.62	0.03	0.00	0.006	0.129	0.24
	3	2,774	-0.013	-0.33	-0.201	-3.46	0.292	6.01	0.01	0.00	-0.016	0.145	0.28
	4	2,071	-0.039	-0.63	-0.284	-2.73	0.341	6.98	0.02	0.00	-0.053	0.146	0.33

Table VII

The Relationship between Proportion of Secondary Shares Offered and Tobin's q in SEOs

The dependent variable is the proportion of secondary shares offered in SEOs. $\ln[q]$ is the logarithm of book value of assets minus book value of equity plus market value equity over book value of assets as of the closest fiscal year end prior to the SEO announcement. Fitted $\ln[q]$ and residual $\ln[q]$ are based on the following first stage estimation;

$$\ln[q_i] = \alpha + \sum_{t=-3}^{-1} \beta_t \left(\frac{sales_{it}}{asset_{it}} \right) + \sum_{t=-3}^{-1} \gamma_t \left(\frac{sales_{it}}{sales_{i(t-1)}} \right) + \sum_{t=-3}^{-1} \delta_t \left(\frac{op.income_{it}}{asset_{it}} \right) + \sum_{t=-3}^{-1} \phi_t \left(\frac{dividend_{it}}{price_{it}} \right) + \sum_{t=-3}^{-1} \lambda_t \left(\frac{R \& D_{it}}{asset_{it}} \right) + \varepsilon_i$$

Columns (1) and (2) use the full sample, and columns (3) through (6) are restricted to those observations that have enough information for the first stage estimation. We use heteroscedasticity-consistent standard errors clustered by industry (2 digit SIC). The sample period is from 1990 to 2003.

	(1)	(2)	(3)	(4)	(5)	(6)
$\ln[q]$	0.037** (2.507)	0.091*** (6.853)	0.013 (0.521)	0.086*** (3.455)		
fitted $\ln[q]$					-0.106*** (-3.059)	0.004 (0.101)
residual $\ln[q]$					0.063** (2.332)	0.115*** (4.712)
$\ln[\text{total assets (US\$ mil)}]$		0.063*** (10.152)		0.053*** (5.464)		0.049*** (5.226)
$\ln[\text{total proceeds/total assets}]$		0.005 (0.690)		-0.016 (-0.923)		-0.015 (-0.890)
Country, Year fixed effects	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
R2	0.127	0.189	0.143	0.204	0.158	0.210
N	6,629	6,629	1,488	1,488	1,488	1,488

Table VIII

The Effect of the Type of Capital and Tobin's q on Subsequent Increases in Assets and Expenditures in SEOs

The dependent variable for asset-based variables is $Y = \ln[(V_t - V_0)/total\ assets_0 + 1]$, and for expenditures is $Y = \ln[(\sum_{i=1}^t V_i)/total\ assets_0 + 1]$. The

independent variables are primary capital, other sources of funds, both of which are normalized by total assets and interacted with 3 dummy variables (LoQ , $MedQ$ and HiQ) reflecting the level of q 's in each country. Country and year fixed effects as well as $\ln[total\ assets]$, LoQ and HiQ are included in all regressions(not reported). Panel A presents coefficients and t-stats using heteroscedasticity-consistent standard errors clustered by industry (2 digit SIC). Panel B presents implied change in the dependent variable when primary capital or other sources of funds is increased by \$1 and also p-values from comparing coefficients. The sample period for this table is from 1990 to 2001.

