# Internationalization and the Evolution of Corporate Valuation*

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**Abstract**

By documenting the evolution of Tobin's *q* before, during, and after firms internationalize, this paper provides evidence on the bonding, segmentation, and market timing theories of internationalization. Using new data on 9,096 firms across 74 countries over the period 1989-2000, we find that Tobin's *q* does not rise after internationalization, even relative to firms that do not internationalize. Instead, *q* rises significantly before internationalization and during the internationalization year. But, then *q* falls sharply in the year after internationalization, quickly relinquishing the increases of the previous years. To account for these dynamics, we show that market capitalization rises before internationalization and remains high, while corporate assets increase during internationalization. The evidence supports models stressing that financial internationalization facilitates corporate expansion, but challenges models stressing that internationalization produces an enduring effect on *q* by bonding firms to a better corporate governance system.

**JEL classification codes:** G15, F36, F20

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## 1. Introduction

Between 1989 and 2000, almost 2,300 firms with a market capitalization of over eight trillion U.S. dollars "internationalized" by cross-listing, issuing depositary receipts, or raising equity capital in major financial centers. These "international firms" account for more than 40 percent of the market capitalization of their home markets and in many countries value traded abroad exceeds domestic market activity. Yet, there are sharp disagreements over the causes and effects of internationalization.

To distinguish among theories of internationalization, we provide the first documentation of the evolution of Tobin's *q* and its components – corporate assets, market capitalization, and debt – before, during, and after firms internationalize. We also examine the time-series patterns of international firms relative to those of "domestic firms" (firms that do not internationalize) and thus abstract from country-specific factors influencing all firms within a country. To conduct the analysis, we compile a new database of over 9,000 international and domestic firms across 74 countries over the period 1989-2000, comprising almost 67,000 firm-year observations.

The major findings are as follows. First, on average, firms that internationalize at some point in the sample have higher *q*s than firms that never internationalize, but this difference exists years before firms actually access international equity markets. Thus, a country's higher valued firms are more likely to internationalize than its lower valued firms. Second, when comparing the average value of *q* in the years before firms internationalize with the average value of *q* in the years after they internationalize, we find that *q* does not change after internationalization, nor does it change relative to that of domestic firms. Thus, internationalization is not associated with an enduring change in *q*. Third, when tracing out the

dynamics in more detail, we find that *q* peaks in the internationalization year, rising significantly before firms access international equity markets and then falling sharply afterwards. Indeed, one year after internationalization, the *q* of international firms is lower than one year before internationalization. Moreover, the temporary increase in *q* vanishes by the second year after internationalization. Fourth, while *q* does not change permanently after internationalization, its components do. Market capitalization rises before internationalization and remains high thereafter, while corporate assets and debt expand after internationalization. Thus, internationalization is associated with firm growth, with international firms expanding relative to domestic ones.

The findings provide information on three views of internationalization. First, segmentation theories argue that firms internationalize to circumvent regulations, poor accounting systems, taxes, and illiquid domestic markets that discourage investors from purchasing their shares.[1] Consequently, internationalization can lower firms' cost of capital and facilitate corporate expansion relative to firms that do not internationalize.[2] These models do not predict, however, that internationalization produces an enduring increase in *q* (Chari and Henry, 2002). The reduction in the cost of capital increases the market value of corporate assets, which boosts *q*, but then firms increase their capital stocks until the replacement cost of assets equals their market value, which reduces *q* to its pre-internationalization level (Tobin and Brainard,

[1] See Black (1974), Solnik (1974), Stapleton and Subrahmanyam (1977), Stulz (1981), Errunza and Losq (1985), Alexander, Eun, and Janakiramanan (1987), Domowitz, Glen, and Madhavan (1998), Pagano, Roell, and Zechner (2002), and Lorenzoni and Walentin (2004), as well as the review by Stulz (1999).

[2] Consistent with segmentation theories, existing empirical works finds that internationalization is accompanied by positive abnormal returns and then abnormal returns turn negative or disappear after integration (Errunza and Losq, 1985; Alexander, Eun, and Janakiramanan, 1988; Jayaraman, Shastri, and Tandon, 1993; Foerster and Karolyi, 1999; Miller, 1999; Errunza and Miller, 2000; and Sarkissian and Schill, 2003). Research also suggests that cross-listing increases international analyst coverage and lowers the information costs faced by international investors (Baker, Nosfinger, and Weaver, 2002; Ahearne, Griever, and Warnock, 2004; and Ammer, Holland, Smith, and Warnock, 2004). Furthermore, research finds that internationalization allows firms to have their stocks traded in more liquid markets (Werner and Kleidon, 1996; and Domowitz, Glen, and Madhavan, 1998), with potentially beneficial ramifications on the cost of capital (Amihud and Mendelson, 1986; and Brennan and Subrahmanyam, 1996).

1977). If the market anticipates that the firm will lower its capital costs by internationalizing, then *q* rises before the firm actually internationalizes, and then falls after internationalizing as the firm uses cheaper capital to expand. Thus, although segmentation theories allow for a rise and fall in *q*, the drop in the cost of capital alone does not necessarily imply that internationalization induces a lasting increase in *q*.

Our results are consistent with three key predictions from segmentation theories: (i) firms expand after they internationalize and grow relative to domestic firms that have not lowered their capital costs; (ii) *q* rises before internationalization and then quickly returns to its pre-internationalization level; and (iii) the *q*s of firms that internationalize do not increase relative those of domestic firms. Thus, segmentation models account for our main time-series and cross-sectional findings.

Second, this paper also provides empirical evidence on "bonding" theories, which argue that firms internationalize to bond themselves to a better corporate governance framework. Improved governance both (i) lowers firms' cost of capital, which facilitates firm expansion and (ii) reduces expropriation of corporate resources by firm insiders, which fosters an enduring increase in *q*. Like segmentation theories, bonding theories predict that internationalization lowers capital costs, causing *q* to rise and then fall as firms expand. Unlike segmentation theories, however, bonding models tend to imply a long-run increase in *q*, as firms improve their corporate governance through internationalization. Thus, while bonding models predict that *q* will rise and then fall, these models also predict that (i) the long-run value of *q* will be higher after internationalization compared with before and (ii) the long-run *q*s of firms that internationalize will increase relative to those of domestic firms, which do not commit to a higher level of shareholder protection.

There are two parts to the bonding view that internationalization boosts long-run $q$. First, corporate insiders can exploit their positions of control for private gain, with adverse implications on the price that others are willing to pay for the firm (Jensen and Meckling, 1976). Thus, there is a wedge between the value of the firm to outsiders and insiders, who both make investment decisions and enjoy private benefits. Since $q$ reflects the valuation of the firm from the perspective of outsiders, the governance framework can influence the steady-state ratio of market value to the replacement cost of assets. For example, some models show that better corporate governance reduces the diversion of firms' cash-flows by insiders, which reduces the valuation wedge between insiders and outsiders and yields a higher $q$ (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2002; Shleifer and Wolfenzon, 2002; and Durnev and Kim, 2005). Others stress that better governance increases steady-state $q$ by impeding value-reducing overinvestment that arises if the private benefits of control are positively associated with corporate investment (Lan and Wang, 2004; and Albuquerque and Wang, 2005). Empirical research finds that better governance boosts corporate valuations (Claessens, Djankov, Fan, and Lang, 2002; La Porta et al., 2002; and Caprio, Laeven, and Levine, 2004). The second part argues that by internationalizing into markets with stronger investor protection laws, firm insiders "bond" themselves to a better governance system, which – according to the theory's first part – increases long-run $q$ (Stulz, 1999; Coffee, 1999, 2002; and Benos and Weisbach, 2004).

There is a growing empirical debate about the bonding view. Doidge (2004) finds that cross-listed firms have lower voting premia, which is consistent with the bonding hypothesis. Reese and Weisbach (2002) also argue that firms from high shareholder protection countries list in the U.S. to raise capital, while those from weak shareholder protection countries list in the U.S. to bond themselves to a better corporate governance mechanism. Others disagree. Licht

(2003, 2004) and Pinegar and Ravichandran (2003) argue that internationalization does not effectively bond firms to improved governance standards. Siegel (2005) finds that cross-listing in the U.S. did not deter Mexican firm insiders from expropriating corporate resources. Our work is most closely related to Doidge, Karolyi, and Stulz (2004). They examine a cross-section of firms and find that firms cross-listed in the U.S. have higher *q*s than domestic firms, which they interpret as supporting the bonding view.

We contribute to the debate over the bonding view by conducting a natural test of its predictions: we examine the evolution of *q*.[3] Although both segmentation and bonding theories predict that internationalization lowers the cost of capital and facilitates firm expansion, they generally make conflicting predictions about the long-run relation between internationalization and *q*. Furthermore, by adding the time-series dimension, we alleviate some endogeneity concerns that complicate pure cross-sectional analyses of *q*. In particular, higher valued firms might internationalize more frequently than lower valued ones. Thus, observing that international firms have higher *q*s than domestic ones does not necessarily imply that internationalization boosts corporate valuations. We tackle this problem by analyzing the time-series patterns of the *q*s of international firms and comparing them to those of domestic firms.

Our results challenge models predicting that internationalization bonds firms to a better governance system. Internationalization produces neither an enduring increase in *q*, nor an increase in the value of international firms relative to domestic ones. Moreover, since bonding models predict that internationalization induces a lasting increase in *q* only when firms bond themselves to a better corporate governance system, we examine (i) a subsample of firms from

[3] For example, Doidge, Karolyi, and Stulz (2004, p. 234) note: "We expect firms that are not listed in 1995 but are listed in 1997 to experience an increase in *q* relative to firms from their country that did not list over the period of time." By examining the evolution of *q*, we directly test whether firms that internationalize experience an increase in *q* relative to firms from the same country that do not internationalize.

weak investor protection systems that internationalize into countries with stronger governance systems and (ii) subsamples of firms that internationalize in ways that are more likely to induce bonding, such as, public cross-listings and listings in U.S. public exchanges. The results, however, do not change across different subsamples, further challenging the bonding view.

Third, this paper's findings also relate to research on market timing. Firms could list abroad to exploit a temporarily "hot" market. Henderson, Jegadeesh, and Weisbach (2004) find that firms raise capital in the U.S. and U.K. in "boom" markets, before returns fall. Others, however, do not find evidence of post-listing underperformance by capital raising firms, as the market timing hypothesis predicts.[4] Consistent with market timing, we find that *q* rises before internationalization and then falls immediately afterwards. However, when we control for market sentiment by including price-earnings ratios, U.S. stock returns, local stock returns, the global industry *q* of each firm, and international capital flows, this does not alter the time-series pattern of *q*. Furthermore, firms keep expanding many years after they internationalize, which suggests that they are not simply exploiting a short-term boom in the market. Taken together, these results suggest that market timing is not the only force underlying internationalization.

Finally, our work also relates to a broader research on the impact of financial integration in general on economic growth, national investment, and financial development.[5] We do not examine these aggregate issues. Rather, we focus on the cross-firm distributional implications of firms that access international markets by comparing international and domestic firms.[6]

[4] See Foerster and Karolyi (1999, 2000) and Errunza and Miller (2000).

[5] See Levine and Zervos (1998a,b), Bekaert and Harvey (2000), Henry (2000a,b, 2003), Bekaert, Harvey, and Lundblad (2001, 2004); Chari and Henry (2002, 2004), Claessens, Klingebiel, and Schmukler (2006), and reviews by Edison, Levine, Ricci, and Slot (2002) and Karolyi and Stulz (2003).

[6] Several other papers examine the effects of internationalization at the firm level. See Pagano, Roell, and Zechner (2002), Claessens, Klingebiel, and Schmukler (2003), Lang, Lins, and Miller (2003), Lang, Raedy, and Yetman (2003), Levine and Schmukler (2006a,b), Patro and Wald (2005), and Schmukler and Vesperoni (2006), among others.

The remainder of the paper is organized as follows. Section 2 discusses the data. Sections 3 and 4 present the results. We conclude in Section 5.

## 2. Data

To document the time-series patterns of $q$ and its components as firms internationalize and compare these patterns to firms that remain domestic, we collect substantially more data than previous studies. First, previous studies examine cross-sectional data, but theory provides predictions about the time-series patterns of $q$ and its components. Thus, we collect accounting, balance sheet, and stock market data on both international and domestic firms over a twelve year period for firms from many countries. Second, most papers examine only the American Depositary Receipt (ADR) market, but theoretical predictions apply to internationalization beyond ADRs and firms internationalize into other countries and access the U.S market through vehicles other than ADRs. Furthermore, some theories stress that the effects of internationalization depend on the comparative effectiveness of corporate governance in a firm's home country relative to the market into which it internationalizes. Thus, it is important to examine internationalization into financial centers other than the U.S. Moreover, many models argue that the impact of internationalization is a function of the legal characteristics and regulatory requirements associated with the particular financial vehicle used to internationalize. Thus, we gain analytical power by considering internationalization through non-ADR instruments. Besides the ADR market, we include firms that internationalize (i) by issuing depositary receipts in other international financial markets, (ii) by cross-listing in the U.S. and other financial centers, and (iii) by raising equity capital through private or public placements in the U.S. or other international equity markets. We use these different subsamples of

international firms to assess whether the evolution of *q* differs across distinct methods of internationalization.

