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The Impact of US GAAP Reconciliation Requirements on Choice of Foreign Stock Exchange for Firms from Common Law and Code Law Countries

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ABSTRACT *The aim of this study is to investigate whether the impact of the SEC's Form 20-F reconciliation requirements on non-US firms' choices of foreign stock exchanges was different for firms from common law and code law countries, that is, for firms with different accounting, legal and financial systems. We examined attributes of 253 cross-listed firms from the UK, Australia, France, Germany and Japan in the 1999 financial year. We found the ability to raise further capital in the home market was relevant for firms from both groups. In addition, firms from code law countries listing on the NYSE or NASDAQ were more likely to have greater foreign revenue and lower leverage. We expected differences in accounting requirements to be a greater barrier to listing on the NYSE or NASDAQ for code law firms. However, we found firms from code law countries were more likely to select a Form 20-F exchange than firms from common law countries, providing support for suggestions that a NYSE/NASDAQ cross-listing has a bonding role for code law firms.*

1. Introduction

The aim of this study is to investigate whether the impact of the SEC's US GAAP[1] reporting requirements (the so-called Form 20-F reconciliation) on non-US firms'

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choices of foreign stock exchanges is different for firms from countries with different accounting, legal and financing systems. The Form 20-F is considered an impediment to cross-listing because it requires reconciliation from national to US GAAP and thus imposes additional accounting and disclosure costs on firms (Saudagaran and Biddle, 1995). Several initiatives have sought to reduce barriers to cross-listing created by different national accounting standards, such as the IOSCO[2] endorsement of IAS/IFRS[3] for cross-border listings (IASC, 2000) and the FASB's convergence project that aims to reduce the differences between US GAAP and IFRS (IASB, 2002a).[4] At 1 January 2005, the Form 20-F reconciliation requirement remained in force. However, the SEC proposed to review IFRS filings subsequent to that date and would then consider removal of the reconciliation requirement (IASB, 2004, p. 22).[5]

We consider whether the extent to which the Form 20-F is a barrier to cross-listing is related to the type of accounting, financial and legal system in a firm's home country. Firms with accounting systems more similar to US GAAP may find the reconciliation requirements less of a barrier than firms using accounting systems relatively less similar to US GAAP. This question is important because of the adoption of IFRS in many countries throughout the world (for example, in the consolidated accounts of listed firms in countries of the European Union (EU) from 1 January 2005) (EC, 2002). Adoption of IFRS means many firms will be making some use of an accounting system that is relatively more similar to US GAAP. This may mean the 20-F reconciliation is less of a barrier for firms using IFRS and thus cross-listing is facilitated.

We use the common law/code law classification to represent two broad categories of accounting, legal and financing systems. We included 109 firms from the UK and Australia as examples of the common law category and 144 firms from France, Germany and Japan as examples from the code law category, giving a total sample of 253 firms that had one or more foreign stock exchange listings at their financial year-end closest to 31 December 1999. We investigated the extent to which six firm attributes (representing size, profitability, growth, valuation, leverage and internationality) were associated with the choice of either of two types of foreign stock exchange. They were the more-regulated US exchanges that required firms to complete a Form 20-F reconciliation and those that did not impose additional accounting requirements. This analysis was supplemented by a survey of sample firms to ascertain their reasons for choice of foreign exchange and the impact of Form 20-F requirements on their choice.

We found firms selecting NYSE/NASDAQ[6] (hereafter 20-F firms) were larger in their home market, had lower leverage and more foreign sales. They were smaller and less profitable firms than those choosing to cross-list on the other category of stock exchange that did not require a Form 20-F reconciliation (hereafter non-20-F firms). In other words, the non-20-F firms were larger overall and more profitable firms. This suggests some successful firms use non-20-F exchanges to gain benefits of cross-listing, and that these benefits can be obtained without incurring the costs of listing on a more-regulated market in the USA.

We proposed that type of national accounting system would be more of a barrier to NYSE/NASDAQ listing for firms from code law countries than those from common law countries because the latter have relatively fewer differences between domestic accounting and US GAAP. The results of our analysis did not support this conjecture. Code law firms were more likely to choose Form 20-F exchanges than common law firms, suggesting the benefits of adopting or reconciling to US GAAP (and being subject to US legal requirements) were greater for code law firms. Among common law firms, the only significant explanatory factor for choice of Form 20-F exchange related to a firm's ability to raise further capital in its home market. Other attributes (such as size, growth, valuation, leverage and internationality) were not associated with the choice of 20-F or non-20-F exchange. Among code law firms, the ability to raise further capital in domestic markets was a significant factor together with the level of international operations. In addition, Form 20-F firms had lower leverage, implying that equity finance was relatively more important for these firms. Consistent with views collected in the firm survey, the results show there were more factors for code law firms than for common law firms that motivated code law firms to meet the costs of NYSE/NASDAQ listing. The findings support the suggestion that a Form 20-F cross-listing has a bonding role (that is, firms signal their willingness to comply with US accounting requirements and law), which is attractive to some code law firms (Reese and Weisbach, 2000; Coffee, 2002; Doidge *et al.*, 2004).

Our study contributes to the area of research that has shown there are significant differences between firms that cross-list in the USA and those that choose other foreign exchanges (Pagano *et al.*, 2002; Lang *et al.*, 2003; Doidge *et al.*, 2004) by examining firms on the basis of accounting requirements, rather than by country. Most studies consider cross-listed firms on the basis of their country of origin and the country of cross-listing. We examine cross-listing on the basis of the accounting requirements associated with the listing, instead of country of listing. We allocate stock exchanges to two categories: those that require accounting reconciliation to US GAAP (NYSE and NASDAQ, where firms have 20-F obligations) and those that impose no additional accounting requirements, such as the US over-the-counter (OTC) market and the London, Paris and Frankfurt exchanges, which accept accounts based on national GAAP from EU members. Using this allocation, we are able to investigate firms' choice of stock exchange based on listing requirements (whether or not the Form 20-F is required) rather than country of listing. We also consider whether the effect on choice of accounting requirements is different for code law and common law countries to add to research that has shown these two groups of firms differ in their choice of exchanges and capital raising activities (Reese and Weisbach, 2000; Pagano *et al.*, 2002).

Feedback from a limited number of firms (survey respondents were 15% of sample firms) provides interesting background to the statistical analysis. Many reasons for cross-listing, aside from raising capital, were provided by both common law and code law firms. Several firms mentioned Form 20-F costs

were significant. There was little discussion of adoption of IFRS or a change in accounting requirements as relevant to the cross-listing decision, which was surprising given attention at the time to harmonisation of accounting and stock exchange requirements.[7]

The remainder of the paper is organised as follows. Section 2 describes motivations for cross-listing and choice of stock exchange and Section 3 develops hypotheses about possible differences between Form 20-F and non-20-F firms in code law and common law countries. Section 4 outlines data and method and Section 5 presents results. Section 6 draws conclusions.