Panel A			$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right] * LoQ$	$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right] * LoQ$	$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right] * MedQ$	$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right] * MedQ$	$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right] * HiQ$	$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right] * HiQ$						
V	T	N	β	t-stat	β	t-stat	β	t-stat	β	t-stat	β	t-stat	β	t-stat
Δ Total Assets	1	4,275	1.227	12.60	0.467	11.34	0.952	25.52	0.512	8.98	0.843	32.91	0.364	11.82
	2	3,364	0.992	9.72	0.620	19.57	0.752	14.06	0.666	12.47	0.625	24.53	0.476	11.38
	3	2,500	0.809	8.39	0.662	14.83	0.607	7.19	0.742	13.12	0.446	6.31	0.545	9.45
	4	1,875	0.876	4.61	0.669	9.61	0.580	3.36	0.723	7.18	0.258	2.95	0.665	14.36
Δ Inventory	1	4,144	0.214	2.50	0.016	0.56	0.077	3.72	0.028	2.75	0.032	1.79	0.014	2.13
	2	3,283	0.227	2.00	0.043	1.84	0.064	2.04	0.074	2.54	0.068	1.97	0.050	2.79
	3	2,441	0.239	1.69	0.052	1.83	0.039	0.77	0.109	2.13	0.052	0.94	0.076	3.27
	4	1,830	0.302	1.55	0.065	2.30	0.087	1.22	0.132	2.32	0.088	0.90	0.092	3.19
Σ CAPEX	1	4,265	0.245	5.83	0.212	4.75	0.098	2.59	0.157	3.71	0.046	2.43	0.089	3.80
	2	3,356	0.380	8.27	0.281	5.84	0.119	2.04	0.241	3.58	0.119	2.73	0.131	4.05
	3	2,491	0.426	6.43	0.356	6.98	0.159	2.00	0.336	4.17	0.151	2.72	0.233	5.54
	4	1,869	0.560	5.83	0.352	6.69	0.245	2.30	0.376	4.88	0.121	1.20	0.317	5.92
Σ Acquisition	1	4,140	0.278	5.12	0.241	7.97	0.283	5.61	0.294	9.00	0.132	2.94	0.132	4.43
	2	3,249	0.219	2.41	0.279	9.46	0.222	4.26	0.307	8.10	0.073	1.97	0.159	4.91
	3	2,396	0.170	1.90	0.316	6.31	0.278	4.19	0.324	8.11	0.069	1.52	0.179	3.81
	4	1,771	0.218	1.64	0.343	4.77	0.398	5.99	0.281	5.43	0.014	0.18	0.215	4.53
Σ R&D	1	2,290	0.062	1.46	-0.016	-1.11	0.090	2.52	-0.011	-0.57	0.156	3.75	-0.002	-0.19
	2	1,763	0.180	2.35	-0.025	-1.77	0.188	3.33	-0.005	-0.26	0.332	3.94	0.022	0.85
	3	1,274	0.376	2.35	-0.031	-1.40	0.390	3.89	0.030	1.01	0.492	5.08	0.057	1.35
	4	912	0.556	2.30	-0.032	-0.94	0.597	3.83	0.111	2.22	0.557	5.22	0.090	2.00
Δ Cash	1	4,271	0.396	3.63	0.011	0.43	0.454	8.05	0.073	2.54	0.606	17.84	0.152	5.94
	2	3,362	0.203	2.69	0.056	2.77	0.323	7.01	0.129	6.12	0.463	6.51	0.219	7.03
	3	2,499	0.191	3.08	0.061	3.31	0.288	3.70	0.236	3.45	0.348	7.11	0.231	6.89
	4	1,873	0.198	2.78	0.066	4.12	0.365	3.15	0.243	2.91	0.318	3.18	0.269	5.21
Σ LT Debt Reduction	1	4,208	0.284	5.59	0.336	12.35	0.084	2.53	0.251	5.90	0.013	0.92	0.059	3.76
	2	3,301	0.205	3.97	0.424	11.40	-0.016	-0.28	0.374	6.57	0.043	1.10	0.114	3.97
	3	2,435	0.154	2.12	0.496	12.31	0.034	0.48	0.453	7.97	0.049	0.84	0.132	3.53
	4	1,818	0.349	2.58	0.523	7.42	0.051	0.35	0.430	4.93	-0.012	-0.12	0.193	4.05

