

International Cross-Listing and Visibility

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Abstract

This study tests the hypothesis that non-domestic cross-listing is associated with increased firm visibility. We examine visibility changes on the two exchanges with the largest number of non-domestic listings: the London Stock Exchange (LSE) and the New York Stock Exchange (NYSE). Noting that the costs associated with NYSE listing are greater than those for LSE listing, we also test the hypothesis that non-domestic cross-listing on the NYSE is associated with larger visibility increases than LSE listing. Our proxies for visibility are analyst coverage and media attention. Our tests using analyst coverage generally support our hypothesis that non-domestic cross-listing increases visibility, while tests using media attention provide partial support of the hypothesis. Further empirical tests support the hypothesis that non-domestic cross-listing on the NYSE is associated with a larger visibility increase than on the LSE, which partially compensates firms for the higher costs associated with NYSE listing. All of our results are robust to conditioning on the firm's home country capital market type (developed or emerging); the country's geographical region; analysts' tendencies to initiate coverage on firms with good prospects; and the popularity of a firm's industry or country.

JEL classification: G15

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1. Introduction

The globalization of financial markets has resulted in increasing numbers of firms choosing to cross-list their stock on exchanges outside their domestic markets. One explanation of why a firm cross-lists on a foreign market is the investor recognition hypothesis. The foundations of this hypothesis come from Merton's (1987) model of capital market equilibrium with incomplete information. Because investors do not have equal information, investors invest only in those securities of which they are aware. Merton shows that expected returns depend on other factors besides market risk. According to his model, all else equal, an increase in the size of a firm's investor base, which Merton calls the "investor recognition" factor, will lower investors' expected return. A lower expected return, leads to a lower cost of equity capital and increases the market value of the firm's shares.¹ That is, firms should experience an increase in value for cross-listing on a non-domestic exchange, followed by lower stock returns (cost of capital). Therefore, managers of firms have an incentive to expand the firm's investor base by cross-listing shares on non-domestic exchanges that increase investor awareness of the firm—what we call firm *visibility*.

Several papers have identified a return pattern consistent with the hypothesis that cost of capital can be reduced through non-domestic cross-listing (see Alexander, Eun, and Janakiraman (1988), Errunza and Miller (1998), Foerster and Karolyi (1993, 1998), Lau,

¹ Other explanations for cross-listing on non-domestic exchanges include the segmentation hypothesis and the liquidity hypothesis. These theories are also based on the ability to reduce the cost of equity to the firm through the cross-listing. Market segmentation can arise from barriers to capital flow (such as ownership restrictions, regulatory environment, and information barriers) and can increase the risk premium of the firms in the segmented market, see Stulz (1981). Stapleton and Subrahmanyam (1977) suggest that cross-listing shares can overcome some of the barriers through risk sharing and reduce the expected return of the cross-listed stock. Alternatively, the liquidity hypothesis of Amihud and Mendelson (1986) suggests that some capital markets have poor liquidity, which impose a liquidity risk premium on those listed firms. However, cross-listing on a non-domestic exchange with superior liquidity services reduces the liquidity risk premium and the expected return.

Diltz, and Apilado (1994), Miller (1998) and Serra (1997)). Other studies examine domestic stocks moving from the Nasdaq or Amex to the NYSE, which includes Sanger and McConnell (1986), McConnell and Sanger (1987), and Dharan and Ikenberry (1995). In particular, McConnell and Sanger (1987) and Forester and Karoyli (1998) test the investor recognition hypothesis and find that the shareholder base does increase after cross-listing. We contribute to this literature by examining the mechanisms that increase investor recognition. Specifically, we postulate that investors may recognize firms through repeated reports in the media. Additionally, many institutional investors also depend on information and advice from analysts. Therefore, we examine the potential for firm recognition by studying these sources of information. This study tests the hypothesis that non-domestic cross-listing is associated with increased firm visibility. We examine visibility changes on the two exchanges with the largest number of non-domestic listings: the London Stock Exchange (LSE) and the New York Stock Exchange (NYSE). As used here, *visibility* refers to the extent to which analysts follow a firm's stock, and the amount of a firm's news coverage. We use the number of analysts following the firm one-year before and one-year after the listing date. We obtain analyst following numbers from the universe of analysts providing estimates to the International Brokerage Estimate Service (I/B/E/S). To measure media visibility, we obtain the number of times a firm is cited in newspaper articles during annual pre- and post-listing periods. *The Wall Street Journal* (WSJ), the *Financial Times* (FT), and a home country newspaper are used to measure visibility in both the home and non-domestic markets.

We find that when a firm cross-lists its shares on either the NYSE or the LSE, visibility significantly increases. Specifically, NYSE listing is associated with an increase in the average number of analysts following the firm by 6.18 analysts (an increase of 128%). The increase is 6.43 analysts (a 149% increase) for firms issuing new equity and 5.62 analysts (a 100%

increase) without a new offering. NYSE listing is also associated with an increase in *WSJ* citations of 1.64 articles per year (an increase of 32%), *FT* citations of 6.56 articles per year (an increase of 78%), and home newspaper citations of 6.08 articles per year (an increase of 37%). Alternatively, LSE listing is associated with an increase in the average number of analysts by 3.4 analysts (an increase of 48%). The increase is 2.77 analysts for firms issuing new equity and 2.26 analysts for firms without an offering. LSE listing is also associated with a decrease in *WSJ* citations of 0.81 articles (a decrease of 9%), an increase in *FT* citations of 1.38 articles (an increase of 49%), and a decrease in home country newspaper citations of 1.97 articles (a decrease of 11.3%). Our findings support the hypothesis that non-domestic cross-listing is associated with increased firm visibility and hence investor awareness.

The cost of listing on the NYSE is greater than on the LSE. Therefore, firms may expect greater visibility gains on the NYSE than on the LSE. Accordingly, we test the hypothesis that non-domestic cross-listing on the NYSE is associated with greater visibility gains than on the LSE. Our evidence provides support for this hypothesis. These general findings are robust to conditioning on the listing firms by the type of capital market (developed or emerging) in the firm's home country, the geographical region of the world, or whether the firms issue new equity in association with the listing.

Our study should be of interest to firms considering cross-listing in a foreign market, exchanges, and academics. Firms will be interested since they must decide if the benefits associated with cross-listing outweigh the costs. Exchanges will be interested since they must establish listing fees commensurate with the value their listing adds. Finally, academics will be interested since little is known about the visibility effects of cross-listing.

The next section reviews the market microstructure of the NYSE versus the LSE. The third section discusses the research methodology and is followed by the empirical results sections. The final section summarizes our conclusions.

2. Market Microstructure and Visibility

In the investor recognition model, visibility is important to firms. First, it suggests greater flow and accessibility of information about a firm. Visibility also may enhance the efficiency of the trading market in the stock by improving the flow of information among market participants. The resulting increase in firm recognition by investors, and the reduction in informational asymmetries, could attract attention to the company in the investment community. Therefore, which foreign market to cross-list a stock may depend on the trade-off between listing costs and the amount of increased visibility gained. We examine the visibility changes in listing on the New York Stock Exchange (NYSE) and the London Stock Exchange (LSE).

We selected the NYSE and LSE exchanges for this study for two reasons. First, they are the two largest exchanges in terms of non-domestic listings.² Second, the two exchanges are very different in market organization, which allows us to study whether market microstructure affects firm visibility.

The NYSE is an order driven market. Stocks are traded in a continuous auction with only one market maker, the specialist. In liquid stocks, specialist earnings come more from broker services in managing the limit order book rather than from dealer services of trading in the stock. The promotion of firms listed on the NYSE comes primarily from the exchange itself. The NYSE works to enhance the visibility of their listed companies through investor relation services, forums for securities analysts, and industry conferences. In addition, the NYSE spends a great deal of time promoting firms around the time of their initial listing. This exposure may create greater awareness about the firm and its prospects, which may lead to more analyst research coverage and increased trading volume.

