

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, using a sample of 17,226 initial public offerings and 13,142 seasoned equity offerings from 38 countries between 1990 and 2003. We provide estimates of the changes in a number of accounting variables for each dollar raised in an equity offer, and for each dollar of internally generated cash. Our estimates imply that firms invest 18.5 cents in R&D and 9.9 cents in capital expenditures for an incremental dollar raised in an IPO during the year following the offer, rising to 78.0 cents and 19.9 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 on to much of the cash they raised in both IPOs and SEOs. For our sample of SEOs, high market to book firms tend to save a particularly high fraction of the cash they raise, while low market to book firms tend to invest the cash they raise. In addition, firms are more likely to issue secondary shares in SEOs, which are usually sold by insiders, when the market to book ratio 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.

JEL classification: G31; G32

Keywords: Investment financing; Market timing; IPO; SEO

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Abstract

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1. Introduction

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. In contrast, a number of recent papers have found considerable support for the mispricing explanation, especially for seasoned equity offers. Loughran and Ritter (1995, 1997) and Baker and Wurgler (2000) find that equity offers lead to subsequent negative abnormal returns in the U.S., while Henderson, Jegadeesh, and Weisbach (2006) find similar results internationally. Greenwood (2005) documents 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. Finally, Baker and Wurgler (2002) present evidence suggesting that market timing of equity offers is so prevalent that it is an important determinant of firms' observed capital structures.

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).

However, these papers do not provide an empirical link between the equity issues and 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-traded equity. It relies on a sample of 17,226 initial public offerings and 13,142 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.² 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.³

To examine the effect of equity offerings on investment, we 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 formally estimate the increase in the accounting variables that represent possible uses of the capital raised following IPOs.

² One exception is Huyghebaert and Van Hulle (2006), who examine the factors that affect the proportion of primary and secondary shares in a sample of Belgian IPOs.

³ Existing theoretical models on IPOs do not 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 do not model new investment and production activity.

In doing so, we control econometrically for other sources of funds and firm size, and include year and country fixed effects as well.

Our estimates indicate that the largest increase is for cash holdings; for every dollar raised in the IPO, cash holdings rise by 49.0 cents in the year after the IPO. This estimated increase in cash decreases to 38.8 cents when the equation is estimated over a four-year period after the IPO, presumably because the money is spent on various projects. Firms appear to make substantial expenditures on R&D and capital expenditures. These variables increase by 18.5 cents and 9.9 cents respectively per dollar raised in the year following the IPO, and by 78.0 cents and 19.9 cents over a four-year period. These results are consistent with the investment financing motivation for equity offers. They also suggest that firms use equity offers to raise capital for a number of alternative projects that occur over a relatively long period of time, consistent with the arguments of Axelson, Strömberg, and Weisbach (2006).

We next 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. Like IPOs, one motivation for SEOs appears to be raising 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 the capital raised in the offering is not required for financing investments.

Finally, we explore the extent of market timing motivations in a more direct manner by relating the market to book ratio 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. Consistent with these arguments, our empirical results suggest that, controlling for other factors, a higher abnormal valuation increases the expected fraction of secondary shares in the offering. When

equity values, reflected by market to book ratio, 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 with the firm's market to book ratio. We do so because SEOs motivated by high valuations should occur in firms with relatively high market to book ratios. 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 in the offering to be used to pay for these investments. Consistent with this intuition, we find that following an SEO, firms with low market to book ratios spend relatively more on inventories, capital expenditures, and acquisitions than firms with high valuations. In contrast, firms with high market to book ratios tend to keep more cash from a marginal dollar raised than do low valuation firms. These findings suggest that when firms with low market to book ratios do seasoned offerings, the purpose of these offerings is to fund investments, while firms with high market to book ratios 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 acquisitions, to purchase inventory, or to make capital expenditures.

The remainder of the paper is organized as follows: Section 2 describes our data sources and our sample. Section 3 provides the distribution of primary and secondary shares offered in IPOs and SEOs across the 38 countries. Section 4 estimates the relation between the capital raised in IPOs and increases in assets and expenditures, while Section 5 performs similar analysis for SEOs. Section 6 provides sub-sample analysis based on legal origins for both IPOs and SEOs. Section 7 reports the relation between the

market to book ratio 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 market to book, affects the use of these proceeds. Section 8 is a short conclusion.

2. Data sources and sample description

2.1 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 Compustat Global, which provides international financial data, and with standard Compustat North America. 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.

Starting with all IPOs and SEOs 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 issues where the reported value of proceeds is inconsistent with the offer price and the number of shares sold by more than \$5 million⁴. A total of 1,608 IPOs and 6,582 SEOs were dropped using these initial filters. Since our focus is on public equity offers, we additionally exclude all private placements and rights offerings (12,533 offers).⁵ We then exclude the following firms from our sample:

- (a) All utilities (3 digit SIC from 491 to 494): 253 IPOs, 558 SEOs.
- (b) All financials (1 digit SIC 6): 5,246 IPOs, 4,207 SEOs.
- (c) All privatizations: 171 IPOs, 190 SEOs.⁶

⁴ We dropped 108 observations because of this criterion, 70% of which were cross-border issues. In these cases, it seems likely that the inconsistency was caused by confusion over currencies.

⁵ Roughly half of private placements and rights offerings are from Australia. These offerings tend to be very small.

⁶ The privatizations are first identified within SDC whenever the selling party is a government or a country. But since this information is only available for a very limited subsample, we then resort to Boutchkova and Megginson (2000), Belke and Schneider (2003), and *Hoover's Online* for additional classification. 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.

- (d) All telecoms (2 digit SIC 48): 656 IPOs, 737 SEOs.⁷
- (e) All transition economies: 1,116 IPOs, 144 SEOs from China, Hungary, Poland and Russia.
- (f) All nations with fewer than 10 IPOs during the sample period: 83 IPOs from 28 countries, 148 SEOs from 32 countries.

These requirements are imposed to identify a sample of non-regulated private firms that issue publicly-traded equity.⁸ After applying these filters, we end up with a sample of 17,226 IPOs and 13,142 SEOs from 38 countries, each occurring between 1990 and 2003.⁹

2.2 *Equity issues around the world*

Table 1 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 weighted equally and 45% weighted by proceeds raised.¹⁰ 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 numbers by the late 1990s. Asian IPOs peak in the mid 1990s and then drop significantly in 1998-99 after the financial crisis of 1997. It is interesting to note that in 1999, there was a drop in the number of Asian IPOs, yet the proceeds in that calendar year were over \$7 billion, implying that average proceeds per IPO were huge. Although Asian IPOs comprise 36% of the sample on an equally-weighted basis, they only account for 12% of the total proceeds, implying that Asian IPOs are generally smaller on average than other IPOs.¹¹

The cross-regional pattern for SEOs is somewhat similar to the pattern for IPOs. The U.S. is the largest issuer, with 35% of the issues and 48% 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

⁷ Telecoms are similar to utilities in terms of regulations, and many of them also overlap with privatizations.

⁸ 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 and units.

⁹ If a firm has more than one issue within two calendar days, we sum up the amount and count them as one issue. This procedure affects 0.9% of IPOs and 1.5% of SEOs.

¹⁰ The amount raised through ADRs is included in total for the country of origin rather than in the U.S.

¹¹ Almost 60% of Asian IPOs are from India, and Indian IPOs tend to be very small. The median value of IPO proceeds in India is only US\$ 0.7 million, compared to the global median of US\$ 8.5 million.

continue 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 value in 2003 is only 46% of 2000 value. However, the magnitude of the decline is proportionately smaller than for IPOs, where the proceeds in 2003 are less than a quarter of those for 2000.

3. 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 2 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.¹² 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 77.9% of IPOs and 65.2% of SEOs. Pure secondary offerings are especially uncommon for IPOs, accounting for only 1.6% of IPOs, compared to 17.7% of SEOs. The remaining 20.6% of IPOs and 17.1% of SEOs are combinations of primary and secondary offerings. We can calculate the total value raised from primary shares and secondary shares respectively by separating out the proceeds from the combined category into those raised by each type, and adding them to the proceeds from primary only and secondary only offerings. The last five columns of panels B-1 and B-2 in Table 2 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

¹² The detailed breakdown by each country is provided in the Table 1 of the Appendix.

mostly primary shares, 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 (33.6%), and lower percentage of primary only offerings (53.6%). 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 (2001) 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 59% 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.¹³ In general, seasoned offers have a higher proportion of secondary shares than do primary offers, which occurs despite the fact that the executives have a public market alternative for selling their shares in public companies doing seasoned offerings. Seasoned offers with secondary shares are attractive to insiders because of both illiquid markets for their securities, and regulatory restrictions on insiders' ability to sell their securities anonymously in the public market.¹⁴

¹³ 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 47% of the sample, secondary-only SEOs 14%, and combined offers 40%.

¹⁴ For example, SEC Rule 144 imposes a limit on the amount of shares that can be sold by initial investors in the marketplace. Specifically, initial investors cannot sell more than the larger of: (1) 1% of the outstanding shares and (2) the average weekly trading volume, during any three-month period.

4. 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 in the firm. 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.

Probably the most well-known 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. Yet, to evaluate the paper's conclusions in a broader context, it is important to know the extent to which these findings carry over to a broader sample of firms in other countries in other time periods.

We reexamine this conclusion on our large, international sample of IPOs. If firms use the capital raised to fund investments, then we should be able to predict changes in investments as a function of the quantity of capital raised in a particular offering. To do so, we consider changes in seven accounting variables, each of which captures a potential use of the funds raised. In particular, we measure changes in total assets, inventory, capital expenditures, acquisitions, R&D, and cash, as well as reductions in long-term debt.¹⁵ 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

¹⁵ 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. The "reduction in long-term debt" variable simply reflects the quantity spent to retire long-term debt during that fiscal period, and is not offset by issues of new debt.

just prior to the IPO and year t is the 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: $\ln[(\sum_{i=1}^t V_i / \text{total assets}_0) + 1]$.