2. Motivations for Cross-Listing and Choice of Foreign Stock Exchange

2.1. Motivations for Cross-listing

There are many reasons why a firm may undertake a foreign stock exchange listing (Biddle and Saudagaran, 1991; Karolyi, 1997; Bancel and Mittoo, 2001; Pagano *et al.*, 2002). Firms may be able to access larger amounts of capital, at a cheaper price, as the cross-listing process reduces market risk and investment barriers. Cross-listing may assist the firm to increase liquidity of its stock and expand its shareholder base. Shares traded on a foreign exchange may be useful in foreign mergers and acquisitions. A cross-listing may increase a firm's profile in a foreign country, with political and economic benefits.

Firms have a number of alternatives when considering a foreign stock exchange listing. They may select a foreign exchange that allows them to trade shares and to raise equity capital but imposes no additional accounting requirements. For example, firms from EU countries and Australia can list on the London Stock Exchange using their national financial statements (IASB, 2002b). Many firms have chosen to use American Depositary Receipts (ADRs) to facilitate cross-listing in the USA. ADRs are negotiable instruments that represent an ownership interest in the securities of a non-US firm. There are four types of ADRs. Level I ADRs are traded in the OTC market, Level II and III on the NYSE or NASDAQ exchanges, and Level IV ADRs are issued by private placement. Level II and III ADRs impose additional accounting requirements on firms as a Form 20-F must be completed.[8] New capital can be raised with Level III and IV ADRs while Level I and II ADRs allow share trading but not capital raising. In 2001 there were 2,200 firms trading ADRs in the USA, with 887 (40%) of these being Level I ADRs (Bank of New York, 2001).

2.2. Factors Affecting Choice of Foreign Stock Exchange

Saudagaran and Biddle (1992, 1995) investigated the impact of foreign exchanges' disclosure requirements on a firm's choice of foreign exchange. They found firms were less likely to list on foreign exchanges with disclosure levels that were higher than domestic disclosure levels. An alternative explanation for choice of exchange

is based on the signaling properties of the choice. Cheung and Lee (1995) proposed that some firms are willing to list on a foreign exchange with more disclosure requirements because of the positive signal this provides about the firm's future prospects. Pagano *et al.* (2002) reported an increase in the number of firms cross-listing in the USA, while the ability of European exchanges to attract cross-listings declined. The authors concluded that European exchanges with the highest trading costs, lowest accounting standards and worst shareholder protections are least able to attract cross-listings. Coffee (2002) suggested that firms cross-list in the USA to bond themselves to improved investor protection and disclosure. He claimed that the NYSE has a critical advantage from its reputation as the leading depositary of high disclosure standards and market transparency. These reputational benefits were recognised by European managers who cited increased visibility, prestige and image (mentioned by 57% of respondents) as a benefit of cross-listing in the USA (Bancel and Mittoo, 2001).

Research indicates that a firm's attributes affect its choice of exchange. Saudagaran (1987) and Saudagaran and Biddle (1995) concluded that nationality, size of firm, main line of business, level of foreign revenue and destination of exports influenced firms' cross-listing choices. Pagano *et al.* (2002) found cross-listed firms were likely to be larger and more recently privatised than firms not cross-listed. Comparing firms cross-listed in the USA with those cross-listed in Europe, they found the firms selecting US markets relied heavily on export markets, were more likely to be from high-tech industries and pursued a strategy of equity funded expansion.

2.3. Impact of Form 20-F Reconciliation Requirements

It has been argued that the SEC's requirements are an impediment to listing on US exchanges (Saudagaran and Biddle, 1995). Compliance costs arise when firms must adopt different accounting policies, and disclose additional information from that required under home country GAAP. Mittoo (1992) reported that 60% of managers of Canadian firms listed in the USA cited SEC reporting and disclosure costs as the major cost of cross-listing. European managers ranked SEC reporting costs third in importance, behind cost of public relations/roadshows (mentioned by 51% of respondents) and legal fees (38%) (Bancel and Mittoo, 2001). Similarly, Yamori and Baba (2001) found Japanese managers saw disclosure and financial reporting requirements as the primary obstacle to listing overseas. However, growth in US listings of foreign firms (Pagano *et al.*, 2002) implies that for many firms the anticipated benefits of a US cross-listing outweigh its costs.

Although Form 20-F requirements have been cited as a reason for not listing in the USA, there has been little investigation of the differences in firm attributes among firms listed in the USA that prepare a Form 20-F and those selecting a cross-listing (in the USA or elsewhere) that does not require a Form 20-F and how these attributes are different for common law and code law firms.

Most studies compare firms cross-listed in the US more-regulated markets (NYSE and NASDAQ) with firms cross-listed on non-US markets or firms without cross-listings, and firms listed on the US OTC market are excluded. Studies considering firms listed in the US OTC market have concluded these firms are different to firms listed on the US more-regulated markets. Miller (1999) found OTC firms experienced a smaller positive stock price response to cross-listing compared to NYSE and NASDAQ firms. Lang *et al.* (2003) reported that while the OTC firms were comparable with the firms cross-listed in US regulated markets in terms of growth, equity issue and capital intensity (return on assets), OTC firms were smaller, more highly levered and issued more debt. In addition, the OTC firms were less profitable, traded at lower multiples and showed lower quality of earnings. These studies suggest there are systematic differences between NYSE/NASDAQ and OTC firms. Further, Coffee (2002) argued an OTC listing is not a perfect substitute for trading on the more-regulated exchanges and provides a more limited bonding role.

3. Development of Hypotheses

The focus of this study is accounting requirements associated with a firm's choice of foreign exchange because these requirements may impact differently on firms from common law countries compared to firms from code law countries. Assuming the Form 20-F is a barrier to US listing, we expect to observe Form 20-F preparers have some different characteristics to non-20-F preparers. The firm attributes considered relate to firm size, growth, profitability, valuation, source of finance and level of internationality. We predict that firm attributes will differ between firms from common law and code law countries because of differences in countries' accounting, legal and financing systems.

3.1. Firm Size, Profitability and Growth

Firms undertaking a cross-listing are those with a greater need for foreign capital, foreign visibility or foreign shareholders. They are likely to be larger than non-cross-listed firms (Biddle and Saudagaran, 1991; Pagano *et al.*, 2002). This reasoning can be extended to argue that firms listed in the USA that prepare a Form 20-F are likely to be larger than non-20-F firms. A US listing gives potentially access to more capital and greater visibility, therefore it is expected larger firms will pursue a US listing and are therefore more likely to be Form 20-F preparers. The hypothesis can be stated formally as follows:

H1: Larger firms are more likely to choose foreign stock exchanges with Form 20-F obligations.

Firms listing in the USA that prepare a Form 20-F incur substantial stock exchange listing costs and accounting preparation costs as national accounts

are restated or reconciled to US GAAP. It can be argued that larger firms may be more prepared to meet these costs. However, a firm's level of profitability may be a better indicator of whether a firm will list in the USA and prepare a Form 20-F or not. Existing evidence about whether US cross-listed firms are more profitable than non-US cross-listed firms is mixed. Pagano *et al.* (2002) found European cross-listed firms had higher return on assets before cross-listing. Lang *et al.* (2003) found some evidence that foreign firms cross-listed in the USA were more profitable (when firms were matched by size). The hypothesis can be stated formally as follows:

H2: More profitable firms are more likely to choose foreign stock exchanges with Form 20-F obligations.