Table VIII — *Continued*

<i>V</i>	<i>t</i>	N	Dollar Changes						p values from H0: $\beta_i = \beta_j$			
			Lo Q		Medium Q		High Q		primary vs. other		High Q vs. Low Q	
			primary	other	primary	other	primary	other	Lo Q	High Q	primary	other
Δ Total Assets	1	4,275	1.244	0.39	1.084	0.46	1.015	0.40	0.00	0.00	0.00	0.04
	2	3,364	1.136	0.44	1.027	0.52	0.937	0.41	0.00	0.00	0.00	0.01
	3	2,500	0.988	0.41	1.043	0.51	0.859	0.42	0.19	0.37	0.00	0.12
	4	1,875	1.204	0.37	1.122	0.44	0.643	0.48	0.38	0.00	0.00	0.96
Δ Inventory	1	4,144	0.198	0.01	0.069	0.02	0.025	0.01	0.05	0.30	0.03	0.94
	2	3,283	0.207	0.02	0.059	0.04	0.053	0.02	0.07	0.56	0.17	0.77
	3	2,441	0.221	0.02	0.037	0.04	0.044	0.03	0.15	0.64	0.21	0.30
	4	1,830	0.290	0.03	0.087	0.04	0.081	0.02	0.19	0.97	0.30	0.21
Σ CAPEX	1	4,265	0.226	0.16	0.090	0.11	0.036	0.06	0.42	0.11	0.00	0.01
	2	3,356	0.373	0.17	0.121	0.14	0.105	0.07	0.02	0.84	0.00	0.00
	3	2,491	0.467	0.20	0.192	0.16	0.166	0.10	0.32	0.25	0.00	0.02
	4	1,869	0.679	0.17	0.336	0.16	0.164	0.13	0.08	0.11	0.00	0.53
Σ Acquisition	1	4,140	0.294	0.21	0.296	0.24	0.116	0.11	0.55	0.99	0.02	0.02
	2	3,249	0.243	0.19	0.248	0.19	0.068	0.09	0.47	0.01	0.13	0.02
	3	2,396	0.215	0.20	0.365	0.17	0.078	0.08	0.14	0.05	0.26	0.06
	4	1,771	0.294	0.19	0.542	0.12	0.017	0.08	0.45	0.01	0.18	0.15
Σ R&D	1	2,290	0.053	-0.01	0.076	-0.01	0.119	0.00	0.13	0.00	0.04	0.40
	2	1,763	0.142	-0.01	0.151	0.00	0.263	0.01	0.02	0.00	0.09	0.08
	3	1,274	0.307	-0.01	0.333	0.01	0.460	0.02	0.02	0.00	0.43	0.03
	4	912	0.492	-0.01	0.582	0.03	0.628	0.03	0.03	0.00	1.00	0.01
Δ Cash	1	4,271	0.382	0.01	0.430	0.05	0.564	0.13	0.00	0.00	0.06	0.00
	2	3,362	0.190	0.03	0.299	0.07	0.433	0.12	0.04	0.01	0.02	0.00
	3	2,499	0.202	0.03	0.315	0.10	0.397	0.10	0.04	0.03	0.02	0.00
	4	1,873	0.231	0.03	0.443	0.09	0.420	0.10	0.07	0.69	0.14	0.00
Σ LT Debt Reduction	1	4,208	0.084	0.20	0.297	0.29	0.010	0.04	0.34	0.00	0.00	0.00
	2	3,301	-0.019	0.25	0.255	0.32	0.039	0.06	0.01	0.07	0.01	0.00
	3	2,435	0.053	0.28	0.233	0.38	0.054	0.06	0.00	0.30	0.29	0.00
	4	1,818	0.083	0.22	0.565	0.34	-0.014	0.07	0.35	0.10	0.04	0.00

Appendix Table I. Distribution of IPO Offer Types

This table presents the distribution of IPO and SEO offer types across the countries in our sample. An IPO or an SEO is characterized as primary only, secondary only or combined offering, according to the type(s) of shares being sold. Panels A-1 and A-2 present the distribution based on the number of IPOs and SEOs and Panels B-1 and B-2 provide breakdown according to the total proceeds raised. The relative proportion of each offer type is reported in parentheses. The sample period is from 1990 to 2003.

