INTERNATIONAL CONVERGENCE OF ACCOUNTING PRACTICES: CHOOSING BETWEEN IAS AND US GAAP

by

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ABSTRACT

This study examines reporting practices of a sample of foreign listed and domestic-only listed companies from the United Kingdom, France, Germany, Japan and Australia to determine the extent to which companies are voluntarily using "international" standards. Two types of use of non-national standards in the accounts presented to the public are considered: adoption of "international" standards instead of national standards, and supplementary use where "international" standards are used in conjunction with national standards. "International" standards are defined as US GAAP or IAS. The study tests for a preference for either set of standards and considers the relationship of choice of regime with firm attributes.

The results show significant voluntary use of "international" standards in all five countries and among foreign listed and domestic-only listed companies. Companies using "international" standards are likely to be larger, have more foreign revenue and to be listed on one or more foreign stock exchanges. US GAAP is the predominant choice, but IAS are used by many firms in Germany and some in Japan. Firms listed in the United States' regulated market (NYSE and NASDAQ) are more likely to choose US GAAP, but companies traded in the OTC market show considerable support for IAS.

The study demonstrates for managers and regulators that there is considerable support for "international" standards, and that choice of IAS or US GAAP relates to specific firm characteristics which differ according to a firm's country of origin. Most use of "international" standards reflects individual countries' institutional frameworks, confirming the key role of national regulators and standard setters in assisting companies to achieve more comparable international reporting.

I. Introduction

This study examines the extent to which companies from five countries use "international" standards, considering both adoption of "international" standards instead of national standards, and where "international" standards are used in conjunction with national standards. Companies' stock exchange listings are noted, so that voluntary and mandatory use of "international" standards is addressed. "International" standards are defined as US GAAP, the generally accepted accounting practices of the United States of America (US), or IAS (International Accounting Standards) developed by the IASC.[1] Attributes of companies that choose US GAAP or IAS are also examined.

How companies use "international" standards and the regime they select is important because these choices illustrate companies' harmonization activities in a variety of national regulatory environments. Regulators and standard setters have responded to harmonization pressures in a number of ways so that harmonization opportunities available to companies vary according to their country of domicile. For example, companies from Germany can adopt US GAAP or IAS instead of national standards, and French firms may use US GAAP and IAS in addition to national standards, in consolidated reporting (IASB, 2002b). In Australia, the government proposed replacing national standards with IAS to assist companies to harmonize their reporting at an international level (Brown and Tarca, 2001).

The results of the study provide insights for financial managers, regulators and standard setters about companies' choice of standards under various national regimes. They illustrate the impact of national requirements on companies' efforts to achieve more comparable financial reporting. The findings may be useful for financial managers in their lobbying activities and for regulators considering changing their requirements because they demonstrate how national requirements can limit or assist companies' harmonization activities.

Firms' preferences for US GAAP or IAS are revealed in the study. This information is important as countries are making use of non-national standards in their standard setting processes (McGregor, 1999), and in some cases, choosing between regimes. Since standard setters must consider the acceptability of standards to financial statement preparers, knowledge of company preferences is relevant for authorities that are developing and changing their requirements. For example, the choice between US GAAP and IAS currently available under German law will not exist when European Commission (EC) plans requiring companies to use IAS are implemented (IASC, 2000b). The findings are also relevant to the debate about the use of IAS without reconciliation in US capital markets (Dye and Sunder, 2001). The study shows the choice of standards made by foreign companies in the US's more highly regulated (NYSE and NASDAQ) and less regulated over-the-counter (OTC) markets.

The attributes of companies that use "international" standards and choose US GAAP or IAS are explored. This information may assist regulators and standard setters determine appropriate requirements as it increases their understanding of the nature of companies for which harmonization is important. It shows the type of company that is more likely to support further convergence initiatives.

The remainder of the paper is organized as follows. Section two describes how countries' institutional frameworks could impact on use of "international" standards, and section three considers other factors that influence financial reporting and therefore may affect use of "international" standards. Section four formalises the hypotheses and section five describes sample selection and data collection. Results are presented in section six and conclusions drawn in the final section.

II. The institutional framework and use of "international" standards

A company's decision to use "international" accounting standards will be affected by the institutional framework (the body of accounting law, rules and accepted practices as well as the institutions that formulate, administer and enforce these requirements) of its home country. Since institutional frameworks vary between countries, a company's country of origin will impact on its use of "international" standards. In theory and subject to meeting minimum legal requirements, a company could prepare financial statements for the public based on any accounting standards it chooses. However, in practice cost considerations mean that a company's choice of standards reflects the requirements of the institutional framework of its home country. Five countries (the United Kingdom (UK), France, Germany, Japan and Australia) are included in this study as they illustrate a range of positions in relation to the use of "international" standards, as shown in Table 1.

The institutional framework impacts on the form and content of financial reporting. Differences between countries in their reporting standards and practices have been observed in many studies (Zeff, 1972; Price Waterhouse, 1973, 1975, 1979; Emenyonu and Gray, 1992; Herrmann and Thomas, 1995; Frost and Ramin, 1997; Emenyonu and Adhikari, 1998). Models have been developed to identify factors that may explain these differences (Mueller, 1967; Nobes, 1983; Gray, 1988; Doupnik and Salter, 1995; Zarzeski, 1996; Nobes and Parker, 1998; Nobes, 1998). Table 2 lists selected factors in relation to the five countries included in this study. It shows areas of similarity and difference that impact on financial reporting and may influence companies' motivation to use "international" standards.

Stock exchange requirements form part of the institutional framework. They could affect use of "international" standards because they include rules stipulating which accounting standards listed firms can adopt. The stock exchanges in London, Paris, Frankfurt, Tokyo and Australia accept financial statements prepared according to domestic GAAP and other selected GAAP,

including US GAAP. The London, Paris, Frankfurt and Australian exchanges also accept accounts prepared according to IAS. The stock exchanges of the countries included in this study may require foreign listed firms to provide additional information but they do not require reconciliation to the stock exchange's national GAAP as mandated by the SEC (IASB, 2002b).

Stock exchange requirements have been shown to impact on a company's choice of foreign exchange (Saudagaran and Biddle, 1992, 1995; Cheung and Lee, 1995) and level of disclosure. Botosan and Frost (1998) found that companies traded in the OTC market made significantly less disclosures than companies listed on NYSE and NASDAQ and did not make voluntary disclosures to match the mandatory 20F disclosures required of listed firms. There has been considerable debate about the impact of stock exchange regulations on foreign companies considering listing in the US (see Zeff, 1998), with the SEC's US GAAP accounting requirements identified as an impediment to US listing. Choi and Levich (1990) found that many foreign firms did not list in the US but instead raised debt and equity capital in a variety of ways that did not involve meeting US GAAP accounting requirements.

The institutional framework in each country has evolved over time, and changed in response to demands for greater comparability in reporting. Harmonization initiatives have occurred at national, regional and international levels. They have been influenced by the development of the IASC and a set of standards that are adopted or used in formulating national standards in many nations throughout the world (IASB, 2002a; 2002d). The position of the IASC as the global standard setter was strengthened by several events. In 2001 the IASC was restructured, thereby gaining support of the SEC and involving national standard setters formally in IASC processes (IASC, 2000a). The EC proposed that all member countries adopt IAS for consolidated accounts from 2005 (IASC, 2000b). The long awaited endorsement of IASC standards for cross-border stock exchange listings was given by IOSCO (the International

Organization of Securities Commissions) (IASC, 2000c). The endorsement carried the proviso that individual countries could request reconciliation adjustments, surely a disappointment to the IASC but predictable considering the position of the SEC at the time. The SEC has strongly defended US GAAP, claiming that only US GAAP is of sufficient quality to ensure that investors' interests are adequately protected (Levitt, 1997). The SEC's 2000 Concept Release on International Accounting Standards (SEC, 2002) outlined the SEC's view of essential features of "international" standards and also of the international regulatory framework. Despite pressure for companies to use common standards, some issues relating to their requirements and enforcement are still to be resolved. The 2001 collapse of the US company Enron, and the subsequent demise of its audit firm Arthur Andersen, have drawn attention to standard setting and regulation. Any changes made in the US can be expected to influence the international environment.