The data for identifying and dating each firm's international activities come from the following sources. First, besides the Bank of New York's standard database (the Complete Depositary Receipt Directory) that contains information on current depositary receipt activities, we received access to their historical databases and reports on (i) depositary receipt program initiation dates, (ii) termination dates (if any), (iii) capital raisings, and (iv) trading activity. These data form a comprehensive database on American and Global depositary receipt programs. The historical data start in January 1956, but most programs begin after 1980. Second, Euromoney provides the dates when firms raise equity capital in international markets, including cross-listings and issuance of Global Depositary Receipts (GDRs). Thus, the Euromoney data substantively enhance the identification of international firms. The Euromoney database we use covers 8,795 cross-border equity issuances and cross-listing operations from 5,665 firms in 86 countries over the period January 1983 - April 2001. Finally, information on dating the initiation of international equity market activities was augmented with data from the London Stock Exchange (LSE), NASDAQ, and New York Stock Exchange (NYSE) on listing dates by foreign corporations.[7]

To measure firm valuation we use Tobin's *q* based on data from Worldscope (Thomson Financial Company), Standard & Poor's Emerging Markets Data Base (EMDB), and Bloomberg. Given data availability, we calculate *q* as the market value of equity plus the book value of debt

[7] We also have data from the Frankfurt Stock Exchange's Regulated Unofficial Market (Open Market), where shares from more than 60 countries are traded. The decision to have shares traded in this market is not made by the issuing firm; rather, the decision is made by trading participants, who only need to notify the Deutsche Bourse of the type of securities to be traded and inform the issuer. There are no legal obligations for the issuing firm. Thus, we do not consider these firms as international firms. In the regressions presented below, we exclude these Open Market firms unless we have other information that indicates that they have chosen to cross-list, issue depositary receipts, or raise capital abroad. In robustness tests, we categorized these firms as domestic firms and confirmed all the paper's findings.

(computed as the book value of assets minus the book value of equity) divided by the book value of assets.[8] Our estimate of Tobin's *q* does not use the market value of debt in the numerator and does not attempt to use the replacement cost of assets in the denominator. It is difficult to avoid these simplifications in a database that covers over 9,000 firms from 74 countries.[9] Similar definitions of Tobin's *q* have been widely used in the literature (see, for example, Chari and Henry, 2002; Claesssens and Laeven, 2003; Doidge, Karolyi, and Stulz, 2004; Klapper and Love, 2004; La Porta et al., 2002; and Shin and Stulz, 2000).

Although Worldscope provides firm-level data using local GAAP (Generally Accepted Accounting Principles) and attempts to make data consistent across countries, these efforts have limitations. To address concerns regarding possible biases introduced by cross-country differences in accounting practices, we conduct two procedures. First, we include country fixed effects in our regressions. Second, we use the relative *q* of international firms (defined as the *q* of each international firm divided by the average *q* of all domestic firms in the firm's home country) as a dependent variable in some specifications. Relative *q* focuses on within country variation in *q* and is unaffected by national differences in accounting practices.[10]

We control for firm- and industry-specific traits commonly used in studies of firm value. The average sales growth over the last two years proxies for a firm's growth prospects. We use

[8] We also estimated regressions using the logarithm of this measure and obtained the same results as those reported below.

[9] We did not attempt to calculate the replacement cost of assets in the denominator since the required data are generally not available for our sample of firms. Moreover, countries have different ways for accounting for depreciation of physical assets. In addition, we did not want to impose a fixed depreciation formula, since the age of assets varies by economy. We also did not attempt to calculate the market value of debt, as this would require us to use data on corporate bond rates (see Blanchard, Rhee, and Summers, 1993), which are not available for most countries in our sample. Rather than making further assumptions, we follow the alternative convention of using the book value of debt as a proxy for its market value and the book value of assets as a proxy for their replacement cost.

[10] Potential biases in *q* from inflation may be a particular concern. In inflationary economies, using historic costs to compute the book value of assets will bias *q* upwards. Thus, we estimated regressions including inflation as a control variable. This did not alter the results. Also, using the relative *q* of international firms mitigates inflation biases because inflation exerts a similar effect on the historic asset values for international and domestic firms from the same economy.

sales rather than earnings to avoid the problems generated by the volatility and manipulability of earnings. To control for time-varying industry-level effects, we include each firm's global industry *q*, which is computed by averaging across all corporations within the firm's industry.

To control for country factors, we include real GDP growth, which comes form the World Bank World Development Indicators. In robustness tests, we control for additional country traits that might affect not only a firm's *q* but also its willingness and ability to access international markets, including a country's institutional quality, shareholder rights, legal origin, domestic market capitalization, and an index of accounting standards.

After removing financial firms (since highly leveraged and heavily regulated financial institutions could be valued differently from nonfinancial firms), firms with missing data, firms from the United States and the United Kingdom (since these are financial centers where most internationalization is taking place), and firms with less than three observations, we are left with a sample of 9,096 firms from 74 countries covering the period 1989 to 2000, totaling 66,963 firm-year observations. Appendix Table 1 lists the countries, the number of domestic and international firms per country, the coverage period for each country, and summary statistics on *q*. Some countries do not have any international firms. We keep these in the sample as a control group, but emphasize that this paper's results hold when we exclude countries with zero or only one international firm. Also, Japanese firms represent about 30 percent of the total firms in our sample. We therefore re-did our analyses excluding Japanese firms and reached the same conclusions reported below.

**3. Results: Before and After Internationalization**

This section tests whether there is a significant increase in *q* after firms internationalize. We compare the average valuation of firms in the years before they internationalize to average

valuations in the years after they internationalize (including the year of internationalization). Moreover, since the bonding view holds that internationalization will only induce an enduring increase in *q* if firms internationalize in a manner that improves corporate governance, we examine numerous subsamples of firms that are categorized according to the legal form of internationalization, whether they raise new equity capital while internationalizing, whether they cross-list or raise capital in major international public exchanges, and whether their home country has weak shareholder protection laws. Since averaging across the years before internationalization and comparing this to the average after internationalization might hide valuable information concerning the time-series patterns of corporate valuations during the internationalization process, Section 4 below traces the year-by-year evolution of *q* and its components.

### 3.1. Do International Firms Have Higher *Q*s?

As a preliminary step, the top panel of Figure 1 compares the average *q* of international firms with the average *q* of domestic firms. Domestic firms are firms that never issue depositary receipts, raise equity capital in international markets, or cross-list on the LSE, NASDAQ, or NYSE. We compute the average *q* across all domestic firms, across all years in the sample, which includes 57,876 firm-year observations. International firms are firms that at some point "internationalize."[11] We characterize a firm as international even if it has not yet issued a depositary receipt, raised capital abroad, or cross-listed in an international market. Given this definition, we compute the average *q* across all international firms, across all years. This includes 9,087 firm-year observations.

[11] There are a few firms that internationalized prior to our estimation period. We include these firms in the sample of international firms. However, the results are robust to excluding them.

As shown in Figure 1, international firms have an average *q* of 1.55, while domestic firms have an average *q* of 1.39. The difference is statistically significant at the one percent level. The difference of 0.16 is over ten percent of the sample mean of 1.41 and is 18 percent of the standard deviation of Tobin's *q* across all the firms in the sample (0.86). While international firms have higher *q*s on average, this does not necessarily imply that the *q*s of international firms increase after they internationalize. Firms that internationalize might be more highly valued than domestic firms before they internationalize.

### 3.2. Is *Q* Higher After Internationalization?

Next, we examine whether *q* rises after firms become international. The bottom panel of Figure 1 compares the average *q* of international firms before and after internationalization. As shown, the *q* of international firms does not increase after they internationalize. In fact, the average *q* is lower after internationalization, although the difference is not statistically significant.

Table 1 provides formal tests of whether *q* increases following internationalization, conditional on country, industry, and firm characteristics. In Table 1, the dependent variable is Tobin's *q* for firm f from country c in year t ($q_{c,f,t}$) for a panel of domestic and international firms across the period 1989 to 2000. All of the regressions include country and year dummy variables as well as (i) the size of the firm, as measured by the logarithm of the firm's total assets, (ii) the natural logarithm of one plus the growth rate of sales over the last two years, (iii) the natural logarithm of one plus the national rate of economic growth of each firm's home country over the last year, and (iv) the global industry *q* (averaged across all firms in the industry) of each firm's industry. We control for these firm, industry, and country traits because they could

simultaneously affect both the firm's *q* and its access to international markets and we want to identify the independent relation between internationalization and valuation. We examine the full sample of firms (regressions 1-6) and also restrict the sample to firms with more than 100 million U.S. dollars in average assets (regressions 7-9) because both valuations and access to international markets might differ for small firms. Excluding small firms, therefore, might improve the comparability of firms in the sample.

The first result from Table 1 confirms that international firms are more highly valued than domestic firms both before and after they internationalize. This result holds when conditioning on firm, industry, and country characteristics. Regressions 1, 2, and 7 include a dummy variable, After Internationalization $\text{Dummy}_{c,f,t}$, that equals one in the year that firm f from country c internationalizes and in all subsequent years. This dummy variable equals zero for domestic firms and for international firms before they internationalize. Consistent with Figure 1, the average valuation of firms that have internationalized is higher than the average of domestic firms and firms that have not yet internationalized. Furthermore, after controlling for firm size, the national rate of economic growth of each firm's home country, sales growth, global industry *q*, and both country and year dummy variables, we continue to find that the After Internationalization Dummy enters positively and significantly.

Second, there is no evidence that *q* rises after internationalization. In Table 1's regressions 3, 4, and 8, we include the International $\text{Dummy}_{c,f,t}$, which equals one for all years if a firm internationalizes at some point in the sample and zero for all time t otherwise. We include this in addition to the After Internationalization $\text{Dummy}_{c,f,t}$, which equals one only after a firm internationalizes. Including International $\text{Dummy}_{c,f,t}$ drives out the significance of After Internationalization $\text{Dummy}_{c,f,t}$. This suggests that it is not the act of internationalizing that is

associated with higher valuation. Rather, the big difference is between firms that internationalize at some point and firms that do not, consistent with the idea that higher valued firms are more likely to access international markets. In fact, when running simple cross-sectional regressions for different years, we always find that international firms have higher *q*s.

Third, we provide a more direct test of the hypothesis that *q* rises after internationalization. We simultaneously include the After Internationalization Dummy and a dummy variable that equals one before a firm becomes international and zero otherwise (Before Internationalization $\text{Dummy}_{c,f,t}$). For domestic firms (firms that never internationalize), the Before Internationalization Dummy equals zero throughout. If *q* rises after internationalization, then the estimated coefficient on the After Internationalization Dummy should be significantly larger than the coefficient on the Before Internationalization Dummy. We do not find this. In Table 1's regressions 5, 6, and 9, the difference between the Before Internationalization Dummy and the After Internationalization Dummy, is not statistically significant. In sum, the results suggest that firms that internationalize at some point in the sample tend to have higher *q*s than domestic firms, but contrary to some theories of internationalization *q* does not rise after internationalization.

3.3. Internationalization: Different Subsamples

Bonding theories argue that only internationalization procedures that involve enhanced corporate governance will boost *q*. Pooling all types of internationalization together, therefore, would not represent a convincing test of the bonding effect.

Consequently, we analyze whether the results hold when differentiating firms by (i) whether they list in a major public exchange or not when internationalizing, (ii) whether they

raise new equity capital or not when they internationalize, (iii) whether firms raising capital abroad do this through private placements or public offerings, (iv) whether firms internationalize into U.S. markets through Level III ADRs or through different arrangements, and (v) whether the firms' home country has weak shareholder protection laws. Some firms could have several types of listings or equity offerings in international markets. For example, a firm might first raise capital in international markets through a private placement and then cross-list in a public exchange. We classify firms according to their first activity in international markets. So, if a firm privately raises capital abroad and then lists on a major international exchange, we use the date of the private capital raising as the year of internationalization and include the firm in the private capital raising sample. Note that many of these categorizations overlap. For brevity, we only include firms with more than 100 million U.S. dollars in average assets, which is most directly comparable to the sample of firms in regressions 7-9 of Table 1. The results hold, however, when including all the firms.