4.1. Specification.

To estimate the uses of the capital raised in the equity offering, we rely on a specification that allows new capital from the primary shares sold, and other sources of incremental funds available to the firm to enter the specification separately.¹⁶ If there are any subsequent equity offerings within the fiscal year of the IPO, we add the additional capital raised to the primary capital from the IPO.¹⁷ We normalize each source of funds by total assets and take the log of one plus the normalized cash flow as a way of minimizing the effect of outliers.¹⁸ We also include the log of total assets as a control for size and fixed effects for year and country, and report heteroscedasticity-consistent standard errors clustered by two-digit SIC industry.¹⁹ For each of seven measures of possible uses of the capital raised, we estimate:

$$(1) \quad Y = \beta_1 \ln \left[\left(\frac{\text{primary capital}}{\text{total assets}_0} \right) + 1 \right] + \beta_2 \ln \left[\left(\frac{\text{other sources}}{\text{total assets}_0} \right) + 1 \right] \\ + \beta_3 \ln[\text{total assets}_0] + \sum_{i=1990}^{2003} \theta_i \text{year dummy} + \sum_{j=1}^{38} \lambda_j \text{country dummy} + \varepsilon$$

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

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

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

¹⁶ In an earlier version of this paper, we had included the proceeds from the sale of secondary shares as a separate independent variable. The proceeds from the secondary shares do not flow into the firm and consequently the estimates of the coefficients on these proceeds were generally small and statistically insignificant. We therefore have excluded them from the specifications we report.

¹⁷ About 5 percent of IPOs have seasoned offerings within the fiscal year of the IPO. If we exclude the capital raised from these seasoned offerings, the results are similar to those discussed below.

¹⁸ 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.

¹⁹ We exclude those IPOs where the value of total assets prior to the IPO is less than 5% of the total proceeds (2.7% 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.^{20 21}

The extra data requirements tilts the sample for which we can estimate this specification toward larger and US firms compared to the full sample described in Tables 1 and 2. For example, median IPO amount is \$7 million for the full sample, \$18 million for IPOs with accounting information, and \$22.5 million for the sample with "other sources of funds" available. The corresponding numbers for SEOs are 11.6, 16.8 and 18.4. Similarly, US IPOs make up only 27% of all IPOs in Table 1, but this percentage increases to 50% if we require accounting information, and to 68% if we require information on "sources of funds".

4.2. Results.

Table 3 presents estimates of Equation (1), omitting the country and year fixed effects as well as the coefficient on the log of total assets for the sake of brevity. The coefficients on primary capital raised in the IPO, as well as those on other sources of capital are mostly positive and statistically significantly different from zero.

Differences between the coefficients on new capital from the equity offering with those from other sources of capital, which is primarily internally-generated, are likely to reflect differences in propensities to use alternative sources of capital for alternative uses. They thus provide insights into the underlying reasons for equity offerings.

The results in Table 3 indicate that the coefficients on primary capital raised in equity offerings are generally substantially larger than the corresponding coefficients for the other sources of capital in the equations estimating the changes in R&D and cash holdings. These findings suggest that the funds raised

²⁰ 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 on WorldScope. In Compustat Global and North America, this variable needs to be constructed from the component variables.

²¹ We have also estimated these 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.

in an IPO are more likely to be used for investments in R&D than are internally-generated funds. 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 those on new capital. This pattern indicates that debt reductions and acquisitions are more likely to be paid for by internally-generated funds than by new capital. This result differs from Pagano, Panetta, and Zingales (1998), who find that capital raised in IPOs tends to be used to pay off long-term debt and not to finance new investments. Overall, the comparisons between the estimated uses of internally-generated funds and new capital are consistent with the view that capital raised in IPOs is used to fund new investments.

A useful way to compare the effects of new capital across different uses is to calculate the change in the accounting variable implied from a dollar increase in new capital in each equation.²² This value provides a consistent way of comparing the relative importance of alternative uses of the cash raised. We also report the implied changes from a dollar increase in internally-generated capital. The results of these calculations are also presented in Table 3. 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.²³ 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.

²² The calculations are based on a median-sized firm in the sample. Year and country fixed effects are for 1996 and US. For example, the dollar changes in R&D for $t = 1$ is calculated as follows: Median primary capital is 18.5, median total sources are 26.8 and median total assets prior to IPO are 25.9 (All units are in \$US million). The coefficient for $\ln[\text{total assets}]$ is 0.002 and the constant term reflecting 1996 and US fixed effects is -0.026. Using these numbers together with coefficients from Table 3 yields 0.13365 as the predicted value of the log transformation, implying a predicted change of 3.704 in R&D. Then we add one to median primary capital (as well as total sources) and repeat the above procedure, which results in a predicted change of 3.889 in R&D. The difference in the two predicted changes represents the dollar changes in R&D for one unit increase in primary capital, which equals 0.185.

²³ If some of the new capital were used to pay off debt within the fiscal year of the IPO, 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 as cash; in year one, firms hold 49.0 cents in cash for every dollar they raise, decreasing over time to 38.8 cents when changes are computed over four years. These numbers 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 generally increase over time for 3 to 4 years. In the first year after the IPO, it implies that for every dollar raised, R&D increases by 18.5 cents, capital expenditures by 9.9 cents, inventory by 1.9 cents, and acquisitions by 3.2 cents. Over a three-year horizon, R&D rises by 60.7 cents, capital expenditures by 22.0 cents, inventory by 4.1 cents, and acquisitions by 4.7 cents.²⁴ 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 interpretation is the fact that the corresponding implied changes in cash holdings have the opposite pattern over the same time horizon. These results suggest that firms generally issue equity to fund a series of projects over time rather than particular investments, consistent with the logic of the Axelson, Strömberg, and Weisbach (2006) model, which implies that, in contrast to debt, equity should be used to finance a number of different projects.

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 noticeably 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 at least for the first 2 years, 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.

²⁴ One reason why the estimated spending on R&D is relatively high is that many firms that do not do R&D also do not report data on R&D, so are eliminated from the sample used to estimate the R&D equations. The R&D equation can be thought of as representing the propensity to spend dollars raised on R&D by firms that actually are engaged in R&D.

5. 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 final source of financing after their debt capacity has been used up. 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).²⁵

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.

Table 4 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 new capital raised through issues of primary shares and funds from other sources of capital, as well as a control for firm size and dummies for country and year. Before running the regressions, we also aggregate all offerings made within the same fiscal year end and sum the proceeds amount so that the unit of observation would correspond to a specific firm-year.²⁶

The results for SEOs are similar to IPOs in two respects. First, the proceeds from primary issues positively affect most of the variables except for debt reduction. Second, proceeds from primary capital

²⁵ These authors focus their discussion on mergers, but the same argument could be applied to any investment.

²⁶ In our SEO sample, 7.5% of firm-years had more than one SEO during that fiscal year.

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

The implied increase following a dollar increase in other sources of funds is among 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.

6. Subsample analysis by legal origin

Much discussion in the literature has focused on differences in how investments are funded in different parts of the world. In particular, La Porta et al. (1997) have suggested that, unlike in common law countries, companies in countries with a legal system based on civil law typically do not rely on equity markets to finance their investments. Estimates of the use of funds raised in equity offerings allow us to examine this hypothesis by estimating the extent to which firms in different countries use capital they raise to fund investments.

To evaluate possible differences in the use of capital between legal regimes, we replicate the estimates of Equation (1) separately for both IPOs and SEOs in the common law and civil law regions. Panels A-1 and A-2 of Table 5 represent IPOs in common law countries and civil law countries, respectively. Corresponding numbers for SEO sub-samples are presented in Panels B-1 and B-2.

For each sub-sample, we present results for capital expenditures, R&D, and change in cash holdings, for each of the four time periods. Because a large number of observations in much of the sample had to be eliminated due to a lack of data available to construct ‘other sources of income’, we present estimates of both the ‘full model’ (Equation (1)), and estimates of this model without the ‘other sources of income’ variable included, often on a substantially larger sample.

The results in panels A-1 and A-2 suggest that, in contrast to La Porta et al. (1997), firms in both common law and civil law countries use capital raised in initial offerings to finance capital expenditures and R&D. Except for the capital expenditures in civil law countries in years 3 and 4, all coefficients on new capital are positive and statistically significantly different from zero. In addition, there are no noticeable differences in the magnitudes of the predicted quantity of change per dollar raised for the reduced model. While there are many more initial public offerings in common law countries than in civil law countries, the use of the capital raised in the offerings appears to be similar.

Sub-sample analysis for SEOs presented in panels B-1 and B-2 indicate that firms in both common law and civil law countries use some cash raised in SEOs to increase R&D, and keep a substantial quantity as cash. However, civil law firms do not appear to fund capital expenditures from SEO capital, instead relying on internally generated cash to finance their capital expenditures.

7. 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 have 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 a firm's market to book ratio to the proportion of secondary shares it sells in SEOs, and to the uses of the cash it raises in the SEO.²⁷

7.1. The proportion of secondary shares offered and a firm's market to book ratio

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 share offers should coincide with a high demand on the part of the

²⁷ We restrict the tests in this section to SEOs since the tests require information on market value prior to the equity offering.

managers for liquidity.²⁸ In addition, if a firm's stock is overvalued, 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.²⁹

This argument also has predictions for the type of equity offering a firm chooses to use. 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 offers 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. We rely on the market to book ratio, defined as the market value of equity over the book value of equity as of the closest fiscal year end prior to the SEO announcement as a measure of valuation. However, there are likely to be factors that cause rational deviations of observed market to book ratio from one; in particular, book value of equity is historically-based while market values are forward-looking estimates. As an admittedly crude way of controlling for these factors, we follow Blanchard, Rhee, and Summers (1993) and estimate an equation predicting the expected market to book ratio as a function of a number of accounting variables.

One statistical issue when estimating market to book ratio cross-sectionally is that it could be skewed and not normally distributed. As a partial correction for this problem, we use the log of market to

²⁸ 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.