Pagano *et al.* (2002) concluded that foreign firms listed in the USA were higher growth firms. This is consistent with the notion that firms seeking a cross-listing have higher demand for additional finance to expand future operations. Given that a 20-F cross-listing is more likely to be associated with capital raising than other cross-listings, it is predicted that 20-F firms will have higher growth metrics than non-20-F firms. The hypothesis can be stated formally as follows:

H3: Higher growth firms are more likely to choose foreign stock exchanges with Form 20-F obligations.

3.2. Source of Finance

Pagano *et al.* (2002) found that firms cross-listed in the USA were more likely to raise equity capital than firms cross-listed in European markets, while the latter were more likely to raise further debt finance. Although both Form 20-F preparers and non-20-F preparers may be able to raise equity capital through their cross-listing,[9] it is expected that Form 20-F firms, which have chosen to list in the world's largest capital market, are firms with a higher demand for foreign equity capital. The hypothesis can be stated formally as follows:

H4: Firms relatively larger in their domestic capital market are more likely to choose foreign stock exchanges with Form 20-F obligations.

Raising equity capital, however, may be the least preferred choice of funding for firms. Myers and Majluf (1984) proposed a hierarchy, or pecking order, of funding choices in which equity funding ranks lowest. In this model, managers are assumed to know the true value of the firm and, investors, realising this, suspect that new equity is issued when it is overpriced, that is, greater than its true value. As such, the required rate of equity return will be higher, *ceteris paribus.*[10] Hurdles such as the Form 20-F increase capital raising costs and, thereby, increase the firm's cost of capital. We might suppose those firms

seeking capital through a more costly process (that is, a cross-listing involving Form 20-F) may be, other things being equal, the firms less likely to be able to fund their operations through debt. Pagano *et al.*'s (2002) finding that firms cross-listed in Europe are more likely to increase their debt level than firms cross-listed in the USA, is consistent with this conjecture. Thus, a negative relationship between level of debt and Form 20-F listing is predicted. The hypothesis can be stated formally as follows:

H5: Firms with lower levels of leverage are more likely to choose foreign stock exchanges with Form 20-F obligations.

3.3. Common Law Versus Code Law Jurisdictions

Capital structure may also be influenced by institutional factors such as the legal framework and the ability to enforce contracts. La Porta *et al.* (1997) demonstrated a link between source of finance and investors' legal protections. They argued firms from countries with more legal protections for investors were more likely to have a higher proportion of equity finance. Countries with greater investor protections included the common law countries of the UK and Australia. Countries with less investor protections included the code law countries of France, Germany and Japan. Therefore, it may be expected that firms domiciled in common law jurisdictions (which make relatively more use of equity finance) are more likely to select Form 20-F listings than firms from code law countries.[11] Firms from code law countries listed on Form 20-F exchanges are expected to be the firms less able than their competitors to raise debt capital.

On the other hand, a firm's willingness to prepare a Form 20-F may be influenced by the nature of its national accounting system. In common law countries, the traditional focus of accounting standards has been to provide information for investors. In contrast, national accounting systems in France, Germany and Japan have not traditionally sought to provide information for firm outsiders to the same extent (Nobes, 1998). Firms from code law countries using national standards have to make greater changes to their financial statements to reconcile to US GAAP than do firms from common law countries (as illustrated in the Daimler Benz case, see Radebaugh *et al.*, 1995). Pagano *et al.* (2002, p. 2662) reported that 65% of UK cross-listed firms were listed in the USA, a higher proportion than in France (38%) and Germany (10%). Thus the type of national accounting system could provide another reason for the expectation expressed above that firms from common law countries are more likely to be Form 20-F preparers than firms from code law countries. The hypothesis can be stated formally as follows:

H6: Firms from common law countries are more likely to choose foreign stock exchanges with Form 20-F obligations.

While most countries follow national accounting standards, some firms have been permitted to use US GAAP or IAS instead of national standards to facilitate the cross-listing process. Some Japanese firms listed on the NYSE prepare supplementary accounts according to US GAAP (Nobes and Parker, 1998, p. 247). From 1 January 1998, German firms were permitted to adopt US GAAP or IAS in their consolidated financial statements (Nobes and Parker, 2004, p. 254). We would expect 20-F firms to be more likely to use US GAAP where they are permitted to do so.

It has also been argued that firms select foreign stock exchanges to influence the legal regime under which they operate (Coffee, 2002; Doidge *et al.*, 2004) and that a motivation for cross-listing in the USA is to improve the protection of minority shareholder rights. Reese and Weisbach (2000) concluded firms from common law countries (where shareholder rights are relatively well protected) are less likely to list in the USA than firms from French civil law countries. Among firms listed in the USA, the common law firms were more likely to list on the OTC market and the code law firms on the more-regulated exchanges, which offer greater investor protection. The authors argued common law and code law firms listed in the USA for different reasons, with the former seeking access to US capital and the latter taking advantage of the bonding role of the listing and issuing more equity in their home market and elsewhere following the US listing. If firms from common law and code law countries have different motivations for their choice of stock exchanges, it is expected there will be differences in firm attributes between common law and code law firms cross-listed in the more-regulated US exchanges and elsewhere.

3.4. Internationality

Firms with more involvement in international product markets can be described as more international. International business activities may involve product sales in foreign markets, the production of goods or the sourcing of raw materials in foreign countries. Pagano *et al.* (2002) found that firms cross-listed in the USA relied more on export markets than firms cross-listed in Europe. Using foreign revenue to total revenue as a proxy for level of internationality (Zarzeski, 1996), we predict Form 20-F firms will have a higher proportion of revenue from foreign markets. The hypothesis can be stated formally as follows:

H7: More international firms are more likely to choose foreign stock exchanges with Form 20-F obligations.

4. Data and Method

4.1. Sample Selection

The study included firms from countries commonly classified as having legal systems derived from common law and code law (Nobes and Parker, 2004,

p. 20) to represent contrasting accounting, legal and financing systems. France, Germany and Japan were selected as countries that reflect code law legal systems and have important domestic equity markets. They also have the largest number of firms listed in the USA among the code law countries (NASDAQ, 1999; NYSE, 1999). The UK was chosen as a common law country with an important domestic capital market and a large number of cross-listed firms. Australia was included as a second common law country, since several other common law countries could not be used. Canada was excluded because of the closeness of national disclosure requirements and US GAAP. Asian countries with common law traditions (such as Hong Kong and Singapore) were not included because of many similarities to code law countries in their accounting, legal and finance systems (Ball *et al.*, 2003) which does not allow a clear distinction between a code law and common law environment.

The five countries chosen are those particularly useful to address the research questions. The countries have a substantial number of cross-listed firms of various types. In addition, each country is active in accounting harmonisation and international standard setting. These attributes mean that the sample firms can provide specific insights in relation to the research questions. Although the number of countries in the study is small, we include important examples of countries with different institutional frameworks. The contrasting institutional features of the sample firms will support the robustness of our findings because our results will not reflect only one feature of a capital market, such as size or dominance of public or private finance.