		Panel A-1: Number of IPOs						
Region	Nation	Primary only		Secondary only		Combined		Total issues
		Number	%	number	%	number	%	number
Asia	Hong Kong	432	(81.1)	2	(0.4)	99	(18.6)	533
	India	3,582	(97.7)	53	(1.4)	30	(0.8)	3,665
	Indonesia	148	(98.7)	1	(0.7)	1	(0.7)	150
	Malaysia	388	(93.3)	7	(1.7)	21	(5.0)	416
	Pakistan	177	(99.4)	1	(0.6)			178
	Philippines	57	(95.0)			3	(5.0)	60
	Singapore	275	(89.9)	3	(1.0)	28	(9.2)	306
	South Korea	280	(99.6)			1	(0.4)	281
	Taiwan	454	(99.3)	2	(0.4)	1	(0.2)	457
	Thailand	197	(99.5)			1	(0.5)	198
	Japan	196	(13.6)	9	(0.6)	1,241	(85.8)	1,446
Pacific	Australia	602	(87.6)	20	(2.9)	65	(9.5)	687
	New Zealand	35	(85.4)	2	(4.9)	4	(9.8)	41
Europe	Austria	28	(71.8)	2	(5.1)	9	(23.1)	39
	Belgium	29	(64.4)	1	(2.2)	15	(33.3)	45
	Denmark	31	(64.6)	2	(4.2)	15	(31.3)	48
	Finland	29	(60.4)	4	(8.3)	15	(31.3)	48
	France	387	(78.7)	37	(7.5)	68	(13.8)	492
	Germany	256	(65.0)	7	(1.8)	131	(33.2)	394
	Greece	126	(96.9)			4	(3.1)	130
	Ireland	18	(72.0)			7	(28.0)	25
	Israel	77	(77.8)			22	(22.2)	99
	Italy	68	(54.8)	10	(8.1)	46	(37.1)	124
	Netherlands	36	(46.2)	6	(7.7)	36	(46.2)	78
	Norway	73	(92.4)			6	(7.6)	79
	Portugal	7	(70.0)	3	(30.0)			10
	Spain	21	(60.0)	8	(22.9)	6	(17.1)	35
	Sweden	53	(58.2)	11	(12.1)	27	(29.7)	91
	Switzerland	26	(50.0)	8	(15.4)	18	(34.6)	52
	UK	751	(87.5)	9	(1.0)	98	(11.4)	858
Turkey	11	(91.7)	1	(8.3)			12	
Latin Am	Argentina	6	(46.2)	4	(30.8)	3	(23.1)	13
	Bermuda	14	(73.7)			5	(26.3)	19
	Brazil	10	(66.7)	2	(13.3)	3	(20.0)	15
	Chile	14	(87.5)	1	(6.3)	1	(6.3)	16
	Mexico	29	(54.7)	4	(7.5)	20	(37.7)	53
North Am	Canada	897	(73.6)	9	(0.7)	312	(25.6)	1,218
	US	3,096	(68.1)	53	(1.2)	1,398	(30.7)	4,547
Total		12,916	(76.2)	282	(1.7)	3,760	(22.2)	16,958

