Cross Listing Waves*

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ABSTRACT

Using a new global sample of overseas stock listings over a 57 year sample period, we document a number of empirical regularities with respect to the listing choices and market valuation of foreign equity market listing. We observe large time-series variation in the preference of the host market for listings, for example with Belgium and France being dominant in the 1950s and the U.S. being dominant in the 1990s. We observe that much of the waves in the host market are due to cross-listing waves in home markets or industries that share a particular affiliation with the respective host market. We find that the waves in host market listing are also correlated with periods where the host market economically and financially outperforms other competing host markets. We document that over the sample period overseas listing has rarely provided any sustained valuation gains to cross-listed firms, including listings in the U.S.. We observe that firms that list during host-market waves tend to be associated with even worse long-term valuation prospects. Listings across markets that share such characteristics as high return integration and similar industrial structure achieve better durable valuation gains.

JEL classification: G15; G32
Keywords: Firm valuation; Market timing; Relative market performance; Tobin's Q

1. Introduction

With few exceptions, numerous studies suggest substantial benefits to a firm which lists its shares in foreign markets (e.g., see Miller (1999), Foerster and Karolyi (1999), Errunza and Miller (2000), Lang, et al. (2003)). 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)).[1] The literature advocates various reasons for 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)). Yet, in spite of all these advantages of the US market, based on the World Federation of Exchanges (WFE) data, in 2006 US exchanges attracted less than 25% percent of all new foreign listings.[2]

One of the most cited reasons for the recent drop in the number of listings in the US is the passing of the Sarbanes-Oxley Act (SOX) by the US Congress in July 2002 that significantly increased the disclosure requirements for all firms listed on US exchanges, including foreign.[3] However, Doidge, et al. (2008) document that after the passage of the SOX Act till 2005 there is no decrease in the number of foreign listings placed in the US vis-à-vis its main competitor – the main board of the London Stock Exchange. Indeed, 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

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[1] Sarkissian and Schill (2008) provide the evidence to the contrary. Using a global sample of 1676 listing they find no permanent valuation gains for foreign stocks listed in the US or other markets.
[2] For more details, see www.world-exchanges.org.
[3] See Berger, et al. (2005), Litvak (2007), Zingales (2008), and others.

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listings placed on US exchanges increased relative to both 2002 and 2003. However, we also observe an overall downward trend in the 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. Therefore, the question still remains on what makes foreign managers to list their firms' equity in the US versus other markets.

In this study, we examine what may impact firm managers to select one foreign market as opposed to another as a venue for their firm's overseas listing placement, and whether such a selection leads to long-run benefits for their cross-listed firm.[4] The necessary condition to accomplish this is to study foreign listing chronology across various host markets for overseas shares over a significant time period. Any study that focuses on the analysis of only one or two host markets for listings over a limited time period is unable to provide satisfactory results.[5]

We achieve our goals by using a new global sample of overseas listings with stocks placed in 33 foreign markets between 1950 and 2006. Some of our analysis also uses cross-listing data from the first part of the 20th century, and our tests on firm valuation changes from the overseas listing cover the period between 1985 and 2006. We start with the host market chronology of 3,684 overseas listings in our sample from 73 home markets. Using the data beginning in 1900, we observe strong time-series variation in the popularity of various host markets. Switzerland in the dominate market in the early years. Netherlands becomes 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 dominates 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. To provide better detail, our analysis then focuses on the top eight host markets for foreign listings over the 1950 to 2006 period: France, Germany, Japan, Luxembourg, Netherlands, Switzerland, the UK, and the US. The relative

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[4] We use the worlds "foreign listing," "overseas listing," and "cross-listing" interchangeably, although, technically speaking, a foreign listing may not necessarily constitute a cross-listing if it is traded only in the foreign market.
[5] Gozzi, et al., (2007) examine some internationalization effects of companies around the world, including cross-listings, but their sample covers only 12 years between 1989 and 2001.

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proportion of all foreign listings placed in any of these eight countries again shows quite distinct "ups" and "downs." We observe that much of the waves in the host market are 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 in the 1950s was largely due to an increase in listings from South Africa that commonly list in the UK. We also document that cross-listing waves in a given host country often coincide with the outperformance of that country's economy and financial markets relative to other competing markets that could also be used by foreign firms as potential places for their overseas listings. This valuation effect is consistent with similar findings by Fernandes and Giannetti (2008).

Next, we move to the re-examination of valuation changes around the time of foreign listing placement in the above six host markets. The firm valuation measure that we use is Tobin's Q. We follow Sarkissian and Schill (2008) and Doidge, et al. (2008) and estimate changes in the cross-listed firm's valuation over an extended event window. Our results show that few of the host markets provide overseas firms with permanent valuation gains (consistent with Gozzi, Levine, and Schmuckler, 2007). In particular, we show that any significant gains from a foreign listing in the US disappear by the fifth year after the listing.

We then extend our valuation analysis in two dimensions. First, we determine whether firms which become listed in the relatively outperforming host market, achieve better valuation benefits from foreign placement. The outcome of our tests on different data sub-samples show that listing in the "hot" host markets decreases, often significantly, firms' valuation after the listing. Interestingly, the US firms listed in other markets also show a similar pattern in post-listing valuation. Second, we also determine which market characteristics enhance the long-run post-listing performance. We show that firms listing in foreign markets that are highly correlated with their home market, as well as in markets with industrial structure similar to that of their domestic market exhibit better long-term valuation gains.

Thus, cross-listing "waves" occur in a given host market when it does relatively well with respect to other competing host markets for overseas listings.[6] We interpret this 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 our new global sample of overseas listings. Section 3 examines the dynamics of foreign listing placement in the six largest host markets over the 1950-2006 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 vis-à-vis that of the other five potential host markets. Section 4 describes firm- and market-level data and presents the results of firm valuation tests around the time of foreign listing placement. Section 5 concludes.

2. Overseas Listing Data

We construct a comprehensive sample of foreign listings as of December 2006. We use as a base the overseas listing dataset from Sarkissian and Schill (2004) that covered foreign listings traded by the end of 1998 and extended it to include listings placed in foreign markets between 1999 and 2006. Our sample excludes markets with primary role of corporate tax havens, such as the

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[6] Unlike our result that highlights the importance of *relative* performance across countries for generating foreign listing waves, Dittmar and Dittmar (2007) show that waves in US financing decisions such as stock repurchases, equity issuance, and mergers result from changes in country's economic conditions.

Cayman Islands, Bermuda, Jersey, Marshall Islands, the Netherlands Antilles, 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 has 3,684 listings from 73 home countries on 33 host markets.[7]

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 652, 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 1416 and 494, respectively. They are followed by Luxembourg (285 listings), Germany (208), and France (193).

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 1910s. Our records indicate that the first foreign listing in the US occurred in the 1910s. These six markets remained the primary markets for foreign listings till the second half of the 20th century with 89 listings traded. Since 1950s, almost every decade has been adding new countries which were attracting foreign listings. The 2000s witness 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). One of the most important observations from this panel is that over the last 100 years various host markets have had different degree of attractiveness for foreign companies as places for overseas listing placements. For example, France had seen the largest percentage of new foreign listings placed on its exchanges in the 1920-30s and 1950-60s, Japan – in the 1980s, Luxembourg – in the 2000s, Netherlands – in 1920-30s and 1950s, Switzerland – in the 1900s

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[7] This is a 64% sample size increase from 2,251 listings reported in Sarkissian and Schill (2004).

and 1960s, the UK – in the 1940s, while the US – in the 1990s and 2000s. Similar patterns can be observed in the other panels for cross listings organized by home market and industry group.

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 4. First, there is wide variation in the ranking of the top host and home markets. Cross-listing waves exist. Second, the market tends to be concentrated. For the most part, although the composition of the six top host markets changes, these markets comprise between 78 to 94% of overseas listings during each of the five decades. There is less concentration among the home markets with concentration dropping 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 to 89% to 99% of all cross listings. The waves of activities originate in and are beached in a select few markets. Fourth of possibly most interest, popular host markets do not generally emerge as universally popular host markets 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 United States 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 U.K.'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. With the U.S. listings, neither of these host markets would have been among the top six host markets. France is the only market that appears to have broad appeal as it attracts large overseas listing of firms from South Africa, Germany, the US, Canada, and the

Netherlands. But France appears to be an anomaly. 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. One might say that host markets become popular not because of any generally 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 the other decades. In the 1960s, France's popularity becomes more restricted to US (as well as Belgian) firms; UK's popularity is paired with US and South African firms; The US's popularity is tied with Canadian firms. In the 1970s, the UK's popularity is tied to lots of listings by US and Irish firms; the US popularity is tied to lots of listings by Japanese and Canadian firms, and Switzerland's popularity is tied to lots of US listings. In the 1980s, the US popularity is tied to lots of listings by Canadian, UK, and Israeli firms; and Japanese popularity is tied to lots of 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 tied to firms from emerging markets; whereas Germany was linked to U.S. firms and New Zealand was linked to Australian firms. Similar patterns exist is 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 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. The cross-listing waves may little to do with the host market expect that it is the natural receptacle of waves that originate from the respective 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 the 50 plus 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 ended in the US. More importantly, this table shows that

the emergence of a particular host market as a preferred place for foreign listing placement is often related to a very limited set of home markets. For instance, Belgium is ranked as the top host market for listings but most of its foreign listings come only from the US. Or, in the 1990s, New Zealand became one of the most attractive markets for foreign firms, but all foreign firms that are listed there are from the nearby Australia.

