

Does Corporate Control Determine the Cross-listing Location?

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Abstract:

This paper explains the choice between cross-listing in the common law system versus the civil law system. We find that firms with more concentrated control, with a higher level of risk and those with more pronounced financing needs are more likely to cross-list on a common law market. In addition, firms from countries with better accounting standards are also more likely to cross-list in a common law country. However, we do not find support for the bonding hypothesis and the hypothesis stating that shareholders with more private benefits of control are less likely to list their firm on a common law stock exchange.

Key words: Cross-listing, corporate governance, corporate control

JEL codes: G32, G34, G39

Acknowledgements: We are grateful to Chris Mallin, Luc Renneboog, Brahim Saadouni as well as the participants at the 2003 BAA-ICAEW Doctoral Colloquium at Manchester Business School for comments and suggestions.

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1. Introduction

Following the liberalisation of financial markets during the 1990s, there was a growing number of firms cross-listing their shares on stock exchanges around the world. The peak in the number of cross-listings was reached in 1997 with 4,703 cross-listings. The figure dropped to 2,429 in 2001, to increase to 2,632 at the end of 2004.¹ There is now a considerable amount of theoretical and empirical research on the motives and effects of cross-listings. Empirical studies show that companies cross-list in order to raise financing, to reduce their cost of capital, to improve the liquidity of their stock, to gain name recognition and increase the visibility of their products in the host market. Until recently, those benefits were considered to be the main motives for firms to cross-list on a foreign exchange.

However, recent work has suggested a possible new motive for cross-listing which is corporate governance. Insiders of companies may cross-list in order to commit themselves to protect their minority shareholders (Coffee 1999, 2002; Stulz, 1999). This hypothesis, the so-called bonding hypothesis, has its foundations in the law and finance literature. In their seminal work, La Porta et al. (1997, 1998, and 1999) explain the differences between national corporate governance systems by differences in the legal systems. They show that minority shareholders are better protected in the common law system than in the civil law system. Consequently, capital markets in common law countries are much larger and more liquid than those in civil law countries. Hence, the former are able to support diffuse control and the separation between ownership and control whereas the latter are not.

Over the past few years, several papers have tested the validity of the bonding hypothesis (Pagano et al., 2002; Reese and Weisbach, 2002; Fürst, 1998; Doidge et al., 2004; Claessens et al., 2002; Seigel, 2005). However, none of these papers considers the control and ownership structure as a motive to cross-list and this despite survey evidence which shows that managers consider growth in the shareholder base and dispersion of share ownership as a major benefit of cross-listing (see Mittoo, 1992; Fatemi and Rad, 1996; Yamori and Baba, 1999; Bancel and Mittoo, 2001). Cross-listing on a foreign market may be a way for firms to achieve their optimal control structure if they are unable to do so in their prevailing legal system. The work

¹ International Federation of Stock Exchanges (FIBV)

by Doidge et al. (2005) provides the only empirical evidence on the relation between control and cross-listing. The authors find that a higher concentration of control rights decreases the probability of a foreign firm being listed in the U.S.

This paper contributes to the existing literature on cross-listing in a major way. There has been some limited work on the choice of the cross-listing location. Biddle and Saudagaran (1989) and Saudagaran and Biddle (1995) explain the probability that a firm lists on a given foreign stock market. They find that the probability is positively influenced by the financial disclosure level on the firm's domestic market and the level of exports of the firm's domestic industry to that foreign market. This paper goes two steps further. First, it includes a wider range of potential factors determining the cross-listing location, including the level of control and private benefits of control. Second, contrary to Saudagaran and Biddle (1995) who run a separate logit regression for each foreign stock market to estimate a firm's likelihood to be listed on that given market, this paper explains the choice between two large groups of cross-listing locations. Indeed, this is the first paper to explain the choice between cross-listing on a common law market or a civil law market. By doing so, the paper merges two strands of the finance literature, that on cross-listings and that on the link between finance and law.

The remainder of the paper is structured as follows. Section 2 explains why the ownership and control structure may be a motive to cross-list and how it may affect the cross-listing location. Section 3 discusses other factors that influence the choice of the cross-listing location. In section 4 we define the variables, and describe our sample and methodology. We discuss our results in section 5. Section 6 concludes.

2. Control and ownership structure as a determinant of the choice of the cross-listing location

In this section we identify the reasons why the control and ownership structure may influence the decision about the location for the cross-listing. These are private benefits of control, risk-sharing and concentration of control.

2.1 Private benefits of control

Bebchuk and Roe (1999) argue that, in countries where private benefits of control are large, controlling stakes may be valuable and it is unlikely that they will be dispersed into smaller stakes. The reason why a dispersion of ownership is unlikely is that a

controlling block protects its holder from being expropriated by the managers and other shareholders.

A large shareholder faces a trade-off between the benefits from dispersing his ownership and those from maintaining control. The benefits from the former are risk-diversification and liquidity. The main benefit from keeping control is private benefits of control. If the large shareholder's control rents are high, he will not be willing to sell his control block. He will only sell the control block if and only if the transfer price at least offsets the lost control rents. This will only happen if there exists a rival for whom control is more valuable because of his ability to extract more private benefits,² or his better managerial and monitoring skills.

Failing to sell the control block in the home market, the controlling shareholder has the option to do so via cross-listing the company's shares on a foreign market.³ The cross-listing exposes the company to a broader investor base. The controlling shareholder has the choice to cross-list on a civil law market with low shareholder protection but high private benefits, or a common law market with good shareholder protection but low private benefits.

A controlling shareholder who wants to sell his control block is more likely to have low private benefits. Under this assumption, the controlling shareholder will choose to cross-list on markets where securities have a higher valuation. La Porta et al. (2002) find that better shareholder protection is associated with higher security prices. Further, cross-listing on markets with improved information production, such as the U.S. market, a common law market, reduces information asymmetry and, as a result, investors will demand a lower discount rate on their securities, which results in a higher share price.⁴ Lang et al. (2003) find that the increased valuation of the firms cross-listed in the US is correlated with an increase in the analyst following and forecast accuracy. In addition, cross-listing on markets with good minority

² Bebchuk (1994) provides the following example. A potential controller may be engaged in lines of business complementary to those of the company he wants to control. As a result, he has a greater ability to extract more private benefits through self-dealing transactions or corporate opportunities than a controller who is not engaged in complementary lines of business.

³ Privatisation is a special case of selling out, where the government is the divesting shareholder. Out of a total of 650 privatisation deals during 1990-2000 reported in the Privatisation International dataset, around 150 involved an equity issue on foreign markets (Bortolotti et al., 2002).

⁴ The theoretical work by Diamond and Verrecchia (1991) shows that the commitment by the firm to increase disclosure will reduce its cost of capital. Their work is supported by empirical evidence from Leuz and Verrecchia (2000) and Lang et al. (2003).

shareholder protection, i.e. common law markets, will decrease the potential to consume control rents in the future, and this should be incorporated in a better valuation of the company's shares (Doidge, 2004). Hence, a controlling shareholder with low private benefits of control is more likely to cross-list on the common law markets.

We conjecture the following:

C1. *Companies with high private benefits of control are less likely to cross-list on common law markets.*

2.2 Risk-sharing

Ownership concentration foregoes risk-sharing benefits that are achieved by diffuse ownership (Admati et al., 1994). If the large owner is risk-averse and wants to diversify his holding, his opportunity to sell off to small investors may be limited on the home market. For instance, in countries where investor rights are not well protected, risk-averse investors, who want to diversify their portfolios by investing in as many companies as possible, may be unable to do so because of the high cost of information acquisition and monitoring of their investments (Giannetti, 2002). Therefore, these investors will prefer to invest in a limited number of companies for which they have information.