Appendix Table I — *Continued*

Region	Nation	Panel A-2: Number of SEOs						Total issues number
		Primary only		Secondary only		Combined		
		Number	%	number	%	number	%	
Asia	Hong Kong	269	(40.8)	381	(57.7)	10	(1.5)	660
	India	199	(94.8)	9	(4.3)	2	(1.0)	210
	Indonesia	11	(40.7)	16	(59.3)			27
	Malaysia	17	(63.0)	10	(37.0)			27
	Pakistan	1	(100.0)					1
	Philippines	3	(42.9)	3	(42.9)	1	(14.3)	7
	Singapore	77	(66.4)	32	(27.6)	7	(6.0)	116
	South Korea	57	(93.4)	4	(6.6)			61
	Taiwan	44	(60.3)	23	(31.5)	6	(8.2)	73
	Thailand	11	(68.8)	4	(25.0)	1	(6.3)	16
	Japan	1,011	(64.6)	416	(26.6)	139	(8.9)	1,566
Pacific	Australia	94	(80.3)	20	(17.1)	3	(2.6)	117
	New Zealand	6	(54.5)	5	(45.5)			11
Europe	Austria	13	(54.2)	11	(45.8)			24
	Belgium	23	(62.2)	8	(21.6)	6	(16.2)	37
	Denmark	66	(79.5)	17	(20.5)			83
	Finland	34	(56.7)	22	(36.7)	4	(6.7)	60
	France	113	(48.5)	111	(47.6)	9	(3.9)	233
	Germany	116	(65.2)	55	(30.9)	7	(3.9)	178
	Greece	9	(60.0)	5	(33.3)	1	(6.7)	15
	Ireland	68	(73.1)	18	(19.4)	7	(7.5)	93
	Israel	28	(50.0)	9	(16.1)	19	(33.9)	56
	Italy	24	(46.2)	23	(44.2)	5	(9.6)	52
	Netherlands	63	(52.1)	46	(38.0)	12	(9.9)	121
	Norway	139	(85.8)	22	(13.6)	1	(0.6)	162
	Portugal	10	(71.4)	4	(28.6)			14
	Spain	15	(25.9)	41	(70.7)	2	(3.4)	58
	Sweden	47	(37.9)	70	(56.5)	7	(5.6)	124
	Switzerland	20	(27.0)	48	(64.9)	6	(8.1)	74
UK	1,382	(85.1)	195	(12.0)	47	(2.9)	1,624	
Turkey	3	(37.5)	4	(50.0)	1	(12.5)	8	
Latin Am	Argentina	6	(50.0)	3	(25.0)	3	(25.0)	12
	Bermuda	13	(61.9)	5	(23.8)	3	(14.3)	21
	Brazil	40	(85.1)	6	(12.8)	1	(2.1)	47
	Chile	18	(94.7)	1	(5.3)			19
	Mexico	33	(55.9)	9	(15.3)	17	(28.8)	59
North Am	Canada	1,337	(75.2)	19	(1.1)	421	(23.7)	1,777
	US	2,086	(46.0)	634	(14.0)	1,810	(40.0)	4,530
Total		7,506	(60.7)	2,309	(18.7)	2,558	(20.7)	12,373