*3.3.1. Differentiating by Exchange Type*

Firms that internationalize into major public exchanges (e.g., the NYSE, LSE, etc.) are typically required to disclose more information than firms that internationalize through the U.S. OTC market or private placements in international markets. Therefore, we might expect to find that internationalization induces an enduring increase in $q$ for exchange listed firms but not for OTC/private placement firms.

Table 2 presents regression specifications similar to those in Table 1, but regressions 1–3 use a subsample of firms that internationalize via the U.S. OTC market and private placements in international markets and regressions 4–6 use a subsample of firms that cross-listed or raised

equity capital in a major public exchange. We also estimated regressions for firms that internationalize via the U.S. OTC market and private placements in international markets separately and obtained similar results.

The Table 2 results on the subsample of OTC/private placements and the subsample of exchange listings are the same as those for the full sample: international firms have higher *q*s than domestic firms, but their valuations do not rise after internationalization. These findings do not support arguments that internationalizing into major public exchanges (with arguably better governance mechanisms) has a different impact on firms' valuation than using the OTC market or private placements. Regressions (1) and (4) include both domestic firms and firms that internationalize, where the domestic firms form a control group that allows us to assess whether the *q* of firms that internationalize rises relative to the valuations of domestic firms.[12] For the OTC/private placements subsample (regression 1) and the exchange listings subsample (regression 4), the After Internationalization Dummy does not enter with a coefficient that is significantly larger than the coefficient on the Before Internationalization Dummy. In regressions 2, 3, 5, and 6, we only include firms that internationalize at some point in the sample. As shown, *q* is not larger after internationalization when examining either the OTC/private placements sample (regression 2) or the exchange listings sample (regression 5).[13]

It is possible that country-specific factors around periods of internationalization would induce fluctuations in *q* that make it difficult to identify the independent relation between

[12] Regressions 1 and 4 include all domestic firms and only the international firms being considered in each case (those with OTC/private offerings in regression 1 and those listed in major public exchanges in regression 4). Since both of these regressions include domestic firms, the total number of observations in these regressions sum to more than total observations of regression 7 of Table 1.

[13] In terms of matching observations between Tables 1 and 2, Table 2 only includes firms with more than 100 million U.S. dollars in average assets. In Table 2, there are 3,521 observations of OTC/private placements and 3,351 observations of exchange listed international firms. The total number of international firm observations is 6,872. There are also 32,251 domestic firm observations, so the total number of observations is 39,123, which equals the total numbers of observations in columns 7-9 of Table 1. The same demarcations hold in Tables 3-5.

internationalization and changes in *q*. For instance, a regulatory change could put downward pressure on the *q*s of both domestic and international firms. In this scenario, even if internationalization bonds firms to a better governance system, the net impact on *q* might be zero if the negative effect of the regulatory change offsets the positive effect from bonding. Consequently, we examine relative Tobin's *q*, which equals an international firm's *q* divided by the average *q* of domestic firms from the same country in the same year. Relative *q* reduces the chances that our findings are distorted by country factors driving fluctuations in the valuations of all firms in a country. Furthermore, the bonding hypothesis predicts that a firm that internationalizes into a foreign market with better corporate governance will experience a rise in *q* relative to domestic firms that do not internationalize and therefore do not commit to a higher level of shareholder protection, which provides an additional rational to study relative *q*.

The results in Table 2 indicate that relative *q* does not increase after internationalization. The internationalization dummy does not enter significantly in either the OTC/private placements subsample (regression 3) or the exchange listings subsample (regression 6). The results do not depend on whether we focus on a subsample of firms that lists on major public exchanges or a subsample that internationalizes through the OTC market or private placements.

*3.3.2. Differentiating by Equity Offering Type*

Next, we differentiate firms by whether they raise capital when they internationalize or not. To the extent that raising capital requires greater information disclosure and hence enhances market discipline, internationalization that involves raising capital will have a bigger impact on *q* than internationalization without raising new funds. International firms are classified as "capital raising" if they raised new equity through a public or a private offering in international markets.

All of the international capital raisings in our sample take place in developed markets (e.g., Frankfurt, Hong Kong, London, Luxembourg, New York, and Zurich). Level III ADRs involve capital raisings in public U.S. exchanges so these primary market activities are part of the capital raising sample. Similarly, the capital raising sample includes GDRs that involve new equity issuance, direct listings that entail capital raising in the U.S. and other financial centers, and private placements, such as Regulation 144A offerings in the U.S. and private placements in other international markets.

We again find that *q* does not rise after internationalization for either the sample of firms that raise capital, or the sample that does not. The first three regressions in Table 3 use a subsample of international firms that raise new equity capital when they internationalize. The next three regressions use a subsample consisting of international firms that do not raise new equity capital. As shown, the patterns replicate all of our earlier findings.

*3.3.3. Differentiating by Capital Raising Type*

Next, we focus only on the subsample of firms that raise new equity capital when they internationalize, but we divide them into two groups: private capital raisings and public capital raisings. Some firms raise capital when they list on major public exchanges, such as the LSE, NASDAQ, and NYSE. Other firms raise capital through private placements in international markets that do not involve an exchange listing. We examine each of these groups separately to assess whether raising new equity and listing on a major exchange bonds firms to an improved governance regime.

Table 4 indicates that *q* does not rise after internationalization, even for firms that simultaneously raise capital and list on major exchanges. The estimates indicate exactly the

same pattern for private and public capital raisings, and this pattern is the same as that reported above for the full sample and other subsamples. While international firms tend to have higher *q*s than domestic firms (regressions 1 and 4), *q* does not rise after internationalization.

*3.3.4. Differentiating by Listing in U.S. Markets*

There might be concerns that examining the full sample of international markets produces noise that makes it difficult to isolate the relation between internationalization and valuation. Furthermore, if U.S. markets have a particularly effective shareholder protection environment, then focusing on the U.S. would provide a more powerful test of whether firms that internationalize into stronger shareholder protection regimes enjoy a boost in *q*.

Table 5 presents regressions on two samples of firms that internationalize into U.S. markets. The first sample includes all types of U.S. listings (regressions 1-3). This includes all ADR programs, firms that raise equity capital in U.S. markets (including through Regulation 144A private placements), and cross-listings on the NASDAQ and NYSE.[14] The second sample only includes Level III ADRs, which are ADRs listed on a U.S. exchange that involve a capital raising component (regressions 4-6). These ADR programs are subject to more strict disclosure requirements and liability standards. In particular, they require full SEC disclosure with Form 20-F, reconciliation of financial statements to U.S. GAAP (Generally Accepted Accounting Principles), and compliance with the exchange's listing rules and corporate governance standards.[15] Issuers are also subject to the strict liability provisions of Section 11 of the

[14] We also estimated the regressions for different subsamples (Level I and II ADRs and Regulation 144A placements), obtaining similar results.

[15] Form 20-F is used by foreign firms to file annual reports with the SEC (equivalent to Form 10-K for U.S. issuers). There are two sets of financial statement requirements, referred to as Item 17 ("low disclosure") and Item 18 ("high disclosure"). Level III ADRs issuers are required to file an Item 18 Form 20-F, which requires disclosures on income taxes, leases, pensions, non-consolidated affiliates, related parties, and industry and geographic segment information.

Securities Act of 1933, which implies that they face direct liability for any material misleading statement or omission.[16] To the extent that Level III ADRs offer better investor protection than other forms of internationalization, the bonding hypothesis would predict that this type of listings will induce a particularly pronounced and enduring increase in *q*.

Table 5 indicates that the valuation patterns for U.S. listings do not differ from the results presented above: *q* does not rise significantly after internationalization. Moreover, these patterns hold for the full sample of U.S. listings (regressions 1-3) and for the much smaller sample of Level III ADRs (regressions 4-6).

*3.3.5. Firms from Countries with Weak Shareholder Rights*

La Porta et al. (2002) find that firms in countries with better investor protection laws have higher *q*s than comparable firms in countries with weaker governance systems. The bonding view stresses that firms internationalize to commit themselves to a stronger investor protection framework. If this is the case, then the bonding effect should be particularly large for firms from countries with very weak shareholder protection laws. Put differently, if a firm's home country has very strong shareholder protection laws then it is unlikely to enjoy an enduring boost in valuations from internationalizing into a market with similar investor protection systems.

Consequently, we re-do our analyses for only those firms from countries with weak shareholder protection laws. We define a country as having weak shareholder protection laws if the index of the strength of shareholder rights developed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998), and extended to additional countries by Pistor, Raiser, and Gelfer (2000), is

[16] Firms with Level I and II ADRs and Regulation 144A placements are subject to liability under Section 10(b) and Rule 10b-5 of the Exchange Act. Liability under these provisions requires the plaintiff to prove that the defendant acted with intent to defraud ("scienter"). Therefore, firms with Level III ADRs are subject to stricter liability standards (see Greene et al., 2000).

three or below out of a maximum value of six.[17] Table 6 presents these regressions for all firms from weak shareholder protection countries and for various subsamples of firms where bonding theories predict that the effects on *q* will be largest, i.e., firms that list in public exchanges, firms that raise capital in public markets, and firms that list in the U.S. markets.

We again find the same basic pattern. Internationalization is not associated with an enduring increase in *q*. We also confirm the results when including the shareholder protection index directly in the regressions, or when controlling for legal origin. These are the same variables used by La Porta et al. (2002). We also included interaction terms between the internationalization dummy variable and shareholder protection to assess further whether internationalization has a different effect on firms from different legal systems. We find that these interaction terms enter insignificantly. In additional (unreported) robustness tests, we included measures of institutional quality, such as an index of the efficiency of the judicial system produced by Business International Corporation and an index of accounting standards produced by the Center for International Financial Analysis and Research, and obtained similar results. Including these controls did not affect our conclusions. Also, we included interactions between these institutional indexes and the internationalization dummies. These interactions are not significant, and our results were not affected by their inclusion.

**4. Results: Dynamics**

The analyses in Tables 1-6 compare average valuations before internationalization with average valuations after internationalization, which is a natural test of conflicting theories of internationalization. Nevertheless, averaging over the pre- and post-internationalization periods

[17] We combine these two sources in order to increase the coverage in terms of countries. Results are similar to those reported if we only consider the shareholder rights index from La Porta et al. (1998). We also estimated the regressions including those countries with a shareholder rights index of two or less and obtained similar results.

may miss important patterns. For instance, market timing and some segmentation models predict that *q* will rise before internationalization and then quickly fall. In this section, we trace the year-by-year evolution of *q* before, during, and after internationalization. Furthermore, theory provides predictions about the evolution of the components of *q*. For instance, segmentation theories predict that stock prices, and hence market capitalization, will jump before internationalization, and then corporate assets will rise after internationalization. Thus, we also document the year-by-year dynamics of the components of *q*. After describing the results, we link them to the different theories of internationalization.

4.1. Results on the Evolution of *Q* and its Components

As a preliminary step, Figure 2 plots the evolution of *q* during the internationalization process. To construct this figure, we make year 0 the year that a firm internationalizes. Then, year -1 is the year before internationalization, year -2 is the year two years before internationalization and so forth. Symmetrically, year +1 is the year after internationalization, year +2 is the year two years after internationalization, etc. We then compute the average *q* for firms in year -3, -2, etc., and plot these averages in the top panel of Figure 2.

Figure 2 illustrates that internationalization is only associated with a short, temporary increase in *q*. The top panel shows that *q* tends to increase before internationalization, reaching its maximum level during the internationalization year, and then falls. The bottom panel documents a similar pattern for relative *q*. This panel is constructed in a similar manner, except that the *q* of each firm is divided by the average *q* of domestic firms from the same country in the same year. As shown, the valuation of international firms increases before internationalization relative to that of domestic firms and then falls after internationalization. Note that relative *q* is

always greater than one, indicating that international firms have higher *q*s before, during, and after internationalization. While relative *q* rises and falls during the internationalization process, the difference between international and domestic valuations is always positive.

Tables 7 and 8 provide more formal statistical tests of the evolution of *q* and its components, controlling for other factors. Table 7 examines each firm's *q* and relative *q*. As stressed above, we use relative *q* to control for country-specific phenomena that may influence the valuations of all firms, which might confound our ability to document accurately the dynamics of *q* and its components during the internationalization process.

To provide additional evidence on bonding, Table 7 traces the dynamics of *q* and relative *q* for four subsamples of firms: (a) all international firms, (b) only firms that internationalize into public exchanges, (c) only firms that raise capital through public exchanges, and (d) only firms that internationalize into the U.S. market. Again, the goal of examining these subsamples is to assess whether the dynamics of *q* and relative *q* differ for firms that internationalize in ways that are more likely to bond them to a more effective corporate governance system.