²⁹ Baker and Wurgler (2000) is one of a number of studies supporting this view. One particularly telling piece of evidence on this point is that in the Graham and Harvey (2001) survey of CFOs of public corporations, two-thirds identify the amount to which their stock is overvalued or undervalued as an important consideration in the decision to issue equity. Jenter (2005) finds that managers appear to take observable measures of valuation into account in their personal portfolio decisions, again consistent with the view that the market misvalues firms in ways that managers can take advantage of. See Baker, Ruback, and Wurgler (2004) for a survey and discussion of this literature.

book rather than its level as the dependent variable in the first-stage regression³⁰. We estimate the following model:

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

The estimated equation is:

$$\begin{aligned} &= 0.66 - 0.27(s/a)_{.1} + 0.28(s/a)_{.2} + 0.11(s/a)_{.3} + 0.25(s_{.1}/s_{.2}) + 0.10(s_{.2}/s_{.3}) + 0.12(s_{.3}/s_{.4}) + 0.53(i/a)_{.1} - 0.37(i/a)_{.2} \\ &\quad (15.99) \quad (-3.18) \quad (3.13) \quad (1.46) \quad (5.42) \quad (2.54) \quad (3.06) \quad (2.38) \quad (-2.07) \\ &+ 0.33(i/a)_{.3} + 0.89(d/s)_{.1} + 0.07(d/s)_{.2} - 0.91(d/s)_{.3} + 1.79(R\&D/a)_{.1} + 0.43(R\&D/a)_{.2} + 0.84(R\&D/a)_{.3} \\ &\quad (1.68) \quad (1.32) \quad (0.33) \quad (-1.25) \quad (6.34) \quad (1.87) \quad (2.92) \end{aligned}$$

where t-statistics for each coefficient are reported in the parentheses, and the R^2 equals 0.22.

Fitted values from this equation represent estimates of the expected log of the market to book ratios, conditional on the independent variables in the 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 6 reports the results from regressing the proportion of secondary shares offered in SEOs on measures of valuation, either $\ln[ME/BE]$ or the combination of the fitted values of $\ln[ME/BE]$ and residual $\ln[ME/BE]$ from the estimated first-stage equation. In the first four columns, we use the $\ln[ME/BE]$ as our measure of valuation, and separate it into fitted $\ln[ME/BE]$ and residual $\ln[ME/BE]$ in columns (5) and (6). Columns (1) and (2) use the full sample that has information on market to book ratio, while in columns (3) and (4), the observations are restricted to be the same as in columns (5) and (6), in which we require enough information for the first stage estimation. We include country and year fixed effects in all specifications.

The results in Table 6 indicate that the proportion of secondary shares is positively and significantly related to both $\ln[ME/BE]$ and to the residuals from the first-stage regression. This finding

³⁰ We also estimate the specification where the bottom 1% (excluding negative book equity firms) and top 1% are truncated without imposing the log transformation. The second stage results obtained are qualitatively similar to the basic specification.

appears to be robust to choice of specification and is consistent with the view that firms are more likely to offer 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.

7.2. Market to book ratio 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 market to book ratios occur because of high investment opportunities, then we would expect the proceeds of equity offerings from high market to book firms to be used primarily to fund investments.

To test this hypothesis, we first sort the sample by market to book ratio in each country year by year,³¹ and divide each country-year cohort into three equal-sized terciles.³² We then interact dummy variables indicating whether the firm is in the high valuation group, the medium valuation group, or the low valuation group with the proceeds raised from primary shares and with internally generated capital.

Table 7 presents estimates of this equation. 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 valuation firms and high valuation firms. As before, all regressions include country and year fixed effects, as well as $\ln[\text{total assets}]$ and dummy variables indicating whether a firm is low valuation or high valuation, all of which are omitted for the sake of brevity.

The results from Table 7 indicate that the effect of primary capital on subsequent investment varies according to the level of market to book prior to the SEO. Firms with low valuations are more likely to use the funds they raised to increase inventory, capital expenditures, and acquisitions compared

³¹ Following Fama and French (1992), negative book equity firms, roughly 4% of the sample, are excluded in the ranking process.

³² If a country-year cohort has less than three observations (2.2% of the sample) we do not assign those observations a ranking and treat them as missing.

to high valuation firms. In contrast, firms with high valuations are more likely to hold on to the cash they raised and spend it on R&D than low valuation firms.

These differences between high valuation firms and low valuation firms are generally statistically significant for capital expenditures, R&D, and cash holdings. For example, the implied increase in capital expenditures by increasing primary capital by a dollar is 17.9 cents for low valuation firms but only 5.3 cents for high valuation firms in the first year after the SEO per dollar of primary capital raised. When the estimation is performed over a four-year period, implied capital expenditures increase to 47.4 cents for low valuation firms but only 18.3 cents for high valuation firms per dollar of primary capital raised. On the other hand, expected cash holdings increase by 44.5 cents for low valuation firms compared to 53.7 cents for high valuation firms in the first year after the SEO for each dollar raised. Over a four-year period, expected cash holdings decrease to 21.5 cents for low valuation firms per dollar raised, and 35.4 cents for high valuation firms.

These results suggest that the relative importance of market timing versus raising capital for investment depends on the firm level market to book ratio. High valuation firms appear to be more focused on timing the market, whereas low valuation firms seem to be issuing seasoned equities to meet their demand for capital. This finding also suggests that our estimate of market to book ratio reflects valuation rather than investment opportunities, since high valuation firms are less likely to invest out of marginal funds than are low valuation firms.³³

8. 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 17,226 IPOs and 13,142 SEOs from 38 countries. We estimate the actual uses of the funds raised in both initial and

³³ Lian (2005) finds that SEO firms with substantial 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.

seasoned offers. In doing so, we incorporate only primary shares and exclude secondary shares sold by initial shareholders. We also consider how a measure of the firms' overvaluation or undervaluation affects the issuance, both in terms of the types of shares offered 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 18.5 cents for a marginal dollar of capital raised in the first year following an IPO, and by 17.8 cents per marginal dollar raised in the first year following an SEO. These figures increase to 78.0 cents per dollar raised if the changes are computed over the four-year period following IPOs and 64.3 cents for the four-year period following SEOs. These estimated expenditures are substantially, and statistically significantly, larger than the comparable numbers for a marginal dollar of internally-generated cash. They also appear to be similar over alternative legal regimes. These results strongly suggest that one motive behind equity offers is to raise capital to finance investment.

We also find evidence consistent with the view that some equity offers are made to take advantage of high valuations. A firm is likely to keep much of the money it raises in an equity offer as cash; this fraction is substantially higher when the firm has a high value of market to book ratio. In contrast, expenditures on investments are higher for low valuation firms than for high valuation firms. This pattern is consistent with equity offers from high valuation firms occurring, at least some of the time, to take advantage of potential overvaluation. In addition, SEOs done by firms with high value of market to book 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, in most regions of the world, capital raised in equity offerings, both initial and seasoned, leads to subsequent investment. Not all equity offers,

however, appear to be used to finance investment; other times firms issue equity to take advantage of favorable valuations. Measuring the relative importance of each motivation, the extent to which these motivations vary around the world, and the consequent implications for investment efficiency, would be excellent topics for future research.

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Table 1

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 & New Z	Cont'l Europe	UK	Latin America	US	Canada	Total
1990	67	3	4	13	0	0	152	3	242
1991	317	55	4	28	2	6	301	2	715
1992	536	17	26	25	15	7	415	4	1,045
1993	717	83	59	47	18	16	528	180	1,648
1994	1,170	135	92	76	89	31	454	175	2,222
1995	1,088	166	27	92	48	5	466	127	2,019
1996	900	139	51	127	142	16	678	198	2,251
1997	222	131	58	201	117	11	458	235	1,433
1998	84	76	26	246	60	3	251	144	890
1999	136	95	85	368	32	4	399	102	1,221
2000	321	189	127	395	167	6	315	109	1,629
2001	210	143	45	110	69	3	74	53	707
2002	221	109	55	53	48	1	65	54	606
2003	251	107	73	23	42	3	51	48	598
Total	6,240	1,448	732	1,804	849	112	4,607	1,434	17,226
%	36.2	8.4	4.2	10.5	4.9	0.7	26.7	8.3	100.0

Panel A-2: Number of SEOs									
Year	Asia (ex Japan)	Japan	Australia & New Z	Cont'l Europe	UK	Latin America	US	Canada	Total
1990	9	1	0	19	3	0	143	6	181
1991	10	0	3	47	3	6	369	5	443
1992	26	9	4	34	2	9	360	12	456
1993	53	28	5	74	6	13	453	278	910
1994	99	65	0	106	113	18	306	180	887
1995	92	90	3	73	95	19	437	140	949
1996	68	172	3	91	121	25	514	231	1,225
1997	111	84	5	138	90	24	436	176	1,064
1998	51	82	2	157	96	7	298	112	805
1999	135	223	5	126	77	4	317	256	1,143
2000	158	223	17	211	253	4	319	286	1,471
2001	120	148	34	153	274	10	211	213	1,163
2002	124	209	38	100	230	11	206	218	1,136
2003	215	237	12	91	288	10	254	202	1,309
Total	1,271	1,571	131	1,420	1,651	160	4,623	2,315	13,142
%	9.7	12.0	1.0	10.8	12.6	1.2	35.2	17.6	100.0

Table 1 — *Continued*

Panel B-1: Total Amount of Proceeds (US\$ bil) raised at IPOs									
Year	Asia (ex Japan)	Japan	Australia & New Z	Cont'l Europe	UK	Latin America	US	Canada	Total
1990	1.2	0.8	0.0	0.5	0.0	0.0	4.3	0.1	6.9
1991	3.0	3.7	0.2	1.5	0.2	0.6	10.7	0.0	19.9
1992	3.8	0.4	1.5	0.7	1.3	0.6	16.6	0.1	24.9
1993	4.5	3.6	0.9	3.4	0.6	1.4	19.6	2.2	36.2
1994	9.2	6.3	2.4	4.2	4.2	2.3	14.7	1.8	45.1
1995	7.8	7.4	1.3	10.6	2.3	0.6	21.9	0.7	52.5
1996	6.3	5.4	1.2	9.6	5.4	0.9	32.9	2.3	64.1
1997	7.8	2.1	1.1	11.1	5.4	1.2	23.6	2.6	54.9
1998	1.6	2.1	0.2	15.0	5.3	0.1	19.4	1.4	45.2
1999	7.1	5.2	1.2	25.4	3.9	0.4	42.7	0.5	86.2
2000	5.0	10.9	1.3	34.4	6.5	0.7	33.0	1.4	93.2
2001	5.9	4.2	0.5	5.6	1.8	1.8	22.3	0.3	42.2
2002	4.7	2.2	0.5	2.2	3.5	0.1	12.0	1.4	26.7
2003	4.5	4.3	2.2	0.3	2.9	0.1	6.9	0.9	21.9
Total	72.5	58.6	14.6	124.4	43.3	10.9	280.3	15.4	620.0
%	11.7	9.4	2.4	20.1	7.0	1.8	45.2	2.5	100.0