Table 1 reveals firms from the UK and Japan have access to a larger domestic equity capital market than those from France, Germany and Australia. Firms from the common law countries (the UK and Australia) have traditionally relied more on public finance from equity markets than firms from code law countries (France, Germany and Japan). Firms from common law countries usually present financial statements for investors and parties outside the firm, rather than creditors and tax authorities, as has been the situation for firms from code law countries in the past. Firms in common law countries also have national accounting systems that are more aligned with US GAAP, meaning that reconciliation to US GAAP is less onerous for them than for firms from code law countries. However, some firms from code law countries issue US GAAP or IFRS consolidated reports, as indicated in Table 1, so their reconciliation issues will be reduced.

An English language annual report for the financial year ending 31 December 1999 (or the financial year closest to this date) was requested from the largest 300 firms in each country based on the Datastream (2000) lists of firms by market capitalisation. Large firms were chosen because they were more likely to be cross-listed. Each firm's cross-listing status was determined (from lists of foreign firms obtained from the NYSE, NASDAQ and national stock exchanges in the countries in the study and from firms directly).[12] All the annual reports of cross-listed firms were included except where more than 30 reports were received

Table 1. Country comparison of features affecting choice of foreign stock exchange listing

	UK	Australia	France	Germany	Japan
Size of domestic equity market ($US million)[a]	2,685,580	398,122	1,425,953	1,386,521	4,624,210
Predominant source of finance	Equity market	Equity market	Public debt	Private debt	Debt and equity
Legal system	Common law	Common law	Code law	Code law	Code law
Focus of traditional accounting system	Provision of information for investors	Provision of information for investors	Provision of information for creditors and tax authorities	Provision of information for creditors and tax authorities	Provision of information for creditors and tax authorities
Accounting standards used in consolidated accounts presented to the public	UK GAAP	Australian GAAP	French GAAP	German GAAP, IFRS, US GAAP	Japanese GAAP, US GAAP
Accounting standards accepted by national stock exchange	UK GAAP, US GAAP, IFRS, national GAAP from EU countries, Australian GAAP	Australian GAAP, UK GAAP, US GAAP, IFRS	French GAAP, US GAAP, IFRS, national GAAP from EU countries, Australian GAAP	German GAAP, US GAAP, IFRS, national GAAP from EU countries, Australian GAAP	Japanese GAAP, US GAAP and other national GAAP

Sources: Nobes (1998), Datastream (2000), IASB (2002b).

[a]Size of national equity markets: London, Paris and Frankfurt at 31 December 1999; Tokyo at 31 March 2000; Australia at 30 June 2000 (financial year end dates applicable to the majority of sample firms).

(for the 20-F group in the UK, and for the non-20-F group in the UK, Japan and Australia) and a random selection of reports was made. The total number of firms included was 253. The number from each country varies because each country has a different number of cross-listed firms (Table 2, Panel A).

Table 2. Cross-listed firms by type of stock exchange listing and country

	UK	Australia	France	Germany	Japan	Total
Panel A						
20-F cross-listed firms						
NYSE/NASDAQ ADR Level III	9	7	17	6	4	43
NYSE/NASDAQ ADR Level II	21	10	7	10	7	55
Total 20-F firms	30	17	24	16	11	98
Non-20-F cross-listed firms						
OTC ADR Level I	15	20	14	23	10	82
OTC ADR Level I and non-US foreign exchange	2	4	4	2	13	25
Non-US foreign exchange	4	8	6	5	9	32
NASDAQ (listed prior to 1983)	3	6	0	0	7	16
Total non-20-F firms	24	38	24	30	39	155
Total cross-listed firms	54	55	48	46	50	253
Firms % of sample	21%	22%	19%	18%	20%	100%
Panel B						
Total 20-F listed firms	72	17	28	16	17	149
Sample 20-F firms	30	17	24	16	11	98
Sample % of total	42%	100%	86%	100%	65	66%
Total OTC ADR Level I firms	72	102	19	25	109	327
Sample OTC firms	17	24	18	25	23	107
Sample % of total	24%	24%	95%	100%	21%	33%
Panel C						
Survey respondents						
20-F firms	5	0	5	10	1	21
Non-20-F firms	3	2	2	6	4	17
Total	8	2	7	16	5	38
% of sample firms	15%	4%	15%	35%	10%	15%

Panel A shows the number of firms by type of cross-listing and country. 20-F cross-listed firms = firms traded on NYSE or NASDAQ that prepare US GAAP accounts or file a Form 20-F reconciliation. Non-20-F cross-listed firms = firms traded on NASDAQ or the OTC market that do not prepare US GAAP accounts or file a Form 20-F reconciliation, or cross-listed firms traded on a non-US stock exchange. Panel B shows the number of sample firms as a percentage of the total NYSE/NASDAQ (20-F firms) and of the total OTC firms for each country. Panel C shows the proportion of sample firms that participated in the survey, classified as 20-F and non-20-F firms.

The year 1999 was an appropriate year for the study for several reasons. First, the number of cross-listed firms from code law countries had increased so there were sufficient firms for investigation. There was an increase of 1–8 NYSE/NASDAQ cross-listed firms in Germany and 5–22 in France over the period 1986–97 (Pagano *et al.*, 2002). Second, in 1999 financial reporting reflected predominantly national influences because all firms complied with distinct national accounting and legal requirements when preparing financial reports. In later years, the effect of the national reporting framework may be lessened by the influence of international standards and subsequently altered by the adoption of IFRS in the EU and Australia. Third, some firms produced consolidated or supplementary accounts based on IAS or US GAAP, as noted in Section 3 above. Thus, some firms were familiar with US GAAP and IASB standards and could compare them with national standards.

Table 2 shows the composition of the sample by country and type of stock exchange listing. Firms were classified as 20-F preparers if they were listed on the NYSE or NASDAQ and lodged a Form 20-F with the SEC. There were 98 Form 20-F firms (39% of the sample) comprising 43 Level III ADR firms that conducted a capital raising and 55 Level II ADR firms that did not. The date of initial listing varied between firms and ranged from 23 March 1970 for BP Amoco Plc from the UK to 25 October 1999 for Celanese AG from Germany. All sample firms were listed in the 1980s and 1990s, other than BP Amoco Plc and four Japanese firms which listed in the 1970s. Firms from France and Germany were all listed in the 1990s. All NYSE companies entered the market through an initial purchase offering (IPO) or the issue of ADRs (NYSE, 1999) and all NASDAQ companies issued ADRs (NASDAQ, 1999). All firms were required to lodge a Form 20-F from the time of their initial listing, except for 16 NASDAQ firms which were therefore included in the non-20-F category.[13] There were 155 non-20-F firms whose cross-listing did not require lodgement of a Form 20-F (61% of the sample) (Table 2, Panel A). Thirty-two firms (21% of non-20-F firms) traded on a non-US exchange (London, Paris, Frankfurt, Düsseldorf, Basel, Brussels, Antwerp, Amsterdam, Geneva, Zurich, Vienna, Luxembourg, Toronto, Montreal, Tokyo, Hong Kong, Singapore, Australia or New Zealand). Twenty-five firms traded on a non-US exchange and in the OTC market, while 82 firms were traded in the OTC market only. Table 2, Panel B, shows that the sample includes 66% of 20-F firms and 33% of OTC firms from the five countries.