The initial owner of a company may choose to cross-list on a more liquid and developed market with better information production and a larger investor base, such as the U.S. capital market, a common law market. By doing so, he exposes his company to the international community and to a broader shareholder base, which in turn increases his risk-sharing potential. Therefore, we expect that the higher its risk, the more likely the company will cross-list on a common law market:

C2. *Companies with high levels of risk are more likely to cross-list on common law markets.*

2.3 Concentration of control

The relationship between control and the choice of the host country for the cross-listing is a complex one.⁵ As mentioned above, there are clear benefits as well as costs

⁵ Similarly, Doidge et al. (2005) argue that the link between control and the decision to cross-list is not straightforward.

associated with holding large stakes. Some of the benefits are in the form of private benefits of control. If these private benefits are substantial, they will prevent the firm from cross-listing in a common law country as the controlling shareholder may otherwise have his private benefits reduced. One of the costs comes from holding a less than optimally diversified portfolio. This cost is especially large for stakes held in high-risk firms and this may push the owners of such firms to cross-list in the more liquid common law markets in order to sell out. As it is not clear in what cases the costs from holding a large stake exceed the benefits (and vice-versa), we refrain from making a prediction as to the effect of control on the choice of location. However, we include control as a variable in the logit regressions.

3. Other factors influencing the cross-listing decision

In this section we discuss the motives for cross-listing other than control and ownership that have been suggested in the literature. We review how each of these may determine the cross-listing location. These factors are financing needs/financial constraints, liquidity of the company's shares and shareholder protection.

3.1 Financing needs and financial constraints

Companies cross-list in order to raise capital, especially when they face financial constraints in their home country. By listing abroad, the firm improves its access to funds and thereby overcomes the domestic constraints. Survey evidence (Mittoo, 1992; Bancel and Mittoo, 2001; Yamori and Baba, 1999) shows that managers view the access to foreign capital markets and the increased ability to raise equity as the main benefits from cross-listing.

In choosing where to cross-list, financially constrained companies will choose markets which are more liquid than their home markets. Until recently, little was known about what constitutes a liquid market. Several papers (La Porta et al., 1997, 1998; Modigliani and Perotti, 2000; Black, 2001) emphasise investor protection as an important element for the development of financial markets. Measuring the size and the breadth of the capital market by the capitalisation of the equity held by outsiders, the number of listed companies and number of IPOs, La Porta et al. (1997) find that common law countries have more developed capital markets than civil law countries. They argue that the quality of investor protection affects the ability of companies to

raise external finance.⁶ It follows that common law countries, which provide superior investor protection over civil law countries, enable companies to raise more external finance. Hence, companies that cross-list to raise external finance because their capital needs are large relative to their local markets will be more likely to cross-list on common law markets than on civil law markets. This leads us to Conjecture 3a:

C3a. *Given that common law markets are larger and more liquid than civil law markets, companies with a high market capitalisation relative to their home market are more likely to cross-list on common law markets.*

Cross-listing is also essential for companies that have lots of growth opportunities, but face financial constraints in their home market. Therefore, we test the following conjecture:

C3b. *Given that common law markets enable companies to raise more external finance than civil law markets, companies with a high level of growth are more likely to cross-list on common law markets.*

According to the pecking-order theory of capital structure, companies use equity finance when internally generated funds are insufficient to meet their investment programmes, and further debt-financing is no longer possible due to the company's high leverage. Hence, leverage is another indicator of the financing needs of companies and one expects that companies with a higher level of leverage are more likely to cross-list on the common law markets. Therefore we conjecture the following:

C3c. *Given that common law markets enable companies to raise more external finance than civil law markets, companies with high leverage are more likely to cross-list on common law markets.*

3.2 Liquidity of the company's shares

Cross-listing increases the firm's liquidity because it makes it easier for the foreign investors to acquire and trade its shares. There is empirical evidence for this in Mittoo's (1992) survey: 28% of managers cite increased liquidity of the company's shares as a major benefit from cross-listing. Further, firms which voluntarily delist

⁶ Demirgüç-Kunt and Maksimovic (1998) find that companies in stock markets with more trading (measured by the total value of shares traded divided by the stock market capitalisation) and better compliance with legal norms (measured by the rule of law index) are more easily able to obtain external finance and fund growth.

from foreign exchanges state the lack of trading activity as the main reason for doing so. Ammer et al. (2005) find that the percentage of shares held by U.S. investors increases for foreign firms which cross-list on a U.S. market.

Investors perceive holding shares in a foreign company as riskier than holding shares in a domestic company. This is because of the informational barriers resulting from differences in language, currency, financial reporting and auditing practices, and a lack of interest of local security analysts and the financial press in the foreign company. These barriers create a home bias as investors allocate a large proportion of their portfolio to domestic stocks.⁷ Cross-listing diminishes these barriers as the foreign company has to disclose information complying with local requirements on a regular basis. In addition, the company gains local media coverage and stimulates the interest by local security analysts (Lang et al., 2003). This will reduce the risk perceived by local investors and encourage them to trade in the stock.

A home bias may also be caused by the quality of corporate governance. Dahlquist et al. (2003) argue that in countries with poor investor protection companies have large controlling shareholders. Consequently, only few shares in these companies will be available to portfolio investors. Their model predicts a negative relationship between foreign ownership and closely-held ownership as long as the controlling shareholders are domestic investors. Leuz, Lins, and Warnock (2005) find that U.S. investors invest less in firms with a high level of managerial and family control when these are based in countries with low shareholder protection, less stringent disclosure requirements and securities regulation.

In addition to reducing informational barriers, cross-listing may also expand the trading time for the shares due to the potentially different time zone and differences in trading hours between the home market and the overseas market. Accordingly, one expects an increase in the trading volume after the cross-listing. Noronha et al. (1996) and Mittoo (1997), among others, document an increase in liquidity after the cross-listing measured by the trading volume. However, little is known about the identity of the markets which will improve the liquidity of the shares. As evidenced by La Porta

⁷ Other international investment barriers that also induce a home bias are explicit barriers such as withholding tax on dividends or restrictions on foreign exchange transactions. For more information about home bias, see Tesar and Werner (1995) and Kang and Stulz (1997). Another explanation for the home bias is advanced by Lauterbach and Reisman (2004) who argue that investors who care about their consumption relative to that of their neighbours (their country residents) prefer investing in domestic stocks given their greater correlation with the local economy and their countrymen's wealth.

et al. (1997), better investor protection enhances the liquidity of financial markets (macro-liquidity). However, does this imply that there is a link between shareholder protection and firm liquidity (micro-liquidity)? Brockman and Chung (2003) argue that strong shareholder protection reduces the liquidity costs associated with asymmetric information. They examine the bid-ask spread and the depth of blue-chip firms⁸ and Chinese firms that are listed on the Hong Kong Stock Exchange. After controlling for volume, volatility and price, they find that blue-chip firms have a narrower spread and thicker depth⁹ than their Chinese counterparts. They attribute this difference to the better shareholder protection in Hong Kong.¹⁰

Noronha et al. (1996) argue that a lower spread is an indication of a higher trading volume because a higher trading volume facilitates the offsetting of inventory imbalances. As a consequence, companies which cross-list to improve the trading in their shares are more likely to cross-list on markets with good shareholder protection, i.e. common law markets. Therefore, we test the following conjecture:

C4. *Given that good shareholder protection in common law markets improves the liquidity of a company's shares, companies with an initially low share turnover in their home market are more likely to cross-list on common law markets.*

3.3 Minority-shareholder protection

Reese and Weisbach (2002) and Coffee (2001) argue that firms cross-list on a foreign market in order to bond themselves to protect their minority shareholders. These firms will choose to cross-list on a market with good shareholder protection such as a common law market. If the bonding hypothesis is valid, there should be a positive share price reaction at the cross-listing. Lau et al. (1994) find evidence that this is indeed the case. They measure positive abnormal returns for firms that cross-list on the U.S. market. In line with the hypothesis, they do not find such a reaction for U.S. firms that cross-list abroad.

⁸ The authors state that these companies generally originate and operate in a favourable investor protection environment. However, it is not clear whether all of these companies are domestic companies or not.