Considering the institutional framework in each country, predictions can be made about companies' use of "international" standards and choice of US GAAP or IAS. In Germany, legal provisions allow firms that want to produce financial reports with greater international comparability and usefulness for investors to adopt "international" standards. French firms may be similarly motivated to use international standards, but companies do not have the legislative support that exists in Germany. French law allowing use of IAS in consolidated reporting had been written but not approved for use at the time of the study (IASB, 2002b). Thus greater use of "international" standards is expected in Germany than in France. Firms from both Germany and France are expected to choose IAS rather than US GAAP because IAS are politically neutral (Zeff, 1998). A survey by KPMG (2000) supports this conjecture: it found that 34 out of 122 European companies were contemplating changing from non-national standards during the next three to five years, and that 56% planned to adopt IAS while 29% were considering US GAAP. Japanese accounting has been significantly influenced by US accounting practices (McKinnon, 1986). Since the 1970s several Japanese

firms have prepared consolidated accounts according to US GAAP (Radebaugh and Gray, 1995, p. 65), so some use of US GAAP is expected among the Japanese firms. However, Japanese standard setters refer to IAS in setting standards (Deloitte Touche Tohmatsu, 2002) and have announced a greater role for IAS in their processes (Ravlic, 1999) so firms may also use IAS.

Research suggests that there will be greater use of international standards in Germany, France and Japan than in the UK and Australia. Saudagaran (2001, p. 48) stated that the following numbers of firms cited IAS in their annual reports: UK (3), France (37), Germany (45), Japan (7) and Australia (4). Ashbaugh (2001) reported the number of foreign firms listed on the London Stock Exchange that use "international" standards as: France (17), Japan (21) and Australia (6). UK firms use UK GAAP, which is internationally recognised and provides a high level of disclosure (Gernon and Meek, 2000, p. 58), so they may not be motivated to make additional use of "international" standards. They have a domestic capital market of international significance, where UK standards are recognised by investors, further reducing firms' incentives to use "international" standards. In Australia firms follow standards that have been (or are in the process of being) substantially harmonised with IAS (ASX, 1996). Consequently they may not be motivated to make further use of "international" standards.

III. Other factors affecting use of "international" standards

Studies have identified several influences on the production of financial information in addition to a country's institutional framework. For example, competitive market forces and managerial incentives have been shown to affect the form and content of financial statements. These factors could affect the use of "international" standards.

It has been suggested that firms are motivated to produce financial reports because of the operation of competitive market forces (see Healy and Palepu, 2001). Information asymmetry

between buyers and sellers in the capital market means that there is the possibility of being perceived as a "lemon" (Ackerlof, 1970) so sellers make disclosures to distinguish their product from the "lemons". Firms supply information so capital can be raised on more favorable terms. Choi (1973) demonstrated that increased firm disclosure reduced investors' uncertainty about the firm resulting in a lower cost of capital for the firm. Botosan (1997) found that for firms with a low analyst following, greater disclosure was associated with a lower cost of capital.

Competitive market forces could promote the use of "international" standards where firms consider that an international regime will enable better communication with information users. KPMG (2000) reported that European company executives provided many reasons for changing from national standards to IAS or US GAAP including: the possibility of increasing the availability of capital and lowering its cost; quality of the standards; and preferences of institutional investors and analysts. Leuz and Verrecchia (2001) examined German firms in the Neumarket that changed from national to "international" standards and found that cost of capital proxies (bid-ask spread and trading volume) indicated that the use of IAS and US GAAP reduced the cost of capital.

Firms could use "international" standards to send a signal to capital markets. Applying signaling theory (Spence, 1973) to financial disclosure suggests that managers could use the financial statements to signal their expectations and intentions (Hunt, 1985). The use of "international" standards could signal to market participants that the firm is prepared to disclose more information, or to use more restrictive accounting standards. Ashbaugh (2001) found that foreign firms listed on the London Stock Exchange that used "international" standards traded in more foreign equity markets, issued more equity, provided more standardized information and were more likely to file Form 20F information than firms that used national standards.

Production of financial reports, and therefore use of "international" standards, could be influenced by managerial incentives. Managers' disclosure of financial information has been investigated using agency theory (Jensen and Meckling, 1976), which posits that disclosure is used to reduce information asymmetry that exists between agents (being managers and therefore insiders) and principals (who are outside the firm and are less informed) about future prospects of the firm and managers' consumption of perquisites. Since use of "international" standards may mean that a firm makes more disclosure, agency theory can be used to predict the relationship of firm attributes and use of "international" standards. Level of foreign revenue has been linked with disclosure of financial information (Meek, Roberts and Gray, 1995; Zarzeski, 1996), and with Swiss firms' use of IAS (Dumontier and Raffournier, 1998). Foreign listing was associated with more disclosure in many studies (Singhvi and Desai, 1971; Buzby, 1975; Cooke, 1989, 1991; Firth, 1979; Malone, Fries and Jones, 1993; Hossain and Adams, 1995; Mitchell, Chia and Loh, 1995; Meek et al., 1995).

Other firm attributes considered in the present study are size, leverage and industry. Size is often related to more disclosure (see above studies). Larger companies are more likely to be more international and therefore to make greater use of "international" standards. Leverage is used in this study as a proxy to capture the firm's dependence on equity capital. Firms with higher leverage are relatively less dependent on equity capital, and are therefore less likely to be subject to shareholders' demands for information and to use disclosure to reduce information asymmetry with shareholders. Some studies find that disclosure practices vary between industries (McNally, Eng and Hasseldene, 1982; Cooke, 1991; McKinnon and Dalimunthe, 1979; Mitchell et al., 1995; Meek et al., 1995). Therefore industry classification is considered in this study.

IV. Use of "international" standards and choice of US GAAP or IAS

It is expected that international companies (defined as those with foreign revenue or foreign stock exchange listings) are more interested in "international" accounting standards than other companies because of their involvement in product and capital markets outside national boundaries. International firms may want to communicate financial information to interested parties, and may select "international" standards to increase transparency in reporting and reduce restatement of financial information. There are two sets of accounting standards that could have the title of "international", namely IAS and US GAAP. The IASC has issued the only comprehensive set of "international" standards, so for companies seeking "international" standards IAS are an obvious choice. However, because of SEC listing requirements US GAAP are also used by foreign listed firms. Therefore, in a multi-country sample of companies with a range of foreign listings, the "international" standards selected may be either IAS or US GAAP.

Hypotheses to test the relationship between use of "international" standards and choice of US GAAP or IAS and a firm's level of internationality can be stated formally (in alternate form) as:

H1: Companies with a greater proportion of foreign revenue are more likely to use "international" standards.

H2: Companies with a foreign stock exchange listing are more likely to use "international" standards.

Four categories of foreign stock exchange listing are considered because of the possible impact of stock exchange requirements on financial reporting. The categories are:

NYSE: Listed on the NYSE or NASDAQ and subject to US GAAP accounting requirements (US GAAP financial statements or reconciliation to US GAAP prepared).

OTC: Traded in the US OTC market or on NASDAQ and not subject to US GAAP accounting requirements (pre-October 5, 1983 NASDAQ listings).