3. Evidence from the Eight Largest Markets

3.1. Dynamics of Overseas Listing Placements

Here we move to a somewhat larger set of the top countries that attract foreign listings – eight – reflecting an important contribution of all those markets on the development of the listing market throughout the 1950-2006 period. The largest host markets for the whole period 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 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 smooth out the variation in foreign listing placement rate, for each reporting year we average the number of listings in the current year and in the previous four years. This visualization enhances our observation from Tables 2 and 3 about the existence of overseas listing waves in 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 with 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 1970s-beginning of 1980s. The US as a host market experienced the biggest two run-ups in its attractiveness for foreign stocks after the oil crisis of the early 1970s and then again after the recession of the early 1980s.

Interesting patterns exist in industries as well. For instance, electronics has experienced the first run-up in the share of the total number of foreign listings in the late-1950s till mid-1965. 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 period of 1950-2006.

3.2. Clustering Analysis

In Table 3, we present the 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 ach other, we use correlation analysis. More specifically, we

compare the foreign listing intensity in each of the six markets with the uniform distribution. The bottom panel of Table 3 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 six host markets and the random variable is insignificant, implying the waves of cross-listings are indeed statistically different from a uniform distribution. Second, the only significant correlation of listings intensity among our six 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.

Panels B and C of Table 3 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. These markets are reported in Table 5. We run the following regression

$$N(i,j,k,t) = b_1 N(i,t) + b_2 N(j,t) + b_3 N(k,t) + b_3 N(i,j) + b_3 N(j,k) + b_3 N(i,k) + e(i,j,k,t) \qquad (1)$$

where the independent variables are the aggregate number of listings across the specified dimensions. N(Home, t), N(Host, t), and N(Inds, t) represents the total number of listings from the respective home market, host market or industry, respectively, in the respective year. N(Home, Host), N(Home, Inds), and N(Host, 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(Home, Host), N(Home, Inds), and N(Host, 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(Home, 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 specification 2 and 3 we add the time-series aggregates to the regression, N(Home, t), N(Host, t), and N(Inds, t). We observe that all of the aggregation dimensions seem to matter. Listings tend to cluster by home market, host market, and industry

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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 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:

$$R\left(GDP_{i,t}\right)=\left(\frac{GDP_{i,t}}{GDP_{i,t-1}}-\frac{GDP_{i,t-5}}{GDP_{i,t-6}}\right)-\sum_{i=1}^{8}\left(\frac{GDP_{i,t}}{GDP_{i,t-1}}-\frac{GDP_{i,t-5}}{GDP_{i,t-6}}\right). \qquad (2)$$

and

$$R(MCAP_{i,t}) = \left(\frac{MCAP_{i,t}}{MCAP_{i,t-1}} - \frac{MCAP_{i,t-5}}{MCAP_{i,t-6}} \right) - \sum_{i=1}^{8} \left(\frac{MCAP_{i,t}}{GDP_{i,t-1}} - \frac{MCAP_{i,t-5}}{MCAP_{i,t-6}} \right), \tag{3}$$

where $GDP_{i,t}$ and $MCAP_{i,t}$ 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, $R(MCAP_{i,t}/GDP_{i,t}) = R(MCAP_{i,t})/R(GDP_{i,t})$. 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 value 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 county's performance, in Figure 3 we examine the link 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 and the relative performance of each host market over the preceding five years.[8] 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.

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[8] 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.

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 easily observe a relation between the changes in foreign listing intensity and market performance in the US. Their remarkable parallels are observed from 1970 till 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 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.

In sum, Figures 2 and 3, as well as Tables 3-5 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 listings. 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 Results

In this section, we extend our evidence on the importance of the country's relative outperformance for the extent of the foreign listing activity on its exchanges. We broaden our analysis at the firm and country levels in several dimensions. In particular, we analyze whether valuation benefits of foreign firms in the US that are widely documented in earlier studies (e.g., Doige, et al. (2008)), remain intact in our expanded global cross-listing sample and/or occur in other markets. We are also interested to determine whether any post-listing valuation benefits for cross-listed firms can be attributed to the outperformance of the 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. Firm- and Country-Level Data

All firm characteristics for US firms come from *Compustat*, for non-US firms – from *Worldscope*. Using the *Worldscope* dataset shrinks our sample both across countries and across time as international firm-level data is not available for the 1950-1970 period and for many counties. We also omit firms from those countries that do not have any stock traded overseas based on our cross-listing sample (e.g., Pakistan). In addition, we omit from *Compustat* all ADR observations. 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:

$$Q = \frac{\text{Total Asset Value} - \text{Book Value of Equity} + \text{Market Value of Equity}}{\text{Total Asset Value}}. \qquad (5)$$

We also construct the sales growth measure, ΔSales, for each firm. It is an 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.

We consider three individual market characteristics, which are market development, MkDev, 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.[9] Market development and 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) – 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 is an interpolated measure based on LOT trading cost estimate of similar emerging markets from Lesmond (2005).

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-

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[9] 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.

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.[10] 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 6 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 6 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 these host markets have very few foreign listings and, therefore, those numbers cannot be considered representative.[11]

Columns three to five of Table 6 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

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[10] Besides Sarkissian and Schill (2004) 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.

[11] For example, the only foreign listing in Mexico in our sample is Citigroup from the US.

Finland (1.77). On the other extreme, the market development 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 counties 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, especially those having historical and language links to the United Kingdom, show a large number of cultural ties with other markets.

4.2. Valuation Changes of Overseas Listings in the Eight Largest Host Markets

4.2.1. Without host market attractiveness control

Our analysis of the overseas listing impact on firm valuation we start with the valuation tests for each of the six largest host markets for foreign listings. The regression model can be generally specified as follows:

$$
\begin{aligned}
Q_{j,t} = {} & \alpha_i + \delta_{1,-n} D(-n)_{j,t} + \delta_2 D(0)_{j,t} + \delta_{1,n} D(n)_{j,t} + \\
& + \gamma_1 \Delta Sales_{j,t} + \gamma_2 \log(Sales)_{j,t} + \gamma_3 Global\ Industry\ Q_{i,t} + \gamma_4 Home\ Market\ Q_{k,t} +, \qquad (6) \\
& + \gamma_5 Country\ Effects_k + \gamma_6 Year\ Effects_t + \varepsilon_{j,t}
\end{aligned}
$$

where $Q_{j,t}$ is the Tobin's Q of firm j in industry i and country k in year t, Global Industry $Q_{i,t}$ is the median Tobin's Q of industry i in year t across all countries, while Home Market $Q_{k,t}$ is the median Tobin's Q in home country k in year t. Variables D(-n) and D(n) denote dummies that take the value of one if the current year is n years before the listing year and n years after the listing year of the firm, respectively, while D(0) is the dummy which is equal to one in the listing year of the firm. Following Sarkissian and Schill (2008) and Doidge, et al. (2008), we evaluate firm valuation around its foreign listing over a significant time period before and after the listing (ten or more years). In all regression specifications, we control for fixed country and calendar effects, and cluster errors by the same firm.

Panel A of Table 7 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. In these tests, we use the entire sample period as an event window, so that dummies D($\leq$-5) and D($\geq$5) equal one in years five or more before the listing and years five or more after the listing, respectively. First, we can observe a substantial pre-listing increase in Tobin's Q among firms that list in Japan, Switzerland, the United Kingdom, and the United States. However, foreign firms listed in these four markets, after the listing experience declines in their valuations. Only firms listed in Netherlands, Switzerland, and Japan maintain positive and statistically significant Q over their non-listed counterparts. Foreign firms listed in France and Germany do not show any clear pre-listing or post-listing valuation changes.

Contrary to the results in Doidge, et al. (2008), we do not observe any significant permanent valuation benefits for firms listed in the US. The coefficient on D(≥ 5), the Tobin's Q premium of a cross-listed firm five years or more after the listing, is smaller in magnitude than that on D($\leq$-5), the premium five years or more before the listing, and D(≥ 5) is statistically insignificant. The discrepancy between our findings for the US market and those reported by Doidge, et al. (2008) comes from several important differences between our tests. First, our Global Industry Q is defined for each year in the sample, rather than for the entire sample period. This change increases the statistical significance of this variable. Second, we additionally control for the home market Q. Sarkissian and Schill (2008) find that an average firm from a given country places its share on foreign exchanges when its domestic market is doing abnormally well. Consistent with this result, Table 5 shows positive and very significant loadings on the home market valuation across all countries. Finally and most importantly, our window for detecting any permanent valuation gains to overseas listings covers the period of five or more years after the listing, while theirs covers the period starting with four years after the listing. This distinction is very essential since there many observations in year four after the listing and our tests show that on average foreign firms maintain positive and significant valuation gain in the US market four years after the listing.[12]

To better visualize the valuation patterns around the listing for the eight major host markets reported in Panel A of Table 7, 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 A of Table 7 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

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[12] In unreported tests, we perform estimation similar to that in Panel A of Table 7 for the US host market but using the same time period (1990-2005) and the same regression specification as in Doidge, et al. (2008) with the UK firms excluded. Like their results, we also find positive and significant increase in Tobin's Q among foreign firms listed on US exchanges four years after the listing.

outperform only domestically listed firms in their respective countries already as early as five years after the listing.