⁹ The bid-ask spread is defined as the difference between the ask price and the bid price. Depth is measured by the number of shares at the highest bid plus the number of shares at the lowest offer.

¹⁰ The authors argue that, even though the Chinese shares are traded under the rules and regulations of the Hong Kong Stock Exchange, they operate in the Chinese investor protection environment. However, we believe that these Chinese shares should, to a certain degree, be influenced by the regulation of the Hong Kong Stock Exchange.

However, why is it in the interest of the insiders to commit themselves to protect the firm's minority shareholders? If cross-listing in common law countries provides minority shareholders with some extra protection, then this will influence the desirability of corporate insiders to cross-list on such markets as increased shareholder protection will curtail their private benefits of control. Biddle and Saudagaran (1989) and Saudagaran and Biddle (1992, 1995) find that firms are less likely to list on foreign exchanges with higher disclosure levels than their domestic exchanges. Also, Reese and Weisbach (2002) report that companies, with high shareholder protection in their home country, are less likely to cross-list in the U.S., a common law country.

The reason why insiders are willing to commit themselves to protecting their minority shareholders may be to obtain capital at better conditions which will be crucial for firms with lots of investment opportunities. Reese and Weisbach (2002) find that, subsequent to cross-listing on the U.S. markets, firms from civil law countries issue most of their new equity outside the U.S. In contrast, equity issuance for English common law firms tends to be inside the U.S.¹¹ The authors conclude that common law firms cross-list in the U.S. to tap U.S. capital markets, whereas civil law firms cross-list for a bonding purpose which allows them to raise more equity, both in the home market and around the world.

Furthermore, some argue that firms cross-list on stock exchanges with better minority-shareholder protection in order to signal their higher quality (Fürst, 1998). The cost of the signal is having to comply with the stricter regulation whereas the benefit from doing so is a higher market valuation. Hence, firms from civil law countries are more likely to cross-list on common law markets:

C5. *Given that common law markets have better shareholder protection than civil law markets, companies based in countries with low shareholder protection are more likely to cross-list on common law markets.*

¹¹ They find that French civil law firms issue more than 62% of their equity outside the U.S. (29% in their home and 34% elsewhere), German civil law firms issue 60% of their equity outside the U.S. (22% in their home and 38% elsewhere), Scandinavian civil law firms issue 60% of their equity outside the U.S. (30% in their home and 30% elsewhere). In contrast, common law firms issue only 35% of their equity outside the U.S. (11% in their home and 24% elsewhere) and they issue 65% of their equity inside the U.S.

4. Methodology and sample description

4.1 Methodology, variables and data sources

We estimate the following binomial logit model:

$$\ln\left(\frac{P_{i,CLS}}{1-P_{i,CLS}}\right) = \alpha + \beta_1 Control_{i,CLS-1} + \beta_2 BENEFITS_{i,CLS-1} + \beta_3 Risk_{i,CLS-1} + \beta_4 RSize_{i,CLS-1} \\ + \beta_5 Leverage_{i,CLS-1} + \beta_6 Growth_{i,CLS-1} + \beta_7 Turnover_{i,CLS-1} \\ + \beta_8 ShareholderProtection_{i,CLS-1} + \beta_9 RuleOfLaw_{i,CLS-1} \\ + TimeDummies + IndustryDummies + \varepsilon_i$$

$\frac{P_{i,CLS}}{1-P_{i,CLS}}$ is the odds ratio. $P_{i,CLS}$ is the probability that company i cross-lists in the common law system during the cross-listing year (CLS), and $1-P_{i,CLS}$ is the probability that the company cross-lists in the civil law system.

To test Conjecture 1 about the private benefits of control, we use a dummy variable (BENEFITS) which is equal to 1 if the company has dual-class shares (non-voting shares, shares with multiple votes, limited voting shares and special shares) in or before the cross-listing year, and zero otherwise. We believe that if the private benefits of control are high, corporate insiders are more likely to violate the one-share-one-vote principle to preserve control. In the empirical finance literature, private benefits of control are normally measured via the premium paid for the class of shares with the higher votes. However, as the majority of the sample firms with dual-class shares only had one class of shares trading – normally the one with the lower voting rights – we are not able to use this alternative measure of private benefits of control.

Concerning Conjecture 2 on risk diversification, we measure the level of a firm's risk (Risk) by the logarithm of the standard deviation of its stock return over a 12-month period before the cross-listing,¹² starting 13 months before the cross-listing and ending with the month preceding the cross-listing month.¹³

¹² When there are no observations for the return prior to the cross-listing as in the case of an IPO, we use the figures after the cross-listing.

¹³ Alexander, Eun and Janakiramanan (1988) argue that the signalling effect may cause a firm's stock price to rise in the pre-listing period, thus causing an upward bias. Therefore, we exclude the month preceding the cross-listing.

We use three alternative measures for control: (i) the voting stake held by the largest initial shareholder (CONTROL1), (ii) the sum of voting stakes of all known initial shareholders (CONTROL2) and (iii) a dummy variable (CONTROL3) based on a 25% cut-off point, this variable being equal to one if the largest shareholder has a stake of at least 25% and zero otherwise. The control variables are measured in the year before the cross-listing.¹⁴

Information about the control structure of the companies is collected from the annual reports, prospectuses, 20-F filings¹⁵ and proxy statements. These reports are obtained from the Thomson Research database (formerly Global Access) and in some cases directly from the companies. Moreover, data have also been obtained from several internet resources such as the company websites, the Edgar database for U.S. companies, SEDAR for Canadian companies, Consob for Italian companies, Paris Bourse and the Copenhagen Stock Exchange. In some cases, control data are obtained directly from the companies.

To test Conjecture 3a we use the relative size (RSIZE) which is the logarithm of the relative market value. The relative market value is the annual average market value of the company expressed as a percentage of the market value of all the domestic firms listed on the home stock exchange at the end of the year. RSIZE is measured in the year preceding the cross-listing.¹⁶ The growth rate (GROWTH) from Conjecture 3b is defined as the logarithm of the growth in total assets measured in the year before the cross-listing. Leverage (LEVERAGE), advanced by Conjecture 3c, is measured by the logarithm of the ratio of long-term debt over total share capital plus reserves. Leverage is measured in the year before the cross-listing year.¹⁷

Share turnover (TURNOVER) in Conjecture 4 is measured by the logarithm of the ratio of the annual average volume of thousands of shares trading on the home market over the number of thousands of shares outstanding at the end of the year. The variable is measured in the year before the cross-listing.¹⁸

¹⁴ When the control structure is not available for the year before the cross-listing, the control structure in the year of the cross-listing is used instead. For IPOs, the control structure immediately before the offer is used.

¹⁵ The 20-F filing is the annual report prepared by foreign companies listed in the U.S.

¹⁶ When the data is not available in the year before the cross-listing, data for the cross-listing year is used.

¹⁷ See footnote 16.

¹⁸ See footnote 16.

Accounting data are obtained from Datastream and Thomson One Banker. Trading volume, the number of shares outstanding and market capitalisation of the shares outstanding are obtained from Datastream. Market capitalisation of all domestic companies on the stock exchange is obtained from the Federation of the Stock Exchanges (FIBV) for the years 1990 to 2000 and from Datastream for 1989.

To test Conjecture 5 we use four different measures for shareholder protection in the home country. First, LEGAL ORIGIN is a dummy variable that takes a value of 1 if the company's home country belongs to the common law tradition, and zero otherwise. Second, SHAREHOLDER RIGHTS is based on Himmelberg et al.'s (2002) variation on La Porta et al.'s (1998) shareholder-rights index. Himmelberg et al. use the same six factors as La Porta et al., but in addition include a dummy for the one-share-one-vote principle. The index ranges from zero (no shareholder protection) to seven (best possible shareholder protection).¹⁹ Third, ACCOUNTING STANDARDS is an index which measures the quality of accounting in each country. The value of the index for each country is obtained by rating its companies based on the inclusion or omission of 85 items in their 1993 annual reports.²⁰ The ranking is obtained from International Accounting and Auditing Trends published by the Centre for International Financial Analysis and Research. Fourth, RULE OF LAW measures the quality of enforcement of shareholder rights. It is an index which assesses the law and order tradition in each country and is compiled by the country risk rating agency International Country Risk (ICR). The value of the index ranges from zero to 10, with lower values for less enforcement of law and order. The rule of law index is obtained from La Porta et al. (1998).