Appendix Table I — Continued

		Panel B-1: Total Amount of Proceeds (US\$ mil) raised at IPOs														
Region	Nation	Primary		Secondary		Combined (primary & secondary) offerings						Total		Total		Total
		offerings		offerings		primary		secondary		combined total		Primary		Secondary		issues
		amount	%	amount	%	amount	%	amount	%	amount	%	amount	%	amount	%	amount
Asia	Hong Kong	11,121	(85.7)	63	(0.5)	1,240	(9.6)	551	(4.2)	1,791	(13.8)	12,361	(95.3)	614	(4.7)	12,976
	India	6,479	(94.0)	93	(1.3)	147	(2.1)	171	(2.5)	318	(4.6)	6,626	(96.2)	264	(3.8)	6,889
	Indonesia	5,418	(90.6)	155	(2.6)	343	(5.7)	66	(1.1)	410	(6.8)	5,762	(96.3)	222	(3.7)	5,983
	Malaysia	3,294	(74.7)	631	(14.3)	241	(5.5)	244	(5.5)	485	(11.0)	3,534	(80.2)	875	(19.8)	4,409
	Pakistan	628	(88.2)	84	(11.8)							628	(88.2)	84	(11.8)	711
	Philippines	1,723	(94.5)			66	(3.6)	35	(1.9)	101	(5.5)	1,790	(98.1)	35	(1.9)	1,824
	Singapore	4,756	(87.7)	303	(5.6)	271	(5.0)	94	(1.7)	365	(6.7)	5,027	(92.7)	397	(7.3)	5,424
	South Korea	18,550	(99.8)			10	(0.1)	24	(0.1)	35	(0.2)	18,560	(99.9)	24	(0.1)	18,585
	Taiwan	11,421	(99.5)	53	(0.5)	4	(0.0)	1	(0.0)	5	(0.0)	11,425	(99.5)	54	(0.5)	11,479
	Thailand	4,648	(99.9)			4	(0.1)	1	(0.0)	4	(0.1)	4,651	(100.0)	1	(0.0)	4,652
	Japan	6,937	(11.9)	246	(0.4)	31,253	(53.4)	20,106	(34.3)	51,359	(87.7)	38,191	(65.2)	20,352	(34.8)	58,543
Pacific	Australia	9,846	(73.8)	1,477	(11.1)	647	(4.9)	1,370	(10.3)	2,018	(15.1)	10,493	(78.7)	2,848	(21.3)	13,341
	New Zealand	811	(69.4)	128	(11.0)	39	(3.3)	190	(16.3)	229	(19.6)	850	(72.7)	319	(27.3)	1,168
Europe	Austria	1,140	(57.5)	417	(21.0)	229	(11.6)	197	(9.9)	426	(21.5)	1,370	(69.1)	614	(30.9)	1,984
	Belgium	3,345	(58.8)	1,610	(28.3)	445	(7.8)	289	(5.1)	734	(12.9)	3,790	(66.6)	1,899	(33.4)	5,689
	Denmark	1,323	(49.9)	88	(3.3)	457	(17.2)	786	(29.6)	1,243	(46.8)	1,780	(67.1)	874	(32.9)	2,654
	Finland	960	(41.7)	366	(15.9)	491	(21.3)	484	(21.0)	976	(42.4)	1,452	(63.1)	850	(36.9)	2,302
	France	7,890	(46.3)	3,069	(18.0)	1,478	(8.7)	4,588	(26.9)	6,066	(35.6)	9,368	(55.0)	7,656	(45.0)	17,025