During the period of our study, the LSE was a completely quote driven market.³ That is, multiple dealers offer bid-ask quotes in competition via the Stock Exchange Automated Quotation (SEAQ) system, which is similar to the U.S. Nasdaq system. Foreign equities and depository receipts are traded through the SEAQ-International (SEAQ-I) system. In both systems, dealers' earnings are directly related to the volume of trading in the securities they quote. Therefore, they have an incentive to promote the firm in order to increase firm visibility and investor recognition.⁴

The NYSE and LSE also differ on the amount of post-trade transparency for non-domestic stocks. While the NYSE requires all NYSE-originated trades to be reported and disseminated to the public within a minute or two of execution, the LSE is far less transparent. For European listings, the LSE allows SEAQ-I trades to be reported in the firm's home market. For all other non-U.K. listings, there is no trade-reporting requirement at all. The degree of transparency appears to be important. The Domowitz, Glen, and Madhavan (1998) cross-listing model demonstrates that the benefits to cross-listing are conditional on the degree of transparency in the non-domestic market. Therefore, to the extent that visibility and firm recognition are effected by the amount of post-trade transparency, we would expect to find differences in the measurement of visibility proxies between the two exchanges.

Offsetting the advantages of listing on the NYSE or LSE is the listing cost. Several studies (see Cochrane, Shapiro, and Tobin (1995), and Fanto and Karmel, (1997)) examine the costs of listing on U.S. exchanges. The most significant costs imposed upon a foreign company listing its securities in the U.S. are those in meeting stringent Securities and

² See "London calling for Asian listings," by Gavin Clarke, *Asian Bureau Section, Timesnet*, posted January 1, 1997.

³ On October 20, 1997, the LSE introduced a Central Limit Order Book for stocks in the FTSE 100. Therefore, the trading structure for those stocks became order driven. The remaining stocks are still traded in a quote driven structure.

⁴ See Angel and Aggarwal (1997) for a discussion of market maker incentives to provide marketing services.

Exchange Commission (SEC) disclosure (reporting and compliance) requirements. Other major costs involve legal, accounting, and investment banking fees as well as listing fees.⁵ Initial listing on the NYSE costs more than \$100,000 and annual fees range from \$16,000 to \$30,000 per year. Alternatively, initial listing on the LSE costs \$6,000 with an annual cost of \$3,000. Because the cost of listing on the NYSE is much greater than that of the LSE, non-domestic firms may demand greater value from the NYSE listing. We compare one specific value-added service on the exchanges—increasing firm visibility. Formally, we test the hypothesis that non-domestic cross-listing on the NYSE is associated with greater visibility than non-domestic cross-listing on the LSE.

3. Research Methodology

A. Visibility Proxies

Because actual visibility cannot be accurately measured, we use several proxies to test whether visibility changes after firms cross-list on the NYSE or LSE. These visibility measures are: (1) the number of analysts estimating the firm's annual earnings; and the number of citations of a firm in an article title or lead paragraph appearing in (2) *The Wall Street Journal* (WSJ), (3) *Financial Times* (FT), and (4) the foreign firm's home country, or regional, newspaper. Analysts following measures a stock's popularity among analysts. Stocks followed by analysts also tend to be followed by institutional investors. The newspaper citation is a proxy for news or media coverage. This measure does not necessarily imply that the news coverage is favorable. We chose the WSJ and FT as citation sources because of their wide circulation and extensive coverage of business and financial news in the United States (U.S.) and United Kingdom (U.K.).

⁵A first time registration with the SEC could typically cost \$400,000-\$1,000,000 in accounting, legal, printing, and registration fees.

B. Sample and Data Sources

The Research Department of the NYSE provided a list of non-U.S. securities listed on the NYSE. To avoid a survivorship bias, the sample includes securities that were later delisted. The LSE provided a list of non-U.K. securities listed on the LSE. Only common stocks that are listed in their home market are included. The availability of historical data for our visibility proxies placed further limitations on which listing firms could be included.

The source of the first visibility proxy, analyst following, is the I/B/E/S international and domestic data files.⁶ Both files provide monthly data. The number of analysts estimating the firm's annual earnings one year before the exchange listing is compared with the number of analysts estimating the firm's annual earnings one year after the listing. Our I/B/E/S data files provide the number of analysts for firms beginning in January 1976 until September 1997.

The number of newspaper references during the pre-listing and post-listing periods are obtained by searching the paper's archive using the Dow Jones News Retrieval Service (DJNR). The number of citations for a 12-month period before listing (months -15 to -3) is compared to the number of citations during a 12-month period after listing (months +3 to +15). The 6-month period immediately around the listing (months -3 to +3) is excluded to avoid citations about the listing itself. The available dates in the archive accessed by DJNR are conditioned on the specific publication being search. For example, *The Wall Street Journal* is available starting on January 2, 1984, whereas the *Financial Times* is available starting on January 1, 1993.

The different start dates for I/B/E/S, the *WSJ*, and *FT* force us to either limit our study to only those firms listing after the latest start date or examine the three visibility proxies

⁶The I/B/E/S international file contains analyst following for firms not listed on U.S. exchanges. Once a foreign firm lists on an US exchange, all new analyst information is listed on the domestic file. We search both files for all firms.

separately. Not wanting to exclude data, we choose the latter. Accordingly we include firms listing after December 1976; April 2, 1985; and April 1, 1994 for tests involving I/B/E/S; the *WSJ*; and *FT*, respectively. For all three proxies we include firms that listed from their respective start dates through March of 1996. The final maximum sample includes 193 foreign firms listing on the NYSE and 210 foreign firms listing on the LSE.

To measure the visibility in the foreign firm's home market, we obtain citations from a home country, or regional newspaper. Our desire is to select the most widely read business newspaper in the home country of the foreign firm. We also require the criteria that the paper be available on DJNR starting at a date early enough to measure the visibility of most of the firms listing from that country. In many cases, we find appropriate home country newspapers available on DJNR, such as the *Jerusalem Post* in Israel, the *Korean Economic Daily* in South Korea, and *Business Day* in South Africa. In many cases, however, a home country newspaper is not available starting on a sufficiently early date⁷ and therefore regional papers such as *The Wall Street Journal Europe* and the *Asian Wall Street Journal* are used. The newspaper used in the home country citation analysis for each country is reported in the Appendix Table.

When a firm is not followed by I/B/E/S in the pre- and/or post-listing period, a zero is assigned to the number of analysts for that period. Similarly, when the Dow Jones News Retrieval fails to find any reference for a firm during the pre- and/or post-listing period, a zero is assigned as the number of citations.

The investor recognition hypothesis suggests that foreign firms from capital markets with more information barriers have a greater incentive to list abroad. We categorize the segmentation of the firm's home market by grouping countries by developed or emerging market. The type of capital market for each country in our sample is reported in the Appendix

Table. To determine the type of financial market that exists in each country, the designations contained in Smith and Sofianos (1997) and the *Emerging Stock Markets Factbook* are used. Using these sources, the sample firms come from 20 countries with developed capital markets and 23 countries with emerging capital markets.

C. Methods

The study tests whether visibility, as measured by analyst following and newspaper citations, changes for foreign firms listing on the NYSE and the LSE. The change in visibility is measured as the post-listing visibility proxy less the pre-listing proxy. A significance level for the change in visibility is calculated using a paired *t*-test. We also test whether the change in visibility is greater for firms listing on one exchange versus the other. Both a *t*-test and an *F*-test are used to test which exchange listing provides greater visibility for the listing firm. The null hypothesis is that changes in visibility proxies (analyst following or citations) do not differ across the exchanges.