4.2.2. With host market attractiveness control

Our preceding analysis shows the existence of host market waves in foreign listings. It is plausible to assume that managers of a foreign firm observe the performance of various candidate host markets for their firm's stock and pick the most attractive one. In this sub-section, we explore the consequences of a firm choosing to list in one of the top eight host markets for overseas listings while also accounting for the host market attractiveness. Our proxy for the attractiveness of the host market is the proportion of overseas listings (or foreign listing intensity) in a given year in a given host market relative to the total number of foreign listings issued in that year. This changes our equation (6) to an augmented model:

$$
\begin{aligned}
Q_{j,t} = {} & \alpha_i + \delta_{-n}D(-n)_{j,t} + \delta_0 D(0)_{j,t} + \delta_n D(n)_{j,t} + \\
& + \delta_{FLI,0}D(0)_{j,t} * FLI(Host,0) + \delta_{FLI,n}D(n)_{j,t} * FLI(Host,0) + \\
& + \gamma_1 \Delta Sales_{j,t} + \gamma_2 \log(Sales)_{j,t} + \gamma_3 Global\ Industry\ Q_{i,t} + \gamma_4 Home\ Market\ Q_{k,t} + \\
& + \gamma_5 Country\ Effects_k + \gamma_6 Year\ Effects_t + \varepsilon_{j,t}
\end{aligned}
\qquad (7)
$$

where FLI(Host,0) is the foreign listing intensity of the host market in the listing year of firm j. All other variables as the same as in regression model (6). Since we are interested in after-listing performance, we interact FLI(Host,0) only with the listing dummy, D(0), and post-listing dummies, D(n).

The results of estimating model (7) are shown in Panel B of Table 7. For convenience in reporting the results, we combined all the pre-listing dummies, D(-n), into one dummy, D(<0), which is equal to one in any year before the firm's foreign listing year. The most interesting finding is the changes in Tobin' Q after the cross-listing for firms placed on US exchanges. The interaction post-listing terms, $D(n)_{j,t}*FLI(Host,0)$, show a steady downtrend. While the coefficient on $D(0)_{j,t}*FLI(Host,0)$ is positive yet insignificant, the slopes on further terms are

quickly decreasing becoming strongly negative and significant after forth-fifth year after the listing. However, now the long-term valuation dummy, $D(\geq 5)$, is no longer insignificant – on the contrary, it is economically and statistically very important. In economic terms, it shows an increase of 0.16% in Tobin's Q after the overseas listing, implying almost a 2.0% annual gain. This magnitude is lower but comparable to the one in Doidge, et al. (2008), who report an average of 0.21% monthly (or 2.5% annual) increase in firm valuation after listing on main US exchanges.[13] Another important result is the pattern of estimated coefficients on interaction terms and their statistical significance for firms placed in Japan. The slopes on $D(n)_{j,t}*FLI(Host,0)$ show qualitatively the same trend as those for foreign firms listed in the US with the coefficient on $D(5)_{j,t}*FLI(Host,0)$ being negative and statistically significant at the 10% level. This similarity is even more remarkable if one accounts for a much smaller sample of foreign listings in Japan that have valuation data since the vast majority of overseas listings occurred in Japan before the 1990s.

4.3. Further Evidence of Valuation Changes with Various Listing Intensity Controls

In the pervious sub-section, we examined the valuation effects on firms when they place their shares in one of the largest host markets and when the host market listing intensity is controlled for. Here, we explore further the consequences of a firm choosing to cross-list in some overseas market by accounting not only for the foreign listing intensity in the host market, but also for that in the home market and industry, 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. We no longer deal with individual countries. Therefore, to

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[13] Although the post-listing valuation is similar to that in Doidge, et al. (2008), we still cannot state that foreign firms achieve valuation gains from listing in the US if they list there not in the "hot" times for the US market. The obvious problem is that our slope on the long-run pre-listing dummy $D(\leq -5)$ in Table 7 is higher than on the long-run post-listing dummy $D(\geq 5)$. This is largely due to additional controls of aggregate Tobin's Q at the host, home, and global industry levels.

properly control for the impact of host market valuation on cross-listed firms' Q, we create one more dummy variable, D(Host). It is defined as follows:

$$D(Host)_t = \begin{cases} 1 & \text{if } Median(Host\,Market\,Q)_t > Median(All\,Host\,Markets\,Q)_t \\ 0 & \text{otherwise} \end{cases}. \qquad (8)$$

For example, if the US has higher median Tobin's Q in year t than the median Tobin's Q across all other 32 host markets for listings, then D(Host) for the US in year t will be equal to one. This variable adds to our earlier list of standard controls in equations (6) and (7) when our estimation involves foreign listings in more than one host market.

Table 8 presents the estimation results for all firms and listings and for the sub-sample of non-US firms and no US listings. The sample is very large with a total of 399,133 firm-year observations. In these regressions, to lower the impact of far-away values on changes in Tobin's Q in the critical five-to-ten year period after the listing, as identified in Sarkissian and Schill (2008), we use a ten-year event window, so that dummies $D(\geq -10; <-5)$ and $D(\geq 5; \leq 10)$ equal one in years ten to five before the listing and five to ten after the listing, respectively. As before, the table reports the number of observations, point estimates, and the t-statistics. To safe the space and improve the tractability of results, we again aggregated all pre-listing dummies, D(-n), 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 8 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 that of firms placed in the US. There is a significant increase in the Tobin's Q premium among cross-listed firms prior to the listing and in the listing year, and the magnitude of this premium is diminishing in economic and statistical terms over time. After the listing, the valuation premium drops in

magnitude and its significance drops below 5% level between five and ten years after the listing.[14] The slope on the host market dummy is positive and significant, indicating that on average firms that are listed in overvalued markets tend to have high Tobin's Q. 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 significantly higher in the listing year in host markets that attract high proportion of the overall count of foreign listings. We do not observe any significant results on interaction coefficients when foreign listings are placed from home markets with high listing intensity, although the slope on the interactive long-term dummy variable is negative and economically significant. Finally, the forth column indicates that when a firm issues its foreign listing at a time of large cross-listing count from its industry, then it achieve sizable long-term valuation benefits – the coefficient on the interactive dummy $D(\geq 5; \leq 10)$ is positive and significant.

Columns five to eight of Table 8 repeat the earlier estimation but without US firms and foreign listings in the US. US firms and listings in the US constitute a large part of our overall firm and listing samples and therefore their relative valuation can impact the overall results. In these estimations, we still find some evidence of long-run benefits of issuing foreign listings at the time of high volume of cross listings in the firm industry. Although, due to the sample size reduction, the coefficient on the interactive long-term dummy with industry listing intensity control is insignificant, its magnitude is almost similar to that on the overall sample. Also, we find a highly significant result in column eight for the interactive fourth year after the listing dummy. On this sub-sample, we observe similar pattern while accounting for the host market intensity as well. Overall, our results show underperformance of firms that are listed in highly attractive for foreign listings markets (at the time of firm listing), but firms do seem to gain over time from placing shares on foreign exchanges when other firms in their respective industries undertake similar corporate decisions.

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[14] Gozzi, et al. (2007) find that the valuation advantage for their "internationalized" firms disappear on the third year after the internationalization event. Their sample however includes listings outside main stock exchanges.

Thus, we observe market timing evidence on the part of domestic firms in placing their shares in foreign markets. This result is consistent with Foerster and Karolyi (2000), Henderson, et al. (2006), and Sarkissian and Schill (2008) who find abnormal returns around global equity offerings and foreign listings. However, the most novel feature of our analysis from previous studies is that we provide evidence of market timing of the *host* market rather than the domestic market where listing placement and/or equity issuance originates.[15] Such timing preference of firms reflects the trading location effects studied in Froot and Dabora (1999). 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.

4.4. Valuation Patterns and Market Characteristics

Previous tests show that foreign firms on average do not permanently obtain any valuation benefits from being listed in any of the host market. The question is nevertheless open whether certain market characteristics enhance long-term performance of cross-listed firms. We address this issue in Table 9. It shows the estimation results from regressions similar to those based on equation (6) with the two additions. The first addition is the host market dummy control, $D(Host)_t$, as in Table 8. The second is the interaction of various market and cross-market characteristics that we described earlier with the dummy variable proxying permanent valuation gains from the overseas listing. Here, we again use a ten-year even window around the listing and, so our long-term valuation dummy is $D(\geq 5; \leq 10)$. As usual, for each regression, we report the number of observations, point estimates, t-statistics, R-squares. Again, all standard errors are clustered by the firm.

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[15] Sarkissian and Schill (2008) provide only casual observation that among different candidate host markets, firms prefer those that have experienced recent market-wide run-up in prices.

The first three columns of Table 9 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 a diverse impact of different market characteristics on the outcome of permanent valuation premium of cross-listed firms beyond the firth year after their foreign listing. Across all three columns, the slope coefficients on the interactive terms with home-host market correlation and industrial proximity are positive and significant at 1% level in the two first columns and 10% level in the third column. It implies that firms that list in foreign markets which are highly correlated with their domestic market and in markets with similar industrial structure experience more long-term valuation gains than an average cross-listed firm. We do not find any positive impact on firms of being listed in markets with developed financial markets, in markets with good investor protection practices, or highly liquid markets.

The last three columns of Table 9 report the estimation results for the sample of all firms except those from the US with listings again in all host markets (forth column), in all host markets except the US (fifth), and listings outside the top e host markets (sixth). The results of these tests are qualitatively identical to those on the whole sample. As before, the slopes on the interactive terms with market cross-correlation and industrial structure similarity are positive and significant at either 10%, or 5%, or 1% level. Therefore, even though on average we find no evidence of long-lasting gains from overseas listings, certain cross-market characteristics may play a leading role in making the overseas listing placement a more valuable undertaking.

At last, given a significant amount of studies on the benefits of better investor protection environment on firm valuation, in Table 10 we offer a mode 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 but restrict the even window by 20 years around the listing. 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, there is no significant Tobin's Q effect starting from five years after the listing. Second, the post-listing valuation gains before prior to year five after the listing are higher for firms going to counties with better laws. Third, higher post-listing valuation is often a reflection of relatively higher pre-listing valuation rather than the listing event per se. Finally and probably more interestingly, the above patterns do not weaken with the removal of US firms and foreign listings in the US. Thus, Tables 9 and 10 reveal that for firm managers from countries with weak investor protection placing their firm shares in a foreign market with stronger rules of law is not as valuable as previously thought.