Panel B-2: Total Amount of Proceeds (US\$ bil) raised at SEOs									
Year	Asia (ex Japan)	Japan	Australia & New Z	Cont'l Europe	UK	Latin America	US	Canada	Total
1990	0.5	0.0	0.0	1.7	1.0	0.0	6.5	0.0	9.7
1991	0.3	0.0	0.5	2.2	1.0	0.4	25.3	0.1	29.7
1992	0.7	0.8	0.7	1.8	2.2	0.9	24.1	0.3	31.5
1993	1.5	1.7	0.4	8.1	1.0	1.3	29.9	10.9	54.9
1994	4.8	3.0	0.0	10.0	4.1	1.5	21.2	6.0	50.5
1995	4.2	6.1	0.1	4.1	3.6	1.9	36.1	5.2	61.3
1996	4.4	8.4	0.1	13.1	6.3	1.4	43.5	4.9	82.2
1997	5.0	3.3	1.2	21.0	5.2	3.3	39.3	7.8	86.1
1998	2.0	2.9	0.1	19.4	6.3	0.5	40.5	4.6	76.3
1999	6.7	21.3	0.1	30.8	4.1	1.4	55.2	7.1	126.8
2000	10.4	25.9	0.5	30.6	14.3	3.8	77.0	6.8	169.3
2001	3.7	7.7	1.0	20.1	10.9	3.6	31.0	4.6	82.7
2002	4.0	7.8	0.4	14.5	4.8	3.6	26.7	7.5	69.3
2003	9.2	13.3	0.5	6.8	6.0	2.8	31.1	8.1	77.9
Total	57.5	102.1	5.7	184.1	70.7	26.5	487.5	74.1	1,008.2
%	5.7	10.1	0.6	18.3	7.0	2.6	48.4	7.3	100.0

Table 2

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	%	Number	%	
Asia(ex Japan)	5,990	(96.0)	69	(1.1)	181	(2.9)	6,240
Japan	197	(13.6)	9	(0.6)	1,242	(85.8)	1,448
Australia & New Z	640	(87.4)	22	(3.0)	70	(9.6)	732
Continental Europe	1,281	(71.0)	99	(5.5)	424	(23.5)	1,804
UK	742	(87.4)	9	(1.1)	98	(11.5)	849
Latin America	72	(64.3)	7	(6.3)	33	(29.5)	112
US	3,157	(68.5)	54	(1.2)	1,396	(30.3)	4,607
Canada	1,334	(93.0)	0	(0.0)	100	(7.0)	1,434
Total	13,413	(77.9)	269	(1.6)	3,544	(20.6)	17,226

Panel A-2: Number of SEOs							
Region	Primary only issues		Secondary only issues		Combined issues		Total issues Number
	Number	%	Number	%	Number	%	
Asia(ex Japan)	756	(59.5)	488	(38.4)	27	(2.1)	1,271
Japan	1,011	(64.4)	416	(26.5)	144	(9.2)	1,571
Australia & New Z	102	(77.9)	26	(19.8)	3	(2.3)	131
Continental Europe	818	(57.6)	514	(36.2)	88	(6.2)	1,420
UK	1,407	(85.2)	196	(11.9)	48	(2.9)	1,651
Latin America	111	(69.4)	25	(15.6)	24	(15.0)	160
US	2,158	(46.7)	636	(13.8)	1,829	(39.6)	4,623
Canada	2,208	(95.4)	23	(1.0)	84	(3.6)	2,315
Total	8,571	(65.2)	2,324	(17.7)	2,247	(17.1)	13,142

Table 2 — Continued

Panel B-1: Total Amount of Proceeds (US\$ bil) 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)	67.6	(93.3)	1.4	(1.9)	2.3	(3.2)	1.2	(1.6)	3.5	(4.8)	69.9	(96.5)	2.5	(3.5)	72.5
Japan	7.0	(11.9)	0.2	(0.4)	31.2	(53.3)	20.1	(34.4)	51.4	(87.7)	38.2	(65.2)	20.4	(34.8)	58.6
Australia & New Z	10.8	(73.7)	1.6	(11.0)	0.7	(4.7)	1.6	(10.7)	2.2	(15.4)	11.5	(78.4)	3.2	(21.6)	14.6
Continental Europe	66.7	(53.6)	15.9	(12.8)	18.3	(14.7)	23.5	(18.9)	41.8	(33.6)	85.0	(68.3)	39.4	(31.7)	124.4
UK	24.4	(56.4)	2.6	(6.1)	8.7	(20.1)	7.6	(17.4)	16.3	(37.5)	33.1	(76.5)	10.2	(23.5)	43.3
Latin America	7.8	(72.0)	0.4	(3.6)	1.4	(12.7)	1.3	(11.8)	2.7	(24.4)	9.2	(84.7)	1.7	(15.3)	10.9
US	175.2	(62.5)	20.2	(7.2)	55.7	(19.9)	29.1	(10.4)	84.8	(30.3)	230.9	(82.4)	49.4	(17.6)	280.3
Canada	12.9	(83.5)	0.0	(0.0)	1.8	(11.5)	0.8	(5.0)	2.6	(16.5)	14.7	(95.0)	0.8	(5.0)	15.4
Total	372.4	(60.1)	42.4	(6.8)	120.1	(19.4)	85.1	(13.7)	205.2	(33.1)	492.5	(79.4)	127.5	(20.6)	620.0

Panel B-2: Total Amount of Proceeds (US\$ bil) 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)	33.6	(58.4)	21.4	(37.2)	1.6	(2.8)	0.9	(1.6)	2.5	(4.4)	35.2	(61.2)	22.3	(38.8)	57.5
Japan	57.5	(56.3)	26.9	(26.3)	7.2	(7.0)	10.6	(10.3)	17.7	(17.4)	64.7	(63.3)	37.5	(36.7)	102.1
Australia & New Z	3.0	(53.2)	2.3	(40.6)	0.1	(2.6)	0.2	(3.6)	0.3	(6.1)	3.2	(55.8)	2.5	(44.2)	5.7
Continental Europe	69.0	(37.5)	101.4	(55.1)	5.5	(3.0)	8.3	(4.5)	13.7	(7.5)	74.4	(40.4)	109.7	(59.6)	184.1
UK	36.0	(50.9)	28.7	(40.6)	3.5	(4.9)	2.6	(3.7)	6.1	(8.6)	39.4	(55.8)	31.3	(44.2)	70.7
Latin America	9.7	(36.6)	6.7	(25.2)	5.4	(20.2)	4.8	(18.0)	10.1	(38.2)	15.1	(56.8)	11.5	(43.2)	26.5
US	185.7	(38.1)	113.7	(23.3)	110.8	(22.7)	77.2	(15.8)	188.0	(38.6)	296.5	(60.8)	191.0	(39.2)	487.5
Canada	63.3	(85.5)	4.2	(5.7)	4.1	(5.5)	2.4	(3.3)	6.5	(8.8)	67.4	(91.0)	6.7	(9.0)	74.1
Total	457.8	(45.4)	305.3	(30.3)	138.0	(13.7)	107.0	(10.6)	245.0	(24.3)	595.8	(59.1)	412.4	(40.9)	1,008.2

Table 3

The effect of fresh equity 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, other sources of funds, both 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 the sample, fixed effects for 1996 and U.S.) Bold letters indicate statistical significance at 5%, using heteroscedasticity-consistent standard errors clustered by industry (2 digit SIC). The sample period is from 1990 to 2003.

$$Y = \beta_1 \ln\left[\left(\frac{\text{primary}}{\text{total asset}_0}\right) + 1\right] + \beta_2 \ln\left[\left(\frac{\text{other sources}}{\text{total asset}_0}\right) + 1\right] + \beta_3 \ln[\text{total assets}_0] + \sum_{i=1990}^{2003} \theta_i \text{year} + \sum_{j=1}^{38} \lambda_j \text{country} + \varepsilon$$

V	t	N	$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right]$		$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right]$		p-value $\beta_1 = \beta_2$	\$ change		R^2
			β_1	t-stat	B_2	t-stat		primary capital	other sources	
Δ Total Assets	1	3,695	0.984	78.82	0.212	12.32	0.00	1.018	0.282	0.81
	2	3,199	0.857	31.37	0.338	17.37	0.00	1.184	0.400	0.72
	3	2,612	0.669	16.82	0.430	16.55	0.00	1.171	0.458	0.67
	4	2,055	0.541	9.00	0.506	14.64	0.69	1.153	0.510	0.66
Δ Inventory	1	3,613	0.031	1.98	0.023	1.87	0.56	0.019	0.019	0.09
	2	3,116	0.045	1.64	0.042	3.78	0.87	0.030	0.024	0.12
	3	2,540	0.060	1.27	0.065	3.58	0.90	0.041	0.027	0.15
	4	1,987	0.041	0.80	0.084	4.06	0.32	0.030	0.029	0.16
Σ CAPEX	1	3,670	0.147	7.29	0.061	3.41	0.00	0.099	0.053	0.21
	2	3,175	0.253	7.30	0.206	9.49	0.08	0.200	0.141	0.42
	3	2,591	0.234	7.10	0.299	9.43	0.07	0.220	0.172	0.51
	4	2,031	0.180	4.19	0.347	10.36	0.00	0.199	0.181	0.56
Σ Acquisition	1	3,376	0.052	2.87	0.062	5.08	0.56	0.032	0.050	0.11
	2	2,817	0.073	2.96	0.133	5.40	0.04	0.050	0.080	0.17
	3	2,304	0.057	1.62	0.185	6.41	0.00	0.047	0.092	0.21
	4	1,800	0.081	2.06	0.203	5.71	0.01	0.063	0.075	0.23
Σ R&D	1	2,190	0.280	8.96	0.008	1.57	0.00	0.185	0.007	0.47
	2	1,824	0.488	8.73	0.056	3.48	0.00	0.385	0.038	0.53
	3	1,464	0.689	11.28	0.055	1.97	0.00	0.607	0.030	0.57
	4	1,156	0.788	8.98	0.090	2.56	0.00	0.780	0.042	0.56
Δ Cash	1	3,671	0.720	29.65	0.092	5.30	0.00	0.490	0.081	0.60
	2	3,179	0.534	20.96	0.155	9.48	0.00	0.373	0.093	0.47
	3	2,594	0.499	17.65	0.168	10.13	0.00	0.352	0.072	0.43
	4	2,041	0.476	13.89	0.213	12.98	0.00	0.388	0.082	0.43
Σ LT Debt Reduction	1	3,521	0.036	1.96	0.092	4.48	0.04	0.027	0.087	0.14
	2	3,009	-0.019	-0.82	0.172	6.71	0.00	-0.016	0.125	0.23
	3	2,508	-0.093	-4.06	0.248	8.14	0.00	-0.090	0.147	0.30
	4	1,955	-0.135	-5.62	0.295	7.95	0.00	-0.144	0.149	0.34

