

**Coming to America:
A Clinical Study of IPOs
in the U.S. by Foreign Firms**

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Coming to America: A Clinical Study of IPOs in the U.S. by Foreign Firms

Following Merton's (1987) hypothesis of capital market segmentation and neglect, we undertook a clinical investigation of 31 initial public offerings (IPOs) by foreign firms in the U.S. market. Field interviews with investment bankers handling the issues and case analyses offer evidence broadly consistent with Merton. Fundamentally, foreign firms behave, and speak as if their home equity markets are segmented from America. Foreign firms come to America in the belief that their securities are undervalued at home, and will be appropriately valued in the U.S., and out of a desire to obtain greater financial flexibility by listing their securities in America. The equity market opportunity foreign firms seek to exploit and offer to investors is one of growing convergence between their home market and America. Consistent with Merton's hypothesis, all else equal, we find higher issuance costs for foreign issuers than for purely American IPOs. Also, within the sample of foreign issues, we find that greater neglect is associated with higher issuance costs. The underwriters for these issues are unusually concentrated with three firms participating in the leadership of over half the observations in our sample. The IPO process for foreign firms focuses on preparing the firm for U.S. shareholders—particularly emphasizing transparency, the quality of financial reporting, and the respect for shareholder rights. The substantive message of the “road show” emphasizes the stability of the firm, its significant place in its home market, and convergence of the home market with the U.S. Generally, the findings here are consistent with Merton's hypothesis that neglect is costly and that underwriters perform a function in overcoming that neglect.

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...modest recognition of institutional structures and information costs can go a long way toward explaining financial behavior that is otherwise seen as anomalous to the standard frictionless-market model.

--Robert C. Merton (1987, p. 486)

1. Introduction

Merton (1987) argues that markets can be segmented by information to the extent that investors purchase only the securities of the firms they know. The incompleteness of markets may create “neglected firms” that are less well-known to the capital markets and thus face higher capital costs than better-known peers. The essence of Merton’s theory is that segmentation and neglect affect value and the cost of capital. Almost by definition, segmentation and neglect are difficult to study by conventional means. For example, a growing literature in international finance documents ‘quantifiable outcomes’ of equity offerings in off-shore markets (or this case the U.S.),¹ such as gross spreads, initial or long-run returns. However, the measured outcomes of these offerings are unlikely to reveal the full extent of the effort made by the firm and underwriters to overcome the hurdle of being unknown in the market.

Since 1990, 333 international firms have listed on a U.S. stock exchange and raised equity in the U.S. markets. In most of these cases, the firms are first time entrants to the U.S. markets. Foreign issuers, and in particular first time entrants into a market, appear to face a sizeable challenge of making themselves known to the U.S. investor community. If market incompleteness affects value, these firms will have incentives to engage the services of intermediaries such as investment bankers to broaden the pool of investors familiar with the firm and reduce their costs of capital (Benveniste and Spindt, 1989 and Parsons and Raviv, 1985).

To explore the implications of information asymmetry, neglect, and segmentation on the financing of firms, we undertook a clinical investigation of 31 foreign firms that made an initial public

offering of equity (IPOs) on a U.S. exchange after 1990 and issued public debt or equity securities in the U.S. markets on at least one other occasion before 1998.² Being headquartered outside the U.S., most of these firms were not casually known to U.S. investors. We constructed case histories of these firms and conducted field-based interviews of the leading underwriters handling the issues. To date, little is known about the behavior and tactics investment bankers employ in gaining investor recognition and to what extent these efforts differ for IPOs by foreign and U.S. based issuers. Nonetheless, to achieve a successful offering, underwriter efforts must surmount the degree of neglect found in the marketplace. Hence, our detailed study of a few IPOs yields insights into the nature of the challenge faced by foreign firms in general from being unknown in new markets.

From the case studies, we determined that generalizations about the entire sample would be difficult, for the firms varied significantly by factors such as size, country of origin, and prior affiliation with U.S. firms and investors. We augmented the case studies with extensive cross-sectional data on characteristics of the issuer, issue and market conditions. From this, we studied segments within the sample to look for patterns of experience and differences in economic outcomes. This led to the development of several specific empirical findings that did not appear to support the theory or that were at odds with the results of the prior literature on IPOs. We interviewed the investment bankers to seek explanations for these ‘anomalous findings,’ and obtained insights into how the process of bringing a company public differs for a foreign and U.S.-based issuer. More importantly, the field interviews ascribed a common motive to the issues that was not readily apparent in the diversity of the sample. One investment banker suggested the foreign issues were a bet on “convergence theory,” that the home markets and economies in which these firms operate will integrate with the U.S. and other developed economies. The apparent ease with which U.S. investors can perceive this link is a critical factor in determining the firms that come to the U.S. market.

¹ Miller (1998) and Foerster and Karoyli (1998) investigate the effects of ADR issuance.

The principal findings of this study are:

1. Foreign firms making IPOs in the U.S. are larger, more mature, and have a more significant if not dominant position in their home markets than U.S. firms making U.S. IPOs. This difference was emphasized by bankers in the field interviews, and is instrumental to understanding the impact of neglect.
2. The underwriters for these issues are unusually concentrated. Three firms participated in the leadership in over half the observations in our sample.
3. The IPO process for foreign firms emphasizes preparing the firm for U.S. shareholders—particularly enhancing transparency and the quality of financial reporting, and respect for shareholder rights. The substantive message of the “road show” emphasizes stability of the firm, its significant place in its home market, and convergence of the home market with the U.S.
4. Foreign firms come to America in the belief that their securities are undervalued at home, and will be appropriately valued in the U.S., and out of a desire to obtain greater financial flexibility by listing their securities in America. Issuance in U.S. markets is therefore perceived to play an important certification role in promoting more efficient pricing in the home market. Fundamentally, the foreign firms behave, and speak as if their home equity markets are segmented from America. The equity market opportunity they seek to exploit and offer to investors is one of growing convergence between their home market and America.
5. All else equal, foreign firms experience higher indirect costs of issuance than do their U.S. counterparts. This is consistent with Merton’s theory of segmentation and neglect. Also consistent is the pattern of issuance costs for subsamples of foreign issuers: costs are higher where neglect is arguably higher. But this key finding is apparent only after controlling for differences among issuers, and for market conditions—without controlling for these effects, it appears that foreign issuers

² Clinical studies have at least three distinguishing features. First, they focus on one or a few cases. Second, they involve field research, typically interviews of practitioners. Third, they aim to introduce new ideas, rather than strictly test hypotheses. The present study fits these criteria.

experience *lower* issuance costs. The field interviews with investment bankers helped resolve this apparent anomaly by articulating the full range of dimensions by which offers could differ.

In sum, the case histories, field interviews, and cross-sectional analysis produce findings broadly consistent with Merton's theory of neglect and segmentation. These clinical insights marry well with the theory and empirical work in capital raising. The study also reveals interesting anomalies that warrant further examination.

2. The sample of foreign issuers

As a sample for our field research, case studies, and cross-sectional analyses, we sought firms that were arguably neglected, but nonetheless had successfully entered the U.S. capital markets. Accordingly, we identified firms using the following criteria:

1. The firm was defined by location of its headquarters, business franchise, and operations as outside of the United States. We hoped to select firms that were less known to investors in the U.S. We sought a diverse sample of foreign issuers on the basis of location, size, industry, and date of offering.
2. The firm made an initial public offering of equity in the U.S. since 1990. We focused on *initial* issuance in hopes of maximizing the information asymmetry to which Merton refers. In addition, we focused on public offerings of equity in the belief that these would pose the greatest challenge in overcoming neglect.³ For possible insights about segmentation and neglect, Merton (1987) directs our attention to firms that “undertake a negotiated underwriting through an investment bank with broad distribution capabilities. Because the benefits are likely to be greatest for lesser-known firms with large firm specific variances, perhaps the best class of underwritings to examine for these effects is the closely-held firm undertaking an initial public offering (Merton 1987, p. 503).”

³ We make no assumption that public issuance of debt and private issuance of debt or equity (under Rule 144a) require less information, but merely suppose that the offering process of a public equity issuance impose high standards of disclosure of information, and marketing to investors.