5. Conclusions

In this study we pose the following question. What does make firm managers to prefer one foreign market versus another for an overseas listing placement of their firm shares and does this choice make a positive difference to the firm valuation? While the earlier literature proposes a variety of reasons for the existence of cross-listings *per se*, it cannot provide an answer to our question due to its focus on the limited set of markets and time period.

Our new comprehensive global sample of foreign listings that are traded in 33 host markets allows us to shed some light on the emergence of some countries as important markets for overseas stocks. We observe that over the duration of more than half-of-century, the ability of major markets to attract foreign shares has been significantly changing. We link these waves to the economic and financial market out- or under-performance of the host markets for listings. We then use firm-level data and find that no host market is able to provide any permanent valuation gains to cross-listed firms. Moreover, there is more decrease in firms' valuation after their listing overseas if they list in the "hot" market. However, such market characteristics as high cross-

market correlation and similarity in the industrial structure between the home and host markets seem helping firms achieve better long-lasting valuation benefits on foreign exchanges.

Thus, consistent with Rajan and Zingales (1998), 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).

Appendix

Significant economic and financial events in major host markets for overseas listings outside the US during the second half of the XX 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 (Marche de Terme Internationel de France) – French futures market is created.
1987	MONEP (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	Comments
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).
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 deutschemark, 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, SegaInterSettle 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.

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

	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													2			1	20	28
Australia						13			1	2					6	1				87					5	3			2			12	40	172
Austria				1					2	6														1					1				1	12
Belgium									9	2						7			8		1								4				3	34
Bolivia																																	1	1
Brazil																5																1	34	40
Canada	7					11			11	3	1				6				3	1	3				1	5			9			23	568	652
Chile																																1	25	26
China																									2							6	29	37
Columbia						1										3																	1	5
Croatia																																1		1
Cyprus																																1		1
Czech Republic																							1									4		5
Denmark																					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				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

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Table 1 (continued)

	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
Malta																																1		1
Mexico																																	40	40
Morocco									1																							1		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
Norway							1		1	2						1										1		3	1			5	12	27
Oman																																1		1
Panama																																	2	2
Peru																																	4	4
Philippines																5									2								4	11
Poland																1																11		12
Portugal									1										1													1	4	7
Qatar																																1		1
Romania																																1		1
Russia																																10	6	16
Singapore		3														3															2		6	14
Slovakia																2																1		3
South Africa			11			4			15	6						5			4										4			35	16	96
Spain	1					1			5	3				2	4				4					2					2			5	11	40
Sri Lanka																1																		1
Sweden			1			1	7	2	3	4						3			1		5				2				4			12	15	60
Switzerland			3	1		2			7	10						4			1											3		5	15	51
Taiwan																47									1							11	10	69
Thailand																2									2						1		1	6
Tunisia																																1		1
Turkey																2																9	1	12
UK		5		13		9	1		24	10	1	17	1			16	3	3	11	2	3				8	7		2	5	1			143	285
USA		8	3	35	1	62			45	44				4		80	2	1	77		5	1						8	71			104		551
Venezuela									1							1																	3	5
Zimbabwe																										1							3	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	1416	3684

This table provides the country-to-country frequency distribution of the sample of overseas listings as of 2006. The total sample is comprised of 3,684 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	368	1416
Total	11	7	22	29	20	114	135	255	741	1550	798	3684

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	145	652
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	798	3684

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	90	383
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	798	3684

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	-	0.1	0.5	0.1	0.5	2.3
3-Australia	1.1	0.2	0.1	0.1	4.8	0.0	0.3
4-USA	-	0.7	0.1	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

Host \ Group	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

Home \ Group	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						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 3 (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(Home, t), N(Host, t), and N(Inds, t) represents the total number of listings from the respective home market, host market or industry, respectively, in the respective year. N(Home, Host), N(Home, Inds), and N(Host, 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. Notations a, b, and c denote approximate statistical significance at the 1%, 5%, and 10% level, respectively. Notations *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

Table 6
Summary statistics of firm and market characteristics

Panel A: Home markets

Country	Tobin's Q	Δ Sales	MkDev	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 6 (continued)

Panel B: Host markets

Country	Tobin's Q	Δ Sales	MkDev	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, Δ Sales, MkDev, 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. Δ 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 7
Valuation changes around the overseas listing across eight major host markets

Panel A: Without host market foreign listing intensity control

	France	Germany	Japan	Luxembourg	Netherlands	Switzerland	UK	USA
Observations	385,568	384,369	342,680	398,614	394,370	393,776	369,731	263,437
D($\leq$ -5)	0.052	0.056	0.091*	-0.161	0.545*	0.118	0.194**	0.334***
	(0.38)	(1.16)	(1.86)	(-1.52)	(1.74)	(0.84)	(2.02)	(5.22)
D(-4)	0.203	0.108**	0.240*	-0.187*	0.478*	0.229	0.108	0.190***
	(1.40)	(2.15)	(1.77)	(-1.94)	(1.65)	(1.38)	(1.18)	(3.08)
D(-3)	0.078	0.140**	0.576	-0.115	0.493*	0.106	0.081	0.207***
	(0.99)	(2.07)	(1.49)	(-1.03)	(1.93)	(1.34)	(1.08)	(2.70)
D(-2)	0.112	-0.012	0.508*	0.131)	0.243*	0.494*	0.268**	0.358***
	(0.91)	(-0.20)	(1.73)	(0.89)	(1.65)	(1.79)	(2.20)	(3.46)
D(-1)	0.074	0.037	0.301***	-0.040	0.144	0.588**	0.187**	0.408***
	(0.83)	(0.53)	(3.32)	(-0.48)	(1.30)	(2.18)	(2.38)	(4.44)
D(0)	0.066	0.081	0.249***	0.057	0.387*	0.116	0.190**	0.468***
	(0.39)	(1.43)	(3.34)	(0.83)	(1.70)	(1.20)	(2.49)	(5.41)
D(1)	-0.016	0.121	0.233***	-0.020	0.313*	0.107	0.065	0.206***
	(-0.22)	(1.36)	(3.83)	(-0.27)	(1.90)	(1.34)	(1.07)	(3.46)
D(2)	0.053	0.133	0.230***	-0.136*	0.182*	0.129*	0.027	0.186***
	(0.81)	(1.50)	(4.44)	(-1.93)	(1.87)	(1.70)	(0.48)	(3.24)
D(3)	-0.031	0.155	0.228***	-0.250***	0.377**	0.100	0.002	0.204***
	(-0.56)	(1.77)	(4.95)	(-4.05)	(2.05)	(1.63)	(0.05)	(3.27)
D(4)	0.024	0.181	0.245***	-0.304***	0.154**	0.172*	0.055	0.140**
	(0.46)	(2.38)	(4.41)	(-4.55)	(1.99)	(1.86)	(0.91)	(2.41)
D($\geq$ 5)	0.131**	0.066	0.249***	-0.139***	0.263***	0.289***	0.036	0.041
	(2.29)	(1.38)	(5.01)	(-3.34)	(5.88)	(4.31)	(0.99)	(1.15)
Δ Sales	0.223***	0.220***	0.211***	0.221***	0.221***	0.222***	0.226***	0.157***
	(37.04)	(36.53)	(35.16)	(37.22)	(37.21)	(37.27)	(35.97)	(23.81)
Log (Sales)	-0.070***	-0.068***	-0.069***	-0.068***	-0.070***	-0.071***	-0.071***	-0.056***
	(-25.61)	(-25.03)	(-24.02)	(-25.25)	(-26.12)	(-26.56)	(-24.52)	(-18.40)
Global Industry Q / year	1.081***	1.09***	1.097***	1.086***	1.083***	1.083***	1.073***	1.162***
	(67.07)	(67.35)	(66.58)	(67.99)	(67.36)	(67.67)	(65.40)	(42.94)
Home Q / year	0.903***	0.902***	0.967***	0.912***	0.904***	0.908***	0.898***	1.067***
	(46.95)	(47.31)	(41.68)	(48.22)	(47.44)	(47.71)	(46.42)	(49.83)
Adj. R^2	0.216	0.218	0.219	0.217	0.216	0.217	0.221	0.177

Table 7 (continued)