	Germany	16,851	(51.8)	917	(2.8)	5,736	(17.6)	9,029	(27.8)	14,765	(45.4)	22,587	(69.4)	9,946	(30.6)	32,533
	Greece	3,057	(97.3)			57	(1.8)	29	(0.9)	86	(2.7)	3,114	(99.1)	29	(0.9)	3,143
	Ireland	456	(45.9)			362	(36.5)	175	(17.6)	537	(54.1)	818	(82.4)	175	(17.6)	993
	Israel	1,912	(66.0)			704	(24.3)	282	(9.7)	986	(34.0)	2,615	(90.3)	282	(9.7)	2,898
	Italy	4,173	(43.7)	1,621	(17.0)	2,076	(21.7)	1,685	(17.6)	3,761	(39.4)	6,248	(65.4)	3,307	(34.6)	9,555
	Netherlands	5,484	(39.3)	2,197	(15.7)	3,790	(27.1)	2,500	(17.9)	6,290	(45.0)	9,274	(66.4)	4,697	(33.6)	13,971
	Norway	1,794	(71.0)			554	(21.9)	180	(7.1)	734	(29.0)	2,348	(92.9)	180	(7.1)	2,528
	Portugal	583	(72.5)	221	(27.5)							583	(72.5)	221	(27.5)	805
	Spain	3,208	(41.3)	2,984	(38.4)	609	(7.8)	964	(12.4)	1,573	(20.3)	3,817	(49.1)	3,949	(50.9)	7,765
	Sweden	7,378	(74.2)	710	(7.1)	893	(9.0)	962	(9.7)	1,854	(18.7)	8,271	(83.2)	1,672	(16.8)	9,943
Switzerland	8,240	(65.5)	1,960	(15.6)	914	(7.3)	1,469	(11.7)	2,382	(18.9)	9,154	(72.8)	3,429	(27.2)	12,583	
UK	24,697	(56.6)	2,637	(6.0)	8,705	(20.0)	7,558	(17.3)	16,264	(37.3)	33,403	(76.6)	10,196	(23.4)	43,598	
Turkey	359	(93.0)	27	(7.0)							359	(93.0)	27	(7.0)	385	
Latin Am	Argentina	346	(44.1)	84	(10.7)	251	(32.0)	103	(13.1)	354	(45.2)	597	(76.2)	187	(23.8)	783
	Bermuda	2,518	(82.2)			230	(7.5)	314	(10.3)	544	(17.8)	2,748	(89.7)	314	(10.3)	3,062
	Brazil	538	(38.1)	212	(15.0)	312	(22.1)	349	(24.7)	661	(46.8)	850	(60.2)	562	(39.8)	1,412
	Chile	1,365	(90.6)	6	(0.4)	117	(7.8)	19	(1.2)	135	(9.0)	1,482	(98.4)	24	(1.6)	1,506
	Mexico	2,942	(72.7)	124	(3.1)	505	(12.5)	477	(11.8)	982	(24.3)	3,447	(85.1)	602	(14.9)	4,049
North Am	Canada	10,348	(73.7)	2	(0.0)	2,982	(21.2)	706	(5.0)	3,688	(26.3)	13,330	(95.0)	708	(5.0)	14,038
	US	174,576	(62.4)	20,039	(7.2)	55,891	(20.0)	29,315	(10.5)	85,207	(30.5)	230,468	(82.4)	49,354	(17.6)	279,822
Total		371,115	(59.8)	42,526	(6.8)	122,054	(19.7)	85,314	(13.7)	207,368	(33.4)	493,169	(79.4)	127,840	(20.6)	621,009