We also include time dummies and industry dummies in the regressions. The industry dummies are based on the following industrial sectors: agriculture, forestry and fishing; mining, construction and manufacturing; transportation, communication,

¹⁹ The index is the sum of seven mechanisms, each of which is assigned a value of 1 if the mechanism increasing shareholder protection exists, and zero otherwise. The mechanisms are: (1) one share-one vote rule; (2) the company law allows shareholders to mail their proxy votes to the firm; (3) shareholders are not required to deposit their shares prior to the general shareholders' meeting; (4) cumulative voting for directors or proportional representation of minorities on the board of directors is allowed; (5) an oppressed-minorities mechanism is in place; (6) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than the sample median of 10% and (7) shareholders have pre-emptive right to buy new issues of shares that can be waived only by a shareholders' vote. This right protects the shareholders from dilution.

²⁰ The items cover the following seven categories: general information, income statements, balance sheets, funds flow statement, accounting policies, share data, and supplementary items. For companies that cross-listed before 1993, we used the 1991 index.

electric, gas and sanitary services; wholesale and retail trade; real estate and services.²¹

4.2 Sample description

The sample consists of 175 companies that cross-list on 19 different stock exchanges during the period of 1990-2000. Panel A of Table 1 provides information on the distribution of firms in terms of the legal system of their home country and that of their host country. There are 116 companies from common law countries and 59 companies from civil law countries. There are 128 companies that cross-list on common law markets (42 civil law companies and 86 common law companies) and 47 companies that cross-list on civil law markets (17 civil law companies and 30 common law companies). Panel B shows the distribution of firms by country of origin. Among the common law countries, Canada, the U.K. and U.S. are the most frequent home countries. Among the civil law countries, the best represented countries are Germany and Japan.

Table 2 reports the summary statistics for the sample companies grouped by the legal origin of the host country. Panel A is on the common law system and Panel B on the civil law system. All variables are measured in the year before the cross-listing. Panel C provides the summary statistics on the country variables.

On average, the control of companies that cross-list on common law markets is more concentrated than that of companies that cross-list on civil law markets. This is true for all the measures of control, and the difference is significant at the 10% level or better. These preliminary results indicate that companies with more concentrated control are more likely to cross-list on common law markets.

We do not find a statistically significant difference in leverage between companies that cross-list on common law markets and those that cross-list on civil law markets. This is also true for share turnover. Further, companies that cross-list on common law markets are larger than those which cross-list on civil law markets. We find that the average growth of companies that cross-list in common law countries is 55% compared to 51% for companies that cross-list in civil law countries. However, this

²¹ The sample companies were initially classed into the following 9 different industry sectors based on the SIC classification: agriculture, forestry and fishing; mining; construction; manufacturing; transportation, communication, electric, gas and sanitary services; wholesale trade; retail trade; real estate; and services. However, given that there were only few firms in certain sectors, the firms were re-classed into 5 sectors only.

difference is not significant at any reasonable level. Both groups of companies have the same level of risk (14%) as measured by the standard deviation of their monthly stock returns.

Panel C of Table 2 shows that the average value of the shareholder rights index for civil law countries is 2.27 compared to 4.57 for common law countries. The maximum value for the index for both groups is 5 (achieved by Japan, the U.S. and U.K). The index has a minimum score of 0 (achieved by Belgium, a French civil law country). The average value of the accounting standards index in civil law countries is 73 with a maximum value of 83 for Sweden. For common law countries, the average value of the index is 79 with a maximum of 84 for the U.K. The quality of law enforcement as measured by the rule of law index has an average value of 10 for civil law countries, and 9 for common law countries. The maximum value for the index is 10 in both groups of countries. Table 1 in the appendix contains the Pearson correlation coefficients for the independent variables.

5. Predicting the cross-listing behaviour

5.1 Logit regressions

Tables 3, 4 and 5 show the results of the binomial logistic regressions predicting the probabilities of cross-listing in the common law vs. civil law systems. Each table is based on a different measure of control (CONTROL1, CONTROL2 and CONTROL3). The dependent variable takes a value of 1 if the company cross-lists on a common law market, and zero if it cross-lists on a civil law market. In addition to the different control variables, the explanatory variables are BENEFITS, RISK, RSIZE, LEVERAGE, GROWTH, TURNOVER, LEGAL ORIGIN, SHAREHOLDER RIGHTS, ACCOUNTING RIGHTS and RULE OF LAW. The former four variables proxy for shareholder rights. Except for RULE OF LAW, we only include one measure of shareholder protection at a time in each regression because of the high correlation between them (see Table A1 in the Appendix). We run each regression twice with and without the dual-class dummy (BENEFITS). As a result, there are 6 different binomial logit regressions in each table. The first three columns (columns 1-3) show the results for the logit regressions with BENEFITS, and the last three columns (columns 4-6) display the regressions without this variable. We ran the specifications with time and industry dummies, but these turned out not to be

statistically significant, individually as well as jointly. Hence, the regressions reported in the tables are those without time and industry dummies. According to the Chi-squared, the logit regressions displayed in Tables 3, 4 and 5 are all significant at the 0.1% level. The percentage of correctly predicted observations ranges from 76% to 80%. Below we discuss the results of each table separately.

The coefficient on BENEFITS is not significant in any of the regressions. Hence, our results do not support Conjecture 1 which states that companies with dual-class shares are less likely to cross-list on common law markets.

However, there is some weak evidence that companies with a high level of risk (RISK) are more likely to cross-list in common law countries. Risk is significant at the 10% level in columns 3 and 6 of Tables 3, 4 and 5. This result is consistent with Conjecture 2 which states that high-risk companies are more likely to cross-list on common law markets.

The regression results in the three tables show that control has a positive impact on the choice of the cross-listing location. The coefficient on CONTROL2 has the highest significance, followed by CONTROL1, then CONTROL3. Except in column 3 of Table 4 (significance at the 10% level), CONTROL2, which is the sum of votes held by all the initial shareholders, is always significant at the 5% level. Except in column 2 of Table 3, the coefficient on CONTROL1 is always significant at the 10% level. Finally, CONTROL3 is significant at the 10% level in columns 4 and 5 of Table 5, but not significant in any of the other columns. Our result that more concentrated control increases the likelihood of the firm cross-listing on a common law market somehow contradicts Doidge et al.'s (2005) results. They find that higher control decreases the probability of a firm cross-listing on the U.S. market, a common law market. However, their results may be biased as they measure control after the firm is already cross-listed and control tends to decrease after the cross-listing.

The coefficient on RSIZE is highly significant (at the 0.1% level) in all the regressions in the three tables. This result is consistent with Conjecture 3a which states that firms that are large compared to their home market are more likely to cross-list in common law countries. Presumably, these firms are not able to raise all the funds they require in their illiquid home market. The coefficient on the growth rate (GROWTH) is not significant at any reasonable level. The finding does not support

Conjecture 3b. The tables reveal that companies with a low level of leverage (LEVERAGE) are more likely to cross-list in common law countries. However, the coefficient on leverage is significantly negative in all the regressions at the 5% level. The negative sign contradicts Conjecture 3c which maintains that companies with a high level of debt are more eager to cross-list on the more liquid common law markets. A possible explanation for our finding is that companies with low leverage may want to raise more debt after they cross-list on the common law markets. Issuing extra equity at the time of cross-listing supports their financial position to raise further debt during the coming years.

Share turnover (TURNOVER) before the cross-listing is significantly (at the 5% level or better) and negatively related to the probability of cross-listing in a common law country. Consistent with Conjecture 4, it appears that companies are motivated to cross-list in common law countries as a way to improve the liquidity of their shares.

