

# Cross Listing Waves and the Search for Value Gains\*

Sergei Sarkissian  
McGill University

Michael J. Schill  
University of Virginia

First draft: June 30, 2008  
This version: March 23, 2009

---

\* Sarkissian is from the McGill University Faculty of Management, Montreal, QC H3A1G5, Canada. Schill is from the Darden Graduate School of Business Administration, University of Virginia, Charlottesville, VA 22906, USA. Sarkissian may be reached at: (514) 398-4876, -3876 (fax), or [sergei.sarkissian@mcgill.ca](mailto:sergei.sarkissian@mcgill.ca). Schill may be reached at: (434) 924-4071, (434) 243-8945 (fax), or [schill@virginia.edu](mailto:schill@virginia.edu). We appreciate the comments of Bernard Black, Susan Chaplinsky, Kathy Dewenter, Alexander Dyck, Vihang Errunza, Bruce Grundy, David Lesmond, Marc Lipson, Frank Warnock, and seminar participants at the University of Melbourne and the Darden International Finance Conference. We thank Gyasi Dapaa and Olga Ivinskaya for valuable research assistance. Sarkissian acknowledges financial support from IFM2, SSHRC, and the Desmarais Faculty Scholarship. Schill acknowledges financial support from the Darden School Foundation. This paper was previously titled, "Cross listing waves."

# Cross Listing Waves and the Search for Value Gains

## ABSTRACT

In this study we identify waves in cross listing activity at the host market, home market, and industry level. We find these waves to be positively correlated with relative financial and economic market performance. We use these waves to increase the power of tests of the valuation gains to cross listing based on the assertion that periods of foreign listing intensity should be associated by revealed preference with periods of particular gains to listing. Despite our efforts, the data fails to show any durable valuation gains to listing abroad. The extended-term abnormal valuation ratio of firms listing abroad is no greater than that of firms that do not cross list regardless of time period, host market, home market, or industry. We do find evidence of temporary gains, particularly during periods of intensity in host market listing. We suggest that it is these temporary gains that motivate listing abroad.

*JEL classification:* G15, G32

*Keywords:* Firm valuation, Relative market development, Stock exchanges, Tobin's Q

# 1. Introduction

In the 1950s, the hosting of foreign equity by stock exchanges was largely a European phenomenon.<sup>1</sup> The dominant host markets of the day were the exchanges of London, Brussels, Paris, and Amsterdam. The leading source of these listings was American and South African stocks. The mining industry was the primary cross-listing industry. By the 1980s, Tokyo became a dominant destination for foreign listings, followed by a strong reversal of foreign listings from Tokyo in the 1990s. By the 2000s, Canadian and Indian firms were the primary source of cross listings and the US and Luxembourg were the dominant host market. Industry representation was much broader, but the electronics industry was the leading provider of foreign listed equity. Over the past fifty years, the home and host market and industry profile for overseas listings has changed considerably. In this paper we take the view that the ebbs and flows of the time-series of overseas listings provide a rich source for understanding the gains to cross listing.<sup>2</sup>

Many papers report the valuation gains of cross listing (e.g., see Miller, 1999; Foerster and Karolyi, 1999; Errunza and Miller, 2000; Lang, et al., 2003).<sup>3</sup> The literature makes particular note that among the set of competing markets to host foreign listings, the US market maintains a unique attractiveness as an overseas listing destination due to its sizable and long-lasting valuation gains (e.g., Doidge, et al., 2008). Other papers, such as Gozzi, Levine, and Schmuckler (2008) and Sarkissian and Schill (2009), question the durability of the valuation gains. These papers observe that the valuation gains to cross listing tend to be temporary. This paper adds to

---

<sup>1</sup> We use the words “foreign listing,” “overseas listing,” “cross listing,” and “cross-border listing” interchangeably, although, technically speaking, a foreign listing may not necessarily constitute a cross-listing if it is traded only in the foreign market.

<sup>2</sup> There is some existing literature that explores various time-series of cross listing. Pagano, Randl, Roell, and Zechner (2001) and Pagano, Roell, and Zechner (2002) examine several snapshots in foreign listings across European and US exchanges over the 1986 to 1997 period. Edison and Warnock (2008) examine time-series patterns in listings of emerging markets country firms on the US exchanges. Fernandes and Giannetti (2008) examine broad listing patterns over the 1980 to 2006 period.

<sup>3</sup> The literature advocates a variety of reasons for valuation gains to listing overseas, such as overcoming cross-border barriers (Black, 1974; Solnik, 1974; Stulz, 1981; Errunza and Losq, 1985; increasing information flow (Merton, 1987; Foerster and Karolyi, 1999; Fernandes and Ferreira, 2008), achieving better liquidity (Tinic and West, 1974; Domowitz, et al., 1998; Werner and Kleidon, 1996; conforming to more stringent disclosure rules (Biddle and Suadagaran, 1992; Huddart, et al., 1999), as well as improving minority shareholder protection (Benos and Weisbach, 2004; Coffee, 1999, 2002; Doidge, 2004; Doidge, et al., 2004, 2007, 2008; Reese and Weisbach, 2002; Stulz, 1999).

this debate by bringing the rich time-series characteristics of cross listings to tests of valuation gains.

In this paper we postulate that surges in listings on host markets correlate with periods of particular gain for listing in that market. For example, the evidence of a wave of listings in Tokyo in the 1980s suggests by revealed preference that the gains to listing in Tokyo in the 1980s must have been relatively strong. In similar manner, we postulate that waves in listings from a particular home market suggest periods of particular gains to foreign listing for firms from that market. In addition, waves in listings from particular industries are likely to be associated with periods of increased listing gains for firms from that industry. The surge of South African mining stocks listing in London in the 1950s, for example, suggests that the generic gains to cross listing in London must have been particularly acute for this sample of firms at this point of time. We focus our tests on periods of foreign listing intensity to identify the upside in the valuation gains to overseas listing.

The paper uses a new global sample of 3683 cross-border exchange listings to examine the time-series characteristics of the valuation gains to listing abroad. The sample contains listings on 33 foreign stock exchanges from 73 home markets over the period from 1900 to 2006. Our tests are designed to maximize the opportunity to identify gains by focusing on measuring the gains to cross listing during periods of intense listing activity at the host market, home market, and industry level. We search across all the most popular home markets, host markets, and industries and fail to observe any evidence of durable valuation gains, even during the periods of most intense listing activity. We search across different periods over a 22 year sample period (1985 to 2006) and fail to identify any period that generates systematic extended-term gains.<sup>4</sup> We do find that cross listings are commonly associated with temporary valuation gains and that these gains are commonly larger during periods of intense host market listing. We suspect that these temporary gains may be the feature that attracts firms to cross list.

---

<sup>4</sup> The sample period is constrained by the availability of market and accounting data on Worldscope.

Despite our efforts, the results show that permanent systematic valuation gains to overseas listing is a rare event. Our conclusions are consistent with Gozzi, Levine, and Schmuckler (2008) and Sarkissian and Schill (2009). Our evidence contrasts with that of Doidge et al. (2004, 2008) in that the short-term gains from a foreign exchange listing in the US in our sample disappear by the fifth year after the listing.

Our paper also provides some interesting findings on the chronology of listing abroad. Time-series patterns in cross listings have generated recent attention due to an observed relative decline in US listings and increase in UK listings in the 2000s. The passing of the Sarbanes-Oxley Act (SOX) by the US Congress in July 2002 is commonly cited as the source for the recent UK-US time-series effect.<sup>5</sup> Doidge, et al. (2008) document that after the passage of the SOX Act until 2005 there was no decrease in the number of foreign listings placed in the US vis-à-vis the main board of the London Stock Exchange. Using the WFE data, in Figure 1 we plot the proportion of new foreign listings in the US and other countries between 2000 and 2006 and observe that in 2004, the second year after the passage of the SOX Act, the proportion of all new listings placed on US exchanges increased relative to both 2002 and 2003. However, we also observe an overall downward trend in the relative attractiveness of US market for foreign firms in spite of the big surge in the overall number of new foreign programs in 2005 and 2006.

With the view of foreign listing activity over the past century, we observe that relative surges and contractions in listing across markets are not new. Listing on foreign exchanges has ebbed and flowed in a series of cross-listing waves over the past hundred years. Switzerland was the dominate host market in the early years of the 20<sup>th</sup> century. The Netherlands became the most common destination market in the 1920s and 1930s, Belgium in the 1950s, France in the 1960s, the UK in the 1970s, Japan and the US in the 1980s, and the US continued to dominate the host market listings in the 1990s and 2000s. We observe similar time-series variation for the frequency of overseas listing across home markets and industries.

---

<sup>5</sup> See Berger, et al. (2005), Litvak (2007), Zingales (2008), Chaplinsky and Ramchand (2008) and others.

We observe that the waves in the host market are often due to cross-listing waves in home markets or industries that share a particular affiliation with the respective host market. For example, the popularity of the UK as a host market in the 1950s was largely due to an increase in listings from South Africa that tend over the entire sample period to commonly list in the UK. Controlling for these effects is important in understanding the time-series and cross-sectional preferences of the host market choice. We further document that cross-listing waves in a given host country or from a given home country frequently coincide with the outperformance of that country's economy and financial markets relative to other competing markets.

The observation that cross-listing "waves" occur in markets when the market does relatively well is consistent with the recent literature. Dittmar and Dittmar (2007) show that waves in US financing decisions, such as stock repurchases, equity issuance, and mergers, are correlated with changes in country's economic conditions. We interpret our finding as providing further evidence on the uneven development of capital markets across countries and over time, as documented in Rajan and Zingales (2003). The relative foreign market outperformance does not provide however sufficient conditions for a firm to directly benefit from it by shifting some of its trading away from its lesser developed domestic market. This result can be viewed as a reflection of country-level findings reported in Rajan, et al. (2007) at the firm level. It appears that just like those countries that rely on capital in more developed countries do not grow faster than those that do not, firms that rely on capital in foreign markets that are more developed than their domestic market do not achieve better valuation than those that do not.

The rest of the paper is organized as follows. Section 2 describes the chronology of overseas listings from 1900 to 2006 and documents wave effects in the frequency of home, host, and industries. Section 3 examines the dynamics of foreign listing placement in the largest host markets, home markets, and industries over the 1950 to 2006 period. It also links the changes in the relative attractiveness of each of these host markets to the changes in their relative economic and financial market performance. Section 4 presents the core results of firm valuation tests around the time of foreign listing placement. Section 5 concludes.

## 2. The Chronology of Overseas Listings

We construct a comprehensive sample of foreign listings as of December 2006. To do this, we survey the world stock exchanges to obtain a chronology of foreign firms that list on their exchange. The sample focuses on exchange-listed cross listings only as the value gains have been shown to be greatest with these events (Doidge, et al., 2008). Our sample excludes corporate tax haven markets, such as the Cayman Islands, Bermuda, Jersey, and others. We also eliminate inactive listings, listings outside main boards of regular stock exchanges, as well as those of investment funds or trusts. The resulting sample includes 3,683 listings from 73 home countries in 33 host markets.<sup>6</sup>

Table 1 provides the distribution of foreign listing between pairs of home and host markets. The table also reports the total number of listings from each home country and in each host market. The six largest suppliers of listings are Canada, the US, the UK, Japan, Australia, and India with 651, 551, 285, 234, 172, and 164 listings, respectively, although almost 90% of Canadian listings are placed on US exchanges, while about 75% of Indian listings are in Luxembourg. The US and UK are the most active host markets, with 1415 and 494, respectively. They are followed by Luxembourg (285 listings), Germany (208), and France (193). The data is consistent with strong bilateral home-host market pairs, such as that of Canada to the US (568 cross lists), India to Luxembourg (121), Australia to New Zealand (87), and South Africa to the UK (35).

Table 2 shows the distribution of overseas listings by calendar decade from the 1900s till 2000s for each host market (Panel A), home market (Panel B), and industry group (Panel C). For the host markets we observe that five markets of the sample, Belgium, France, Netherlands, Switzerland, and the UK hosted overseas listings as early as the 1900s. Our records indicate that

---

<sup>6</sup> This is a 64% sample size increase from 2,251 listings reported in Sarkissian and Schill (2004).

the first foreign listing in the US occurred in the 1910s (a Canadian mining firm, Dome Mines, Ltd., was listed in the US in 1915). These six markets remained the primary markets for foreign listings until the second half of the 20<sup>th</sup> century with 89 listings traded. Since the 1950s, the scope of host markets attracting foreign listings has grown dramatically. The 2000s witnessed the largest single-time expansion of the geography of host markets for overseas listings, with many smaller developed and emerging markets joining the club, e.g., Argentina, Finland, Israel, Mexico, Poland, Portugal, Taiwan, and the United Arab Emirates (UAE).

It is also apparent from this panel that over the last 100 years the popularity of various host markets has waxed and waned. For example, Switzerland was the dominant host market in the 1900s. The Netherlands emerged as the dominant market in the 1920s and 1930s. The UK hosted the most listings in the 1940s, followed by Belgium in the 1950s, France in the 1960s, and then back to the UK in the 1970s. By the 1980s, overseas listing frequency began to broaden across host markets with the US and Japan hosting a surge of listings. The US also dominated foreign listings in the 1990s and 2000s while listing waves materialized in Germany and Luxembourg. Similar patterns can be observed in the other panels for cross listings organized by home market and industry group. Prominent home market waves include the Japanese wave in the 1980s and the South African wave in the 1940s and 1950s which also corresponds with the Mining wave of the same time frame.

Although we observe waves across the three specified dimensions, that is, host market, home market, and industry, we are unable to determine how such waves interact across the various dimensions. To shed some light on this issue, Table 3 reports the listing share of each home and host market pair for the largest six host and home markets in each decade from the 1950s to the first half of the 2000s. We observe a number of characteristics of overseas listing behavior in Table 3. First, there is wide variation in the ranking of the top host and home markets. This observation suggests that cross-listing waves exist. Second, the cross-listing market tends to be concentrated across markets. For the most part, although the composition of the top host markets changes, these markets attract between 78% and 94% of all overseas listings placed



during each of the five decades. There is less concentration among the home markets that drops from nearly 90% early in the sample period to about 50% later in the sample period. Third, the listing activity is concentrated in the intersection of the six home and host markets which comprise between 89% to 99% of all cross listings (i.e., the “Other Host Market” and “Other Home Market” cell in the bottom right corner of each panel maintains a small proportion of listings). The waves of activities originate and are hosted in a select few markets. Fourth, popular host markets often do not emerge as universally popular but rather as uniquely bilaterally popular. In the 1950s, Belgium was the most popular host market for foreign listings. It is clear, however, that Belgium was not universally popular. Almost all of the foreign listings in Belgium originated from the US and Canada. Without listings from these two home markets, Belgium’s share of cross listings would have dropped from 21.1% to 3.6%. For the UK, most of its listings originated from South Africa. Without the 11 South African listings in London, the UK’s share would have dropped from 19.3% to 9.7%. Despite Belgium’s popularity among US firms, there was not a single US firm that was listed in the UK in the 1950s. US firms also were attracted to the Netherlands and Switzerland. Without the US listings, neither of these host markets would have been among the top six host markets. In that decade, France is the only market that appears to have had broad appeal as it attracts large overseas listing of firms from South Africa, Germany, the US, Canada, and the Netherlands. For the most part, the popularity of a host market is determined by firms from unique sets of home markets that tend to bilaterally prefer that particular host market. To some extent, host markets frequently become popular not because of any general characteristic of that market but rather because firms from a particular home market decide to cross-list and that the paired host market is their preferred bilateral choice.

We observe similar bilateral effects in other decades. In the 1960s, France’s popularity becomes more restricted to US (as well as Belgian) firms; UK’s popularity is linked to US and South African firms; The US’s popularity is tied with Canadian firms. In the 1970s, the UK’s popularity is linked to listings by US and Irish firms, the US popularity is linked to listings by Japanese and Canadian firms, and Switzerland’s popularity is linked to US listings. In the 1980s,

the US popularity is linked to listings by Canadian, UK, and Israeli firms; and Japanese popularity is linked to listings by US and UK firms. In the 1990s, US popularity is tied to Canadian and broad listing from firms from many emerging market countries; popularity of UK and Luxembourg markets were also linked to firms from emerging markets; whereas Germany was linked to US firms and New Zealand was linked to Australian firms. Similar patterns exist in the 2000s. Many of the bilateral pairs appear to fit with the proximity patterns observed by Sarkissian and Schill (2004) with firms sharing common geography, history, industrial structure, or language. It may be that the popularity of the host market sometimes has much less to do with time-varying changes in the host market and much more to with time-varying changes in the home markets.

Consistent with Table 2, we observe drastic changes in the ranking of the top listing markets, both home and host, in different historical periods. For instance, over the course of more than 50 years, the US has changed its position in global equity markets from the biggest provider to the biggest recipient of foreign shares. Canada has been the major supplier of foreign listings in the 1990s and 2000s but most of them were only in the US. This table shows that the emergence of a particular host market as a preferred place for foreign listing placement is often related to time-series cross-listing effects in a very limited set of home markets.

### 3. Evidence from the Eight Largest Markets

#### 3.1. Dynamics of Overseas Listing Placements

To further explore the evidence of cross-listing waves, we focus the sample on the top eight host markets, top eight home markets, and top eight industries over the 1950 to 2006 period. The time period restriction is motivated by data availability. The cut off at eight is motivated by the tradeoff of covering as many markets or industries as possible while avoiding instances of excessively thin listing activity. The largest eight host markets are France, Germany, Japan, Luxembourg, Netherlands, Switzerland, the UK and the US. Note that only two countries (Italy

and New Zealand) that are in the top six host markets group in Table 3 at least during one of the calendar decades over our sample period are excluded from consideration. By symmetry, we also consider the eight largest home markets. These are Australia, Canada, Germany, India, Israel, Japan, the UK, and the US. Finally, the most represented eight industries in the cross listing market are consumer goods, electrical and electronics equipment, financials, diversified industrials, mining, oil and gas, business support, and telecommunication and media.

Figure 2 depicts the proportion of new foreign listing placement across the top eight host markets (Plot A), eight home markets (Plot B), and industries (C) in each year in 1950-2006. To visually smooth out the short-term variation in foreign listing placement rate, for each reporting year we report the five-year moving average. The figures illustrate our observation from Tables 2 and 3 regarding the existence of overseas listing waves across host and home markets and industries. For instance, we can see that while Japan was the second most attractive host market in the 1980s, the peak in its attractiveness occurred during the very late 1980s, coinciding with the highest valuation of their equity market in 1989. However, the peak in the Japanese firms' listings overseas occurred about a decade earlier, at the end of the 1970s and beginning of the 1980s. The US as a host market experienced a number of waves in its attractiveness for foreign stocks, including a period in the early 1970s and then again during the mid 1980s, as well as the wave in the late 1990s and early 2000s.

Interesting patterns exist in industries as well. For instance, electronics experienced the first run-up in the share of the total number of foreign listings in the late-1950s to mid-1960s. This period coincided with the beginning of wide commercial use of transistors and first computers. It is also not surprising to see that Telecom industry achieved its largest proportion in foreign listing placements in the late 1990s. Mining firms were the largest providers of foreign listings in 1950s and they, in fact, reached the highest absolute proportion of any single industry share in overseas listing market during the entire sample period.

### 3.2. Clustering Analysis

In Table 4, we present statistical evidence for the existence of foreign share placement clusters in various host and home markets and industries. Panel A shows the clustering intensity in each of the eight host markets. The intensity is the proportion of foreign listings per year in a given host market relative to the total number of foreign listings in that year. The clusters are defined based on the average Euclidean distance using the cut-off value of 0.075, i.e., in 7.5% increments of cross-listing intensity. This implies that the first cluster (lowest ranking) corresponds to the instances of complete absence of foreign listing activity in a given host market or when this activity in that market is less than 7.5% a year. Consistent with Table 2, some markets such as the Netherlands, the UK, and the US have gone through various levels of relative attractiveness over time (between five and seven clusters), while others, such as Germany, Luxembourg, or Switzerland have only two or three cluster groups.

To determine whether the waves in foreign listings activity are statistically significant and occur at different times from each other, we use correlation analysis. More specifically, we compare the foreign listing intensity in each of the eight markets with the uniform distribution. The bottom panel of Table 4 reports cross-correlations and their statistical significance between the clusters of foreign listing intensity among the top eight host and home markets, as well as industries and uniformly distributed random variable. The correlation coefficients with the random variable are based on the average from 5,000 Monte Carlo Simulations. We use the Dunn-Sidak adjustment to correct for standard errors. The panel offers two important observations. First, the correlation between foreign listing intensity in each of top eight host markets and the random variable is insignificant, implying that the waves of cross-listings are indeed statistically different from a uniform distribution. Second, the only highly significant correlation of listing intensity among our eight host markets is between France and the US, but it is negative, implying that generally waves of listings occur in different countries at different times. The only positive but significant only at the 10% level correlation is found between the Netherlands and the UK. This reflects the fact that these two European countries had somewhat

similar time-series dynamics in their relative attractiveness as markets for overseas listing destination (also see Figure 2, Plot A).