3. Using the Security Data Corporation (SDC) New Issues database, we identified 333 foreign firms that simultaneously listed on the New York, American Stock Exchange or NASDAQ and undertook an initial public offering between January 1, 1991 and December 31, 1997.
4. The sample of 333 was reduced to the clinical sample of 31 foreign firms by restricting the sample to IPO issuers that returned to the U.S. capital markets a second time to issue debt, equity, or both during the 1991-1997 period. This results in a sample of “repeat” issuers in the U.S. markets, firms that *ex ante* would likely have strong incentives to overcome problems of neglect and to establish a worthy reputation in the U.S. markets and that *ex post* have arguably surmounted the challenges. It remains for future research to extend the insights derived here to other foreign firms that may be even ‘more neglected.’⁴

3. Research methodology

We studied the sample of 31 issuers as follows:

1. *Reconstructed case histories.* Our first step was to reconstruct the factual story of each issuance from public information. This included developing a business profile of the issuer leading up to, and following the equity issuance, examining news about the IPO as it arrived into the public markets, studying announcements and filings with the SEC. Data about the specific terms and price performance of each offering were gathered for use in the cross-sectional analysis. But the chief focus of this phase of our work was on the context and institutional setting of the offering: we sought to understand the challenge posed by equity issuance from the standpoint of the issuer and its underwriter.

⁴In examining the 31 IPOs, we are cognizant of possible selection bias. Prior literature suggests that the frequency of issue and the ability to raise capital in international and off-shore markets is associated with ‘high quality’ firms (e.g, see Kim and Stulz, 1988, Marr, Trimble and Varma, 1991, and Chaplinsky and Ramchand, 1998a.) Collectively, this research suggests that the firms issuing abroad (or in this case the U.S.) are not a random sample of all issuers but rather firms that have certain characteristics that facilitate their use of the market. Consequently our sample may be biased toward more well-known foreign issuers that should experience less difficulty in gaining investor recognition.

2. *Field interviews of underwriters.* From the case histories, we identified three investment banks that were either the book-running (lead) underwriter, or co-manager in approximately half of the observations in our sample. These firms were Merrill Lynch, Credit Suisse First Boston, and Morgan Stanley. We requested interviews with senior investment bankers in equity underwriting at each firm, especially seeking individuals who had participated in one or more of the IPOs in our sample. We agreed not to identify the individuals interviewed, and to permit those individuals to comment upon drafts of this paper. We obtained four interviews. We focused on investment banks for our interviews following Merton's suggestion that it is the underwriter that enables the issuer to surmount the problem of neglect.
3. *Cross-sectional analysis.* The case histories and interviews raised a number of insights that we sought to explore across the entire sample of 31 observations and for subsamples of issues. We conducted cross sectional analysis of firm and issue characteristics, market conditions, and the effect of various indicators of neglect. The data analysis supported key case-specific observations, and in particular, the assertion of the investment bankers that foreign issuers coming to America have important sub-segments with distinctive profiles.
- In short, drawing on all three perspectives, we sought to triangulate toward an understanding of "neglect" and its effect on capital raising.

4. Selected Characteristics of the Foreign IPOs

Table 1 lists the sample of 31 foreign IPOs, and for each we report the issuer, the date of the IPO, listing exchange, country, and industry. No obvious pattern emerges from the data. Some issuers, such as Rhone-Poulenc or YPF, are large enterprises at the IPO and thus likely enjoy some degree of U.S. investor recognition, while others such as Grupo IMSA or Andina, are much smaller and likely unknown outside of their home markets. Issuers come from 14 different countries that range from developed countries such as the United Kingdom and France to emerging economies such as Mexico, Chile, Korea, and Argentina. A wide range of industries is also represented in the sample from basic steel and

paper/pulp processing to high tech industries, such as telecommunications, media and wireless communication. The foreign IPOs occur in the following years: 1991 - 1, 1992 – 5, 1993 – 6, 1994 – 8, 1995 – 3, 1996 – 4, and 1997 – 4. Except for the first two years, IPOs occur relatively steadily throughout the sample period.

Table 2 presents selected attributes of the 31 foreign issuers and IPOs. In addition to the data from Securities Data Corporation, financial statement data for the issuers are obtained from Compustat PCPLUS. For the entire sample of IPOs, foreign firms have average assets of \$3.5 billion, have median assets of \$888 million, and range in size from \$18 million to \$26.5 billion. The median issue size of \$234 million (mean, \$359 million) represents 26% of the firm's assets. The large discrepancy between the mean and median reflects the skewness caused by a few very large firms and issues in the sample. Based on the prior number of outstanding shares, the IPO increases the firm's common shares by an average of 23%. Some 58% of the offer is typically targeted for the U.S. market. Chaplinsky and Ramchand (1998a) find that U.S. firms issuing seasoned equity abroad typically target only 20% of their offers for non-U.S. markets. Thus, by comparison foreign issuers have substantially higher amounts targeted for the U.S. (or their foreign) market. On average 75% of the shares issued are primary shares. In the year before the offer, long term debt to the book value of equity averages 80%. Fifty percent of the foreign firms state that debt reduction is an important objective of the offer.

To the extent foreign firms face a hurdle of being less well known, they are more likely to raise capital under conditions of strong investor demand, all else equal. As a proxy for investor demand, we examine the market conditions surrounding the announcement of the capital-raising event. The literature on seasoned equity issues suggests that announcements of equity issues are more likely to follow periods of strong market performance in general and of the firm's stock price in particular (see, among others, Asquith and Mullins, 1986, Masulis and Korwar, 1986, Mikkelsen and Partch, 1986, Korajczyk, Lucas and MacDonald, 1990.) Cross border issues, however, may not follow this pattern. For instance, international portfolio diversification arguments could support a scenario where foreign firms are more likely to issue under relatively weak U.S. market conditions and relatively strong home market

performance. Also, U.S. demand is likely to be higher when the foreign currency is relatively weak against the U.S. dollar. In panel B of Table 2, we report the home market performance, U.S. market performance, and currency performance prior to the announcement of the issue. The data on home country stock indices, stock prices and currencies are obtained from Datastream, Inc. The home market runup, $HMKT(-60, -2)$, is the cumulative return from day -60 to day -2 on the issuer's home country index relative to the announcement date (day 0).⁵ Similarly, for the nine firms that are listed on their home country exchange, home price runup, $HPRICE(-60, -2)$, is the cumulative return from day -60 to day -2 for the issuer's stock. $HCAR(-1, +1)$ is the cumulative market adjusted abnormal return over a 3 day window around the announcement of the offer. Abnormal returns are net of market returns where the firm's return is the return on the firm's securities in the home market minus the appropriate index for the home country stock market. The U.S. market runup, $USMKT(-60, -2)$, is the cumulative return for the CRSP value-weighted index over the same period. $CURR(-60, -2)$ refers to the percentage change in the exchange rate defined in units of the foreign currency per U.S. dollar over the 60 days prior to issue. Positive values of $CURR(-60, -2)$ imply a strengthening of the U.S. dollar vis-a-vis the home country's exchange rate.

The findings in Table 2 indicate that foreign firms are more likely to raise capital when their stock performs well in their home equity markets. However, the home price run-up of 6.2% is considerably lower than the 60 day runup reported in prior studies of seasoned equity issues. Further, foreign IPOs occur when the U.S. market has risen 3.9% in the 60 days prior to issue but this rise is not nearly as large as the 12.1% increase observed in the issuer's home market. In general, the U.S. dollar has appreciated modestly relative to the issuer's currency in the 60 days prior to issue.

In Table 3 we examine the direct and indirect costs of equity issuance by foreign issuers. We measure direct issue costs by the gross spread, which is the sum of the management fee, underwriting fee, and selling concession as a percentage of the amount offered. The average gross spread for foreign IPOs

⁵ For the UK, this is the FTSE, for Mexico it is the Bolsa, etc.

is 4.6% and ranges from 3.0% to 7.0%. A number of studies document an inverse relation between offering size and gross spread (Smith, 1977, Lee, et al, 1996, and Booth and Smith, 1986), and this relation also holds for the foreign IPOs. The upper quartile of large offers (average issue size \$974 million) has a gross spread of 3.7%, while the bottom quartile of smallest offers (average issue size \$81 million) has a gross spread of 5.9%. Indirect costs are measured by the initial returns or underpricing of the IPOs. Day n initial return (IR) is the day n close price in relation to the offer price. CAR(n) is the cumulative market adjusted return for the n day period following the offer date. The Day 1 IR and CAR(1) both average 3.9% while the Day 5 IR is 3.78% and CAR(5) is 3.86%, respectively. Longer-run performance measures for the foreign IPOs indicate that on average stock price increases by 5.7% after one month's trading and by 17.9% after one year. By comparison, Ritter (1991) reports an average initial return of 14.3% and cumulative raw returns inclusive of the IR of approximately 17% and 15% after one month and 12 months.

Since studies of firm-commitment IPOs report initial returns of anywhere from 8-15%, the IPOs by foreign issuers appear to be less underpriced than their domestic counterparts. Prior studies often use underpricing as an indicator of the uncertainty or lack of familiarity with an issue—what we have referred to as neglect. Consequently, the preliminary results suggest that the foreign issuers are 'less neglected' as a group than the typical IPO.