NON-US: Listed on a non-US foreign stock exchange.

DOM: Listed only on one or more domestic stock exchanges.

It is expected that foreign listed companies subject to US GAAP accounting requirements are more likely to use US GAAP than IAS. When a NYSE foreign listed company adopts US GAAP, it avoids the cost of restating financial information. A NYSE foreign listed company that makes supplementary use of "international" standards is predicted to use US GAAP because of SEC requirements. Foreign companies traded in the US OTC market or on NASDAQ (and not subject to US GAAP reporting requirements) that use "international" standards are expected to use US GAAP to achieve comparability with other companies in the US market. However, these companies are not subject to the SEC's US GAAP accounting requirements so their incentives to use US GAAP are not as strong as for NYSE foreign listed firms. Companies with non-US foreign listings are not traded in the US and therefore US GAAP accounting requirements do not apply to them. In fact, they may have chosen a non-US foreign listing to avoid US GAAP reconciliation (Choi and Levich, 1990). If that is the case, then selection of US GAAP is not expected. US GAAP are considered the most onerous reporting standards (Saudagaran, 2001, p. 18), providing another reason for the choice of IAS.

Hypotheses to test the impact of stock exchange listing on choice of "international" standards by companies domiciled outside the US can be formally stated (in alternate form) as:

H3: Foreign companies listed or traded in the US are more likely than domestic-only listed companies to use US GAAP.

H4: Companies with non-US foreign stock exchange listings are more likely than domestic-only listed companies to use IAS.

V. Sample design and data collection

Companies from five countries (the UK, Australia, Germany, France and Japan) were selected to reflect various institutional positions in relation to the use of IAS and US GAAP. An English language annual report for the 1999-2000 financial year was requested from the largest 150 companies (by market capitalization) in each country based on the Datastream (2000) database. The use of English language reports means that the companies in the study are more international. It is not a bias since the study aims to include international companies. Companies not included in the largest 150 but named on foreign company lists obtained from stock exchanges in the five countries were also contacted. In most foreign listing categories, all the annual reports received were included. Where more than 30 reports were received (for the NYSE group in the UK, and for the OTC group in the UK, Japan and Australia) a random selection of reports was made. For domestic-only listed companies, a random selection (by country) was made from the reports received so that the number of domestic-only listed companies was the same as the number of foreign listed companies for each country. The total number of companies in each country's sample varies because each country has a different number of foreign listed companies. Table 3 shows the number of sample companies as a proportion of the number of listed companies for each country and stock exchange listing category.

Each company's use of accounting standards was recorded as national or "international" according to information in its financial statements provided to the public. Users of "international" standards were classified as adopters or supplementary users. Adopters were firms that stated in their accounting policy note or audit report that they used US GAAP or IAS. (No assessment was made as to whether they followed all applicable standards of their nominated regime.) Supplementary use was determined by examining each policy disclosed in the statement of accounting policies and in the notes to the accounts to determine if any US GAAP or IAS had been followed. Firms classified as supplementary users could follow one

or several "international" standards within their reports prepared according to national GAAP. Companies that provided a second set of financial statements based on "international" standards or a reconciliation statement to "international" standards were classified as supplementary users. For all users of "international" standards, and then for adopters and supplementary users, the choice of IAS or US GAAP was recorded.

Five binary logistical regression models examined the relationship between these choices and independent variables representing firm attributes. The regression models are nested, as shown in Figure 1. Table 4 lists the independent variables, namely proportion of foreign revenue, size, leverage and dummy variables for stock exchange listing, country and industry group. Regression equations include three dummy variables for stock exchange listing, four for country and three for industry group. The results for the omitted dummy variables are captured in the constant term in the regressions. Predictions of the relationships between the dependent and independent variables are provided in Table 4.

Descriptive statistics for the continuous variables are shown in Table 5. The proportion of foreign revenue ranges from 0 to 100% for the whole sample and the mean foreign revenue is 31.80%. It is highest in France (49.76%) and Germany (44.85%), moderate in the UK (35.46%) and low in Japan (16.13%) and Australia (17.96%). Japanese firms are the largest in the sample (log of market capitalization, mean 4.04) followed by companies from the UK (3.52), Germany (3.02), Australia (2.84) and France (2.75). Mean leverage (total debt as a proportion of total debt plus market value of equity) ranges from 0 to 100%. The figure of 100% for leverage implies that the firm has negligible equity, and occurs because the market value of the firm is very low compared to the book value of debt. The low market value firms include technology companies that experienced large share price falls following the collapse of the technology stock boom in March 2000. German firms have the highest mean leverage

(64.89%) followed by France (56.85%), Japan (48.71%), the UK (39.27%) and Australia (38.36%).

Parametric and non-parametric correlation tests reported in Table 6 show that foreign revenue is not significantly correlated with size or leverage. There is a small but significant correlation between size and leverage, which is not sufficient to impair the results. The negative correlation between size and leverage indicates that larger firms are less highly geared. This could reflect smaller firms that are more likely to be growth firms, and make greater use of leverage to facilitate their growth. The negative correlation also reflects the use of market capitalization as the size measure and in the denominator of the leverage measure.

VI. Empirical Results

Use of "international" standards

The study finds that "international" standards are used by 35% of companies, including firms from all five countries and each category of stock exchange listing (Table 7 and 8, Regression 1. Table 9 reconciles the number of companies included in Tables 7 and 8 and the number of companies in each regression equation in Tables 10 – 13). "International" standards are used by larger firms with foreign stock exchange listings and more foreign revenue (Size, NYSE, OTC, NON-US and Foreign revenue are positive and significant, $p < 0.05$, Table 10).[2] Hypotheses H1 and H2 are supported. The model is significant overall ($x^2 = 213.57$, $p < 0.001$) with $R^2 = 0.499$ and classification accuracy of 80.0% (Table 10).

Mandatory reconciliation requirements promote the use of "international" standards. Table 8 shows that 76% of NYSE firms use "international" standards. There is voluntary use of "international" standards by 45% of OTC firms, 38% of non-US foreign listed firms and 15% of domestic-only listed firms (Table 8). The findings demonstrate considerable support for "international" standards and indicate that for some firms the benefits of their use outweigh

the costs. As expected, there is greater use of "international" standards in Germany, France and Japan than in the UK and Australia (Table 7, Regression 1). There is little use of "international" standards that is inconsistent with each company's institutional framework. Regulatory initiatives, such as the legal changes in Germany allowing the use of "international" standards, are key factors enabling companies to pursue their harmonization objectives. There is greater use of "international" standards in Germany than France, presumably reflecting different legal requirements relating to their use. Firms in Germany using "international" standards are more likely to be foreign listed (NYSE, OTC), have lower leverage and to be from the manufacturing, construction, or banking, finance and insurance industry groups. In Japan, larger firms and those with foreign listings (NYSE, OTC and NON-US) are more likely to use "international" standards. Firms from the UK that use "international" standards are more likely to be foreign listed (NYSE) and have more foreign revenue and lower leverage. Among French and Australian firms, the only explanatory variable for use of "international" standards is foreign listing (NYSE and OTC) (Table 10).[3]

Adoption or supplementary use of "international" standards

Table 7 (Regression 2) shows that among firms that use "international" standards, 49% adopt and 51% make supplementary use of them. Adoption of "international" standards is positively associated with foreign revenue and NYSE listing, and supplementary use is associated with larger size and being a firm from Industry 1 (mining and utilities) group. Foreign revenue and NYSE are positive and significant; while Size and Industry 1 are negative and significant ($p < 0.05$, Table 11).[4] SEC requirements appear to promote the adoption (as distinct from supplementary use) of "international" standards. The model is significant ($x^2 = 135.664$, $p < 0.001$) with $R^2 = 0.745$ and classification accuracy of 86.7% (Table 11).