Panels B and C of Table 4 show clustering intensity and correlation tests in each of the eight most represented home markets and industries that contribute overseas listings, respectively. Among the top home markets, the US has seen the widest range of overseas listing placement intensity (eight clusters). Note that Israel, although having numerous listings in the 1990s and 2000s, did not contribute any substantial volume to the total number of foreign listing during those two decades. Across industries, the overall range of listing intensity is lower than for the home or host markets. The industry panel shows that consumer goods, industrials and mining all had time of very significant contribution to the overall count of foreign listings – these three industries have five clusters, while support industry has only two. The correlation tests again confirm that the dynamics of changes in the proportion of overseas listings across individual home markets and industries is different from the uniform distribution.

### 3.3. Further Examination of Overseas Listing Decisions over Time

To provide a more rigorous analysis of the time series dimensions of the listing decisions and the aggregate series, we perform the following analysis. We construct a variable  $N(i,j,k,t)$  which measures the number of foreign listings from home market  $i$  and industry  $j$  in host market  $k$  in year  $t$ . We use this variable for the top eight home markets, host markets, and industries over the 1950 to 2006 period. We run the following regression

$$N(i, j, k, t) = b_1 N(i, t) + b_2 N(j, t) + b_3 N(k, t) + b_4 N(i, j) + b_5 N(j, k) + b_6 N(i, k) + \epsilon(i, j, k, t) \quad (1)$$

where the independent variables are the aggregate number of listings across the specified dimensions.  $N(\text{Home}, t)$ ,  $N(\text{Host}, t)$ , and  $N(\text{Inds}, t)$  represents the total number of listings from the respective home market, host market or industry, respectively, in the respective year.  $N(\text{Home}, \text{Host})$ ,  $N(\text{Home}, \text{Inds})$ , and  $N(\text{Host}, \text{Inds})$  represent the aggregate number of listings

across the sample period for the respective bilateral pair of specified characteristics. To facilitate comparison of the regression coefficients across markets, the variables are transformed by subtracting the sample mean and dividing by the sample standard deviation for the variable. The results are reported in Table 5. The first specification contains only the bilateral pairs variables  $N(\text{Home}, \text{Host})$ ,  $N(\text{Home}, \text{Inds})$ , and  $N(\text{Host}, \text{Inds})$ . These variables control for the overall tendency for listings to follow a particular bilateral profile such as that observed in Sarkissian and Schill (2004). The coefficient on  $N(\text{Home}, \text{Host})$  maintains the largest value at 0.269 suggesting that a unit standard deviation increase in the tendency of firms to list across a bilateral pair of markets is associated with a 0.269 standard deviation increase in listing across the home-host market pair. Since the regression represents regressing components of the distribution of listings on various dimensions of aggregations of the distribution the residuals from the regression are not independent of the regressors. This correlation biases the standard errors. Although we acknowledge this bias we report the approximate statistical significance of the coefficients in the table for reference only. Because the variables have been standardized, we can fairly compare the coefficient values across variables. In specifications 2 and 3 we add the time-series aggregates to the regression,  $N(\text{Home}, t)$ ,  $N(\text{Host}, t)$ , and  $N(\text{Inds}, t)$ . We observe that all of the aggregation dimensions seem to matter. Listings tend to cluster by home market, host market, and industry group. However, the host market effect seems to be the dominate one and the industry effect is the least important.

In Panels B, C, and D of Table 5 we report regression coefficient values by various subsamples of host market, home market, and industry. Across these 24 regressions, the host market time-series volume provides the dominate time series effect in 18 of the regression. Exceptions include the regressions with the sum samples of only US host market listings, listings from Australia, Germany, India, and Japanese markets, and listings by financial firms. For listings from Australia, India, and Japan it is the home market wave that appears to matter more. For Germany, the industry wave is important. For listings in the US, the waves appear to be most correlated with home market and industry waves. Financial firms tend to particularly cross list

with other financial firms in addition to home and host market effects. Mining firms tend to be particularly clustered by home market.

Thus, the patterns of the century-old cross-listing experience shown in Table 2 provide evidence that overseas listings tend to cluster in different foreign markets in waves. The question is then what are the primary reason(s) which drive some host markets to prominence during certain time periods. In the following sections, we explore the answers to this question.

Having observed the clustering of foreign listings across the top eight host markets both in economic and statistical terms, we now move to relating this evidence to their country-level performance over time. Indeed, based even on casual observation from Figure 2 it appears that many countries become major market for overseas listed securities during good economic times and strong market performance.

We construct two measures of relative market performance for each of the top eight home and host countries, namely:

$$R(\text{GDP}_{i,t}) = \left( \frac{\text{GDP}_{i,t}}{\text{GDP}_{i,t-1}} - \frac{\text{GDP}_{i,t-5}}{\text{GDP}_{i,t-6}} \right) - \sum_{i=1}^8 \left( \frac{\text{GDP}_{i,t}}{\text{GDP}_{i,t-1}} - \frac{\text{GDP}_{i,t-5}}{\text{GDP}_{i,t-6}} \right). \quad (2)$$

and

$$R(\text{MCAP}_{i,t}) = \left( \frac{\text{MCAP}_{i,t}}{\text{MCAP}_{i,t-1}} - \frac{\text{MCAP}_{i,t-5}}{\text{MCAP}_{i,t-6}} \right) - \sum_{i=1}^8 \left( \frac{\text{MCAP}_{i,t}}{\text{GDP}_{i,t-1}} - \frac{\text{MCAP}_{i,t-5}}{\text{MCAP}_{i,t-6}} \right), \quad (3)$$

where  $\text{GDP}_{i,t}$  and  $\text{MCAP}_{i,t}$  are the GDP and market capitalization of country  $i$  in year  $t$ , respectively, while  $R(\ )$  denotes the relative valuation of a country's real economy and financial market vis-à-vis other countries. We also construct an overall market valuation measure, which is equal to the ratio of (3) to (2), that is,  $R(\text{MCAP}_{i,t} / \text{GDP}_{i,t}) = R(\text{MCAP}_{i,t}) / R(\text{GDP}_{i,t})$ . The annual stock market indices and GDP values come from the *International Financial Statistics*. All data are reported in local currency. We add both a home and host market fixed effect coefficient for

each measure to the right-hand side of regression model (1) to see if relative market valuation maintains an extraordinary effect on the listing choice time-series across home and host markets. These regressions are reported in Specification 4 and 5 of Panel A in Table 5. All the slope coefficients on relative market performance measures, except the host market adjusted GDP, are positive and highly significant, indicating strong association between foreign listing activity across home and host markets and their economic and financial health.

To further highlight the important linkage between listing activity in a given host market and country's performance, in Figure 3 we illustrate the correlation between the proportion of overseas listings in each of the eight major host markets and their relative financial development using equation (3) but, to facilitate the comparability between the two series, we average the foreign listing intensity (FLI, defined as the annual share in global foreign listings) and the relative performance of each host market over the preceding five years.<sup>7</sup> We observe many synchronous waves in the proportion of listings across host markets and their relative market capitalization to GDP ratios. For example, France was attracting many foreign listings in the 1950-60s and its relative market performance was the highest over the whole sample during this time period. Japan shows a very profound synchronicity between hosting foreign listings and its relative economic health, both of which occur in the 1970s and 1980s. Luxembourg also shows a remarkable relation between the increasing share for foreign listings and increasing relative market performance from 1950s till the end of 1970s with the subsequent parallel drop in both measures during the 1980s. One can also observe some relation between the changes in foreign listing intensity and market performance in the US. The correlation is observed from 1970 until the end of the sample in 2006. The link between foreign listings placed in Switzerland and its relative performance is less obvious, yet one can still observe substantial drops in both measures in the 1950s and an overall decline during the entire sample period. The patterns between the two series during at least some of the sub-periods are also visible for Germany, Netherlands, and the

---

<sup>7</sup> We also shift relative market performance series to non-negative values by adding a constant that corresponds to the largest negative observation for each country.



United Kingdom. Thus, Table 5 and Figure 3 confirm the link between a country's financial and economic development and its increased probability of becoming an attractive place for foreign listings.

In the Appendix, we list significant economic and financial market events in the seven major host markets for foreign listings outside the US that can be linked to the changes in their relative foreign listing attractiveness and relative market performance over time. For instance, the relative outperformance of France in the 1960s both in economic terms and as a host market for foreign firms coincides with a wide scale liberalization of 1965-1967. Another good example is Japan: the first wave of foreign listing in that market of the mid-1970s occurred right after it opened its Foreign Stock Section on the Tokyo Stock Exchange in 1973, while the second wave of the mid- to late-1980s followed after the beginning of large-scale privatization process that started in 1984. Fernandes and Gianetti (2008) provide further evidence on factors that explain the rise and fall of cross listings on host markets.<sup>8</sup>

In sum, Figures 2 and 3, as well as Tables 3 through 5 provide strong evidence that foreign listing activity tends to cluster in certain countries during certain time periods. These cross-listing waves may occur in a given host market when it does relatively well (based on various performance measures) with respect to other competing host markets for overseas

---

<sup>8</sup> THIS SEEMS PRETTY STRONG. Note that while we relate foreign listing activity exclusively to three measures of relative market performance, Fernandes and Giannetti (2008) use numerous absolute market characteristics to explain the listing waves. However, their methodology has several problems. First, their 1980-2006 sample period is too short to properly capture peaks in foreign listing activity in many countries (see Figure 2). Second, several of their independent variables, such as first code adoption, anti-director rights, anti-self-dealing, etc., are static and therefore cannot be considered as good regressors in explaining large time-series variations in overseas listing activity. Finally, using absolute rather than relative market characteristics is problematic in (i) economic sense due to forgone link between the best performing countries and increases in cross-listing activity and (ii) statistical sense due to a large potential of spurious regression bias many variables in their study, e.g., country's market capitalization to GDP ratio, are highly autocorrelated (see Granger, et al., 2001 for spurious regression bias in linear regressions with stationary time series).

Here is an alternative friendlier footnote: Fernandes and Giannetti (2008) also find that time-series changes in exchange listing are correlated with equity market and real economy effects. In addition they find that investor protection variables explain additional time-series effects in cross listings. We are cautious about their conclusions as many of these variables are static and therefore may be considered poor regressors in explaining large time-series variations in overseas listing activity. The risk of spurious correlation becomes problematic with high serially correlated variables (see Granger, Hyung, and Jeon, 2001).

listings. Listings also move to foreign markets where the relative performance of home markets is strong. Since the ability of a country to attract foreign shares can be viewed as some measure of the country's overall financial market activity, our findings are consistent Rajan and Zingales (2003) who document that the development of the financial sector is not a monotonic process across countries and the time dimension.

#### 4. Valuation Tests

There is some debate regarding the valuation gains to listing abroad. One set of evidence observes significant increases in Tobin's Q ratios for firms that formally list on US stock exchanges (e.g., Doidge, et al., 2004) and that these gains persist (Doidge, et al., 2008). Other papers, such as Gozzi, Levine, and Schmuckler (2008) and Sarkissian and Schill (2009), question the durability of these valuation gains. In this section, we extend our evidence on the effect of cross listing waves on the valuation gains of listing abroad. Our tests are designed to look at the magnitude of valuation gains to listing in the US and elsewhere during periods of intense listing activity. Due to the evidence of strong listing waves across home market, host market, and industry, and the correlation of listing waves with financial market and real economy performance, these waves should be associated with periods of strong valuation gains. For example, the evidence of a wave of listings in Tokyo in the 1980s suggests by revealed preference that the gains to listing in Tokyo in the 1980s must have been relatively strong. In similar manner, we postulate that waves in listings from a particular home market suggest periods of particular gains to foreign listing for firms from that market. In addition, waves in listings from particular industries are likely to be associated with periods of increased listing gains for firms from that industry. The surge of South African mining stocks listing in London in the 1950s, for example, suggests that the generic gains to cross listing in London must have been particularly

acute for this sample of firms at this point of time. We focus our tests on periods of foreign listing intensity to identify the upside in the valuation gains to overseas listing.

We begin with a baseline analysis of the valuation benefits of foreign listing that are documented in earlier studies (e.g., Doidge, et al., 2004, 2008), and extend these tests to our expanded global cross-listing sample of markets. We then test for post-listing valuation benefits with respect to the relative performance of host markets. Finally, we examine the impact of various cross-market characteristics on the valuation patterns of overseas listing while controlling for the performance of each pair of the home and host markets of foreign listings. To accomplish our goals, we perform all our valuation analysis using Tobin's Q as the firm and country valuation measure rather than firm or country stock market returns.

#### 4.1. Baseline valuation tests

All firm valuation ratios and characteristic controls for US firms are from *Compustat*, and from *Worldscope* for non-US firms. Using the *Worldscope* dataset shrinks our sample both across countries and across time as international firm-level data is not available for much of the sample period. Our initial dataset contains the full panel of world firms (whether cross listed or not). To establish the appropriate control firms we omit firms from those countries that do not have any stock traded overseas based on our cross-listing sample (e.g., Pakistan). We end up with firms from 53 home markets (down from 73 countries) that are listed in 33 host markets which we observe during the 1985-2006 period.

To construct our valuation measure, Tobin's Q, for each firm, we follow the established practice in the literature. Specifically, we define it as follows:

$$Q = \frac{\text{Total Asset Value} - \text{Book Value of Equity} + \text{Market Value of Equity}}{\text{Total Asset Value}}. \quad (4)$$

Following Doidge, et al. (2008), we construct three control variables. The first is a firm-specific sales growth measure,  $\Delta\text{Sales}$ , that is defined as the inflation-adjusted net sales growth, where inflation is computed using the US consumer price index. To reduce the impact of outliers on our test results we winsorize the sales growth at the 1% level on both tails. The second control variable is a firm size variable,  $\text{Log}(\text{Sales})$ , that is defined as the natural logarithm of firms net sales. The third control variable is a global industry valuation ratio measure, Global Industry Q, that is defined as the median industry Q ratio across all countries and all years. The regression model is specified as follows:

$$Q_{j,t} = \alpha_i + \delta_\tau \sum_{\tau=-10}^{+10} D(\tau)_j + \gamma_1 \Delta\text{Sales}_{j,t} + \gamma_2 \log(\text{Sales})_{j,t} + \gamma_3 \text{Global Industry } Q_i + \gamma_4 \text{Country Effects}_k + \gamma_5 \text{Year Effects}_t + \varepsilon_{j,t} \quad (5)$$

where  $Q_{j,t}$  is the Tobin's Q of firm  $j$  in industry  $i$  and country  $k$  in year  $t$ . Variables  $D(\tau)$  denote dummies that take the value of one if the current year is  $\tau$  years after the listing year of the firm, respectively. Following Sarkissian and Schill (2009) and Doidge, et al. (2008), we evaluate firm valuation around its foreign listing over a significant time period before and after the listing, plus and minus 10 years. We constrain the coefficients on the extended-window periods ( $-10 \leq \tau \leq -5$ ) and ( $+5 \leq \tau \leq +10$ ) to be the same within the pre-listing and post-listing periods. In all regression specifications, we also account for fixed country and calendar year effects, and cluster errors by the firm.

As a baseline, Panel A of Table 6 reports the point estimates, the t-statistics of individual slope coefficients, the regression R-squares, as well as the total number of firm-year observations for the top eight host markets for foreign listings. First, we observe some evidence of a pre-listing increase in Tobin's Q among firms that list in France, Japan, Luxembourg, Switzerland, and the US. In the periods just prior to the listing, the Q ratios experience some increase over the five years prior to the listing. This evidence is consistent with the view that firms that cross list tend to be firms that have experienced prior valuation gains. At the time of the listing,  $D(0)$ , firm

valuation ratios are systematically higher than non-cross listed firms across all eight host countries, six of which are statistically significant. This evidence provides some support for cross listings providing a contemporaneous valuation effect. After the listing, however, there appears to be a substantial decline in the valuation levels. For example, the relative Q ratios for firms listing in Luxembourg in the extended-term period is -0.26 (t-stat of -4.22). Only the Q ratios in Japan and in the US continue to be statistically different than control firms by the extended term (five to ten years). The ratios for the US are substantially lower than at the time of listing (0.49 abnormal Q ratio in the year of listing dropping to 0.08 abnormal Q ratio by the extended term). The results for the US largely mirror those of Doidge, et al. (2008). We are concerned, however, with interpreting these results as evidence of sustained gains to cross listing. First, we question why listings in Japan appear to be best able to maintain durable improvements in valuation ratio. The bulk of Japanese listings are by firms from Germany, the US, France and the UK. We question what characteristics of the Japanese market provide such substantive gains to firms from these countries. One hypothesis is that the control variables are inadequate at capturing the characteristics of listing firms. We assert based on the earlier evidence in the paper that cross-listing firms tend to be firms with already high valuation ratios, from countries with high valuation ratios, and that they choose to list when the home market and industry are at abnormally high valuation ratios.

To control for these characteristics, we alter the regression specification to alter the industry Q variable to be time varying and to add firm and home country valuation controls. Global Industry  $Q_{i,t}$  is now the annual median Q of the industry across all countries. Median Firm Q is the time-series median of the firm Q over the whole sample period. Home Market  $Q_{k,t}$  is the annual median Q of the home country.

The results of regressions that add these three variables as regressors are reported in Panel B of Table 6. As anticipated, the effect is to reduce the value of the abnormal Q measures for many of the dummy periods. The coefficient at the time of listing,  $D(0)$ , continues to be positive for all but two of the host countries, with two countries maintaining positive valuation ratios at

the time of listing, Luxembourg with a coefficient of 0.15 (t-stat of 2.91) and the US with a coefficient of 0.25 (t-stat of 3.64). However, for both of these countries the abnormal Q ratio dissipates with the coefficient on the extended-term period of -0.11 and -0.64 for Luxembourg and the US, respectively. In most cases, the coefficient on extended pre-listing period  $D(\geq -10; \leq -5)$ , is greater than the extended post-listing coefficient,  $D(\geq 5; \leq 10)$ . For example, in the US, the extended pre-listing coefficient is 0.05 while the extended post-listing coefficient is -0.06. When controlling for the characteristics of firms that cross list, there appears to be little evidence that listing abroad generates any significant durable valuation gains.

To better visualize the valuation patterns around the listing for the eight major host markets reported in Panel B of Table 6, we depict them in Figure 4. Plot A depicts Tobin's Q premium for foreign firms listed France, Germany, Japan, and Luxembourg; Plot B – for firms listed in Netherlands, Switzerland, the UK, and the US. Both plots are presented in the same scale to facilitate the comparison of valuation around the listing across all host markets. Thus, Panel B of Table 6 and Figure 4 show that overseas stocks listed in the US do not exhibit any unique to that market pre-listing or post-listing valuation benefits and, more importantly, are unable to outperform only domestically listed firms in their respective countries already as early as five years after the listing.

In next test we split the sample period into three groups: 1985 to 1991, 1992 to 1999, and 2000 to 2006. We again search for valuation gains by running the same regression specification (with the full set of controls) across the full pooled sample of listings for each sub-sample period. The results are reported in the first three columns of Table 7. The coefficient on  $D(0)$  is 0.04 in the early period, 0.18 in the middle period, and 0.14 in the later period. The coefficients in the two late periods are statistically significant. Beyond Year 0, however, none of the valuation coefficients are statistically different from zero, with the extended term coefficients at -0.03, 0.01, and -0.02. We repeat this exercise for US listings only. The results are similar with significant gains at the time of the listing (for the early period a significant coefficient occurs the year prior to listing) but nothing in the extended term. In fact, for the US listings the extended-

term  $D(\geq 5; \leq 10)$  coefficients are significantly negative for both the early period and the late period.

#### 4.2. Valuation gains in cross listing waves

Our set of baseline regressions provide consistence evidence of short-term gains to listing abroad but little evidence that the gains persist. Our analysis of the time-series of listing activity shows that foreign listings tend to occur in waves. In this section we postulate that surges in listings on host markets correlate with periods of particular gain for listing in that market. We suspect that these periods of listing intensity may be the place for identifying some evidence of durable valuation gains. We use the proportion of global overseas listing in a particular year as our proxy for foreign listing intensity (FLI).

