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Foreign listings, corporate governance, and equity valuations

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Abstract

This paper analyzes the impact of foreign listing on equity valuations and relates it to an improvement in corporate governance. It documents abnormal returns around the announcement to list foreign shares on the London Stock Exchange. These are partially explained by a reduction of agency costs that is consistent with the enhanced monitoring and investor protection that prevail in a superior information and legal environment. The results are consistent with predictions derived from theoretical models of agency costs and illustrate an interesting implication of more open global equity markets.
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1. Introduction

Can firms significantly improve corporate governance by accessing global equity markets?[1] For firms with poor governance, costs incurred as a result of information and agency problems can be particularly important. Agency costs reflect the difficulties that investors face to ensure that their funds are not wasted or invested in unattractive projects. How can firms lessen those costs? In the absence of sufficient regulation in their home markets, firms can significantly reduce related information and agency costs by crossing borders to access foreign capital markets, where investors enjoy better information and better protection against expropriation by insiders.

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As global capital markets become more integrated, firms can more easily access global equity markets by listing its shares on an exchange outside its home market. A more developed foreign market can subject the firm to greater disclosure and investor protection. This results in greater investor confidence and increased monitoring that reduces agency costs. In this way, a foreign listing can serve as a mechanism for enhancing the firm's legal and information environment. A foreign listing can also help management convey information about the quality of their firm. In the model of Fuerst (1998), for example, high-quality firms operating in low-quality environments are able optimally to signal their quality by listing in another market. Since only those firms that benefit from stringent foreign listing requirements will choose to list abroad and reveal their quality, a foreign listing enhances investor's perceptions of the firm. As a result, firms that vault borders to list on foreign securities exchanges may experience a capital gain as a reward for voluntary disclosure and for their willingness to be exposed to higher levels of scrutiny by a larger pool of investors.

The objective of this paper is to show how foreign listing has implications for governance, agency and information costs, and ultimately, firm value.[2] The experiment described and discussed herein focuses on international listings as they imply changes in the legal and information environment. Using standard event study methodology, abnormal returns around the announcement of a listing are examined and are then related to variables that proxy for agency costs and other firm characteristics. This experiment is important for several reasons. First, because its sample consists of firms from 25 different countries, this study allows us to explore a cross-section of regulatory differences across countries. Specifically, it is possible to determine whether firms from poor legal and information environments benefit more from a foreign listing. Second, it permits an assessment of the impact of superior financial reporting such as General Accepted Accounting Principles (GAAP) and International Accounting Standards (IAS). The sample for this study includes both ordinary listings and depositary receipts traded on the London Stock Exchange (LSE). While an ordinary listing requires full disclosure, depositary receipts need not provide additional financial disclosure. Because of this, we can evaluate the differential impact of additional financial reporting on the value of the firm. Third, by including data on ownership, this study allows us to examine the conditions under which management has greater incentives to deviate from profit maximization.

This study draws on the literature of agency costs and corporate governance to form testable hypotheses and to interpret results. It finds evidence of significant positive abnormal returns around a firm's announcement to list foreign shares on the LSE. These returns are partially explained by a reduction of agency costs that result from enhanced monitoring and investor protection. Consistent with the model of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) (hereafter LLSV, 1998), this study finds that firms from poor-quality environments benefit more from a foreign listing. A similar result is obtained for firms committing to higher disclosure standards. In addition, findings of this study suggest that the conflict between minority and large shareholders, as in Shleifer and Vishny (1997), is diminished when a foreign firm lists on the LSE.

This study also contributes to the literature on cross-listings by providing an alternative explanation to why firms cross-list its shares in foreign exchanges.[3] Foerster and Karolyi (1999) and Miller (1999) document a positive price impact around a foreign listing and relate it to enhanced liquidity and investors' base. Their findings are consistent with the model of Merton

(1987) in which investors demand an extra return for less familiar assets. A foreign listing can also enable risk sharing (Alexander, Eun, & Janakiramanan, 1987), it can provide access to a wider pool of savings (Lins, Strickland, & Zenner, 2000), and it can enhance visibility (Baker, Nofsinger, & Weaver, 1999). This paper provides evidence that firms may choose to list in a stricter exchange to improve governance or to signal their quality. Thus, improved governance could be one of the reasons to why firms experience a positive valuation impact when they access stricter foreign equity markets.

This paper is organized as follows. First, the market for international equities at the London Stock Exchange is described. This is followed by a brief review of literature and the presentation of testable hypotheses. Section 4 discusses sample selection and data sources. Section 5 describes and discusses methodological issues. Section 6 presents empirical results from the event study, conducted around foreign listing announcements, and from the cross-sectional analysis that relates abnormal behavior to firm and country characteristics. The paper is concluded in Section 7.

2. Foreign listings on the London Stock Exchange (LSE)

Over the last ten years, global financing and investing have increased dramatically. As reported by the Bank of New York, during 1999, firms from 33 different countries raised $22 billion through 113 depositary receipts programs in the U.S. and European markets. Over the first semester of 2000, new offerings raised $18.3 billion.[4] Demand for depositary receipts is growing by 30–40% annually and is driven by the willingness of retail and institutional investors to diversify their portfolios globally. Despite the huge increase in foreign firms listing in U.S. markets over the last ten years, the LSE continues to be the largest market for international equities with over two-thirds of all trades involving international clients or equities. On average, $14 billion worth of shares are traded daily on the LSE, which represents over three times the amount traded on the New York Stock Exchange (NYSE). At the end of 1999, there were 499 foreign firms listed on the LSE, 406 on the NYSE, and 429 on the Nasdaq. Annual turnover for foreign equities reached £1,210,950 million in the LSE, three times larger than in the NYSE and six times larger than in the Nasdaq. Large institutional investors dominate the market for international equities on the LSE; the average value of a transaction is £386,000. This stands in marked contrast to the average value of per transaction of domestic equities: £64,000. On the LSE, private investors account for only 2% of total foreign equities turnover while foreign institutions account for 45%. The remaining 53% corresponds to domestic institutions.[5]

The U.K. market is characterized by stringent regulation that includes rigorous admission and ongoing disclosure requirements, and rules protecting investors. The LSE emphasizes that its main objective is ‘to promote investor confidence in the market as a whole.’ A firm can choose to list via an ordinary listing or through a depositary receipt.[6] Depositary receipts are certificates that represent a number of underlying shares. Most firms from emerging markets choose to list through depositary receipts while firms from developed markets list directly. Regardless of the type of listing, there are a number of requirements that a firm needs to satisfy before a listing is granted.[7] A significant difference between ordinary listings and depositary

receipts is that for the former, financial information prepared and audited in accordance with GAAP or IAS must be submitted to the LSE. No additional financial reporting is required for depositary receipts. This clear-cut distinction between an ordinary listing and a depositary receipt allows us to study the differential impact of these two alternative avenues for foreign listing.