4.2. Explanatory Variables

A range of firm characteristics was chosen to explore differences between firms. They included size, profitability, growth, leverage and internationality. These characteristics were represented by seven variables, listed in Table 3 with their definitions. Size was proxied by total revenue, profitability by return on assets, growth by the ratio of market to book value, leverage by total debt as a proportion

Table 3. Explanatory variables

Name	Definition
Size	Log of total revenue (US$ million)
Profitability	Net profit after tax/book value of total assets
Growth	Market value of equity/book value of equity
Size in the home market	Firm's market capitalisation/total capitalisation home market
Leverage	Debt/debt plus market value of equity
Legal system	Common law = 1 (UK and Australia), code law = 0 (France, Germany and Japan)
Internationality	Proportion of revenue derived outside the home country (foreign revenue/total revenue)
Adoption	Firms' use of accounting standards in consolidated financial reports presented to the public: international standards (US GAAP or IFRS) = 1, domestic standards = 0

of debt plus the market value of equity and internationality by the proportion of foreign revenue to total revenue. The variable legal system (common law or code law) captured country differences relating to type of accounting system, features of the legal system (such as level of investor protections) and predominant source of finance. A dummy variable was used to control for the impact of using international standards (US GAAP or IFRS) rather than national standards.

4.3. Data Collection and Statistical Method

Information about the explanatory variables was collected from annual reports. Where the relevant information was not disclosed, it was requested directly from firms by e-mail or mail with an initial and a follow-up request, if necessary. Binary logistical regression analysis was used to examine the relationship between choice of foreign stock exchange (20-F or non-20-F) and firm attributes for the full sample and for sub-samples comprising common law and code law firms.

4.4. Firm Survey

A survey was sent by e-mail or mail (with initial and follow-up requests) to the investor relations section of each firm in December 2002, and responses were received from a representative of this section or of the finance section (98 and 2% of total responses, respectively). Firms were asked the reasons for their choice of foreign exchange or exchanges, and whether the costs of preparing a Form 20-F were significant for their firm. The questionnaire is provided in the Appendix. Table 2, Panel C, shows 38 of the 253 firms (15%) participated in the survey. Responses by country were as follows: Germany 35%, France and the UK 15%, Japan 10% and Australia 4%. Firms' responses were analysed by

one researcher (to ensure consistency) using content analysis (Weber, 1985). Where possible, responses were grouped according to the explanatory variables listed in Table 3.

5. Results

5.1. Comparison of Form 20-F and Non-20-F Firms

Model 1 (Table 4) shows 20-F firms were more likely to have more foreign revenue ($p < 0.05$), to be larger in their home market ($p < 0.05$) and have lower levels of leverage ($p < 0.01$). These results support hypotheses 4, 5 and 7. Contrary to expectations, 20-F firms were not larger or more profitable firms. These variables were significant with the opposite sign. Non-20-F firms were more likely to be larger ($p < 0.05$) and more profitable ($p < 0.01$). Hypotheses 1, 2 and 3 are not supported. The results suggest that successful firms do not necessarily select cross-listings that have Form 20-F requirements.

Hypothesis 6, which proposed that firms from common law countries were more likely to select 20-F listings than firms from code law countries, was not supported. Code law firms were more likely to choose Form 20-F listing (legal system is significant and negative, $p < 0.01$). The evidence is consistent with the bonding hypothesis proposed by Doidge *et al.* (2004) and Coffee (2002) which suggests firms from code law countries list in the USA for reasons relating to governance and not solely to raise capital. The results do not support our conjecture that Form 20-F requirements are a greater barrier for code law firms because of relatively more differences between code law accounting systems and US GAAP.

However, differences in accounting systems used by common law and code law firms appear to be relevant. Some code law firms that were able to use US GAAP or IAS rather than national standards did so. Among Japanese firms, 10 of the 11 20-F firms (91%) but none of the non-20-F firms used US GAAP. Among German firms, 10 of the 16 20-F firms (63%) used US GAAP. In the German non-20-F group, five out of 30 firms (17%) used US GAAP. These figures indicate a 20-F listing may be a factor promoting the use of US GAAP. Model 3 indicates code law firms with 20-F listings are more likely to have adopted US GAAP or IAS (adoption is significant and positive, $p < 0.10$). We conclude firms adopt these standards to reduce the difference between code law accounting systems and common law accounting systems.

5.2. Comparison of Common Law and Code Law Firms

To explore further the differences between common law and code law firms, Models 2 and 3 are included in Table 4. Model 2 (common law firms) shows that 20-F firms are more likely to be those that are relatively larger in their domestic capital market. None of the other variables is significant in the predicted

Table 4. Results of binary logistical regression models

Variables (expected sign)	Cross-listed firms Model 1	Firms from common law countries Model 2	Firms from code law countries Model 3
Size (log of total revenue) (+)	−0.457 (5.444)[b]	−0.500 (2.409)[c]	−0.480 (3.654)[b]
Profitability (return on assets) (+)	−0.045 (6.789)[a]	−0.052 (6.270)[a]	−0.013 (0.154)
Growth (market value/book value of equity) (+)	0.007 (0.263)	0.010 (0.222)	0.006 (0.802)
Size in home market (firm/market capitalisation) (+)	0.222 (5.270)$^{++}$	4.991 (13.068)$^{+++}$	0.220 (5.069)$^{++}$
Leverage (debt/debt plus market value of equity market value) (−)	−0.020 (6.512)$^{+++}$	0.002 (0.042)	−0.019 (5.545)$^{+++}$
Legal system (common law = 1, code law = 0) (+)	−1.576 (4.143)[b]		
Internationality (foreign revenue/ total revenue) (+)	0.011 (4.141)$^{++}$	0.007 (0.677)	0.015 (4.403)$^{++}$
Adoption (use of international accounting standards in consolidated accounts) (+)	0.749 (3.543)$^{++}$		0.753 (3.222)$^{++}$
Leverage and legal system (?)	0.021 (2.759)		
Firm/market capitalisation and legal system (?)	4.693 (13.975)***		
Constant (?)	1.136 (1.660)	−0.238 (0.074)	0.923 (0.802)
N =	231	98	133
% correctly predicted	75.3	79.6	71.4
Model chi-square	63.16***	37.72***	26.56***
R^2 =	0.326	0.420	0.250

Results of binary logistical regression equations that examine the choice of foreign stock exchange listing and firms' attributes for the full sample (Model 1) and for firms from common law (Model 2) and code law countries (Model 3). Coefficients are reported, with Wald statistics in parenthesis. $^{+++}$ significant $p < 0.01$ (one-tailed test); $^{++}$ significant $p < 0.05$ (one-tailed test); *** significant $p < 0.01$ (two-tailed test).