Appendix Table I — Continued

Panel B-2: Total Amount of Proceeds (US\$ mil) raised at SEOs																
Region	Nation	Primary		Secondary		Combined (primary & secondary) offerings						Total		Total issues amount		
		only offerings		only offerings		primary		secondary		combined total		Primary			Secondary	
		amount	%	amount	%	amount	%	amount	%	amount	%	amount	%		amount	%
Asia	Hong Kong	3,773	(21.6)	12,915	(73.8)	506	(2.9)	309	(1.8)	815	(4.7)	4,279	(24.4)	13,224	(75.6)	17,504
	India	3,980	(90.4)	413	(9.4)	2	(0.0)	5	(0.1)	7	(0.2)	3,982	(90.5)	419	(9.5)	4,401
	Indonesia	685	(43.2)	901	(56.8)							685	(43.2)	901	(56.8)	1,587
	Malaysia	547	(59.3)	376	(40.7)							547	(59.3)	376	(40.7)	923
	Pakistan	100	(100.0)									100	(100.0)			100
	Philippines	28	(8.1)	210	(61.0)	35	(10.3)	71	(20.6)	106	(30.9)	63	(18.4)	280	(81.6)	344
	Singapore	3,553	(65.2)	1,391	(25.5)	308	(5.7)	196	(3.6)	504	(9.3)	3,862	(70.9)	1,587	(29.1)	5,449
	South Korea	6,236	(87.5)	887	(12.5)							6,236	(87.5)	887	(12.5)	7,123
	Taiwan	9,649	(66.7)	3,845	(26.6)	610	(4.2)	365	(2.5)	975	(6.7)	10,259	(70.9)	4,210	(29.1)	14,468
	Thailand	644	(57.6)	214	(19.1)	231	(20.6)	30	(2.7)	261	(23.3)	875	(78.2)	244	(21.8)	1,119
	Japan	57,501	(56.6)	26,901	(26.5)	7,013	(6.9)	10,162	(10.0)	17,175	(16.9)	64,514	(63.5)	37,062	(36.5)	101,576
Pacific	Australia	2,932	(56.4)	1,921	(36.9)	146	(2.8)	203	(3.9)	349	(6.7)	3,078	(59.2)	2,124	(40.8)	5,202
	New Zealand	213	(41.9)	296	(58.1)							213	(41.9)	296	(58.1)	508
Europe	Austria	576	(41.2)	822	(58.8)							576	(41.2)	822	(58.8)	1,398
	Belgium	1,510	(39.6)	1,885	(49.5)	264	(6.9)	151	(4.0)	415	(10.9)	1,774	(46.6)	2,036	(53.4)	3,809
	Denmark	1,607	(60.9)	1,031	(39.1)							1,607	(60.9)	1,031	(39.1)	2,638
	Finland	2,987	(45.5)	2,894	(44.1)	227	(3.5)	457	(7.0)	684	(10.4)	3,214	(49.0)	3,350	(51.0)	6,564
	France	7,868	(22.3)	27,012	(76.4)	319	(0.9)	136	(0.4)	455	(1.3)	8,187	(23.2)	27,148	(76.8)	35,335
	Germany	13,264	(49.1)	12,862	(47.6)	285	(1.1)	599	(2.2)	884	(3.3)	13,549	(50.2)	13,461	(49.8)	27,010
	Greece	277	(53.4)	200	(38.5)	24	(4.6)	18	(3.4)	42	(8.0)	301	(58.0)	218	(42.0)	519
	Ireland	1,740	(47.5)	1,238	(33.8)	233	(6.3)	456	(12.4)	689	(18.8)	1,973	(53.8)	1,694	(46.2)	3,667
	Israel	1,728	(37.9)	1,001	(22.0)	1,194	(26.2)	632	(13.9)	1,826	(40.1)	2,922	(64.2)	1,633	(35.8)	4,555
	Italy	4,262	(55.8)	2,280	(29.9)	491	(6.4)	600	(7.9)	1,091	(14.3)	4,753	(62.3)	2,880	(37.7)	7,633
	Netherlands	18,485	(48.1)	18,377	(47.8)	495	(1.3)	1,053	(2.7)	1,548	(4.0)	18,979	(49.4)	19,431	(50.6)	38,410
	Norway	5,462	(75.2)	1,771	(24.4)	12	(0.2)	15	(0.2)	27	(0.4)	5,475	(75.4)	1,785	(24.6)	7,260
	Portugal	155	(16.2)	805	(83.8)							155	(16.2)	805	(83.8)	960
	Spain	5,674	(43.3)	6,930	(52.9)	192	(1.5)	303	(2.3)	496	(3.8)	5,866	(44.8)	7,233	(55.2)	13,100
	Sweden	1,378	(14.9)	7,314	(79.0)	305	(3.3)	266	(2.9)	571	(6.2)	1,683	(18.2)	7,579	(81.8)	9,263
	Switzerland	1,226	(5.9)	14,654	(70.7)	1,285	(6.2)	3,566	(17.2)	4,851	(23.4)	2,511	(12.1)	18,220	(87.9)	20,731
UK	35,522	(50.8)	28,559	(40.8)	3,459	(4.9)	2,411	(3.4)	5,870	(8.4)	38,981	(55.7)	30,971	(44.3)	69,952	
Turkey	69	(18.0)	290	(75.5)	14		11		25		83	(21.7)	301	(78.3)	384	
Latin Am	Argentina	741	(61.5)	90	(7.5)	136	(11.3)	239	(19.8)	375	(31.1)	877	(72.7)	329	(27.3)	1,206
	Bermuda	3,285	(33.9)	2,425	(25.0)	2,469	(25.5)	1,517	(15.6)	3,985	(41.1)	5,754	(59.3)	3,942	(40.7)	9,695
	Brazil	1,613	(18.1)	3,544	(39.7)	1,732	(19.4)	2,044	(22.9)	3,776	(42.3)	3,345	(37.4)	5,588	(62.6)	8,933
	Chile	524	(85.9)	86	(14.1)							524	(85.9)	86	(14.1)	610
	Mexico	3,326	(57.7)	493	(8.6)	993	(17.2)	953	(16.5)	1,946	(33.8)	4,319	(74.9)	1,446	(25.1)	5,765
North Am	Canada	43,612	(69.1)	3,341	(5.3)	12,296	(19.5)	3,856	(6.1)	16,152	(25.6)	55,908	(88.6)	7,197	(11.4)	63,105
	US	182,558	(37.9)	113,547	(23.5)	109,785	(22.8)	76,298	(15.8)	186,083	(38.6)	292,343	(60.6)	189,844	(39.4)	482,187
Total		429,293	(43.6)	303,717	(30.8)	145,060	(14.7)	106,921	(10.9)	251,981	(25.6)	574,352	(58.3)	410,639	(41.7)	984,991