4. Tests of Changes in Analyst Following

A. Number of Analysts

Table 1 presents the mean number of analysts reporting annual earnings estimates one year before and one year after listing on the NYSE (Panel A) and LSE (Panel B). For the full sample of 193 non-domestic firms listing on the NYSE, the results show that the mean number of analysts increases from 4.84 before listing to 11.03 after listing. This represents an average change of 6.18 analysts per firm, or about a 128 percent increase. The *t*-statistic, 12.22, is significant at the one percent level. For the full sample of 210 non-domestic firms listing on the LSE, the results show that the mean number of analysts increases from 7.10 per

⁷Much of the expansion of the DJNR archive has occurred in recent years, many publications

firm before listing to 10.53 after listing. The change of 3.43 analysts per firm is significant at the one percent level and represents an increase of 48 percent.

Panel C reports the tests for the hypothesis that the change in analyst following is the same for firms listing on the NYSE and LSE. The reported *t*-statistic [in brackets] from a *t*-test is 4.04, which indicates that the change in analyst following is greater for non-domestic firms listing on the NYSE than on the LSE. The *F*-statistic is also significant at the one percent level. Therefore, the evidence for the full sample supports the hypothesis that visibility, as measured by analyst following, increases for non-domestic firms listing on both the NYSE and LSE, but results in a larger increase for NYSE listing.

Next, the sample is partitioned by the type of capital market that exists in the firm's home country. For firms from countries with developed capital markets, listing on the NYSE and LSE is associated with a mean increase of 6.04 (92%) and 3.55 (44%) analysts per firm, respectively. Both increases are significantly different from zero at the one percent level and the mean change for NYSE listings is significantly larger than for LSE listings, at the one percent level. A similar pattern exists for firms from countries with emerging capital markets. That is, the mean change in analyst following is 6.42 and 3.04 for the NYSE and LSE samples, respectively. These increases, and the difference between the NYSE and LSE samples, are all significant at the one percent level.

The last rows of the table present the changes in the number of analysts following the firms sorted by geographical region. The five regions are Africa, the Americas and the Caribbean (henceforth 'Americas'), Asia and the Pacific (henceforth 'Asia'), Europe, and the Middle East. The results indicate significant increases in analyst following after listing on the NYSE and the LSE for firms from the Americas, Asia, and Europe. The change is significantly larger for listing on the NYSE than for the LSE from the geographical regions of the Americas

have only become available since 1996.

and Europe. The difference between the two exchanges for firms listing from Asia is not significant. Because the number of observations in the Africa and Middle East samples is small, making inferences is difficult. Yet, both regions show an increase in analyst following on both stock exchanges.

Thus far, our findings suggest that the increase in analyst coverage is related to the NYSE or LSE listing event. However, firm specific or industry related events, unrelated to listing, may attract analyst attention. For example, analysts tend to initiate coverage on firms for which they can recommend a 'strong buy' (McNichols and O'Brien, 1997). These listing firms may experience strengthened fundamentals, such as increased earnings growth, and this may attract additional analyst following. We test these firm specific and industry related factors in the following sections.

B. Self-Selection and Analyst Coverage

Analysts issue many more optimistic recommendations than pessimistic ones. The academic literature suggests several reasons analysts may report biased recommendations. McNichols and O'Brien (1997) argue, however, that analysts do not issue biased ratings. Instead, analysts choose to initiate recommendations on firms that have strong fundamentals and discontinue coverage of firms that have poor prospects. In other words, analysts want to be associated with winner firms, and therefore, self-select the firms they cover. McNichols and O'Brien provide evidence supporting this hypothesis.

The increase in analyst following for non-domestic firms listing on the NYSE and LSE may, therefore, be the result of fundamental changes within a firm, instead of a consequence of listing. To investigate this hypothesis, we focus on the firm's earnings growth. Specifically, we measure the firm's earnings growth for the fiscal year before the analysts' recommendation. For example, if a foreign firm lists on the NYSE on date $t = 0$, we measure

the number of analysts following the firm one year before the listing, on $t = -1$. Next, we calculate the earnings growth in the year before the analyst recommendation using the earnings per share for the years ending $t = -2$ and $t = -1$. Similarly, we measure the number of analysts following the firm one year after listing ($t = 1$), and the earnings growth just before the recommendation using earnings from years ending in $t = 0$ and $t = 1$. Earnings data are from the *New York Stock Exchange Fact Book* and from Disclosure's Global Access. Disclosure's Global Access supplies ten years of historical financial statements, so earnings data are not complete on every firm in the sample. We obtained complete earnings data on 150 firms listing on the NYSE and 46 firms listing on the LSE.

We test whether the change in analyst following is the result of a change in fundamentals (i.e., change in earnings growth) using regression analysis. The following OLS regression uses the change in analyst following as the dependent variable. Two dummy variables indicating whether the firm is listing on NYSE or LSE, and the change in earnings growth are the independent variables. The estimated regression follows:

$$\Delta Analysts = 5.98NYSE + 2.31LSE + 0.095\Delta EarningsGrowth \quad (1)$$

(12.11)*** (2.59)*** (0.93)

where the coefficient t -statistics are reported in parentheses and '***' indicates significance at the one percent level ($n = 196$ and $R^2 = 0.443$). The coefficient for the change in earnings growth is positive, but not significant at traditional levels. The coefficients for the NYSE and LSE listing dummy variables are significantly positive. In addition, the estimates of the mean change in analyst following (5.98 for NYSE and 2.31 for LSE) are similar to the mean changes reported in the full sample (6.18 and 3.43, respectively). Lastly, we perform an F -test with the null hypothesis that the coefficient on the NYSE dummy variable is equal to the coefficient on the LSE variable. The F -value of 12.95 (significant at the one percent level) indicates that non-

domestic firms listing on the NYSE experience a greater change in analyst following than firms listing on the LSE, after conditioning on firms' earnings growth.

C. Matching Firm Tests

The previous section investigates whether analysts' self-selection of firms to cover biases the increase in analyst following after listing. Alternatively, the analysts' clients may dictate what types of firms the analysts follow. That is, if investors want recommendations about firms in certain industries or from specific countries, then analysts will follow those firms. Therefore, the increase in analyst following may be due to the firm being in a 'popular' industry or country instead of a consequence of the listing event.

To test this hypothesis, we obtain a matching sample of firms that were not listed on a non-domestic exchange during the event period. We obtain the matching sample of firms by searching the Disclosure's Global Access service for similar firms. Our matching algorithm is similar to that of Errunza and Miller (1998), except that we add an industry component. For each firm in the sample, the database is searched by country, four-digit SIC code, and year of listing. This search may result in several firms from which to select the match. We selected the firm whose total assets (one year before the listing) were closest to the listing firm's total assets (one year before the listing). In many cases (such as Telephones of Mexico), a suitable matching firm is unavailable, and hence were not included. This procedure produces 139 matching firms for the NYSE listing sample and 154 matching firms for the LSE. On average, the matching firms are of similar size to the listing firms. That is, the NYSE (LSE) matching firms have 89% (96%) of the total assets of the listing firms.

The analysis is reported in Panel A of Table 2. The average increase in analyst following for the 139 firms listing on the NYSE, that have matching firms, is 6.29 analysts (significant at the one percent level). The increase in analyst following for the matching firms is

1.99 analysts (significant at the one percent level). The difference between the change in analyst following for the NYSE-listing firms and the change for the matching firms is 4.30 analysts, significant at the one percent level. In other words, analyst following increases after the listing more than we would expect as a result of the firm being in a 'popular' industry or country. We come to a similar conclusion for non-domestic firms listing on the LSE. The 154 LSE listing firms with matches average an increase of 3.83 analysts after listing, compared to a 1.19 analyst increase for the matching firms (both averages are significant at the one percent level). The difference of 2.64 analysts is also significant at the one percent level. Lastly, we test whether the change in analyst following, less the change in the matching sample, is different between the NYSE listing firms and the LSE listing firms. We find that the change in analyst following is greater for the NYSE listing firms than for the LSE listing firms (at the five percent level) using both a difference in means *t*-test and an *F*-test.