5. Results of field interviews

While the first three tables present some basic facts about the sample, field interviews illuminated the IPO experience of the foreign firms coming to the U.S. Our analysis of the underwriting syndicates of the cases in our study revealed that in 17 of the 31 IPOs (or 55 percent) three firms appeared as the book-running underwriter, or co-manager: Credit Suisse First Boston, Merrill Lynch, and Morgan Stanley. We obtained interviews with senior investment bankers at each firm who served in the equity underwriting department, and had worked on one or more of the cases in our study. We asked each person to describe the IPO in our sample with which they were most familiar, and posed five questions:

1. How do you know when a foreign firm is ready to “come to America” in an IPO?
2. Why do foreign firms “come to America”?
3. What impediments or special obstacles exist for those firms?
4. In what way(s) might the IPOs by foreign issuers be different from domestic issuers?
5. How do you explain the “IPO discount” or initial return, and how does it differ for IPOs of foreign firms?

The accumulated responses to these illuminated the experience of the 31 cases in our sample in five key areas: 1) the profile of offerors and indicators of their readiness to enter the U.S. equity markets; 2) motives for coming to America; 3) impediments or obstacles to entering the U.S.; 4) how the issuance process is tailored for the foreign issuer; and 5) direct and indirect costs of issuance.

5.1 Indicators of readiness to come to America

The underwriters screen IPO candidates for suitability. Each of these firms requires bankers to seek approval from committees of senior professionals in the firm whose interest is in controlling for the quality of securities offered to investors, and managing the underwriting risk of the firm. One banker said, “The mercenary view is that we’ll underwrite anything we think we can sell. But in reality that’s not the way it works. Fundamentally, we ask ourselves, ‘Is this a good company?’ because our firm has a reputation to protect; we want to be associated with a certain kind of deal.”

Five special considerations proved to be quite influential in the evaluation of foreign (as opposed to domestic) offerors. First was *transparency*: the offeror’s accounting statements needed to be reconciled with U.S. GAAP, and the offeror needed to be oriented to timely disclosure of financial results and news to shareholders. One banker said that financial statements had to be “sufficient, accurate and rigorous.” Second was *governance*: many foreign economic environments do not share the strength of commitment to shareholder rights that exists in the U.S. The bankers sought evidence and assurance that the management of the foreign firm would respect these rights. Third, was *significant competitive position in the home market*: “dominant player,” “bellwether,” and “high profile position” were terms

used to describe offerors. Fourth was *maturity*. Unlike a number of Internet and technology IPOs in the late 1990s, foreign offerors had to show longevity of operations. Finally, the *strength of the home market economy and presence of the offeror's equity in the home equity market* were serious influences.

5.2 Why come to America?

The bankers mentioned two factors that most motivated the foreign issuers to enter the U.S. equity markets. First was the belief that their securities would be valued more highly in the U.S. than in the home market. For instance, Valmet Oy, the Finnish manufacturer of paper-making equipment, had been trading on the Helsinki exchange at a price-to-earnings multiple that was one third of its U.S. peer, Harnishfeger. By listing in the U.S. Valmet hoped to attract a “cross-over” investor who had an interest in that industry and could be persuaded of a valuation opportunity. By the time of its IPO in the U.S., Valmet’s price-earnings multiple had risen to 80 percent of Harnishfeger’s. At the heart of the valuation argument for coming to America lie two beliefs. One is that the issuer’s local market is imperfect. A banker said, “Many of the local foreign markets are casinos. Investors are not sophisticated. They look to the international investors for guidance on valuation.” Another banker said, “the big issue here is neglect in the *home* market. The issuers, in effect want to set up a feedback mechanism to correct misvaluations at home.” The other core belief was that valuations in the home and international markets would *converge*. One banker said, “investors in the U.S. looking at foreign firms are betting on a convergence theory of investment, that valuations will equilibrate across markets—this could be extended to convergence on the operating side that for instance, the demand for Coke in Latin America will prove to be as strong as it has been in the U.S., or that as telecommunications firms are deregulated around the world, they will prove to be as profitable as in the U.S.”

A secondary factor in coming to America was a desire to obtain an alternative source for equity capital. A banker said, “It is a good insurance policy to have U.S. tranches of equity offerings. The issuers fear the depth of their local equity markets. Listing in the U.S. provides tremendous access to U.S. institutional investors, the seed of an investor base in the U.S. If the issuer wants to grow its

business in the U.S. then having an investor base here helps. It gives an acquisition currency. It's a stepping stone."

5.3 Impediments or obstacles

A banker said, "unfamiliarity, the absence of proximity are huge barriers." They said that institutional investors were the primary U.S. investors in these IPOs, and that given the distance and unfamiliarity with the issuers, the institutions depended more heavily on the underwriter for research insights, for meetings with executives of the issuer, and generally for the underwriter's preparation of the issuer to come to America. Because direct meetings in the form of a "road show" mattered greatly, differences in language and culture could affect the reception of the offering by investors. One banker said that the relationship between investors and companies as it exists in the U.S. is not well understood elsewhere in the world: "their reaction is not respectful of U.S. investors—there is a wide communications gap." Bankers also noted that the absence of comparable securities in the U.S. with which investors could benchmark the valuation of the IPO issuer often proved to be a material impediment.

5.4 Tailoring the issuance process for foreign firms

As a result of the special profile of foreign IPO issuers, their motives for entry, and the hurdles they face, the underwriting experience of these transactions differs from domestic issuers. Our questions delved into the pre-offering process, the substance of the selling arguments, and after-offering price stabilization.

Bankers offered several illustrations of ways in which the foreign IPO differed in the pre-offering process. In one instance the bank worked with the client for over a year to prepare the firm for the IPO. The banker said, "We formed nine working groups to comb through the client's treasury operations to ensure that the firm was not leaking cash, and that processes and controls were in place in the management of the firm's funds. We wanted to ensure that they were able to report to the SEC on time;

that they had modern reporting systems and knew how to use them. Our role was like a venture capitalist or strategic consultant. We helped them put together a five-year plan.”

In broad outline, the bankers suggested that the “book-building” process of the IPOs of foreign issuers was no different from domestic issuers. Yet the bankers also revealed some differences in the examples they cited. A banker said “the road show is even more important for foreign issuers than for domestic issuers. It takes more effort. Investors want to meet management and get comfortable with the management team. Investors want to gain a sense for how open, receptive and responsive management will be to the investors.” All of the bankers indicated that differences in culture and language had to be tackled in advance of the road show. One banker told of a CEO who was perceived as a dynamic and charismatic leader when speaking in his native tongue, who was reduced to a halting and unsure speaker in English. The remedy often proves costly. A banker cited this example: “we demanded that one CEO take a month-long crash course in English before going on the road. This was costly for him, but essential.” Another banker emphasized that the international context can pose issues that do not arise with domestic IPOs. He noted, “our marketing strategy is to create a perception of scarcity. We are selling on the basis of an expectation of convergence of foreign and U.S. markets; therefore, we must emphasize that the issuer has a major position in an economy that is growing rapidly and converging.” In this regard, a banker related that he toured the U.S. and Europe with the Finance Minister of a Latin American country as part of the road show for the IPO: “we had to persuade investors that the country was a good convergence bet, so that they would focus on the company.”

The bankers said that IPOs of foreign firms entailed less stabilization than for domestic firms. An underwriter stabilizes prices after the IPO by buying shares in the market. Costs of stabilization are charged against the underwriting syndicate’s fees, and lower the underwriter’s returns. One banker said “you end up stabilizing deals that aren’t done well.” What complicates the stabilization effort is that in a foreign firm’s IPO in the U.S. the offeror’s shares may be traded on several markets and in many currencies. Exchange rate movements may create arbitrage opportunities that trigger stabilization operations.

5.5 Direct and indirect costs of issuance

The bankers commented on the relatively small one-day returns and gross spreads on IPOs of foreign firms. The bankers believed that the lower one-day returns reflected perception of lower risk in the issuers, and market conditions. Regarding risk, the bankers pointed out that a number of the IPOs in our sample were privatizations of enterprises that had commanding positions in the home economies; many of the other IPOs were of firms with dominant positions in their markets. They also noted the relatively large size and mature industries of firms in our sample as indicators of lower risk. Regarding market conditions, the bankers noted that these IPOs coincided with a “window of opportunity” in which investor demand for these deals was very high. Foreign IPOs tended to occur in periods of strong volume where the new issue discount is lower. Finally, the bankers argued that governments tended to be focused solely on maximizing their proceeds from the sale of shares; therefore it was possible that privatizations would show a relatively lower one-day premium.