The pattern of adoption and supplementary use in each country reflects the institutional requirements governing financial reporting. Companies from Germany and Japan are most

likely to adopt "international" standards (German company and Japanese company are significant variables, $p < 0.05$, Table 11).[5] In Germany, most firms that use "international" standards adopt rather than make supplementary use of them (88% compared to 12%, Table 7, Regression 2). The country regression for Germany provides no explanatory variables for adoption of "international" standards but it shows that firms that do not adopt but instead make supplementary use tend to be larger firms and from Industry 1 (Size and Industry 1 are negative and significant, $p < 0.05$, Table 11). For Japanese firms, adoption is associated with more foreign revenue (Foreign revenue is positive and significant, $p < 0.10$, Table 11). The majority of French firms using "international" standards make supplementary use of them (82%, Table 7, Regression 2) by following French GAAP and some US GAAP and/or IAS. In the UK and Australia, most firms make supplementary use and there are few firms that adopt (UK: 93% compared to 7%; Australia: 94% compared to 6%, Table 7, Regression 2). It would appear that requirements to lodge national GAAP accounts with regulators mean that these are the financial statements usually provided to the public.

Use of "international" standards – choice of US GAAP or IAS

The majority of companies using "international" standards choose US GAAP (66%, Table 7, Regression 3), while 30% choose IAS and 4% choose other national standards, or do not state a preference for US GAAP or IAS. The only significant explanatory factor for the use of US GAAP is NYSE listing (NYSE is positive and significant, $p < 0.05$, Table 12). The model is significant overall ($x^2 = 70.546$, $p < 0.001$) with $R^2 = 0.485$ and classification accuracy of 79.8% (Table 12). H3 is supported for NYSE foreign listed firms, but not for OTC firms (OTC is not significant, Table 12). The result indicates that despite their presence in the US OTC market, some firms do not choose US GAAP as their "international" standards. It implies that there is a cost incurred by the use of US GAAP, or conversely there is something about IAS that makes them preferable to US GAAP, which is more important than achieving comparability with other firms using US GAAP. H4 is not supported, as non-US foreign

listing is not associated with choice of either US GAAP or IAS (Table 12). Arguments that IAS are a more attractive regime than US GAAP for companies with non-US foreign listings are not supported by the evidence.[6] An explanation for the unexpected result could be that companies with non-US listings have been foreign listed for some years, and their original choice of "international" standards was US GAAP. IAS have emerged as acceptable "international" standards only in recent years. Another possible reason for use of US GAAP is that the firm is preparing for a future US stock exchange listing.

German firms make greater use of IAS than firms in other countries (GERMANY is negative and significant in the full sample, $p < 0.05$, Table 12).[7] Table 7 (Regression 3) shows that 58% of firms choose IAS and 42% US GAAP, indicating an overall preference for IAS in Germany. However, if a firm is NYSE listed, use of US GAAP is more likely (NYSE is positive and significant, $p < 0.05$, Table 12). Firms with more foreign revenue are more likely to use IAS (Foreign revenue is negative and significant, $p < 0.10$, Table 12). It was predicted that French firms would also prefer IAS, but this is not confirmed by the results. US GAAP is used by 74% of French companies, while 15% use IAS. The remaining 11% use both US GAAP and IAS, or state that "international" standards are used, without naming US GAAP or IAS (Table 7, Regression 3). The preference for US GAAP among French firms emphasizes that each country's response to harmonization pressures is different. Despite institutional similarities between France and Germany (noted in Table 2), French companies make greater use of US GAAP than German firms.

Among Japanese companies 73% use US GAAP and 27% use IAS (Table 7, Regression 3). Firms with greater foreign revenue are more likely to use US GAAP (Foreign revenue is positive and significant, $p < 0.10$, Table 12). The use of IAS is associated with Industry 3 (banking, finance and insurance firms; $p < 0.10$, Table 12). Some firms from this industry group have chosen to voluntarily refer to IAS, which could reflect an attempt to improve the

quality of their reporting, following criticisms of Japanese financial institutions for lack of transparency in their reporting (Haskins, Ferris and Selling, 2000, p. 340). Table 7 shows that among UK firms 86% use US GAAP, 7% use IAS and 7% use other GAAP (Australian GAAP and Hong Kong GAAP). For the Australian firms, Table 7 (Regression 3) shows that 81% of firms use US GAAP, 6% use IAS and 13% are classified as other (one company uses both US GAAP and IAS, and one company uses UK GAAP). As predicted, there is little use of IAS in both the UK and Australia.

Choice of US GAAP or IAS by companies adopting "international" standards

US GAAP is used by 61% of companies adopting "international" standards, while 39% choose IAS (Table 7, Regression 4). NYSE listed firms are more likely to choose US GAAP, and larger firms are more likely to adopt IAS[8] (NYSE is positive and significant, $p < 0.05$; Size is negative and significant, $p < 0.10$, Table 13). The non-US foreign listing variable is significant but it has the opposite sign. It is associated with the use of US GAAP not IAS, as predicted. The model is significant ($x^2 = 74.106$, $p < 0.001$) with $R^2 = 0.817$ and classification accuracy of 93.8% (Table 13). Since most adopting firms are from Germany, the results for the full sample are mirrored in the country regression for Germany (Table 13).

Choice of US GAAP or IAS by supplementary users of "international" standards

Most companies making supplementary use of "international" standards select US GAAP (69%, Table 7, Regression 5), while 22% choose IAS and 9% use other national standards or both US GAAP and IAS. The model is significant ($x^2 = 41.435$, $p < 0.001$) with $R^2 = 0.577$ and classification accuracy of 86.6% (Table 13). However, it provides no explanatory variables for the choice of US GAAP. The choice of IAS is associated with more foreign revenue (Foreign revenue is positive and significant, $p < 0.05$, Table 13).[9] The choice of US GAAP or IAS by NYSE and non-US foreign listed firms is not significantly different from the choice made by firms in the domestic-only listed group. Being an OTC traded company is

associated with supplementary use of IAS, not US GAAP as predicted. Some OTC companies voluntarily use "international" standards, with 58% selecting IAS and 34% US GAAP (Table 8). Thus, some firms make supplementary use of IAS rather than US GAAP, despite their presence in the US market. Other firms select US GAAP, even though they are more onerous than IAS.

VII. Conclusions

Three questions were addressed in this study. The first asked to what extent do companies use international standards? It was found that there is some use of "international" standards in all five countries, despite differences in their institutional frameworks and position in relation to use of "international" standards. The findings suggest that harmonization pressures are experienced in all five countries. "International" standards are used by some companies from each of the stock exchange listing categories investigated. Use by companies traded in the OTC market, or listed on non-US and domestic-only stock exchanges, indicates that some firms voluntarily use "international" standards, presumably to improve the international comparability of their reporting. The way "international" standards are used (that is, by adoption or supplementary use) reflects the institutional framework in each country. As expected, there is more adoption in Germany and Japan, and more supplementary use in the UK, France and Australia. The results illustrate the willingness of some companies to use non-national standards. The findings could be of interest in countries considering changing their reporting requirements, such as in France and Australia, and for the EC in relation to the proposed 2005 adoption of IAS.

The second question was, do companies that use "international" standards have a preference for US GAAP or IAS? The results show that IAS are often chosen in Germany, perhaps because IAS are politically neutral. IAS are not as popular in France, demonstrating that responses to harmonization pressures vary between countries. NYSE foreign listed firms are

more likely to use US GAAP than other firms. The findings show the impact of the SEC's accounting requirements on companies' choice of accounting standards. Among Japanese firms, use of US GAAP reflects past links between Japanese and US accounting. However, the companies that make supplementary use of IAS demonstrate changes in the Japanese environment.