D. Listing Requirements

The listing requirements on the NYSE and LSE are very different. The major differences are the accounting standards accepted and the level of regulatory approval necessary. However, there are several minor differences as well.

In the United States, firms can be quoted on the Nasdaq pink sheets with minimal Securities and Exchange Commission (SEC) registration. This is known as a Level I registration and cannot be used to raise capital in the U.S. Anyone can trade the stock. Non-domestic firms can raise capital in the U.S. without a full SEC registration by offering stock through a private placement to institutions under Rule 144A. In order to be listed on an exchange or raise unrestricted capital, non-domestic firms must apply for a Level II or Level III registration. Under both Level II and Level III registrations, firms must register with the SEC as well as apply for listing with an exchange. A Level II registration is for quotation only, while a

Level III registration involves a public offering. In both cases though, firms must comply with U.S. generally accepted accounting principles (GAAP).

The listing requirements for the NYSE focus on the number of publicly held shares and their aggregate market value. The number of shares requirement is 1 million shares at the beginning of our study period. It increases to 1.1 million shares on February 13, 1984 and remains there for the rest of our study period. The aggregate market value of publicly held shares requirement is \$16 million at the beginning of our study period. It increases to \$18 million on February 13, 1984 and again to \$40 million on October 3, 1988.

In the United Kingdom, similar to a U.S. Level I registration, non-domestic firms can trade on the SEAQ-I with minimal registration, as 'unlisted,' as long as two dealers agree to support the market in the firm's security. The LSE has established a "limited ownership" market, which is similar to a Rule 144A offering in the U.S. In both cases, only institutions can trade the shares. The major difference is that on the LSE, the shares are listed and hence theoretically more liquid. This type of listing has come to be known as a Red Book listing. A Red Book listing requires market capitalization of £700,000 (\$1.2 million) with 25% of the shares publicly held. Any accounting standards are accepted including home country standards. Shares are quoted in U.S. dollars.

However, to raise capital in the United Kingdom, a firm must apply for unrestricted ownership listing on the LSE. An unrestricted ownership listing on the LSE is called a Yellow Book listing. The same capitalization standards apply to Yellow Book and Red Book listings. The differences are in the trading currency (Pound sterling) and accounting standards (must be US or UK GAAP; or International Accounting Standards). For both Red Book and Yellow Book listings, the LSE is the only level of regulatory approval necessary to list. Unlike the U.S., there is no governmental approval necessary.

In the previous sections we report that NYSE listing firms gain more analyst following

than LSE listing firms. Yet, LSE-listing firms may simply be small firms that could not have listed on the NYSE. The smaller increase in analyst following may be a consequence of being smaller firms. To investigate this possibility, we examine each non-domestic LSE listing firm and determine whether it met the requirements to list on the NYSE.⁸ We estimate that 137 of the LSE listing firms could have listed on the NYSE. Panel B of Table 2 reports the number of analysts following the firms that could have listed on either exchange. The first row, which comes directly from Panel A of Table 1, reports the full sample of 193 NYSE listing firms. The second row reports that analyst following increased from 8.89 analysts before the listing to 12.76 analysts after the listing for the 137 LSE listing firms that could have listed on the NYSE. The difference, 3.87 analysts, is significant at the one percent level, but is significantly smaller than the increase of 6.18 analysts for the NYSE listing firms. The difference is significant at the one percent level using both a *t*-test and *F*-test.

E. Analyst Following Summary

The changing sample sizes between tests conducted thus far may concern some readers. As a final test, we limit the sample to only those firms that have earnings data, a matching firm, and could have listed on either exchange. This leaves 110 NYSE listing firms and 34 LSE listing firms. We combine all the tests in this section with a regression similar to equation (1). In this case, the dependant variable is the change in analyst following less the change in analyst following for the matching firm. The independent variables are the NYSE and LSE listing dummy variables and the change in earnings growth. The results follow.

$$\Delta Analysts - Matching \Delta Analysts = 4.21 NYSE + 1.13 LSE + 0.209 \Delta Earnings Growth \quad (2)$$

(7.32)*** (1.09) (1.34)

The change in analyst following is significantly positive for NYSE listing firms after controlling

for changes in the matching firm analyst following and changes in earnings growth. The positive change is not significant for the LSE listing firms. An F -test which tests the equality of the NYSE and LSE coefficients rejects equality at the one percent level (F -value = 6.75).

In summary, this section reports evidence that more analysts report earnings estimates for non-domestic firms after they list on the NYSE or LSE than before listing. These listing firms may be in 'popular' industries or countries and their fundamentals (such as earnings growth) may have changed. However, the increase in analyst following for listing firms is significant even after conditioning on earnings growth. We therefore conclude that for firms cross-listing on a non-domestic exchange there is an associated increase in visibility as measured by the number of analysts following the stock.

We also report that the change in analyst following is greater for NYSE listing firms than for LSE listing firms. This finding is robust to limiting the LSE listing sample to only those firms that could have listed on the NYSE. The higher level of visibility associated with an NYSE non-domestic cross-listing may partially offset the higher fees firms incur to list in New York rather than London.

5. Media Visibility Tests

This section investigates the change in media visibility for listing firms. Specifically, we test whether cross-listing on a foreign exchange is associated with changes in the number of newspaper citations. The newspapers considered are *The Wall Street Journal*, the *Financial Times*, and a home country newspaper as listed in the appendix table.

^aWe primarily use market capitalization and pre-tax income to determine NYSE listing eligibility.

A. Number of *Wall Street Journal* Citations

Table 3 reports the number of times that *The Wall Street Journal* (*WSJ*) mentions the companies' name in a 12-month period before (months -15 to -3) and after (months +3 to +15) the NYSE (Panel A) or LSE (Panel B) listing. For the full sample of 179 firms listing on the NYSE, the mean number of *WSJ* citations increases by 1.64 citations (32%) per firm, from 5.14 before listing to 6.78 after listing. The change in visibility is statistically significant at the one percent level. For the full sample of 140 firms listing on the LSE, the mean change in *WSJ* citations is a statistically insignificant -0.81. The change in citations is significantly larger, at the ten percent level, in the NYSE listing sample than the LSE listing sample.

When the sample is grouped by the type of capital market in the firm's home country, the results indicate that a significant increase in *WSJ* citations occurs for both capital market types when listing on the NYSE. The visibility increase for firms from developed markets listing on the NYSE is significantly larger than for LSE listing.

The geographical region analysis shows an increase in media visibility after listing on the NYSE for firms from all regions. However, only the firms from the Americas and Europe show significant increases in visibility. For LSE listing firms, the only significant change is a mean change of 3.09 *WSJ* citations for firms from Asia. The NYSE listing firms exhibit significantly greater visibility increases than the LSE listing firms in all regions except Asia, where the LSE firms show a significantly higher visibility change.

B. Number of *Financial Times* Citations

Table 4 shows the number of times the *Financial Times* (*FT*) mentions the companies' name during a 12-month period before and after NYSE (Panel A) or LSE (Panel B) listing. For the full sample of 80 firms listing on the NYSE, the mean number of *FT* citations increases by

We do not have shareholder data for the set of firms.

6.56 citations (78%) per firm, from 8.45 before listing to 15.01 after listing. The change in visibility is statistically significant at the five percent level. For the full sample of 39 firms listing on the LSE, the mean change in *FT* citations is a significant 1.38 per firm (a 49% increase). The change in citations is significantly larger, at the 10 percent level (using the *t*-test, but not the *F*-test), in the NYSE listing sample than in the LSE listing sample.