In Table 8, we examine the components of *q* for the full sample of international firms. Thus, we separately document the time-series patterns of (i) the numerator of *q*, defined as the market value of equity plus the book value of debt, (ii) the denominator of *q*, which equals the book value of assets of the firm, (iii) the market value of equity (market capitalization), and (iv) the book value of debt.[18] Furthermore, for each of these four components of *q*, we examine their values relative to the average values for domestic firms from the same country. Specifically, we

[18] When analyzing *q* in the earlier tables, we do not take the logarithm of *q*. Some researchers use the logarithm of *q* to control for outliers. We have instead removed outliers. When examining the components of *q*, most researchers take logarithms, e.g., the logarithm of total assets, to control for outliers. Thus, in Table 8, we use the logarithm of the components of *q* to make the results comparable with the literature. We do not remove the outliers of the components so that we maintain the same sample that we use in the regressions of *q*. For robustness, we conducted all of the analyses using the logarithm of *q*, and obtained the same conclusions.

examine each firm's market capitalization and divide it by the average market capitalization of domestic firms from the corporation's home market. We do this for each component of *q*.

Methodologically, we include a series of dummy variables that trace out annual patterns. The dummy variable "three years before internationalization dummy" equals one three years before the firm internationalizes and zero otherwise. Similarly, the dummy variable called "two years before internationalization dummy" equals one two years before the firm internationalizes and zero otherwise. We construct corresponding dummy variables for each of the years surrounding internationalization and the internationalization year itself.

As shown in Table 7's column 1, two years before a firm internationalizes its *q* is significantly (at the five percent level) higher than its long-run pre-internationalization value (i.e., its value more than three years before internationalization). Tobin's *q* rises even further in the year before internationalization and the internationalization year.

However, in the first year after internationalization, *q* falls sharply and it is lower than one year before firms internationalize (as shown by the size of the coefficients). By the second year, *q* relinquishes virtually all of its previous years' gain and is no longer significantly (at the five percent) higher than its value more than three years before internationalization.[19]

Relative *q* follows a similar pattern, rising before internationalization and even further during the year of internationalization, and then relinquishing these gains after internationalization. Relative *q* falls sharply in the year after internationalization and the dummy variable for the two years after internationalization does not enter with a significant coefficient in any specification. As noted above when discussing Figure 2, relative *q* rises and then quickly

[19] While it enters significantly at the ten percent level, there are almost 7,000 observations, suggesting that it is more appropriate to use a five (or one) percent significance level.

falls back to its pre-internationalization level, but relative *q* remains greater than one throughout the process.

Turning to the components of *q*, the numerator of Tobin's *q* rises one year before internationalization, rises further in the year of internationalization, and remains high thereafter (Table 8). These dynamics are driven primarily by market capitalization, which rises before internationalization, even further during internationalization, and then stays at a higher level than before internationalization. The book value of debt does not rise significantly until the year of internationalization. This suggests that markets anticipate internationalization and view it positively, which is reflected in higher prices before firms actually internationalize. This pattern could also reflect market timing, as firms internationalize when their valuation increases.

Table 8 demonstrates that the denominator of Tobin's *q*, total assets, follows a different pattern. Total assets rise significantly when the firm internationalizes, not before. Assets remain higher after internationalization. This is consistent with the view that internationalization coincides with corporate expansion, possibly because of a lower cost of capital and additional capital raisings.

The patterns of *q* and its components tell a distinct story. Market capitalization rises before the firm internationalizes and then remains high. Assets do not increase before internationalization. Rather, assets rise when the firm internationalizes and then remain higher than they were before internationalization. Tobin's *q* rises before internationalization and even further during the year of internationalization as market capitalization increases. Then, *q* drops sharply in the year after internationalization as firms expand.

4.2. Robustness Tests Regarding Market Timing

To assess whether market timing fully explains the time-series patterns documented above, we controlled for a wide array of variables that proxy for movements in international stock markets, foreign investor demand, and local market conditions. We controlled for market conditions because market timing theories suggest that firms issue equity in "hot" markets to exploit what they view as a temporarily high price for their shares, which would explain the temporary rise in $q$ before internationalization. In particular, we experimented with the global average value of $q$ for each firm's industry, the annual rate of return of U.S. stock market indexes, and the price-earnings ratio of the S&P 500 index. We also controlled for international investor demand for a country's firms by including portfolio equity flows and total equity flows (the sum of foreign direct investment and portfolio equity flows) into the country, both in U.S. dollars and as a percentage of GDP. We also included variables measuring the degree of internationalization of domestic equity markets, such as the number of international firms over the total number of firms listed in the domestic stock market and the ratio of stock market capitalization of international firms to that of domestic firms. These variables might also proxy for foreign investor interest in local firms. Finally, we included measures of domestic stock market performance, such as local stock index returns and the average $q$ of all firms in the domestic market.

Even after including these proxies for market conditions, we find the same time-series patterns as described above. Some of these control variables enter significantly, but the results on the evolution of $q$ were not affected by their inclusion. If these proxies capture market timing forces, then the robustness of our results suggests that market timing is not the only explanation of the times-series pattern of corporate valuation.

## 5. Conclusions

By documenting the time-series patterns of $q$ and its components for firms that internationalize and comparing those patterns to firms that do not internationalize, this paper provides a natural test of theoretical predictions concerning the causes and consequences of internationalization and presents information on the cross-distributional effects of internationalization. This paper has four key findings. First, international firms tend to have higher valuations than domestic firms; namely, the average $q$ of firms that internationalize at some point in the sample is higher than the $q$ of firms that never internationalize. Second, corporations do not experience an enduring increase in $q$ after they internationalize. Valuations are not higher after internationalization and valuations of firms that internationalize do not increase relative to those of domestic firms (i.e., relative $q$ does not increase after internationalization). Third, in terms of the dynamics, $q$ rises before internationalization, peaking in the internationalization year, and then falls rapidly following internationalization. One year after internationalization the $q$ of international firms is lower than it is one year before they internationalize. Furthermore, the relative $q$ of international firms follows the same pattern: rising before internationalization and during the internationalization year, but quickly relinquishing these increases after internationalization. Finally, a firm's market capitalization tends to rise prior to internationalization and remains high thereafter, while the firm's assets increase during internationalization. Furthermore, firms that internationalize expand relative to domestic firms.

The results provide new evidence on different theories of internationalization. First, our findings pose a challenge to bonding explanations. Several models predict that internationalization provides a vehicle for firms to bond themselves to a more effective corporate

governance regime that reduces the diversion of corporate resources for private gain. The reduction in diversion, in turn, should boost valuations. We do not find this. We find that *q* and relative *q* rise immediately prior to internationalization and then fall very quickly after internationalization back to their pre-internationalization levels. To the extent that bonding effects are present, this finding means other factors must also play an important role in explaining the evolution of *q*.

Second, the evidence is consistent with market segmentation theories, which hold that internationalization boosts firm size but exerts only a fleeting impact on *q*. We find that internationalization is associated with a permanent increase in market capitalization, a temporary increase in *q*, and a subsequent jump in corporate assets. Future research could further investigate the causes and consequences of the expansion of firms that internationalize relative to those that do not.

Third, market timing might also explain some of the documented patterns. Firms could respond to positive shocks to the expected price of their shares abroad by raising capital in international markets. Since the increase in market value before internationalization is also consistent with markets anticipating that the firm is going to enjoy positive future benefits from internationalization (due to a reduction in segmentation, bonding, or any other cause), it is difficult to distinguish market timing from other theories of internationalization. Towards this end, we attempt to control for market timing by conditioning on stock market returns in the U.S. and the domestic market, price-earnings ratios, and global industry *q* values, among other country, industry, and firm traits. Our results are robust to including these factors. These findings do not rule out overvaluation or market timing. Rather, to the extent that we have

appropriately controlled for market timing effects, these findings imply that market timing is not the only force underlying the evolution of *q* and its components.

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**Figure 1**

**Tobin's *Q* of Domestic and International Firms**

The top panel displays the average Tobin's *q* of domestic and international firms over the whole sample period. The bottom panel shows the average Tobin's *q* of international firms before and after internationalization. International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed on the London Stock Exchange, NASDAQ, or NYSE.

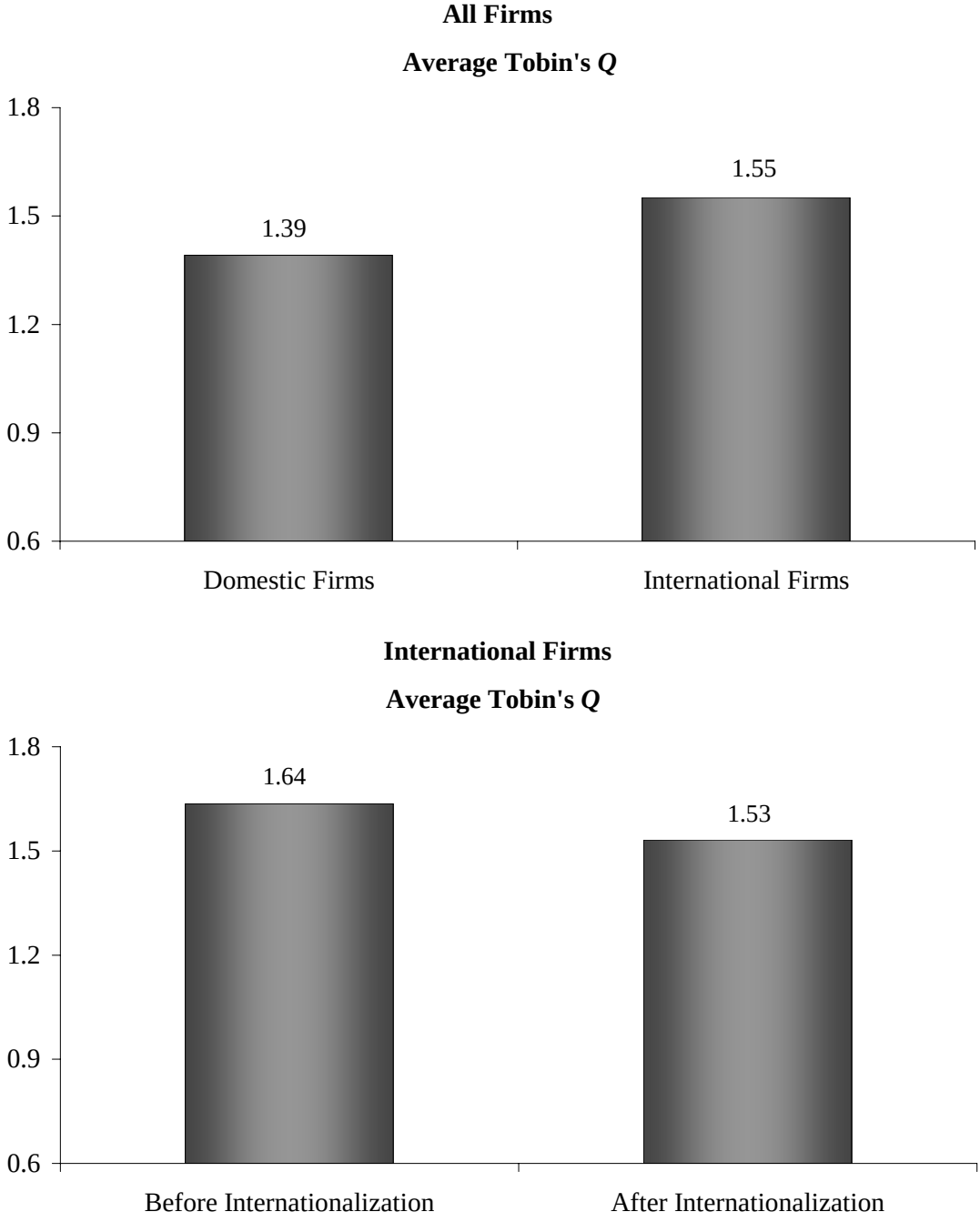
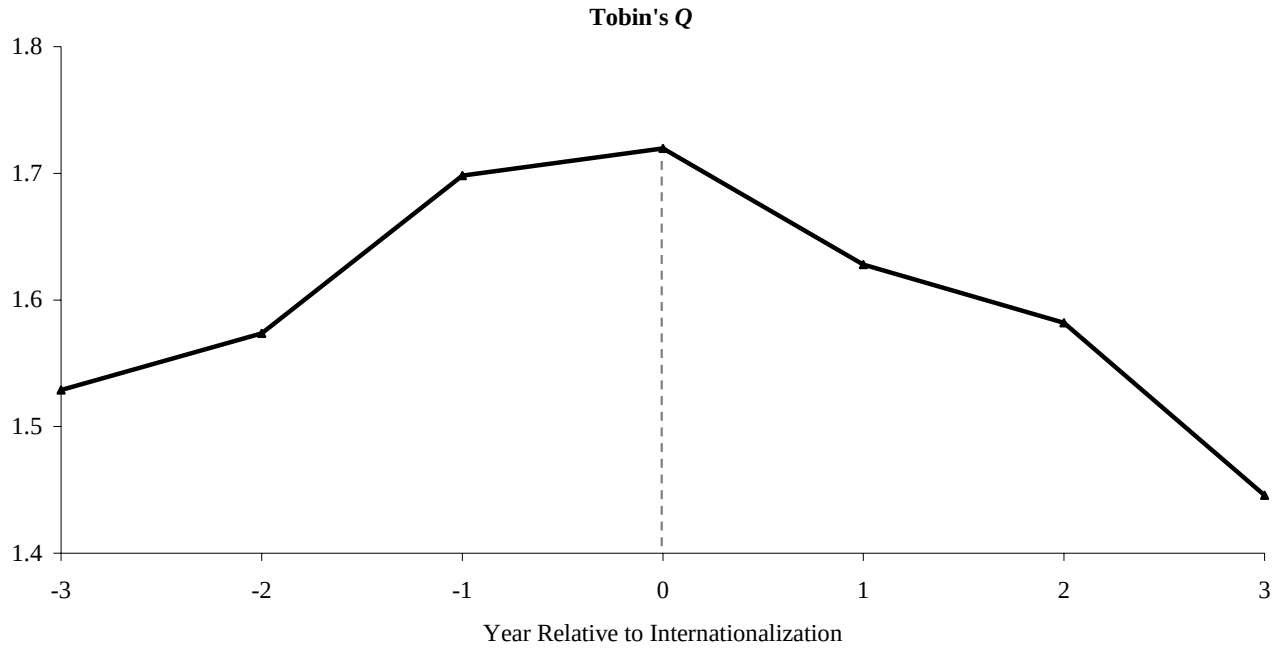