[a]Wald test is significant $p < 0.01$ (one-tailed test) but coefficient has the opposite sign.

[b]Wald test is significant $p < 0.05$ (one-tailed test) but coefficient has the opposite sign.

[c]Wald test is significant $p < 0.10$ (one-tailed test) but coefficient has the opposite sign.

direction.[14] Model 3 (code law firms) shows 20-F firms are more likely to have more foreign revenue ($p < 0.05$), to be larger in their domestic market ($p < 0.05$) and to have lower leverage ($p < 0.01$). Non-20-F firms are larger ($p < 0.10$). Thus, the need for foreign equity capital appears to be an important determinant of the choice of a 20-F cross-listing for both common law and code law firms, although it is more important for common law firms. The interaction

term firm market capitalisation by legal system in Model 1 shows common law firms that are larger in their domestic market are more likely to choose a NYSE/NASDAQ listing than code law firms that are larger in their domestic market. Models 2 and 3 indicate that, compared to common law firms, the code law 20-F and non-20-F firms have more elements of difference, relating to internationality, size and leverage.[15] Therefore, we conclude firms from code law countries may have a wider range of reasons for undertaking a 20-F listing which prompt them to incur the costs associated with this choice.

We further investigated differences between common law and code law firms through a survey of sample firms. Our survey results do not provide substantial empirical evidence because of the small number of observations and low response rate from Japan and Australia (10 and 4%, respectively, Table 2). However, they provide interesting background to the statistical analysis. The findings reveal a variety of reasons for cross-listing among code law firms (where the average response rate was 20%) and give some views about the importance of accounting costs on the cross-listing decision.

Table 5 shows Form 20-F code law firms provided many reasons for cross-listing that did not relate specifically to raising capital (items A1–A8). Foreign sales activity and reputational benefits were more commonly mentioned than capital raising (items B1–B3). Form 20-F code law firms also included acquiring foreign shareholders as a reason for their choice (items C1–C3). Responses about Form 20-F preparation costs are consistent with previous research (Mittoo, 1992; Bancel and Mittoo, 2001; Yamori and Baba, 2001). All common law firms indicated costs were significant (items F1–F6). Nine code law firms also held this view, but another eight respondents indicated the costs were not significant. These comments are interesting given our conjecture that accounting costs would be more important for code law than common law firms. The negative responses (that is, Form 20-F costs are not significant) may reflect the number of code law firms that have incorporated US GAAP requirements into their accounting systems (items G3–G5). Two out of three common law respondents and three out of nine code law respondents mentioned possible legal obligations arising from being listed on NYSE/NASDAQ as significant costs (items F2 and F3). Three firms from each of the common law and the code law groups indicated Form 20-F and other legal requirements of NYSE/NASDAQ listings were a factor in selecting a non-20-F exchange (items E1–E3).

A range of reasons was given by common law and code law firms for a possible future NYSE/NASDAQ listing (items I1–I8), including international business activity, capital raising and gaining foreign investors. Only two firms (one common law and one code law) mentioned a change in accounting requirements as a factor that could encourage a NYSE/NASDAQ listing (items I9 and I10). Given the current focus on harmonisation of accounting requirements, we expected more mention of this issue. Code law firms gave many reasons for their choice of a non-20-F exchange (either instead of, or in addition to, a NYSE/NASDAQ listing) but no respondent included accounting costs (items J1–J9).

Table 5. Firm survey – reasons for choice of foreign stock exchange

	Number of responses			
	Code law countries		Common law countries	
Survey question and responses	20-F firms	Non-20-F firms	20-F firms	Non-20-F firms
What were your reasons for choice of foreign stock exchange?				
Internationality				
A1 A large proportion of sales in the foreign market	7		1	
A2 To increase presence or visibility; expand operations in the foreign market	3		1	1
A3 Our competitors are located in the foreign market	3		1	
A4 The foreign market was the best market for firms in our industry	3			
A5 To gain recognition as a global corporation	1			
A6 To be seen to be part of the world's largest, most important capital market; because of the reputation and importance of the NYSE	6			
A7 To meet US GAAP reporting requirements	1			
A8 To strengthen our position for new strategic partnerships	2			
Total responses	26		3	1
Leverage				
B1 To raise capital in the USA, in the largest capital market	6		3	
B2 To raise capital (not possible without the listing)	1			
B3 To obtain a lower cost of capital	1			
B4 Capital raising was not required in association with the cross-listing		2		1
B5 To attract both debt and equity investment			1	
B6 Ease of trading				1
B7 To increase liquidity				1
B8 To familiarise ourselves with the US market, as a first step towards NYSE listing		4		2
Total responses	8	6	4	5
Foreign shareholders				
C1 To access investors in the foreign market	3	1		
C2 To expand our shareholder base, to acquire US investors	2			
C3 To raise our profile with investors	1			
C4 To provide shares for foreign employees	1			1
C5 Sufficient for the needs of our investors		1		
Total responses	7	2		1

(*Table continued*)

Table 5. Continued

Survey question and responses	Number of responses			
	Code law countries		Common law countries	
	20-F firms	Non-20-F firms	20-F firms	Non-20-F firms
Other reasons – historical				
D1 An associated/acquired firm had this listing	1		1	
Other reasons – regulation				
E1 The listing is effective without imposing regulatory and financial burdens				2
E2 The listing is low cost, or cheaper (than NYSE/NASDAQ)		2		
E3 The listing has few additional reporting requirements; fulfilment of SEC requirements not required		1		1
Total responses	1	3	1	3
Are Form 20-F costs significant for your firms?				
F1 Yes	3			
F2 Yes, combined with other legal obligations that arise in the USA	2		1	
F3 Yes, extra care must be taken with information provided in the USA	1		1	
F4 Yes, our primary accounting is not US GAAP. Additional accounting and effort is required	3			
F5 Yes, another accounting system is required				
F6 Yes, initial listing £5 million, annual costs less than £1 million			1	
Total responses	9		3	
G1 No	1			
G2 No, not for a firm of our size	1			
G3 No, the requirements are met as part of our accounting system	2			
G4 No, prepared using internal resources	2			
G5 No, we prepare US GAAP financial statements for our annual report	1			
Total responses	7			
If Form 20-F costs are significant for your firm, why did you choose NYSE/NASDAQ listing?				
H1 See above reasons (A1–E3)	6		1	
H2 There are many reasons for the choice of listing; cost is not the main driver of the decision	1			
Total responses	7		1	

(*Table continued*)