For the sample grouped by capital market type, the results indicate that a significant increase in *FT* citations occurs for firms from developed and emerging capital markets when listing on the NYSE. These increases are significant at the five percent level. For firms listing on the LSE, the increase in *FT* citations after listing is significant only for the firms from emerging capital market countries. The visibility increase differential between the two exchanges is significant only in the sample from developed market countries, with NYSE listing firms experiencing higher visibility increases than the LSE listing firms level (using the *t*-test, but not the *F*-test).

The geographical region analysis shows an increase in visibility after NYSE listing for firms in all regions, though only the Asia and Europe regions show significant increases in visibility. For LSE listing firms, the change in visibility measure is negative in two of the five regions. Two of the changes in visibility are significantly positive, the Asia and Europe regions. In comparing the change in visibility between the NYSE listing firms and LSE listing firms, European firms show a significantly greater visibility increase for a NYSE listing than for an LSE listing.⁹

C. Number of Home Country Newspaper Citations

Table 5 reports the number of times the firm's home country (or regional) newspaper

⁹The difference is also significant for the Africa and Middle East regions, but the number of observations is small so inference is unreliable.

mentions the companies' name during the 12-month periods before and after the NYSE (Panel A) or LSE (Panel B) listing. For a list of the newspapers used in this analysis, see the Appendix Table. For the full sample of 87 firms listing on the NYSE, the mean number of home newspaper citations increases by 6.08 citations (37%) per firm, from 16.43 before listing to 22.51 after listing. The change in visibility is statistically significant at the five percent level. For the full sample of 63 firms listing on the LSE, the mean change in home citations is an insignificant -1.97 per firm. The difference in the change between the two markets is significant.

For the sample grouped by capital market type, the results indicate that a large increase in home citations occurs for firms from both developed and emerging capital markets when listing on the NYSE, but only the change in home visibility from firms in emerging market countries is significant. For firms listing on the LSE, the increase in home citations after listing is not significant in either of the capital market type groups. In comparing the change in home visibility between the two exchanges, we find that firms listing from developed markets experience a larger increase in home visibility when they list on the NYSE rather than on the LSE.

The geographical region analysis shows an increase in visibility after listing on the NYSE for firms in all regions, but only the Asia and Europe regions show significant increases in visibility, at the 1 and 10 percent level, respectively. For LSE listing firms, the change in visibility measure is not significant in any of the five regions.

E. Media Visibility Summary

For non-domestic firms listing on the NYSE, our general finding is that media visibility significantly increases. This evidence is supported using *WSJ* and *FT* citations as the visibility proxy. Our evidence of an increase in visibility associated with a NYSE non-domestic listing is

consistent with other proxies of investor recognition used by Kadlec and McConnell (1994). They find that domestic firms listing on the NYSE from Nasdaq experience an increase, on average, in the number of registered shareholders (19% increase) and in the number of institutional shareholders (27% increase).

Our finding that NYSE listing is associated with increases in the firm's home country news media is interesting. Smith and Sofianos (1997) report that a non-domestic firm's listing on the NYSE increases trading on the home country's capital market and results in new volume gains on the NYSE. Combining their study with our finding that listing increases media visibility (at home and internationally) supports the He and Wang (1995) multi-period trading model in which trading volume is linked with information flow. That is, increased information flow increases trading volume. Given the link between the effect of cross-listing and market transparency in the Domowitz, Glen, and Madhavan (1998) model, it is not surprising that the listing effect appears to be stronger on for the NYSE, which has a more transparent market than the LSE.

In summary, we find partial support for our hypothesis that non-domestic cross-listing is associated with increases in visibility as measured by newspaper citations. We further find that the visibility gains associated with non-domestic firms listing on the NYSE are generally greater than the gains experienced by non-domestic firms listing on the LSE. Thus, as mentioned earlier, the higher level of visibility associated with an NYSE non-domestic cross-listing may partially offset the higher fees firms incur to list on the NYSE rather than the LSE.

6. Listing and Equity Offerings

One reason for cross-listing a firm's shares on the LSE or NYSE is to develop a new source of equity capital. That is, the foreign listing involves raising capital and issuing new equity. The issuing of new equity may increase the visibility effect of the listing because

issuing new equity involves more people and organizations, such as investment banking firms. The activities the investment banking firms provide, like road-shows and advertising, also may provide visibility. Additionally, Foerster and Karolyi (1998) find that the affect of cross-listing on the cost of capital is conditional on the issuance of equity. That is, they find that the cost of equity decreases only for firms not issuing equity. This section investigates the role of equity offerings around foreign listing in visibility changes.

We define an equity offering as ‘associated’ with the listing if the offering occurs at the listing date or over the following year. We identify the firms that have a new equity offering associated with the listing by examining the firm’s annual accounting report. Specifically, the Statement of Cash Flow identifies cash obtained through the issuing of equity securities. The accounting statements are obtained through Global Disclosure. We identify 137 NYSE non-domestic listing firms that have an associated equity offering. For LSE non-domestic listing firms, we identify 48 as new equity issuers.

Our empirical analysis is reported in Table 6. Specifically, Panel A shows the percentage of non-domestic listing firms that have an associated equity offering. For the NYSE listing firms, 71.0% issued equity as compared to 71.6% of firms listing on the LSE. The difference is not significant using an *F*-test. Partitioning the data by the firm’s home country market type, we find that 61.8% (58.9%) of firms from developed markets have an associated equity offering when listing on the NYSE (LSE). When the firms are from an emerging capital market country, 88.4% (89.3%) issue equity when listing on the NYSE (LSE). The differences between the percent of firms issuing equity associated with listing on the NYSE and LSE are not significant.

Partitioning the data by geographic region, we find the difference in equity issuance between NYSE and LSE listing firms to be significant when the firms are from the Americas (76% NYSE listers versus 47.4% LSE listers) and Asia (64.5% NYSE listers versus 90.5% LSE

listers). Overall, the percentage of non-domestic firms issuing equity associated with their NYSE listing is very similar to the percentage issuing equity associated with their LSE listing.

In Panel B we report tests of firm visibility changes between samples of firms listing on the LSE versus the NYSE and firms offering new equity versus firms that are not issuing new equity. Firms listing on the LSE have a mean increase in analyst following of 2.77 analysts when an equity offering is associated with the listing and an increase of 2.26 analysts without an offering. These increases are statistically significant at the five percent level or better. However, an F -test cannot reject the assumption of equality between the two samples.

Firms listing on the NYSE experience a mean increase of 6.43 analysts when new equity is offered and an increase of 5.62 analysts without an offering. These changes are significant at the one percent level and an F -test cannot reject that they are equal. We view the lack of a statistically significant difference between changes in analyst following as further evidence that non-domestic cross-listing is associated with visibility gains, regardless of whether the listing is accompanied by an equity offering.

Lastly, we use an F -test to test for differences between LSE and NYSE listing visibility changes in the offering and no offering samples. For firms that have an associated equity offering with listing, the 2.77 increase in analyst following for LSE listing firms is significantly smaller than the 6.43 increase for NYSE listing firms. The NYSE listing firms also experience a significantly larger increase in analyst following than LSE listing firms in the sample where new equity was not offered. This is consistent with our previous finding that non-domestic firms listing on the NYSE experience larger visibility gains than those listing on the LSE.

Panel B also reports this same type of analysis for the media visibility measures, that is, the *WSJ*, *Financial Times*, and home country newspaper citations. In summary, we find that the non-domestic firms listing on the NYSE and issuing new equity experience a significant increase in media visibility using all measures. For LSE non-domestic listing firms, firm

visibility significantly increases only in the *Financial Times* citation measure. Changes in firm visibility are not significant for non-equity offering firms listing on either the LSE or the NYSE.