Table 4

The effect of fresh equity 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, other sources of funds, both 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 the sample, fixed effects for 1996 and U.S.) Bold letters indicate statistical significance at 5%, using heteroscedasticity-consistent standard errors clustered by industry (2 digit SIC). The sample period is from 1990 to 2003.

$$Y = \beta_1 \ln\left[\left(\frac{\text{primary}}{\text{total asset}_0}\right) + 1\right] + \beta_2 \ln\left[\left(\frac{\text{other sources}}{\text{total asset}_0}\right) + 1\right] + \beta_3 \ln[\text{total assets}_0] + \sum_{i=1990}^{2003} \theta_i \text{year} + \sum_{j=1}^{38} \lambda_j \text{country} + \varepsilon$$

V	t	N	$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right]$		$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right]$		p-value $\beta_1 = \beta_2$	\$ change		R^2
			β_1	t-stat	B_2	t-stat		primary capital	other sources	
Δ Total Assets	1	6,911	1.059	27.86	0.358	11.42	0.00	1.253	0.357	0.58
	2	6,120	0.908	19.49	0.485	11.23	0.00	1.287	0.422	0.55
	3	4,736	0.723	15.14	0.584	12.82	0.03	1.233	0.451	0.55
	4	3,557	0.583	15.82	0.580	16.48	0.95	1.245	0.429	0.55
Δ Inventory	1	6,690	0.057	2.90	0.019	4.49	0.05	0.052	0.015	0.09
	2	5,915	0.089	2.58	0.045	3.23	0.11	0.085	0.027	0.13
	3	4,556	0.067	2.29	0.065	3.93	0.94	0.066	0.029	0.15
	4	3,421	0.075	2.23	0.078	4.67	0.93	0.076	0.027	0.17
Σ CAPEX	1	6,890	0.081	3.88	0.108	3.88	0.23	0.080	0.091	0.20
	2	6,094	0.205	5.70	0.207	4.76	0.94	0.223	0.139	0.35
	3	4,712	0.159	5.55	0.310	5.92	0.01	0.198	0.174	0.45
	4	3,539	0.136	4.18	0.370	6.99	0.00	0.190	0.179	0.54
Σ Acquisition	1	6,493	0.205	4.11	0.156	6.01	0.13	0.192	0.124	0.22
	2	5,661	0.242	3.07	0.193	5.57	0.37	0.241	0.118	0.28
	3	4,336	0.241	3.24	0.242	5.99	0.98	0.253	0.115	0.30
	4	3,226	0.285	4.01	0.282	7.17	0.95	0.319	0.109	0.35
Σ R&D	1	3,669	0.192	4.98	-0.019	-1.28	0.00	0.178	-0.015	0.35
	2	3,101	0.377	5.90	0.004	0.24	0.00	0.379	0.003	0.42
	3	2,364	0.484	6.53	0.059	2.14	0.00	0.538	0.029	0.45
	4	1,739	0.523	5.63	0.094	2.98	0.00	0.643	0.040	0.49
Δ Cash	1	6,889	0.594	23.34	0.077	3.68	0.00	0.534	0.058	0.42
	2	6,100	0.468	12.35	0.139	9.84	0.00	0.416	0.076	0.31
	3	4,718	0.363	7.64	0.191	12.51	0.00	0.334	0.079	0.28
	4	3,540	0.327	6.12	0.176	8.20	0.01	0.322	0.060	0.25
Σ LT Debt Reduction	1	6,681	0.016	0.73	0.143	5.48	0.00	0.017	0.122	0.19
	2	5,856	-0.002	-0.07	0.230	5.80	0.00	-0.003	0.156	0.26
	3	4,509	-0.016	-0.28	0.304	6.79	0.00	-0.019	0.171	0.33
	4	3,392	0.020	0.38	0.347	7.79	0.00	0.027	0.167	0.40

Table 5

The effect of fresh equity on subsequent increases in assets and expenditures in IPOs and SEOs: Sub-sample analysis by legal origin

This table presents the regression results for sub-samples categorized by legal origins of IPOs and SEOs, where the full model corresponds to the specification in Tables 3 and 4. Panels A-1 and A-2 represent IPO sub-samples and panels B-1 and B-2 present corresponding numbers for SEOs. The last 3 columns in each panel present a reduced model where 'other sources' are excluded from the estimation. All regressions include year and country fixed effects. Dollar changes are the implied change in the dependent variable when primary capital or other sources of funds is increased by \$1. Bold letters indicate statistical significance at 5%. The sample period is from 1990 to 2003.

Panel A-1: IPOs in Common Law Countries										Panel B: IPOs in Civil Law Countries							
Full Model										Exclude Other Sources							
Exp Variables										ExpVar							
Dollar Change										Schange							
Fresh E										Fresh E							
	t	N	ln[(F/A)+1]	ln[(O/A)+1]	Fresh E	Other	N	ln[(F/A)+1]	Fresh E	N	ln[(F/A)+1]	ln[(O/A)+1]	Fresh E	Other	N	ln[(F/A)+1]	Fresh E
Σ CAPEX	1	3,113	0.145	0.061	0.080	0.054	4,428	0.153	0.082	557	0.155	0.057	0.137	0.052	1,285	0.096	0.084
	2	2,645	0.289	0.138	0.196	0.096	4,161	0.307	0.194	530	0.227	0.464	0.225	0.328	1,205	0.201	0.173
	3	2,149	0.300	0.215	0.244	0.122	3,637	0.366	0.272	442	0.117	0.591	0.164	0.417	1,023	0.271	0.215
	4	1,712	0.260	0.271	0.248	0.138	3,149	0.383	0.340	319	-0.045	0.655	-0.101	0.401	840	0.253	0.222
Σ R&D	1	1,919	0.287	0.005	0.159	0.004	2,722	0.308	0.170	271	0.156	0.029	0.136	0.026	653	0.116	0.104
	2	1,565	0.508	0.040	0.350	0.028	2,502	0.578	0.377	259	0.381	0.202	0.359	0.135	605	0.300	0.287
	3	1,266	0.704	0.046	0.569	0.026	2,214	0.727	0.559	198	0.580	0.167	0.597	0.086	514	0.400	0.413
	4	1,030	0.804	0.082	0.772	0.042	1,932	0.842	0.759	126	0.545	0.254	0.475	0.060	388	0.408	0.421
Δ Cash	1	3,110	0.721	0.094	0.458	0.095	4,612	0.712	0.415	561	0.696	0.073	0.651	0.070	2,289	0.616	0.588
	2	2,644	0.517	0.187	0.322	0.118	4,370	0.529	0.294	535	0.531	0.027	0.548	0.019	2,228	0.501	0.507
	3	2,149	0.482	0.209	0.298	0.090	3,868	0.502	0.290	445	0.411	0.034	0.428	0.018	2,031	0.390	0.407
	4	1,717	0.458	0.255	0.330	0.098	3,399	0.484	0.316	324	0.337	0.069	0.435	0.024	1,790	0.314	0.352
Panel B-1: SEOs in Common Law Countries										Panel B-2: SEOs in Civil Law Countries							
Σ CAPEX	1	5,654	0.078	0.106	0.073	0.088	6,647	0.105	0.099	1,236	0.162	0.141	0.171	0.116	1,771	0.071	0.075
	2	4,935	0.223	0.174	0.234	0.113	6,002	0.248	0.261	1,159	0.144	0.402	0.182	0.283	1,683	0.117	0.131
	3	3,777	0.205	0.253	0.248	0.136	4,795	0.271	0.330	935	-0.014	0.533	-0.021	0.323	1,392	0.163	0.189
	4	2,826	0.174	0.294	0.242	0.132	3,746	0.269	0.374	713	0.167	0.568	0.339	0.301	1,093	0.192	0.225
Σ R&D	1	3,057	0.189	-0.021	0.165	-0.016	3,593	0.187	0.178	612	0.082	0.007	0.083	0.006	809	0.116	0.117
	2	2,540	0.374	0.001	0.357	0.000	3,123	0.379	0.407	561	0.158	0.029	0.170	0.017	723	0.214	0.227
	3	1,934	0.498	0.033	0.530	0.016	2,473	0.524	0.622	430	0.236	0.318	0.289	0.153	555	0.178	0.210
	4	1,435	0.521	0.072	0.617	0.028	1,913	0.600	0.801	304	0.242	0.348	0.353	0.133	388	0.158	0.196
Δ Cash	1	5,653	0.613	0.077	0.532	0.059	6,774	0.641	0.513	1,236	0.283	0.030	0.276	0.023	2,294	0.450	0.445
	2	4,939	0.474	0.151	0.404	0.080	6,139	0.474	0.390	1,161	0.322	0.062	0.328	0.035	2,224	0.376	0.378
	3	3,781	0.343	0.207	0.305	0.082	4,932	0.376	0.312	937	0.442	0.140	0.486	0.060	1,930	0.360	0.359
	4	2,825	0.304	0.203	0.290	0.063	3,874	0.345	0.310	715	0.347	0.116	0.415	0.036	1,639	0.315	0.323

Table 6

The relationship between proportion of secondary shares offered and market to book ratio in SEOs

The dependent variable is the proportion of secondary shares offered in SEOs. $\ln[\text{ME}/\text{BE}]$ is the logarithm of market value equity over book value of equity as of the closest fiscal year end prior to the SEO announcement. Firms with negative book equity are excluded from the estimation. Fitted $\ln[\text{ME}/\text{BE}]$ and residual $\ln[\text{ME}/\text{BE}]$ are based on the following first stage estimation;

$$\ln\left(\frac{\text{ME}_i}{\text{BE}_i}\right) = \alpha + \sum_{t=-3}^{-1} \beta_t \left(\frac{\text{sales}_{it}}{\text{asset}_{it}}\right) + \sum_{t=-3}^{-1} \gamma_t \left(\frac{\text{sales}_{it}}{\text{sales}_{i(t-1)}}\right) + \sum_{t=-3}^{-1} \delta_t \left(\frac{\text{op.income}_{it}}{\text{asset}_{it}}\right) + \sum_{t=-3}^{-1} \phi_t \left(\frac{\text{dividend}_{it}}{\text{sales}_{it}}\right) + \sum_{t=-3}^{-1} \lambda_t \left(\frac{R \& D_{it}}{\text{asset}_{it}}\right) + \varepsilon_i$$

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)
$\ln[\text{ME}/\text{BE}]$	0.019** (2.431)	0.039*** (6.606)	0.010 (0.629)	0.042*** (3.140)		
fitted $\ln[\text{ME}/\text{BE}]$					-0.076*** (-3.262)	0.022 (0.782)
residual $\ln[\text{ME}/\text{BE}]$					0.030** (2.170)	0.045*** (3.633)
$\ln[\text{total assets (US\$ mil)}]$		0.062*** (11.680)		0.056*** (6.289)		0.055*** (6.585)
$\ln[\text{total proceeds/total assets}]$		0.017*** (2.821)		0.001 (0.061)		0.001 (0.126)
Country, Year fixed effects	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
R ²	0.147	0.206	0.154	0.212	0.163	0.212
N	8,897	8,897	2,038	2,038	2,038	2,038

Table 7

The effect of fresh equity and market to book ratio 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 and other sources of funds, both of which are normalized by total assets and interacted with 3 dummy variables (*LoMB*, *MedMB* and *HiMB*) reflecting the level of market to book ratio in each country year by year. Country and year fixed effects as well as $\ln[total\ assets]$, *LoMB* and *HiMB* 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 is from 1990 to 2003.