3. Related literature and testable hypotheses

A developed regulatory system that protects investors can reduce management's incentive to deviate from maximizing the value of the firm. Furthermore, investors will pay more for a firm's equity if they believe cash flows will accrue to them instead of being expropriated by management or major shareholders. If incremental regulation and legal protection improves corporate governance, then it is reasonable to hypothesize that

H1. In response to the announcement of a foreign listing, a positive price reaction can be expected that is larger for firms from countries with poorer investor protection and legal systems.

This intuition follows from the models in LLSV (1999) and Shleifer and Wolfenzon (2000), which show that firms are more valuable in markets with better protection of minority shareholders. This hypothesis is also consistent with Ball, Kothari, and Robin (2000), who conclude that 'enhanced common-law disclosure standards reduce agency costs of monitoring managers.' These studies motivate the argument that firms from poor legal environments should experience a larger valuation impact at the time of foreign listing.

Firms seeking foreign listings face registration and ongoing disclosure requirements; they must also comply with the exchange-required level of financial reporting. These requirements have an important effect. Greater disclosure lowers the cost of acquiring information. Furthermore, after achieving a foreign listing, a firm will be followed by higher skilled investors who contribute to a superior information environment, as noted in He and Wang (1995). When more information of better quality is disclosed or produced, monitoring can also be less costly. Here it is important to note that institutional investors are the main buyers of foreign equities in the LSE; only 2% of the turnover comes from individual investors. Given these factors, it is further reasonable to hypothesize that

H2. Over the announcement of a foreign listing, a positive price reaction can be expected that is (a) larger for direct listings or 'ordinaries' than for depositary receipts and (b) larger for firms subject to poorer disclosure and accounting standards in the home market.

The model of Fuerst (1998) predicts a larger positive price reaction upon cross-listing for firms that commit to higher disclosure standards. The disclosure and financial reporting required for ordinary listings differ significantly from those required for depositary receipts, being less stringent for the latter types. It follows, then, that the benefit of increased information will accrue to a greatest extent to firms which originate in poor information environments and then achieve ordinary listings. Given that firms that pursue ordinary listings are mostly from developed countries, part (a) of this hypothesis contrasts with the market segmentation hypothesis.[8] This latter hypothesis predicts a larger price reaction for depositary receipts since

this is the vehicle commonly chosen by firms from emerging markets who benefit more from risk sharing.

By drawing from the literature on agency costs, it is also possible to analyze how agency conflicts impact a firm's value. Jensen and Meckling (1976) illustrate the conflict of interest that exists between shareholders and management. They argue that 'the price shareholders will pay for shares will reflect the monitoring costs and the effect of the divergence between the managers' interests and theirs.' Larger shareholders will have more incentive to monitor because the benefits will accrue to them in a greater proportion. These circumstances give rise to the hypothesis that

H3. Over the announcement of a foreign listing, a positive price reaction can be expected that is larger for firms with a dispersed ownership and a low proportion of closely held shares.

This is consistent with the convergence-of-interest hypothesis, as in Jensen and Meckling (1976), which predicts that agency costs increase in proportion to the dispersal of ownership. There is, however, a line of argument which predicts agency costs in a very different manner. Demsetz (1983) argues that the degree of agency costs that may exist in a corporation with dispersed shareholders is in fact reduced by other mechanisms such as the market for corporate control. Shleifer and Vishny (1997) show how the presence of a large shareholder may improve monitoring but may also introduce another source of conflict: that of large shareholders versus minority shareholders. This motivates the alternate hypothesis that

H4a. Over the announcement of a foreign listing, a positive price reaction can be expected that is larger for firms with concentrated ownership and a high proportion of closely held shares.

This alternate hypothesis follows the so-called entrenchment hypothesis, which implies that since large shareholders are entrenched, they can select and monitor managers to their convenience.[9] Under such circumstances, it becomes too costly for small shareholders to oppose a large shareholder's decision.[10] This cost will be reflected in the price small shareholders are willing to pay for the equity. We hypothesize that after a foreign listing, this cost will be reduced as a result of enhanced monitoring. Individual benefits derived from control can explain why some shareholders hold large stakes of a firm and forego the benefit of diversification. Some empirical studies have documented that in some countries investors are willing to pay a significant premium for voting rights. For example, Zingales (1994) argues that the premium for control in Italy (sometimes 60% or more) is very large because the legal system is ineffective in preventing the exploitation of a control position.[11]

Since H3 and H4 present us with contradictory predictions, empirical testing is necessary to determine which source of agency cost is more important in our sample of firms. If the relevant agency cost is the one between minority and large shareholders, a foreign listing will benefit to a greater degree firms with concentrated ownership. Shleifer and Vishny (1997) show how in most European countries a single shareholder or a small group of them retains control of the company. In those countries, ownership is more concentrated than in Japan or the U.S. Thus,

H4b. Within developed countries the valuation impact will be largest for European firms.

Firms that already trade in other foreign markets before listing in LSE have already committed to the disclosure and legal requirements that exceed those of their home markets. These firms, then, will benefit less from listing in the LSE. Similarly, firms with a home market at least as regulated as the LSE will benefit less from listing in the LSE. Firms from the U.S. are included in this latter group. These conditions can be incorporated into the following formal hypotheses.

H5a. Firms from superior environments where regulation and disclosure is at least as stringent as in the LSE will benefit the least from a foreign listing. They will experience the lowest valuation impact from all the firms in the sample.

H5b. The valuation impact will also be lower for firms that already trade in other foreign markets.

4. Data and sample selection

In 1999, there were 499 foreign firms listed in the LSE through a depositary receipt or an ordinary listing. For this study, a complete list of those firms—with their respective listing dates in the Exchange—is gathered from the LSE.[12] For each stock, daily home-market prices are collected from Datastream International. Firm market capitalization, local market indices, and exchange rates are also obtained from this source. All listings that were IPOs are not included in this study since there is no trading information in the home market prior to their introduction in the LSE. Stock returns are computed as the log of price changes. Where a security is not listed in the firm's country of incorporation, prices are taken from the stock's primary market.[13]

Table 1 presents the number of firms in the final sample classified by country, by the development of the local market economy, and by the type of listing. There are 229 firms with available listing dates and daily home-market prices. Of these, we are able to identify by referring to Lexis/Nexis or Dow Jones, the announcement dates for 115 firms. Of these 115, 68 are ordinary listings and 47 are depositary receipts. The final sample includes firms from 25 countries. The difficulty of determining announcement dates is not inconsiderable. Because of this, past studies have often based their research on listing dates.[14] But since the potential effects of listing in a foreign market are incorporated into the price at the time the information flows to the market, the announcement date is more appropriate than the listing date. That is why in most of the analysis we focus only on firms for which announcement dates could be identified.

For ordinary foreign listings, we refer to the corresponding home-market stock. For depositary receipts, if available, we retrieve data for the home-market share that matches the depositary receipt's underlying stock. To identify the depositary receipt's underlying stock type, we refer to other data sources such as Bloomberg and Bridge. There are also a few cases where a firm may issue different types of shares targeted to different markets. In these cases, the firm creates a new class of share specifically for the foreign listing. Thus, there is no historical data for the new class of share available in the home country previous to the listing. In these instances, data are collected for the ordinary type of security listed in the home market.