**Figure 2**
**Internationalization and the Evolution of Tobin's *Q***

The top panel shows the evolution of Tobin's $q$ of international firms around internationalization. The data are the average Tobin's $q$ in each year around the internationalization date (date zero). The bottom panel shows the evolution of the relative Tobin's $q$ of international firms, defined as the Tobin's $q$ of each international firm over the average Tobin's $q$ of all domestic firms in the firm's home country. The data are the average relative Tobin's $q$ in each year around the internationalization date (date zero). International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed on the London Stock Exchange, NYSE, or NASDAQ.



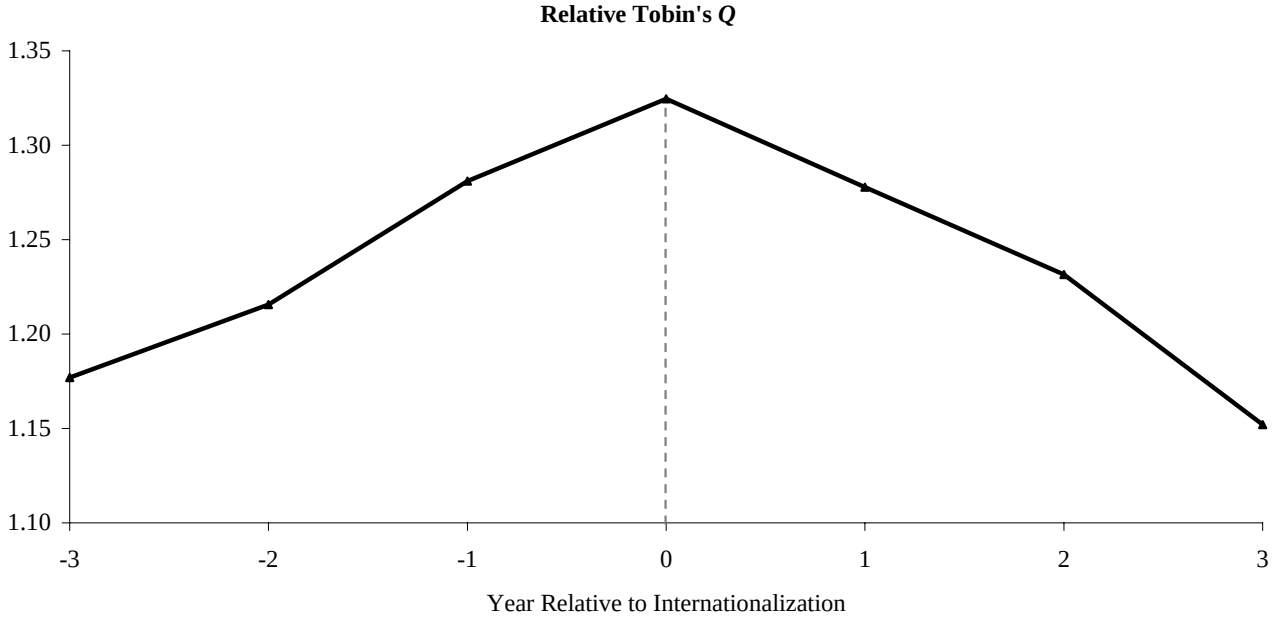



**Table 1**

**Internationalization and Tobin's *Q* - Panel Regressions**

This table reports ordinary least square regressions with standard errors adjusted for clustering at the firm level. The dependent variable is Tobin's q. The international dummy equals one if a firm becomes international at any point and zero for domestic firms. The after internationalization dummy equals one on and after the year when a firm becomes international and zero otherwise (it becomes zero if a firm is delisted). The before internationalization dummy equals one before a firm becomes international and zero otherwise. International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed on the London Stock Exchange, NYSE, or NASDAQ. The test reported at the bottom tests the null hypothesis that the after internationalization dummy equals the before internationalization dummy. See Appendix Table 2 for the definition of the remaining variables. Financial firms are excluded from the sample. United States and United Kingdom are excluded from the sample since they are considered financial centers. A constant is estimated but not reported. Absolute values of t-statistics are in brackets. *, **, *** mean significance at ten, five, and one percent, respectively.

**Domestic and International Firms**

| | **All Firms** | | | | | | **Excluding Firms with Less than 100 Million U.S. Dollars in Average Assets** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Tobin's *Q* | | | | | | Tobin's *Q* | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| After Internationalization Dummy (a) | 0.166 *** | 0.283 *** | -0.039 | -0.011 | 0.176 *** | 0.305 *** | 0.258 *** | 0.004 | 0.281 *** |
| | [6.491] | [9.968] | [0.839] | [0.211] | [6.763] | [10.470] | [9.143] | [0.085] | [9.663] |
| International Dummy | | | 0.215 *** | 0.316 *** | | | | 0.277 *** | |
| | | | [4.696] | [6.206] | | | | [5.401] | |
| Before Internationalization Dummy (b) | | | | | 0.217 *** | 0.319 *** | | | 0.278 *** |
| | | | | | [4.676] | [6.141] | | | [5.332] |
| Size (Log of Total Assets) | | -0.058 *** | | -0.063 *** | | -0.063 *** | -0.045 *** | -0.051 *** | -0.051 *** |
| | | [11.013] | | [11.679] | | [11.677] | [7.283] | [8.000] | [7.994] |
| Log of (1 + GDP Growth) | | 2.733 *** | | 2.752 *** | | 2.752 *** | 2.533 *** | 2.552 *** | 2.553 *** |
| | | [17.926] | | [18.100] | | [18.103] | [15.283] | [15.445] | [15.448] |
| Log of (1 + Two-Year Average Sales Growth) | | 0.329 *** | | 0.325 *** | | 0.325 *** | 0.323 *** | 0.318 *** | 0.318 *** |
| | | [12.313] | | [12.124] | | [12.122] | [10.341] | [10.114] | [10.112] |
| Global Industry *Q* | | 0.695 *** | | 0.682 *** | | 0.682 *** | 0.530 *** | 0.517 *** | 0.517 *** |
| | | [12.770] | | [12.575] | | [12.572] | [8.911] | [8.739] | [8.738] |
| Country Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of Observations | 66,963 | 51,608 | 66,963 | 51,608 | 66,963 | 51,608 | 39,123 | 39,123 | 39,123 |
| No. of Firms | 9,096 | 9,031 | 9,096 | 9,031 | 9,096 | 9,031 | 6,195 | 6,195 | 6,195 |
| No. of Countries | 74 | 71 | 74 | 71 | 74 | 71 | 68 | 68 | 68 |
| Mean of Dependent Variable | 1.413 | 1.355 | 1.413 | 1.355 | 1.413 | 1.355 | 1.308 | 1.308 | 1.308 |
| Before Int. Dummy - After Int. Dummy, (b)-(a) | | | | | 0.040 | 0.014 | | | -0.003 |
| Test (b)-(a)=0; P-value | | | | | 0.389 | 0.788 | | | 0.956 |
| R-squared | 0.059 | 0.109 | 0.060 | 0.112 | 0.060 | 0.112 | 0.103 | 0.107 | 0.107 |

**Table 2**

**Internationalization and Tobin's *Q* by Exchange Type**

This table reports ordinary least square regressions with standard errors adjusted for clustering at the firm level. In columns (1), (2), (4), and (5) the dependent variable is Tobin's *q* In columns (3) and (6) the dependent variable is the Tobin's *q* of each international firm over the average Tobin's *q* of all domestic firms in the firm's home country. The after internationalization dummy equals one on and after the year when a firm becomes international and zero otherwise (it becomes zero if a firm is delisted). The before internationalization dummy equals one before a firm becomes international and zero otherwise. International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed on the London Stock Exchange, NYSE, or NASDAQ. OTC and private international firms are those that cross-listed in U.S. over-the-counter (OTC) markets or raised capital through a private placement in international equity markets. Exchange listed international firms are those that cross-listed or raised capital in a public exchange. The internationalization date considered for classifiying firms according to the exchange type is the date of their first international activity (e.g., if a firm first raised capital in international markets through a private placement and then cross-listed in a public exchange, it is classified as private and only the date of this private capital raising is considered). The test reported at the bottom tests the null hypothesis that the after internationalization dummy equals the before internationalization dummy. See Appendix Table 2 for the definition of the remaining variables. Financial firms are excluded from the sample. United States and United Kingdom are excluded from the sample since they are considered financial centers. A constant is estimated but not reported. Absolute values of t-statistics are in brackets. *, **, *** mean significance at ten, five, and one percent, respectively.

| **Excluding Firms with Less than 100 Million U.S. Dollars in Average Assets** | | | | | | |
|---|---|---|---|---|---|---|
| | **OTC and Private Placements** | | | **Exchange Listings** | | |
| | **Domestic and International Firms** | **International Firms Only** | | **Domestic and International Firms** | **International Firms Only** | |
| | Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* | Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| After Internationalization Dummy (a) | 0.179 *** | -0.070 | -0.066 | 0.373 *** | 0.011 | 0.017 |
| | [5.416] | [1.018] | [1.204] | [8.873] | [0.120] | [0.266] |
| Before Internationalization Dummy (b) | 0.220 *** | | | 0.322 *** | | |
| | [3.329] | | | [4.109] | | |
| Size (Log of Total Assets) | -0.041 *** | -0.070 *** | -0.048 *** | -0.052 *** | -0.122 *** | -0.088 *** |
| | [6.404] | [2.978] | [2.607] | [8.021] | [5.148] | [4.760] |
| Log of (1 + GDP Growth) | 2.517 *** | 2.083 *** | 0.274 | 2.601 *** | 1.855 *** | 0.170 |
| | [14.607] | [4.122] | [0.766] | [14.858] | [3.469] | [0.421] |
| Log of (1 + Two-Year Average Sales Growth) | 0.276 *** | 0.253 *** | 0.180 | 0.323 | 0.521 *** | 0.387 *** |
| | [9.215] | [2.984] | [2.927] *** | [9.591] *** | [3.332] | [3.264] |
| Global Industry *Q* | 0.466 *** | 0.276 | 0.171 | 0.529 | 0.732 *** | 0.503 *** |
| | [7.985] | [1.545] | [1.186] | [8.492] *** | [3.155] | [2.864] |
| Country Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of Observations | 35,772 | 3,521 | 3,512 | 35,602 | 3,351 | 3,327 |
| No. of Firms | 5,668 | 531 | 530 | 5,664 | 527 | 523 |
| No. of Countries | 64 | 47 | 46 | 67 | 50 | 46 |
| Mean of Dependent Variable | 1.283 | 1.383 | 1.100 | 1.300 | 1.576 | 1.232 |
| Before Int. Dummy - After Int. Dummy, (b)-(a) | 0.040 | | | -0.051 | | |
| Test (b)-(a)=0; P-value | 0.531 | | | 0.540 | | |
| R-squared | 0.096 | 0.148 | 0.115 | 0.111 | 0.182 | 0.177 |