Regarding the lower gross spread in foreign IPOs compared to domestic, the bankers said that these kinds of transactions were “over-banked.” Second, governments in privatizations tended to select underwriters on the basis of spread pricing, which would tend to narrow the average spread for the sample. And finally, the practice in a number of foreign equity markets is to “price, then sell,” as opposed to the U.S. where underwriters “sell, then price” (meaning that they build a book of orders at various indicated prices, and then set the price to clear the market.) As a result, the expectation of foreign issuers is that price will account for the selling risk, and that the underwriter will not require as large a gross spread.

6. Cross-sectional analysis

The bankers’ comments suggested that the foreign offerors were heterogeneous, differing substantially in the degree of neglect they faced. Additionally, the field interviews attributed the lower

degree of underpricing and gross spread experienced by foreign firms to a lower risk issuer profile and to strong demand for the IPO at the time of issuance. In this section we explore differences in the issuer profile and the intensity of demand between IPOs by our sample of 31 foreign firms, and IPOs by a sample of U.S. firms. We examine factors related to the degree of neglect. For this analysis, a sample of firm commitment IPOs by U.S. firms is obtained from the SDC New Issues database for 1991 to 1997.⁶ This sample included 3,267 U.S. IPOs.

6.1 Effect of issuer profile

The industry distribution of the 31 foreign issuers is reported in comparison to IPOs by U.S. issuers in Table 4. The bankers' notion of industry differences is supported by the results. The largest number of foreign IPOs occurs in the telecommunications industry (7), followed by foods (4, largely Coca-Cola bottling firms), oil and gas refining/production (3), and transportation (3). The top four industries make up 55% of the foreign IPOs, whereas the same industries make up less than 10% of the domestic IPOs. Similarly the top four industries among U.S. IPOs (services, banking, measuring instruments, and retail) which make up 36% of the offerings represent only 7% of foreign IPOs. This evidence indicates that foreign IPOs are primarily associated with well-defined products and investments in infrastructure, as a group they lack the speculative dimension often seen in domestic IPOs.

Prompted by the investment bankers' comments, we examine two aspects of the issuer profile, one related to industry and the other to asset size as an indicator of "maturity." In Table 5, we examine the extent to which the lower underpricing and gross spreads of foreign IPOs remain after accounting for size and industry differences in the issuer profile. We create two matched samples of 31 foreign and 31 U.S. IPOs to control for these differences. The first matched sample (Industry matched) is constructed as follows:

⁶ U.S. IPOs can be made in whole or part in the U.S. market. "Unit offers" are excluded from the sample. To focus on corporate capital raising, IPOs for closed-end funds and other investment trusts have been eliminated.

1. For each of the 31 foreign firms we identify a domestic IPO offered within one month of the foreign IPO offer date.
2. From these firms, we choose a domestic firm that matches the 3 digit SIC code of the foreign firm. If more than one match is available, we choose the U.S. firm that is closest in asset size to the foreign firm.⁷

For the second control sample (Asset matched), we repeat step 1 but then choose the domestic firm that is closest in asset size to the foreign firm.⁸ Even after attempting to find the closest possible matches among the domestic IPOs, large differences remain in size between the groups. Relative to an average IPO issue size of \$55 million for U.S. IPOs, both control samples result in a better match with foreign IPOs.

However, while the asset matched sample has a mean and median issue size closer to the foreign IPOs, both control samples yield similar results. The Day 1 Initial Return (IR) is higher on average for the foreign IPOs in both matched samples, and the difference is significant in the industry matched sample.

Independent of statistical significance, the two-fold difference in average underpricing between the groups is economically significant. Thus, underpricing continues to be lower for foreign IPOs despite controlling for offer time, industry and assets size. Gross spread is significantly higher on average for the U.S. IPOs relative to foreign IPOs. Consequently, the lower direct and indirect issue costs for foreign IPOs stem from differences in the samples beyond industry and asset size.

6.2 *Effect of demand on underpricing*

A second factor mentioned by investment bankers in explaining underpricing is the demand for the IPO. Assessing the demand for an IPO is difficult because demand could stem from the unique properties of an IPO or could be linked to overall demand and interest in IPOs. In Table 6 we investigate

⁷ In only two cases is there more than one industry match.

⁸ Given the relatively large size of foreign issuers, the second control sample will predominantly match foreign IPOs to U.S. IPOs of financial firms, as they have the largest assets. Since only one foreign firm is a financial firm, we restrict the control sample of IPOs to exclude financial firms and attempt to find the closest size U.S. IPO with the industrial and utility groups.

the role of demand using two proxies for demand used in prior studies. The partial adjustment phenomenon documented in Hanley (1993) suggests that underwriters fail to adjust the offer price high enough when they encounter unexpectedly strong demand on the road show. As a result, in her study ‘above the file range’ offers experience mean underpricing of 20 percent in comparison to 10 percent for the whole sample. Following Hanley (1993), we compute the percentage of offers that occur below, within, and above the preliminary file range. For the foreign IPOs, 4 (12.9%), 18 (58.1%), and 9 (29.0%) of the offers are sold below, within, and above the preliminary file range. For the industry matched sample, 7 (22.64%), 16 (51.6%), and 8 (25.8%) of the offers are sold below, within, and above the preliminary file range. The results show that the number of above the file range offers is similar between the groups. In Table 6, we report the underpricing associated with the file range categories for the foreign and U.S. IPOs. Across the file range categories underpricing does not vary from the average to the same extent for foreign IPOs as domestic IPOs. Underpricing averages 4.3% for the above file range foreign IPOs—just slightly above the overall mean of 3.9%, whereas for U.S. IPOs, the above file range offers confirm Hanley’s result of two-times average underpricing. Consequently, the underpricing associated with foreign IPOs is largely insensitive to the demand conditions encountered on the road show relative to domestic IPOs.

Demand for IPOs and underpricing have also been associated with the overall volume of IPO issuance. The IPO literature has generally associated underpricing of IPOs with an absence of issue volume. Ritter (1984) attributes high underpricing to excess demand for particular IPOs. High underpricing stimulates other firms to subsequently enter the market and as volume increases, lower new issue discounts follow. However, there is conflicting evidence about the purported effect of IPO issue volume on underpricing. For example, Helwege and Liang (1999) find that IPOs are underpriced more in high volume markets but the degree of underpricing is not significantly different from low volume markets. The explanation of lower underpricing for foreign IPOs expressed to us by the investment bankers appears to conform most closely to Ritter’s (1984) argument. If so, we should find that foreign firms issue in high volume markets and that these markets exhibit lower new issue discounts.

In the bottom panel Table 6, we examine to what extent the foreign IPOs occur in periods of high IPO issue volume. For each month in the sample, we compute a ratio of the volume of U.S. IPOs issued in month t to the total volume of U.S. IPOs over 1991-1997. The median value of this ratio is determined across the sample months. “Hot” (“cold”) periods are defined as the months with above (below) median ratios of monthly to total issue volume.

The high volume, low underpricing story is not fully supported by the results. First, a smaller percentage of foreign IPOs occurs in high volume months than domestic IPOs. Second, new issue discounts are considerably higher in high volume periods regardless of whether the issue is a foreign or U.S. IPO. These results are unchanged if we classify the hot and cold periods based on more extreme criteria, such as the top and bottom 25% and 10% of months. Overall, the results suggest that foreign IPOs tend to occur in low to moderate issue volume periods, where new issue discounts are lower. The occurrence of low volume and low discount offers is not consistent with strong demand driving the lower underpricing of foreign IPOs.

6.3 Factors related to the degree of neglect

Beyond size and industry, several other dimensions were significant to the bankers in understanding the underwriting challenge and the degree of neglect experienced by foreign firms. These dimensions include: 1. whether the issuer hails from a developed rather than emerging market country, 2. whether the transaction entails a privatization of a state-owned enterprise, 3. whether the issuer has equity traded in its home market; 4. whether the firm has issued securities previously in the U.S., and 5. whether the issuer has connections with a U.S. firm. Appendix 1 details these neglect factors for the 31 foreign IPOs. Most importantly, the bankers supported Merton’s suggestion that neglect is associated with certain outcomes such as higher issuance costs and less reliable information. In Table 7, we examine the factors related to neglect and how they relate to selected characteristics and outcomes of the IPOs. All else equal, we expect that the degree of neglect will be lower for foreign IPOs that possess these characteristics and will result in lower issue costs relative to those without these characteristics.