When choosing US GAAP or IAS, a majority of firms in the OTC market select IAS. Voluntary use of IAS by OTC firms indicates to standards setters and regulators such as the IASB and SEC that some firms want to improve the comparability of their reporting and consider use of IAS an acceptable way to do so, despite their presence in the US market. Firms traded on non-US foreign exchanges do not show the expected preference for IAS. Their choice of US GAAP may reflect future US listing plans or the length of time the firms have been foreign listed.

The third question asked, what are the attributes of firms that use international standards? Companies that use "international" standards are more likely to be larger, have more foreign revenue and be listed on a foreign stock exchange. Some interesting country differences were observed when countries were examined individually. For example, the association between more foreign revenue and use of "international" standards was observed only in the UK; the relationship between larger size and use of "international" standards was apparent only in Japan; and the predicted relationship between lower leverage and use of "international" standards occurred in the UK and Germany, but not Japan or Australia. The findings show that the attributes of firms using "international" standards can be different between countries.

The study could be extended by considering the use of "international" standards in other countries, for example European countries with a history of use of "international" standards, such as the Netherlands and Switzerland, and countries from the Asia Pacific region that have

used non-national standards, such as the Philippines and Malaysia. An overview of the way companies use "international" standards has been provided, and it relates specifically to 1999-2000. The situation will evolve as regulatory changes allow or require greater use of "international" standards. Further research could consider the way "international" standards are used by companies within various countries, reflecting the existing financial reporting culture in each country. Investigating the level of acceptance of IAS by market participants, and assessing the quality of IAS reporting, will be possible as more companies adopt IAS. The cross-border enforcement of "international" standards, an issue of concern for regulators and standards setters, raises additional research questions.

Notes

1 The International Accounting Standards Committee. From 2001 the IASC was restructured to create an independent standard setting board, the International Accounting Standards Board (IASB). Standards issued by the IASB will be called International Financial Reporting Standards (IFRS) (IASC, 2000a; IASB, 2002a).

[2] Robustness tests (not reported) show that size remains significant when the alternative size proxy total revenue is used. Size is not significant when total assets are used. If proportion of foreign assets or foreign subsidiaries is used instead of foreign revenue, the variables are not significant.

[3] In Japan and Australia, the leverage variable is significant but positive, not negative as predicted. An explanation could be that firms with higher leverage may seek equity rather than debt capital in the future and consequently use "international" standards to communicate with potential investors.

[4] Robustness tests (not reported) show that size remains significant when the alternative size proxy total assets is used. Size is not significant if total revenue is used. If proportion of foreign assets is used instead of foreign revenue it is significant. If proportion of foreign subsidiaries is used it is not significant.

[5] Regression 2 shows that German and Japanese companies are significantly different from Australian companies (Australia is the omitted dummy variable). Robustness tests (not reported) confirm significant differences between Germany and the UK and France as well as between Japan and the UK and France in their patterns of adoption and supplementary use.

[6] An alternative composition of the NON-US group was investigated in robustness tests (not reported). All firms with non-US foreign listings, irrespective of whether or not they traded in the OTC market, were included in the NON-US group. The change in group composition produced little change in results and did not change the conclusions drawn in this article.

[7] Regression 3 shows that German companies are significantly different from Australian companies (Australia is the omitted dummy variable). Robustness tests (not reported) confirm significant differences between Germany and France and Japan in choice of US GAAP or IAS.

[8] Robustness tests (not reported) show that size remains significant when the alternative size proxy total revenue is used. Size is not significant when proportion of total assets is used.

[9] Robustness tests (not reported) show that if proportion of foreign assets is used instead of foreign revenue it is significant. If proportion of foreign subsidiaries is used it is not significant.

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Table 1 Use of national and "international" standards in five countries 1999 - 2000

Country	Financial statements lodged with regulators	Consolidated financial statements provided for the public
United Kingdom	National GAAP used.	National GAAP usually used.
France	National GAAP used.	"International" standards are sometimes used in conjunction with national standards. Some firms provide a convenience translation to US GAAP.
Germany	National GAAP used for individual company accounts. US GAAP or IAS can be used in consolidated financial statements.	National GAAP or "international" standards are used.
Japan	National GAAP used by most firms. Specific firms have permission to lodge US GAAP consolidated financial statements.	"International" standards are sometimes used, either instead of national GAAP or in a convenience translation to US GAAP.
Australia	National GAAP used	National GAAP usually used

Table 2 Classification of countries according to features that impact on accounting

Features	UNITED KINGDOM, AUSTRALIA	FRANCE, GERMANY AND JAPAN
Type of accounting system (Nobes, 1983)	Commercially driven	Government driven, tax dominated
Culture (Gray, 1988)	Similar accounting values (professionalism/statutory control; uniformity/flexibility; conservatism/optimism; secrecy/transparency)	Similar accounting values (professionalism/statutory control; uniformity/flexibility; conservatism/optimism; secrecy/transparency)
Legal system (Doupnik and Salter, 1995)	Derived from common law	Code law based
International resource dependence (Zarzeski, 1996)	Companies vary in the extent of their international resource dependence	Companies vary in the extent of their international resource dependence
Focus of accounting (Nobes and Parker, 1998)	Strong equity	Weak equity
Source of finance (Nobes, 1998)	Many outsider firms – source of capital is public equity and debt	Many insider firms – source of capital is private equity and debt
Corporate governance (Ball, Kothari and Robin, 2000)	Shareholder model	Stakeholder model

Table 3 Sample companies, by country and stock exchange listing

	UNITED KINGDOM	FRANCE	GERMANY	JAPAN	AUSTRALIA	TOTAL
Group I NYSE						
NYSE						
Total companies	46	16	13	13	9	97
Sample	23	14	13	11	9	70 (72%)
NASDAQ						
Total companies	29	12	3	11	8	63
Sample	7	10	3	0	8	28 (44%)
TOTAL						
Total companies	75	28	16	24	17	160
Sample	30 (40%)	24 (86%)	16 (100%)	11 (46%)	17 (100%)	98 (61%)
Group II OTC						
OTC						
Total companies	72	19	25	109	102	327
Sample	19	17	21	22	26	105 (32%)
NASDAQ						
Total companies	1	1	4	8	7	21
Sample	1	1	4	8	4	18 (86%)
TOTAL						
Total companies	73	20	29	117	109	348
Sample	20 (27%)	18 (90%)	25 (89%)	30 (26%)	30 (28%)	123 (35%)
Group III NON-US (a)						
Total companies	4	6	5	9	8	32
Sample	4 (100%)	6 (100%)	5 (100%)	9 (100%)	8 (100%)	32 (100%)
Group IV DOM						
(within largest 150 companies)						
Total companies	65	107	112	87	102	473
Sample	54 (83%)	48 (45%)	46 (41%)	50 (57%)	55 (54%)	253 (53%)
TOTAL						
Total companies	217	160	162	237	236	1012
Total sample	108 (50%)	96 (60%)	92 (57%)	100 (42%)	110 (47%)	506 (50%)

Group I NYSE = foreign listed companies traded on NYSE or NASDAQ that prepare US GAAP accounts or file a Form 20F reconciliation. Group II OTC = foreign listed companies traded on NASDAQ or the OTC market that do not prepare US GAAP accounts or file a Form 20F reconciliation. Group III NON-US = foreign listed companies traded on a non-US stock exchange. Group IV DOM = domestic-only listed companies traded on one or more domestic stock exchanges.