**Table 3**

**Internationalization and Tobin's *Q* by Equity Offering Type**

This table reports ordinary least square regressions with standard errors adjusted for clustering at the firm level. In columns (1), (2), (4), and (5) the dependent variable is Tobin's *q*. In columns (3) and (6) the dependent variable is the Tobin's *q* of each international firm over the average Tobin's *q* of all domestic firms in the firm's home country. The after internationalization dummy equals one on and after the year when a firm becomes international and zero otherwise (it becomes zero if a firm is delisted). The before internationalization dummy equals one before a firm becomes international and zero otherwise. International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed on the London Stock Exchange, NYSE, or NASDAQ. Capital raising international firms are those that raised equity capital either through a public or a private offer in international markets. Non-capital raising international firms are those that listed in foreign markets without raising capital at the same time. The internationalization date considered for classifiying firms according to the equity offering type is the date of their first international activity (e.g., if a firm first raised equity capital in international markets through a private placement and then cross-listed in a public exchange, it is classified as capital raising and only the date of this private capital raising is considered). The test reported at the bottom tests the null hypothesis that the after internationalization dummy equals the before internationalization dummy. See Appendix Table 2 for the definition of the remaining variables. Financial firms are excluded from the sample. United States and United Kingdom are excluded from the sample since they are considered financial centers. A constant is estimated but not reported. Absolute values of t-statistics are in brackets. *, **, *** mean significance at ten, five, and one percent, respectively.

| **Excluding Firms with Less than 100 Million U.S. Dollars in Average Assets** | | | | | | |
|---|---|---|---|---|---|---|
| | **Capital Raisings** | | | **Non-Capital Raisings** | | |
| | **Domestic and International Firms** | **International Firms Only** | | **Domestic and International Firms** | **International Firms Only** | |
| | Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* | Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| After Internationalization Dummy (a) | 0.323 *** | -0.014 | 0.009 | 0.213 *** | -0.088 | -0.077 |
| | [6.906] | [0.142] | [0.113] | [5.973] | [0.980] | [1.111] |
| Before Internationalization Dummy (b) | 0.324 *** | | | 0.252 *** | | |
| | [4.427] | | | [2.940] | | |
| Size (Log of Total Assets) | -0.049 *** | -0.112 *** | -0.075 *** | -0.042 *** | -0.063 ** | -0.046 ** |
| | [7.379] | [4.171] | [3.538] | [6.424] | [2.414] | [2.230] |
| Log of (1 + GDP Growth) | 2.433 *** | 0.475 | -0.649 * | 2.609 *** | 3.154 *** | 0.783 * |
| | [14.109] | [0.873] | [1.694] | [14.809] | [5.226] | [1.724] |
| Log of (1 + Two-Year Average Sales Growth) | 0.324 *** | 0.673 *** | 0.512 *** | 0.269 *** | 0.196 ** | 0.132 ** |
| | [9.595] | [3.815] | [3.746] | [8.868] | [2.371] | [2.236] |
| Global Industry *Q* | 0.526 *** | 0.829 *** | 0.623 *** | 0.468 *** | 0.302 | 0.162 |
| | [8.411] | [3.171] | [3.161] | [7.877] | [1.288] | [0.931] |
| Country Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of Observations | 35,154 | 2,903 | 2,874 | 35,139 | 2,888 | 2,884 |
| No. of Firms | 5,656 | 519 | 515 | 5,537 | 400 | 399 |
| No. of Countries | 67 | 53 | 49 | 64 | 39 | 38 |
| Mean of Dependent Variable | 1.293 | 1.531 | 1.188 | 1.281 | 1.387 | 1.123 |
| Before Int. Dummy - After Int. Dummy, (b)-(a) | 0.001 | | | 0.038 | | |
| Test (b)-(a)=0; P-value | 0.993 | | | 0.643 | | |
| R-squared | 0.107 | 0.232 | 0.247 | 0.097 | 0.124 | 0.079 |

**Table 4**

**Internationalization and Tobin's *Q* by Capital Raising Type**

This table reports ordinary least square regressions with standard errors adjusted for clustering at the firm level. In columns (1), (2), (4), and (5) the dependent variable is Tobin's *q*. In columns (3) and (6) the dependent variable is the Tobin's *q* of each international firm over the average Tobin's *q* of all domestic firms in the firm's home country. The after internationalization dummy equals one on and after the year when a firm becomes international and zero otherwise (it becomes zero if a firm is delisted). The before internationalization dummy equals one before a firm becomes international and zero otherwise. International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed in the London Stock Exchange, NYSE, or NASDAQ. The sample of international firms includes only capital raising international firms, defined as those that raised capital either through a public or a private offering in international markets. The internationalization date considered for classifiying firms according to the exchange and equity offering type is the date of their first international activity (e.g., if a firm first raised capital in international markets through a private placement and then raised capital in a public exchange, it is classified as having a private listing and only the date of this private listing is considered). The test reported at the bottom tests the null hypothesis that the after internationalization dummy equals the before internationalization dummy. See Appendix Table 2 for the definition of the remaining variables. Financial firms are excluded from the sample. United States and United Kingdom are excluded from the sample since they are considered financial centers. A constant is estimated but not reported. Absolute values of t-statistics are in brackets. *, **, *** mean significance at ten, five, and one percent, respectively.

| **Excluding Firms with Less than 100 Million U.S. Dollars in Average Assets** | | | | | | |
|---|---|---|---|---|---|---|
| | **Private Capital Raisings** | | | **Public Capital Raisings** | | |
| | **Domestic and International Firms** | **International Firms Only** | | **Domestic and International Firms** | **International Firms Only** | |
| | Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* | Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| After Internationalization Dummy (a) | 0.137 ** | -0.144 | -0.055 | 0.441 *** | -0.047 | -0.052 |
| | [2.474] | [1.171] | [0.663] | [6.862] | [0.347] | [0.481] |
| Before Internationalization Dummy (b) | 0.233 *** | | | 0.417 *** | | |
| | [3.083] | | | [3.300] | | |
| Size (Log of Total Assets) | -0.042 *** | -0.096 *** | -0.056 ** | -0.049 *** | -0.143 *** | -0.101 *** |
| | [6.426] | [2.701] | [2.108] | [7.317] | [3.759] | [3.353] |
| Log of (1 + GDP Growth) | 2.476 *** | -0.019 | -0.637 | 2.524 *** | 0.739 | -0.648 |
| | [13.960] | [0.026] | [1.231] | [14.200] | [1.079] | [1.242] |
| Log of (1 + Two-Year Average Sales Growth) | 0.284 *** | 0.367 * | 0.260 * | 0.320 *** | 1.000 *** | 0.770 *** |
| | [8.911] | [1.919] | [1.786] | [9.389] | [4.282] | [4.248] |
| Global Industry *Q* | 0.485 *** | 0.520 * | 0.416 ** | 0.518 *** | 0.806 ** | 0.614 ** |
| | [7.966] | [1.887] | [1.970] | [8.168] | [2.192] | [2.190] |
| Country Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of Observations | 33,524 | 1,273 | 1,261 | 33,881 | 1,630 | 1,613 |
| No. of Firms | 5,387 | 250 | 248 | 5,406 | 269 | 267 |
| No. of Countries | 65 | 46 | 44 | 65 | 41 | 39 |
| Mean of Dependent Variable | 1.277 | 1.414 | 1.072 | 1.288 | 1.622 | 1.279 |
| Before Int. Dummy - After Int. Dummy, (b)-(a) | 0.096 | | | -0.024 | | |
| Test (b)-(a)=0; P-value | 0.245 | | | 0.857 | | |
| R-squared | 0.099 | 0.266 | 0.287 | 0.109 | 0.277 | 0.288 |

**Table 5**

**Internationalization in U.S. Markets and Tobin's *Q***

This table reports ordinary least square regressions with standard errors adjusted for clustering at the firm level. In columns (1), (2), (4), and (5) the dependent variable is Tobin's *q*. In columns (3) and (6) the dependent variable is the Tobin's *q* of each international firm over the average Tobin's *q* of all domestic firms in the firm's home country. The after internationalization dummy equals one on and after the year when a firm becomes international and zero otherwise (it becomes zero if a firm is delisted). The before internationalization dummy equals one before a firm becomes international and zero otherwise. The sample of international firms includes only those that internationalized in U.S. markets, defined as those having at least one active American depositary receipt program, having raised equity capital in U.S. markets, or being listed on the NYSE or NASDAQ. Firms that internationalized by raising capital or cross-listing in international markets other than the U.S. are not included in the sample (the first internationalization date is considered, e.g. if a firm raised capital in international markets other than the U.S. and then issued an ADR it is not included). The internationalization date considered for classifiying firms according to the ADR Level is the date of their first international activity (e.g., if a firm first raised capital in U.S. markets through a Regulation 144A private placement and afterwards established a Level III program, it is classified as having a private listing and not included as Level III ADR). The test reported at the bottom tests the null hypothesis that the after internationalization dummy equals the before internationalization dummy. See Appendix Table 2 for the definition of the remaining variables. Financial firms are excluded from the sample. United States and United Kingdom are excluded from the sample since they are considered financial centers. A constant is estimated but not reported. Absolute values of t-statistics are in brackets. *, **, *** mean significance at ten, five, and one percent, respectively.

| **Excluding Firms with Less than 100 Million U.S. Dollars in Average Assets** | | | | | | |
|---|---|---|---|---|---|---|
| | **All Types of U.S. Listings** | | | **Level III ADRs** | | |
| | **Domestic and International Firms** | **International Firms Only** | | **Domestic and International Firms** | **International Firms Only** | |
| | Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* | Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| After Internationalization Dummy (a) | 0.298 *** | -0.014 | -0.016 | 0.694 *** | 0.251 | 0.118 |
| | [9.205] | [0.225] | [0.331] | [6.010] | [1.055] | [0.557] |
| Before Internationalization Dummy (b) | 0.303 *** | | | 0.736 *** | | |
| | [5.108] | | | [3.146] | | |
| Size (Log of Total Assets) | -0.050 *** | -0.088 *** | -0.064 *** | -0.044 *** | -0.073 | -0.060 |
| | [7.764] | [4.628] | [4.269] | [6.549] | [1.246] | [1.290] |
| Log of (1 + GDP Growth) | 2.500 *** | 1.963 *** | 0.267 | 2.499 *** | 1.001 | -0.841 |
| | [14.807] | [4.859] | [0.919] | [13.658] | [0.847] | [0.888] |
| Log of (1 + Two-Year Average Sales Growth) | 0.304 *** | 0.343 *** | 0.257 *** | 0.297 *** | 1.174 *** | 1.079 *** |
| | [9.743] | [4.093] | [4.075] | [8.885] | [2.702] | [3.336] |
| Global Industry *Q* | 0.525 *** | 0.655 *** | 0.452 *** | 0.504 *** | 1.114 * | 0.879 * |
| | [8.670] | [3.483] | [3.228] | [7.968] | [1.925] | [1.891] |
| Country Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of Observations | 37,657 | 5,406 | 5,375 | 32,884 | 633 | 629 |
| No. of Firms | 5,980 | 843 | 838 | 5,247 | 110 | 110 |
| No. of Countries | 68 | 56 | 51 | 63 | 29 | 29 |
| Mean of Dependent Variable | 1.302 | 1.485 | 1.177 | 1.281 | 1.784 | 1.463 |
| Before Int. Dummy - After Int. Dummy, (b)-(a) | 0.005 | | | 0.042 | | |
| Test (b)-(a)=0; P-value | 0.938 | | | 0.858 | | |
| R-squared | 0.108 | 0.177 | 0.165 | 0.109 | 0.453 | 0.457 |

**Table 6**

**Internationalization and Tobin's *Q* - Firms from Countries with Weak Shareholder Rights**

This table reports ordinary least square regressions with standard errors adjusted for clustering at the firm level. The sample only includes firms from countries with a shareholder rights index equal to three or less. The dependent variable is Tobin's *q* . The after internationalization dummy equals one on and after the year when a firm becomes international and zero otherwise (it becomes zero if a firm is delisted). The before internationalization dummy equals one before a firm becomes international and zero otherwise. International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or beign listed on the London Stock Exchange, NYSE, or NASDAQ. The sample of international firms includes the international firms with the type of listing described in each case. The sample of countries used in each specification is determined on the basis of their antidirector rights, as reported by La Porta et al (1998) and Pistor et al. (2000). The test reported at the bottom tests the null hypothesis that the after internationalization dummy equals the before internationalization dummy. See Appendix Table 2 for the definition of the remaining variables. Financial firms are excluded from the sample. United States and United Kingdom are excluded from the sample since they are considered financial centers. A constant is estimated but not reported. Absolute values of t-statistics are in brackets. *, **, *** mean significance at ten, five, and one percent, respectively.