6.3.1 *Effect of maturity of the home market: developing or emerging*

Table 7 decomposes the characteristics of issuers by whether the home market is “developed” or “emerging.” Our criterion for distinguishing between the two groups is the credit rating of sovereign debt for the home country. Countries rated AA or higher by Moody’s are considered “developed,” and countries rated A or lower are considered “emerging.”⁹ One hypothesis is that the firms from emerging markets are likely to be less known and hence have to overcome a bigger hurdle in raising capital in the U.S. Alternatively, emerging market issuers may be among the better known firms in their home markets and gain some notoriety from that. Twelve or 39% of the issues arise from issuers of developed countries and 19 or 61% arise from emerging market countries. The average firm size is approximately the same for developed and emerging issues, but emerging market issuers appear to make larger offers. A larger percentage of emerging market issues involve primary shares and 64% of the issuers, the highest in the sample, indicate that the proceeds will be used to pay down debt (not reported). The stock price performance of emerging market issuers far exceeds that of firms from developed countries. Further the home market performance is significantly better than for the U.S. equity market.

Turning to the outcomes of the IPOs, Table 7 reveals that emerging country issuers experience first day initial returns of 5.31% versus 1.77% for developed countries, and this difference is statistically significant. This result is consistent with emerging country issuers being more neglected. Gross spread is not significantly different between the groups.

6.3.2 *Privatization*

Privatizations of state-owned enterprises tend to be large, attention-grabbing transactions. The size of the deal permits fees that are large in an absolute sense, and thus may motivate intermediaries to sell harder than otherwise. Hence, the investment bankers cited privatization as an element that would

⁹ For purposes of this analysis, a simple two-category seemed most appropriate. Nevertheless, some A-rated countries are arguably more developed than “emerging” while countries like Colombia, Chile, Indonesia, India,

reduce the degree of neglect associated with an offer. Table 7 confirms that assets are six times higher on average in a privatization IPO relative to other IPOs. The issue size in privatizations is four times greater than non-privatizations. Table 7 reveals, as in other breakdowns, a more buoyant home market for the more neglected subsample than for the privatizations.

First day initial returns are consistent with privatizations being less neglected but the indirect costs of issue are not significantly different. Table 7 also reveals significantly lower gross spreads for privatizations. A consensus among the bankers was that governments were especially price conscious clients who aimed to reduce the direct costs of issuance: the data are consistent with this view.

6.3.3 Prior listing in the home market

Another factor that is likely to enhance investor's familiarity with the firm is whether the issuer has traded equity in its home market before its U.S. IPO. Twenty-two of the IPOs are 'true' IPOs in the sense that no prior trading history exists for the firm's equity. The other nine, designated as 'traded equity' IPOs, have stock that trades on their home market exchange prior to the U.S. IPO. As Table 7 shows, the firms with traded equity in the home market are considerably larger firms that make larger issues than those without traded equity. Both of these findings are consistent with the notion that IPOs with traded equity are relatively better known among investors.

Table 7 reveals that the IPOs without traded equity in the home market experience significantly higher degrees of underpricing than those with prior trading histories. This is consistent with traded equity facilitating more accurate pricing of the U.S. IPO. Likewise, Table 7 indicates that firms without a prior trading history experience considerably higher direct costs.

have historically been rated better than BBB. It seemed to make sense to err by setting a high cutpoint for

6.3.4 Issuance in the U.S. prior to the IPO

Studies also suggest that prior issuance and more frequent issuance can build familiarity in the marketplace (See Smith, 1986, and Jegadeesh, Weinstein and Welch, 1993). For the foreign IPOs, we search from 1987 on to identify any prior issuances in the U.S. market and find:

1. In 21 cases, the IPO is not preceded by any issuance in the U.S. market,
2. In 7 cases, the IPO is preceded by a debt or equity offer under Rule 144A,¹⁰ and
3. In 3 cases, the IPO is preceded by a public debt issue.

Since prior issuance has been associated with lower asymmetric information (Smith, 1986), *ceteris paribus*, category 1 issuers are likely to face a bigger challenge of gaining acceptance in the market. The second category encompasses firms that have issued to qualified institutional buyers (QIBs) via Rule 144A prior to their IPO. Rule 144A gives foreign issuers a ‘toe-hold’ in the U.S. market without necessitating compliance with U.S. accounting standards. Prior issuance to a group of QIBs could enhance investors’ familiarity with the issuer and affect the pricing of the IPO. Only three firms make an IPO after issuing public debt. Public debt issuance requires full compliance with SEC disclosure standards, and typically requires a bond rating and a following among institutional investors. These arguments suggest that the issuers in category 3 could potentially be the most well known among the issuers.

Issuers are classified into groups that have made a prior issue of any kind (debt or equity, registered or Rule 144A) and that have no prior U.S. issue. Sixty-eight percent of the sample (21 of the 31 IPOs) represents first time issuers in the U.S. market. Consistent with first time issuers being less well known, they are smaller firms that make smaller offers, but the differences in size are not significant. The Day 1

developed/emerging.

¹⁰Rule 144A, enacted in 1990, lifts registration requirements for resales of private placements and allows the sale of private placements among qualified institutional buyers (QIB). In authorizing the change, the Securities and Exchange Commission (SEC) sought to increase access to and the liquidity of the private placement market. In the initiative, the SEC recognized that certain buyers were able to ‘fend for themselves’ in obtaining and processing information about an issuer. Among other criteria, a QIB is an institution (e.g., an insurance or

IR for IPOs by issuers without a prior U.S. issue is 5.62% versus 0.89% for those with a prior U.S. issue. Likewise gross spread is also significantly higher for the IPOs of first time entrants into the U.S. market.

6.3.5 Connections with a U.S. firm or investor

All else equal, it is possible that firms with U.S. connections would be better known to U.S. investors, or that the connection would be a signal to U.S. investors of investment quality. From the case histories we determine that 16 of the issuers had a connection to a U.S. firm or prominent investor through an equity interest, or licensing or franchising relationship. For example, Coca-Cola FEMSA was the franchise distributor for a U.S.-based firm, Coca Cola. In other cases, such as Colt Telecom Group, a well-known U.S. money manager, Fidelity Management Company, is a major stockholder. Table 7 shows, however, that the issuers with U.S. connections tend to be somewhat smaller firms than those without U.S. connections and make smaller offers, although the differences in assets and issue size are not significant. None of the market condition variables are significantly different between the groups. Nonetheless, both the Day 1 IR and gross spreads are significantly higher for issues with U.S. connections. The higher costs associated with issues by firms with a U.S. connection are not consistent with the story about neglect and segmentation. This finding is somewhat surprising given the otherwise uniform result that factors indicative of more neglect lead to increased issue costs.

With the exception of the U.S. connection factor, all of the neglect factors work in the direction suggested by the bankers: more neglect is associated with higher underpricing and gross spreads. Thus, within the sample of foreign issuers there is evidence that greater neglect leads to higher issue costs in a manner consistent with Merton's theory.

6.4 Cross sectional regressions of underpricing and neglect

Still unresolved, however, is the anomaly posed earlier: why the ‘more neglected’ foreign issuers experience lower underpricing than their domestic peers. If being a foreign issuer is a proxy for neglect, then in a comparison of issuance costs between foreign and domestic issuers, the foreign firms should have higher costs. The field interviews offered a possible explanation: foreign and domestic issuers differ significantly in ways that may obscure the actual relationship between neglect and issuance costs. Accordingly, we sought to test this hypothesis in a cross-sectional regression on matched samples of foreign and U.S. IPOs.

In Table 8 we report pooled cross-sectional regressions of the matched samples of 31 foreign and 31 U.S. IPOs where the dependent variable is the Day 1 initial return. The independent variables attempt to control for firm specific factors, market conditions and neglect. The natural logarithms of assets and issue size are intended to control for size as well as firm quality. These variables arguably can also proxy for the position of the firm in the home market as well as maturity, both of which were cited as important factors by the investment bankers. “Upward revision dummy” is a measure of demand for the issue is equal one if the issue price exceeds the high price in the file price range and is zero otherwise. “# of exchanges,” the number of exchanges on which the issue will be listed, provides a measure of the anticipated after-market liquidity for the firm's shares. The “U.S. market runup” variable is intended to capture the “window of opportunity” cited by the investment bankers.¹¹ Finally, a dummy variable “Foreign” is equal to one if the issue is a foreign IPO and is zero for U.S. IPOs. With the other control variables in the regression, the coefficient of Foreign captures the relative effect of neglect between the U.S. and foreign issuers.