Total companies = number of companies in each stock exchange group, based on foreign company lists from stock exchanges in London, Paris, Frankfurt, Tokyo and Australia and from the Bank of New York and JP Morgan. (a) There may be other non-US foreign listed firms in any of the five countries but they were not located or included in the study because the source of foreign country listing information was from the stock exchanges in the UK, France, Germany, Japan and Australia and not in other countries.

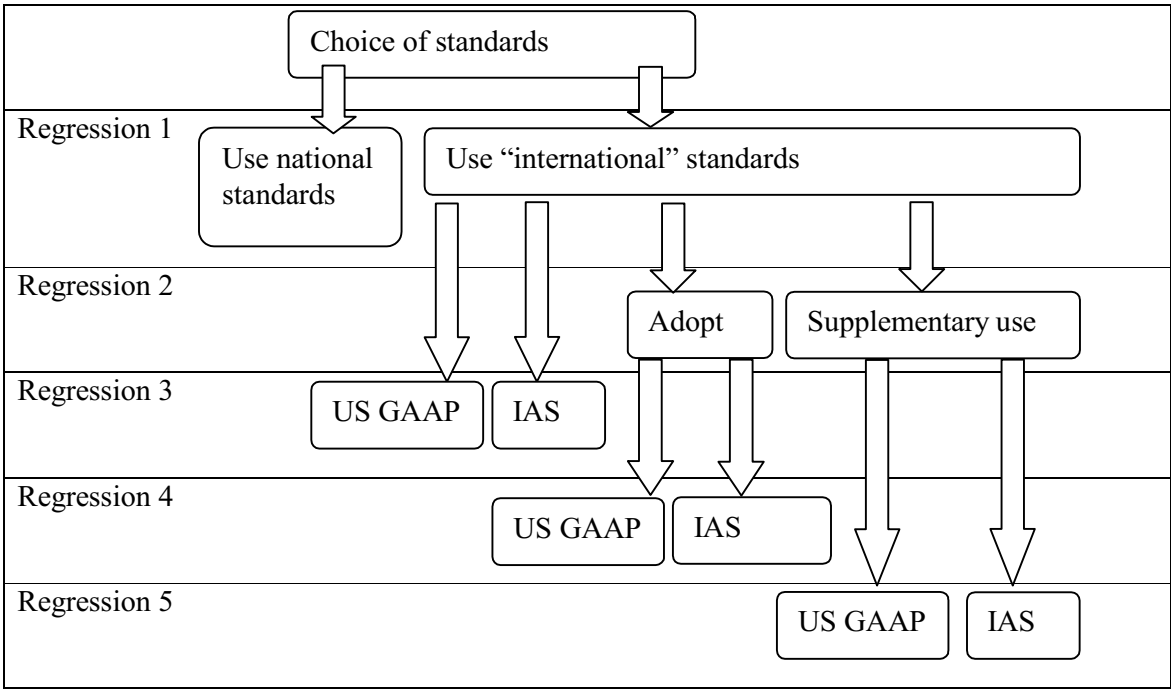

Figure 1 Regression models to analyze the use of "international" standards and choice of US GAAP or IAS

Table 4 Definitions of the independent variables and expected relationships with the dependent variables

Variable	Definition	Predicted relationship with dependent variables
Foreign revenue	The proportion of a firm's foreign revenue compared to total revenue	Positive association with use of "international" standards
NYSE	The company is listed on the NYSE or NASDAQ and is subject to US GAAP accounting requirements	Positive association with use of "international" standards and choice of US GAAP
OTC	The company is traded on the OTC or NASDAQ and is not subject to US GAAP accounting requirements	Positive association with use of "international" standards and choice of US GAAP
NON-US	The company is listed on a non-US foreign exchange	Positive association with use of "international" standards and choice of IAS
DOM	The company is listed only on one or more domestic exchanges	No prediction
Size	Log of market capitalization ($US million, all currencies converted at financial year-end date)	Positive association with use of "international" standards
Leverage	Book value of total debt as a proportion of book value of total debt plus market value of equity	Negative association with the use of "international" standards
UK company	Company is registered in the UK	No prediction
French company	Company is registered in France	No prediction
German company	Company is registered in Germany	No prediction
Japanese company	Company is registered in Japan	No prediction
Australian company	Company is registered in Australia	No prediction
Industry 1	Companies in the resources or utilities industries	No prediction
Industry 2	Companies in the construction or manufacturing industries	No prediction
Industry 3	Companies in the banking, finance or insurance industries	No prediction
Industry 4	Companies in the trade, transport, communications or business services industries	No prediction

Table 5 Descriptive statistics for the continuous variables

Foreign revenue (%)	UNITED KINGDOM	FRANCE	GERMANY	JAPAN	AUSTRALIA	TOTAL
N = 490	106	88	86	100	110	490
Minimum	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	100.00	96.99	88.00	78.83	100.00	100.00
Mean	35.46	49.76	44.85	16.13	17.96	31.80
Standard deviation	30.59	26.45	28.51	19.87	24.60	29.42
Size (log of mkt cap. $US million)						
N = 488	98	93	89	100	108	488
Minimum	1.69	1.37	-1.52	1.19	0.37	-1.52
Maximum	5.53	4.31	5.04	5.59	4.72	5.59
Mean	3.52	2.75	3.02	4.04	2.84	3.24
Standard deviation	0.72	0.63	0.99	0.62	0.75	0.89
Leverage (%)						
N = 488	98	93	89	100	108	488
Minimum	0.00	1.41	1.16	0.01	0.20	0.00
Maximum	100.00	97.46	100.00	99.99	99.19	100.00
Mean	39.27	56.85	64.89	48.71	38.36	49.03
Standard deviation	28.51	26.76	28.29	31.74	25.56	29.87

Table 6 Correlation coefficients for the continuous variables

Variable	Foreign revenue	Size
Pearson correlation		
Size	-0.026	
Leverage	0.056	-0.149**
Spearman's rho		
Size	-0.057	
Leverage	0.072	-0.091**

** significant at $p < 0.05$ two tailed test
Foreign revenue = Proportion of foreign revenue.
Size = Log of market capitalization.
Leverage = Book value of debt/ book value of debt plus market value of equity.

Table 7 Frequency of use and choice of "international" standards by country

	UNITED KINGDOM		FRANCE		GERMANY		JAPAN		AUSTRALIA		TOTAL	
Regression 1: Use of "international" standards		%		%		%		%		%		%
International	**28**	26	**38**	40	**60**	65	**37**	37	**16**	15	**179**	35
National	**80**	74	**58**	60	**32**	35	**63**	63	**94**	85	**327**	65
TOTAL	**108**	100	**96**	100	**92**	100	**100**	100	**110**	100	**506**	100
Regression 2: Adoption/supplementary use												
Adopt	**2**	7	**7**	18	**53**	88	**24**	65	**1**	6	**87**	49
Supplementary	**26**	93	**31**	82	**7**	12	**13**	35	**15**	94	**92**	51
TOTAL	**28**	100	**38**	100	**60**	100	**37**	100	**16**	100	**179**	100
Regression 3: Choice of US GAAP or IAS												
US GAAP	**24**	86	**28**	74	**25**	42	**27**	73	**13**	81	**117**	66
IAS	**2**	7	**6**	15	**35**	58	**10**	27	**1**	6	**54**	30
Other [(a)]	**2**	7	**4**	11	**0**	0	**0**	0	**2**	13	**8**	4
TOTAL	**28**	100	**38**	100	**60**	100	**37**	100	**16**	100	**179**	100
Regression 4: Adopters' choice of US GAAP or IAS												
US GAAP	**2**	100	**7**	100	**19**	36	**24**	100	**1**	100	**53**	61
IAS	**0**	0	**0**	0	**34**	64	**0**	0	**0**	0	**34**	39
TOTAL	**2**	100	**7**	100	**53**	100	**24**	100	**1**	100	**87**	100
Regression 5: Supplementary users' choice of US GAAP or IAS												
US GAAP	**22**	84	**21**	68	**6**	86	**3**	23	**12**	80	**64**	69
IAS	**2**	8	**6**	19	**1**	14	**10**	77	**1**	7	**20**	22
Other [(a)]	**2**	8	**4**	13	**0**	0	**0**	0	**2**	13	**8**	9
TOTAL	**26**	100	**31**	100	**7**	100	**13**	100	**15**	100	**92**	100

Use of "international" standards = adoption and supplementary use. Adoption = use of "international" standards instead of national standards in financial statements provided to the public. Supplementary use = national standards and some "international" standards used in financial statements provided to the public.