We begin with a test of the top eight host markets. We adjust the specification of Panel B of Table 6 to add interaction variables that interact the series of dummy variables for cross listing with the level of listing intensity:

$$\begin{aligned}
 Q_{j,t} = & \alpha_i + \delta_\tau \sum_{\tau=-10}^{+10} D(\tau)_j + \delta_{FLI,\tau} \sum_{\tau=-10}^{+10} D(\tau)_j \times FLI(\text{Host},0) + \\
 & + \gamma_1 \Delta \text{Sales}_{j,t} + \gamma_2 \log(\text{Sales})_{j,t} + \gamma_3 \text{Median Firm } Q_i + \gamma_4 \text{Global Industry } Q_{i,t} + \quad (6) \\
 & + \gamma_5 \text{Home Market } Q_{k,t} + \gamma_6 \text{Country Effects}_k + \gamma_7 \text{Year Effects}_t + \varepsilon_{j,t}
 \end{aligned}$$

where  $FLI(\text{Host},0)$  is the foreign listing intensity of the host market in the listing year of firm  $j$ . All other variables are the same as in Table 6. We continue to constrain the coefficients on the extended-window periods  $(-10 \leq \tau \leq -5)$  and  $(+5 \leq \tau \leq +10)$  to be the same within the pre-listing and post-listing periods. Since we are interested in after-listing performance, we interact  $FLI(\text{Host},0)$  with only the listing dummy,  $D(0)$ , and post-listing dummies,  $D(n)$ .

The results of estimating model (6) are shown in Table 8. The most interesting finding is the changes in Tobin's  $Q$  after the cross-listing for firms placed on US exchanges. The interactive post-listing terms,  $D(\tau) \times FLI(\text{Host},0)$ , show a steady downtrend. While the coefficient on  $D(0) \times FLI(\text{Host},0)$  is positive yet insignificant, the slopes on further terms are quickly decreasing

becoming strongly negative and significant after forth-fifth year after the listing. The non-interactive long-term valuation dummy,  $D(\geq 5; \leq 10)$ , is still economically and statistically insignificant. This implies that firms do not tend to achieve any systematic valuation benefits regardless of whether they place their overseas listings on US exchanges during or outside of the US host market listing wave.

We continue by exploring the valuation effects of home market and industry waves, since they too show clustering of foreign listings over time. We proxy the attractiveness of the home market and industry by the proportion of overseas listings in a given year from a given home market or in a given industry market relative to the total number of foreign listings issued in that year. Table 9 presents the estimation results for all firms and listings and for the sub-sample of non-US firms and non-US listings. As before, the table reports the number of observations, point estimates, and the t-statistics. To conserve space and improve the tractability of results, we again aggregate all pre-listing dummies,  $D(-\tau)$ , into a single dummy variable,  $D(> -10; < 0)$ , which is equal to one in any of the ten years before the firm's listing on a foreign exchange.

The first four columns of Table 9 give the estimation results for all firms and listings under four foreign listing intensity control scenarios: none, host market, home market, and industry. We observe in column one that without interaction listing intensity terms the valuation pattern around the overseas listing placement for an average firm generally mimics the previous results. There is a significant increase in the Q premium among cross-listed firms in the listing year. The magnitude of the valuation premium diminishes in economic and statistical terms over the five to ten years after the listing. In this pooled test, the valuation premium drops in magnitude to negative values starting from the second year after the listing.<sup>9</sup> The next three columns add the interactive coefficients between listing year dummies and three foreign listings intensity variables: host, home, and industry. The second column shows that firm valuation is markedly higher in the listing year in host markets that attract high proportion of the overall

---

<sup>9</sup> Gozzi, et al. (2007) also find that the valuation advantage for their “internationalized” firms disappear soon after the internationalization event. Their sample also includes listings outside main stock exchanges.



count of foreign listings. The coefficient value is 0.31 is statistically significant at the 10% level. This suggests that listing firms maintain a certain level of valuation uplift when listing in markets with heavy overseas listing activity. The general uplift in valuation, however, appears to be short lived. In the year following the listing, the abnormal Q ratio drops to a negative level and remains at leveling a negative range in most of the years after the listing. Importantly, the slope on the long-term interactive valuation dummy,  $D(\geq 5; \leq 10) \times FLI(Host, 0)$ , is negative and significant at the 5% level. Its magnitude shows a decrease of 0.13% per month or more than 1.50% per year in Tobin's Q after firm listing in an outperforming host market.

In columns 3 and 4, we observe that the coefficient on the long-term cross-listing indicator is negative and significant suggesting that listings off home or industry waves do particularly badly in the extended term. Curiously we observe no significant coefficients with the interaction terms expect for the extended-term value. In this case, both the home market and industry interaction term is positive and significant. This result suggests that the negative coefficient for the off-wave listings is off set by listings on home market or industry waves. Since the coefficient is on an interaction variable it is difficult to make a direct comparison of the magnitudes of the coefficients.

Columns five to eight of Table 9 repeat the earlier estimation but without US firms. Since US firms constitute a large part of our overall firm and listing samples, their relative valuation can impact the overall results. After the exclusion of US firms the sample is reduced from almost 400,000 firm-year observations to 263,426 firm-year observations. In these estimations, we observe an important impact on firm valuation from "riding" foreign listing waves. With the host market wave control, our results for the slope on the long-term interactive valuation dummy are stronger, both economically and statistically, than for the overall sample of firms. Now the permanent decrease in Tobin's Q valuation after the listing in the overvalued host market is more than 0.16% per month or close to 2% a year. The effect of the home market listing wave on firms' valuation however is now close to zero suggesting that the observed pattern in column two of the table was predominantly a US firm based phenomenon. The long-term impact of the

industry wave however is similar to the overall sample: it is still positive and significant. Note finally that when no adjustment is made to the listing intensity, the long-term effects are significantly negative.

Across a wide set of markets and specifications we observe little evidence of long-term valuation gains to cross listing. This result hold even when we look where we expect to find it most, in the periods of most intense listing activity.

#### 4.3. Valuation Patterns and Market Characteristics

The previous baseline tests call into question the sustainability of valuation benefits to cross listing. The question is nevertheless open whether certain market characteristics enhance long-term performance of cross-listed firms. King and Segal (2009) and Sarkissian and Schill (2009) provide some evidence of cross-sectional effects in sustained valuation gains.

We consider three individual market characteristics, which are market valuation,  $MkVal$ , defined as the market capitalization to GDP ratio, the minority shareholder protection,  $LAW$ , and stock market liquidity,  $LIQ$ . Many studies advocate the importance of financial market development, good legal protection, and high liquidity for the overall economic and financial activity, as well as firm valuation.<sup>10</sup> The investor protection data (the anti-self dealing index) come from Djankov, et al. (2007). Our market liquidity measure is from Domowitz, et al. (2001) based on the Elkins/McSherry Co, Inc. estimates of average one-way trading cost for pension funds, investment managers and brokerage houses. For four emerging markets, China, Israel, Poland, and Russia, the liquidity measure is an interpolated measure based on LOT trading cost estimate of similar emerging markets from Lesmond (2005).

---

<sup>10</sup> For instance, see Rajan and Zingales (1998), Levine and Zervos (1998), Lang, et al. (2003), Lins, et al. (2005) for financial market development arguments; Benos and Weisbach (2004), Coffee (1999, 2002), La Porta, et al. (1997, 1998), Reese and Weisbach (2002), Doidge (2004), Doidge, et al. (2004, 2007, 2008) for legal protection arguments; Tinic and West (1974); Domowitz, et al. (1998), Werner and Kleidon (1996) for liquidity arguments. There are some studies, however, that question the effectiveness of cross-listing on investor protection. For instance, Siegel (2004) and Gozzi, et al. (2007) find that this impact is quite limited.

We also consider five cross-market (home-host market) characteristics. These are the average correlation of cross-market equity returns denominated in US dollars, MkCorr, as well as four variables standing for various dimensions of familiarity preference between two countries, such as economic, industrial, geographic, and cultural proximity, denoted as EconProx, IndsProx, GeogProx, and CultProx, respectively. The familiarity variables are extended to the current cross-country sample from Sarkissian and Schill (2004) and are defined as follows. EconProx is the percentage of the home country exports going to the host country. These data come from the *1996 International Trade Statistics Yearbook* for country pairs in Sarkissian and Schill (2004) and from the *2004 International Trade Statistics Yearbook* for all new country pairs. IndsProx is estimated as the correlation of industry rankings between each pair of countries, for all firms listed overseas. GeogProx, is the great circle distance between the two capital cities.<sup>11</sup> Finally, CultProx is a dummy variable which is equal to unity if two countries share a common major spoken language or if they were affiliated with the same major colonial empire.

Table 10 shows the summary statistics of market characteristics and valuation data for home (Panel A) and host (Panel B) markets. The first two columns present the average firm-level characteristics in a given home or host country. The first column gives the average Tobin's Q across all firms. Firms from South Africa, Iceland, and China have the highest Q's of 2.46, 1.53, and 1.49 respectively, among home markets. Across host markets, Israel, Peru, and Malaysia show the highest Q's of 2.56, 2.41, and 2.13, respectively. Note that the majority of foreign firms traded in Israel and all foreign firms listed in Peru are from the US. The second column of Table 10 depicts the average sales growth across all firms in a given home or host country. The highest sales growth in our sample period is recorded in Iceland, 0.256, followed by Russia, 0.240. Firms with the highest average sales growth prefer Mexico, Norway, and UAE. Note however, that

---

<sup>11</sup> The Sarkissian and Schill (2004) proximity variables are available from the web site of Sergei Sarkissian. Besides the Sarkissian and Schill findings on the importance of familiarity preference in listing decision, Mittoo (1992), Saudagaran (1988), and Pagano, et al. (2002) also provide some evidence that firm listings tend to follow their export routes.

these host markets have very few foreign listings and, therefore, those numbers cannot be considered representative.<sup>12</sup>

Columns three to five of Table 10 report three individual market characteristics, the market capitalization to GDP ratio, and the anti-self-dealing index, and stock market liquidity, respectively, for each home and host market. The highest market cap to GDP ratio is observed among some small but developed economies of Hong Kong (3.61), Switzerland (2.49), and Finland (1.77). On the other extreme, the market valuation variable in Zimbabwe stands at a mere 0.06. Among host markets, Israel, Mexico, and Peru host US firms and that is why all three countries show a market cap to GDP ratio of 1.42. In terms of investor protection, Singapore is an undisputed leader with the highest possible index of 1.00, followed by Hong Kong with an index of 0.96. As for the host markets, Ireland, Malaysia, and Taiwan host firms from countries with best investor protection rules. Finally, on average across host markets, Finland attracts foreign stocks from the most liquid markets (the highest liquidity measure of 0.36), while Taiwan from the least liquid (the lowest liquidity measure of 0.83).

Columns six to ten depict cross-market characteristics. The values presented in the table are constructed as follows. For each home market these measures are the averages between that home market and all host markets with listings from a given home market. For each host market these are the averages from all home markets that have a presence in a given host market. Italy and Spain have the highest correlations with markets that are the suppliers of their foreign listings, 0.82 and 0.81, respectively. A look back to Table 1 explains this pattern: these countries hold foreign listings only from the Continental Europe. Some of the home and host markets have the large shares of their exports going to a single country (e.g., 83.4% of exports from Mexico go to the US). Our proxy for the industrial structure similarity, *IndsProx*, is positive across the vast majority of home and all host markets, reflecting the fact that country that supplies many listings in a specific industry to foreign market exchanges tend to also accept a significant number of foreign firms in the same industry in its own market. Finally, many countries in our sample,

---

<sup>12</sup> For example, the only foreign listing in Mexico in our sample is the US firm Citigroup.

especially those having historical and language links to the United Kingdom, show a large number of cultural ties with other markets.

We now turn to our familiar regression framework but include our market characteristic variables. The results are reported in Table 11. We include the individual cross-market characteristics that we described earlier (see Table 10) as separate variables to capture the effect that each of the various characteristics may be associated with higher or lower valuation ratios. Next we include the interaction of these characteristics with the dummy variable proxying the permanent valuation gains from overseas listing. For each regression, we report the number of observations, point estimates, and t-statistics. Again, all standard errors are clustered by the firm. To save space, we do not show the estimates of our five control variables related to firm, industry, and home market characteristics alongside with country and year fixed effects.

The first three columns of Table 11 report the estimation results for the entire sample of firms with listings in all host markets (first column), in all host markets except the US (second), and listings outside the top eight host markets (third). We observe that three individual market characteristics are related to the average level of cross-listed firms' Q-ratios. These are the relative market valuation, liquidity, and geographic proximity. More interesting are the estimates of the interactive market characteristics. They highlight the impact of a specific market property on long-term valuation benefits from overseas listing. Here we again find evidence that listings in highly valued markets are associated with lower extended-term Q ratios. The coefficient on the extended-term  $MkVal$  interaction term is negative and significant for listings placed in all markets or even markets outside the US. Another coefficient that shows quite prominently statistically is the slope on extended-term interactive cross-market correlation term,  $MkCorr$ . It is positive and significant at least at the 10% level for firms listed outside the top eight host markets or outside the US. This implies that firms that list in foreign markets which are highly correlated with their domestic market experience more long-term valuation gains than an average cross-listed firm.

The last three columns of Table 11 report the estimation results for the sample of all firms except those from the US with listings again in all host markets (fourth column), in all host markets except the US (fifth), and listings outside the top eight host markets (sixth). The results of these tests are generally identical to those on the whole sample. In fact, now the slope on the interactive market valuation term is negative and significant in all three estimations, confirming further that the negative impact of highly valued host market on the valuation of cross-listed firms is a very robust phenomenon. As before, the slope on the interactive market cross-correlation term is positive and significant for listings outside both the US and the eight largest host markets.

At last, given a significant amount of studies on the benefits of better investor protection environment on firm valuation, in Table 12 we offer a more detailed analysis of firms' Tobin's Q pattern around the listing in two sub-samples: better and worse "Rule of Law" countries. We use the test setting similar to Table 6 for each sub-sample. A host country has a better "Rule of Law" if its anti-self-dealing index from Djankov, et al. (2007) is higher than that of the home country. The estimation results are shown for the two sub-samples themselves, as well as for the data splits that contain no US firms and include or exclude listings in the US. We highlight the following three important observations in this table. First, irrespective of the level of investor protection in the host market, its long-lasting effects on cross-listed firms' Tobin's Q are negative in general. Second, the listing year valuation gains are marginally higher for firms going to countries with worse laws. Finally, the above patterns weaken with the removal of US firms and foreign listings in the US. Thus, from Tables 11 and 12 we conclude that there is little evidence that firms from countries with weak investor protection receive durable valuation effects when placing their firm shares in a foreign market with stronger rules of law.

## 5. Conclusions

This study makes two important contributions to the literature on overseas listings. First, we document the extent of waves in cross-border listing at the host market, home market, and industry level over a more than hundred year chronology. We observe that a substantial portion of host market waves are due to underlying waves in home market or industry listing in markets that maintains some bilateral appeal over the sample period. The relative performance of the equity market and the real economy provide additional explanatory power for the time series of home market and host market listings. Second, in tests that control for the valuation characteristics of listing firms, we find little evidence that overseas listing is associated with any appreciable increase in the long-term valuation ratio of listing firms. This relationship holds in tests where we expect the gains to be greatest, such as during listing waves. We do, however, observe short-term valuation gains to listing abroad, particularly during host market listing waves. We suspect that it is these short-term gains that provide the impetus for listing overseas. The short-term nature of the valuation gains is consistent with the short-term nature of other gains associated with cross listing (e.g., Halling, Pagano, Randl, and Zechner, 2008).

Our view of the rationale for cross-listing waves is consistent with Rajan and Zingales (1998), in that we provide new evidence that market development changes across countries and over time, since the changing ability of a country to attract foreign shares can be viewed as a measure of the country's overall financial market activity. We also show the general irrelevance of the access to more developed foreign capital markets at the firm level, similar to the country-level results in Rajan, et al. (2003). Our results also support the application of Rajan et al. (2007) findings at the firm level: just like those countries that rely on capital in more developed countries do not grow faster than those that do not, firms that rely on capital in foreign markets that are more developed than their domestic market do not achieve better valuation than those that do not.

## Appendix

### Significant economic and financial events in major host markets for overseas listings outside the US during the second half of the 20th century

#### *France*

Date	Event
1956	Suez Canal crisis
1958	Payments related to current account transactions were liberalised.
1965-1967	Liberalization of the French financial markets.
1982	Nationalization of 36 deposit banks, increasing influence of the government.
1983	Second Marché for small and medium-sized enterprises is opened.
1983	Venture capital mutual investment funds were introduced.
1984-1986	Trade-related operations were gradually liberalised.
1986	The beginning of large-scale privatizations starting with the privatization of Saint Gobain.
1986	Currency hedging for foreign currency denominated imports was totally liberalised.
1986	French residents were allowed to freely buy shares listed on foreign markets.
1986	MATIF (Marché de Terme International de France) – French futures market is created.
1987	MONOP (le Marché d’Options Négociables de Paris) – Paris options market is created.
1988	Elimination of lending restrictions and currency controls and removed many of the administrative barriers that had compartmentalised credit institutions’ business in Europe.
1989	Residents were allowed to freely open and keep foreign currency denominated accounts in France and foreign currency and franc-denominated accounts abroad.
1989	Abolition all remaining foreign exchange controls.
1996	Creation of the Nouveau Marché
1997	Creation of the Banque du développement des PME for small and medium-sized firms.
1998	Law of 1998 created the new accounting standards’ setting body, the Comité de la réglementation comptable – CRC.
1999	Creation of ParisBourse
2000	Creation of Euronext

#### *Germany*

Date	Event
1959	Minor Reform of Stock Corporation Law to stimulate stock demand among working class people, including the restructuring of income statements, and allowing a company to purchase its own stocks in order to allocate shares to their employees.
1965	Major Reform of Stock Corporation Law (Law regarding the capital increase through a company’s own resources) including increase in incentives to strengthen stock holders’ rights within a business, provision of better and faster information for shareholders, limitation of membership in supervisory boards of public limited companies.
1969	Company Disclosure Law on the extension of company information requirements.
1970	Introduction of forward and futures trading.
1975	Amendment of the Stock Exchange Act, which included improvement of self-administration of exchanges, strengthening of exchange brokers’ status, obligation to establish official broker chambers, reorganization of penal provisions.
1976	Abolition of double taxation of stocks.
1989	Amendment of the Stock Exchange Act made legal prerequisites for electronic platform for exchange trading, forward and futures trading, and notation of securities in foreign currencies



	and units of account.
1990	Reunification of Germany.
1990	First Financial Markets Advancement Law that included the abolition of tax charges, broader business opportunities for investment companies, and the admission of restricted funds and fixed income funds.
1994	Second Financial Markets Advancement Law that included the implementation of the European Investment Services Directive and the Foundation of the Federal Securities Supervisory Office.
1998	Third Financial Markets Advancement Law on the adjustment of investment company law including the facilitation of admission to the exchange for new issuers.

### *Japan*

Date	Event
1956	Bond market reopened.
1966	Japan becomes a member of the OECD and agrees to liberalize its capital markets.
1970	Tokyo Stock Exchange (TSE) joined FIBV, the International Federation of Stock Exchanges
1973	Foreign Stock Section opened.
1980	The new Foreign Exchange and Foreign Control Law is in effect that decontrol international capital flows.
1981	Banking Law is passed with the objective of fixing healthy and appropriate operations in the banking business and thus the promotion of the healthy development of the national economy.
1982	Constitutional restrictions on the membership of foreign securities companies removed.
1984	The beginning of large-scale privatizations.
1986	The Tokyo exchange permits non-Japanese brokerage firms to become members.
1989	Tokyo International Financial Futures Exchange (TIFFE) established
1996	The Financial System Reform, “Japanese Big Bang” started. Under the three principles of “free, fair, and global,” aiming to rebuild the Japanese financial market into an international market comparable to the New York and London markets.
1998	Abolition of restriction on off-exchange trading for listed securities.
2000	Nasdaq Japan Market of the OSE established.

### *Luxembourg*

Date	Event
1959	Creation of the Luxembourg’s first “Fonds Commun de Placement” (FCP) (mutual funds).
1960	The first American bank established a subsidiary in Luxembourg, in response to the United States’ adoption in 1958 of regulation Q, which placed a maximum limit on the rates which American banks can pay on dollar deposits.
1963	The first Eurobond, denominated in Eurodollars, is issued in Luxembourg because of low costs involved and the favourable tax regime.
1969	The world’s first international foreign-currency bond was quoted in Luxembourg.
1970	Luxembourg becomes member of ICSID.
1983	Creation of the Luxembourg Monetary Institute (IML), which is responsible, in particular, for the supervision of the financial sector and for issuing currency.
1984	Adopted the European Union's Fourth Directive. Introduced special financial reporting regulations in Luxembourg.
1990	Grand-Ducal regulation which laid down current issuance and listing procedures.
1993	Law on the Financial Sector provided a solid foundation for the fight against money laundering and financing of terrorism.
1998	Creation of the BCL – Banque centrale du Luxembourg.