The coefficient on the dummy variable indicating the legal system prevailing on the home market (LEGAL ORIGIN) is not significant in any of the regressions in the three tables. Similarly, the coefficient on SHAREHOLDER RIGHTS is never significant at any of the usual levels of significance. However, the coefficient on ACCOUNTING STANDARDS is significantly different from zero at the 5% level in all the regressions. Albeit not as significant and as consistent, the coefficient on the RULE OF LAW index is also positive suggesting that firms from countries with good law enforcement are more likely to cross-list on a common law market. These results contradict Conjecture 5 that firms from civil law countries choose to cross-list in common law countries to provide their shareholders with better protection. However, our evidence is consistent with Reese and Weisbach (2002), Doidge et al. (2004) and Doidge et al. (2005).

5.2 Robustness checks

As an alternative measure of control, we use the Herfindahl index, i.e. the sum of the squares of all the stakes held by the insiders. The coefficient on the Herfindahl index is positive and significant in the logit regressions excluding the BENEFITS variable. All the other variables in the regressions retain their sign and have similar levels of significance.

CONTROL1 and CONTROL2 are based on all reported shareholders in the company document. Nevertheless, the companies in the sample are incorporated in countries which each have different thresholds for the disclosure of control. Some countries impose precise disclosure thresholds for the ownership of voting shares such as 3%, 5% and 10%, while others require the first 20 largest shareholders to be disclosed. Table A2 in the Appendix contains a summary of the notification and disclosure of control in the sample countries. Given the different disclosure rules, we run a robustness check which consists of the above measures of control taking into account only stakes above the highest disclosure threshold in place among all the sample countries which is 10% for South African listed companies.²² We find that, even after controlling for the different disclosure thresholds, higher control increases the likelihood of the firm choosing to cross-list on a common law market. In general, all the other variables have the same signs and similar levels of significance as before.

Further, we run regressions with interaction terms between the control variables (CONTROL1, CONTROL2 and CONTROL3) and GROWTH as well as the control variables and RISK. We expect that a risky company with a controlling shareholder is more likely to cross-list on a common law market than a company with dispersed control given that the controlling shareholder's cost from holding an undiversified portfolio are much more substantial in such a firm. In addition, we expect that firms with lots of growth opportunities and a large shareholder may not be able to raise the needed finance, if the large shareholder perceives that the private benefits he will lose because of the dilution of his stake exceed the benefits from pursuing the available growth opportunities.²³ We find that the coefficients on the interaction terms between GROWTH and the control variables (CONTROL1, CONTROL2 and CONTROL3) are negative and significant at the 10% level in all the regressions. The negative and significant coefficient indicates that closely held companies with growth opportunities are less likely to cross-list on common law companies than widely-held companies with growth opportunities. We do not find that the coefficients on the interaction terms between RISK and the control variables are significant in any of the specifications. We also run regressions with interaction terms between LEGAL

²² It is quite ironic that the highest disclosure threshold is in place in a common law country and, not as expected, in a civil law country.

²³ We also used an interactive term between each of the control variables and BENEFITS. However, the coefficient on the interactive term was not significant in any of the regressions.

ORIGIN and each of the company variables. None of the coefficients on the interactive variables is significantly different from zero. Further, we investigate whether companies that go public for the first time behave differently from companies that have already been listed on their home market prior to the cross-listing. We include an IPO dummy in the regressions which takes a value of 1 if the company has an IPO and zero otherwise. The coefficient on the IPO dummy is insignificant.

Finally, we expect that controlling shareholders with high private benefits are less likely to cross-list their companies on a common law market. Therefore, we rerun the regressions with an interaction term between the dual-class dummy (BENEFITS) and control (CONTROL1, CONTROL2, and CONTROL3). The coefficient on the interactive term indicates by how much the coefficient on control for companies with dual-class shares differs from that for companies without dual-class shares. However, we find that the coefficient on the interactive variable is not significant in any of the specifications.

6. Conclusion

In addition to the traditional reasons advanced for the determining the choice of the cross-listing location, such as access to capital markets, broadening the shareholder base and product market reasons, we argue that the control structure can explain where companies cross-list. To-date there is as yet no study that examines whether the initial ownership and control structure determines the cross-listing location. Although the link between the ownership and control structure and the choice of the cross-listing location is a complex one, we expect there to be such a link. In addition, we provide some reasons as to why factors related to the ownership and control structure may determine the location of the cross-listing. Further, we explain the choice of cross-listing in a common law country or civil law country.

We hypothesize that the following factors influence the decision about the cross-listing location. First, the decision is likely to be influenced by the existence of large private benefits of control. If the controlling shareholder has large private benefits of control, he may prevent the firm from cross-listing on a common law market as the better shareholder protection in this type of market will limit his benefits. Second, high-risk companies may cross-list in the common law system as this system provides a better diversification potential. Third, as common law countries tend to have more

developed stock markets, they are more likely to attract firms with substantial financing needs. Fourth, firms wanting to increase the liquidity of their stock will prefer to cross-list on a common law market. Finally, cross-listing on a common law market may signal the firm's commitment to protect its shareholders.

We find strong evidence that the control structure is a determinant of the cross-listing location. Companies with concentrated control are more likely to cross-list on common law markets. However, we do not find that private benefits of control influence the decision. Conversely, we find that high-risk firms and those with pronounced financing needs are more likely to cross-list on a common law market. Similarly, firms from markets suffering from a lack of liquidity are more likely to cross-list in the common law system. Surprisingly, firms do not choose to cross-list on a common law market in order to bond themselves to protect their shareholders. Finally, we find that firms from countries with good accounting standards tend to cross-list on common law stock exchanges.

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Table 1: Legal origin and home country

Panel A: Legal origin of home country and host country

		Host country		
		Civil law	Common law	<i>No. of companies</i>
Home country	Civil law	17	42	59
	Common law	30	86	116
No. of companies		47	128	175

Table 1 cont'd**Panel B: Country of origin***Common law countries*

Country of origin	Domestic Stock exchange	No. of companies from the country of origin
Australia	Australian Stock Exchange	15
Canada	Toronto Stock Exchange	34
Ireland	Irish Stock Exchange	7
New Zealand	New Zealand Stock Exchange	6
South Africa	Johannesburg Stock Exchange	3
U.K.	London Stock Exchange	24
U.S.	NASDAQ & New York Stock Exchange	27
<i>Total</i>		116

Civil law countries

Country of origin	Domestic Stock exchange	No. of companies from the country of origin
Austria	Wiener Börse AG	2
Belgium	Brussels Stock Exchange	3
Denmark	Copenhagen Stock Exchange	1
France	Paris Stock Exchange	5
Germany	Frankfurt Stock Exchange	10
Italy	Borsa Italiana	3
Japan	Tokyo Stock Exchange	14
Netherlands	Amsterdam Stock Exchange	7
Norway	Oslo Stock Exchange	4
Sweden	Stockholm Stock Exchange	5
Switzerland	SWX Swiss Exchange	5
<i>Total</i>		59

Table 2: Summary statistics

Panels A and B display summary statistics for companies that cross-list in common law countries and companies that cross list in civil law countries, respectively. Panel C contains the tests for the differences in means. Panel D displays country-level variables. CONTROL1 is the largest voting stake held by the initial shareholders. CONTROL2 is the sum of voting stakes of all known initial shareholders. CONTROL3 equals one if the largest shareholder has a stake of at least 25% and zero otherwise. RISK is the standard deviation for the stock return over 12 months period before the cross-listing excluding the month before the cross-listing month. LEVERAGE is the long-term debt divided by the total share capital and reserves. GROWTH is the percentage of the total assets growth over 1-year period. RSIZE is the relative market value in percentage, which is calculated by dividing the annual average market value of the company multiplied by 100 by the market value of all domestic firms listed on the home market. TURNOVER is the annual average trading volume in thousands multiplied by 100 divided by the number of shares outstanding at the end of the year. All variables are measured during the year before the cross-listing. ***, *, * indicate that the difference in means between the characteristics of companies that cross-list in common law countries versus the characteristics of those that cross-list in civil law countries is statistically different from zero at the 1%, 5% and 10% levels, respectively. # indicates that the difference in means between the characteristics of companies that cross-list in common law countries versus the characteristics of those that cross-list in civil law countries is statistically significant from zero at the 10% level for the two-tailed test between two proportions (assuming a binomial distribution).