In column 1, the coefficient of Foreign is negative for the sample of 31 foreign and industry matched U.S. IPOs. Consistent with earlier results (see Table 7), underpricing is 4% lower for the foreign issuers than U.S. issuers. In addition, upward revisions in the file range and the number of exchange

listings significantly increase the level of underpricing. However, even with the control variables included in the regression, all relevant differences between the groups are not held constant. Unfortunately, only one of the neglect factors mentioned by the investment bankers lends itself to further analysis.¹²

In column 2, we restrict the observations to those firms, foreign and domestic, that are first time entrants into the U.S. market. This eliminates the differing degrees of investor familiarity brought about prior issuances in the U.S. market. In this specification, the coefficient of Foreign is positive and significant, suggesting that for truly first time issuers, foreign issuers experience a higher degree of underpricing. Given the large differences in issuer profile across the groups, it takes considerable effort to hold all relevant aspects of the comparison of domestic and foreign IPOs constant. If this can be accomplished, the evidence suggests that greater neglect contributes to higher capital costs for foreign issuers.

7. Conclusions

7.1 Reflections on neglect, and the U.S. IPOs of foreign firms

The findings of our study of 31 IPOs into the U.S. equity markets by foreign firms between 1990 and 1998 broadly support Merton's suggestion of an association between segmentation, neglect, information quantity and valuation effects. The main evidence is that indicators of relative neglect, such as an "emerging" home country, the absence of prior listing at home or issuance of securities in the U.S., and non-privatization, are associated with deeper IPO discounts and higher gross spreads. Hence the outcomes of foreign IPOs reveal that higher indirect and direct costs of equity issuance result from the incompleteness of information.

¹¹ We tried alternative measures of issue volume, but these were not significant.

¹² Ideally, we would like to have examined the effect of each of the five neglect factors on the cross-sectional variation in underpricing, but the high degree of collinearity between the neglect factors and the foreign dummy precludes that.

Moreover, our field research presents evidence consistent with neglect and its costs. First, companies encounter significant barriers to entry: SEC filings, GAAP accounting, attitudes about shareholder democracy, language and culture. Leading underwriters carefully screen issuers for health of their home market, dominance of their home market, and other factors. Second, foreign companies that successfully surmount these barriers are unusual, probably the cream of the crop of potential issuers. Left unobserved by our study are those potential issuers who tried or wanted to issue, but could not. Third, the issuance process for foreign firms is different: the bankers prepare the foreign firms in ways that are unnecessary for domestic issuers. Fourth, the bankers generally confirmed our finding of generally lower IPO discounts and lower gross spreads.

Cross-sectional regressions incorporating variables suggested by the field interviews confirm that after controlling for firm, market and neglect attributes, neglect is costly. Superficially, it appears that the reverse is true: Tables 3 and 5 offer evidence to suggest that issuers in foreign IPOs have *lower* direct and indirect costs. Only the cross-sectional regressions on matched samples of foreign and U.S. issuers reveal that the foreign first-time issuer in the U.S. bears significantly higher costs. The reversal of finding underscores the need to fully understand all the dimensions by which these issues differ or are perceived to differ in the marketplace.

A larger lesson can also be drawn from an appreciation of the 'gap' in issuer profiles between foreign and domestic IPOs. The differences in size, maturity, industry for foreign IPOs---all indicative of a lower risk profile--speak indirectly to the barrier posed by neglect. The foreign issuers we examine clear the hurdle posed by neglect but the large difference in issuer profile noted for them relative to domestic IPOs suggests that the hurdle must indeed be very high.

This study raises questions of interest to future researchers. In particular, the findings here extend to foreign firms who were not repeat issuers in the U.S.? Do these results hold if the equity market being entered is London, Frankfurt, or Tokyo rather than the U.S.? Does the strength and activity of the underwriter have an impact on *ex post* measures of neglect such as number of analysts following the issuer, and number of institutional investors? How are the valuations in home country equity markets

affected by the U.S. IPOs of bellwether stocks? Finally, this study focused on foreign-ness as a measure of neglect: do the findings extend to other possible sources of neglect such as new technology, and generally, immaturity of the issuer?

7.2 Reflections on the added value from field research

The clinical aspects of this study (field interviews and examination of cases) contributed important insights about the origins of segmentation and neglect that Merton hypothesized, and the ways that investment bankers help foreign firms surmount the problems of neglect. These insights have to do with the profile of issuers, the quality and breadth of diffusion of information. They also regard the ways in which financial intermediaries can assist in alleviating problems of quality and diffusion. If there is a lesson for research methodology here, it is that the clinical approach can be an effective avenue of illuminating the kind of market anomalies to which Merton referred, those arising out of violations to the standard frictionless-market model.

The reluctance of scholars to listen to practitioners is perhaps a resistance to anticipated “noise” or worse, “wrong answers.” In contrast, our experience suggests that field research can lead to better science. The prerequisite is an attitude of receptivity, sparked by a fundamental respect for the practitioner. It calls for a temporary suspension of one’s own hypotheses, at least long enough to hear the practitioner fully. Field research requires disciplined questioning and listening and concentrated effort to puzzle through inconsistencies between interview data and market data. But the puzzling process is the essence of scientific inquiry and where the scholar may find the richest insights in the interplay between theoretical, empirical, and field-based research in finance.

Table 1

Foreign firms that have made an initial public offer of equity on a U.S. stock exchange, and issued debt and equity securities since 1991. Data are obtained from Securities Data Corporation New Issues database.

	Issuer	U.S. IPO date	U.S. Listing Exchange	Home Country	Industry (4-digit SIC Code)
1	Central European Media Enterprises	10/13/94	NASDAQ	Bermuda	Television Broadcasting (4833)
2	Coca-Cola FEMSA SA	09/13/93	NYSE	Mexico	Foods, Bottling (2086)
3	COLT Telecom Group PLC	12/10/96	NASDAQ	UK	Telecommunications (4813)
4	Embotelladora Andina	07/05/94	NYSE	Chile	Foods, Bottling (2086)
5	Enterprise Oil PLC	10/16/92	NYSE	UK	Oil/Gas refining (2911)
6	Esprit Telecom Group PLC	02/27/97	NASDAQ	UK	Telecommunications (4813)
7	Grupo IMSA SA de CV	12/10/96	NYSE	Mexico	Steel Production (3312)
8	Grupo Industrial Durango SA	07/14/94	NYSE	Mexico	Forest Products (2631)
9	Korea Electric Power(Korea)	10/27/94	NYSE	South Korea	Utility (4911)
10	Petro-Canada(Canada)	09/14/95	NYSE	Canada	Oil/Gas Production (1311)
11	Pohang Iron & Steel Co Ltd	10/14/94	NYSE	South Korea	Steel Production (3312)
12	Quebecor Printing Inc	12/06/95	NYSE	Canada	Commercial printing (2750)
13	Rhone-Poulenc SA	01/26/93	NYSE	France	Chemicals/Pharmaceuticals (2816)
14	Singer Co NV	08/01/91	NYSE	Hong Kong	Electronics (3630)
15	Teekay Shipping Corp	07/19/95	NYSE	Bahamas	Petrol. Transportation (4412)
16	Transportacion Maritima	06/10/92	NYSE	Mexico	Cargo Shipping (4412)
17	Valmet Oy	05/30/96	NYSE	Finland	Machinery (3554)
18	YPF SA	06/28/93	NYSE	Argentina	Oil/Gas Production (1311)
19	Aracruz Celulose SA	05/27/92	NYSE	Brazil	Paper/Pulp Manufacturing (2611)
20	Banco Comercial Portugues SA	06/11/92	NYSE	Portugal	Banking (6029)
21	Empresas ICA Sociedad Control	04/08/92	NYSE	Mexico	Construction (1600)
22	Empresas La Moderna SA de CV	02/02/94	NYSE	Mexico	Foods, Beverages (2111)
23	Flextronics International	03/18/94	NASDAQ	Singapore	Electronics (3672)
24	Grupo Iusacell SA de CV	06/14/94	NYSE	Mexico	Telecommunications (4812)
25	Grupo Televisa SA de CV	12/13/93	NYSE	Mexico	Television Broadcasting (4833)
26	Ionica Group Ltd	07/18/97	NASDAQ	UK	Telecommunications (4813)
27	Panamerican Beverages Inc	09/21/93	NYSE	Mexico	Foods, Bottling (2086)
28	Sun International Hotels Ltd	02/26/96	NYSE	Bahamas	International Resort Dev. (7011)
29	Supermercados Unimarc Ltd	05/08/97	NYSE	Chile	Retail/Food Stores (5411)
30	Tranz Rail Holdings(Wisconsin)	06/12/96	NASDAQ	New Zealand	Rail transportation (4011)
31	TV Azteca	08/14/97	NYSE	Mexico	Television Broadcasting (4833)

Table 2
Selected characteristics of the 31 foreign IPOs

Panel A – Issue and issuer characteristics		
Assets (\$ millions)	Mean	3560.67
	Median	887.50
	Maximum	26,533.00
	Minimum	18.00
Issue size (\$ millions)	Mean	359.47
	Median	233.62
	Maximum	2,660.00
	Minimum	35.00
% change in the number of common shares	Mean	23.74%
	Median	18.00%
Long term debt to book equity (%)	Mean	79.67%
	Median	55.44%
Percent stating proceeds will be used to repay debt	Mean	50.00%
	Median	50.00%
Percent of primary shares	Mean	74.68%
	Median	100.00%
Percent of offer sold in U.S.	Mean	58.45%
	Median	58.98%

Panel B – Market conditions around the announcement of the issue

HPRICE(-60,-2) is the percentage price change in the firm's shares on the home market (if available) for a 60 day period prior to the announcement date of the offer; HMKT(-60,-2) is the percentage price change in the index of the home market for a 60 day period prior to the announcement date of the offer; HCAR(-1,+1) is the cumulative abnormal returns from day -1 through day +1 relative to the announcement date (0) for the firm's shares in the home market vis-à-vis the home market index. USMKT(-60,-2) is the percentage price change in the CRSP value weighted index for a 60 day period prior to the announcement date of the offer; and CURR(-60,-2) is the percentage change in the exchange rate (Foreign currency per USD) for a 60 day period prior to the announcement of the offer. Positive values imply that the currency has depreciated vis-à-vis the dollar and vice versa.