2001	Law on the circulation of securities and other financial instruments.
------	---

### *The Netherlands*

Date	Event
1961	Following the deutchemark, the guilder was devalued.
1985	Securities Trading Act which regulates the fight against undesirable developments that arise in the securities trade.
1990	The Acts on the Supervision of Collective Investment Schemes and Investment Institutes are passed for the promotion of adequate functioning of the financial and securities markets and protection of (potential) investors in these markets.
1996	Disclosure of Major Holdings in Listed Companies Act.
1997	The Amsterdam Stock Exchange and the European Option Exchange merged.
1998	The Bank Act is passed aimed at the implementation of monetary policy within the European Community (EC), and the supervision of banks, investment institutions, and exchange offices.

### *Switzerland*

Date	Event
1951	The 1951 Treaty (between Switzerland and the USA), which stipulated that no information will be exchanged which would disclose any trade, business, industrial or professional secret.
1953	National Bank Law that designated the Swiss National Bank to carry out the tasks which the Confederation has assigned to it in the fields of payment transactions, coinage, administration of moneys and securities, investment of public funds, administration of the national debt and issue of bonds. It must advise the federal authorities in monetary matters.
1959	Switzerland became a member of the European Free Trade.
1979	Foreigners were first permitted to acquire Swiss Franc denominated assets.
1993	The settlement process was reformed and offered additional services such as value date monitoring and cash-planning. This change speeds the settlement process, making the market more liquid.
1995	Switzerland's three stock exchanges in Geneva, Basle and Zurich are merged to form the SWX.
1996	Inauguration of the fully automated trading, clearing and settlement system, SegaiInterSettle AG, (SIS). It becomes the hub of Swiss securities trading, the central depository for all Swiss stocks and debt securities, and the central clearing organisation for all transactions in Swiss securities. In addition, SIS settles international transactions in Swiss securities through its SECOM system.
1998	Merger of the Swiss and German derivatives markets (SOFFEX and DTB) to form Eurex as the first trans-national derivatives exchange.
1999	Inauguration of SWX Repo, the world's first fully integrated, electronic repo trading platform. Admission of participants from France, Germany, and the UK. Start of the SWX New Market segment for growth companies.
2000	SWX Repo is integrated into Eurex. Launch of SNMI, the SWX New Market Index.

### *United Kingdom*

Date	Event
1951	Bank rate restored to control the monetary system in Britain.
1956	Suez Canal crisis.
1967	Pound is devalued against the dollar, from \$2.80 to \$2.40.

1971	Competition and Credit Control Act ended interest rate cartel.
1973	Eleven British and Irish regional exchanges amalgamate with the London Stock Exchange.
1973-1974	Secondary banking crisis.
1979	Abolishing all foreign exchange controls.
1979	The beginning of large-scale privatizations starting with the privatization of British Petroleum.
1982	The London International Financial Futures and Options Exchange established.
1986	London Stock Exchange's "Big Bang" changes which allowed the ownership of member firms by an outside corporation, abolished the minimum scales of commission, stripped individual members from having voting rights, allowed all firms become broker/dealers able to operate in a dual capacity, moved trading from being conducted face-to-face on a market floor to being performed via computer and telephone from separate dealing rooms, made the Exchange a private limited company.
1990	Britain joins the European Exchange Rate Mechanism, a decision motivated, at least in part, by Britain's repeated failure to meet its money supply targets.
1992	Britain leaves the European Exchange Rate Mechanism after massive international speculation.
1995	Establishment of the Alternative Investment Market (AIM) on the London Stock Exchange.
1997	The Chancellor of the Exchequer announced the reform of financial services regulation in the UK and the creation of a new regulator, the Financial Services Authority (FSA).
1998	The first stage of reforms of financial services regulation included the transfer of responsibility for banking supervision from the FSA to the Bank of England.
2000	The FSA becomes an independent non-governmental body, and is given statutory powers by the Financial Services and Markets Act. FSA took over the role of UK Listing Authority from the London Stock Exchange.

## References:

- Benos, E. and M.S. Weisbach, 2004, Private benefits and cross-listings in the United States, *Emerging Markets Review* 5, 217-240.
- Berger, P.G., F. Li, and M.H.F. Wong, 2005, The impact of Sarbanes-Oxley on cross-listed companies, Working paper, University of Chicago.
- Biddle, G., and S. Saudagaran, 1992, Financial disclosure levels and foreign stock exchange listing decisions, *Journal of International Financial Management and Accounting* 4, 106-148.
- Black, F., 1974, International capital market equilibrium with investment barriers, *Journal of Financial Economics* 1, 337-352.
- Chaplinsky, S., L. Ramchand, 2008, From listing to delisting: Foreign firms' entry and exit from the U.S., Working paper, Darden School.
- Coffee, J., 1999, The future as history: the prospects for global convergence in corporate governance and its implications, *Northwestern Law Review* 93, 641-708.
- Coffee, J., 2002, Racing towards the top? The impact of cross-listings and stock market competition on international corporate governance, Working paper, Columbia University.
- Dittmar, A., R. Dittmar, 2007, The timing of financing decisions: An examination of the correlation in financing waves, *Journal of Financial Economics*, forthcoming.
- Djankov, S., R. La Porta, F. Lopez-de-Silanes, and Shleifer, 2008, The law and economics of self-dealing, *Journal of Financial Economics*, forthcoming.
- Doidge, C., 2004, U.S. cross-listings and the private benefits of control: Evidence from dual class firms, *Journal of Financial Economics*, 72, 519-553.
- Doidge, C., G.A. Karolyi, and R. Stulz, 2004, Why are foreign firms listed in the U.S. worth more?, *Journal of Financial Economics* 71, 205-238.
- Doidge, C., G.A. Karolyi, and R. Stulz, 2007, Why do countries matter so much for corporate governance?, *Journal of Financial Economics* 86, 1-39.
- Doidge, C., G.A. Karolyi, and R. Stulz, 2008, Why Has New York Become Less Competitive Than London in Global Markets? Evaluating Foreign Listing Choices Over Time, *Journal of Financial Economics*, forthcoming.
- Doidge, C., G.A. Karolyi, Lins, K., Miller, D., and R. Stulz, 2009, Private benefits of control, ownership, and the cross-listing decision, *Journal of Finance* 64, 425-466.
- Domowitz, I., J. Glen, and A. Madhavan, 1998, International cross-listing and order flow migration: Evidence from an emerging market, *Journal of Finance* 53, 2001-2027.
- Domowitz, I., J. Glen, and A. Madhavan, 2001, Liquidity, volatility, and equity trading costs across countries and over time, *International Finance* 4, 221-256.
- Errunza, V. and E. Losq, 1985, International asset pricing under mild segmentation: Theory and tests, *Journal of Finance* 40, 105-124.
- Errunza, V. and D. Miller, 2000, Market segmentation and the cost of capital in international equity markets, *Journal of Financial and Quantitative Analysis*, 35, 577-600.

- Fernandes, N., and M. A. Ferreira, 2008, Does international cross-listing improve the information environment, *Journal of Financial Economics* 88, 216-244.
- Fernandes, N., and M. Giannetti, 2008, On the fortunes of stock exchanges and their reversals: evidence from foreign listings, Working paper IMD and Stockholm School of Economics.
- Foerster, S. and G.A. Karolyi, 1999, The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United States, *Journal of Finance* 54, 981-1013.
- Foerster, S. and G.A. Karolyi, 2000, The long run performance of global equity offerings, *Journal of Financial and Quantitative Analysis* 35, 499-528.
- Froot, K.A., and E.M. Dabora, 1999, How are stock prices affected by the location of trade?, *Journal of Financial Economics* 53, 189-216.
- Gozzi, J. C., R. Levine, and S. Schmuckler, 2008, Internationalization and the evolution of corporate valuation, *Journal of Financial Economics* 88, 607-632.
- Granger, C.W.J., N. Hyung, and Y. Jeon, 2001, Spurious regressions with stationary series, *Applied Economics* 33, 899-904.
- Henderson, B.J., N. Jegadeesh, and M.S. Weisbach, 2006, World markets for raising new capital, *Journal of Financial Economics* 82, 63-101.
- Halling, M., M. Pagano, O. Randl, and J. Zechner, 2008, Where is the market? Evidence from cross-listings in the United States, *Review of Financial Studies* 21, 725-761
- Huddart, S., J. Hughes, and M. Brunnermeier, 1999, Disclosure requirements and stock exchange listing choice in an international context, *Journal of Accounting & Economics* 26, 237-269.
- King, M. R., D. Segal, 2009, The long-term effects of cross-listing, investor recognition, and ownership structure on valuation, *The Review of Financial Studies*, forthcoming.
- La Porta, R., F. Lopez-De-Silanes, A. Shleifer, and R.W. Vishny, 1997, Legal determinants of external finance, *Journal of Finance* 52, 1131-1150.
- La Porta, R., F. Lopez-De-Silanes, A. Shleifer, and R.W. Vishny, 1998, Law and finance, *Journal of Political Economy* 106, 1113-1155.
- Lang M., K. Lins, and D. Miller, 2003, ADRs, analysts, and accuracy: Does cross listing in the U.S. improve a firm's information environment and increase market value?, *Journal of Accounting Research* 41, 317-345.
- Lesmond, D.A., 2005, Liquidity of emerging markets, *Journal of Financial Economics* 77, 411-452.
- Levine, R. and S. Zervos, 1998, Stock markets, banks, and economic growth, *American Economic Review* 88, 537-558.
- Lins, K., D. Strickland, and M. Zenner, 2005, Do non-U.S. firms issue stock on U.S. equity markets to relax capital constraints?, *Journal of Financial and Quantitative Analysis* 40, 2005, 109-133.
- Litvak, K., 2007, Sarbanes-Oxley and the cross-listing premium, *Michigan Law Review* 105, 1857-1898.

- Merton, R., 1987, Presidential address: A simple model of capital market equilibrium with incomplete information, *Journal of Finance* 42, 483-510.
- Miller, D., 1999, The market reaction to international cross-listings: Evidence from depositary receipts, *Journal of Financial Economics* 51, 103-123.
- Mittoo, U., 1992, Managerial perceptions of the net benefits of foreign listings; Canadian evidence, *Journal of International Financial Management and Accounting* 4, 40-62.
- Pagano, M., O. Randl, A. Roell, and J. Zechner, 2001, What makes stock exchanges succeed? Evidence from cross-listing decisions, *European Economic Review* 45, 770-782.
- Pagano, M., A.A. Roell, and J. Zechner, 2002, The geography of equity listing: Why do European companies list abroad?, *Journal of Finance* 57, 2651-2694.
- Rajan, R.G. and L. Zingales, 1998, Financial dependence and growth, *American Economic Review* 88, 559-586.
- Rajan, R.G. and L. Zingales, 2003, The great reversals: The politics of financial development in the twentieth century, *Journal of Financial Economics* 69, 5-50.
- Rajan, R.G., E. Prasad, and A. Subramanian, 2007, Foreign capital and economic growth, *Brookings Papers on Economic Activity* 1, 153-209.
- Reese, W., and M. Weisbach, 2002, Protection of minority shareholder interests, cross-listings in the United States, and subsequent equity offerings, *Journal of Financial Economics* 66, 65-104.
- Sarkissian S. and M.J. Schill, 2004, The overseas listing decision: New evidence of proximity preference, *Review of Financial Studies* 17, 769-809.
- Sarkissian S. and M.J. Schill, 2009, Are there permanent valuation gains to overseas listing?, *Review of Financial Studies* 22, 371-412.
- Saudagaran, S., 1988, An empirical study of selected factors influencing the decision to list on foreign stock exchanges, *Journal of International Business Studies* 19, 101-127.
- Siegel, J., 2004, Can foreign firms bond themselves effectively by renting U.S. securities laws?, *Journal of Financial Economics*, 75, 319-359.
- Solnik, B., 1974, An equilibrium model of the international capital market, *Journal of Economic Theory* 18, 365-378.
- Stulz, R., 1981, On the effects of barriers to international asset pricing, *Journal of Finance* 25, 783-794.
- Stulz, R., 1999, Globalization, corporate finance, and the cost of capital, *Journal of Applied Corporate Finance* 12, 8-25.
- Tinic, S. and R. West, 1974, Marketability of common stocks in Canada and the USA: A comparison of agent versus dealer dominated markets, *Journal of Finance* 29, 729-746.
- Werner, I. and A. Kleidon, 1996, U.S. and U.K. trading of British cross-listed stocks: An intraday analysis of market integration, *Review of Financial Studies* 9, 619-664.
- Zingales, L., 2007, Is the U.S. capital market losing its competitive edge?, *Journal of Economic Perspectives*, forthcoming.



Table 1  
Distribution of overseas listings across home and host markets, 1900-2006

Home	Argentina	Australia	Austria	Belgium	Brazil	Canada	Denmark	Finland	France	Germany	Hong Kong	Ireland	Israel	Italy	Japan	Luxembourg	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Poland	Portugal	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	UAE	UK	USA	Total
Argentina					1											4																		28
Australia						13			1	2					6	1			87						5	3			2		12	40	172	
Austria				1					2	6													1											12
Belgium									9	2						7			8		1							4					3	34
Bolivia																																		1
Brazil																5																1	34	40
Canada		7		11					11	3	1				6				3	1	3				1	5		9		23	567	651		
Chile																																1	25	26
China																									2						6	29	37	
Columbia						1										3																1	5	
Croatia																																1	1	
Cyprus																																1	1	
Czech Republic																																4	5	
Denmark																					1			1				1	1		3	7	13	
Egypt																																7	7	
Estonia																																1	1	
Finland									1	2				1					1									5		3	6	19		
France				15		2				10				9	5	2			12									3	6	8	37	109		
Germany			19	8						15				8	9	6			13						1		2	2	29	11	28	151		
Ghana						1																									1	2		
Greece		1					1									1			1	1					1					9	10	25		
Guyana						1																											1	
Hong Kong		8							1						1						1				9						1	17	38	
Hungary			3													5								1							4	1	14	
Iceland																																	1	2
India																121															2	26	15	164
Indonesia		1														2																2	4	9
Ireland																					1											55	19	75
Israel				4					2	3											1							3		12	124	149		
Italy				2					6	5									4								1	2			17	37		
India																																	0	
Ivory Coast									1																									1
Japan			1	5		1			36	54						23			19					7			12		34	42	234			
Jordan																																1	1	
Kazakhstan																																2	2	
Kenya																																1	1	
Korea (South)															1	22															17	16	56	
Lebanon																2																		2
Liechtenstein																													1					1
Lithuania																																	1	1



Table 1 (continued)

Home	Argentina	Australia	Austria	Belgium	Brazil	Canada	Denmark	Finland	France	Germany	Hong Kong	Ireland	Israel	Italy	Japan	Luxembourg	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Poland	Portugal	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	UAE	UK	USA	Total
Luxembourg				9					6	2									2						2	1	4					6	8	40
Malaysia		1													1									1								4	7	7
Malta																																1	1	1
Mexico																																	40	40
Morocco									1																						1	2	2	2
Netherlands			5	13					16	24				3	2	7							2	1		1	1	17			17	42	151	
New Zealand		26																														7	33	
Nigeria																										1							1	1
Norway							1		1	2									1						1		3	1		5	12	27	27	
Oman																														1			1	1
Panama																																	2	2
Peru																																	4	4
Philippines																	5								2							4	11	11
Poland																1															11		12	12
Portugal										1									1												1	4	7	7
Qatar																															1		1	1
Romania																															1		1	1
Russia																															10	6	16	16
Singapore		3															3												2			6	14	14
Slovakia																	2														1		3	3
South Africa				11		4			15	6						5												4		35	16	96	96	
Spain	1				1				5	3				2	4					4				2				2	5	11	40	40		
Sri Lanka																1																	1	1
Sweden				1		1	7	2	3	4					3				1		5				2			4		12	15	60	60	
Switzerland			3	1		2			7	10					4												3			5	15	51	51	
Taiwan												47													1					11	10	69	69	
Thailand												2												2				1			1	6	6	
Tunisia																																1	1	1
Turkey																2															9	1	12	12
UK		5		13		9	1		24	10	1	17	1		16	3	3		11	2	3				8	7		2	5			143	285	
USA		8	3	35	1	62			45	44			4		80	2	1	77		5	1				8	7		8	71	104		143	551	
Venezuela						1										1																	3	5
Zimbabwe																										1						3	4	4
Total	1	60	34	129	3	98	10	2	193	208	2	17	5	23	138	285	3	1	159	91	21	1	5	2	44	19	5	32	177	3	3	494	1415	3683

This table provides the country-to-country frequency distribution of the sample of overseas listings as of 2006. The total sample is comprised of 3,683 overseas listings from 73 home markets placed in 33 host markets. Listings from or in pure tax haven countries and outside main exchanges are omitted.

Table 2  
Distribution of overseas listing across host markets and decades, 1900s-2000s

Panel A: Number of listings by host market

	1900s	1910s	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	Total
Argentina											1	1
Australia								1	13	34	12	60
Austria				1		3	3	10	3	9	5	34
Belgium	1	2	2	1	1	24	19	24	18	26	11	129
Brazil										2	1	3
Canada						1	1	5	10	23	58	98
Denmark										7	3	10
Finland											2	2
France	1	1	5	7		22	28	24	64	38	18	208
Germany								10	41	129	13	193
Hong Kong										2		2
Ireland									2	12	3	17
Israel											5	5
Italy										4	19	23
Japan								12	110	13	3	138
Luxembourg						3	5	18	8	133	118	285
Malaysia								3				3
Mexico											1	1
Netherlands	2	1	9	12		21	11	13	31	47	12	159
New Zealand									5	78	8	91
Norway										11	10	21
Peru										1		1
Poland											5	5
Portugal											2	2
Singapore								2	7	28	7	44
South Africa										8	11	19
Spain										3	2	5
Sweden									6	18	9	33
Switzerland	6			2	2	13	19	28	55	37	14	176
Taiwan											3	3
UAE											3	3
UK	1	2	1	2	16	22	26	63	105	184	71	494
USA		1	5	4	1	5	23	42	263	703	367	1415
Total	11	7	22	29	20	114	135	255	741	1550	797	3683

Table 2 (continued)

Panel B: Number of listings by home market

	1900s	1910s	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	Total
Argentina										20	7	27
Australia						1	3	2	33	102	31	172
Austria									3	6	3	12
Belgium	3		1	2		2	5	2	1	14	4	34
Bolivia									1			1
Brazil									1	25	14	40
Canada	1	4	5	4	5	16	19	16	177	258	144	651
Chile										23	3	26
China										16	21	37
Columbia										4	1	5
Croatia										1		1
Cyprus										1		1
Czech Republic										4	1	5
Denmark							1	1	4	5	2	13
Egypt										3	4	7
Estonia										1		1
Finland									6	8	5	19
France	2					1	2	4	26	47	27	109
Germany	1		2	1		10	11	26	24	52	24	151
Ghana										2		2
Greece										13	12	25
Guyana										1		1
Hong Kong									2	29	7	38
Hungary										13	1	14
Iceland											2	2
India								2	1	67	94	164
Indonesia										8	1	9
Ireland						1	1	12	10	45	6	75
Israel						1		1	20	90	37	149
Italy							1		8	21	7	37
Ivory Coast							1					1
Japan							7	55	83	71	18	234
Jordan										1		1
Kazakhstan										1	1	2
Kenya						1						1
Korea										35	21	56
Lebanon										2		2
Liechtenstein											1	1
Lithuania											1	1
Luxembourg		1	2	1		1		3	7	11	14	40
Malaysia						2		2	1	2		7
Malta										1		1
Mexico							1		1	33	5	40
Morocco										1	1	2
Netherlands			2	1	2	6	9	8	19	69	35	151
New Zealand									5	21	7	33
Nigeria											1	1
Norway		1						3	6	14	3	27
Oman											1	1
Panama										1	1	2
Peru									1	3		4
Philippines							3			6	2	11
Poland										10	2	12
Portugal										6	1	7
Qatar										1		1
Romania										1		1
Russia										6	10	16
Singapore									2	6	6	14
Slovakia										2	1	3
South Africa	1		1	3	10	18	8	9	10	29	7	96
Spain								1	14	14	11	40
Sri Lanka											1	1
Sweden			1			2	2	5	17	20	13	60
Switzerland				2				1	10	21	17	51
Taiwan									1	35	33	69
Thailand									1	3	2	6
Tunisia										1		1
Turkey										7	5	12
United Kingdom			1	1		2	11	22	65	130	53	285
United States	3	1	7	14	2	49	50	80	181	101	63	551
Venezuela										4	1	5
Zimbabwe					1	1				2		4
Total	11	7	22	29	20	114	135	255	741	1550	797	3683

Table 2 (continued)

Panel C: Number of listings by industry

	1900s	1910s	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	Total
Chemicals				2		16	17	14	27	52	18	146
Construction								5	13	52	20	90
Consumer Goods & Food	1		1	5	3	9	20	20	64	126	43	292
Electronics		1	1	1		6	12	40	74	178	117	430
Financials	3			2	3	3	9	38	95	190	89	432
Healthcare						4	6	16	35	97	80	238
Industrials		1	6	6	2	25	25	39	95	145	47	391
Leisure					1			5	17	23	14	60
Mining	1	2	2	3	8	23	13	16	101	124	89	382
Oil & Gas	1	1	7	2	2	10	12	21	65	100	50	271
Paper						3	2	6	12	35	4	62
Retail & Distributors			2			2	4	16	21	47	15	107
Support Services						1	3	8	27	138	82	259
Telecom & Media	1			4		5	8	7	56	157	82	320
Transport	2	2	1	1	1	3	2	2	20	44	26	106
Utilities	2		2	3		4	2	2	19	42	20	96
Total	11	7	22	29	20	114	135	255	741	1550	797	3683

This table shows the number of foreign listings by host market (Panel A), home market (Panel B), and industry (Panel C) for each decade between 1900 and 2006.