Table 1
Descriptive statistics

Country	Code	Number of firms with announcement date	Number of firms with listing date
Australia	AU	5	6
Belgium	BD	3	10
Germany	BG	1	2
Canada	CN	2	5
Cyprus	CP	1	1
Czech Republic	CZ	4	3
Spain	ES	0	1
Denmark	DK	1	0
Egypt	EY	1	1
France	FR	0	2
Greece	GR	1	3
Hong Kong	HK	2	4
Hungary	HN	0	2
India	IN	9	14
Ireland	IR	4	10
Israel	IS	1	1
Japan	JP	21	29
Korea	KO	10	12
Luxembourg	LX	0	1
Netherlands	NL	4	6
Norway	NW	0	4
Poland	PO	2	2
Russia	RS	2	3
South Africa	SA	6	6
Sweden	SD	2	2
Singapore	SG	2	5
Switzerland	SW	2	2
Taiwan	TA	8	9
Turkey	TK	2	3
U.S.	US	19	80
Total		115	229
Developed		69	
Emerging		46	
Total		115	
Depositary receipts (DRs)		47	
Ordinaries		68	
Total		115	
Common-law tradition		50	
Civil-law tradition		63	
Total		113[a]	

The table presents the number of firms in our sample, classified by country, by the development of the local market economy—developed versus emerging—and by the vehicle used to list in the London Stock Exchange—ordinary versus depositary receipt. Our sample consists of 115 announcement events, 68 of which are ordinary listings and 229 listing events.

[a] There are two observations with missing values.

5. Methodology

5.1. Event study and univariate tests

To evaluate abnormal behavior, we conduct an event study on stock returns around the announcement of foreign listing. The announcement date is defined as the day 0 event date. Following the existing literature, the estimation period corresponds to the interval (−200, −11) with respect to the announcement date.[15] To calculate abnormal returns we follow standard event study methodology as in Brown and Warner (1985). Abnormal returns are prediction errors from the one-factor OLS market model calculated over the estimation period, where the explanatory factor is the local market index.[16] Both stock returns and local market index returns are log-differences computed in the home-market currency.

In our sample some stocks are thinly traded. The problem of infrequent trading is common for equities traded in non-U.S. markets and this is of concern because it can induce autocorrelation in stock returns. Maynes and Rumsey (1993) propose the 'trade-to-trade' approach to deal with this problem.[17] They show that "the use of 'trade-to-trade' returns and a nonparametric rank test will give correct conclusions for all levels of trading frequency". This improves on the methodology used in previous studies with non-U.S. securities.[18]

The 'trade-to-trade' approach uses multiperiod returns computed as

$$R_{i,n_t} = \ln \frac{P_{i,t}}{P_{i,t-n_t}} \tag{1}$$

where n_t is defined as the length of the nontrading interval ending at date t. $P_{i,t-n_t}$ is the last quoted price before the nontrading interval. The abnormal return is computed as the difference between the actual return and the expected return over the event window as follows:

$$AR_{i,n_t} = R_{i,n_t} - E[R_{i,n_t}] = R_{i,n_t} - [\hat{\alpha}_i n_t - \hat{\beta}_i R_{m,n_t}] \tag{2}$$

where R_{m,n_t} is the market index return over the nontrading period that matches the stock return. $\hat{\alpha}_i n_t$ and $\hat{\beta}_i$ are the OLS coefficients calculated over the estimation window. The errors from the 'trade-to-trade' adjusted one-factor market model are heteroskedastic with variance $n_t\sigma_i^2$. Before computing the OLS coefficients, the data are divided by the square root of n_t in order to correct for heteroskedasticity.

To test for the null hypothesis of zero event date abnormal returns, we aggregate returns across firms for each event time and then we compute a nonparametric rank test as presented in Corrado (1989) and Corrado and Zivney (1992).[19] Those papers show how, in the presence of nonnormality and asymmetry, a nonparametric rank test is preferable to a t-test. A parametric t-test as used by Brown and Warner (1985) is also computed to compare for consistency in the results.

We also present some univariate tests. To test our hypothesis, the sample is divided into groups. First, we divide the whole sample into ordinary listings and depositary receipts. This allows us to control for the change in disclosure when listing abroad. Then, we separate firms incorporated in poor legal environments in order to control for the change in investor protection. We also test whether returns are significantly different from zero for each of these groups using a nonparametric rank test and a t-test as above. Finally, we proceed with two-sample Wilcoxon

tests to examine whether abnormal returns significantly differ between ordinary listings and depositary receipts and between firms from different legal environments.

5.2. Cross-sectional regressions

To further test the hypothesis that we derived from existing theoretical models, abnormal returns are cumulated over a three-day window $(-1, +1)$ and then regressed on a set of explanatory variables that proxy for the information environment and for the extent of agency costs.[20] A description of the explanatory variables used in the analysis, as well as its source, is provided in Table 2.

To proxy for the information environment, several variables are defined. *Accounting* is an index constructed by LLSV (1998) that assesses the quality and information disclosed on annual reports in the local market.[21] *Ordinary* is a dummy that differentiates the instrument used for foreign listing. It takes value of one for ordinary listings and zero for depositary receipts.[22] The variable *ordinary* serves as a proxy for the change in disclosure since firms with ordinary listings have superior requirements on financial reporting as they are required to report according to GAAP or lAS as opposed to depositary receipts. Motivated by Bailey and Jagtiani (1994) and Domowitz, Glen, and Madhavan (1997), *market capitalization* at the time of the listing is a proxy for information availability about a firm.

In the analysis, we also include other measures of corporate governance that are motivated by the work of LLSV (1998). We define two proxies for the level of investor protection in the firm home market: *common law* and *investor protection*. *Common law* is a dummy variable that takes a value of one if the country has common-law legal origin, and zero if it has civil-law legal origin. LLSV (1998) show how civil-law countries offer poorer investor protection than common-law countries. In addition, common-law reporting is viewed to be more transparent and timely in disclosure. Ball et al. (2000) argue that conservative accounting is characteristic in countries with common-law legal origin and that it facilitates monitoring of managers. *Investor protection* is an index constructed by LLSV (1998) that measures more directly a country's legal protection of investors.[23] Note that *common law* and *investor protection* are highly correlated variables. The former will be convenient for univariate analysis since it will allow us to split the whole sample in two groups. The latter will be mostly used in the regression analysis.