(a) Other = both US GAAP and IAS, other national standards (such as UK GAAP, Australian GAAP, Hong Kong GAAP) or reference to "international" without specifying US GAAP or IAS.

Table 8 Frequency of use and choice of "international" standards by stock exchange listing

	NYSE	%	OTC	%	NON-US	%	DOM	%	TOTAL	%
Regression 1: Use of "international" standards										
International	**74**	76	**55**	45	**12**	38	**38**	15	**179**	35
National	**24**	24	**68**	55	**20**	62	**215**	85	**327**	65
TOTAL	**98**	100	**123**	100	**32**	100	**253**	100	**506**	100
Regression 2: Adoption/supplementary use										
Adopt	**31**	42	**30**	55	**6**	50	**20**	53	**87**	49
Supplementary	**43**	58	**25**	45	**6**	50	**18**	47	**92**	51
TOTAL	**74**	100	**55**	100	**12**	100	**38**	100	**179**	100
Regression 3: Choice of US GAAP or IAS										
US GAAP	**68**	92	**24**	44	**8**	67	**17**	45	**117**	66
IAS	**3**	4	**29**	53	**4**	33	**18**	47	**54**	30
Other [(a)]	**3**	4	**2**	3	**0**	0	**3**	8	**8**	4
TOTAL	**74**	100	**55**	100	**12**	100	**38**	100	**179**	100
Regression 4: Adopters' Choice of US GAAP or IAS										
US GAAP	**29**	94	**15**	50	**5**	83	**4**	20	**53**	61
IAS	**2**	6	**15**	50	**1**	17	**16**	80	**34**	39
TOTAL	**31**	100	**30**	100	**6**	100	**20**	100	**87**	100
Regression 5: Supplementary users' choice of US GAAP or IAS										
US GAAP	**39**	91	**9**	34	**3**	50	**13**	72	**64**	69
IAS	**1**	2	**14**	58	**3**	50	**2**	11	**20**	22
Other [(a)]	**3**	7	**2**	8	**0**	0	**3**	17	**8**	9
TOTAL	**43**	100	**25**	100	**6**	100	**18**	100	**92**	100

Group I NYSE = foreign listed companies traded on NYSE or NASDAQ that prepare US GAAP accounts or file a Form 20F reconciliation. Group II OTC = foreign listed companies traded on NASDAQ or the OTC market that do not prepare US GAAP accounts or file a Form 20F reconciliation. Group III NON-US = foreign listed companies traded on a non-US stock exchange. Group IV DOM = domestic-only listed companies traded on one or more domestic stock exchanges.

Use of "international" standards = adoption and supplementary use. Adoption = use of "international" standards instead of national standards in financial statements provided to the public. Supplementary use = national standards and some "international" standards used in financial statements provided to the public.

(a) Other = both US GAAP and IAS, other national standards (such as UK GAAP, Australian GAAP, HK GAAP) or reference to "international" without specifying US GAAP or IAS.

Table 9 Number of companies in frequency tables and regression equations

	TOTAL SAMPLE No. of companies	Missing data (a)	REGRESSION EQUATIONS No. of companies
Regression 1: Use of "international" standards			
International	179	11	168
National	327	21	306
TOTAL	506	32	474
Regression 2: Adoption/supplementary use			
Adopt	87	7	80
Supplementary	92	6	86
TOTAL	179	13	166
Regression 3: Choice of US GAAP or IAS			
US GAAP	117	10	107
IAS	54	0	54
Other (b)	8	8	0
TOTAL	179	18	161
Regression 4: Adopters' choice of US GAAP or IAS			
US GAAP	53	5	48
IAS	34	2	32
TOTAL	87	7	80
Regression 5: Supplementary users' choice of US GAAP or IAS			
US GAAP	64	3	61
IAS	20	0	20
Other (b)	8	8	0
TOTAL	92	11	81

Reconciliation of the number of companies reported in Tables 7 and 8 with the number included in Regression equations 1-5, Tables 10-13. (a) Companies are omitted from regressions because of missing data (market value, or proportion of foreign revenue). (b) Category "other" is excluded from the regressions, as it does not show a choice of US GAAP or IAS.

Table 10 Regression 1 results: use of "international" standards

INDEPENDENT VARIABLES	FULL SAMPLE		UNITED KINGDOM		FRANCE		GERMANY		JAPAN		AUSTRALIA	
(expected sign)	Coeffic.	Wald	Coeffic.	Wald	Coeffic.	Wald	Coeffic.	Wald	Coeffic.	Wald	Coeffic.	Wald
Foreign revenue % (+)	0.010	3.564++	0.026	4.312++	0.09	0.574	0.018	1.510	-0.001	0.005	0.007	0.251
NYSE foreign listed (+)	3.570	84.400++	4.512	21.840++	2.361	11.201++	3.165	6.580++	4.889	12.246++	3.802	13.909++
OTC foreign listed (+)	1.689	27.412++	0.914	0.598	1.352	3.130++	2.715	8.396++	3.410	14.688++	1.602	2.536+
NON-US foreign listed (+)	1.380	8.297++	-6.140	0.035	1.074	1.140	0.458	0.113	4.764	15.191++	-6.406	0.36
Size (log of mkt cap.) (+)	0.339	4.169++	-0.296	0.398	0.425	0.846	0.201	0.296	1.601	5.785++	0.514	1.535
Leverage (debt/debt + mkt cap.) (-)	0.000	0.001	-0.021	1.936+	0.014	1.358	-0.053	6.859++	0.029	3.586(a)	0.029	2.883(a)
UK company	0.027	0.003	NA		NA		NA		NA		NA	
French company	1.372	8.644**	NA		NA		NA		NA		NA	
German company	2.933	38.392**	NA		NA		NA		NA		NA	
Japanese company	1.420	9.070**	NA		NA		NA		NA		NA	
Industry 1	-0.775	2.464	-0.434	0.143	-0.404	0.135	2.351	2.096	-6.636	0.032	-1.893	2.550
Industry 2	-0.049	0.026	-1.555	2.549	-0.150	0.057	2.062	4.735**	0.592	0.561	-1.073	1.130
Industry 3	0.206	0.204	2.328	1.962	-1.915	2.516	5.014	8.960**	-1.391	1.519	-0.631	0.181
Constant	-4.550	45.214**	-2.334	1.396	-3.575	4.153**	-0.041	0.001	-11.016	10.668**	-5.563	12.012**
Nagelkerke R^2	0.499		0.650		0.284		0.509		0.680		0.497	
% correctly predicted (based on 50% cut-off)	80.0		88.5		70.9		77.4		86.0		90.7	
Model chi-square	213.570		56.247		20.224		38.380		68.875		35.836	
Model p =	0.000		0.000		0.017		0.000		0.000		0.000	
Number of companies	474		96		86		84		100		108	
1 = use "international"	168		25		34		56		37		16	
0 = use national	306		71		52		28		63		92	

++ significant at $p < 0.05$ one-tailed test. + significant at $p < 0.10$ one-tailed test. ** significant at $p < 0.05$ two-tailed test.