Table 3  
The largest home and host markets for overseas listings over time

		1950s						
Home \ Host		1-Belgium	2-France	3-UK	4-Nether.	5-Switz.	6-USA	Other
1-USA		14.9	3.5	0.0	15.8	7.9	-	0.9
2-South Africa		0.9	5.3	9.6	0.9	0.0	0.0	0.0
3-Canada		2.6	3.5	2.6	2.6	0.9	1.8	0.0
4-Germany		0.0	4.4	0.0	0.0	1.8	0.0	2.6
5-Netherlands		0.0	1.8	0.0	-	0.9	0.0	1.8
6-UK		0.9	0.0	-	0.0	0.0	0.9	0.0
Other		1.8	0.8	7.1	0.0	0.0	0.8	1.0
		1960s						
Home \ Host		1-France	2-UK	3-USA	4-Belgium	5-Switz.	6-Nether.	Other
1-USA		9.6	8.1	-	5.2	7.4	5.9	0.8
2-Canada		0.7	1.5	11.9	0.0	0.0	0.0	0.0
3-Germany		0.7	2.2	0.0	1.5	3.0	0.0	0.7
4-UK		2.2	-	0.7	3.0	1.5	0.7	0.0
5-Netherlands		0.0	0.0	0.7	3.7	0.0	-	2.3
6-South Africa		2.2	3.0	0.0	0.0	0.7	0.0	0.0
Other		6.3	4.5	3.7	0.7	1.5	1.5	1.8
		1970s						
Home \ Host		1-UK	2-USA	3-Switz.	4- Belgium	5-France	6-Luxem.	Other
1-USA		11.8	-	7.8	2.0	2.7	0.0	7.1
2-Japan		0.4	6.7	0.0	1.6	2.0	4.7	6.2
3-Germany		0.8	0.0	1.2	2.0	1.2	2.0	3.0
4-UK		-	2.4	0.4	1.2	1.6	0.0	3.0
5-Canada		0.8	4.7	0.8	0.0	0.0	0.0	0.0
6-Ireland		4.7	0.0	0.0	0.0	0.0	0.0	0.0
Other		6.2	2.7	0.8	2.6	1.9	0.4	2.7
		1980s						
Home \ Host		1-USA	2-Japan	3-UK	4-France	5-Switz.	6-Germany	Other
1-USA		-	8.9	6.2	1.9	2.7	0.5	4.2
2-Canada		20.8	0.8	0.5	0.5	0.5	0.0	0.6
3-Japan		0.9	-	2.0	3.1	1.2	2.4	1.6
4-UK		3.6	2.2	-	1.2	0.0	0.1	1.7
5-Australia		1.6	0.8	0.7	0.1	0.3	0.1	0.9
6-France		0.3	0.3	0.4	-	0.3	0.7	1.5
Other		8.2	1.8	4.4	1.8	2.4	1.7	3.5
		1990s						
Home \ Host		1-USA	2-UK	3-Luxem.	4-Germany	5-N. Zealand	6-Nether.	Other
1-Canada		15.8	0.1	0.0	0.2	0.1	0.0	0.4
2-UK		4.9	-	0.7	0.5	0.1	0.5	2.3
3-Australia		1.1	0.2	0.7	0.1	4.8	0.0	0.3
4-USA		-	0.7	0.7	2.4	0.1	0.3	2.9
5-Israel		4.8	0.5	0.0	0.1	0.0	0.0	0.4
6-Japan		0.5	0.8	0.0	1.8	0.0	0.7	0.8
Other		18.3	9.6	8.3	3.2	0.0	1.5	10.7
		2000s						
Home \ Host		1-USA	2-Luxem.	3-UK	4-Canada	5-Italy	6-France	Other
1-Canada		16.0	0.0	0.2	-	0.0	0.0	2.0
2-India		0.7	4.7	0.5	0.0	0.0	0.0	5.6
3-USA		-	0.1	0.3	2.4	0.0	0.1	5.0
4-UK		2.0	2.0	-	0.2	0.0	0.2	2.1
5-Israel		1.7	0.1	0.3	0.0	0.0	0.0	2.5
6-Netherlands		0.6	0.1	0.3	0.0	0.1	0.4	2.9
Other		22.1	7.8	7.3	4.7	2.3	1.6	1.2

The table shows the proportion of listings (in percent) between pairs of the largest six home and host markets for overseas listings over calendar decades. The top market (either home or host) is ranked as one.

Table 4  
Tests of overseas listing clustering for the top eight host and home markets for listings and industries

Panel A: Clustering intensity and correlation tests for the top eight host markets

Group \ Host	France	Germany	Japan	Luxem	Netherlands	Switzerland	UK	USA
1 (Lowest)	31	55	48	34	38	4	4	18
2	16	2	4	17	13	37	12	8
3	4		4	6	2	16	20	5
4	4		1		1		20	9
5	2				1		1	12
6					2			4
7 (Highest)								1

Host Country	France	Germany	Japan	Luxem.	Netherlands	Switzerland	UK	Random
France	1							-0.043
Germany	-0.048	1						0.040
Japan	-0.014	0.211	1					0.089
Luxembourg	-0.321	-0.002	-0.258	1				0.155
Netherlands	-0.302	0.119	0.202	0.176	1			-0.205
Switzerland	0.168	-0.072	0.088	0.088	0.320	1		0.307
UK	-0.333	0.192	0.040	0.243	0.406*	0.052	1	0.309
USA	-0.500***	0.043	-0.121	0.262	0.340	-0.035	0.331	0.278

Panel B: Clustering intensity and correlation tests for the top eight home markets

Group \ Home	Australia	Canada	Germany	India	Israel	Japan	UK	USA
1 (Lowest)	55	15	41	50	57	39	46	5
2	1	33	11	4		13	11	4
3	1	4	5	3		2		11
4		2				3		5
5		2						14
6		1						16
7								1
8 (Highest)								1

Home Country	Australia	Canada	Germany	India	Israel	Japan	UK	Random
Australia	1							-0.017
Canada	-0.009	1						0.103
Germany	-0.066	-0.093	1					0.046
India	-0.063	0.050		1				0.074
Israel	-	-	-		1			-
Japan	-0.103	-0.178	0.251	-		1		0.130
UK	0.216	-0.283	-0.131	-	0.110	0.172	1	0.086
USA	-0.000	0.999	-0.026	-	-0.047	-0.139	-0.198	0.288

Table 4 (continued)

Panel C: Clustering intensity and correlation tests for the top eight industries

Industry Group	Cons. goods	Electronics	Financials	Industrials	Mining	Oil & Gas	Support	Telecom
1 (Lowest)	13	13	13	24	4	47	53	34
2	40	36	37	2	31	6	4	21
3	2	6	7	24	16	4		2
4	1	2		3	5			
5 (Highest)	1			4	1			

Industry	Cons. goods	Electronics	Financials	Industrials	Mining	Oil & Gas	Support	Random
Cons. goods	1							0.175
Electronics	0.135	1						0.274
Financials	0.016	0.117	1					0.289
Industrials	-0.042	-0.224	-0.169	1				0.065
Mining	0.112	0.041	0.023	0.035	1			0.310
Oil & Gas	-0.200	0.122	-0.186	0.282	-0.080	1		0.028
Support	-0.156	0.021	-0.068	-0.068	0.104	-0.118	1	-0.008
Telecom	0.028	-0.031	-0.019	-0.269	-0.189	-0.280	0.030	0.152

This table shows tests for the existence of clusters of foreign listings in the eight largest host and home markets for overseas listings, as well as for the eight most represented industries between 1950 and 2006. Panel A reports the clustering intensity in each of the eight host markets, Panel B – for home markets, and Panel C – for industries. The intensity is the proportion of foreign listings per year in a given host market relative to the total number of foreign listings in that year. The clusters are defined based on the average Euclidean distance using the cut-off value of 0.075. Panel B reports the cross-correlations and their statistical significance (with the Dunn-Sidak adjustment) between the clusters of cross-listing intensity and the uniformly distributed random variable. The correlation coefficients with the random variable are based on the average from 5,000 Monte Carlo Simulations. Notations \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 5  
Regression coefficients for correlation of overseas listings

Panel A: Full sample

	(1)	(2)	(3)	(4)	(5)
N(Home, t)		0.153***	0.101***	0.0057***	0.0060***
N(Host, t)		0.206***	0.155***	0.0120***	0.0119***
N(Inds, t)		0.044***	0.074***	0.0014**	0.0019***
N(Home, Host)	0.269***		0.238***	0.0019***	0.0019***
N(Home, Inds)	0.107***		0.086***	0.0004***	0.0004***
N(Host, Inds)	0.082***		0.011	-0.0007***	-0.0007***
Home_R(MCAP/GDP)				0.0146***	
Host_R(MCAP/GDP)				0.0106**	
Home_R(MCAP)					0.0125***
Host_R(MCAP)					0.0140***
Home_R(GDP)					0.0026***
Host_R(GDP)					0.0223

Panel B: Across the top eight host markets

	France	Germany	Japan	Luxembourg	Netherlands	Switzerland	UK	US
N(Home, t)	0.0015**	-0.0005	0.0062***	0.0101***	0.0007	0.0011*	0.0051***	0.0730***
N(Host, t)	0.0141***	0.0154***	0.0168***	0.0142***	0.0142***	0.0141***	0.0117***	-0.0056***
N(Inds, t)	0.0029***	0.0059***	-0.0009	-0.0022	0.0023***	0.0023***	0.0048***	0.0654***
N(Home, Host)	0.0021***	0.0023***	0.0021***	0.0026***	0.0023***	0.0022***	0.0021***	-0.0003***
N(Home, Inds)	0.0006***	0.0007***	-0.0001	-0.0002	0.0003**	0.0004***	0.0005***	0.0123***
N(Host, Inds)	0.0021***	0.0022***	0.0027***	0.0025***	0.0021***	0.0020***	0.0026***	0.0010***

Panel C: Across the top eight home markets

	Australia	Canada	Germany	India	Israel	Japan	UK	US
N(Home, t)	0.0125***	-0.0028*	0.0126***	0.0140***	0.0042***	0.0146***	0.0028***	0.0076***
N(Host, t)	0.0020***	0.0560***	0.0026***	0.0060***	0.0150***	0.0029***	0.0119***	0.0393***
N(Inds, t)	0.0011*	0.0235***	0.0028***	0.0011	0.0066**	0.0084***	0.0069***	0.0054***
N(Home, Host)	0.0012***	-0.0012***	0.0019***	0.0024***	-0.0011***	0.0020***	0.0003	0.0018***
N(Home, Inds)	0.0024***	0.0021***	0.0027***	0.0024***	0.0019***	0.0026***	0.0034***	0.0022***
N(Host, Inds)	0.0001	0.0117***	-0.0001	-0.0004**	0.0024***	-0.0001	0.0002	0.0018*

Panel D: Across the top eight industries

	Consumers	Electronics	Financials	Industrials	Mining	Oil & Gas	Support	Telecom
N(Home, t)	0.0067***	-0.0071***	0.0076***	0.0082***	0.0144***	0.0108***	0.0042***	0.0041***
N(Host, t)	0.0074***	0.0237***	0.0072***	0.0082***	0.0173***	0.0114***	0.0232***	0.0135***
N(Inds, t)	0.0063***	0.0037**	0.0099***	0.0073***	0.0067***	0.0023	0.0053***	0.0056***
N(Home, Host)	0.0007***	0.0020***	0.0006***	0.0006***	0.0060***	0.0033***	0.0023***	0.0011***
N(Home, Inds)	0.0018***	0.0015***	0.0019***	0.0021***	0.0004	-0.0005*	0.0005	0.0008*
N(Host, Inds)	-0.0018**	-0.0012***	0.0006	-0.0008	-0.0017***	-0.0022	-0.0011***	-0.0016***



Table 5 (Continued)

This table reports the regression estimates where the dependent variable is the annual number of listings from home market  $i$  and industry  $j$  into host market  $k$  across the top eight home markets, industries, and host markets. The independent variables are the aggregate number of listings across the specified dimensions.  $N(\text{Home}, t)$ ,  $N(\text{Host}, t)$ , and  $N(\text{Inds}, t)$  represents the total number of listings from the respective home market, host market or industry, respectively, in the respective year.  $N(\text{Home}, \text{Host})$ ,  $N(\text{Home}, \text{Inds})$ , and  $N(\text{Host}, \text{Inds})$  represent the aggregate number of listings across the sample period for the respective bilateral pair of specified characteristics.  $R(\ )$  denotes the relative valuation of a home country's or host country's real economy and financial market vis-à-vis other countries. To facilitate comparison of the regression coefficients across markets, the variables are transformed by subtracting the sample mean and dividing by the sample standard deviation for the variable. Notations \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 6  
Valuation changes around overseas listing across eight major host markets

Panel A

	France	Germany	Japan	Luxembourg	Netherlands	Switzerland	UK	USA
Observations	385,557	384,358	342,669	398,603	394,359	393,765	369,720	263,426
D( $\geq -10$ ; $\leq -5$ )	-0.132 (-0.91)	0.083* (1.73)	0.160 (1.56)	-0.022 (-1.17)	0.472 (1.40)	0.007 (0.05)	0.281*** (2.69)	0.049 (0.73)
D(-4)	0.159 (1.09)	0.070 (1.36)	0.219** (2.02)	-0.136 (-1.33)	0.413 (1.42)	0.153 (0.86)	0.098 (1.02)	0.008 (0.12)
D(-3)	0.052 (0.50)	0.108 (1.59)	0.540 (1.38)	-0.022 (-0.19)	0.480* (1.86)	0.086 (1.07)	0.090 (1.00)	0.114 (1.47)
D(-2)	0.149 (1.14)	-0.041 (-0.68)	0.489 (1.63)	0.248 (1.64)	0.307** (2.09)	0.491* (1.82)	0.278** (2.18)	0.289*** (2.75)
D(-1)	0.165* (1.75)	0.027 (0.37)	0.279*** (3.05)	0.049 (0.55)	0.276** (2.38)	0.565** (2.13)	0.222*** (2.73)	0.396*** (4.27)
D(0)	0.119 (0.68)	0.100* (1.74)	0.221*** (2.89)	0.193*** (2.69)	0.515** (2.18)	0.130 (1.44)	0.237*** (2.97)	0.491*** (5.62)
D(1)	0.002 (0.02)	0.174* (1.90)	0.192*** (3.16)	0.071 (0.94)	0.409** (2.45)	0.079 (1.04)	0.099 (1.63)	0.232*** (3.84)
D(2)	0.065 (0.99)	0.166* (1.86)	0.176*** (3.39)	-0.123* (-1.65)	0.147 (1.46)	0.050 (0.66)	0.021 (0.38)	0.175*** (3.01)
D(3)	-0.072 (-1.36)	0.128 (1.49)	0.153*** (3.18)	-0.271*** (-4.17)	0.339* (1.78)	0.013 (0.25)	-0.045 (-1.02)	0.223*** (3.52)
D(4)	-0.031 (-0.60)	0.131* (1.69)	0.170*** (3.02)	-0.276*** (-4.16)	0.066 (0.79)	0.078 (0.88)	-0.007 (-0.11)	0.157*** (2.66)
D( $\geq 5$ ; $\leq 10$ )	0.034 (0.56)	0.056 (0.92)	0.150*** (3.16)	-0.256*** (-4.22)	0.116 (1.44)	0.147 (1.27)	-0.023 (-0.69)	0.081* (1.85)
$\Delta$ Sales	0.254*** (41.04)	0.250*** (40.62)	0.239*** (38.78)	0.252*** (41.44)	0.253*** (41.33)	0.254*** (41.40)	0.258*** (39.95)	0.196*** (28.71)
Log (Sales)	-0.062*** (-22.31)	-0.061*** (-22.22)	-0.065*** (-22.23)	-0.062*** (-22.60)	-0.063*** (-22.78)	-0.063*** (-22.72)	-0.063*** (-21.64)	-0.056*** (-17.96)
Global Industry Q	1.257*** (54.32)	1.261*** (56.14)	1.241*** (53.44)	1.263*** (55.07)	1.259*** (54.54)	1.259*** (54.62)	1.254*** (52.62)	1.384*** (35.95)
Adj. R <sup>2</sup>	0.172	0.174	0.175	0.172	0.172	0.172	0.175	0.125

Table 6 (Continued)

Panel B

	France	Germany	Japan	Luxembourg	Netherlands	Switzerland	UK	USA
Observations	385,557	384,358	342,669	398,603	394,359	393,765	369,720	263,426
D( $\geq -10$ ; $\leq -5$ )	0.017 (0.16)	-0.167*** (-4.29)	0.024 (0.37)	-0.020 (-0.35)	0.046 (0.36)	0.045 (0.55)	0.082 (1.15)	0.054 (1.24)
D(-4)	0.141 (1.16)	-0.097*** (-2.90)	-0.063 (-0.57)	-0.107* (-1.72)	0.073 (0.55)	0.132 (0.99)	-0.050 (-0.70)	-0.036 (-0.72)
D(-3)	-0.039 (-0.60)	-0.039 (-0.96)	0.176 (0.72)	-0.019 (-0.21)	0.127 (1.08)	-0.019 (-0.33)	-0.043 (-0.70)	-0.021 (-0.38)
D(-2)	0.065 (0.60)	-0.114*** (-3.50)	0.226 (1.06)	0.257* (1.79)	0.138 (1.05)	0.290 (1.16)	0.167 (1.58)	0.054 (0.60)
D(-1)	0.042 (0.55)	-0.046 (-0.90)	0.050 (0.86)	0.046 (0.77)	0.079 (0.79)	0.249 (1.12)	0.057 (1.02)	0.191** (2.52)
D(0)	0.041 (0.25)	-0.010 (-0.27)	0.024 (0.50)	0.147*** (2.91)	0.207 (1.20)	-0.104 (-1.25)	0.087 (1.33)	0.251*** (3.64)
D(1)	0.088 (-1.57)	0.061 (0.87)	-0.003 (-0.09)	0.038 (0.66)	0.077 (0.60)	-0.146** (-2.35)	-0.014 (-0.30)	0.011 (0.26)
D(2)	0.040 (-0.78)	0.066 (1.09)	0.001 (0.03)	-0.019 (-0.41)	-0.089 (-0.87)	-0.107* (-1.77)	-0.043 (-1.00)	0.017 (-0.41)
D(3)	-0.137*** (-3.32)	0.076 (1.37)	-0.001 (-0.04)	-0.119*** (-3.34)	-0.033 (-0.39)	-0.141** (-2.32)	-0.075** (-2.53)	0.020 (0.43)
D(4)	-0.086** (-2.33)	0.110** (2.32)	0.014 (0.48)	-0.148*** (-3.80)	-0.122 (-1.29)	-0.050 (-0.86)	-0.023 (-0.54)	-0.020 (-0.56)
D( $\geq 5$ ; $\leq 10$ )	0.012 (0.38)	0.067** (2.00)	0.033 (1.24)	-0.111*** (-4.57)	0.031 (0.73)	0.068 (1.18)	-0.024 (-1.20)	-0.064*** (-2.67)
$\Delta$ Sales	0.103*** (22.19)	0.098*** (21.52)	0.098*** (21.28)	0.102*** (22.30)	0.102*** (22.25)	0.102*** (22.29)	0.105*** (21.78)	0.063*** (12.64)
Log (Sales)	-0.029*** (-25.93)	-0.029*** (-25.47)	-0.027*** (-23.18)	-0.029*** (-26.01)	-0.029*** (-26.20)	-0.029*** (-26.01)	-0.028*** (-24.18)	-0.026*** (-20.52)
Median Firm Q	0.951*** (255.50)	0.951*** (253.01)	0.946*** (241.84)	0.951*** (257.13)	0.952*** (256.67)	0.951*** (255.62)	0.952*** (247.35)	0.979*** (206.29)
Global Industry Q / year	0.402*** (39.49)	0.399*** (39.30)	0.419*** (40.32)	0.408*** (40.45)	0.405*** (39.98)	0.408*** (40.26)	0.403*** (38.41)	0.454*** (27.88)
Home Q / year	0.814*** (53.31)	0.815*** (53.75)	0.847*** (44.76)	0.818*** (54.30)	0.813*** (53.67)	0.815*** (53.83)	0.813*** (52.88)	0.863*** (51.40)
Adj. R <sup>2</sup>	0.558	0.560	0.554	0.558	0.558	0.556	0.561	0.582