HPRICE(-60,-2)	Mean	6.15%
	Median	3.05%
	Maximum	46.51%
	Minimum	-13.68%
HMKT(-60,-2)	Mean	12.10%
	Median	6.42%
	Maximum	130.98%
	Minimum	-8.64%
HCAR(-1,+1)	Mean	2.04%
	Median	2.06%
	Maximum	7.53%
	Minimum	-4.35%
USMKT(-60,-2)	Mean	3.86%
	Median	4.10%
	Maximum	9.57%
	Minimum	-4.03%
CURR(-60,-2)	Mean	3.21%
	Median	-0.25%
	Maximum	52.99%
	Minimum	-4.57%

Table 3

The outcomes of 31 foreign IPOs

Gross spread is the sum of the underwriting fee, management fee and selling concession expressed as a percentage of the offer size. Day or Year n IR (initial return) is the ratio of the price in the U.S. market on day (year) n after the IPO relative to the offer price. CAR(n) is the cumulative abnormal return in the U.S. market through day n post IPO. Offer price/High price is the ratio of the offer price to high price given in the preliminary file range.

Gross spread (%)	Mean	4.61%
	Median	4.27%
	Maximum	7.00%
	Minimum	3.00%
Day 1 IR	Mean	3.94%
	Median	2.19%
	Maximum	19.64%
	Minimum	-5.20%
Day 5 IR	Mean	3.78%
	Median	1.75%
	Maximum	23.53%
	Minimum	-8.34%
Day 30 IR	Mean	5.70%
	Median	7.34%
	Maximum	36.11%
	Minimum	-24.53%
Year 1 IR	Mean	17.89%
	Median	17.54%
	Maximum	150.25%
	Minimum	-58.72%
CAR (1)	Mean	3.94%
	Median	2.61%
	Maximum	19.47%
	Minimum	-5.51%
CAR (5)	Mean	3.86%
	Median	2.93%
	Maximum	17.19%
	Minimum	-9.13%
Offer price/High price	Mean	0.97
	Median	0.98
	Maximum	1.15
	Minimum	0.75

Table 4

Industry distribution of 31 Foreign IPOs and sample of U.S. IPOs

Foreign IPOs are non-U.S. firms that have made an initial public offer of equity on a U.S. stock exchange, and issued debt and equity securities since 1991. U.S. IPOs are initial public offers by firms incorporated in the U.S. since 1991 (N=3,267). Data are obtained from Securities Data Corporation New Issues database.

Industry	SIC Code	Foreign IPOs	U.S. IPOs
		Number (%)	Number (%)
Mining	1041-1220	0 (0%)	5 (0.15%)
Oil and gas	2911,1311-1411	3 (10)	57 (2)
Homes, construction	1521-1791	1 (3)	34 (1)
Foods	2024-2121	4 (13)	50 (2)
Furniture, paper, pulp, forest	2211-2679	2 (7)	102 (3)
Printing	2711-2796	1 (3)	35 (1)
Chemicals/pharmaceuticals	2812-2836	1 (3)	159 (5)
Steel works, metals	3312-3499	2 (7)	187 (6)
Machinery, computer & office equip.	3511-3579	1 (3)	92 (3)
Electronics, electrical equipment	3612-3679	2 (7)	198 (6)
Measuring instruments	3812-3873	0 (0)	223 (7)
Misc. manufacturing	3911-4000	0 (0)	61 (2)
Transportation	4011-4783	3 (10)	67 (2)
Telecommunications/Media	4812-4899	7 (23)	127 (4)
Utilities	4911	1 (3)	6 (0.2)
Pipelines	4922-4959	0 (0)	3 (1)
Wholesalers	5012-5199	0 (0)	154 (5)
Retail	5211-5999	1 (3)	201 (6)
Restaurants	5812-5813	0 (0)	73 (2)
Banking & finance	6021-6719	1 (3)	280 (9)
Resorts, casinos	7011-7041	1 (3)	63 (2)
Services	7211-8999	0 (0%)	611 (19%)

Table 5

Matched sample analysis of foreign and U.S. IPOs by size and industry

Matched Samples of 31 foreign and 31 U.S. IPOs are based on offer time, and industry (Industry Matched) and offer time and total assets (Asset Matched.) First row in each cell is the mean; the second row is the median. T-statistic is for the difference in means between the foreign and domestic groups.

	Foreign IPOs	Industry Matched	Asset Matched
Asset size (\$ millions)	3,560.67 887.50	905.62 102.20	900.77 631.40
t-statistic		2.05	2.24
Issue size (\$ millions)	359.47 233.62	94.58 64.00	249.26 157.05
t-statistic		3.81	3.79
Day 1 IR (%)	3.94 2.19	8.55 2.89	7.98 1.63
t-statistic		1.83	1.57
Gross spread (%)	4.61 4.27	6.12 5.60	5.19 4.80
t-statistic		4.16	1.85

Table 6

Analysis of the impact of demand on underpricing

First day initial returns by offers based on revisions of file range. Upward (downward) revision offers are those where the office price is above (below) the high (low) price of the preliminary file range. Within file range offers are those offers where the office price is equal or within the end points of the file range.

	Foreign firms	Industry matched	Asset matched
Average	3.94%	8.55%	7.98%
Upward revision	4.29%	20.68%	22.98%
Within file range	4.59%	5.37%	3.68%
Downward revision	0.25%	1.94%	1.97%
T statistic for difference of means			
Up versus average	0.16	2.24	2.15
Up versus within	-0.89	2.76	2.75
Up versus down	2.23	3.62	2.93
Down versus within	-2.67	-1.06	-0.34

Underpricing of issues offered in above and below median IPO issue volume months. Cut-off is determined from the ratio of monthly IPO volume to total IPO volume for the sample period. T-statistic is for the difference in means of Day 1 IR between above and below median offers.

	Foreign firms	Industry Matched	Assets Matched
Number and percent of offers issued in above median volume months	14 (45%)	21 (68%)	17 (55%)
Day 1 IR%	6.01%	10.79%	10.47%
Number and percent of offers issued in below median issue volume months	17 (55%)	10 (32%)	14 (45%)
Day 1 IR%	2.23%	3.82%	4.87%
t-statistic	1.83	1.46	1.24

Table 7

Sub-samples of the 31 foreign IPOs based on factors associated with neglect

Developed firms have AA or better home country ratings; emerging firms have lower than AA home country ratings. Privatization involves the privatization of a state-owned enterprise. Traded equity denotes that the issuer's shares trade on the home market exchange. Prior U.S. issue indicates the firm has made a Rule 144A issue or public debt issue in U.S. market prior to IPO. US Connection signifies to U.S. firms via licensing agreements, subsidiaries and the like.