Panel B: With host market foreign listing intensity control

	France	Germany	Japan	Luxembourg	Netherlands	Switzerland	UK	USA
Observations	385,568	384,369	342,680	398,614	394,370	393,776	369,731	263,437
D(< 0)	0.123	0.081*	0.368*	-0.012	0.503*	0.249*	0.206***	0.275***
	(1.28)	(1.68)	(1.95)	(-0.17)	(1.83)	(1.87)	(2.89)	(5.58)
D(0)	-0.088	0.126	0.188**	0.112	0.641**	0.192	0.164	0.285**
	(-0.47)	(1.28)	(2.36)	(1.42)	(2.00)	(1.44)	(1.42)	(1.98)
D(1)	-0.020	0.349*	0.226**	0.053	0.515**	0.073	0.038	0.265**
	(-0.19)	(1.93)	(2.17)	(0.51)	(2.15)	(0.74)	(0.45)	(2.54)
D(2)	0.109	0.173	0.195***	-0.197**	0.238*	0.096	0.002	0.214**
	(1.16)	(1.04)	(3.08)	(-2.20)	(1.72)	(0.87)	(0.02)	(2.39)
D(3)	-0.099	0.240	0.291***	-0.241***	0.608**	0.149*	0.012	0.220**
	(-1.18)	(1.49)	(3.95)	(-3.29)	(2.09)	(1.65)	(0.19)	(2.40)
D(4)	0.032	0.194	0.293***	-0.276***	0.196	0.205*	0.035	0.267***
	(0.43)	(1.48)	(3.54)	(-3.39)	(1.84)	(1.70)	(0.34)	(2.98)
D(≥ 5)	0.194***	0.117	0.326***	-0.098**	0.328***	0.351***	0.034	0.157***
	(2.80)	(1.51)	(5.05)	(-2.08)	(5.72)	(3.83)	(0.70)	(2.76)
D(0) * FLI(Host, 0)	1.302	-0.239	0.413	-0.275	-1.498*	-0.376	0.423	0.635
	(0.64)	(-0.71)	(1.28)	(-0.60)	(-1.75)	(-0.57)	(0.79)	(1.54)
D(1) * FLI(Host, 0)	0.196	-1.408**	0.117	-0.433	-1.406***	0.440	0.320	-0.240
	(0.31)	(-2.04)	(0.34)	(-0.92)	(-2.24)	(0.78)	(0.80)	(-0.90)
D(2) * FLI(Host, 0)	-0.409	-0.152	0.262	0.662	-0.388	0.440	0.355	-0.133
	(-1.02)	(-0.30)	(1.07)	(1.14)	(-0.77)	(1.09)	(0.68)	(-0.54)
D(3) * FLI(Host, 0)	0.693*	-0.447	-0.246	0.013	-1.791*	-0.302	0.043	-0.064
	(1.65)	(-0.73)	(-1.10)	(0.03)	(-1.85)	(-0.71)	(0.13)	(-0.24)
D(4) * FLI(Host, 0)	0.077	0.004	-0.170	-0.183	-0.277	-0.132	0.295	-0.596***
	(0.24)	(0.01)	(-0.52)	(-0.34)	(-0.71)	(-0.40)	(0.51)	(-2.70)
D(≥ 5) * FLI(Host, 0)	-0.284	-0.212	-0.294*	-0.198	-0.301**	-0.272	0.105	-0.437***
	(-1.22)	(-0.84)	(-1.87)	(-0.74)	(-2.04)	(-1.14)	(0.62)	(-3.20)
Δ Sales	0.223***	0.220***	0.211***	0.222***	0.222***	0.223***	0.226***	0.157***
	(37.06)	(36.55)	(35.17)	(37.24)	(37.23)	(37.28)	(36.00)	(23.80)
Log (Sales)	-0.073***	-0.071***	-0.071***	-0.071***	-0.073***	-0.074***	-0.074***	-0.056***
	(-26.78)	(-26.05)	(-25.05)	(-26.54)	(-27.15)	(-27.85)	(-25.80)	(-18.07)
Global Industry Q / year	1.077***	1.082***	1.093***	1.083***	1.080***	1.079***	1.069***	1.164***
	(66.99)	(67.32)	(66.59)	(67.93)	(67.33)	(67.60)	(65.26)	(43.08)
Home Q / year	0.905***	0.905***	0.969***	0.914***	0.907***	0.911***	0.898***	1.067***
	(47.08)	(47.50)	(41.76)	(48.32)	(47.57)	(47.85)	(46.49)	(49.80)
Adj. R^2	0.216	0.218	0.219	0.217	0.216	0.217	0.221	0.177

This table reports the regression test results of valuation changes around foreign listings in the top six 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($\leq$-5) equals one in all years prior to and including year -5, and D(≥ 5) equals one in all years following year 5. Δ Sales is an inflation-adjusted net sales growth, where inflation is computed using the US consumer price index. 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. 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. 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. Notations *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 8
Valuation changes around the overseas listing with various foreign listing intensity controls

Foreign Listing Intensity	All				No US firms, No US listings			
	None	Host	Home	Industry	None	Host	Home	Industry
Observations	399,133	399,133	399,133	399,133	263,437	263,437	263,437	263,437
D($\geq$ -10; < 0)	0.164***	0.155***	0.146***	0.157***	0.129***	0.136***	0.138***	0.133***
	(4.90)	(4.42)	(2.75)	(4.41)	(4.44)	(4.45)	(4.59)	(4.35)
D(0)	0.209***	0.104**	0.343***	0.207***	0.163***	0.189***	0.231***	0.195***
	(5.25)	(1.98)	(2.75)	(3.42)	(4.22)	(3.27)	(4.70)	(3.12)
D(1)	0.082***	0.051	0.085	0.083*	0.071**	0.071	0.103**	0.082
	(2.79)	(1.21)	(1.03)	(1.70)	(2.09)	(1.49)	(2.28)	(1.46)
D(2)	0.059**	0.063*	0.099	0.060	0.015	-0.016	-0.006	-0.020
	(2.08)	(1.66)	(1.33)	(1.37)	(0.46)	(-0.37)	(-0.15)	(-0.37)
D(3)	0.066**	0.061	0.163*	0.043	0.007	-0.045	-0.003	-0.044
	(2.24)	(1.50)	(1.86)	(0.93)	(0.24)	(-1.01)	(-0.07)	(-0.84)
D(4)	0.056**	0.079**	0.120	0.024	0.003	-0.084**	-0.010	-0.081
	(2.06)	(2.10)	(1.51)	(0.54)	(0.08)	(-1.96)	(-0.24)	(-1.56)
D($\geq$ 5; $\leq$ 10)	0.041*	0.058**	0.020	-0.004	-0.041	-0.058*	-0.040	-0.085*
	(1.89)	(2.05)	(0.37)	(-0.13)	(-1.56)	(-1.78)	(-1.28)	(-1.89)
D(0) * FLI(X, 0)		0.594**	0.042	0.013		-0.193	-0.880***	-0.335
		(2.52)	(0.04)	(0.03)		(-0.75)	(-2.93)	(-0.71)
D(1) * FLI(X, 0)		0.180	0.230	-0.018		0.004	-0.437	-0.120
		(1.09)	(0.28)	(-0.05)		(0.02)	(-1.53)	(-0.32)
D(2) * FLI(X, 0)		-0.031	-0.312	-0.032		0.272	0.334	0.404
		(-0.22)	(-0.43)	(-0.10)		(1.31)	(1.06)	(1.13)
D(3) * FLI(X, 0)		0.032	-0.819	0.291		0.406	0.162	0.591
		(0.21)	(-0.71)	(0.78)		(1.55)	(0.54)	(1.52)
D(4) * FLI(X, 0)		-0.150	-1.175	0.398		0.743***	0.197	0.970***
		(-1.10)	(-1.43)	(1.31)		(2.72)	(0.71)	(2.62)
D($\geq$ 5; $\leq$ 10) * FLI(X, 0)		-0.096	-0.518	0.497**		0.128	-0.015	0.451
		(-1.11)	(-1.12)	(2.11)		(0.98)	(-0.07)	(1.57)
Δ Sales	0.221***	0.221***	0.221***	0.221***	0.158***	0.158***	0.158***	0.158***
	(37.26)	(37.26)	(37.24)	(37.25)	(23.87)	(23.87)	(23.86)	(23.86)
Log (Sales)	-0.073***	-0.073***	-0.071***	-0.073***	-0.054***	-0.054***	-0.054***	-0.054***
	(-26.89)	(-26.88)	(-26.80)	(-26.98)	(-17.57)	(-17.60)	(-17.56)	(-17.62)
Global Industry Q / year	1.080***	1.080***	1.081***	1.081***	1.174***	1.174***	1.174***	1.174***
	(67.66)	(67.66)	(67.78)	(67.65)	(43.47)	(43.49)	(43.46)	(43.45)
Home Q / year	0.914***	0.914***	0.915***	0.913***	1.061***	1.062***	1.062***	1.061***
	(48.31)	(48.29)	(48.36)	(48.27)	(49.58)	(49.60)	(49.57)	(49.56)
D(Host Q) / year	0.099***	0.099***	0.130***	0.100***	-0.029	-0.031	-0.030	-0.029
	(5.20)	(5.19)	(6.26)	(5.21)	(-1.07)	(-1.11)	(-1.10)	(-1.07)

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. 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. D(Host Q) equals one if the median Q across all firms in a host market is greater than the median Q across all firms in all host markets. 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 7. 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 the overseas listing for different market characteristics