Panel A: Summary statistics for companies cross-listed in common law countries

	Mean	Median	Standard Deviation	Skewness	Minimum	Maximum	Proportion =1	No. of observations
CONTROL1 _{CLS-1} %	35.31	25.60	29.99	1.08	0.00	100.00	–	98
CONTROL2 _{CLS-1} %	62.63	71.66	34.04	-0.51	0.00	100.00	–	98
CONTROL3 _{CLS-1}	–	–	–	–	–	–	0.50	98
RISK _{CLS-1} %	14.30	10.50	0.11	2.10	3.00	62.00	–	126
LEVERAGE _{CLS-1} %	55.00	9.30	1.40	5.71	0.00	1092.10	–	118
GROWTH _{CLS-1} %	55.26	18.19	123.84	3.98	-52.53	879.13	–	111
RSIZE _{CLS-1} %	0.78	0.09	2.26	4.48	0.00	14.10	–	126
TURNOVER _{CLS-1} %	9.80	2.20	0.35	8.72	0.00	353.30	–	115

Table 2 cont'd

Panel B: Summary statistics for companies cross-listed in civil law countries

	Mean	Median	Standard Deviation	Skewness	Minimum	Maximum	Proportion =1	No. of observations
CONTROL1 _{CLS-1} %	23.99*	14.20	25.21	1.65	0.00	100.00	–	32
CONTROL2 _{CLS-1} %	44.91***	40.49	31.78	0.33	0.00	100.00	–	32
CONTROL3 _{CLS-1}	–	–	–	–	–	–	0.31 [#]	32
RISK _{CLS-1} %	14.50	11.20	0.10	3.29	4.20	68.50	–	47
LEVERAGE _{CLS-1} %	64.00	13.10	1.30	2.95	0.00	548.30	–	47
GROWTH _{CLS-1} %	51.31	10.56	114.30	2.90	-59.02	58.67	–	45
RSIZE _{CLS-1} %	0.16***	0.03	0.32	3.40	0.00	1.70	–	46
TURNOVER _{CLS-1} %	20.00	3.50	0.51	4.32	0.20	286.30	–	46

Table 2 cont'd**Panel C: Country-level variables***Common law countries*

	Shareholder rights index	Accounting standards index	Rule of law index
Australia	4	79.73	10
Canada	5	74.41	10
Ireland	4	81	7.8
New Zealand	4	80	10
South Africa	5	79	4.42
U.S.	5	75.26	10
U.K.	5	84	8.57
Mean	4.57	79.06	8.68

Civil law countries

	Shareholder rights index	Accounting standards index	Rule of law index
Belgium	0	68	10
France	3	78	8.98
Italy	1	66	8.33
Netherlands	2	73.29	10
Austria	2	62	10
Germany	1	66.80	9.23
Japan	5	70.71	8.98
Switzerland	2	80	10
Denmark	2	75	10
Norway	4	75	10
Sweden	3	83	10
Mean	2.27	72.53	9.59

Table 3: Results from binomial logit model for the prediction of cross-listing location with the voting stake held by the largest initial shareholder (CONTROL1)

The table reports the estimates of the logit coefficients. The dependent variable takes a value of 1 if the company cross-lists in the common law country and zero otherwise. CONTROL1 is the voting stake held by the largest initial shareholder pre cross-listing. BENEFITS is a dummy variable which is equal to 1 if the company has dual-class shares in or before the cross-listing year. RISK is the logarithm of standard deviation of monthly stock returns. LEVERAGE is the logarithm of ratio of long-term debt divided by total share capital and reserves. RSIZE is the logarithm of the relative market value, where relative market value is the annual average market value of the company as a percentage of the market value of all the domestic firms listed on the home stock exchange at the end of the year. GROWTH is the logarithm of annual growth rate of total assets. TURNOVER is the logarithm of the ratio of the annual average volume of trading shares in thousands at home market. All these variables are measured at the end of the pre cross-listing year. LEGAL ORIGIN is a dummy variable that takes a value of 1 if the company belongs to common law system and zero otherwise. SHAREHOLDER RIGHTS is an index based on the presence of significant shareholders rights. ACCOUNTING STANDARDS is a country index rating companies' 1990 and 1993 annual reports on their inclusion or omission of 90 items. RULE OF LAW is an assessment of the law and order tradition in the country. The p-values are given in parentheses.

Specification	Ex.sign	1	2	3	4	5	6
Constant		-1.483 (0.773)	-1.896 (0.705)	-12.993 (0.070)	-1.610 (0.752)	-2.176 (0.658)	-13.318 (0.061)
CONTROL1 _{CLS-1}	?	0.022 (0.091)	0.020 (0.142)	0.023 (0.101)	0.024 (0.054)	0.023 (0.074)	0.025 (0.056)
BENEFITS	-	0.303 (0.703)	0.427 (0.595)	0.311 (0.695)			
RISK _{CLS-1}	+	0.814 (0.125)	0.790 (0.134)	0.983 (0.073)	0.829 (0.115)	0.813 (0.120)	1.000 (0.066)
RSIZE _{CLS-1}	+	0.619 (0.001)	0.543 (0.002)	0.645 (0.000)	0.629 (0.001)	0.556 (0.002)	0.651 (0.000)
LEVERAGE _{CLS-1}	+	-1.645 (0.025)	-1.643 (0.025)	-1.540 (0.039)	-1.644 (0.025)	-1.655 (0.023)	-1.550 (0.038)
GROWTH _{CLS-1}	+	0.146 (0.783)	0.140 (0.793)	0.160 (0.773)	0.142 (0.785)	0.128 (0.806)	0.150 (0.784)
TURNOVER _{CLS-1}	-	-0.357 (0.018)	-0.363 (0.023)	-0.408 (0.007)	-0.363 (0.015)	-0.367 (0.020)	-0.414 (0.006)
LEGAL ORIGIN	?	-0.671 (0.303)			-0.716 (0.265)		
SHAREHOLDER RIGHTS	?		0.018 (0.936)			0.044 (0.840)	
ACCOUNTING STANDARDS	?			0.116 (0.030)			0.118 (0.028)
RULE OF LAW	?	0.449 (0.248)	0.433 (0.243)	0.721 (0.061)	0.472 (0.221)	0.466 (0.205)	0.749 (0.049)
Log likelihood function		-46.761	-47.299	-44.806	-46.836	-47.446	-44.884
Restricted log likelihood		-61.200	-61.200	-61.200	-61.200	-61.200	-61.200
Chi-squared (df)		28.877 (9)	27.80 (9)	32.787 (9)	28.728 (8)	27.507 (8)	32.630(8)
p-value of Chi-squared		0.001	0.001	0.000	0.000	0.001	0.000
Observations		106	106	106	106	106	106
%of correct predictions		77%	78%	77%	77%	78%	77%
Naïve model		74%	74%	74%	74%	74%	74%
McFadden R ²		0.236	0.227	0.268	0.235	0.225	0.267

Table 4: Results from binomial logit model for the prediction of cross-listing location with the sum of votes held by the initial shareholders (CONTROL2)

The table reports the estimates of the logit coefficients. The dependent variable takes a value of 1 if the company cross-lists in the common law country and zero otherwise. CONTROL2 is sum of the voting stakes held by the initial shareholders. All the other independent variables are defined as in Table 3. The p-values are given in parentheses.