We assemble an additional variable to proxy for corporate governance. *Closely held shares* is a measure of the ownership structure of the firm. It represents shares 'closely held' or held by insiders and by large shareholders who own more than 5% of outstanding shares. This variable is gathered from Worldscope and the London Stock Exchange Yearbook. Another indirect proxy for ownership concentration is *DWEURO* since there is evidence that firms from Western Europe have the highest concentrated ownership within the group of developed countries. This dummy variable takes a value of one for stocks from Western Europe. Note that both *closely held shares* and *investor protection* may be proxying for the same unobservable 'poor governance' variable.[24]

We expect a lower reaction for stocks already listed in other foreign markets because they may have already committed to higher disclosure and legal requirements. For those firms, we still expect some benefit from listing in the LSE since it is considered one of the stricter exchanges in terms of disclosure, supervision, and regulation. As a proxy for this, we construct

Table 2
Descriptive information of variables and proxies used in cross-section regressions

Variable	Description	Source
Legal origin		
Common law	Identifies the legal origin of the country where the firm has its primary market. Value 1 for common-law legal origin countries and 0 otherwise	Reynolds and Flores (1989), LLSV (1998)
Measure of shareholder protection		
Investor protection	Index that aggregates minority shareholder's rights. It ranges from 0 to 6. For description on how the index is defined and computed, see LLSV (1998) where they label it as 'anti-director rights'	LLSV (1998)
Measure of disclosure		
Accounting	Index that assesses the quality and information availability in annual reports. More information on the construction of the index is provided in LLSV (1998). It ranges from values 1 to 90. Higher scores indicate more disclosure	LLSV (1998). International Accounting and Auditing trends, Center for International Financial Analysis and Research
Measure of ownership structure		
Closely held shares	Represents shares held by insiders such as officers, directors, and their immediate families. It also includes shares held by individuals who own 5% or more of outstanding shares and those shares held by another corporation	Worldscope, LSE Yearbook
Type of listing and other control dummies		
Ordinary	Denotes the vehicle use by a firm to cross-list shares in the LSE. Takes value 1 for ordinary listings and 0 depositary receipts	London Stock Exchange
Developed	Takes value 1 if the firm is incorporated in a developed market and value of 0 otherwise	IFC and World Bank Classification
DUS	Takes value 1 if the firm is incorporated in the U.S. and 0 otherwise	
DWEURO	Takes value 1 if the firm is from a Western European country and 0 otherwise	
Other variables		
Market capitalization	Market capitalization at the time of the foreign listing	London Stock Exchange Datastream
Number of exchanges	Measures whether a firm is already trading in other foreign markets before the listing in the LSE. It takes value of 0 for firms whose shares only trade in the home market. It takes value of 1 if a firm has already pursued one foreign listing and a value of 2 if the firm has multiple foreign listings	Nexis/Lexis, Datastream, Moody's

A description of the variables used in the univariate and cross-sectional analysis and its source is provided in the above table. We use various proxies to measure the legal origin of a firm country, the degree of shareholder protection, the degree of disclosure, and the ownership structure of the firm. We also provide the sources from which those proxies have been gathered.

the variable *number of exchanges*. It takes value of zero for firms whose shares only trade in the home market. A listing in the LSE represents their first foreign listing. It takes value of one if a firm has already pursued one foreign listing and a value of two if the firm has multiple foreign listings.

DUS is a dummy with a value of one for stocks from the U.S. This variable groups together firms whose legal and information environment is at least as stringent as the one in the U.K. We also include the interactive dummy *accounting* × *ordinary*. Only firms that pursue an ordinary listing need to adapts its accounting reports to comply with lAS. Within this group of firms, those with poorer accounting standards in the home market should experience the larger benefit from complying with lAS. Therefore, our hypothesis predict a negative sign for the interactive dummy accounting × ordinary.

6. Empirical results

6.1. The price reaction to foreign listing announcements

Table 3 presents event study results on abnormal returns when the event is the announcement to list shares abroad. The first panel reports aggregate abnormal returns. There is evidence of significant activity around the announcement date with an abnormal return of 0.69% on the day of the announcement. This is consistent with recent studies of non-U.S. firms cross-listing in the U.S. market. Consistent with H2a, the second panel in Table 3 shows abnormal returns that are significantly larger for ordinary listings than for depositary receipts. The last panel reports larger abnormal returns for firms that originate in civil-law countries. This is consistent with H1. As LLSV (1998) show, firms regulated in their original common-law countries are subject to more protective and transparent legal systems implying higher valuations prior to listing abroad. Those firms seem to experience a lower capital gain at the time they announce the intention to list abroad.

Some abnormal returns are also observed in the few days before the announcement of a foreign listing, especially for firms incorporated in developing countries. If this is due to information leakage, we may be underestimating the market reaction at the time of the event. If the market already expects a foreign listing, an announcement may only serve as a confirmation of the existing expectations. Information leakage can occur in various circumstances. For instance, the government may control the access to global markets, as is the case in South Korea. Once the government approves a foreign listing, the market may expect a firm officially to announce the listing shortly thereafter. Board approvals before the official announcement may also convey information to the market. In such situations, listing information will be incorporated into the stock price prior to the announcement. If information leakage happens, we should expect to see a lower price reaction than otherwise. This study finds, however, positive and significant abnormal returns around the announcement date in spite of the possible influence of information leakage.

Investigation is also conducted around the listing date. The results are shown in Table 4.[25] In contrast to the price reaction around the announcement date, abnormal returns are not, on average, detected around the listing date.[26] This contrasts with results obtained in other empirical studies that detect some abnormal performance around foreign listings in the U.S.[27]