	All firms			No US firms		
	All	Outside the US	Outside Top 8	All	Outside the US	Outside Top 8
Observations	399,133	399,133	399,133	263,437	263,437	263,437
Intercept	-0.399***	-0.404***	-0.420***	-0.935***	-0.948***	-0.950***
	(-6.50)	(-6.56)	(-6.83)	(-12.50)	(-12.62)	(-12.68)
D($\geq$ -10; < 0)	0.164***	0.145***	0.154**	0.209***	0.130***	0.231***
	(4.91)	(3.69)	(2.39)	(7.18)	(4.48)	(4.08)
D(0)	0.209***	0.114***	0.117	0.291***	0.164***	0.206***
	(5.23)	(3.30)	(1.59)	(6.49)	(4.25)	(2.63)
D(1)	0.083***	0.043	-0.007	0.140***	0.069**	0.100
	(2.78)	(1.46)	(-0.11)	(4.19)	(2.02)	(1.49)
D(2)	0.060**	0.018	-0.038	0.097***	0.013	-0.015
	(2.11)	(0.64)	(-0.64)	(3.04)	(0.40)	(-0.24)
D(3)	0.067**	0.013	-0.011	0.099***	0.006	0.020
	(2.20)	(0.45)	(-0.15)	(2.92)	(0.17)	(0.28)
D(4)	0.057**	0.026	-0.029	0.071**	0.001	-0.021
	(2.01)	(0.94)	(-0.51)	(2.21)	(0.03)	(-0.34)
D($\geq$ 5; $\leq$ 10)	-0.223***	-0.235**	-0.630***	-0.202**	-0.115	-0.741***
	(-2.57)	(-2.13)	(-2.71)	(-2.37)	(-1.06)	(-2.96)
D($\geq$ 5; $\leq$ 10) * MkDev	-0.163***	-0.161***	0.034	-0.044	-0.040	0.215*
	(-3.91)	(-3.95)	(0.27)	(-0.90)	(-0.84)	(1.72)
D($\geq$ 5; $\leq$ 10) * LAW	-0.027	-0.030	0.339	-0.003	0.029	0.263
	(-0.43)	(-0.39)	(1.38)	(-0.04)	(0.38)	(1.25)
D($\geq$ 5; $\leq$ 10) * LIQ	-0.101***	-0.143***	0.026	-0.059	-0.114***	0.092
	(-2.67)	(-3.64)	(0.30)	(-1.40)	(-2.64)	(1.07)
D($\geq$ 5; $\leq$ 10) * MkCorr	0.365***	0.471***	0.427*	0.242**	0.221*	0.436**
	(3.78)	(4.02)	(1.79)	(2.39)	(1.89)	(2.08)
D($\geq$ 5; $\leq$ 10) * EconProx	0.049	-0.181	1.086	-0.016	-0.295	0.439
	(0.41)	(-0.55)	(1.03)	(-0.12)	(-0.82)	(0.43)
D($\geq$ 5; $\leq$ 10) * IndsProx	0.341***	0.272***	0.541***	0.294***	0.221**	0.563***
	(4.10)	(3.12)	(2.85)	(3.39)	(2.28)	(3.27)
D($\geq$ 5; $\leq$ 10) * GeogProx	0.011*	0.014*	0.013	0.003	-0.001	-0.002
	(1.90)	(1.80)	(1.08)	(0.53)	(-0.13)	(-0.22)
D($\geq$ 5; $\leq$ 10) * CultProx	-0.039	-0.084	0.056	0.010	-0.028	0.183
	(-0.74)	(-1.53)	(0.49)	(0.16)	(-0.39)	(1.60)
Δ Sales	0.221***	0.221***	0.221***	0.157***	0.157***	0.158***
	(37.25)	(37.30)	(37.29)	(23.75)	(23.86)	(23.92)
Log (Sales)	-0.073***	-0.073***	-0.072***	-0.056***	-0.054***	-0.054***
	(-27.15)	(-27.18)	(-26.81)	(-18.02)	(-17.63)	(-17.78)
Global Industry Q / year	1.081***	1.083***	1.083***	1.167***	1.174***	1.173***
	(67.71)	(67.95)	(67.97)	(43.18)	(43.49)	(43.51)
Home Q / year	0.914***	0.912***	0.914***	1.063***	1.061***	1.064***
	(48.30)	(48.25)	(48.40)	(49.72)	(49.57)	(49.75)
D(Host Q) / year	0.098***	0.132***	0.149***	-0.063**	-0.033	-0.015
	(4.98)	(6.61)	(7.40)	(-2.43)	(-1.16)	(-0.61)

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. All other variables are defined as in Tables 5 and 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
Valuation changes around the 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	376,483	247,970	247,970	383,558	249,843	249,843
D($\geq$ -10; $\leq$ -5)	0.151***	0.292***	0.297***	0.152**	0.161***	0.045
	(2.83)	(5.14)	(4.19)	(2.33)	(3.58)	(1.17)
D(-4)	0.134**	0.246***	0.282***	0.119**	0.092**	0.006
	(2.49)	(4.38)	(4.02)	(2.04)	(2.15)	(0.16)
D(-3)	0.132***	0.244***	0.225***	0.139**	0.091*	0.047
	(2.56)	(4.32)	(4.28)	(2.34)	(1.94)	(0.96)
D(-2)	0.238***	0.332***	0.270***	0.197***	0.196***	0.119**
	(2.95)	(3.95)	(3.75)	(3.25)	(3.09)	(2.01)
D(-1)	0.242***	0.330***	0.249***	0.162***	0.164***	0.047
	(4.03)	(5.21)	(4.43)	(3.23)	(3.01)	(0.94)
D(0)	0.240***	0.335***	0.265***	0.189***	0.258***	0.100**
	(3.63)	(4.79)	(4.20)	(4.06)	(4.65)	(2.14)
D(1)	0.120***	0.200***	0.189***	0.056	0.093**	-0.006
	(2.70)	(4.23)	(3.40)	(1.50)	(2.09)	(-0.15)
D(2)	0.083**	0.155***	0.129**	0.047	0.057	-0.053
	(1.99)	(3.35)	(2.41)	(1.30)	(1.35)	(-1.40)
D(3)	0.080*	0.136***	0.083*	0.064*	0.078*	-0.023
	(1.80)	(2.79)	(1.85)	(1.67)	(1.72)	(-0.54)
D(4)	0.095*	0.135***	0.104**	0.034	0.021	-0.058
	(2.26)	(2.87)	(2.08)	(0.97)	(0.49)	(-1.51)
D($\geq$ 5; $\leq$ 10)	0.036	0.037	0.009	0.059*	-0.013	-0.055
	(1.34)	(1.23)	(0.27)	(1.89)	(-0.35)	(-1.37)
Δ Sales	0.223***	0.157***	0.157***	0.222***	0.156***	0.157***
	(37.47)	(23.51)	(23.56)	(37.08)	(23.4)	(23.46)
Log (Sales)	-0.080	-0.056***	-0.055***	-0.074***	-0.057***	-0.056***
	(-30.02)	(-17.6)	(-17.36)	(-26.98)	(-17.72)	(-17.49)
Global Industry Q / year	1.083***	1.179***	1.185***	1.081***	1.173***	1.175***
	(68.10)	(42.91)	(43.15)	(67.56)	(42.53)	(42.66)
Home Q / year	0.932***	1.091***	1.091***	0.930	1.092***	1.090***
	(48.60)	(50.95)	(50.92)	(49.21)	(51.66)	(51.52)
D(Host Q) / year	0.069***	-0.102***	-0.089***	0.143***	-0.042	0.006
	(2.78)	(-2.83)	(-2.26)	(5.22)	(-1.13)	(0.15)
Adj. R^2	0.221	0.178	0.178	0.218	0.178	0.177