Table 5. Continued

Survey question and responses	Number of responses			
	Code law countries		Common law countries	
	20-F firms	Non-20-F firms	20-F firms	Non-20-F firms
What factors would make it likely that your firm would list on NYSE/NASDAQ in the future?				
I1 A need to raise capital or expand funding sources		2		2
I2 A change in our circumstances				1
I3 Growth in our firm				1
I4 To expand our US investors		1		1
I5 To obtain shares to use in acquisitions		1		
I6 Development of customers in the USA, expansion of our business in the USA		1		
I7 To expand the value of our name, promote our products		1		
I8 The acquisition of US assets				1
I9 A change in reporting requirements, e.g. IFRS can be used		1		
I10 A significant change in reporting requirements in the home country that make our reporting requirements closer to US reporting requirements, e.g. quarterly reporting				1
Total responses		7		7
Why did your firm list on a (or another) foreign exchange outside the USA?				
J1 The listing reflects the location of our shareholders and investors	1	2	1	
J2 The listing reflects our primary sales market		1		
J3 The exchange is not considered a 'foreign' exchange to us, but part of our local market	3			
J4 Part of our strategy to increase sales around the world, to expand business in the region	1	1		
J5 To improve our presence in the region; get our name known	1	2		
J6 Because of the simple listing process		1		
J7 Markets are global so listing NYSE/NASDAQ is not necessary to become known or to raise funds		1		
J8 Historical – predecessor firm had a listing	1			
J9 Link with financial institution in the foreign market		1		
Total responses	7	9	1	

6. Conclusion

Increasingly firms are listing in both their home market and on foreign stock exchanges (Pagano *et al.*, 2002). A major difference between the more-regulated US exchanges and other exchanges relates to their requirements for reconciliation of national accounting to US GAAP. Our aim was to extend research about cross-listing by considering specifically the accounting requirements associated with a firm's choice of foreign stock exchange. We sought to identify the extent to which the SEC's US GAAP accounting requirements (Form 20-F) influenced firms' choices of foreign stock for firms from countries with different accounting, legal and financing systems, namely those from common law countries and code law countries.

Our study is based on 253 cross-listed firms from the UK, Australia, France, Germany and Japan in the 1999 financial year. We found 20-F firms were more likely to be larger in their home market, with lower leverage and more foreign sales. They were smaller and less profitable than non-20-F firms. The findings suggest some successful firms use non-20-F exchanges to gain benefits of cross-listing, and these benefits can be obtained without incurring the costs of listing on a more-regulated market in the USA.

The choice of 20-F exchange was associated with a firm's size in the domestic market for both code law and common law firms, however, this motivation appeared stronger for common law firms. Among code law firms, 20-F firms were more international, with lower leverage. We predicted US GAAP accounting requirements could be a greater barrier for code law firms than for common law firms, because of the relatively greater difference between national accounting and US GAAP in code law countries. Yet the results show code law firms were more likely to choose 20-F listings than common law firms, implying the benefits of a 20-F listing are potentially greater for code law firms. These unexpected findings will be of interest to international capital market participants. They provide support for suggestions that code law firms can benefit from a Form 20-F listing as it indicates their willingness to be bound by US reporting requirements and law (Coffee, 2002; Doidge *et al.*, 2004).

Our study makes a timely contribution to research about cross-listed firms because it considers firms prior to the adoption of IFRS on 1 January 2005 by European and Australian firms. Adoption of IFRS aims to facilitate cross-listing and further research may investigate whether this is the case. Our findings highlight an issue of importance to both firms and regulators, which may be relevant in future research. We conclude benefits of cross-listing may be different for code law and common law firms. This difference could remain despite the use of common accounting standards, thus focusing attention on other issues that affect cross-listing such as a country's legal system and corporate governance practices.

Our survey included responses from only 15% of sample firms. Thus the views expressed provide interesting background to the statistical analysis presented above but they are not necessarily representative of all firms. We reported

Form 20-F costs were significant for some firms that are listed on NYSE/NASDAQ, and were a reason why other firms did not list on these exchanges. A reduction in accounting costs (through the harmonisation of accounting standards in the future) may mean more firms perceive net benefits of listing because of lower accounting costs. This is a question for future research, following IFRS adoption in the EU.

Among our small sample of respondents, accounting costs were flagged as significant by all common law survey respondents, but not by all code law respondents. The difference may reflect the changes undertaken by code law firms that prepare US GAAP reports as part of their internal accounting system. There was little discussion of accounting requirements by respondents, which was surprising given the attention at the time to harmonisation of accounting between countries and stock exchanges. There was some mention of other costs of US listing (that is, compliance with US law and increased enforcement and litigation costs). Further investigation of the impact of these additional costs on firms' cross-listing decisions would be worthwhile, as these costs will not be removed by the current US GAAP/IFRS harmonisation project and may still be an important factor influencing firms' choice of foreign stock exchange.

Appendix: Survey Questions

For 20-F Preparers

(1) Why did you select NYSE or NASDAQ for your foreign stock exchange listing?

(2) Given that it is more expensive to list on the NYSE or NASDAQ than other stock exchanges (such as London, Paris, Frankfurt, Tokyo or Australia) why did you prefer NYSE or NASDAQ over these other exchanges?

OR (2) Why did you list on_____stock exchanges as well as NYSE or NASDAQ?

(3) Are the costs of preparing the Form 20-F significant for your firm?

For Non-20-F Preparers

(1) Why did you select_____(insert London, Paris, Frankfurt, Tokyo or Australia) for your foreign stock exchange listing?

(2) Why did you not select NYSE or NASDAQ for your foreign stock exchange listing?

(3) What factors would encourage you to list on the NYSE or NASDAQ in the future?

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Notes

[1]The Securities and Exchange Commission, the regulator of the US stock exchanges; US generally accepted accounting principles.

[2]International Organization of Securities Commissions.

[3]International accounting standards and international financial reporting standards promulgated by the International Accounting Standards Board (IASB) and its predecessor organisation, the International Accounting Standards Committee (IASC).

[4]Financial Accounting Standards Board, the US accounting standard setter.

[5]Removal of the reconciliation requirement will depend on continuing convergence of IFRS and US GAAP, a strong, independent IASB that issues high quality standards, commitment to quality application of IFRS and development of an effective global financial reporting infrastructure (IASB, 2004).

[6]New York Stock Exchange; National Association of Securities Dealers Automated Quotations System.

[7]The year 1999 was during the period when the International Accounting Standards Committee (IASC) was working on a set of core standards for possible endorsement by IOSCO for use in all cross-border listings (IASC, 2000).

[8]The 1934 Exchange Act requires quarterly reporting and filing of Form 20-F in accordance with US GAAP. Level I and 144A are exempt from these requirements (Bank of New York, 2001).

[9]Firms that list in the USA and prepare a Form 20-F may raise additional equity capital (for example, by issuing Level III ADRs) or trade shares but not raise new capital (when they trade Level II ADRs). Non-20-F firms may raise capital by listing on a non-US foreign exchange (for example, in London, Paris, Frankfurt, Tokyo or Australia) or they may trade shares without raising capital (on the non-US foreign exchanges noted or through Level I ADRs, traded in the US OTC market).

[10]The literature on long-run performance following seasoned equity offerings (SEOs) has generally supported this view, finding negative abnormal long-run returns after SEOs (Loughran and Ritter, 1995; Spiess and Affleck-Graves, 1995). Fama (1998), Brav *et al.* (2000) and Eckbo *et al.* (2000) have questioned the methodology underpinning this view. Recently, Eberhart and Siddique (2002) addressed such methodological concerns and provided evidence to support the earlier view. They also showed that SEOs benefit bondholders at equity holders' expense.