This table reports the regression test results of valuation changes around foreign listings in the top eight host markets: France, Germany, Japan, Luxembourg, Netherlands, Switzerland, the United Kingdom, and the United States. The dependent variable is firm's Tobin's Q. It is defined as the ratio, where the numerator is Total Asset Value minus Book Value of Equity plus Market Value of Equity, while the denominator is the Total Asset Value. D(-n) and D(n) are dummies that take the value of one if the current year observation for a firm is n years before or n years after the listing year, respectively; D(0) is the listing year dummy. D( $\geq -10$ ;  $< 0$ ) equals one in the ten years prior to the listing, D( $\geq 5$ ;  $\leq 10$ ) equals one between five and ten years following the listing.  $\Delta$  Sales is an inflation-adjusted net sales growth, where inflation is computed using the US consumer price index. Median Firm Q is the time-series median Tobin's Q for each firm, Global Industry Q is the median Tobin's Q of a given industry in year given year across all countries, Home Q is the median Tobin's Q in the home country in the given year. The specification in Panel B includes the Median Firm Q control, as well as Home Q and Global Industry Q per year, whereas the specification in Panel A includes only a static Global Industry Q control. The table also shows the adjusted R-squares and, in parentheses, the t-statistics. The intercept, country, and year fixed effects are included in each regression but the coefficients are not shown. Standard errors are clustered by the firm. Notations \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 7  
Valuation changes around overseas listing in three sub-periods

	All firms and listings			Only US listings		
	1985-1991	1992-1999	2000-2006	1985-1991	1992-1999	2000-2006
Observations	66,544	148,659	183,919	32,771	90,338	140,317
D( $\geq -10$ ; $\leq -5$ )	0.033** (2.33)	-0.014 (-0.71)	0.003 (0.01)	0.034 (1.05)	-0.006 (-0.23)	0.065 (0.42)
D(-4)	0.025 (1.05)	-0.053 (-1.86)	0.124 (1.20)	0.018 (0.31)	-0.072* (-1.90)	-0.007 (-0.03)
D(-3)	0.060** (2.22)	-0.025 (-0.75)	-0.054 (-0.72)	-0.024 (-0.53)	-0.031 (-0.69)	-0.267 (-1.40)
D(-2)	0.090*** (2.62)	-0.025 (-0.74)	0.240 (1.54)	-0.013 (-0.21)	-0.078 (-1.06)	-0.016 (-0.06)
D(-1)	0.063* (1.91)	0.067 (1.56)	-0.005 (-0.09)	0.082 (1.33)	0.187* (1.79)	-0.035 (-0.31)
D(0)	0.046** (2.37)	0.041 (1.48)	0.146** (2.50)	0.039 (1.06)	0.052 (0.97)	0.279** (2.50)
D(1)	0.024 (1.58)	-0.030 (-0.26)	0.015 (0.39)	-0.048 (-1.04)	-0.073* (-1.70)	0.025 (0.39)
D(2)	0.044** (2.32)	-0.033 (-1.37)	-0.046 (-1.53)	0.150* (1.85)	-0.048 (-0.89)	-0.070 (-1.32)
D(3)	0.009 (0.50)	-0.020 (-0.70)	0.004 (0.11)	0.025 (0.36)	-0.050 (-0.74)	0.064 (1.04)
D(4)	0.037* (1.90)	-0.002 (-0.10)	-0.013 (-0.49)	0.029 (0.89)	0.072 (1.07)	-0.003 (-0.06)
D( $\geq 5$ ; $\leq 10$ )	0.029** (2.34)	0.015 (1.25)	-0.004 (-0.37)	-0.009 (-0.30)	0.015 (0.44)	-0.005 (-0.25)
$\Delta$ Sales	0.061*** (7.73)	0.082*** (11.83)	0.040*** (7.30)	0.041*** (4.72)	0.053*** (6.63)	0.029*** (5.05)
Log (Sales)	-0.013*** (-9.72)	-0.013*** (-8.85)	-0.018*** (-15.19)	-0.007*** (-6.08)	-0.006*** (-4.40)	-0.020*** (-14.21)
Median Firm Q	0.971*** (161.67)	0.951*** (238.81)	0.966*** (244.23)	0.993*** (125.63)	0.978*** (183.11)	0.982*** (211.51)
Global Industry Q / year	0.261*** (13.04)	0.273*** (26.10)	0.274*** (23.82)	0.116*** (6.47)	0.226*** (12.96)	0.314*** (19.35)
Home Q / year	1.021*** (23.81)	0.885*** (29.37)	0.849*** (33.10)	0.977*** (18.10)	0.911*** (28.92)	0.822*** (28.21)
Adj. R <sup>2</sup>	0.714	0.690	0.648	0.734	0.743	0.646

This table reports the regression test results of valuation changes around foreign listings in three sub-periods, 1985-1991, 1992-1999, and 2000-2006. The dependent variable is firm's Tobin's Q. All other variables are defined as in Table 6. The table also shows the adjusted R-squares and, in parentheses, the t-statistics. The intercept, country, and year fixed effects are included in each regression but the coefficients are not shown. Standard errors are clustered by the firm. Notations \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 8  
Valuation changes around overseas listing with foreign listing intensity by host market

	France	Germany	Japan	Luxembourg	Netherlands	Switzerland	UK	USA
Observations	385,557	384,358	342,669	398,603	394,359	393,765	369,720	263,426
D( $\geq -10$ ; $< 0$ )	0.036 (0.62)	-0.117*** (-4.14)	0.095 (1.03)	0.036 (085)	0.075 (0.78)	0.129** (1.27)	0.060 (1.43)	0.058* (1.69)
D(0)	0.200 (0.74)	0.043 (0.62)	0.076 (1.02)	0.131* (1.66)	0.365 (1.31)	0.012 (0.10)	0.151* (1.79)	0.128 (1.11)
D(1)	-0.054 (-0.67)	0.153 (1.07)	0.001 (0.02)	0.052 (0.67)	0.156 (0.87)	-0.123 (-1.54)	-0.034 (-0.55)	0.035 (0.46)
D(2)	-0.009 (-0.11)	0.058 (0.46)	0.010 (0.24)	-0.011 (-0.17)	-0.155 (-1.11)	-0.118 (-1.44)	-0.037 (-0.69)	0.041 (0.67)
D(3)	-0.141** (-2.40)	0.139 (1.54)	-0.013 (-0.26)	-0.088** (-2.27)	-0.056 (-0.50)	-0.164** (-2.34)	-0.083** (-2.03)	0.009 (0.12)
D(4)	-0.116** (-2.11)	0.111* (1.68)	-0.035 (-0.76)	-0.145*** (-2.84)	-0.236 (-1.53)	-0.173** (-1.98)	0.001 (0.01)	0.063 (1.28)
D( $\geq 5$ ; $\leq 10$ )	0.007 (0.17)	0.080** (2.10)	0.036 (0.79)	0.137*** (4.42)	0.006 (0.10)	0.047 (0.66)	-0.021 (-0.75)	0.007 (0.19)
D(0) $\times$ FLI(Host, 0)	-1.313 (-1.42)	-0.338 (-1.14)	-0.278 (-1.19)	0.094 (0.24)	-1.190 (-1.43)	-1.044 (-1.30)	-0.528 (-1.62)	0.472 (1.47)
D(1) $\times$ FLI(Host, 0)	-0.343 (-0.72)	-0.584 (-1.10)	-0.024 (-0.10)	-0.103 (-0.27)	-0.584 (-1.30)	-0.201 (-0.93)	0.168 (0.60)	-0.097 (-0.49)
D(2) $\times$ FLI(Host, 0)	-0.368 (-0.98)	0.049 (0.11)	-0.052 (-0.30)	-0.088 (-0.19)	0.519 (1.17)	0.081 (0.25)	-0.055 (-0.16)	-0.240 (-1.35)
D(3) $\times$ FLI(Host, 0)	0.039 (0.15)	-0.392 (-1.02)	0.064 (0.32)	-0.278 (-0.93)	0.222 (0.70)	0.224 (0.38)	0.065 (0.32)	0.046 (0.24)
D(4) $\times$ FLI(Host, 0)	0.271 (1.14)	-0.005 (-0.02)	0.271 (1.26)	-0.035 (-0.09)	0.881* (1.78)	0.838** (2.76)	-0.191 (-0.55)	-0.377** (-2.40)
D( $\geq 5$ ; $\leq 10$ ) $\times$ FLI(Host, 0)	0.045 (0.23)	-0.078 (-0.39)	-0.017 (-0.14)	0.175 (0.89)	0.202 (1.15)	0.177 (1.03)	-0.020 (-0.13)	-0.245** (-2.34)
$\Delta$ Sales	0.103*** (22.19)	0.099*** (21.52)	0.098*** (21.28)	0.102*** (22.30)	0.102*** (22.24)	0.102*** (22.29)	0.105*** (21.78)	0.063*** (12.63)
Log (Sales)	-0.029*** (-25.93)	-0.029*** (-25.47)	-0.027*** (-23.18)	-0.029*** (-26.01)	-0.029*** (-26.19)	-0.029*** (-26.01)	-0.028*** (-24.18)	-0.026*** (-20.45)
Median Firm Q	0.951*** (255.50)	0.951*** (253.01)	0.946*** (241.83)	0.951*** (257.13)	0.952*** (256.74)	0.951*** (255.62)	0.952*** (247.35)	0.979*** (206.22)
Global Industry Q / year	0.402*** (39.49)	0.399*** (39.30)	0.419*** (40.32)	0.408*** (40.45)	0.405*** (39.98)	0.408*** (40.26)	0.403*** (38.42)	0.455*** (27.92)
Home Q / year	0.814*** (53.31)	0.815*** (53.75)	0.847*** (44.77)	0.818*** (54.31)	0.813*** (53.67)	0.815*** (53.83)	0.813*** (52.87)	0.864*** (51.41)

This table reports the regression test results of valuation changes around foreign listings in the top eight host markets. The dependent variable is firm's Tobin's Q. FLI(Host, 0) is the foreign listing intensity of the host market in a given listing year. It is defined as the ratio of the number of foreign listings in a given host market in a given year over the total number of foreign listings in that year. All other variables are defined as in Table 6. The table also shows the t-statistics in parentheses. The intercept, country, and year fixed effects are included in each regression but the coefficients are not shown. Standard errors are clustered by the firm. Notations \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 9  
Valuation changes around overseas listing with various foreign listing intensity across home market, host market, and industry

Foreign Listing Intensity	All firms				No US firms			
	None	Host	Home	Industry	None	Host	Home	Industry
Observations	399,122	399,122	399,122	399,122	263,426	263,426	263,426	263,426
D( $\geq -10$ ; $< 0$ )	0.028 (1.50)	0.028 (1.50)	0.028 (1.51)	0.028 (1.51)	0.034* (1.86)	0.034* (1.86)	0.034* (1.86)	0.034* (1.86)
D(0)	0.119*** (3.88)	0.063 (1.34)	0.125*** (3.12)	0.121*** (2.64)	0.145*** (4.22)	0.074 (1.43)	0.145*** (3.19)	0.117** (2.37)
D(1)	0.001 (0.06)	0.009 (0.30)	-0.012 (-0.45)	0.016 (0.46)	0.009 (0.41)	0.039 (1.06)	0.011 (0.34)	0.051 (1.31)
D(2)	-0.021 (-1.11)	-0.004 (-1.14)	-0.033 (-1.34)	0.007 (0.23)	-0.022 (-1.03)	-0.015 (-0.52)	-0.018 (-0.67)	-0.004 (-0.12)
D(3)	-0.026 (-1.29)	-0.050 (-1.78)*	-0.033 (-1.25)	-0.020 (-0.61)	-0.020 (-0.91)	-0.044 (-1.45)	-0.028 (-0.90)	-0.027 (-0.78)
D(4)	-0.023 (-1.37)	-0.010 (-0.45)	-0.025 (-1.19)	-0.014 (-0.51)	0.021 (-1.17)	0.004 (0.20)	-0.006 (-0.27)	-0.003 (-0.10)
D( $\geq 5$ ; $\leq 10$ )	-0.007 (-0.63)	0.016 (1.04)	-0.034*** (-2.57)	-0.030* (-1.81)	-0.034*** (-2.81)	-0.004 (-0.27)	-0.037*** (-2.61)	-0.058*** (-3.17)
D(0) $\times$ FLI(X, 0)		0.310* (1.67)	-0.059 (-0.31)	-0.017 (-0.05)		0.387* (1.82)	0.001 (0.00)	0.325 (0.78)
D(1) $\times$ FLI(X, 0)		-0.048 (-0.42)	0.153 (1.01)	-0.176 (-0.62)		-0.156 (-1.30)	-0.022 (-0.09)	-0.509* (-1.81)
D(2) $\times$ FLI(X, 0)		-0.111 (-0.97)	0.139 (1.02)	-0.361 (-1.51)		-0.043 (-0.33)	-0.058 (-0.22)	-0.233 (-0.89)
D(3) $\times$ FLI(X, 0)		0.156 (1.15)	0.086 (0.58)	-0.076 (-0.31)		0.141 (1.10)	0.132 (0.40)	0.096 (0.34)
D(4) $\times$ FLI(X, 0)		-0.079 (-0.79)	0.029 (0.28)	-0.116 (-0.59)		-0.169 (-1.58)	-0.256 (-1.31)	-0.250 (-1.14)
D( $\geq 5$ ; $\leq 10$ ) $\times$ FLI(X, 0)		-0.128** (-2.22)	0.265*** (4.31)	0.251** (2.15)		-0.162*** (-2.59)	0.030 (0.25)	0.270** (1.98)
$\Delta$ Sales	0.101*** (22.31)	0.101*** (22.30)	0.101*** (22.32)	0.101*** (22.31)	0.062*** (12.64)	0.062*** (12.63)	0.063*** (12.64)	0.063*** (12.64)
Log (Sales)	-0.029*** (-25.14)	-0.029*** (-25.13)	-0.029*** (-25.28)	-0.029*** (-25.17)	-0.026*** (-19.65)	-0.026*** (-19.61)	-0.026*** (-19.64)	-0.026*** (-19.68)
Median Firm Q	0.951*** (257.39)	0.951*** (257.37)	0.951*** (257.38)	0.951*** (257.37)	0.979*** (206.29)	0.979*** (206.19)	0.979*** (206.30)	0.979*** (206.30)
Global Industry Q / year	0.408*** (40.32)	0.408*** (40.31)	0.408*** (40.33)	0.408*** (40.31)	0.456*** (27.90)	0.456*** (27.90)	0.456*** (27.89)	0.456*** (27.88)
Home Q / year	0.818*** (54.26)	0.818*** (54.27)	0.818*** (54.24)	0.818*** (54.26)	0.862*** (51.35)	0.862*** (51.37)	0.862*** (51.33)	0.862*** (51.36)

This table reports the regression test results of valuation changes around foreign listings for three data samples while controlling for the host market performance. The dependent variable is firm's Tobin's Q. Here FLI(X, 0) is the foreign listing intensity of the home or host markets, as well as industry in a given listing year. It is defined as the ratio of the number of foreign listings either from a given home market, or to a given host market, or in a given industry in a given year over the total number of foreign listings in that year. All other variables are defined as in Table 6. The table also shows the t-statistics in parentheses. The intercept, country, and year fixed effects are included in each regression but the coefficients are not shown. Standard errors are clustered by the firm. Notations \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 10  
Summary statistics of firm and market characteristics of overseas listings

Panel A: Home markets

Country	Tobin's Q	$\Delta$ Sales	MkVal	LAW	LIQ	MkCorr	EconProx	IndsProx	GeogProx	CultProx
Argentina	0.96	0.036	0.58	0.34	0.77	0.40	1.5	0.37	8,882	0
Australia	1.41	0.092	1.02	0.76	0.55	0.65	3.6	0.30	13,021	6
Austria	1.09	0.058	0.16	0.21	0.44	0.54	4.3	0.36	1,842	2
Belgium	1.15	0.068	0.67	0.54	0.35	0.79	4.3	0.32	1,229	2
Brazil	0.96	0.060	0.38	0.27	0.58	0.56	2.8	0.30	8,194	0
Canada	1.39	0.101	1.06	0.64	0.52	0.61	0.6	0.26	8,697	7
Chile	1.10	0.073	0.90	0.63	0.84	0.68	10.7	0.33	9,882	0
China	1.49	0.137	0.43	0.76	0.15	0.40	2.5	0.10	7,930	0
Colombia	0.97	0.070	0.14	0.57	0.98	0.32	17.2	-0.24	5,727	0
Czech Republic	0.95	0.076	0.20	0.33	1.44	0.58	4.0	0.42	776	0
Denmark	1.06	0.055	0.59	0.46	0.41	0.67	6.1	0.32	1,904	2
Egypt	1.14	0.045	0.30	0.20	NA	0.18	1.9	0.18	3,520	1
Finland	1.23	0.065	1.77	0.46	0.43	0.70	7.9	0.07	2,331	1
France	1.22	0.068	0.90	0.38	0.30	0.80	4.6	0.49	2,393	3
Germany	1.20	0.048	0.55	0.28	0.38	0.77	5.3	0.49	2,675	2
Greece	1.25	0.091	0.91	0.23	0.66	0.64	2.7	0.23	5,493	0
Hong Kong	1.05	0.054	3.61	0.96	0.60	0.62	2.7	0.09	6,373	4
Hungary	1.05	0.038	0.24	0.20	1.43	0.50	3.0	0.25	2,139	1
Iceland	1.53	0.256	0.64	0.26	NA	0.10	5.5	0.34	3,573	0
India	1.19	0.090	0.34	0.58	0.72	0.42	5.5	0.27	6,874	2
Indonesia	1.06	0.067	0.25	0.65	1.01	0.44	2.4	0.34	11,231	0
Ireland	1.29	0.099	0.68	0.79	1.31	0.70	17.3	0.08	8,203	3
Israel	1.21	0.060	0.53	0.73	0.61	0.48	5.3	0.33	4,147	0
Italy	1.11	0.064	0.53	0.42	0.35	0.84	5.0	0.38	1,987	1
Japan	1.13	0.019	0.69	0.50	0.41	0.32	1.3	0.41	9,296	0
Jordan	1.19	0.080	0.78	0.16	NA	0.03	0	0.09	3,644	0
Korea (South)	0.93	0.084	0.54	0.47	1.98	0.62	7.4	0.42	7,479	0
Luxembourg	1.07	0.082	1.45	0.28	0.64	0.56	7.0	0.31	2,164	2
Malaysia	1.06	0.046	1.48	0.95	0.89	0.52	13.4	0.12	5,685	0
Mexico	1.08	0.076	0.22	0.17	0.62	0.69	83.4	0.06	3,039	0
Morocco	1.30	0.080	0.30	0.56	NA	0.42	20.6	0.46	1,982	1
Netherlands	1.25	0.061	1.32	0.20	0.42	0.76	2.5	0.48	2,424	0
New Zealand	1.30	0.093	0.40	0.95	0.47	0.54	14.8	-0.14	8,211	2
Norway	1.21	0.090	0.40	0.42	0.45	0.71	9.1	0.06	2,570	2
Peru	0.99	0.063	0.23	0.45	0.96	0.26	19.9	0.18	5,671	0
Philippines	1.02	0.025	0.48	0.22	1.13	0.18	6.0	0.49	8,904	0
Poland	1.16	0.108	0.17	0.29	0.25	0.49	3.9	0.35	1,305	0
Portugal	1.05	0.062	0.46	0.44	0.63	0.70	8.1	0.30	2,759	0
Russia	1.06	0.240	0.33	0.44	1.32	0.40	3.4	0.52	5,176	0
Singapore	1.12	0.074	1.65	1.00	0.78	0.60	2.3	0.33	8,903	2
Slovakia	0.86	0.009	0.05	0.29	NA	0.22	1.5	-0.11	1,131	0
South Africa	2.46	0.032	1.56	0.81	0.82	0.47	2.9	0.15	10,286	3
Spain	1.15	0.092	0.80	0.37	0.42	0.74	8.5	0.26	3,902	1
Sri Lanka	1.02	0.061	0.10	0.39	NA	0.10	0.2	0.32	8,399	0
Sweden	1.39	0.077	1.12	0.33	0.36	0.73	5.4	0.45	3,071	3
Switzerland	1.12	0.033	2.49	0.27	0.39	0.74	5.3	0.51	2,735	3
Taiwan	1.16	0.078	1.02	0.56	0.75	0.52	1.8	0.53	8,823	0
Thailand	1.05	0.070	0.45	0.81	0.89	0.44	14.0	0.26	6,849	0
Turkey	1.26	0.098	0.35	0.43	0.65	0.52	5.4	0.54	4,696	0
UK	1.47	0.084	0.53	0.95	0.55	0.70	1.7	0.32	4,942	8
USA	1.34	0.066	1.57	0.65	0.38	0.66	2.0	0.47	6,841	3
Venezuela	0.80	-0.032	1.42	0.09	1.34	0.23	1.1	-0.04	5,030	0
Zimbabwe	0.95	NA	0.06	0.39	NA	0.00	6.8	0.04	4,590	2