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 if 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 Tables 5 and 5. 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.
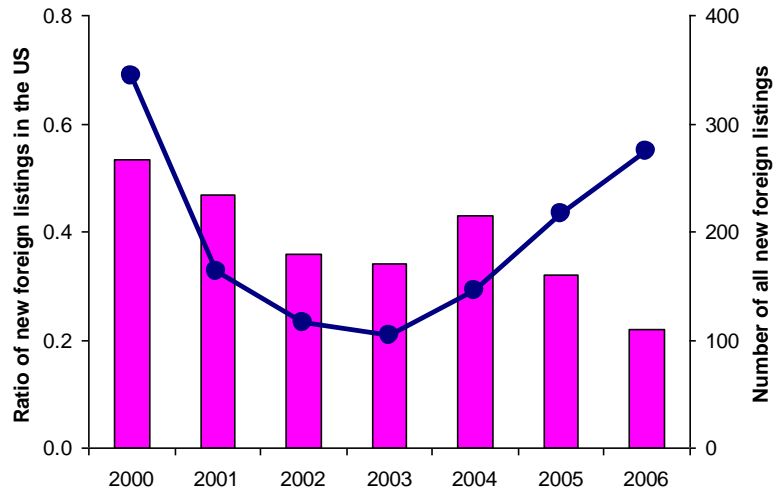
Figure 1. New foreign listings in the United States and other countries between 2000 and 2006. The figure shows the total number of new foreign listing issuances between 2000 and 2006 (solid line) and the ratio of new foreign listings placed on exchanges in the United States relative to all new foreign listings (vertical bars). The data are from the World Federation of Exchanges (WFE) at www.world-exchanges.org, excluding the reported numbers of foreign listings on the Mexican stock exchange.
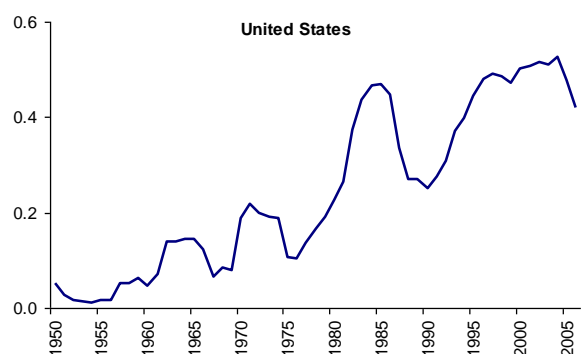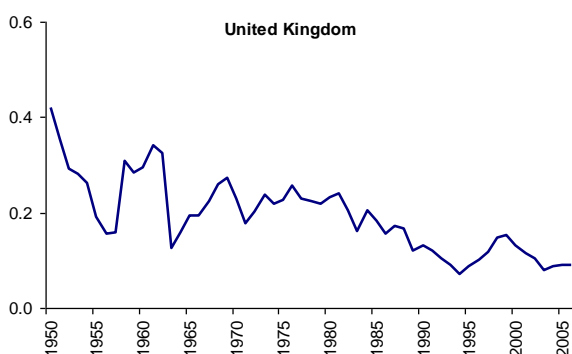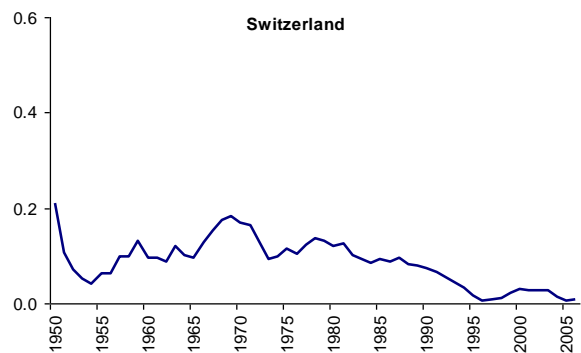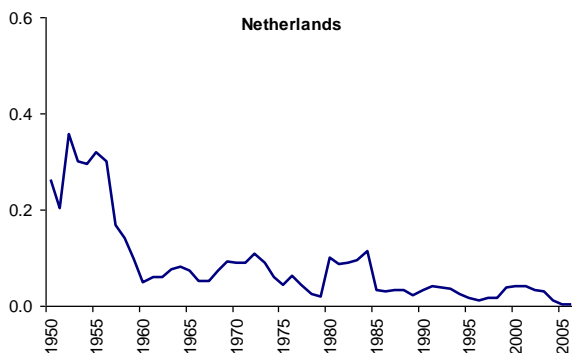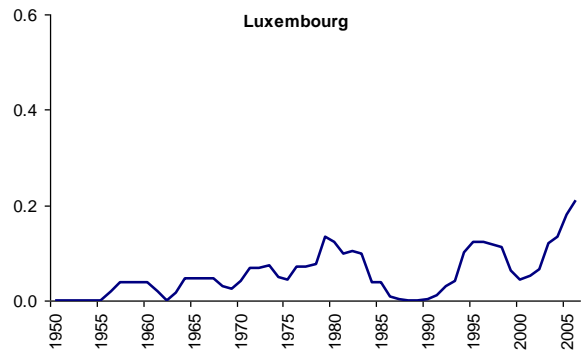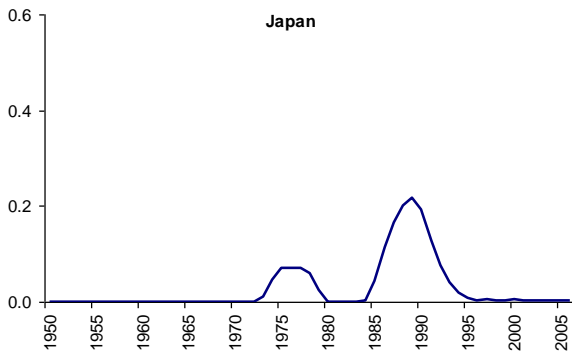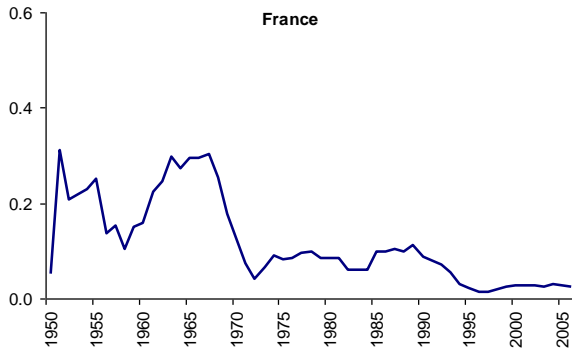
Plot A: Top eight host markets
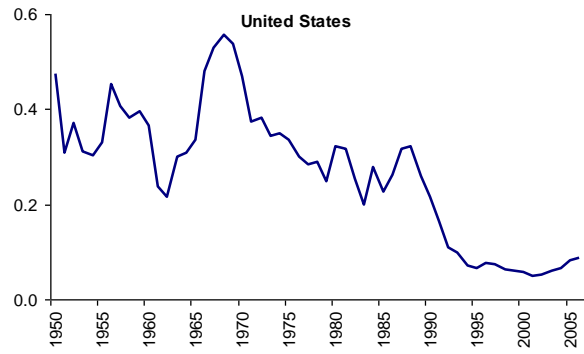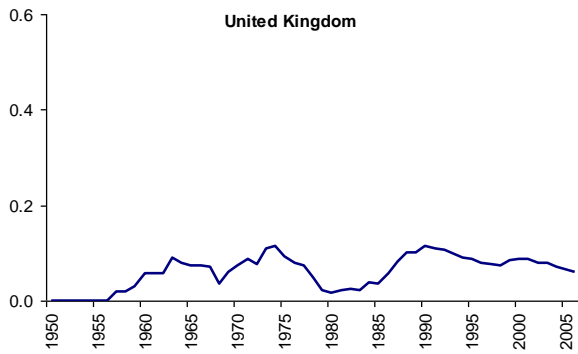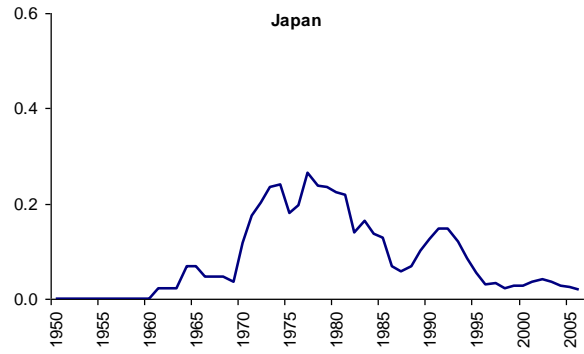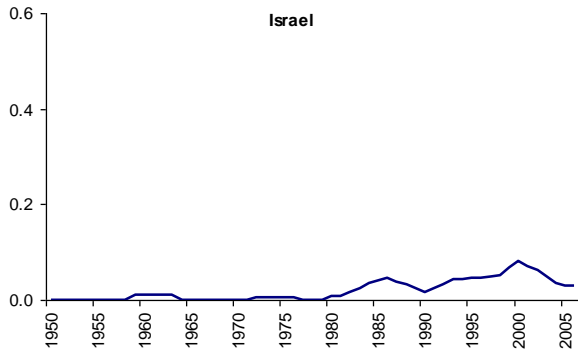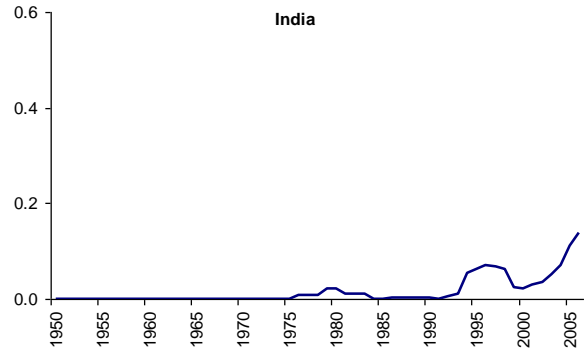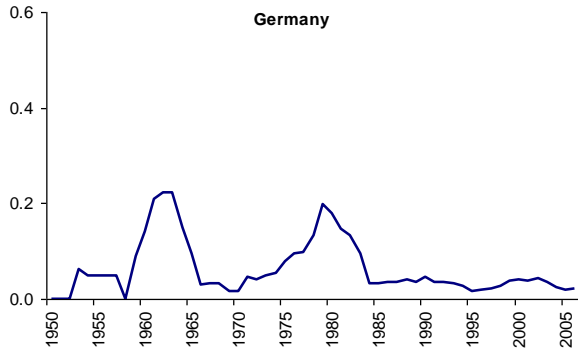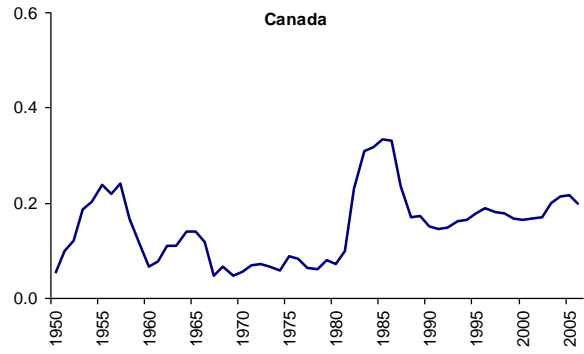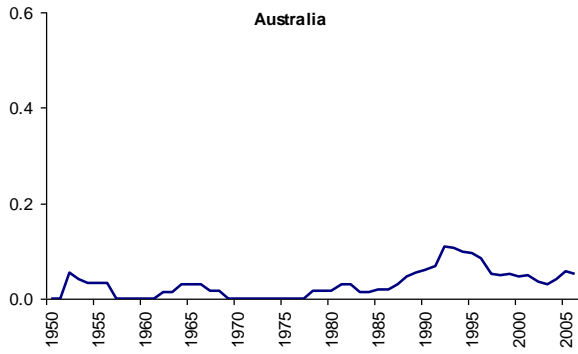
Plot B: Top eight home markets
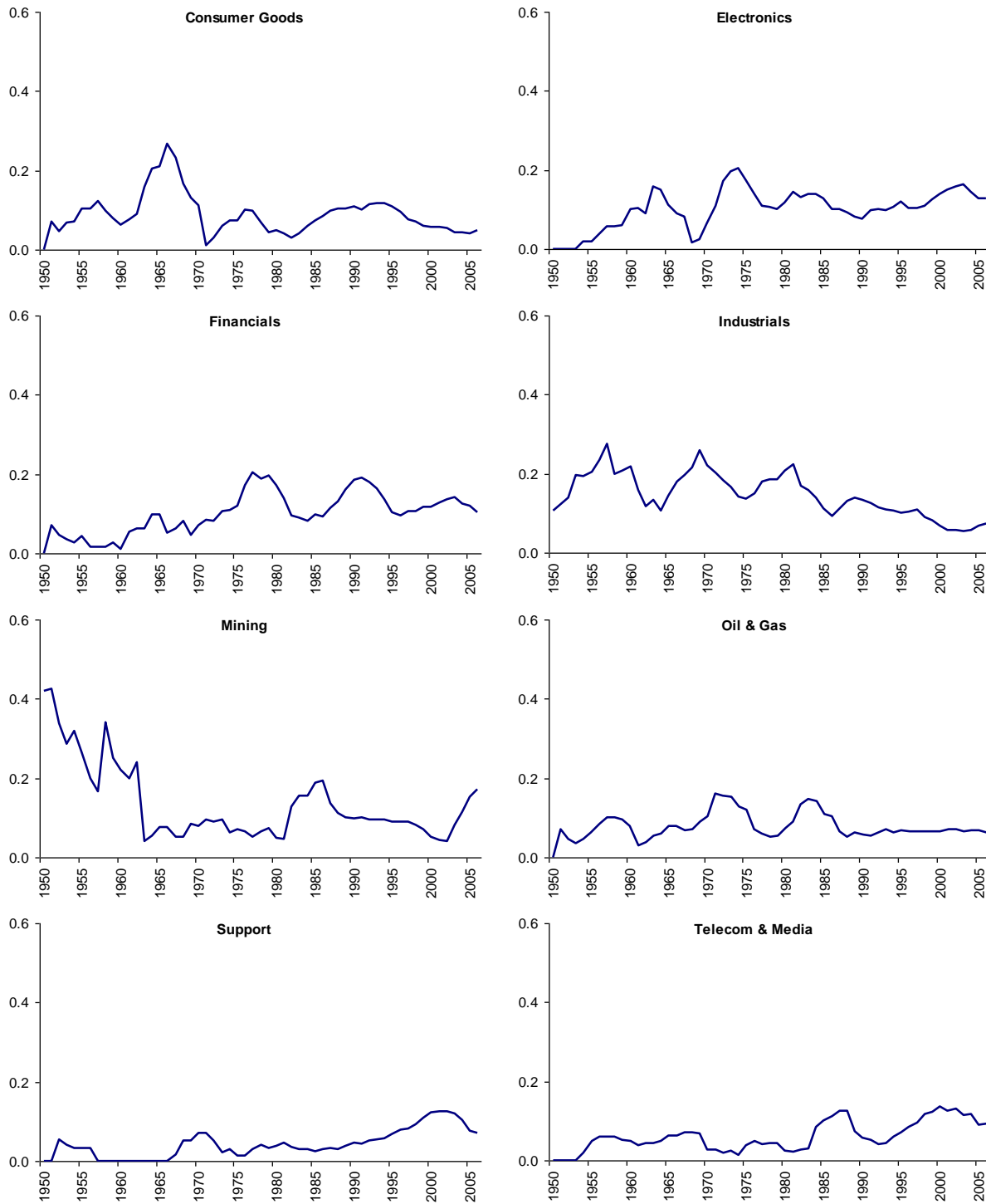
Plot C: Top eight industries