[11]Of course, firms from common law countries could choose a non-20-F exchange such as the London Stock Exchange rather than a Form 20-F US exchange.

[12]The list from AMEX indicated that there were no cross-listed firms that were not also listed on the NYSE or NASDAQ. The Frankfurt Stock Exchange did not have a list of cross-listed companies.

[13]These firms were exempt from Form 20-F requirements because they listed on NASDAQ before October 1983.

[14]Return on assets is negative and significant ($p < 0.10$) suggesting non-20-F firms are more profitable. When alternative specifications of the variables are used in robustness tests (not reported in detail) they are not significant. Alternative variables include size (log of total

assets), profitability (return on equity), growth (Tobin's q), leverage (debt/debt plus book value of equity) and internationality (proportion of foreign assets).

[15]The result is confirmed when alternative specifications of the variables are used in robustness tests (not reported in detail). Alternative variables include internationality (foreign assets, significant and positive $p < 0.05$) and size (total assets, significant and negative $p < 0.01$).

References

Ball, R. *et al.* (2003) Incentives versus standards: properties of income in four East Asian countries, *Journal of Accounting and Economics*, 36, pp. 235–270.

Bancel, F. and Mittoo, U. (2001) European managerial perceptions of the net benefits of foreign stock listings, *European Financial Management*, 7(2), pp. 213–216.

Bank of New York (2001) *Bank of New York Fact Book* (New York: Bank of New York).

Biddle, G. and Saudagaran, S. (1991) Foreign stock listings: benefits, costs, and the accounting policy dilemma, *Accounting Horizons*, 5(3), pp. 69–81.

Brav, A. *et al.* (2000) Is the abnormal return following equity issuances anomalous?, *Journal of Financial Economics*, 56, pp. 209–249.

Cheung, C. and Lee, J. (1995) Disclosure environment and listing on foreign stock exchanges, *Journal of Banking and Finance*, 19, pp. 347–362.

Coffee, J. (2002) Racing towards the top?: the impact of cross-listings and stock market competition on international corporate governance, Working Paper No. 205, Columbia Law School.

Datastream (2000) *Datastream* (London: Datastream International).

Doidge, C. *et al.* (2004) Why are foreign firms listed in the US worth more?, *Journal of Financial Economics*, 71(2), pp. 205–238.

Eberhart, A. and Siddique, A. (2002) The long-term performance of corporate bonds (and stocks) following seasoned equity offerings, *Review of Financial Studies*, 15, pp. 1385–1406.

Eckbo, B. *et al.* Seasoned public offerings: resolution of the 'new issues puzzle', *Journal of Financial Economics*, 56, pp. 251–291.

European Commission (EC) (2002) Regulation (EC) No. 1606/2002, 19 July. Available at: http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en & numdoc= 32002R1606&model=guichett

Fama, E. (1998) Market efficiency, long-term returns, and behavioral finance, *Journal of Financial Economics*, 49, pp. 283–306.

International Accounting Standards Board (IASB) (2002a) FASB and IASB agree to work together toward the convergence of global accounting standards, 29 October. Available at: http://www.iasb.org.uk/news

International Accounting Standards Board (IASB) (2002b) IASB/IAS around the world/capital markets and IFRS/national regulators, 24 October. Available at: http://www.iasb.org.uk

International Accounting Standards Board (IASB) (2004) *IASB Insight*, October–November.

International Accounting Standards Committee (2000) News – IOSCO endorses IASC's core standards. Available at: http://www.iasc.org.uk

Karolyi, G. (1997) Why do firms list shares abroad? A survey of the evidence and its managerial implications, Ivey Working Paper No. 97–35, University of Western Ontario.

La Porta, R. *et al.* (1997) Legal determinants of external finance, *Journal of Finance*, 3, pp. 1131–1150.

Lang, M. *et al.* (2003) How representative are firms that are cross-listed in the United States? An analysis of accounting quality, *Journal of Accounting Research*, 41(2), pp. 363–368.

Loughran, T. and Ritter, J. (1995) The new issues puzzle, *Journal of Finance*, 50, pp. 23–51.

Miller, D. (1999) The market reaction to international cross-listings: evidence from depository receipts, *Journal of Financial Economics*, 51, pp. 103–123.

Mittoo, U. (1992) Managerial perceptions of the net benefits of cross-listing: Canadian evidence, *Journal of International Financial Management and Accounting*, 4(1), pp. 41–62.

Myers, S. and Majluf, N. (1984) Corporate finance and investment decisions when firms have information that investors do not have, *Journal of Financial Economics*, 13, pp. 187–221.

NASDAQ (1999) NASDAQ international firms, 15 October. Available at: http://www.nasdaq.com/about/nonUSoutput_FO.stm

NYSE (1999) Stocks of non-US corporate issuers, 16 December. Available at: http://www.nyse.com

Nobes, C. (1998) Towards a general model of the reasons for international differences in financial reporting, *Abacus*, 34(2), pp. 162–187.

Nobes, C. and Parker, R. (1998) *Comparative International Accounting*, 5th edn (Harlow: Prentice Hall).

Nobes, C. and Parker, R. (2004) *Comparative International Accounting*, 8th edn (Harlow: Prentice Hall).

Pagano, M. *et al.* (2002) The geography of equity listing: why do firms list abroad, *The Journal of Finance*, LVII(6), pp. 2651–2694.

Radebaugh, L. *et al.* (1995) Foreign stock exchange listings: a case study of Daimler-Benz, *Journal of International Financial Management and Accounting*, 6(2), pp. 158–192.

Reese, W. and Weisbach, M. (2000) Protection of minority shareholder interests, cross-listings in the United States and subsequent equity offerings, Working Paper, Tulane University.

Saudagaran, S. (1987) An empirical study of selected factors influencing the decision to list on foreign stock exchanges, *Journal of International Business Studies*, 19(1), pp. 101–128.

Saudagaran, S. and Biddle, G. (1992) Financial disclosure levels and foreign stock exchange listing decisions, *Journal of International Financial Management and Accounting*, 4(2), pp. 106–148.

Saudagaran, S. and Biddle, G. (1995) Cross-listing location: a study of MNC's and stock exchanges in eight countries, *Journal of International Business Studies*, 26(2), pp. 319–341.

Spiess, D. and Affleck-Graves, J. (1995) Underperformance in long-run stock returns following seasoned equity offerings, *Journal of Financial Economics*, 28, pp. 243–267.

Weber, R. (1985) *Basic Content Analysis*, Quantitative Applications in the Social Sciences, No. 49 (Beverley Hills, CA: Sage).

Yamori, N. and Baba, T. (2001) Japanese management views on overseas exchange listings, *Journal of International Financial Management and Accounting*, 12(3), pp. 286–316.

Zarzeski, M. (1996) Spontaneous harmonisation effects of culture and market forces on accounting disclosure practices, *Accounting Horizons*, 10(1), pp. 18–37.