7. U.S. and U.K. Firms Cross-Listing

In this study we have been examining the mechanisms for increasing investor recognition when a firm cross-lists in a foreign market. As a final test, we investigate the change in visibility of U.S. domestic firms cross-listing on the LSE and U.K. domestic firms cross-listing on the NYSE. This situation is particularly interesting because these firms are from countries with low market segmentation (as described by Stulz and Wasserfallen (1995)) and high liquidity. These firms should experience few information barriers on these two highly integrated markets (Kleidon and Werner, 1996). It also seems unlikely that a cross-list by these firms would substantially increase liquidity when they are already listed on highly liquid domestic markets. Yet Forester and Karolyi (1998) find that U.K. firms do experience a decrease in the cost of equity after listing in the U.S. However, an increase in investor recognition through higher visibility would support Merton's (1987) hypothesis. From our original sample of non-domestic firms listing on the NYSE and LSE, we have 32 U.K. firms listing on the NYSE and 74 U.S. firms listing on the LSE.

Panel A of Table 7 reports the visibility proxy variables for the U.K. domestic firms listing on the NYSE. The mean number of analysts following the firms increases by 6.97 analysts per firm (an increase of 101%), which is significant at the 1 percent level. The number of *WSJ* citations and *FT* citations increase by 2.53 and 44.89 per year, respectively. The increase in the *FT* citations is significant at the 10 percent level. Panel B reports the visibility changes for U.S. domestic firms listing on the LSE. The number of analysts following these firms increases by a significant 4.27 (an increase of 36.5%). The change in newspaper citations for these firms is negative, but not significant. The U.K. firms listing on the NYSE

have greater increases in visibility than the U.S. firms listing on the LSE in all three proxies (see Panel C), but only the *FT* citation proxy is significant (at the 10% level using the *t*-test).

8. Summary and Conclusions

Several hypotheses exist for why foreign firms choose to cross-list their shares on non-domestic exchanges, such as the New York Stock Exchange (NYSE) or the London Stock Exchange (LSE). Although most theories imply increased firm visibility as an important factor in cross-listing, the investor recognition hypothesis is particularly dependent on it. This study tests the hypothesis that non-domestic cross-listing increases firm visibility. We examine non-domestic listings on the two exchanges with the largest number of non-domestic listings, the LSE and NYSE. Noting that listing costs are greater on the NYSE than on the LSE, we also test the hypothesis that the increased costs are associated with greater visibility gains.

We proxy visibility using the following measures: (1) the number of analysts estimating the firm's annual earnings, and the number of newspaper citations in the pre- and post-listing period appearing in (2) *The Wall Street Journal* (WSJ), (3) the *Financial Times* (FT), and (4) a home country newspaper.

We find that a non-domestic listing on either the NYSE or the LSE is associated with significant increases in firm visibility. Specifically, analyst following increases by an average of 6.18 analysts (128%) for NYSE listing firms and 3.43 analysts (48%) for LSE listing firms. The NYSE listing firms also experience an average increase in newspaper citations by 1.64 *WSJ* articles (a 32% increase), 6.56 *FT* articles (a 78% increase), and 6.08 home newspaper articles (a 37% increase). The LSE listing firms experience increases in average citations for *FT* articles, an increase of 1.38 articles (a 49% increase). We view these findings as support for our hypothesis that non-domestic cross-listing increases firm visibility.

We also compare the visibility changes associated with listing between the NYSE and

LSE. We find that the mean visibility increase is significantly larger for the non-domestic firms listing on the NYSE than on the LSE, which may partially compensate for the higher listing fees on the NYSE.

Additionally, about 70% of the firms in our sample conduct equity offerings associated with the listing. Firms from emerging market countries are more likely to raise capital in the U.S. and U.K. than firms listing from developed market countries. The changes in visibility are not significantly greater for firms issuing equity than for those firms without an offering. However, we find that the change in visibility is greater for NYSE listing firms issuing equity than for LSE listing firms issuing equity. Similarly, the increase in visibility is greater for NYSE non-issuing firms than for LSE non-issuing firms.

Our evidence is robust to conditioning on the firm's home country capital market type (developed or emerging); the country's geographical region; analysts' tendencies to initiate coverage on firms with good prospects; and the popularity of a firm's industry or country.

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Table 1. Number of Analysts Following the Listing Companies

This table reports the mean number of analysts reporting annual earnings estimates as reported by I/B/E/S. The mean number of analysts is reported for one year before, Pre-List, and one year after, Post-List, the firm's listing on the New York Stock Exchange (NYSE), Panel A, or London Stock Exchange (LSE), Panel B. The difference in the number of analysts between the pre-list and post-list periods is tested using a paired *t*-test, the *t*-statistic is reported in parentheses. Statistics are reported for the full sample, and for subgroups depending on the type of capital market (see appendix table) or geographic region of the foreign firm's home country. Panel C tests the change in analyst following between the NYSE and LSE samples. The statistics are [*t*-statistics] from a difference in means test and {*F*-statistics}.

	Panel A. Firms Listing on NYSE				Panel B. Firms Listing on LSE				Panel C
	Firms in Sample	Mean Number of Analysts			Firms in Sample	Mean Number of Analysts			H ₀ : NYSE change = LSE change
		Pre-List	Post-List	Difference		Pre-List	Post-List	Difference	
Full Sample	193	4.84	11.02	6.18 (12.22)***	210	7.10	10.53	3.43 (7.49)***	[4.04]*** {16.32}***
<u>Type of Capital Market</u>									
Developed Market	124	6.53	12.57	6.04 (8.97)***	161	8.11	11.65	3.55 (6.20)***	[2.82]*** {8.04}***
Emerging Market	69	1.80	8.22	6.42 (8.71)***	49	3.78	6.82	3.04 (5.36)***	[3.64]*** {11.49}***
<u>Geographical Region</u>									
Africa	1	0.00	2.00	2.00 (NM)	14	1.21	1.43	0.21 (0.90)	[1.93]* {3.73}*
Americas and Caribbean	86	4.24	11.08	6.84 (10.62)***	87	11.47	15.55	4.08 (4.65)***	[2.53]** {6.40}***
Asia and Pacific	31	2.42	5.32	2.90 (3.98)***	51	4.61	7.43	2.82 (3.64)***	[0.07] {0.00}
Europe	73	6.77	13.67	6.90 (6.74)***	46	4.80	8.22	3.41 (4.13)***	[2.65]*** {5.82}**
Middle East	2	0.00	4.00	4.00 (NM)	12	1.58	6.67	5.08 (3.76)***	[-0.64] {0.10}

*** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level. NM denotes Not Meaningful (too few observations).

Table 2. Number of Analysts - Further Tests

This table reports the mean number of analysts reporting annual earnings estimates as reported by I/B/E/S. The mean change in the number of analyst following is the number of analyst following one year after the listing (Post-list) less the number one year before listing (Pre-list). Panel A reports the mean change in analyst following for NYSE and LSE listing firms and for the samples of matching firms. Matching firms are from the same country, and have similar four-digit SIC codes, and size as the listing firms. Panel B limits the LSE listing sample only to those firms that met the listing requirement of the NYSE and, thus, could have listed on either exchange. A *t*-test and an *F*-test are used to test the difference in the change in analyst following between NYSE listing firms and LSE listing firms.