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.
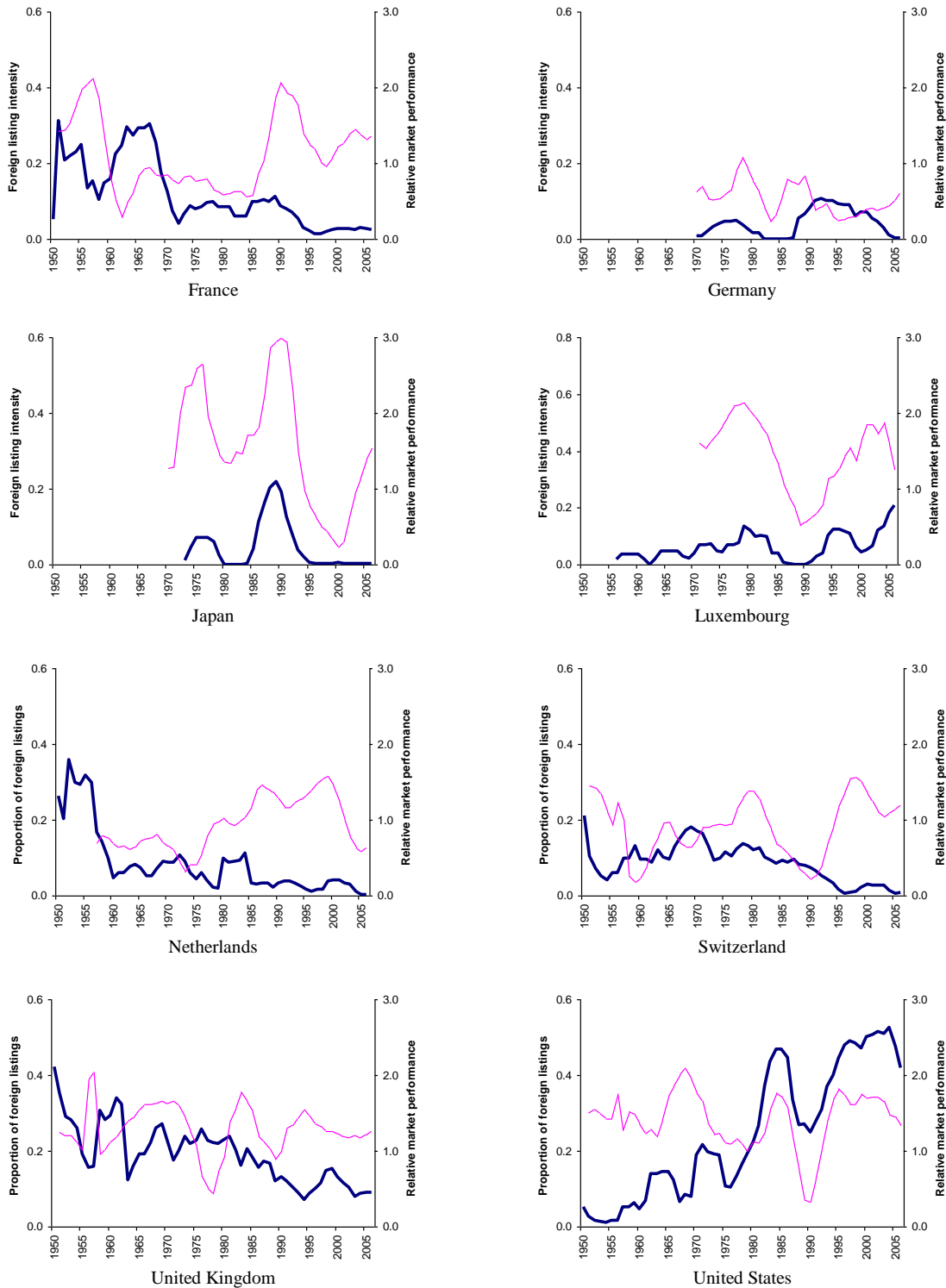
Figure 3. The dynamics of foreign listing placement and relative host market performance. The figure shows the changes in the foreign listing intensity, FLI (thick curve) and relative market performance (thin curve) in eight major host markets for foreign listings over the 1950-2005 period. The relative 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.

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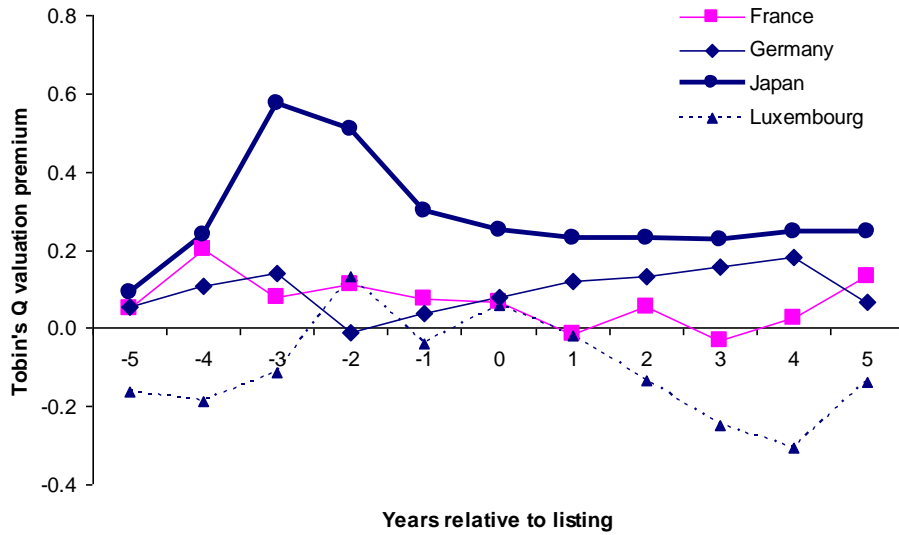
A
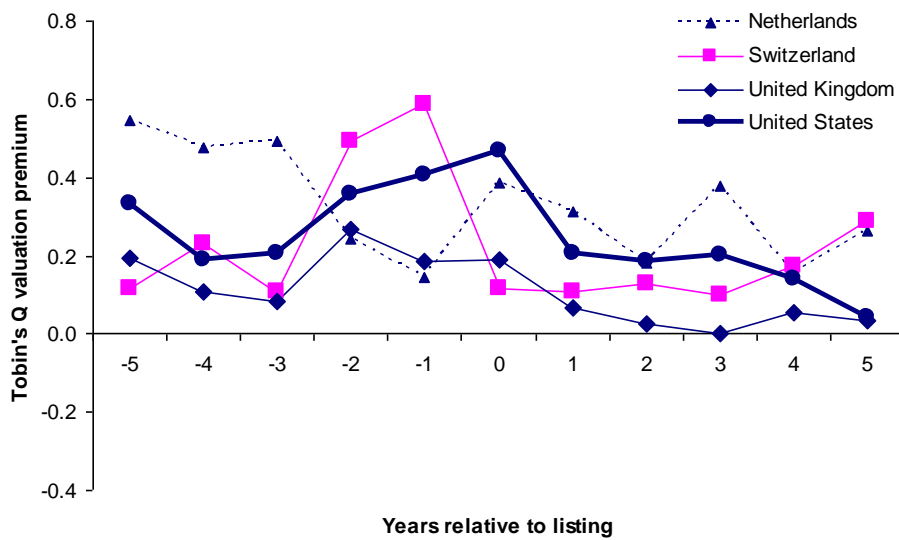
B

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 bore the listing to five or more years after the listing. Year -5 denotes a period prior but including year five before the listing, while year 5 denotes five and more years after the listing.