Sample No. and (% of firms)	Assets (\$ millions)	Issue size (\$ millions)	HPRICE (-60,-2)	HMKT (-60,-2)	USMKT (-60,-2)	Pct. of above file range offers
Developed 12 (39%)	3,628.17	295.26	-0.76	2.94%	5.94%	33.33%
Emerging 19 (61%)	3,515.67	400.03	14.80%	19.43%	2.47%	26.31%
t-statistic	0.09	-0.55	-1.15	-1.73	2.93	0.40
Privatization 5 (16%)	12,072.40	1,035.36	6.82%	6.15%	4.85%	20.00%
Not a privatization 26 (84%)	1,837.07	229.46	5.61%	13.14%	3.66%	31.00%
t-statistic	4.16	4.02	0.08	-0.50	0.67	-0.47
Traded equity 9 (29%)	6,734.00	389.88	6.15%	7.90%	4.16%	27.27%
No traded equity 22 (71%)	2,160.67	347.03	NA	14.20%	3.73%	33.33%
t-statistic	1.93	0.21		-0.59	0.30	-0.32
Prior US issue 11 (35%)	4,756.54	429.91	-2.28%	6.79%	4.50%	27.27%
No prior US issue 20 (65%)	2,790.31	320.73	16.69%	15.23%	3.54%	30.00%
t-statistic	0.83	0.57	-1.47	-0.82	0.69	-0.15
US Connection 16 (52%)	2,968.06	282.12	5.12%	9.55%	3.00%	37.50%
No-US Connection 15 (48%)	4,042.27	441.98	6.98%	14.85%	4.83%	20.00%
t-statistic	-0.47	-0.57	-0.12	-0.53	-1.42	1.05

Table 8

Pooled cross sectional regressions of first day underpricing
for 31 foreign IPOs and industry matched sample of 31 U.S. IPOs

Day 1 IR (initial return) is the price on the first day after the IPO to the offer price. Asset size is the logarithm of the firm's assets. Issue size is the logarithm of offer size in millions of U.S. dollars. Upward revision dummy = 1 if the offer price exceeds the midpoint of file range and is 0 otherwise. # of Exchanges denotes the number of exchanges where the issue will be listed. Second column excluded from foreign and matched industry sample firms that have issued either 144A equity or public or 144A debt in the U.S. prior to the IPO. T-statistics are in parenthesis.

	Matched sample of foreign and domestic IPOs	Matched sample of foreign and domestic IPOs (firms with no U.S. issues before IPO)
Constant	-0.082 (-0.28)	-0.182 (-1.29)
Foreign dummy	-0.040 (-1.60)	0.042 (2.56)
Asset size	-0.012 (-1.55)	-0.009 (-1.33)
Issue size (this market)	0.015 (0.93)	0.018 (1.43)
Upward revision dummy	0.066 (2.25)	0.004 (0.27)
# of Exchanges	0.040 (2.13)	0.020 (2.03)
U.S. Market runup	0.247 (1.08)	-0.074 (-0.52)
N	62	40
Adjusted R ²	0.191	0.174

Appendix 1
Initial returns and characteristics of the 31 firms

Day n initial return is the price on day n post-IPO relative to the offer price. CAR(n) is the cumulative abnormal returns for day n relative to offer date. The t-statistic in parenthesis below is calculated using the methodology in Ruback (1982) and tests the hypothesis that the CAR(n) equals 0. "Code" is as follows: D = Developed nation, E = Emerging nation, H (NH) = the firm's shares trade (do not trade) on the home market prior to the offer in the U.S., U (NU) = the firm has (does not have) a U.S. affiliation via licensing agreements or being a subsidiary of a U.S. firm and is 0 else; P (NP) = the firm has (does not have) a prior issue in the U.S. and is 0 else. Gross spread is the sum of underwriting and management fee and the selling concession expressed as a percentage of the offer size. High/Offer price is the ratio of the high file price to offer price. # of managers denotes the number of managers managing the sale of the issue and # of listing exchanges denotes the number of exchanges on which the issue will be listed.

#	Name	Code	Day 1 IR, CAR(1)	Day 5 IR CAR(5)	High/Offer price	Gross spread	# of managers	# of listing exchanges
1	Aracruz Celulose	E,NH,NU,NP	0.98, 0.13 (0.05)	-0.91, -1.83 (0.32)	0.93	4.25%	3	2
2	Banco Portugues	D,NH,NU,NP	0.00, -0.25 (-0.17)	-5.46, -3.40 (-0.97)	NA	4.27%	NA	2
3	CETV	E,NH,U,NP	19.64, 19.47 (4.84)	16.07, 16.86 (1.98)	1.00	7.00%	2	2
4	Coke-Femsa	E,NH,NU,NP	8.54, 9.06 (3.80)	6.10, 7.34 (1.31)	0.98	4.00%	4	3
5	Colt Telecom	D,NH,U,NP	2.21, 3.13 (1.89)	2.93, 5.95 (1.74)	1.08	6.73%	2	2
6	Embotelladora Andina	E,H,U,NP	0.00, 0.03 (0.01)	0.67, 0.28 (0.05)	0.90	4.00%	4	2
7	Empresas ICA	E,NH,U,NP	13.24, 11.64 (4.01)	23.53, 17.19 (2.96)	1.06	4.50%	3	4
8	Empresas la Moderna	E,H,U,NP	9.90, 10.10 (2.68)	12.20, 13.83 (1.58)	NA	4.49%	2	4
9	Enterprise Oil	D,H,NU,P	0.0,	NA	NA	3.50%	3	2
10	Esprit Telecom	D,NH,NU,NP	0.00, 0.46 (0.10)	0.00, -0.58 (-0.05)	0.80	7.00%	3	2
11	Flextronics	D,NH,U, NP	3.57, 4.08 (0.95)	-1.71, 0.32 (0.03)	0.88	7.00%	2	2
12	Grupo Durango	E,NH,NU,NP	0.00, -0.12 (-0.05)	2.78, 3.03 (0.42)	0.75	4.50%	3	2
13	Grupo Imsa, S.A. de C.V. (IMSA)	E,NH,NU, P	0.68, 1.60 (0.05)	1.31, 4.33 (0.05)	0.90	4.00%	4	2
14	Grupo Iusacell	E,NH,U,NP	6.42, 6.70 (3.38)	2.75, 5.49 (1.50)	0.99	4.51%	2	4
15	Grupo Televisa	E,NH,U,P	-0.39, 0.22 (0.11)	2.93, 2.93 (0.57)	1.04	4.00%	3	3
16	Ionica Groupplc	D,NH,NU,P	2.19, 2.61 (0.02)	-2.91, -4.75 (-0.02)	1.00	4.65%	4	2
17	Korea Electric Power	E,H,NU,NP	-2.48, -3.95 (-1.76)	-3.73, -4.24 (-0.78)	NA	3.00%	1	2
18	Panamco	E,NH,U,NP	7.84, 7.02 (2.77)	12.78, 10.21 (1.59)	1.06	4.51%	3	2
19	Petro-Canada	DH,NU,P	-2.8,	NA	1.00	3.62%	3	2
20	Pohang Iron & Steel Co., Ltd.	E,NH,U,P	4.92, 4.97 (1.63)	-1.40, -0.39 (-0.05)	NA	3.01%	3	2

#	Name	Code	Day1/OP, AR (t)	Day 5/OP, CAR (t)	High/Offer price	Gross spread	# of managers	# of listing exchanges
21	Quebecor Printing	D,H,U,NP	1.72, 2.38 (2.18)	0.24, 0.50 (0.14)	1.06	4.00%	4	1
22	Rhône-Poulenc, S.A.	D,H,U,P	-4.81, -4.29 (-2.78)	-8.34, -9.13 (-2.38)	0.87	3.00%	1	1
23	Singer Company	D,NH,NU,NP	1.79, 1.71 (0.87)	0.00, -0.74 (-0.17)	1.04	5.50%	1	2
24	Sun Int'l Hotels	E,NH,U,NP	1.80, 2.21 (1.14)	1.09, 1.08 (0.21)	NA	5.51%	4	1
25	Supermercados Unimarc S.A.	E,H,NU,P	6.74, 6.20 (0.10)	11.22, 8.62 (0.04)	0.93	4.00%	2	2
26	Teekay Shipping	E,NH,U,NP	8.14, 7.54 (5.29)	6.98, 4.71 (1.60)	0.93	6.51%	4	2
27	Transportacion Maritima	E,NH,NU,P	-5.2,	NA	NA	4.51%	1	2
28	Tranz Rail	D,NH,U, NP	14.00, 14.27 (6.45)	12.00, 13.97 (3.34)	0.93	7.00%	2	2
29	TV Azteca	E,NH,NU,P	5.1,	NA	1.07	3.50%	4	2
30	Valmet Oy	DH,NU,P	3.37, 3.51 (0.12)	1.75, 1.55 (0.01)	NA	3.00%	3	2
31	YPF	E,NH,NU,NP	15.16, 15.36 (6.61)	9.21, 11.31 (2.27)	0.95	4.00%	2	2

The t-statistics are calculated as in Ruback (1982) as $CAR / SE(CAR)$ where $SE(CAR)$ is the standard error of CAR. This is estimated as $SE(AR) = [T * Var(AR_t) + 2 * (T-1) Cov(AR_t, AR_{t-1})]^{0.5}$ where T is the number of days used to calculate the cumulative abnormal return (T=1 for the abnormal return) and Var (variance) and Cov (covariance) are calculated over the 30 day period after the offer.

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