Panel A. Change in Analyst Following for Listing Firms and Matching Sample

	Firms in Sample	<u>Change in Analyst Following</u>		Difference (paired <i>t</i> -test)
		<u>Listing Firms</u>	<u>Matching Firms</u>	
NYSE Listing Firms	139	6.29 (10.35)***	1.99 (5.46)***	4.30 (7.31)***
LSE Listing Firms	154	3.83 (6.50)***	1.19 (4.16)***	2.64 (4.45)***
<i>t</i> -test for NYSE difference = LSE difference				1.99**
<i>F</i> -test for NYSE difference = LSE difference				3.96**

Panel B. Change in Analyst Following for Firms that Could List on Either the NYSE or LSE

	Firms in Sample	<u>Mean Number of Analysts</u>		Difference (paired <i>t</i> -test)
		<u>Pre-List</u>	<u>Post-List</u>	
NYSE Listing Firms	193	4.84	11.02	6.18 (12.22)***
LSE Listing Firms	137	8.89	12.76	3.87 (6.14)***
<i>t</i> -test for NYSE difference = LSE difference				2.88***
<i>F</i> -test for NYSE difference = LSE difference				8.29***

*** Denotes statistical significance at the 1% level and ** at the 5% level.

Table 3. Number of *Wall Street Journal* Citations

This table reports the mean number of *Wall Street Journal* (WSJ) citations. The mean number of WSJ citations is reported for a 12-month period before (months -15 to -3), Pre-List, and a 12 month period after (months +3 to +15), Post-List, the firm's listing on the New York Stock Exchange (NYSE), Panel A, or the London Stock Exchange (LSE), Panel B. The difference in citations between the pre-list and post-list periods is tested using a paired *t*-test, the *t*-statistic is reported in parentheses. Statistics are reported for the full sample, and for subgroups depending on the type of capital market (see appendix table) or geographic region of the foreign firm's home country. Panel C tests the change in the number of citations between the NYSE and LSE samples. The statistics are [*t*-statistics] from a difference in means test and {*F*-statistics}.

	Panel A. Firms Listing on NYSE				Panel B. Firms Listing on LSE				Panel C
	Firms in Sample	Mean Number of WSJ Cites			Firms in Sample	Mean Number of WSJ Cites			H ₀ : NYSE change = LSE change
		Pre-List	Post-List	Difference		Pre-List	Post-List	Difference	
Full Sample	179	5.14	6.78	1.64 (3.71)***	140	9.23	8.41	-0.81 (-0.69)	[1.94]* {4.48}**
<u>Type of Capital Market</u>									
Developed Market	110	7.75	9.82	2.06 (2.94)***	96	12.82	11.40	-1.43 (-0.83)	[1.89]* {3.91}**
Emerging Market	69	0.97	1.94	0.97 (3.92)***	44	1.39	1.91	0.52 (1.04)	[0.80] {0.79}
<u>Geographical Region</u>									
Africa	1	0.00	2.00	2.00 (NM)	11	0.91	0.55	-0.36 (-1.00)	[1.88]* {3.52}*
Americas and Caribbean	81	3.65	4.91	1.26 (2.74)***	41	18.41	14.41	-4.00 (-1.16)	[2.08]** {4.33}**
Asia and Pacific	27	2.30	2.37	0.07 (0.18)	44	3.89	6.98	3.09 (2.97)***	[-2.70]*** {4.86}**
Europe	68	8.24	10.96	2.72 (2.71)***	33	10.76	8.24	-2.52 (-1.21)	[2.27]** {6.60}**
Middle East	2	1.00	2.50	1.50 (NM)	11	0.09	0.18	0.09 (0.43)	[0.93] {3.93}*

*** Denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level. NM denotes Not Meaningful (too few observations).

Table 4. Number of *Financial Times* Citations

This table reports the mean number of *Financial Times* (FT) citations. The mean number of FT citations is reported for a 12-month period before (months -15 to -3), Pre-List, and a 12 month period after (months +3 to +15), Post-List, the firm's listing on the New York Stock Exchange (NYSE), Panel A, or London Stock Exchange (LSE), Panel B. The difference in citations between the pre-list and post-list periods is tested using a paired *t*-test, the *t*-statistic is reported in parentheses. Statistics are reported for the full sample, and for subgroups depending on the type of capital market (see appendix table) or geographic region of the foreign firm's home country. Panel C tests the change in the number of citations between the NYSE and LSE samples. The statistics are [*t*-statistics] from a difference in means test and {*F*-statistics}.

	Panel A. Firms Listing on NYSE				Panel B. Firms Listing on LSE				Panel C
	Firms in Sample	Mean Number of Cites			Firms in Sample	Mean Number of Cites			H ₀ : NYSE change = LSE change
		Pre-List	Post-List	Difference		Pre-List	Post-List	Difference	
Full Sample	80	8.45	15.01	6.56 (2.34)**	39	2.82	4.21	1.38 (1.94)*	[1.79]* {1.63}
<u>Type of Capital Market</u>									
Developed Market	42	14.67	26.14	11.48 (2.19)**	10	5.10	6.30	1.20 (0.55)	[1.81]* {0.89}
Emerging Market	38	1.58	2.71	1.13 (2.49)**	29	2.03	3.48	1.45 (2.27)**	[-0.42] {0.17}
<u>Geographical Region</u>									
Africa	1	14.00	22.00	8.00 (NM)	3	6.00	5.33	-0.67 (NM)	[3.61]* {13.00}*
Americas and Caribbean	40	2.90	3.48	0.57 (0.51)	5	3.00	1.00	-2.00 (-0.85)	[0.78] {0.60}
Asia and Pacific	15	0.87	2.27	1.40 (1.80)*	15	3.13	6.80	3.67 (2.65)**	[-1.43] {2.03}
Europe	23	22.87	43.04	20.17 (2.23)**	5	3.60	4.40	0.80 (0.93)	[2.13]** {0.96}
Middle East	1	7.00	16.00	9.00 (NM)	11	1.09	1.73	0.64 (0.86)	[3.25]*** {10.59}***

*** Denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level. NM denotes Not Meaningful (too few observations).

Table 5. Number of Home Country Newspaper Citations

This table reports the mean number of home country newspaper (see Appendix Table for a list) citations. The mean number of newspaper citations is reported for a twelve-month period before (months -15 to -3), Pre-List, and twelve months after (months +3 to +15), Post-List, the firm's listing on the New York Stock Exchange (NYSE), Panel A, or London Stock Exchange (LSE), Panel B. The difference in citations between the pre-list and post-list periods is tested using a paired *t*-test, the *t*-statistic is reported in parentheses. Statistics are reported for the full sample, and for subgroups depending on the type of capital market (see appendix table) or geographic region of the foreign firm's home country. Panel C tests the change in the number of citations between the NYSE and LSE samples. The statistics are [*t*-statistics] from a difference in means test and {*F*-statistics}.

	Panel A. Firms Listing on NYSE				Panel B. Firms Listing on LSE				Panel C
	Firms in Sample	Mean Number of Cites			Firms in Sample	Mean Number of Cites			H ₀ : NYSE change = LSE change
		Pre-List	Post-List	Difference		Pre-List	Post-List	Difference	
Full Sample	87	16.43	22.51	6.08 (2.30)**	63	17.38	15.41	-1.97 (-0.77)	[2.19]** {4.50}**
<u>Type of Capital Market</u>									
Developed Market	54	24.41	31.87	7.46 (1.76)*	41	21.24	17.51	-3.73 (-1.06)	[2.03]** {3.79}*
Emerging Market	33	3.36	7.18	3.82 (4.47)***	22	10.18	11.50	1.32 (0.42)	[0.76] {0.81}
<u>Geographical Region</u>									
Africa	0	-	-	-	2	8.00	2.00	-6.00 (NM)	-
Americas and Caribbean	36	18.86	20.00	1.14 (0.70)	33	22.67	17.45	-5.21 (-1.22)	[1.39] {2.06}
Asia and Pacific	16	3.56	8.25	4.69 (3.04)***	17	14.59	18.12	3.53 (0.83)	[0.26] {0.06}
Europe	33	19.58	31.64	12.06 (1.82)*	6	13.83	13.50	-0.33 (-0.17)	[1.79]* {0.62}
Middle East	2	23.50	31.00	7.50 (NM)	5	0.00	0.40	0.40 (NM)	[1.58] {8.63}**

*** Denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level. NM denotes Not Meaningful (too few observations).

Table 6. Equity Offerings and Listing

This table examines the effect of raising equity for foreign firms during a New York Stock Exchange (NYSE) or London Stock Exchange (LSE) listing. Panel A reports the percentage of firms that raise equity during the listing or the following year. Panel B reports the change in visibility for firms that raise equity and firms that do not raise equity for LSE and NYSE listing. The visibility measures are analyst following, *Wall Street Journal* (WSJ) citations, *Financial Times* citations, and home country newspaper citations. Significance levels for a change in visibility are determined by a *t*-statistic and the differences in visibility between sub-samples are tested using an *F*-statistic.