Panel A			$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right] * LoMB$		$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right] * LoMB$		$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right] * MedMB$		$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right] * MedMB$		$\ln\left[\frac{\text{primary}}{\text{total asset}_0} + 1\right] * HiMB$		$\ln\left[\frac{\text{other sources}}{\text{total asset}_0} + 1\right] * HiMB$	
<i>V</i>	<i>T</i>	<i>N</i>	β	t-stat	β	t-stat	β	t-stat	β	t-stat	β	t-stat	β	t-stat
Δ Total Assets	1	6,194	1.255	24.00	0.445	9.82	1.052	21.42	0.436	8.86	0.976	37.31	0.293	12.27
	2	5,491	1.033	14.36	0.543	9.12	0.935	12.28	0.543	11.04	0.812	20.44	0.422	11.69
	3	4,231	0.891	11.86	0.604	11.09	0.780	9.68	0.579	8.17	0.596	9.99	0.541	11.22
	4	3,138	0.792	10.35	0.609	9.12	0.531	6.05	0.633	15.76	0.471	7.67	0.541	19.36
Δ Inventory	1	6,005	0.121	3.11	0.029	1.69	0.047	2.15	0.025	2.89	0.029	2.22	0.010	1.29
	2	5,319	0.129	2.50	0.049	3.13	0.065	2.17	0.034	3.27	0.073	3.21	0.040	3.18
	3	4,081	0.117	1.96	0.066	3.88	0.067	1.61	0.055	3.79	0.054	2.10	0.059	3.67
	4	3,030	0.114	1.52	0.071	3.81	-0.002	-0.06	0.064	3.63	0.064	1.55	0.074	5.43
Σ CAPEX	1	6,175	0.176	5.11	0.154	5.43	0.064	2.57	0.131	3.74	0.058	2.59	0.079	3.18
	2	5,467	0.277	6.04	0.286	5.16	0.188	3.61	0.223	3.55	0.169	4.33	0.128	5.03
	3	4,210	0.287	4.86	0.385	8.79	0.155	2.96	0.265	4.09	0.141	3.85	0.233	7.24
	4	3,123	0.342	3.92	0.425	10.72	0.060	0.77	0.346	4.19	0.139	3.06	0.301	6.94
Σ Acquisition	1	5,822	0.292	4.83	0.245	12.99	0.279	3.57	0.224	5.84	0.147	3.31	0.100	3.82
	2	5,080	0.376	4.26	0.262	7.77	0.232	3.17	0.230	5.96	0.220	3.27	0.136	3.67
	3	3,878	0.327	3.28	0.283	4.89	0.222	3.25	0.239	4.78	0.191	2.86	0.215	4.01
	4	2,848	0.322	3.04	0.278	4.64	0.227	2.85	0.264	6.09	0.256	3.74	0.267	5.39
Σ R&D	1	3,302	0.100	5.68	-0.034	-1.93	0.171	4.63	-0.012	-1.21	0.194	4.63	-0.031	-1.53
	2	2,802	0.186	4.97	-0.048	-2.23	0.336	4.39	-0.005	-0.30	0.366	5.14	0.017	0.98
	3	2,126	0.295	4.90	-0.019	-0.80	0.528	5.23	0.007	0.41	0.470	5.60	0.081	4.58
	4	1,543	0.354	6.04	-0.004	-0.14	0.638	4.88	0.091	3.60	0.509	4.62	0.094	2.85
Δ Cash	1	6,177	0.479	7.63	0.004	0.12	0.509	15.01	0.009	0.42	0.605	17.39	0.098	5.05
	2	5,476	0.317	3.97	0.068	3.10	0.414	7.09	0.099	4.45	0.444	15.41	0.180	7.63
	3	4,217	0.235	3.68	0.097	5.09	0.289	6.17	0.125	6.30	0.363	7.90	0.219	8.46
	4	3,125	0.221	3.07	0.111	4.62	0.202	3.04	0.158	5.97	0.350	7.23	0.199	8.20
Σ LT Debt Reduction	1	5,999	0.159	4.20	0.304	8.75	0.026	0.78	0.196	4.61	-0.001	-0.06	0.089	3.86
	2	5,267	0.096	1.77	0.338	7.91	-0.029	-0.66	0.305	4.35	0.020	0.59	0.147	4.11
	3	4,040	0.117	1.53	0.411	8.75	-0.033	-0.56	0.308	4.32	0.021	0.40	0.221	5.12
	4	2,997	0.217	2.73	0.495	9.63	-0.031	-0.43	0.373	5.62	0.065	0.99	0.239	4.34

Table 7 — *Continued*

Panel B			Dollar Changes						p values from H0: $\beta_i = \beta_j$			
			Low ME/BE		Medium ME/BE		High ME/BE		primary vs. other		Hi vs. Lo ME/BE	
<i>V</i>	<i>t</i>	N	primary	other	primary	other	primary	other	Lo ME/BE	Hi ME/BE	primary	other
Δ Total Assets	1	6,194	1.399	0.418	1.260	0.439	1.201	0.327	0.00	0.00	0.00	0.00
	2	5,491	1.360	0.452	1.376	0.472	1.232	0.406	0.00	0.00	0.00	0.02
	3	4,231	1.366	0.453	1.381	0.447	1.111	0.460	0.01	0.52	0.00	0.12
	4	3,138	1.505	0.438	1.195	0.466	1.121	0.437	0.16	0.34	0.00	0.24
Δ Inventory	1	6,005	0.115	0.023	0.043	0.019	0.024	0.007	0.05	0.13	0.01	0.34
	2	5,319	0.128	0.031	0.063	0.019	0.064	0.022	0.10	0.08	0.21	0.56
	3	4,081	0.117	0.032	0.066	0.024	0.049	0.025	0.40	0.85	0.29	0.64
	4	3,030	0.117	0.028	-0.002	0.022	0.061	0.024	0.54	0.80	0.52	0.84
Σ CAPEX	1	6,175	0.179	0.132	0.064	0.111	0.053	0.066	0.45	0.52	0.00	0.00
	2	5,467	0.310	0.203	0.209	0.146	0.169	0.081	0.90	0.22	0.11	0.00
	3	4,210	0.358	0.236	0.194	0.144	0.163	0.124	0.15	0.04	0.07	0.00
	4	3,123	0.474	0.223	0.084	0.160	0.183	0.135	0.34	0.01	0.06	0.01
Σ Acquisition	1	5,822	0.283	0.200	0.262	0.178	0.124	0.077	0.40	0.05	0.01	0.00
	2	5,080	0.385	0.170	0.236	0.139	0.200	0.078	0.26	0.05	0.06	0.02
	3	3,878	0.346	0.147	0.238	0.112	0.187	0.096	0.76	0.57	0.17	0.47
	4	2,848	0.360	0.118	0.261	0.100	0.273	0.097	0.78	0.84	0.52	0.88
Σ R&D	1	3,302	0.095	-0.028	0.159	-0.010	0.172	-0.025	0.00	0.00	0.01	0.83
	2	2,802	0.187	-0.031	0.338	-0.003	0.369	0.011	0.00	0.00	0.00	0.00
	3	2,126	0.311	-0.010	0.575	0.003	0.543	0.043	0.00	0.00	0.02	0.00
	4	1,543	0.389	-0.002	0.766	0.036	0.652	0.041	0.00	0.00	0.10	0.00
Δ Cash	1	6,177	0.445	0.003	0.464	0.007	0.537	0.079	0.00	0.00	0.04	0.02
	2	5,476	0.286	0.039	0.371	0.052	0.397	0.102	0.01	0.00	0.10	0.01
	3	4,217	0.215	0.044	0.268	0.051	0.339	0.094	0.05	0.01	0.03	0.00
	4	3,125	0.215	0.041	0.202	0.052	0.354	0.068	0.11	0.01	0.11	0.02
Σ LT Debt Reduction	1	5,999	0.026	0.164	0.168	0.269	-0.001	0.071	0.01	0.00	0.00	0.00
	2	5,267	-0.032	0.199	0.111	0.246	0.019	0.089	0.00	0.00	0.19	0.00
	3	4,040	-0.041	0.166	0.152	0.261	0.023	0.108	0.00	0.00	0.28	0.00
	4	2,997	-0.044	0.173	0.321	0.278	0.078	0.098	0.00	0.01	0.12	0.00