| **Excluding Firms with Less than 100 Million U.S. Dollars in Average Assets** | | | | | | |
|---|---|---|---|---|---|---|
| | **Exchange Listings** | | **Public Capital Raisings** | | **All Types of U.S. Listings** | |
| | **Domestic and International Firms** | **International Firms Only** | **Domestic and International Firms** | **International Firms Only** | **Domestic and International Firms** | **International Firms Only** |
| | Tobin's Q | | Tobin's Q | | Tobin's Q | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| After Internationalization Dummy (a) | 0.442 *** | -0.134 | 0.453 *** | -0.193 | 0.382 *** | 0.004 |
| | [7.291] | [1.191] | [5.683] | [1.031] | [7.286] | [0.058] |
| Before Internationalization Dummy (b) | 0.460 *** | | 0.576 *** | | 0.311 *** | |
| | [3.928] | | [2.918] | | [4.397] | |
| Size (Log of Total Assets) | -0.048 *** | -0.093 *** | -0.045 *** | -0.107 ** | -0.047 *** | -0.103 *** |
| | [4.898] | [2.753] | [4.623] | [2.286] | [4.886] | [3.556] |
| Log of (1 + GDP Growth) | 1.209 *** | -0.861 | 1.203 *** | -1.312 * | 1.175 *** | 0.775 |
| | [5.593] | [1.169] | [5.516] | [1.684] | [5.671] | [1.368] |
| Log of (1 + Two-Year Average Sales Growth) | 0.236 *** | 1.041 *** | 0.225 *** | 1.280 *** | 0.220 *** | 0.389 *** |
| | [5.268] | [4.155] | [5.051] | [4.296] | [5.360] | [2.610] |
| Global Industry *Q* | 0.685 *** | 0.650 * | 0.705 *** | 0.908 * | 0.624 *** | 0.417 |
| | [5.708] | [1.717] | [5.711] | [1.968] | [5.313] | [1.190] |
| Country Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of Observations | 13,222 | 1,388 | 12,672 | 838 | 14,116 | 2,282 |
| No. of Firms | 2,118 | 232 | 2,020 | 134 | 2,268 | 382 |
| No. of Countries | 40 | 31 | 39 | 23 | 40 | 34 |
| Mean of Dependent Variable | 1.301 | 1.576 | 1.289 | 1.575 | 1.302 | 1.471 |
| Before Int. Dummy - After Int. Dummy, (b)-(a) | 0.018 | | 0.124 | | -0.070 | |
| Test (b)-(a)=0; P-value | 0.878 | | 0.526 | | 0.331 | |
| R-squared | 0.156 | 0.281 | 0.152 | 0.323 | 0.152 | 0.233 |

**Table 7**

**Internationalization and the Evolution of Tobin's *Q* by Internationalization Type**

This table reports ordinary least square regressions with standard errors adjusted for clustering at the firm level. In columns (1), (3), (5), and (7) the dependent variable is Tobin's *q*. In columns (2), (4), (6), and (8) the dependent variable is the Tobin's *q* of each international firm over the average Tobin's *q* of all domestic firms in the firm's home country. The single year internationalization dummies equal one in the referred year and zero otherwise. The more than three years after internationalization dummy equals one after the third year following internationalization and zero before (it becomes zero if a firm is delisted). International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed on the London Stock Exchange, NYSE, or NASDAQ. The sample of international firms includes the international firms with the type of listing described in each case. The test reported at the bottom tests the null hypothesis that the internationalization dummy equals the before internationalization dummy. See Appendix Table 2 for the definition of the remaining variables. Financial firms are excluded from the sample. United States and United Kingdom are excluded from the sample since they are considered financial centers. A constant is estimated but not reported. Absolute values of t-statistics are in brackets. *, **, *** mean significance at ten, five, and one percent, respectively.

**International Firms Only**

**Excluding Firms with Less than 100 Million U.S. Dollars in Average Assets**

| | **All International Firms** | | **Exchange Listings** | | **Public Capital Raisings** | | **All Types of U.S. Listings** | |
|---|---|---|---|---|---|---|---|---|
| | Tobin's *Q* | Relative Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* | Tobin's *Q* | Relative Tobin's *Q* |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Three Years Before Internationalization Dummy | 0.113 * | 0.090 ** | 0.138 | 0.033 | 0.318 ** | 0.164 ** | 0.107 * | 0.101 ** |
| | [1.956] | [2.280] | [1.518] | [0.563] | [2.412] | [2.040] | [1.691] | [2.265] |
| Two Years Before Internationalization Dummy | 0.131 ** | 0.095 ** | 0.147 * | 0.042 | 0.213 * | 0.114 | 0.144 ** | 0.118 ** |
| | [2.005] | [2.006] | [1.785] | [0.697] | [1.934] | [1.364] | [1.964] | [2.188] |
| One Year Before Internationalization Dummy | 0.191 *** | 0.123 ** | 0.294 *** | 0.148 ** | 0.428 *** | 0.286 *** | 0.231 *** | 0.158 *** |
| | [2.798] | [2.551] | [3.298] | [2.196] | [3.426] | [2.635] | [3.050] | [3.012] |
| Internationalization Year Dummy | 0.221 *** | 0.162 *** | 0.313 *** | 0.190 ** | 0.422 *** | 0.244 ** | 0.281 *** | 0.210 *** |
| | [2.807] | [2.834] | [2.936] | [2.306] | [3.247] | [2.081] | [3.116] | [3.251] |
| One Year After Internationalization Dummy | 0.165 ** | 0.122 ** | 0.292 *** | 0.147 * | 0.345 ** | 0.173 | 0.194 ** | 0.143 ** |
| | [2.180] | [2.189] | [2.865] | [1.848] | [2.423] | [1.300] | [2.232] | [2.308] |
| Two Years After Internationalization Dummy | 0.138 * | 0.087 | 0.234 ** | 0.118 | 0.170 | 0.053 | 0.162 * | 0.099 |
| | [1.847] | [1.626] | [2.315] | [1.543] | [1.262] | [0.436] | [1.880] | [1.639] |
| Three Years After Internationalization Dummy | 0.034 | 0.021 | 0.107 | 0.049 | 0.149 | 0.081 | 0.044 | 0.034 |
| | [0.436] | [0.366] | [1.023] | [0.614] | [0.991] | [0.616] | [0.502] | [0.543] |
| More Than Three Years After Internationalization Dummy | -0.019 | -0.020 | 0.062 | 0.023 | 0.090 | 0.047 | 0.001 | 0.000 |
| | [0.232] | [0.326] | [0.543] | [0.265] | [0.492] | [0.312] | [0.006] | [0.004] |
| Size (Log of Total Assets) | -0.079 *** | -0.054 *** | -0.112 *** | -0.081 *** | -0.136 *** | -0.098 *** | -0.083 *** | -0.060 *** |
| | [4.771] | [4.238] | [4.610] | [4.363] | [3.449] | [3.175] | [4.431] | [4.105] |
| Log of (1 + GDP Growth) | 2.024 *** | 0.212 | 1.660 *** | 0.061 | 0.517 | -0.783 | 1.851 *** | 0.131 |
| | [5.535] | [0.790] | [3.155] | [0.150] | [0.747] | [1.458] | [4.560] | [0.448] |
| Log of (1 + Two-Year Average Sales Growth) | 0.360 *** | 0.265 *** | 0.463 *** | 0.352 *** | 0.924 *** | 0.730 *** | 0.299 *** | 0.224 *** |
| | [4.394] | [4.340] | [3.023] | [3.013] | [3.853] | [3.944] | [3.732] | [3.737] |
| Global Industry *Q* | 0.551 *** | 0.370 *** | 0.712 *** | 0.493 *** | 0.799 ** | 0.608 ** | 0.626 *** | 0.422 *** |
| | [3.471] | [3.076] | [3.082] | [2.820] | [2.167] | [2.173] | [3.297] | [3.024] |
| Country Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of Observations | 6,872 | 6,839 | 3,351 | 3,327 | 1,630 | 1,613 | 5,406 | 5,375 |
| No. of Firms | 1,058 | 1,053 | 527 | 523 | 269 | 267 | 843 | 838 |
| No. of Countries | 57 | 52 | 50 | 46 | 41 | 39 | 56 | 51 |
| Mean of Dependent Variable | 1.477 | 1.164 | 1.576 | 1.232 | 1.622 | 1.279 | 1.485 | 1.172 |
| R-squared | 0.155 | 0.135 | 0.189 | 0.181 | 0.285 | 0.292 | 0.185 | 0.156 |

**Table 8**

**Internationalization and the Evolution of the Components of Tobin's *Q***

This table reports ordinary least square regressions with standard errors adjusted for clustering at the firm level. The dependent variables are: (1) logarithm of Tobin's *q* numerator in U.S. dollars, calculated as the book value of debt (defined as total assets minus book value of equity) plus market capitalization; (2) logarithm of relative Tobin's *q* numerator, defined as the Tobin's q numerator of each international firm over the average Tobin's *q* numerator of all domestic firms in the firm's home country; (3) logarithm of total assets in U.S. dollars; (4) logarithm of relative total assets, defined as the total assets of each international firm over the average total assets of all domestic firms in the firm's home country; (5) logarithm of market capitalization in U.S. dollars; (6) logarithm of relative market capitalization, defined as the market capitalization of each international firm over the average market capitalization of all domestic firms in the firm's home country; (7) logarithm of book value of debt in U.S. dollars; and (8) logarithm of relative book value of debt, defined as the book value of debt of each international firm over the average book value of debt of all domestic firms in the firm's home country. The single year internationalization dummies equal one in the referred year and zero otherwise. The more than three years after internationalization dummy equals one after the third year following internationalization and zero before (it becomes zero if a firm is delisted). International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed in the London Stock Exchange, NYSE, or NASDAQ. See Appendix Table 2 for the definition of the remaining variables. The sample includes only international firms. Financial firms are excluded from the sample. United States and United Kingdom are excluded from the sample since they are considered financial centers. A constant is estimated but not reported. Absolute values of t-statistics are in brackets. *, **, *** mean significance at ten, five, and one percent, respectively.

**International Firms Only**

**Excluding Firms with Less than 100 Million U.S. Dollars in Average Assets**

| | Log of Tobin's *Q* Numerator | Log of Relative Tobin's *Q* Numerator | Log of Total Assets | Log of Relative Total Assets | Log of Market Capitalization | Log of Relative Market Capitalization | Log of Book Value of Debt | Log of Relative Book Value of Debt |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Three Years Before Internationalization Dummy | 0.148 | 0.169 * | 0.114 | 0.127 | 0.165 * | 0.177 * | 0.121 | 0.137 |
| | [1.515] | [1.667] | [1.124] | [1.234] | [1.717] | [1.776] | [1.091] | [1.231] |
| Two Years Before Internationalization Dummy | 0.162 | 0.175 | 0.108 | 0.128 | 0.244 ** | 0.268 ** | 0.076 | 0.099 |
| | [1.569] | [1.618] | [1.012] | [1.155] | [2.268] | [2.368] | [0.636] | [0.805] |
| One Year Before Internationalization Dummy | 0.254 ** | 0.275 ** | 0.154 | 0.195 | 0.395 *** | 0.438 *** | 0.136 | 0.180 |
| | [2.310] | [2.384] | [1.343] | [1.644] | [3.543] | [3.723] | [1.050] | [1.349] |
| Internationalization Year Dummy | 0.424 *** | 0.420 *** | 0.317 *** | 0.323 *** | 0.602 *** | 0.610 *** | 0.275 ** | 0.282 ** |
| | [3.586] | [3.448] | [2.611] | [2.596] | [5.006] | [4.893] | [2.002] | [2.011] |
| One Year After Internationalization Dummy | 0.377 *** | 0.364 *** | 0.304 *** | 0.299 ** | 0.520 *** | 0.515 *** | 0.263 * | 0.245 * |
| | [2.930] | [2.749] | [2.322] | [2.234] | [3.917] | [3.769] | [1.788] | [1.648] |
| Two Years After Internationalization Dummy | 0.425 *** | 0.395 *** | 0.376 *** | 0.360 *** | 0.540 *** | 0.524 *** | 0.357 ** | 0.334 *** |
| | [3.166] | [2.869] | [2.750] | [2.590] | [3.933] | [3.723] | [2.334] | [2.162] |
| Three Years After Internationalization Dummy | 0.460 *** | 0.422 *** | 0.468 *** | 0.447 *** | 0.502 *** | 0.479 *** | 0.473 *** | 0.442 *** |
| | [3.297] | [2.958] | [3.291] | [3.092] | [3.528] | [3.289] | [2.992] | [2.766] |
| More Than Three Years After Internationalization Dummy | 0.852 *** | 0.828 *** | 0.904 *** | 0.878 *** | 0.824 *** | 0.799 *** | 0.927 *** | 0.897 *** |
| | [5.324] | [5.083] | [5.579] | [5.343] | [5.075] | [4.838] | [5.221] | [5.007] |
| Log of (1 + GDP Growth) | 2.214 *** | 1.241 *** | 1.036 ** | 1.056 *** | 5.040 *** | 5.086 *** | 0.499 | 1.295 *** |
| | [5.276] | [2.843] | [2.506] | [2.523] | [10.021] | [10.011] | [1.019] | [2.614] |
| Log of (1 + Two-Year Average Sales Growth) | 0.445 *** | 0.414 *** | 0.273 *** | 0.257 *** | 0.578 *** | 0.561 *** | 0.305 *** | 0.300 *** |
| | [4.972] | [4.699] | [3.450] | [3.237] | [4.533] | [4.448] | [3.360] | [3.284] |
| Industry Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of Observations | 6,872 | 6,839 | 6,872 | 6,839 | 6,872 | 6,839 | 6,871 | 6,838 |
| No. of Firms | 1,058 | 1,053 | 1,058 | 1,053 | 1,058 | 1,053 | 1,058 | 1,053 |
| No. of Countries | 57 | 52 | 57 | 52 | 57 | 52 | 57 | 52 |
| Mean of Dependent Variable | 7.774 | 0.970 | 7.499 | 0.888 | 6.954 | 0.341 | 6.881 | 0.739 |
| R-squared | 0.377 | 0.256 | 0.372 | 0.258 | 0.343 | 0.272 | 0.378 | 0.233 |