Table 10 (continued)

## Panel B: Host markets

Country	Tobin's Q	$\Delta$ Sales	MkVal	LAW	LIQ	MkCorr	EconProx	IndsProx	GeogProx	CultProx
Argentina	1.07	0.208	0.80	0.37	0.42	0.54	0.0	0.54	10,058	1
Australia	1.82	0.208	1.26	0.78	0.65	0.66	4.2	0.31	10,244	6
Austria	1.37	0.078	1.12	0.35	0.57	0.50	3.6	0.44	3,139	3
Belgium	1.57	0.089	1.02	0.48	0.47	0.68	5.0	0.24	2,795	2
Brazil	1.36	0.079	0.93	0.45	0.52	0.58	27.8	0.40	5,629	0
Canada	1.81	0.213	0.99	0.53	0.61	0.55	4.6	0.29	7,173	4
Denmark	1.52	0.170	0.74	0.48	0.50	0.64	4.1	0.36	1,026	2
Finland	2.01	0.119	1.12	0.33	0.36	0.76	5.2	0.23	399	1
France	1.55	0.094	1.13	0.53	0.48	0.71	9.1	0.38	3,809	4
Germany	1.47	0.085	0.99	0.50	0.47	0.74	14.0	0.39	3,238	2
Hong Kong	1.14	0.096	0.80	0.80	0.53	0.65	1.7	0.03	6,397	2
Ireland	1.75	0.230	0.53	0.95	0.55	0.74	5.4	0.30	463	1
Israel	2.56	0.178	1.42	0.80	0.46	0.54	0.0	0.36	6,506	0
Italy	1.37	0.116	1.07	0.34	0.39	0.82	6.6	0.32	1,407	0
Japan	1.53	0.068	1.30	0.55	0.59	0.32	6.4	0.36	8,090	0
Luxembourg	1.39	0.144	0.63	0.49	0.75	0.42	0.2	0.19	6,260	2
Malaysia	2.13	0.187	0.53	0.95	0.55	0.49	0.2	0.09	10,554	0
Mexico	1.08	0.405	1.42	0.65	0.38	0.69	9.1	0.06	3,039	0
Netherlands	1.64	0.081	0.98	0.45	0.45	0.77	5.0	0.40	2,093	0
New Zealand	1.43	0.177	0.82	0.73	0.73	0.56	3.9	0.00	13,589	4
Norway	1.83	0.399	1.16	0.61	0.49	0.66	2.4	0.15	3,308	2
Peru	2.41	0.106	1.42	0.65	0.38	0.26	0.1	0.18	5,671	0
Poland	1.57	0.238	0.48	0.24	0.93	0.61	4.3	0.18	678	0
Portugal	1.09	0.162	0.80	0.37	0.42	0.74	8.6	0.51	504	0
Singapore	1.65	0.135	1.00	0.57	0.58	0.56	4.5	0.21	6,759	4
South Africa	1.97	0.106	0.99	0.60	0.56	0.44	0.4	0.26	8,767	4
Spain	1.10	0.061	0.96	0.30	0.45	0.81	3.7	0.19	1,395	0
Sweden	1.95	0.158	1.14	0.44	0.43	0.79	4.4	0.43	1,609	3
Switzerland	1.68	0.074	0.79	0.49	0.47	0.66	1.8	0.39	3,897	4
Taiwan	1.01	0.168	1.05	0.91	0.83	0.58	0.0	0.43	2,893	0
UAE	1.74	0.336	0.34	0.77	0.72	0.00	4.7	NA	3,899	0
UK	1.53	0.107	0.84	0.46	0.70	0.58	6.3	0.32	4,623	9
USA	1.85	0.182	0.78	0.49	0.68	0.57	16.5	0.37	8,407	9

This table reports firm and various individual and cross-market characteristics. Tobin's Q,  $\Delta$  Sales, MkVal, LAW, and LIQ are the average Tobin's Q, sales growth, ratio of market capitalization to GDP, anti-self-dealing index, and stock market liquidity, respectively. For each firm in a given country, Tobin's Q is defined as the ratio, where the numerator is Total Asset Value minus Book Value of Equity plus Market Value of Equity, while the denominator is the Total Asset Value.  $\Delta$  Sales is an inflation-adjusted net sales growth, where inflation is computed using the US consumer price index. The sales growth is winsorized at the 1% level on both tails. Both market capitalization to GDP ratio and the anti-self-dealing index are from Djankov et al. (2007). Liquidity measure is from Domowitz, et al. (2001) – the Elkins/McSherry Co, Inc. estimates of average one-way trading cost for pension funds, investment managers and brokerage houses. For four emerging markets, China, Israel, Poland, Russia, the liquidity is an interpolated measure based on LOT trading cost estimate among similar emerging markets from Lesmond (2005). MkCorr, EconProx, Indsprox, Geogprox, and Cultprox are extended to the current sample from Sarkissian and Schill (2004) and are defined as follows. MkCorr is the average correlation of cross-market equity returns denominated in US dollars between home and host markets. Econprox is defined as the percentage of the home country exports going to the host country. These data from the *1996 International Trade Statistics Yearbook* for country pairs in Sarkissian and Schill (2004) and from the *2004 International Trade Statistics Yearbook* for all new country pairs. Indsprox is estimated as the correlation of industry rankings between each pair of countries, for all firms listed overseas. GeogProx, is the great circle distance in kilometers between the two capital cities. CultProx is a dummy variable which is equal to unity if the countries share a common major spoken language or if they were affiliated with the same major colonial empire. For each home market these measures are the averages between home market and all host markets with listings from a given home market. For each host market these are the averages from all home markets that have a presence in a given host market.



Table 11  
Valuation changes around overseas listing for different host market characteristics

	All firms			No US firms		
	All	Outside the US	Outside Top 8	All	Outside the US	Outside Top 8
Observations	399,122	399,122	399,122	263,426	263,426	263,426
D( $\geq -10$ ; $< 0$ )	-0.050** (-2.47)	-0.033 (-1.59)	0.063 (0.71)	-0.008 (-0.39)	-0.008 (-0.44)	0.045 (1.03)
D(0)	0.044 (1.40)	0.007 (0.24)	-0.018 (-0.37)	0.104*** (2.95)	0.055* (1.85)	0.047 (0.95)
D(1)	-0.073*** (-3.20)	0.055** (-2.45)	-0.047 (-1.20)	0.032** (-1.24)	0.017** (-0.68)	0.022 (0.64)
D(2)	-0.096*** (-4.41)	-0.076*** (-3.58)	-0.039 (-1.11)	-0.063*** (-2.61)	-0.050** (-2.19)	0.064* (1.84)
D(3)	-0.100*** (-4.42)	-0.101*** (-5.14)	-0.035 (-0.93)	-0.060** (-2.44)	-0.070*** (-3.39)	0.103*** (2.84)
D(4)	-0.097*** (-5.01)	-0.081*** (-4.10)	-0.014 (-0.43)	-0.062*** (-2.91)	-0.047** (-2.16)	0.099*** (3.07)
D( $\geq 5$ ; $\leq 10$ )	-0.034 (-0.84)	-0.084 (-1.57)	-0.383 (-1.48)	-0.002 (-0.03)	-0.054 (-1.09)	-0.561*** (-3.50)
D(LIST) $\times$ MkVal	-0.034*** (-3.23)	-0.040*** (-3.83)	-0.051*** (-5.33)	-0.001 (-0.05)	-0.005 (-0.38)	-0.014 (-1.17)
D(LIST) $\times$ LAW	-0.004 (-0.38)	0.002 (0.24)	-0.001 (-0.05)	0.018* (1.82)	0.022** (2.21)	0.017* (1.67)
D(LIST) $\times$ LIQ	-0.059*** (-4.53)	-0.063*** (-4.99)	-0.069*** (-6.11)	-0.019 (-1.17)	-0.016 (-1.07)	-0.025* (-1.90)
D(LIST) $\times$ MkCorr	0.149*** (5.87)	0.140*** (5.42)	0.134*** (6.17)	0.072** (2.43)	0.065** (2.17)	0.067*** (2.68)
D(LIST) $\times$ EconProx	0.103** (2.49)	0.018 (0.53)	0.045 (1.34)	0.055 (1.28)	-0.010 (-0.28)	0.012 (0.34)
D(LIST) $\times$ IndsProx	0.013 (0.45)	0.031 (1.04)	0.029 (1.18)	-0.025 (-0.86)	-0.010 (-0.35)	-0.006 (-0.24)
D(LIST) $\times$ GeogProx	0.006*** (3.90)	0.005*** (3.09)	0.004*** (2.90)	0.001 (0.33)	-0.001 (-0.51)	-0.001 (-0.68)
D(LIST) $\times$ CultProx	-0.011 (-0.89)	-0.010 (-0.90)	-0.011 (-1.14)	0.017 (1.31)	0.017 (1.38)	0.013 (1.14)
D( $\geq 5$ ; $\leq 10$ ) $\times$ MkVal	-0.065*** (-2.70)	-0.056** (-2.27)	-0.022 (-0.37)	-0.068** (-2.30)	-0.054* (-1.81)	-0.120** (-2.02)
D( $\geq 5$ ; $\leq 10$ ) $\times$ LAW	-0.006 (-0.18)	0.014 (0.30)	0.017 (0.70)	-0.009 (-0.19)	-0.009 (-0.20)	0.029 (1.06)
D( $\geq 5$ ; $\leq 10$ ) $\times$ LIQ	0.005 (0.20)	0.014 (0.55)	0.026 (0.33)	-0.024 (-0.85)	-0.016 (-0.39)	-0.072 (-1.00)
D( $\geq 5$ ; $\leq 10$ ) $\times$ MkCorr	0.033 (0.62)	0.115* (1.88)	0.922*** (2.70)	0.018 (0.30)	0.122* (1.94)	0.843*** (2.89)
D( $\geq 5$ ; $\leq 10$ ) $\times$ EconProx	-0.143 (-1.51)	-0.239 (-1.28)	-0.290 (-0.75)	-0.119 (-1.19)	-0.423** (-2.02)	0.384 (0.92)
D( $\geq 5$ ; $\leq 10$ ) $\times$ IndsProx	0.047 (0.96)	0.009 (0.17)	0.056 (0.51)	0.060 (1.16)	0.037 (0.65)	0.081 (0.84)
D( $\geq 5$ ; $\leq 10$ ) $\times$ GeogProx	-0.004 (-1.22)	0.001 (0.17)	0.011 (0.57)	-0.002 (-0.65)	0.001 (0.17)	0.042*** (3.48)
D( $\geq 5$ ; $\leq 10$ ) $\times$ CultProx	-0.011 (-0.36)	0.004 (0.11)	NA	-0.035 (-0.97)	-0.021 (-0.53)	NA

Table 11 (continued)

This table reports the regression test results of valuation changes around foreign listings while controlling for the market characteristics. The dependent variable is firm's Tobin's Q. All other variables are defined as in Tables 6 and 10. D(LIST) is a dummy variable equal to 1 if the firm maintains an overseas listing, and it is zero otherwise. The table also shows the t-statistics in parentheses. The intercept, country, year fixed effects, as well as  $\Delta$ Sales, Log(Sales), Median Firm Q, Global Industry Q, Home Q are included in each regression but the coefficients are not shown. Standard errors are clustered by the firm. Notations \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 12

**Valuation changes around overseas listing in countries with different levels of “Rule of Law”**

	Listings in better “Rule of Law” countries			Listings in worse “Rule of Law” countries		
	All	No US firms	No US listings	All	No US firms	No US listings
Observations	386,386	253,564	253,564	383,554	249,839	249,839
D( $\geq -10$ ; $\leq -5$ )	0.003 (0.09)	0.040 (1.04)	0.062 (1.50)	-0.016 (-0.47)	0.011 (0.32)	-0.040 (-1.22)
D(-4)	0.019 (0.48)	0.043 (1.08)	0.080* (1.83)	-0.003 (-0.07)	-0.037 (-0.98)	-0.034 (-0.87)
D(-3)	0.009 (0.24)	0.025 (0.68)	0.035 (1.04)	0.025 (0.58)	0.015 (-0.38)	0.001 (-0.01)
D(-2)	0.098 (1.57)	0.105* (1.65)	0.086* (1.70)	0.077 (1.51)	0.056 (1.01)	0.090* (1.68)
D(-1)	0.090** (2.34)	0.092** (2.52)	0.022 (0.63)	0.071* (1.72)	0.043 (0.92)	-0.011 (-0.33)
D(0)	0.111** (2.16)	0.124** (2.32)	0.085* (1.77)	0.128*** (3.58)	0.167*** (3.85)	0.079** (2.15)
D(1)	0.014 (0.48)	0.019 (0.62)	0.048 (1.26)	-0.008 (-0.28)	0.002 (0.05)	-0.029 (-0.98)
D(2)	-0.005 (-0.19)	-0.004 (-0.15)	0.015 (0.43)	-0.032 (-1.23)	-0.036 (-1.20)	-0.060** (-2.53)
D(3)	-0.013 (-0.43)	-0.011 (-0.37)	-0.020 (-0.79)	-0.033 (-1.24)	-0.025 (-0.81)	-0.064*** (-2.70)
D(4)	0.010 (0.37)	0.012 (0.43)	0.020 (0.66)	-0.046** (-2.12)	-0.050** (-2.11)	-0.058** (-2.64)
D( $\geq 5$ ; $\leq 10$ )	-0.029 (-0.87)	-0.027* (-1.87)	-0.020 (-1.33)	0.001 (0.08)	0.038** (-1.96)	-0.013 (-0.65)
$\Delta$ Sales	0.102*** (22.36)	0.063*** (12.68)	0.063*** (12.60)	0.102*** (22.12)	0.062*** (12.29)	0.062*** (12.35)
Log (Sales)	-0.029*** (-25.43)	-0.026*** (-20.29)	-0.026*** (-20.68)	-0.030*** (-25.85)	-0.027*** (-20.54)	-0.027*** (-20.71)
Median Firm Q	0.951*** (254.71)	0.980*** (205.43)	0.979*** (207.70)	0.951*** (256.29)	0.979*** (205.59)	0.979*** (205.50)
Global Industry Q / year	0.410*** (39.99)	0.462*** (27.65)	0.458*** (28.01)	0.409*** (39.89)	0.459*** (27.28)	0.459*** (27.35)
Home Q / year	0.826*** (54.15)	0.872*** (51.45)	0.866*** (51.39)	0.829*** (55.29)	0.875*** (52.56)	0.876*** (52.56)

This table reports the regression test results of valuation changes around foreign listings for the sub-samples of listings that are placed in better and worse “Rule of Law” countries. A host country has a better “Rule of Law” if its anti-self-dealing index from Djankov et al. (2007) is higher than that of the home country. The estimation results are shown for the two sub-samples themselves as well as for the data splits that contain no US firms and include or exclude listings in the US. The dependent variable is firm’s Tobin’s Q. All other variables are defined as in Table 6. The table also shows the t-statistics in parentheses. The intercept, country, and year fixed effects are included in each regression but the coefficients are not shown. Standard errors are clustered by the firm. Notations \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