Table 3
Event study of abnormal returns around the announcement of cross-listing

Day	Over the announcement of a listing						
	Abnormal return* E−02						
	All	Ordinary	Depositary receipts (DRs)	Wilcoxon test	Civil law	Common law	Wilcoxon test
−20	−0.0777	−0.1306	0.0058	0.45	0.3746*	−0.5119	−1.96
−19	0.3600	0.3984	0.3179	0.33	0.1810	0.5548	0.39
−18	0.1460	−0.1625	0.6047	1.49	0.0769	0.1272	0.51
−17	0.0083	−0.3273	0.5413	1.07	0.0826	−0.1332	0.34
−16	−0.1156	−0.1711	−0.0340	1.16	0.1571	−0.4544	−1.76
−15	0.0762	0.0109	0.1542	−1.44	−0.0323	0.0683	0.86
−14	−0.2168	−0.2893	−0.1208	0.14	−0.3990	−0.1958	0.97
−13	−0.3201**	−0.2374	−0.4297*	−1.03	−0.6257**	−0.0145	1.30
−12	0.2675	0.4029	0.0682	−0.74	0.1599	0.5372	0.13
−11	0.0598	−0.0004	0.1438	0.94	−0.0351	0.2555	0.16
−10	0.0360	0.2908	−0.2443	−0.68	0.0545	0.2234	−0.68
−9	−0.0788	−0.2047	0.1155*	0.79	0.4865	−0.4077	−1.24
−8	0.0187	0.2894	−0.3162	−1.09	−0.1311	0.1591	−0.45
−7	0.2403	0.3149	0.1381	0.86	0.3284**	0.0292	−1.78
−6	−0.1626	0.3199	−0.9253	−0.95	0.2680	−0.0173	0.06
−5	−0.2633	−0.3582	−0.1224	−0.84	−0.4560	−0.2149	0.50
−4	−0.1942	−0.1694	−0.2273	−0.16	0.0386	−0.6084*	−1.53
−3	0.1321	0.0117	0.2925	−0.13	0.1247	0.1408	0.99
−2	0.4919	0.3876	0.6798	1.19	1.0614*	0.0581	−1.37
−1	0.0198	0.4211	−0.7970	−1.80	−0.4500	0.6039	1.07
0	0.6949*	0.8112*	0.5205**	1.69	0.8742	0.3295	−0.89
1	−0.1832	−0.0344	−0.3827	0.00	0.0561	−0.3896*	−1.78
2	−0.4167*	−0.2605	0.6339**	−1.08	−0.5211	−0.3083	−0.68
3	0.0594	−0.2139	0.4778*	0.99	0.1135	0.0173	0.58
4	0.1705	−0.0433	0.5140	1.64	−0.4450	1.0131	1.10
S	0.3598	0.3071	0.4450	−0.10	0.2113	0.5851	0.81
6	0.0074*	−0.3517	0.6097*	0.79	0.5737**	−0.8294	−1.93
7	−0.2344	−0.1071	−0.4255	0.44	−0.0081	0.1043	−0.69
8	−0.1749	−0.1154	−0.2517	−0.60	−0.0974	−0.1815	−0.16
9	−0.2214	−0.1492	−0.3220	−0.40	−0.6343	0.1919	1.02
10	0.1310	0.0790	0.2148	0.10	0.6204	−0.6510	−1.56

In this table, we report abnormal returns around the announcement of a foreign listing. Abnormal returns are residuals from the one-factor OLS market model. Corrado's (1989) nonparametric rank test and a *t*-test are computed to test for the null hypothesis of zero abnormal returns at the time of the event. The first panel reports aggregate abnormal returns for the whole sample. The second panel presents the aggregate abnormal returns for ordinary listings and for depositary receipts separately. The last panel shows aggregate abnormal returns separately for firms from countries with civil-law origin and those with common-law origin. In addition, we compute two-sample Wilcoxon tests to evaluate whether the difference between ordinaries receipts versus depositary receipts and common law versus civil law is statistically significant.

(**) and (*) indicate significance at the 1% and 5% levels respectively.

Table 4
Event study of abnormal returns around the cross-listing date

Day	Over the listing date						
	Abnormal return* E−02						
	All	Ordinary	Depositary receipts (DRs)	Wilcoxon test	Civil law	Common law	Wilcoxon test
−20	0.0363	0.5991	−0.1527	0.69	0.3415	−0.2252	1.21
−19	0.0071	0.0650	−0.0124	−0.08	0.1982	−0.0472	0.56
−18	0.1958	−0.2780	0.3594*	−1.84	−0.1098	0.3756*	−1.40
−17	0.1674	0.3622	0.1087	1.38	0.4379	0.0236	1.10
−16	−0.0229	−0.8182*	0.2625*	−2.94	−0.2320	0.1160	−1.40
−15	−0.0804	0.0515	−0.1276	−0.17	−0.3258*	−0.0166	−0.98
−14	−0.3994	−0.7164*	−0.3050	−1.61	−0.2949	−0.5487	0.34
−13	0.3255	1.0535	0.0810	0.50	0.2794	−0.0339	1.70
−12	−0.3519*	−0.7874	−0.2078*	0.01	−0.5233	−0.1908	0.03
−11	−0.0253	−0.0387	−0.0206	−0.26	−0.2086	0.2082	−0.95
−10	0.3272	0.0231	0.4236	−0.44	0.1827	0.3001	0.37
−9	0.1886	0.5872	0.0517	−0.54	0.5040*	−0.0302	0.60
−8	0.0230	−0.1821	0.0855	−0.40	−0.1671	0.2181	−0.93
−7	−0.1529**	−0.2788	−0.1125	−0.10	−0.1569	−0.1772	−0.07
−6	−0.0012	−0.3329	0.1079	−1.54	−0.2026	0.0975	−1.73
−5	−0.0227	−1.5243**	0.4815**	−5.17	−0.4922	0.3630	−1.47
−4	−0.0832	−0.1137	−0.0728	−0.30	−0.3455	−0.0011	−0.81
−3	−0.2473	−1.0864	0.0051	−0.23	−0.3909	−0.1072	0.64
−2	−0.1692	−0.0842	−0.1945	−0.15	−0.3121	−0.1111	−0.66
−1	0.0142	0.0448	0.0052	−0.49	−0.0497	0.0915	−0.18
0	2.6768	−0.6802	3.7801**	−2.14	0.2269**	4.4225	0.54
1	−0.0478	0.0402	−0.0806	0.21	0.2062	−0.0573	−0.62
2	0.2029	0.0207	0.2534	−0.67	0.2487	0.1660	0.24
3	0.0601	−0.2997	0.1782	−0.76	0.1034	0.0496**	1.66
4	−0.3810	−0.5366*	−0.3324	−0.84	−0.2697	−0.4441	0.33
5	0.1253	−0.3203	0.2391	−1.75	−0.0920	0.2399	−1.24
6	−0.0939	−0.0524	−0.1068	0.44	−0.2779	−0.0018	−0.67
7	−0.0435	−0.2983	0.0397	−0.79	−0.1486	0.0505	−0.30
8	0.2612	0.4282	0.2075	−0.24	0.5676*	0.0337	0.55
9	−0.1368	−0.1301	−0.1390	−0.47	0.0270	−0.1785	0.68
10	0.4952**	0.1173	0.6192**	−1.04	0.0812	0.8412**	−1.19

In this table, we report abnormal returns around the actual cross-listing date. Abnormal returns are residuals from the one-factor OLS market model. Corrado's (1989) nonparametric rank test and a *t*-test are computed to test for the null hypothesis of zero abnormal returns at the time of the event. The first panel reports aggregate abnormal returns for the whole sample. The second panel presents the aggregate abnormal returns for ordinary listings and for depositary receipts separately. The last panel shows aggregate abnormal returns separately for firms from countries with civil-law origin and those with common-law origin. In addition, we compute two-sample Wilcoxon tests to evaluate whether the difference between ordinaries receipts versus depositary receipts and common law versus civil law is statistically significant.

(**) and (*) indicate significance at the 1% and 5% levels respectively.

Sample correlations are reported in Table 5. Consistent with H1, abnormal returns are significantly negatively correlated with home-country investor protection. These findings suggest that firms incorporated in countries with poor investor protection experience a larger positive abnormal return around the announcement to cross-list abroad. Investor protection is highly correlated with common law. Consistent with LLSV (1998) findings, it is also observed that firms incorporated in countries with civil-law tradition often have concentrated ownership structures with few shareholders. This suggests that ownership concentration proxies for poor governance as it does for poor-quality environments. A positive and significant relationship is also found between abnormal returns and the variable DWEURO. Note that some West European countries show low levels of investor protection and concentrated ownership consistent with our other findings.