**Appendix Table 1**
**Basic Statistics**

This table reports summary statistics by country. It displays the total number of firms, the number of international firms, the number of domestic firms, the sample coverage, and the sample average of Tobin's $q$. International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed on the London Stock Exchange, NYSE, or NASDAQ.

| | Country | Number of Firms | Number of Domestic Firms | Number of International Firms | Sample Period | Tobin's *Q* | Tobin's *Q* of Domestic Firms | Tobin's *Q* of International Firms |
|---|---|---|---|---|---|---|---|---|
| 1 | Argentina | 42 | 27 | 15 | 1989 - 2000 | 1.11 | 1.04 | 1.23 |
| 2 | Australia | 219 | 161 | 58 | 1989 - 2000 | 1.51 | 1.49 | 1.55 |
| 3 | Austria | 71 | 55 | 16 | 1989 - 2000 | 1.33 | 1.32 | 1.37 |
| 4 | Bahamas | 1 | 0 | 1 | 1996 - 2000 | 1.08 | - | 1.08 |
| 5 | Belgium | 97 | 84 | 13 | 1989 - 2000 | 1.59 | 1.50 | 2.48 |
| 6 | Bermuda | 1 | 1 | 0 | 1996 - 1999 | 1.11 | 1.11 | - |
| 7 | Botswana | 2 | 2 | 0 | 1996 - 2000 | 1.87 | 1.87 | - |
| 8 | Brazil | 137 | 94 | 43 | 1989 - 2000 | 0.91 | 0.91 | 0.91 |
| 9 | Bulgaria | 6 | 5 | 1 | 1998 - 2000 | 1.57 | 1.78 | 0.52 |
| 10 | Canada | 516 | 390 | 126 | 1989 - 2000 | 1.57 | 1.43 | 1.94 |
| 11 | Channel Islands | 1 | 1 | 0 | 1991 - 1998 | 1.54 | 1.54 | - |
| 12 | Chile | 88 | 71 | 17 | 1989 - 2000 | 1.41 | 1.34 | 1.61 |
| 13 | China | 115 | 70 | 45 | 1992 - 2000 | 1.42 | 1.56 | 1.15 |
| 14 | Colombia | 18 | 15 | 3 | 1989 - 2000 | 0.99 | 0.97 | 1.11 |
| 15 | Cote d'Ivoire | 1 | 1 | 0 | 1998 - 2000 | 2.28 | 2.28 | - |
| 16 | Croatia | 2 | 1 | 1 | 1997 - 2000 | 1.36 | 0.63 | 2.08 |
| 17 | Czech Republic | 28 | 26 | 2 | 1995 - 2000 | 0.96 | 0.87 | 1.83 |
| 18 | Denmark | 150 | 145 | 5 | 1989 - 2000 | 1.38 | 1.36 | 1.83 |
| 19 | Egypt | 4 | 1 | 3 | 1997 - 2000 | 2.02 | 1.38 | 2.21 |
| 20 | Estonia | 4 | 4 | 0 | 1997 - 2000 | 1.10 | 1.10 | - |
| 21 | Finland | 96 | 77 | 19 | 1989 - 2000 | 1.30 | 1.33 | 1.21 |
| 22 | France | 560 | 511 | 49 | 1989 - 2000 | 1.39 | 1.36 | 1.61 |
| 23 | Germany | 526 | 491 | 35 | 1989 - 2000 | 1.55 | 1.54 | 1.59 |
| 24 | Ghana | 4 | 3 | 1 | 1996 - 2000 | 1.08 | 1.03 | 1.23 |
| 25 | Greece | 124 | 119 | 5 | 1989 - 2000 | 2.09 | 2.10 | 1.78 |
| 26 | Hong Kong | 228 | 155 | 73 | 1989 - 2000 | 1.29 | 1.21 | 1.45 |
| 27 | Hungary | 22 | 8 | 14 | 1992 - 2000 | 1.39 | 1.37 | 1.40 |
| 28 | India | 293 | 233 | 60 | 1990 - 2000 | 1.65 | 1.70 | 1.45 |
| 29 | Indonesia | 93 | 85 | 8 | 1989 - 2000 | 1.34 | 1.33 | 1.44 |
| 30 | Ireland | 58 | 27 | 31 | 1989 - 2000 | 1.55 | 1.48 | 1.60 |
| 31 | Israel | 41 | 23 | 18 | 1993 - 2000 | 1.43 | 1.18 | 1.71 |
| 32 | Italy | 135 | 114 | 21 | 1989 - 2000 | 1.29 | 1.24 | 1.56 |
| 33 | Jamaica | 2 | 2 | 0 | 1998 - 2000 | 0.84 | 0.84 | - |
| 34 | Japan | 2,647 | 2,533 | 114 | 1989 - 2000 | 1.34 | 1.34 | 1.42 |
| 35 | Jordan | 1 | 0 | 1 | 1997 - 2000 | 1.27 | - | 1.27 |
| 36 | Kenya | 9 | 9 | 0 | 1996 - 2000 | 1.24 | 1.24 | - |
| 37 | Latvia | 5 | 4 | 1 | 1997 - 2000 | 0.72 | 0.70 | 0.80 |
| 38 | Liechtenstein | 1 | 1 | 0 | 1989 - 2000 | 1.42 | 1.42 | - |

**Appendix Table 1 (Continued)**
**Basic Statistics**

This table reports summary statistics by country. It displays the total number of firms, the number of international firms, the number of domestic firms, the sample coverage, and the sample average of Tobin's $q$. International firms are those identified as having at least one active depositary receipt program, having raised equity capital in international markets, or being listed on the London Stock Exchange, NYSE, or NASDAQ.

| | Country | Number of Firms | Number of Domestic Firms | Number of International Firms | Sample Period | Tobin's *Q* | Tobin's *Q* of Domestic Firms | Tobin's *Q* of International Firms |
|---|---|---|---|---|---|---|---|---|
| 39 | Lithuania | 3 | 3 | 0 | 1996 - 2000 | 1.18 | 1.18 | - |
| 40 | Luxembourg | 9 | 5 | 4 | 1989 - 2000 | 1.41 | 1.44 | 1.36 |
| 41 | Malaysia | 300 | 289 | 11 | 1989 - 2000 | 1.70 | 1.69 | 1.85 |
| 42 | Mauritius | 7 | 7 | 0 | 1997 - 2000 | 1.12 | 1.12 | - |
| 43 | Mexico | 96 | 37 | 59 | 1989 - 2000 | 1.18 | 1.03 | 1.25 |
| 44 | Netherlands | 145 | 110 | 35 | 1989 - 2000 | 1.63 | 1.51 | 2.05 |
| 45 | New Zealand | 53 | 44 | 9 | 1989 - 2000 | 1.46 | 1.41 | 1.78 |
| 46 | Nigeria | 15 | 15 | 0 | 1992 - 2000 | 1.27 | 1.27 | - |
| 47 | Norway | 147 | 128 | 19 | 1989 - 2000 | 1.60 | 1.61 | 1.52 |
| 48 | Pakistan | 80 | 77 | 3 | 1989 - 2000 | 1.30 | 1.30 | 1.10 |
| 49 | Panama | 1 | 0 | 1 | 1995 - 2000 | 1.46 | - | 1.46 |
| 50 | Papua New Guinea | 1 | 0 | 1 | 1996 - 1998 | 1.20 | - | 1.20 |
| 51 | Peru | 26 | 21 | 5 | 1992 - 2000 | 1.14 | 0.90 | 1.75 |
| 52 | Philippines | 65 | 54 | 11 | 1989 - 2000 | 1.40 | 1.37 | 1.51 |
| 53 | Poland | 46 | 38 | 8 | 1992 - 2000 | 1.26 | 1.24 | 1.34 |
| 54 | Portugal | 64 | 58 | 6 | 1989 - 2000 | 1.06 | 1.06 | 0.96 |
| 55 | Romania | 8 | 8 | 0 | 1997 - 2000 | 0.91 | 0.91 | - |
| 56 | Russia | 15 | 4 | 11 | 1996 - 2000 | 1.00 | 0.99 | 1.01 |
| 57 | Saudi Arabia | 10 | 10 | 0 | 1997 - 2000 | 1.11 | 1.11 | - |
| 58 | Senegal | 1 | 1 | 0 | 1998 - 2000 | 1.27 | 1.27 | - |
| 59 | Singapore | 171 | 158 | 13 | 1989 - 2000 | 1.45 | 1.42 | 1.79 |
| 60 | Slovak Republic | 7 | 5 | 2 | 1996 - 2000 | 0.73 | 0.66 | 0.90 |
| 61 | Slovenia | 8 | 8 | 0 | 1996 - 2000 | 0.86 | 0.86 | - |
| 62 | South Africa | 232 | 196 | 36 | 1989 - 2000 | 1.53 | 1.50 | 1.70 |
| 63 | South Korea | 327 | 302 | 25 | 1989 - 2000 | 1.04 | 1.03 | 1.10 |
| 64 | Spain | 123 | 116 | 7 | 1989 - 2000 | 1.28 | 1.28 | 1.36 |
| 65 | Sri Lanka | 11 | 10 | 1 | 1993 - 2000 | 1.16 | 1.16 | 1.15 |
| 66 | Sweden | 189 | 162 | 27 | 1989 - 2000 | 1.59 | 1.57 | 1.68 |
| 67 | Switzerland | 139 | 120 | 19 | 1989 - 2000 | 1.37 | 1.29 | 1.87 |
| 68 | Taiwan, Province of China | 187 | 157 | 30 | 1989 - 2000 | 1.65 | 1.58 | 2.04 |
| 69 | Thailand | 171 | 160 | 11 | 1989 - 2000 | 1.28 | 1.24 | 1.87 |
| 70 | Tunisia | 3 | 3 | 0 | 1997 - 2000 | 1.47 | 1.47 | - |
| 71 | Turkey | 67 | 61 | 6 | 1989 - 2000 | 2.03 | 1.97 | 2.51 |
| 72 | Ukraine | 3 | 2 | 1 | 1997 - 2000 | 0.80 | 0.66 | 1.03 |
| 73 | Venezuela | 12 | 3 | 9 | 1989 - 2000 | 0.89 | 0.68 | 0.93 |
| 74 | Zimbabwe | 6 | 5 | 1 | 1994 - 2000 | 0.85 | 0.88 | 0.67 |
| | **Total** | **9,096** | **7,926** | **1,170** | | **1.41** | **1.39** | **1.55** |

**Appendix Table 2**
**Series Description and Data Sources**

This table shows the description of the data used and their sources.

| Series Names | Description | Source |
|---|---|---|
| Tobin's *q* | Ratio of market value of a firm's assets to their replacement cost, at the end of the most recent fiscal year. Market value of assets is calculated as the book value of debt, computed as book value of assets minus book value of equity, plus market capitalization of equity. The replacement value of assets is proxied by the book value of assets. All variables are expressed in U.S. dollars. | Worldscope, S&P (former IFC) Emerging Markets Database, and Bloomberg |
| Relative Tobin's *q* | Tobin's *q* of each international firm over the average Tobin's q of all domestic firms in the firm's home country. | Worldscope, S&P (former IFC) Emerging Markets Database, and Bloomberg |
| Total assets | Total assets at the end of the most recent fiscal year, expressed in U.S. dollars. | Worldscope |
| GDP growth | Annual percent change of Gross Domestic Product (GDP) in constant local currency. | World Bank: World Development Indicators |
| Two-year average sales growth | Geometric average annual sales growth over the last two years. Sales are expressed in U.S. dollars. | Worldscope |
| Global industry *q* | Average Tobin's *q* of all firms belonging to the same industry. Firms are classified in industries following the SIC ten major divisions. | Worldscope, S&P (former IFC) Emerging Markets Database, and Bloomberg |