Appendix Table 1. 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	436	(81.2)	2	(0.4)	99	(18.4)	537
	India	3,580	(97.7)	53	(1.4)	30	(0.8)	3,663
	Indonesia	147	(98.7)	1	(0.7)	1	(0.7)	149
	Malaysia	388	(94.2)	6	(1.5)	18	(4.4)	412
	Pakistan	176	(99.4)	1	(0.6)	0	(0.0)	177
	Philippines	57	(95.0)	0	(0.0)	3	(5.0)	60
	Singapore	275	(89.9)	4	(1.3)	27	(8.8)	306
	South Korea	281	(99.6)	0	(0.0)	1	(0.4)	282
	Taiwan	453	(99.3)	2	(0.4)	1	(0.2)	456
	Thailand	197	(99.5)	0	(0.0)	1	(0.5)	198
	Japan	197	(13.6)	9	(0.6)	1,242	(85.8)	1,448
Pacific	Australia	604	(87.5)	20	(2.9)	66	(9.6)	690
	New Zealand	36	(85.7)	2	(4.8)	4	(9.5)	42
Europe	Austria	28	(71.8)	2	(5.1)	9	(23.1)	39
	Belgium	30	(65.2)	1	(2.2)	15	(32.6)	46
	Denmark	31	(64.6)	2	(4.2)	15	(31.3)	48
	Finland	28	(59.6)	4	(8.5)	15	(31.9)	47
	France	385	(78.6)	37	(7.6)	68	(13.9)	490
	Germany	258	(65.3)	7	(1.8)	130	(32.9)	395
	Greece	126	(96.9)	0	(0.0)	4	(3.1)	130
	Ireland	19	(73.1)	0	(0.0)	7	(26.9)	26
	Israel	77	(77.8)	0	(0.0)	22	(22.2)	99
	Italy	69	(55.2)	9	(7.2)	47	(37.6)	125
	Netherlands	37	(46.8)	6	(7.6)	36	(45.6)	79
	Norway	73	(93.6)	0	(0.0)	5	(6.4)	78
	Portugal	8	(72.7)	3	(27.3)	0	(0.0)	11
	Spain	22	(61.1)	8	(22.2)	6	(16.7)	36
	Sweden	52	(57.8)	11	(12.2)	27	(30.0)	90
	Switzerland	27	(50.9)	8	(15.1)	18	(34.0)	53
UK	742	(87.4)	9	(1.1)	98	(11.5)	849	
Turkey	11	(91.7)	1	(8.3)	0	(0.0)	12	
Latin Am	Argentina	8	(61.5)	2	(15.4)	3	(23.1)	13
	Bermuda	15	(75.0)	0	(0.0)	5	(25.0)	20
	Brazil	10	(66.7)	2	(13.3)	3	(20.0)	15
	Chile	10	(90.9)	0	(0.0)	1	(9.1)	11
	Mexico	29	(54.7)	3	(5.7)	21	(39.6)	53
North Am	Canada	1,334	(93.0)	0	(0.0)	100	(7.0)	1,434
	US	3,157	(68.5)	54	(1.2)	1,396	(30.3)	4,607
Total		13,413	(77.9)	269	(1.6)	3,544	(20.6)	17,226

Appendix Table 1 — *Continued*

Region	Nation	Panel A-2: Number of SEOs						Total issues number
		Primary only		Secondary only		Combined		
		Number	%	number	%	number	%	
Asia	Hong Kong	276	(41.2)	384	(57.3)	10	(1.5)	670
	India	232	(95.1)	10	(4.1)	2	(0.8)	244
	Indonesia	15	(48.4)	16	(51.6)	0	(0.0)	31
	Malaysia	17	(63.0)	10	(37.0)	0	(0.0)	27
	Pakistan	3	(100.0)	0	(0.0)	0	(0.0)	3
	Philippines	4	(50.0)	3	(37.5)	1	(12.5)	8
	Singapore	79	(66.4)	33	(27.7)	7	(5.9)	119
	South Korea	61	(93.8)	4	(6.2)	0	(0.0)	65
	Taiwan	52	(63.4)	24	(29.3)	6	(7.3)	82
	Thailand	17	(77.3)	4	(18.2)	1	(4.5)	22
	Japan	1,011	(64.4)	416	(26.5)	144	(9.2)	1,571
Pacific	Australia	98	(80.3)	21	(17.2)	3	(2.5)	122
	New Zealand	4	(44.4)	5	(55.6)	0	(0.0)	9
Europe	Austria	15	(57.7)	11	(42.3)	0	(0.0)	26
	Belgium	24	(63.2)	8	(21.1)	6	(15.8)	38
	Denmark	67	(79.8)	17	(20.2)	0	(0.0)	84
	Finland	37	(58.7)	22	(34.9)	4	(6.3)	63
	France	119	(49.8)	111	(46.4)	9	(3.8)	239
	Germany	125	(66.8)	55	(29.4)	7	(3.7)	187
	Greece	9	(60.0)	5	(33.3)	1	(6.7)	15
	Ireland	68	(73.1)	18	(19.4)	7	(7.5)	93
	Israel	29	(50.9)	9	(15.8)	19	(33.3)	57
	Italy	24	(46.2)	23	(44.2)	5	(9.6)	52
	Netherlands	63	(51.6)	47	(38.5)	12	(9.8)	122
	Norway	138	(85.7)	21	(13.0)	2	(1.2)	161
	Portugal	11	(73.3)	4	(26.7)	0	(0.0)	15
	Spain	17	(28.3)	41	(68.3)	2	(3.3)	60
	Sweden	48	(38.4)	70	(56.0)	7	(5.6)	125
	Switzerland	20	(27.0)	48	(64.9)	6	(8.1)	74
	UK	1,407	(85.2)	196	(11.9)	48	(2.9)	1,651
Turkey	4	(44.4)	4	(44.4)	1	(11.1)	9	
Latin Am	Argentina	9	(56.3)	3	(18.8)	4	(25.0)	16
	Bermuda	14	(63.6)	5	(22.7)	3	(13.6)	22
	Brazil	40	(85.1)	6	(12.8)	1	(2.1)	47
	Chile	16	(94.1)	1	(5.9)	0	(0.0)	17
	Mexico	32	(55.2)	10	(17.2)	16	(27.6)	58
North Am	Canada	2,208	(95.4)	23	(1.0)	84	(3.6)	2,315
	US	2,158	(46.7)	636	(13.8)	1,829	(39.6)	4,623
Total		8,571	(65.2)	2,324	(17.7)	2,247	(17.1)	13,142

Appendix Table 1 — *Continued*

		Panel B-1: Total Amount of Proceeds (US\$ bil) raised at IPOs														
Region	Nation	Primary		Secondary		Combined (primary & secondary) offerings						Total		Total		Total
		only offerings		only offerings		primary		secondary		combined total		Primary		Secondary		issues
		amount	%	amount	%	amount	%	amount	%	amount	%	amount	%	amount	%	amount
Asia	Hong Kong	11.3	(85.9)	0.1	(0.5)	1.2	(9.4)	0.6	(4.2)	1.8	(13.6)	12.5	(95.3)	0.6	(4.7)	13.1
	India	6.4	(94.0)	0.1	(1.4)	0.1	(2.2)	0.2	(2.5)	0.3	(4.7)	6.5	(96.1)	0.3	(3.9)	6.8
	Indonesia	5.4	(90.5)	0.2	(2.6)	0.3	(5.8)	0.1	(1.1)	0.4	(6.9)	5.7	(96.3)	0.2	(3.7)	5.9
	Malaysia	3.2	(74.7)	0.6	(14.3)	0.2	(5.4)	0.2	(5.5)	0.5	(11.0)	3.5	(80.2)	0.9	(19.8)	4.3
	Pakistan	0.6	(87.9)	0.1	(12.1)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.6	(87.9)	0.0	(0.0)	0.7
	Philippines	1.7	(94.5)	0.0	(0.0)	0.1	(3.6)	0.0	(1.9)	0.1	(5.5)	1.8	(98.1)	0.0	(1.9)	1.8
	Singapore	4.7	(87.6)	0.3	(5.7)	0.3	(5.0)	0.1	(1.7)	0.4	(6.7)	5.0	(92.6)	0.4	(7.4)	5.3
	South Korea	18.6	(99.8)	0.0	(0.0)	0.0	(0.1)	0.0	(0.1)	0.0	(0.2)	18.6	(99.9)	0.0	(0.1)	18.6
	Taiwan	11.2	(99.5)	0.1	(0.5)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	11.2	(99.5)	0.1	(0.5)	11.3
	Thailand	4.5	(99.9)	0.0	(0.0)	0.0	(0.1)	0.0	(0.0)	0.0	(0.1)	4.6	(100.0)	0.0	(0.0)	4.6
Japan	7.0	(11.9)	0.2	(0.4)	31.2	(53.3)	20.1	(34.4)	51.4	(87.7)	38.2	(65.2)	20.4	(34.8)	58.6	
Pacific	Australia	9.8	(73.8)	1.5	(11.1)	0.6	(4.9)	1.4	(10.3)	2.0	(15.1)	10.5	(78.7)	2.8	(21.3)	13.3
	New Zealand	0.9	(72.4)	0.1	(9.9)	0.0	(3.0)	0.2	(14.7)	0.2	(17.7)	1.0	(75.3)	0.3	(24.7)	1.3
Europe	Austria	1.1	(57.5)	0.4	(21.0)	0.2	(11.6)	0.2	(9.9)	0.4	(21.5)	1.4	(69.1)	0.6	(30.9)	2.0
	Belgium	3.3	(58.7)	1.6	(28.4)	0.4	(7.8)	0.3	(5.1)	0.7	(12.9)	3.8	(66.6)	1.9	(33.4)	5.7
	Denmark	1.3	(49.9)	0.1	(3.3)	0.5	(17.2)	0.8	(29.6)	1.2	(46.8)	1.8	(67.1)	0.9	(32.9)	2.7
	Finland	1.0	(42.9)	0.4	(16.3)	0.5	(20.6)	0.5	(20.2)	0.9	(40.8)	1.4	(63.4)	0.8	(36.6)	2.2
	France	7.7	(45.6)	3.1	(18.3)	1.5	(8.8)	4.6	(27.3)	6.1	(36.1)	9.2	(54.4)	7.7	(45.6)	16.8
	Germany	16.7	(52.3)	0.7	(2.1)	5.6	(17.5)	9.0	(28.0)	14.6	(45.5)	22.3	(69.9)	9.6	(30.1)	32.0
	Greece	3.1	(97.2)	0.0	(0.0)	0.1	(1.8)	0.0	(0.9)	0.1	(2.8)	3.1	(99.1)	0.0	(0.9)	3.1
	Ireland	0.4	(44.3)	0.0	(0.0)	0.4	(37.6)	0.2	(18.1)	0.5	(55.7)	0.8	(81.9)	0.2	(18.1)	1.0
	Israel	1.9	(66.0)	0.0	(0.0)	0.7	(24.3)	0.3	(9.7)	1.0	(34.0)	2.6	(90.3)	0.3	(9.7)	2.9
	Italy	4.2	(44.2)	1.6	(16.5)	2.0	(21.1)	1.7	(18.2)	3.7	(39.3)	6.1	(65.3)	3.3	(34.7)	9.4
	Netherlands	5.5	(39.3)	2.2	(15.7)	3.8	(27.1)	2.5	(17.9)	6.3	(45.0)	9.3	(66.4)	4.7	(33.6)	14.0
	Norway	1.8	(76.3)	0.0	(0.0)	0.4	(16.8)	0.2	(6.9)	0.6	(23.7)	2.2	(93.1)	0.2	(6.9)	2.4
	Portugal	0.6	(72.5)	0.2	(27.5)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.6	(72.5)	0.2	(27.5)	0.8
	Spain	3.2	(41.3)	3.0	(38.4)	0.6	(7.8)	1.0	(12.4)	1.6	(20.3)	3.8	(49.2)	3.9	(50.8)	7.8
	Sweden	7.2	(73.6)	0.7	(7.3)	0.9	(9.2)	1.0	(9.9)	1.9	(19.1)	8.0	(82.8)	1.7	(17.2)	9.7
Switzerland	7.4	(63.5)	2.0	(16.9)	0.8	(7.0)	1.5	(12.6)	2.3	(19.6)	8.2	(70.5)	3.4	(29.5)	11.6	
UK	24.4	(56.4)	2.6	(6.1)	8.7	(20.1)	7.6	(17.4)	16.3	(37.5)	33.1	(76.5)	10.2	(23.5)	43.3	
Turkey	0.4	(93.0)	0.0	(7.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.4	(93.0)	0.0	(7.0)	0.4	
Latin Am	Argentina	0.5	(62.5)	0.1	(7.9)	0.2	(17.9)	0.1	(11.7)	0.3	(29.6)	0.7	(80.4)	0.2	(19.6)	0.9
	Bermuda	2.5	(82.2)	0.0	(0.0)	0.2	(7.5)	0.3	(10.3)	0.5	(17.8)	2.7	(89.7)	0.3	(10.3)	3.1
	Brazil	0.5	(38.1)	0.2	(15.0)	0.3	(22.1)	0.3	(24.7)	0.7	(46.8)	0.8	(60.2)	0.6	(39.8)	1.4
	Chile	1.2	(89.6)	0.0	(0.0)	0.1	(9.0)	0.0	(1.4)	0.1	(10.4)	1.3	(98.6)	0.0	(1.4)	1.3
	Mexico	3.1	(72.4)	0.1	(2.5)	0.6	(13.3)	0.5	(11.7)	1.1	(25.1)	3.6	(85.7)	0.6	(14.3)	4.2
North Am	Canada	12.9	(83.5)	0.0	(0.0)	1.8	(11.5)	0.8	(5.0)	2.6	(16.5)	14.7	(95.0)	0.8	(5.0)	15.4
	US	175.2	(62.5)	20.2	(7.2)	55.7	(19.9)	29.1	(10.4)	84.8	(30.3)	230.9	(82.4)	49.4	(17.6)	280.3
Total		372.4	(60.1)	42.4	(6.8)	120.1	(19.4)	85.1	(13.7)	205.2	(33.1)	492.5	(79.4)	127.5	(20.6)	620.0