6.2. Cross-sectional evidence

To further study which factors can explain the abnormal returns documented above, some cross-sectional regressions are conducted. In order to determine which firms experience larger abnormal returns, cumulated abnormal returns are regressed on a set of explanatory variables that proxy for the disclosure environment and the level of investor protection. Results are presented in Table 6, where we report the estimated coefficients, White's (1980) heteroskedasticity consistent *p*-values and '*r*-squared' coefficients.

With Table 6 (Part A) in mind, let us consider our first hypothesis (H1). The negative sign in the estimated coefficient of investor protection indicates that firms from poorer legal settings experience significantly larger abnormal returns over the listing. All firms benefit from increased shareholder protection mechanisms regardless of the vehicle they use to list shares in the LSE. A similar result is obtained when our proxy for the level of investor protection is common law as in Table 6 (Part C). This finding is consistent with H1 and the models of LLSV (1998) and Shleifer and Wolfenzon (2000) that predict higher valuation for firms in superior legal environments.

In various cross-sectional specifications, larger returns are also observed for firms with concentrated ownership as indicated by the positive and significant coefficient on closely held shares. This suggests that firms with concentration of ownership benefit more from increased monitoring, disclosure, and regulation. These findings are in line with H4, which restates the entrenchment hypothesis modeled by Shleifer and Vishny (1986) where the source of conflict is between large and minority shareholders. The results are also robust if we use the proxy DWEURO in place of closely held shares (Table 6, Part B). Thus, our evidence does not support H3 or the conflict-of-interest hypothesis.

Cross-sectional analysis also shows that ordinary listings (firms from developed countries) experience a significantly larger abnormal return than listings through depositary receipts (firms from developing countries) in some of the specifications.[28] The findings, then, are consistent with H2a and, as such, contradict the market segmentation hypothesis' prediction that developing countries—because they have more segmented markets and because listing abroad reduces segmentation barriers—will experience larger abnormal returns at the time of the listing. Since ordinary listings require financial reporting according to GAAP or IAS standards, firms seeking ordinary listings are compelled to adjust to stricter reporting and disclosure while firms listing

Table 5
Spearman correlation tests

	Depositary receipts (DRs)	Market capitalization	Number of exchanges	Closely held shares	Common law	Investor protection	Accounting	Developed	DWEUR	DUS
AbnRet	−0.0693	−0.0809	−0.0122	0.0501	−0.0754	−0.1912	−0.0397	0.1032	0.2011	−0.0691
	0.462	0.403	0.902	0.639	0.427	0.049	0.691	0.272	0.031	0.462
	115	109	102	9	113	106	102	11	115	115
Depositary receipts (DRs)	1.0000	−0.6205	−0.2698	0.3889	−0.1788	−0.2024	−0.5589	−0.8738	−0.3095	−0.3222
		<0.0001	0.006	0.000	0.058	0.037	<0.0001	<0.0001	0.001	0.000
	115	109	102	9	113	106	102	11	115	115
Market capitalization		1.0000	0.4748	−0.4032	−0.0159	0.1388	0.3657	0.6134	0.0082	0.2967
			<0.0001	0.0001	0.871	0.166	0.000	<0.0001	0.932	0.001
		109	96	8	107	101	97	10	109	109
Number of exchanges			1.0000	−0.1186	0.1288	−0.0367	0.3450	0.2807	0.2244	0.0500
				0.304	0.201	0.727	0.001	0.004	0.023	0.617
			102	7	100	93	89	10	102	102
Closely held shares				1.0000	−0.2150	−0.1509	−0.3519	−0.3354	−0.0132	−0.3737
					0.044	0.170	0.001	0.001	0.901	0.000
				9	88	84	80	90	90	90
Common law					1.0000	0.8047	0.4805	0.1216	−0.2122	0.4960
						<0.0001	<0.0001	0.185	0.020	<0.0001
					120	112	108	12	120	120
Investor protection						1.0000	0.4800	0.1433	−0.4492	0.5322
							<0.0001	0.132	<0.0001	<0.0001
						112	108	11	112	112
Accounting							1.0000	0.5580	−0.1060	0.4736
								<0.0001	0.275	<0.0001
							108	10	108	108
Developed								1.0000	0.3385	0.3400
									0.0001	0.0001
								12	122	122
DWEURO									1.0000	−0.2070
										0.022
									122	122

Spearman correlation tests are presented in the above table. We report sample correlations and *p*-values for the variables used in the cross-sectional analysis.

Table 6
Cross-sectional regressions of abnormal return on a set of explanatory variables

Dependent variable: abnormal return (−1, +1) over the announcement of a listing

Model	1	2	3	4	5	6	7	8
Part A[a]								
Intercept	−0.3420 (0.127)	−0.4462 (0.128)	−0.3672 (0.078)	−0.1442 (0.094)	−0.2140 (0.015)	−0.1709 (0.042)	−0.2044 (0.013)	−0.2572 (0.000)
Ordinary			0.0166 (0.441)			0.0168 (0.119)	0.0185 (0.080)	0.6519 (0.056)
Accounting	0.0891 (0.115)	0.1206 (0.119)	0.1025 (0.071)	0.0334 (0.099)	0.0524 (0.012)	0.0431 (0.033)	0.0541 (0.007)	0.0682 (0.000)
Investor protection	−0.0070 (0.061)	−0.0079 (0.054)	−0.0084 (0.052)				−0.0036 (0.131)	−0.0016 (0.545)
Closely held				0.0026 (0.096)	0.0042 (0.075)	0.0044 (0.061)	0.0046 (0.050)	0.0033 (0.153)
Number of exchanges		−0.0081 (0.108)	−0.0074 (0.121)		−0.0053 (0.184)	−0.0044 (0.259)	−0.0051 (0.181)	−0.0016 (0.658)
Mktcap		−0.0028 (0.360)	−0.0046 (0.372)		−0.0015 (0.263)	−0.0038 (0.043)	−0.0040 (0.040)	−0.0057 (0.003)
Accounting × ordinary								−0.1501 (0.064)
DUS								
DWEURO								
R^2	0.076	0.110	0.143	0.040	0.100	0.130	0.152	0.202
Part B[b]								
Intercept	0.0249 (0.285)	−0.3184 (0.091)	0.0181 (0.378)	−0.3771 (0.098)				
Ordinary	0.0407 (0.078)	0.0134 (0.536)	0.0289 (0.173)	0.0067 (0.763)				
Accounting		0.0830 (0.094)		0.0969 (0.098)				
Investor protection								
Closely held								
Number of exchanges	−0.0023 (0.581)	−0.0063 (0.168)	−0.0056 (0.226)	−0.0100 (0.062)				
Mktcap	−0.0067 (0.180)	−0.0041 (0.433)	−0.0052 (0.231)	−0.0038 (0.442)				
Accounting × ordinary								
DUS			−0.0049 (0.720)	−0.0070 (0.666)				
DWEURO			0.0394 (0.029)	0.0374 (0.096)				
R^2	0.105	0.100	0.171	0.172				
Part C[c]								
Intercept	−0.3558 (0.131)	−0.4474 (0.123)	−0.3664 (0.074)	−0.1787 (0.040)	−0.2421 (0.0002)			
Ordinary			0.0169 (0.432)	0.0173 (0.095)	0.8134 (0.008)			
Accounting	0.0882 (0.127)	0.1181 (0.120)	0.0993 (0.071)	0.0456 (0.036)	0.0625 (<0.0001)			
Common law	−0.0187 (0.096)	−0.0246 (0.108)	−0.0260 (0.098)	−0.0028 (0.789)	0.0065 (0.569)			
Closely held				0.0042 (0.092)	0.0033 (0.146)			
Number of exchanges		−0.0032 (0.550)	−0.0022 (0.683)	−0.0039 (0.432)	−0.0017 (0.694)			