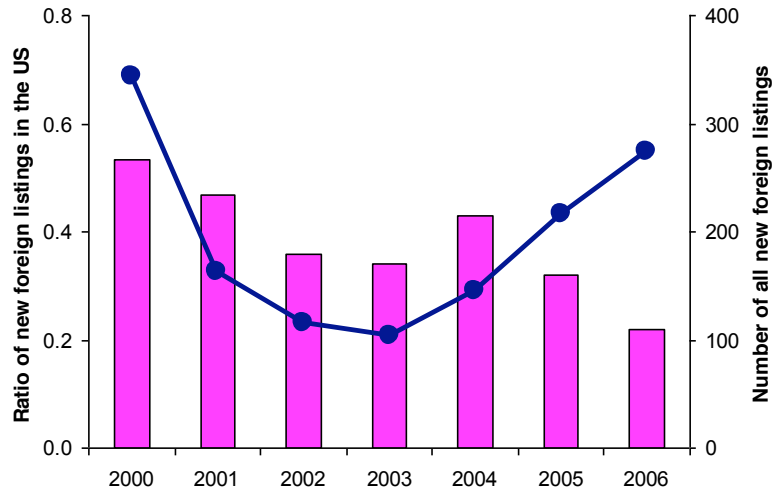
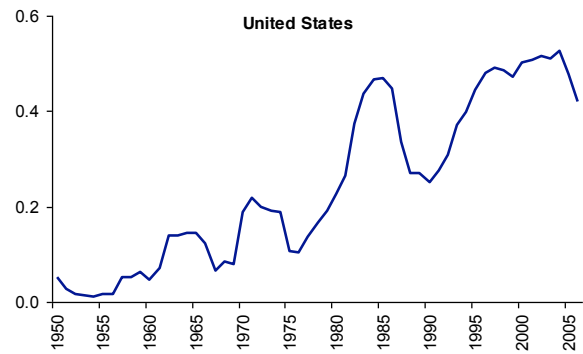
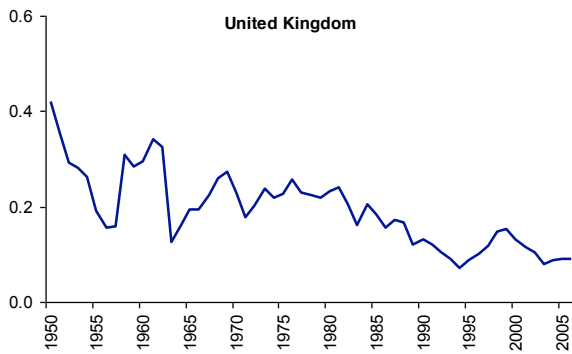
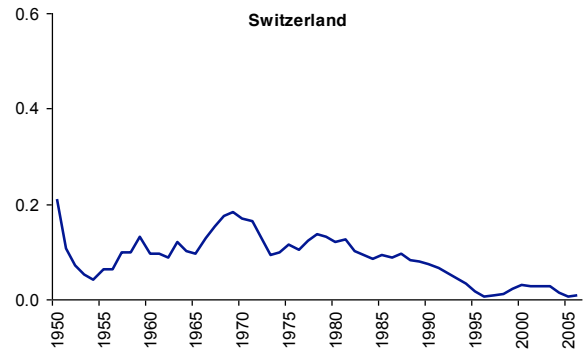
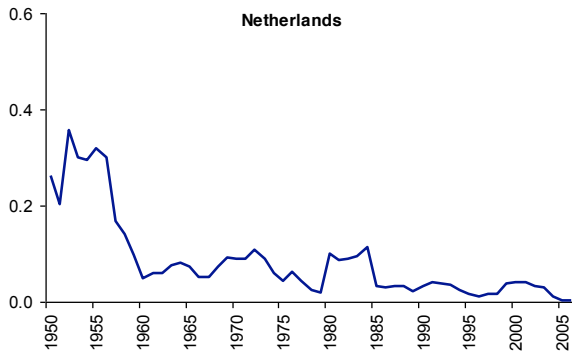
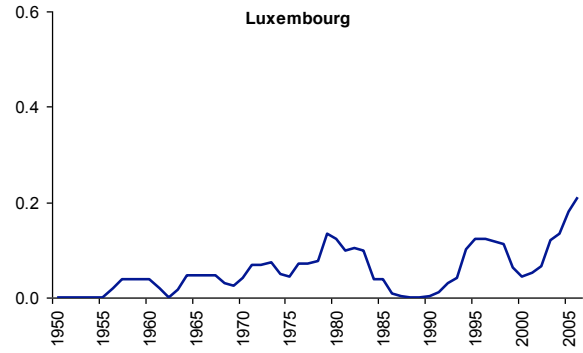
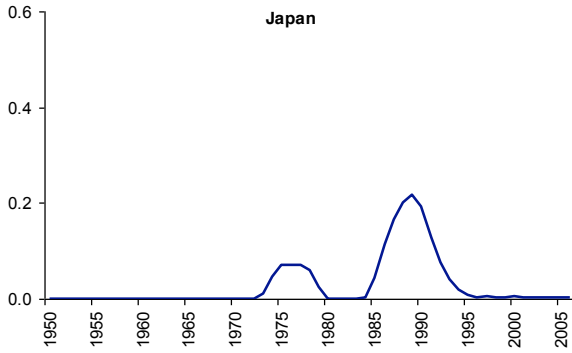
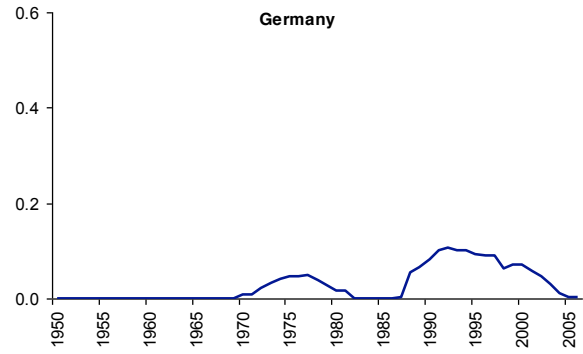
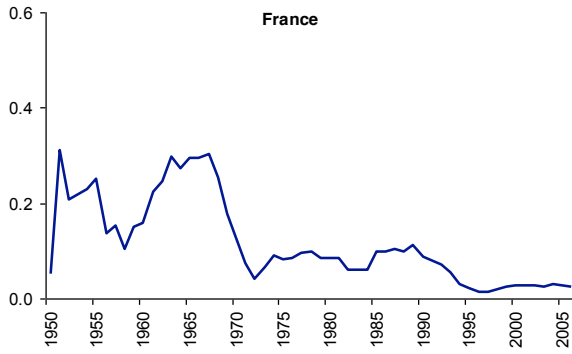
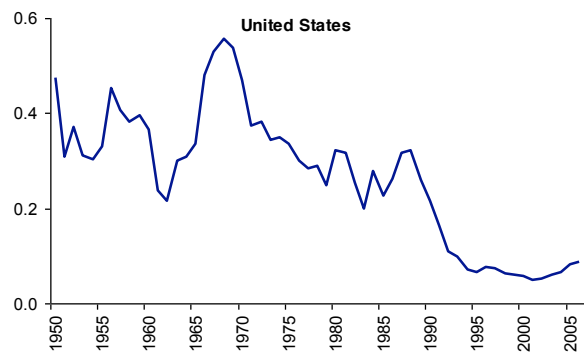
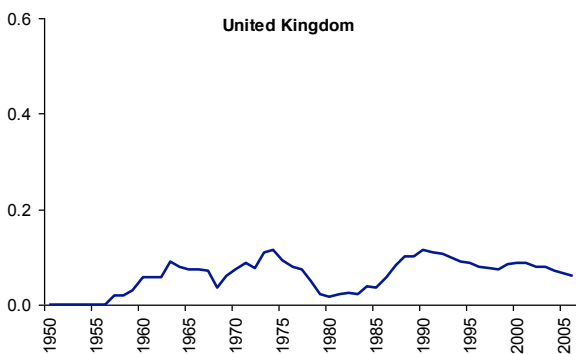
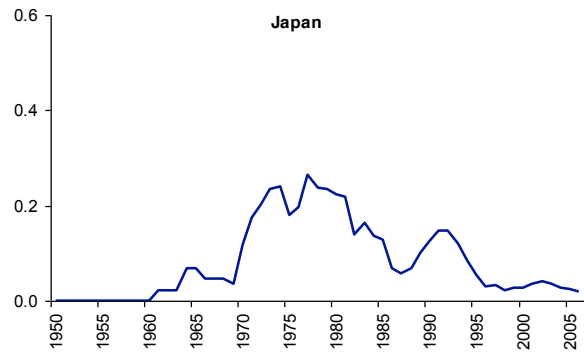
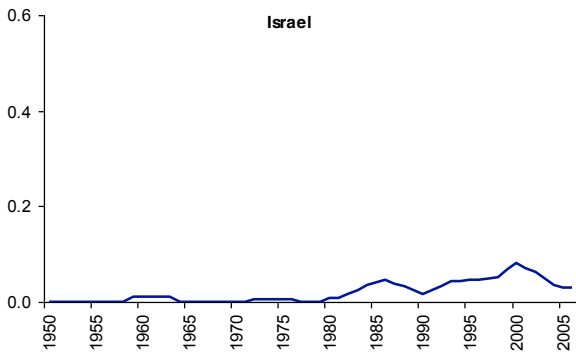
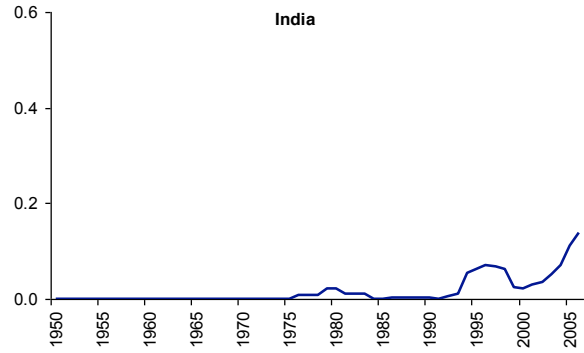
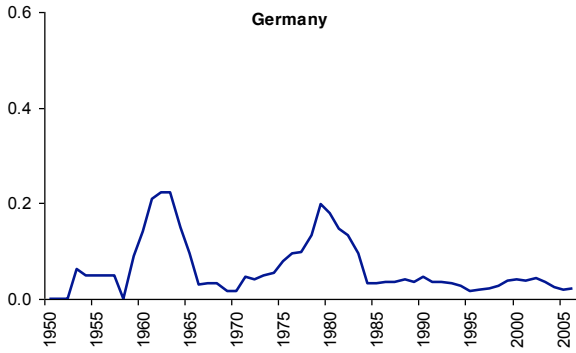
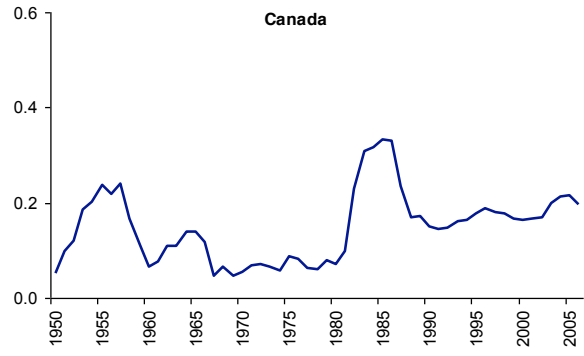
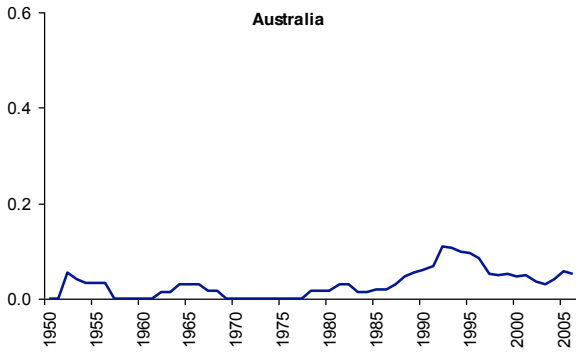


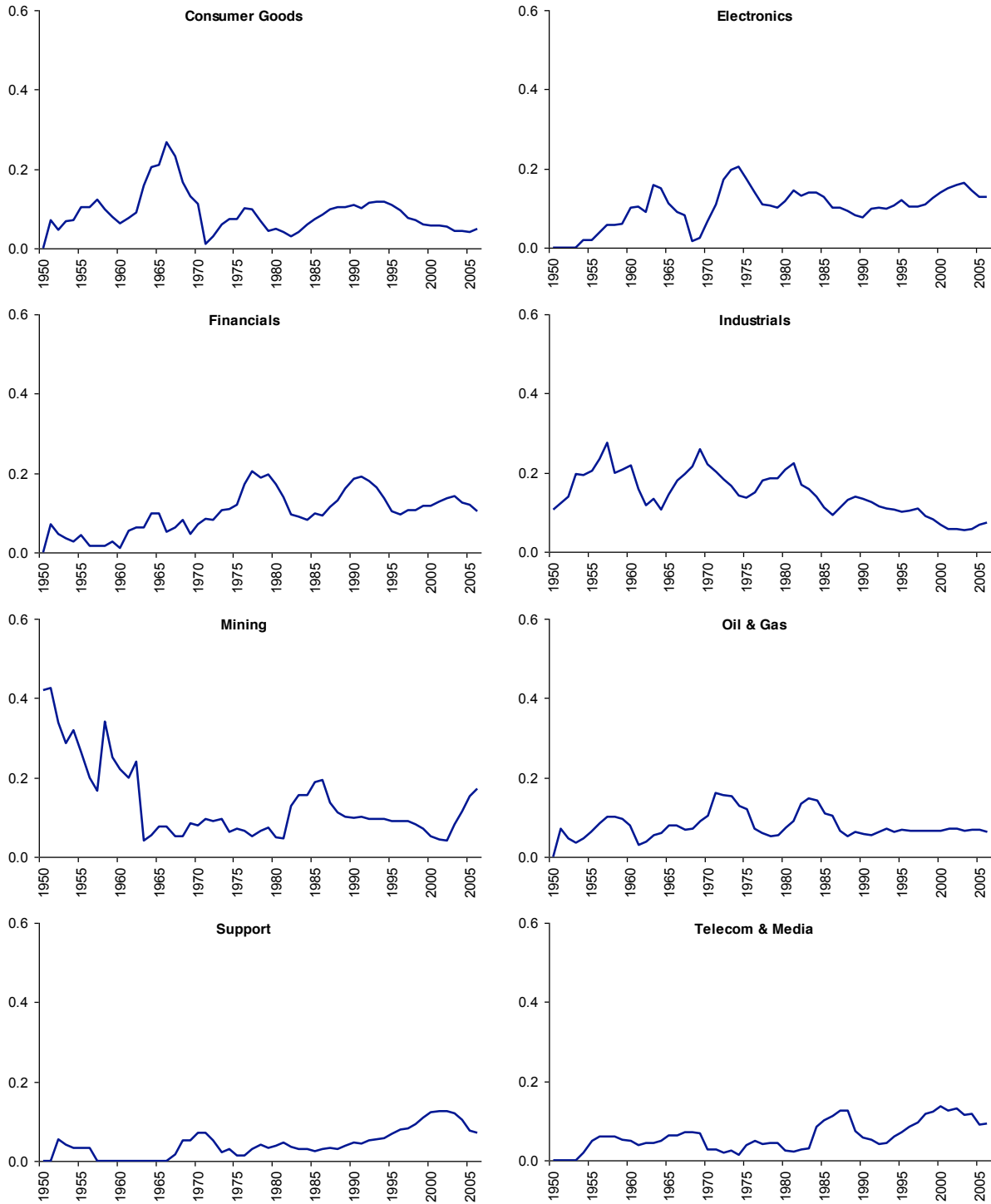
Figure 1. New foreign listings in the United States and other countries between 2000 and 2006. The figure shows the total number of new foreign listing issuances between 2000 and 2006 (solid line) and the ratio of new foreign listings placed on exchanges in the United States relative to all new foreign listings (vertical bars). The data are from the World Federation of Exchanges (WFE) at [www.world-exchanges.org](http://www.world-exchanges.org), excluding the reported numbers of foreign listings on the Mexican stock exchange.



Plot A: Top eight host markets



Plot B: Top eight home markets



Plot C: Top eight industries

Figure 2. The dynamics of foreign listing placement. The figure shows the changes in the proportion of overseas listings (foreign listing intensity) in eight major host and home markets for foreign listings, as well as industries over the 1950-2005 period. Plot A shows the proportion of listings across host markets, Plot B – home markets, and Plot C – industries. The foreign listing intensity is averaged over the previous five years including the current year.

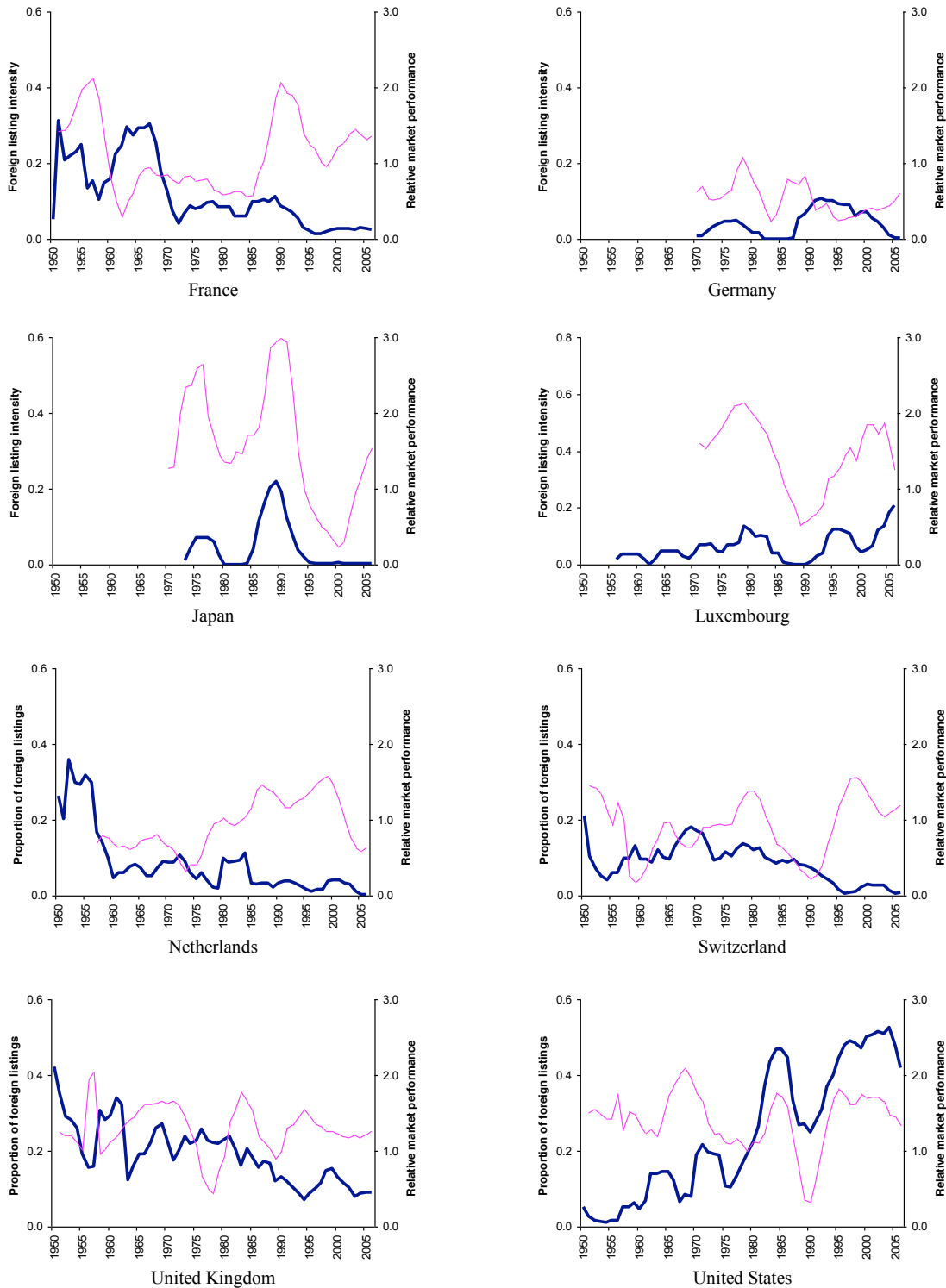
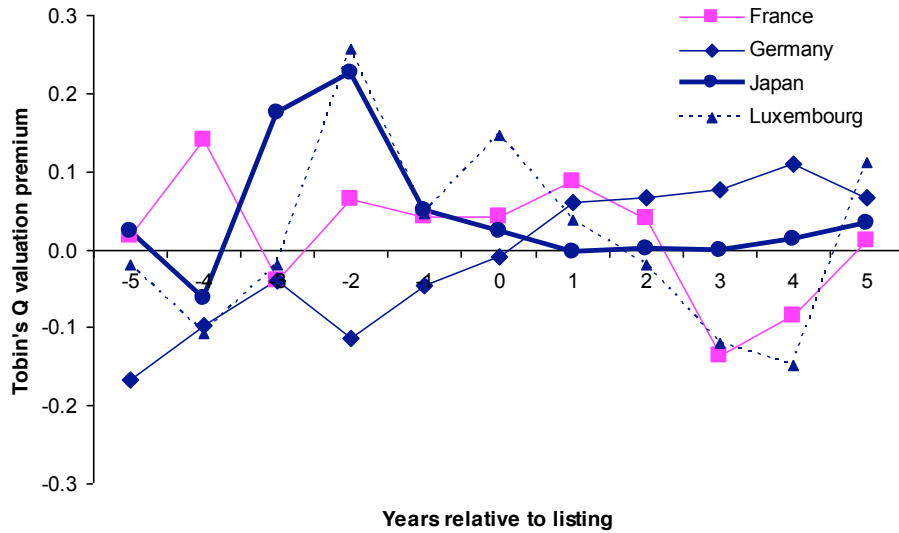
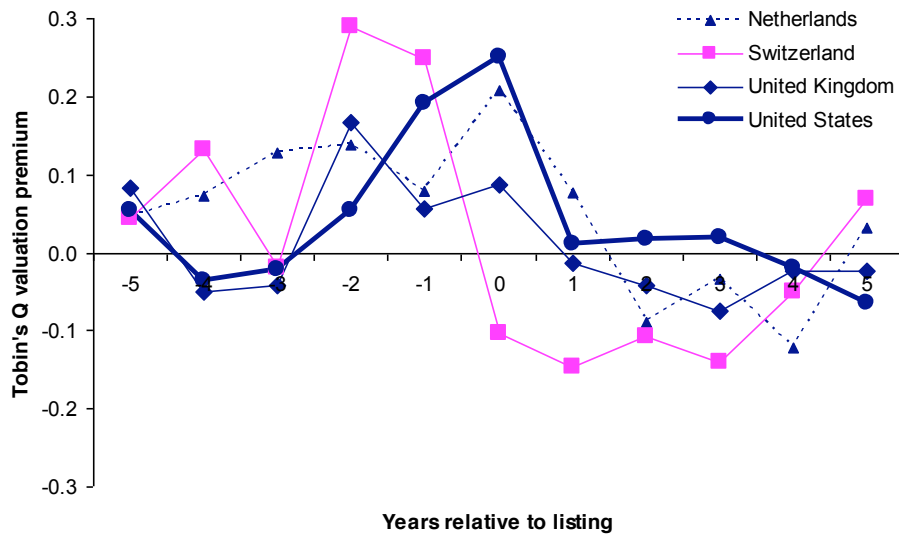


Figure 3. The dynamics of foreign listing placement and relative host market performance. The figure shows the changes in the foreign listing intensity, FLI (thick curve) and relative market performance (thin curve) in eight major host markets for foreign listings over the 1950-2005 period. The relative market performance is measured in terms of the relative market capitalization to GDP ratio. The foreign listing intensity and the relative performance of each host market are averaged over the preceding five years including the current year.





A



B

Figure 4. Valuation changes around the listing. The figure shows the valuation changes (Tobin's Q) for firms around their foreign listing in top eight host markets for listings, France, Germany, and Japan (Plot A), as well as Switzerland, United Kingdom, and the United States (Plot B). The plots cover the period from five or more years before the listing to five or more years after the listing. Year -5 denotes a period from ten to five years before the listing, while year 5 denotes five to 10 years after the listing.