Appendix Table 1 — *Continued*

		Panel B-2: Total Amount of Proceeds (US\$ bil) raised at SEOs														
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	4.2	(23.7)	13.0	(72.4)	0.4	(2.2)	0.3	(1.6)	0.7	(3.8)	4.6	(26.0)	13.2	(74.0)	17.9
	India	4.5	(89.9)	0.5	(10.0)	0.0	(0.0)	0.0	(0.1)	0.0	(0.1)	4.5	(89.9)	0.5	(10.1)	5.0
	Indonesia	1.1	(54.6)	0.9	(45.4)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	1.1	(54.6)	0.9	(45.4)	2.0
	Malaysia	0.5	(59.3)	0.4	(40.7)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.5	(59.3)	0.4	(40.7)	0.9
	Pakistan	0.1	(100.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.1	(100.0)	0.0	(0.0)	0.1
	Philippines	0.0	(10.8)	0.2	(59.2)	0.0	(10.0)	0.1	(20.0)	0.1	(30.0)	0.1	(20.8)	0.3	(79.2)	0.4
	Singapore	4.0	(66.8)	1.5	(24.7)	0.3	(5.2)	0.2	(3.3)	0.5	(8.5)	4.3	(72.0)	1.7	(28.0)	5.9
	South Korea	6.5	(88.1)	0.9	(11.9)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	6.5	(88.1)	0.9	(11.9)	7.4
	Taiwan	11.4	(70.2)	3.9	(23.8)	0.6	(3.8)	0.4	(2.2)	1.0	(6.0)	12.0	(73.9)	4.2	(26.1)	16.3
	Thailand	1.1	(70.1)	0.2	(13.5)	0.2	(14.5)	0.0	(1.9)	0.3	(16.4)	1.3	(84.7)	0.2	(15.3)	1.6
	Japan	57.5	(56.3)	26.9	(26.3)	7.2	(7.0)	10.6	(10.3)	17.7	(17.4)	64.7	(63.3)	37.5	(36.7)	102.1
Pacific	Australia	2.9	(55.4)	2.0	(38.0)	0.1	(2.8)	0.2	(3.8)	0.3	(6.6)	3.1	(58.2)	2.2	(41.8)	5.3
	New Zealand	0.1	(23.1)	0.3	(76.9)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.1	(23.1)	0.3	(76.9)	0.4
Europe	Austria	0.7	(44.4)	0.8	(55.6)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.7	(44.4)	0.8	(55.6)	1.5
	Belgium	1.5	(39.9)	1.9	(49.3)	0.3	(6.9)	0.2	(3.9)	0.4	(10.8)	1.8	(46.8)	2.0	(53.2)	3.8
	Denmark	1.6	(60.9)	1.0	(39.1)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	1.6	(60.9)	1.0	(39.1)	2.6
	Finland	3.0	(45.5)	2.9	(44.0)	0.2	(3.5)	0.5	(7.0)	0.7	(10.4)	3.2	(49.0)	3.4	(51.0)	6.6
	France	8.1	(22.8)	27.0	(76.0)	0.3	(0.9)	0.1	(0.4)	0.5	(1.3)	8.4	(23.7)	27.1	(76.3)	35.6
	Germany	13.5	(49.6)	12.9	(47.2)	0.3	(1.0)	0.6	(2.2)	0.9	(3.2)	13.8	(50.6)	13.5	(49.4)	27.3
	Greece	0.3	(53.4)	0.2	(38.5)	0.0	(4.6)	0.0	(3.4)	0.0	(8.0)	0.3	(58.0)	0.2	(42.0)	0.5
	Ireland	1.7	(47.5)	1.2	(33.8)	0.2	(6.3)	0.5	(12.4)	0.7	(18.8)	2.0	(53.8)	1.7	(46.2)	3.7
	Israel	1.8	(38.3)	1.0	(21.9)	1.2	(26.1)	0.6	(13.8)	1.8	(39.9)	2.9	(64.3)	1.6	(35.7)	4.6
	Italy	4.3	(55.8)	2.3	(29.9)	0.5	(6.4)	0.6	(7.9)	1.1	(14.3)	4.8	(62.3)	2.9	(37.7)	7.6
	Netherlands	18.5	(48.0)	18.5	(48.0)	0.5	(1.3)	1.1	(2.7)	1.5	(4.0)	19.0	(49.3)	19.5	(50.7)	38.5
	Norway	5.4	(74.2)	1.7	(23.6)	0.1	(1.9)	0.0	(0.4)	0.2	(2.3)	5.6	(76.0)	1.8	(24.0)	7.3
	Portugal	0.2	(19.1)	0.8	(80.9)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.2	(19.1)	0.8	(80.9)	1.0
	Spain	5.7	(43.5)	6.9	(52.7)	0.2	(1.5)	0.3	(2.3)	0.5	(3.8)	5.9	(44.9)	7.2	(55.1)	13.1
	Sweden	1.4	(15.2)	7.3	(78.7)	0.3	(3.3)	0.3	(2.9)	0.6	(6.1)	1.7	(18.5)	7.6	(81.5)	9.3
Switzerland	1.2	(5.9)	14.7	(70.7)	1.3	(6.2)	3.6	(17.2)	4.9	(23.4)	2.5	(12.1)	18.2	(87.9)	20.7	
UK	36.0	(50.9)	28.7	(40.6)	3.5	(4.9)	2.6	(3.7)	6.1	(8.6)	39.4	(55.8)	31.3	(44.2)	70.7	
Turkey	0.1	(22.5)	0.3	(71.4)	0.0	(3.5)	0.0	(2.6)	0.0	(6.1)	0.1	(26.0)	0.3	(74.0)	0.4	
Latin Am	Argentina	0.8	(59.9)	0.1	(6.7)	0.2	(14.4)	0.3	(18.9)	0.4	(33.4)	1.0	(74.3)	0.3	(25.7)	1.3
	Bermuda	3.5	(35.1)	2.4	(24.6)	2.5	(25.0)	1.5	(15.4)	4.0	(40.4)	5.9	(60.1)	3.9	(39.9)	9.9
	Brazil	1.6	(18.1)	3.5	(39.7)	1.7	(19.4)	2.0	(22.9)	3.8	(42.3)	3.3	(37.4)	5.6	(62.6)	8.9
	Chile	0.5	(85.2)	0.1	(14.8)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.5	(85.2)	0.1	(14.8)	0.6
	Mexico	3.3	(57.5)	0.5	(9.5)	1.0	(16.5)	0.9	(16.4)	1.9	(33.0)	4.3	(74.1)	1.5	(25.9)	5.8
North Am	Canada	63.3	(85.5)	4.2	(5.7)	4.1	(5.5)	2.4	(3.3)	6.5	(8.8)	67.4	(91.0)	6.7	(9.0)	74.1
	US	185.7	(38.1)	113.7	(23.3)	110.8	(22.7)	77.2	(15.8)	188.0	(38.6)	296.5	(60.8)	191.0	(39.2)	487.5
Total		457.8	(45.4)	305.3	(30.3)	138.0	(13.7)	107.0	(10.6)	245.0	(24.3)	595.8	(59.1)	412.4	(40.9)	1,008.2