Mktcap		−0.0044 (0.243)	−0.0063 (0.278)	−0.0041 (0.041)	−0.0054 (0.004)
Accounting × ordinary					−0.1888 (0.009)
DUS					
DWEURO					
R^2	0.078	0.141	0.155	0.131	0.204

[a] Part A reports cross-sectional analysis of abnormal returns around the announcements of a foreign listing in the London Stock Exchange. The abnormal return is cumulated over a three-day window (−1, +1) around the event and regressed on a set of explanatory variables and dummy variables that proxy for the disclosure environment and the level of investor protection. *Ordinary* takes value of 1 for ordinary listings and 0 for depositary receipts. *Accounting* is a proxy for the quality and information of financial reporting in the home market. *Investor protection* is an index that measures the country's legal protection of investors. *Closely held* indicates the ownership structure of a firm. *DUS* is a dummy with value 1 if the firm is incorporated in the U.S. Similarly, *DWEURO* takes value of 1 if the firm is from a Western European country. *Number of exchanges* is a proxy for the number of foreign exchanges where the firm's stock already trades before the introduction in the LSE. *Market capitalization* is a proxy for information availability about a firm. We report White heteroskedasticity consistent *p*-values in parentheses.

[b] Part B reports cross-sectional analysis of abnormal returns around the announcements of a foreign listing in the London Stock Exchange. The abnormal return is cumulated over a three-day window (−1, +1) around the event and regressed on a set of explanatory variables and dummy variables that proxy for the disclosure environment and the level of investor protection. The analysis is similar to the one in (A) but we use a different set of variables to proxy for governance. In place of *closely held* and *investor protection* we use *DUS* and *DWEURO*. *DUS* is a dummy with value of 1 for stocks from the U.S. This variable gathers firms whose legal and information environment is at least as stringent as the one in the U.K. Thus, it proxies for 'good' governance. *DWEURO* takes value of 1 if the firm is from a Western European country and proxies for 'poor' governance. There is evidence that firms from Western Europe have concentrated ownership and poor legal systems to protect investors. We report White heteroskedasticity consistent *p*-values in parentheses.

[c] Part C reports cross-sectional analysis of abnormal returns around the announcements of a foreign listing in the London Stock Exchange. The abnormal return is cumulated over a three-day window (−1, +1) around the event and regressed on a set of explanatory variables and dummy variables that proxy for the disclosure environment and the level of investor protection. The analysis is similar to the one presented in (A) but we use a different proxy for the country's legal protection of investors to check for robustness of our previous results. *Common law* is used instead of *Investor protection*. Note that these two variables are highly correlated. Common law takes value of 1 if the country's legal origin is common law and 0 if it is civil law. We report White heteroskedasticity consistent *p*-values in parentheses.

through depositary receipts are not. Therefore, they are rewarded for additional financial reporting. This is specially reflected in the coefficient of the interactive variable accounting × ordinary. Its coefficient is negative and significant. This suggests that, within the group of firms that are required to report in accordance to GAAP or IAP, firms with poorer accounting disclosure prior to listing abroad will benefit more. This result is also consistent with the sign on the variable market capitalization, a proxy for the information availability of a firm.

The corresponding, estimated coefficient takes a negative sign. Only in some specifications is this variable statistically significant. The probable cause is that all firms searching for foreign external financing are usually very large. This finding would therefore seem to suggest that the larger the firm (or the information availability on the firm), the less it benefits from additional disclosure derived from a foreign listing.

There is an additional explanation for the larger abnormal return that we find for firms with ordinary listings in some of the specifications. This could be based on the legal protection that local markets offer to investors and on the degree of agency costs present in these firms. In our sample, there are some firms from poor legal environments with ordinary listings. Those firms could be driving the documented larger abnormal returns for ordinaries. To further explore this possibility, we divide the set of firms with ordinary listings into three groups: (1) firms incorporated in the U.S., a superior trading environment; (2) firms incorporated in Western Europe, where corporate governance systems are poorer; and (3) the remaining firms. Table 6 (Part B) shows that the abnormal return of ordinary listings is attributed to non-U.S. firms, especially those from Western Europe as predicted by H4b. In agreement with H5a, the estimated coefficient for the variable DUS is insignificant. This indicates that firms from superior legal and information environments pre-listing do not experience significant abnormal returns when they announce a listing in the LSE.

If differential reporting matters, then identical firms that differ only in the level of disclosure would be expected to achieve different market valuations because of differences in the quality or availability of information regarding cash flows. The variable that measures the quality of accounting standards is positive and significant in various specifications. This suggests that firms with initially superior accounting information benefit more.

Consistent with H5b, abnormal returns are in general lower, although not very significant, for firms that already trade in foreign markets. It follows, then, that firms that are already listed in other foreign markets will benefit less from listing in the LSE.

7. Conclusion

The study presented in this paper provides evidence of a significant relationship between corporate governance and equity valuations. The results emphasize the fact that minority investor protection and the ownership structure of the firm not only determine the supply of funds for good projects but also affect the value of the firm. The findings of this study suggest that the cross-listing possible in a more open global capital market can alleviate agency costs and information asymmetries leading to a capital gain. In regard to gains experienced by specific categories of firms, firms initially trading in poor-quality environments and those that commit to stricter financial reporting standards are found to benefit most from a foreign

listing. Firms with concentrated ownership are also shown to experience a larger valuation impact as a result of increased supervision and investor protection. This may be explained by the likelihood that, before the firm is cross-listed, investors may fear that the firm's major shareholders will benefit from corporate control to the investors' expense. Investors may then penalize the firm until they receive assurance—through the announcement of cross-listing—of its quality.

With few exceptions, existing studies on foreign listings focus on the U.S. market and use listing dates instead of announcement dates, even though the latter are more appropriate. This paper contributes to the literature on foreign listings by providing further evidence of positive abnormal returns around the announcement of foreign listings in the LSE. The paper also makes a broader contribution by investigating and establishing a relation between abnormal returns and reduction of agency costs consistent with enhanced monitoring and investor protection in a superior legal and information environment. Thus, reduced barriers to cross-border financial activities give firms the option to 'trade up' to a superior disclosure, legal, and regulatory environment.