Panel A Percentage of Firms Raising Equity Around NYSE and LSE Listing

	<u>Percentage of Firms Raising Equity</u>		F-Statistic for Difference
	NYSE Listing	LSE Listing	
Total Sample	70.98% (n=193)	71.64% (n=67)	0.00
<u>Type of Capital Market</u>			
Developed Market	61.79%	58.97%	0.10
Emerging Market	88.41	89.29	0.02
<u>Geographical Region</u>			
Africa	100.00%	75.00%	0.20
Americas and Caribbean	76.74	47.37	6.89***
Asia and Pacific	64.52	90.48	4.74**
Europe	66.67	66.67	0.00
Middle East	100.00	87.50	0.23

Table 6. Equity Offerings and Listing (continued)

Panel B Equity Offerings and Visibility

	<u>Mean Change in Visibility</u>		F-Statistic for Difference
	Equity Offering	No Offering	
<u>Analyst Following</u>			
LSE Listing	2.77 (4.75)***	2.26 (2.09)*	0.20
NYSE Listing	6.43 (10.24)***	5.62 (6.72)***	0.52
F-Statistic for Difference	10.74***	4.62**	
<u>WSJ Citations</u>			
LSE Listing	0.07 (0.09)	-8.94 (-1.10)	3.08*
NYSE Listing	1.77 (4.09)***	1.26 (1.00)	0.24
F-Statistic for Difference	4.05**	3.39*	
<u>Financial Times Citations</u>			
LSE Listing	1.91 (1.89)*	-0.25 (-0.40)	0.79
NYSE Listing	7.66 (2.24)**	1.93 (1.02)	0.59
F-Statistic for Difference	0.94	0.36	
<u>Home Country Citations</u>			
LSE Listing	3.38 (1.04)	-12.45 (-0.99)	2.52
NYSE Listing	6.59 (2.14)**	3.17 (1.22)	0.19
F-Statistic for Difference	0.28	1.63	

*** Denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level.

Table 7. Visibility of U.K. Firms Listing on NYSE Versus U.S. Firms Listing on LSE

This table reports the mean number of analyst and newspaper citations for United Kingdom (U.K.) firms listing on the New York Stock Exchange (NYSE), Panel A, and for United States (U.S.) firms listing on the London Stock Exchange (LSE), Panel B. The mean number of analysts (from I/B/E/S) is reported for one year before, Pre-List, and one year after, Post-List, the firm's listing. The mean number of citations is reported for a 12-month period before (months -15 to -3), Pre-List, and a 12-month period after (months +3 to +15) listing. The difference in analyst following or citations between the pre-list and post-list periods is tested using a paired *t*-test, the *t*-statistic is reported in parentheses. Panel C tests the change in the number of analyst or citations between the NYSE and LSE samples. The statistics are [*t*-statistics] from a difference in means test and {*F*-statistics}.

	Panel A. U.K. Firms Listing on NYSE				Panel B. U.S. Firms Listing on LSE				Panel C
	Firms in Sample	Pre-List	<u>Mean Number</u> Post-List	Difference	Firms in Sample	Pre-List	<u>Mean Number</u> Post-List	Difference	H ₀ : NYSE change = LSE change
Number of Analysts	32	6.88	13.84	6.97 (4.92)***	74	11.69	15.96	4.27 (4.22)***	[1.50] {2.25}
WSJ Citations	30	9.73	12.27	2.53 (1.44)	32	23.19	18.00	-5.19 (-1.18)	[1.63] {2.52}
Financial Times Citations	9	40.22	85.11	44.89 (2.15)*	3	5.00	1.33	-3.67 (-0.95)	[2.28]** {1.68}

*** Denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level.

Appendix Table

Country	# Firms on NYSE	# Firms on LSE	Domestic Market	Home Business Newspaper	Date Available on DJNR
Argentina	9	1	Emerging	NA	-
Australia	7	8	Developed	Asian Wall Street Journal	6/1/91
Belgium	0	2	Developed	Wall Street Journal Europe	1/1/91
Bermuda	2	6	Emerging	Caribbean Update	3/1/92
Brazil	2	0	Emerging	NA	-
Canada	34	6	Developed	Financial Post (Toronto, Canada)	9/17/91
Chile	16	0	Emerging	NA	-
China	4	0	Emerging	Asian Wall Street Journal	6/1/91
Colombia	2	0	Emerging	Caribbean Update	3/1/92
Denmark	3	3	Developed	Wall Street Journal Europe	1/1/91
Finland	2	2	Developed	Wall Street Journal Europe	1/1/91
France	6	3	Developed	Wall Street Journal Europe	1/1/91
Germany	1	7	Developed	Wall Street Journal Europe	1/1/91
Ghana	1	1	Emerging	NA	-
Hong Kong	2	0	Developed	Asian Wall Street Journal	6/1/91
Hungary	0	1	Emerging	Wall Street Journal Europe	1/1/91
India	0	11	Emerging	Business India	1/1/94
Indonesia	3	2	Emerging	Asian Wall Street Journal	6/1/91
Israel	2	0	Emerging	Jerusalem Post	1/1/88
Italy	11	0	Developed	Wall Street Journal Europe	1/1/91
Japan	6	27	Developed	Asian Wall Street Journal	6/1/91
Korea	2	8	Emerging	Korea Economic Daily	5/18/91
Luxembourg	1	2	Developed	Wall Street Journal Europe	1/1/91
Malaysia	0	1	Emerging	Asian Wall Street Journal	6/1/91
Mauritius	0	1	Emerging	NA	-
Mexico	19	0	Emerging	Mexico Business Monthly	1/1/92
Netherlands	6	7	Developed	Wall Street Journal Europe	1/1/91
New Zealand	5	1	Developed	Independent Business Weekly	8/27/93
Norway	2	3	Developed	Wall Street Journal Europe	1/1/91
Peru	1	0	Emerging	NA	-
Philippines	1	0	Emerging	Asian Wall Street Journal	6/1/91
Poland	0	1	Emerging	Wall Street Journal Europe	1/1/91
Portugal	2	0	Emerging	Wall Street Journal Europe	1/1/91
Singapore	1	1	Developed	Asian Wall Street Journal	6/1/91
South Africa	0	12	Emerging	Business Day (South Africa)	1/1/94
Spain	7	4	Developed	Wall Street Journal Europe	1/1/91
Sweden	1	10	Developed	Wall Street Journal Europe	1/1/91
Switzerland	0	1	Developed	Wall Street Journal Europe	1/1/91
Taiwan	0	3	Emerging	Asian Wall Street Journal	6/1/91
Turkey	0	1	Emerging	Wall Street Journal Europe	1/1/91
United Kingdom	32	-	Developed	Financial Times	1/1/93
United States	-	74	Developed	Wall Street Journal	1/2/84
Venezuela	1	0	Emerging	Caribbean Update	3/1/92