Specification	Ex.sign	1	2	3	4	5	6
Constant		-1.978 (0.705)	-2.340 (0.650)	-11.753 (0.100)	-2.167 (0.675)	-2.647 (0.602)	-12.046 (0.089)
CONTROL2 _{CLS-1}	?	0.019 (0.032)	0.018 (0.045)	0.017 (0.055)	0.020 (0.018)	0.020 (0.022)	0.019 (0.029)
BENEFITS	-	0.327 (0.672)	0.405 (0.601)	0.393 (0.609)			
RISK _{CLS-1}	+	0.826 (0.119)	0.826 (0.119)	0.982 (0.074)	0.841 (0.110)	0.847 (0.105)	1.001 (0.065)
RSIZE _{CLS-1}	+	0.658 (0.001)	0.590 (0.001)	0.686 (0.000)	0.673 (0.001)	0.607 (0.001)	0.697 (0.000)
LEVERAGE _{CLS-1}	+	-1.508 (0.041)	-1.506 (0.039)	-1.447 (0.052)	-1.489 (0.042)	-1.489 (0.039)	-1.437 (0.052)
GROWTH _{CLS-1}	+	0.005 (0.994)	0.002 (0.998)	0.056 (0.925)	-0.004 (0.994)	-0.014 (0.980)	0.040 (0.946)
TURNOVER _{CLS-1}	-	-0.346 (0.020)	-0.350 (0.027)	-0.392 (0.009)	-0.353 (0.016)	-0.356 (0.023)	-0.401 (0.006)
LEGAL ORIGIN	?	-0.611 (0.357)			-0.655 (0.320)		
SHAREHOLDER RIGHTS	?		0.036 (0.870)			0.055 (0.800)	
ACCOUNTING STANDARDS	?			0.101 (0.054)			0.102 (0.053)
RULE OF LAW	?	0.552 (0.159)	0.531 (0.162)	0.754 (0.051)	0.584 (0.131)	0.570 (0.127)	0.792 (0.038)
Log likelihood function		-45.970	-46.389	-44.467	-46.062	-46.531	-44.603
Restricted log likelihood		-61.200	-61.200	-61.200	-61.200	-61.200	-61.200
Chi-squared (df)		30.46(9)	29.622(9)	33.464(9)	30.275(8)	29.337 (8)	33.194(8)
p-value of Chi-squared		0.000	0.001	0.000	0.000	0.000	0.000
Observations		106	106	106	106	106	106
%of correct predictions		78%	78%	80%	78%	78%	80%
Naïve model		74%	74%	74%	74%	74%	74%
McFadden R ²		0.249	0.242	0.273	0.247	0.240	0.271

Table 5: Results from binomial logit model for the prediction of cross-listing location with CONTROL3 as the measure of control

The table reports the estimates of the logit coefficients. The dependent variable takes a value of 1 if the company cross-lists in the common law country and zero otherwise. CONTROL3 equals one if the largest shareholder has a stake of at least 25% and zero otherwise. All the other independent variables are defined as in Table 3. The p-values are given in parentheses.

Specification	Ex.sign	1	2	3	4	5	6
Constant		-0.179 (0.972)	-0.266 (0.957)	-10.268 (0.140)	-0.110 (0.982)	-0.283 (0.953)	-10.366 (0.133)
CONTROL3 _{CLS-1}	?	0.844 (0.150)	0.812 (0.171)	0.779 (0.200)	0.956 (0.093)	0.950 (0.099)	0.911 (0.121)
BENEFITS	-	0.532 (0.487)	0.647 (0.397)	0.579 (0.446)			
RISK _{CLS-1}	+	0.829 (0.122)	0.811 (0.128)	0.975 (0.078)	0.868 (0.101)	0.859 (0.102)	1.011 (0.064)
RSIZE _{CLS-1}	+	0.604 (0.001)	0.527 (0.003)	0.652 (0.000)	0.625 (0.001)	0.547 (0.002)	0.662 (0.000)
LEVERAGE _{CLS-1}	+	-1.620 (0.023)	-1.591 (0.026)	-1.503 (0.039)	-1.611 (0.023)	-1.585 (0.025)	-1.499 (0.038)
GROWTH _{CLS-1}	+	0.129 (0.804)	0.127 (0.811)	0.172 (0.753)	0.118 (0.814)	0.106 (0.834)	0.153 (0.772)
TURNOVER _{CLS-1}	-	-0.364 (0.016)	-0.385 (0.016)	-0.406 (0.007)	-0.373 (0.012)	-0.391 (0.013)	-0.416 (0.005)
LEGAL ORIGIN	?	-0.452 (0.472)			-0.528 (0.398)		
SHAREHOLDER RIGHTS	?		-0.065 (0.756)			-0.039 (0.851)	
ACCOUNTING STANDARDS	?			0.103 (0.047)			0.104 (0.045)
RULE OF LAW	?	0.421 (0.271)	0.401 (0.276)	0.647 (0.089)	0.452 (0.239)	0.438 (0.235)	0.683 (0.072)
Log likelihood function		-47.390	-47.601	-45.597	-47.645	-47.987	-45.905
Restricted log likelihood		-61.200	-61.200	-61.200	-61.200	-61.200	-61.200
Chi-squared (df)		27.620(9)	27.197(9)	31.206(9)	27.109 (8)	26.426 (8)	30.589 (8)
p-value of Chi-squared		0.001	0.001	0.000	0.001	0.001	0.000
Observations		106	106	106	106	106	106
%of correct predictions		78%	78%	76%	77%	77%	76%
Naïve model		74%	76%	74%	74%	74%	74%
McFadden R ²		0.226	0.222	0.255	0.221	0.216	0.250

Appendix:

Table A1: Pearson Correlation Matrix

This table displays the Pearson correlation coefficients of independent variables. All the independent variables are defined as in Table3. The p-values are given in parentheses.

	LEVERAGE CLS-1	RSIZE _{CLS-1}	TURNOVER CLS-1	GROWTH _{CLS-1}	RISK _{CLS-1}	CONTROL1 CLS-1	CONTROL2 CLS-1	CONTROL3 CLS-1	BENEFITS	Shareholder rights	Accounting Standards	Rule of law	Legal Origin
LEVERAGE _{CLS-1}	1.000												
RSIZE _{CLS-1}	0.274 (0.000)	1.000											
TURNOVER _{CLS-1}	0.003 (0.971)	0.077 (0.332)	1.000										
GROWTH _{CLS-1}	0.03 (0.714)	-0.137 (0.092)	0.243 (0.003)	1.000									
RISK _{CLS-1}	-0.161 (0.040)	-0.480 (0.000)	0.171 (0.031)	0.235 (0.003)	1.000								
CONTROL1 _{CLS-1}	0.127 (0.157)	0.340 (0.000)	-0.062 (0.500)	-0.043 (0.646)	-0.128 (0.147)	1.000							
CONTROL2 _{CLS-1}	0.079 (0.384)	0.241 (0.006)	-0.060 (0.513)	0.067 (0.478)	0.005 (0.954)	0.734 (0.000)	1.000						
CONTROL3 _{CLS-1}	0.088 (0.332)	0.274 (0.002)	-0.046 (0.611)	0.005 (0.962)	-0.089 (0.316)	0.760 (0.000)	0.669 (0.000)	1.000					
BENEFITS	0.073 (0.419)	0.006 (0.951)	-0.059 (0.516)	-0.021 (0.825)	0.029 (0.741)	0.305 (0.000)	0.191 (0.029)	-0.222 (0.011)	1.000				
Shareholder rights	0.030 (0.698)	-0.394 (0.000)	-0.207 (0.008)	0.046 (0.565)	0.133 (0.082)	-0.383 (0.000)	-0.289 (0.001)	0.257 (0.003)	0.056 (0.529)	1.000			
Accounting Standards	-0.163 (0.036)	-0.211 (0.005)	-0.026 (0.742)	0.048 (0.553)	0.040 (0.602)	-0.103 (0.243)	0.089 (0.311)	0.018 (0.836)	-0.029 (0.747)	0.405 (0.000)	1.000		
Rule of law	0.041 (0.598)	-0.149 (0.051)	0.111 (0.160)	0.016 (0.847)	0.018 (0.815)	-0.064 (0.470)	-0.152 (0.085)	0.102 (0.249)	0.103 (0.245)	-0.070 (0.359)	-0.223 (0.003)	1.000	
Legal Origin	-0.053 (0.504)	-0.446 (0.000)	-0.110 (0.167)	0.038 (0.638)	0.148 (0.053)	-0.289 (0.001)	-0.135 (0.126)	0.150 (0.088)	0.042 (0.634)	0.703 (0.000)	0.498 (0.000)	-0.017 (0.823)	1.000