There are, of course, questions raised by this study that exceed the purview of this paper but that merit further investigation. One of the most interesting of these might ask whether superior environments affect the ownership structure of the firm. Suppose, for instance, that a firm's ownership structure is in equilibrium *before* accessing global financial markets. Would foreign listing impact ownership and create incentives for large shareholders to diversify? After cross-listing in a stricter exchange, regulation and greater disclosure tend to act as a source of increased monitoring. For the firm in question, then, monitoring by large shareholders would become less necessary when the firm is listed in a superior global environment in which monitoring is publicly provided. When such a firm lists offshore and the legal environment changes, corporate ownership should rebalance. We might expect, then, that accessing global markets, where more protection and greater liquidity are common, would provide the incentives for large shareholders to decrease their stakes.

Notes

1. Stulz (1999) defines governance as 'the set of mechanisms that affect how the information and agency costs problems impact the firm value' while La Porta et al. (1999) describe 'the set of mechanisms through which outside investors protect themselves against expropriation by insiders.'
2. As La Porta et al. (1999) point out, little attention has been paid to the effect of the legal environment and investor protection in the valuation of assets.
3. See Karolyi (1998) for a survey of the cross-listing literature.
4. Source: Bank of New York, DR Market Statistics, 1999 and 2000 Market Preview.
5. Source: London Stock Exchange, Statistics, Transactions Survey 1999.
6. Karolyi (1998) describes the U.S. market for foreign equities and provides various reasons why firms list abroad. There are four different depositary receipts programs in the U.S. Ordinary listings are quite unusual. A level II and III ADR listing would be comparable to an ordinary listing in the LSE. A significant difference between foreign

listings in the U.S. and the U.K. is the currency in which the share or the certificate trades. Listings in LSE are often traded in the firm home market currency while depositary receipts listed in the U.S. trade in U.S. dollars.

7. For example, to apply for a listing a firm needs to present a prospectus, which is based on European Union directives but includes additional legal requirements.
8. See Alexander et al. (1987), Foerster and Karolyi (1999), and Miller (1999). Segmentation barriers include direct barriers such as ownership restrictions, differential taxes, restrictions to capital flows and to the repatriation of funds, and indirect barriers such as information asymmetries, differences in liquidity, etc. In general, segmentation barriers are larger in developing markets. Most firms from developing markets choose to list through depositary receipts. The market segmentation hypothesis would predict a larger valuation impact for firms from developing markets listing through depositary receipts.
9. The entrenchment of interest hypothesis predicts that assets may be less valuable when managed by individuals that are not closely monitored.
10. Shleifer and Vishny (1997) provide additional argumentation for this source of agency cost. They argue that the expropriation of minority investors by large-controlling shareholders is the relevant agency problem rather than the expropriation of all shareholders by the manager.
11. Shleifer and Vishny (1997) and Zingales (1994) provide references of other studies that similarly document a significant voting premium in other countries such as Sweden, Switzerland, England, Canada, and Israel.
12. Source: LSE, Statistics, International Companies, 1999. The list of international companies and the date of listing in the LSE is publicly available at www.londonstockexchange.com.
13. For example in the case of Rorento, incorporated in The Netherlands, Antilles, we consider The Netherlands to be the firm primary market. Another example is Wan Kwong Shipping Holdings incorporated in Bermuda but trading in Hong Kong. There are four other such cases alike in our sample.
14. An exception to this is Miller (1999) in his study of non-U.S. firms listing in the U.S. market.
15. To check for robustness of our results to the choice of the estimation window, we repeat the analysis for other estimation intervals such as $(-200, -25)$. Results are similar and hence not reported here.
16. Existing literature in international finance such as Bekaert and Harvey (1995) argues that a stock return can be explained by its exposure to local market factors and also to global market factors. This suggests a two-factor OLS market model where the exogenous variables are a local and a global market indexes. To check for robustness of our results, we also estimate a two-factor model and compute local and global market betas. Results do not change significantly and for comparison purposes with previous research we report only results from the one-factor OLS market model.
17. Non-synchronous stock and index returns may induce some bias in the parameter estimates of the OLS market model. Similar to Maynes and Rumsey (1993) and Dimson

(1979) show that using 'trade-to-trade' returns is an appropriate procedure to deal with this bias problem.

18. The problem of infrequent trading is not of much concern for U.S. traded securities as it is shown in Brown and Warner (1985) but may be relevant when dealing with non-U.S. securities.
19. Corrado and Zivney (1992) present a nonparametric rank test that adjusts for infrequent trading in the time series of each firm's returns. When a stock trades daily, the rank statistic they present is identical to the one in Corrado (1989). They argue that without adjusting for missing observations, the rank test may be misspecified.
20. We use a three-day event window because there may be no overlap between trading time and the publication of the announcement. Suppose the announcement of a listing is published on Sunday. Since there is no trading that day, we expect the effect of the information release to be incorporated in prices the following trading date. This also accounts for time differences across the countries in our sample. Suppose the Financial Times announces that a Korean firm is going to list its shares in the LSE. Since we have returns from the local market and the announcement date is from the foreign market, the effect that the announcement may have on prices can take place the following trading date.
21. Joos and Lang (1994) show how accounting diversity in Europe still remains despite European Union directives that specified minimum reporting standards and left some flexibility in its implementation into national law.
22. Alternatively, we could define the variable developed, a dummy that differentiates stocks from developed and emerging markets. As shown in the appendix, this variable is highly correlated with ordinary. Using developed instead of ordinary delivers similar results, hence we do not report them here.
23. LLSV (1998) label the index as 'anti-directors rights.' They provide a detailed discussion of how it is constructed.
24. Shleifer and Vishny (1997) show how concentration of ownership leverages up legal protection. This explains why a firm ownership in poor legal protection countries is highly concentrated.
25. When the event is the foreign listing the estimation window is defined as $(-260, -60)$ to eliminate from the estimation a possible price effect caused by the announcement of the listing itself, which can take place even three months before the first trading date. To check for consistency in our results we also consider other estimation intervals such as $(-260, -30)$ but results do not change significantly.
26. Cross-sectional regressions of the abnormal return around the listing date on our set of explanatory variables appear to be all insignificant and thus not reported here. Thus the announcement of the listing captures the change in market expectations to a better extent than does the listing itself.
27. Note that we have used a nonparametric test to test the null of no abnormal return while other studies compute *t*-tests instead.
28. Note though that similar results have been documented by Errunza and Miller (1998) for foreign listings in the U.S. They study a longer time-horizon and give evidence that firms from developed markets experience a larger decrease in the cost of capital.

They attribute this finding to the ability of foreign firms to provide more diversification potential to foreign investors, as their stock price correlations with their portfolio are lower than those of firms from emerging markets.

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