NA = not applicable. Coeffic. = coefficient in the regression equation. Wald = the Wald statistic is the square of the ratio of the coefficient to its standard error.

(a) Coefficient is significant but has the opposite sign. Industry 1 = resources and utilities; Industry 2 = manufacturing and construction; Industry 3 = banking, finance and insurance.

Table 11 Regression 2 results: choice of adoption or supplementary use by companies that use "international" standards

INDEPENDENT VARIABLES (expected sign)	FULL SAMPLE Coeffic.	Wald	GERMANY Coeffic.	Wald	JAPAN Coeffic.	Wald
Foreign revenue %	0.045	9.419**	0.020	0.687	0.088	3.221*
NYSE foreign listed	2.756	6.784**	1.249	0.437	21.552	0.039
OTC foreign listed	1.071	1.441	0.717	0.207	12.612	0.016
NON-US foreign listed	0.564	0.263	7.176	0.031	11.996	0.015
Size (log of mkt cap.)	-1.368	8.322**	-2.616	4.189**	0.159	0.019
Leverage (debt/debt + mkt cap.)	-0.015	1.674	0.037	1.238	-0.016	0.540
UK company	-1.579	0.800	NA		NA	
French company	0.358	0.057	NA		NA	
German company	7.468	17.772**	NA		NA	
Japanese company	7.182	13.851**	NA		NA	
Industry 1	-5.175	8.777**	-5.909	4.618**	NA	
Industry 2	-0.457	0.443	-0.582	0.172	-0.699	0.347
Industry 3	0.331	0.121	-0.820	0.099	-1.591	0.871
Constant	-1.908	1.093	8.652	4.558**	-12.679	0.016
Nagelkerke R^2	0.745		0.481		0.634	
% correctly predicted (based on 50% cut-off)	86.7		92.9		86.5	
Model chi-square	135.664		16.473		22.859	
Model p =	0.000		0.058		0.004	
Number of companies	166		56		37	
1 = adopt	80		49		24	
0 = supplementary use	86		7		13	

** significant at $p < 0.05$ two-tailed test. * significant at $p < 0.10$ two-tailed test. NA = not applicable. Coeffic. = coefficient in the regression equation. Wald = the Wald statistic is the square of the ratio of the coefficient to its standard error. Industry 1 = resources and utilities; Industry 2 = manufacturing and construction; Industry 3 = banking, finance and insurance. Individual country regressions are not reported where only a few companies adopt "international" standards (UK: 2 out of 28; France: 7 out of 38, Australia: 1 out of 16, Table 7).

Table 12 Regression 3 results: choice of US GAAP or IAS by companies that use "international" standards

INDEPENDENT VARIABLES	FULL SAMPLE		GERMANY		JAPAN	
(expected sign)	Coeffic.	Wald	Coeffic.	Wald	Coeffic.	Wald
Foreign revenue %	-0.016	2.348	-0.043	2.738*	0.095	3.251*
NYSE foreign listed (+)	2.515	12.819++	4.978	9.162++	-1.694	0.000
OTC foreign listed (+)	-0.164	0.075	0.946	0.757	-10.895	0.012
NON-US foreign listed (-)	0.562	0.387	3.372	3.037(a)	-9.882	0.010
Size (log of mkt cap.)	-0.197	0.558	-0.130	0.108	1.094	0.671
Leverage (debt/debt + mkt cap.)	-0.013	2.174	-0.010	0.200	0.017	0.318
UK company	-1.767	1.809	NA		NA	
French company	-0.718	0.331	NA		NA	
German company	-2.534	4.730**	NA		NA	
Japanese company	-1.150	0.870	NA		NA	
Industry 1	-0.527	0.321	-2.539	1.701	NA	
Industry 2	-0.190	0.128	-0.549	0.259	-1.892	1.533
Industry 3	-0.477	0.353	-0.701	0.133	-3.839	2.750*
Constant	3.806	6.252**	1.453	0.800	5.881	0.004
Nagelkerke R^2	0.485		0.545		0.629	
% correctly predicted (based on 50% cut-off)	79.8		82.1		86.5	
Model chi-square	70.546		28.619		21.000	
Model p =	0.000		0.001		0.007	
Number of companies	161		56		37	
1 = US GAAP	107		21		27	
0 = IAS	54		35		10	

++ significant at $p < 0.05$ one-tailed test.
** significant at $p < 0.05$ two-tailed test. * significant at $p < 0.10$ two-tailed test.
NA = not applicable. Coeffic. = coefficient in the regression equation. Wald = the Wald statistic is the square of the ratio of the coefficient to its standard error. (a) Coefficient is significant but has the opposite sign. Industry 1 = resources and utilities; Industry 2 = manufacturing and construction; Industry 3 = banking, finance and insurance. Individual country regressions are not reported where only a few companies use IAS (UK: 2 out of 28; France: 6 out of 38; Australia: 1 out of 16, Table 7).

Table 13 Regression 4 and 5 results: choice of US GAAP or IAS by companies that adopt and make supplementary use of "international" standards

	ADOPT				SUPPLEMENTARY USE	
INDEPENDENT VARIABLES	FULL SAMPLE		GERMANY		FULL SAMPLE	
(expected sign)	Coeffic.	Wald	Coeffic	Wald	Coeffic.	Wald
Foreign revenue %	-0.038	1.802	-0.038	1.802	-0.044	4.418**
NYSE foreign listed (+)	5.898	8.214++	5.898	8.214++	0.845	0.457
OTC foreign listed (+)	1.644	1.577	1.644	1.577	-2.782	5.352(a)
NON-US foreign listed (-)	5.111	4.964(a)	5.111	4.963(a)	-1.543	1.107
Size (log of mkt cap.)	-1.315	3.328*	-1.315	3.328*	-0.865	2.429
Leverage (debt/debt + mkt cap.)	-0.031	1.234	-0.031	1.234	-0.016	0.839
UK company	5.993	0.000	NA		-1.853	1.279
French company	1.637	0.000	NA		-1.262	0.645
German company	-5.761	0.000	NA		1.380	0.355
Japanese company	5.881	0.000	NA		-3.868	5.069**
Industry 1	-17.648	0.013	-14.591	0.185	1.859	1.561
Industry 2	0.407	0.083	0.407	0.083	0.739	0.626
Industry 3	0.727	0.092	0.727	0.092	-0.008	0.000
Constant	10.753	0.002	4.991	3.738*	8.941	8.667**
Nagelkerke R^2	0.817		0.627		0.577	
% correctly predicted (based on 50% cut-off)	93.8		89.8		86.6	
Model chi-square	74.106		29.666		41.435	
Model p =	0.000		0.000		0.000	
Number of companies	80		49		81	
1 = US GAAP	48		17		61	
0 = IAS	32		32		20	

++ significant at $p < 0.05$ one-tailed test. ** significant at $p < 0.05$ two-tailed test. * significant at $p < 0.10$ two-tailed test.
NA = not applicable. (a) Significant but opposite sign. ADOPT: Individual country regressions are not calculated where all firms use US GAAP (UK: 2 out of 2; France: 7 out of 7; Japan 24 out of 24; Australia 1 out of 1, see Table 7).
SUPPLEMENTARY USE: Individual country regressions not calculated where most companies use US GAAP (UK: 22 out of 26; France 21 out of 31; Germany: 6 out of 7; Australia 12 out of 15) or IAS (Japan: 10 out of 13), see Table 7
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