Table A2: Summary of notification and disclosure of ownership and control

	Country	Notification and disclosure requirement	Source	Disclosure of voting stakes	Disclosure of ownership
1	Australia	Companies are required to disclose their twenty largest shareholders in their annual report.	Section 4.10.9 of the Listing rules.	Yes	Yes
2	Austria	Austria implemented the Transparency Directive in 1990. Section 91 of the Stock Exchange Act specifies notification thresholds of 5%, 10%, 25%, 50%, 75% and 90% of the total voting rights of the company.	Stock Exchange Act. ¹	Yes	NA
3	Belgium	The Ownership Disclosure Law introduced in 1989 requires notification of shareholding equals or exceeds a threshold of 5% of voting rights.	Ownership Disclosure Law. ²	Yes	No
4	Canada	<p>According to the Securities Act, a person or a company who/which becomes an insider of a reporting issuer, other than a mutual fund, shall, within 10 days from the day that he, she or it becomes an insider, or such shorter period as may be prescribed by the regulations, file a report as of the day on which he, she or it became an insider disclosing any direct or indirect beneficial ownership of or control or direction over securities of the reporting issuer as may be required by the regulations. 1999, c. 9, s. 214.</p> <p>According to Business Corporations Act, any person who beneficially owns, directly or indirectly, more than 10 per cent of the voting securities of the corporation or who exercises control or direction over more than 10 per cent of the votes attached to the voting securities of the corporation, is considered an insider.</p>	<p>Securities Act R.S.O. 1990, Chapter S.5.</p> <p>Business Corporations Act, Chapter B.16</p>	Yes	Yes
5	Denmark	Securities Trading etc. Act, Consolidated Act requires notification of shareholdings when the voting rights conferred on the shares represent at least 5% of the voting rights of the share capital or	Securities Trading etc. Act, cf. Consolidated Act No. 725 of 25 July 2000.	Yes	Yes

	Country	Notification and disclosure requirement	Source	Disclosure of voting stakes	Disclosure of ownership
		their nominal value accounts for at least 5% of the share capital.	Section II, part 7-29.		
6	Germany	Any person whose shareholding in a listed company reaches, exceeds or falls short of 5%, 10%, 25%, 50% or 75% of the voting rights shall immediately notify the company and the Federal Supervisory office.	Section 21 of the Security Trading Act, 1998.	Yes	No
7	France	Any natural person or legal entity acting by himself or in concert, who comes to own directly or indirectly more than 5%, 10%, 20%, 1/3, 50% and 2/3 of the capital of a listed company or comes to cross these thresholds must notify the company itself within fifteen days and the “competent authorities” within 5 active stock market days.	French law no. 89-531 of 2 August 1989. ³	Yes	Yes
8	Italy	By Law 216/1974, as amended in 1992, at article 1/5, prescribes that holdings of more than 2% of the listed company have to be reported to Consob within 48 hours. Consob immediately informs the public of such notifications.	Italian company law. ⁴	Yes	Yes
9	Ireland	The Listing Rules of the Irish Stock Exchange require the company to notify the Irish Stock Exchange of interests (3% or more) of any person, other than directors, if such interests has been notified to the company.	Chapter 9, Notes on the UK Listing Authority (UKLA) Listing Rules. ⁵	Yes	Yes
10	Japan	Article 27-23 of the Security and Exchange Law prescribes that a holder of target securities whose holding ratio of share certificates, etc. is larger than 5% shall in accordance with the provisions of an ordinance of the Cabinet Office, file with the Prime Minister within five days from the day when such person became a large shareholder a report containing matters relating to the holding ratio of share certificates, etc., the purpose of holding the share certificate and others. Such report is called large holding report. <i>Note.</i> There is no requirement to disclose ownership in the annual report but this may be done voluntarily by the company.	Securities and Exchange Law.		

	Country	Notification and disclosure requirement	Source	Disclosure of voting stakes	Disclosure of ownership
11	Netherlands	For listed companies, shareholders are subject to the disclosure requirement of the law transposing the EU Transparency Directive (88/627), namely the Law on Disclosure of Shareholdings (<i>Wet Meddling Zeggenschapsrecht</i>) which came into effect in February 1992. Under the disclosure law, shareholders must report any trade that causes their stake to cross the reporting thresholds of 5, 10, 25, 50 or 6.66%. This applies to both voting rights and ownership or cash-flow rights separately.	Law of Disclosure of Shareholdings ⁶ (<i>Wet Melding Zeggenschapsrecht</i>)	Yes	Yes
12	Sweden	The exchange rules state that the publication should be made when the holder passes, exceeds or falls below 5, 10, 15, etc. up to 90%. The limits apply to both share capital and voting capital.	Guide to the Exchange Rules 2001. P.10.	Yes	Yes
13	Norway	According to the Act of Security Trading, the notification should be made to the Stock Exchange if the shareholding equals or exceeds 1/10, 1/5 1/3 2/3 and 9/10 of the share capital or voting rights.	Norwegian Securities Trading Act no. 79 of June 1997. Section 3-2.p-8.	Yes	Yes
14	South Africa	Section 8.61 (f) requires the listed companies to disclose the interests of any shareholder other than a director who is known to be beneficially interested in 10% or more of any class of the listed company's capital together with the amount of each such shareholder's interest.	JSE Listing requirement. ⁷	Yes	Yes
15	Switzerland	Article 20 of the new Swiss Exchange Act (SESTA) requires the notification of the any shareholding that exceeds or falls below the thresholds of 5, 10, 20, 33.33, 50 or 66.66% of voting rights.	Stock Exchanges and Securities Trading Act.	Yes	Yes
16	New Zealand	Section 10 of the listing rules prescribes that the annual report of an issuer shall contain the names and holdings of equity securities of the holders having the 20 largest shareholdings of quoted equity securities on the register of the issuer as of a date not earlier than 2 months before the date of publication of the annual report.	New Zealand Stock Exchange Listing Rules.	It is both legal and beneficial holdings. It does not depend on voting or cash flow rights as such.	
17	U.K.	A person is required to disclose his interests in a public company as soon as he owns a beneficial stake of 3% of the nominal value of that class of capital or controls (whether beneficial or not) 10%	Section 199, Companies Act 1985. ⁸	Yes	Yes

	Country	Notification and disclosure requirement	Source	Disclosure of voting stakes	Disclosure of ownership
		of the voting capital.			
18	U.S.	Under U.S. Securities Regulation, 5%+ “beneficial owners” should declare their shareholdings in the company, pursuant to Regulation 13D, based on the takeover regulation. Beneficial ownership is defined by “voting power” or “investment power”.	U.S. Security Regulations. ⁹	Yes	Yes

(1) Gugler et al. (2001).

(2) Becht et al. (2001).

(3) Bloch and Kremp (2001).

(4) Bianchi et al. (2001).

(5) The Irish Stock Exchange Listing Rules are those of the UK Listing Authority (UKLA) as modified by the 'Notes on the UKLA Listing Rules' issued on 23 May 2003.

(6) De Jong et al. (2001).

(7) The information was obtained from Miss Shamie Moonsamy, a Trainee Customer Relations Support Analyst at Johannesburg Stock Exchange.

(8) Goergen and Renneboog (2001).

(9) Becht (2001).