



Disclosure Practices of Foreign Companies Interacting with U.S. Markets

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ABSTRACT

We analyze the disclosure practices of companies as a function of their interaction with U.S. markets for a group of 794 firms from 24 countries in the Asia-Pacific and Europe. Our analysis uses the Transparency and Disclosure scores developed recently by Standard & Poor's. These scores rate the disclosure of companies from around the world using U.S. disclosure practices as an implicit benchmark. Results show a positive association between these disclosure scores and a variety of market interaction measures, including U.S. listing, U.S. investment flows, exports to, and operations in the United States. Trade with the United States at the country level, however, has an insignificant relationship with the disclosure scores. Our empirical analysis controls for the previously documented association between disclosure and firm size, performance, and country legal origin. Our results are broadly consistent with the hypothesis that cross-border economic interactions are associated with similarities in disclosure and governance practices.

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1. *Introduction*

The question we seek to answer in this paper is: are cross-border economic interactions with U.S. capital markets, labor markets, and product markets associated with adherence to U.S. corporate disclosure standards and practices?

Two strands of literature motivate our work. The first is the literature in economics and law that discusses the general impact of globalization on the convergence of governance practices around the world. One view in this literature holds that the force of global competition will result in the complete convergence of governance systems across countries (Hansmann and Kraakman [2001]). The polar opposite perspective holds that path dependence and complementarities in governance mechanisms will prevent such convergence (Bebchuk and Roe [1999]). The intermediate perspective suggests that there may be partial convergence among groups of countries that interact closely through market transactions (Khanna, Kogan, and Palepu [2002]).

Following this intermediate perspective, we look at the interactions between international companies and U.S. markets. We also look at only one element of corporate governance: disclosure and transparency. As Bushman and Smith [2001] point out, financial reporting and disclosure is an important component of a corporate governance system because it allows investors and other outside parties to monitor firm performance and contractual commitments. Although there are several other critical elements besides financial reporting in a corporate governance system, such as the board of directors, shareholder rights, and top management compensation, we believe that this narrow focus is likely to be useful in deepening our understanding of the broader question of the impact of globalization on corporate governance.

A second strand of work, from accounting research, also motivates our study. There is accounting research that examines the impact of financial market interactions on firms' disclosure choices. For example, in a contemporaneous study, Bradshaw, Bushee, and Miller [2002] conclude that foreign firms that provide financial statements with greater conformity to U.S. Generally Accepted Accounting Principles (GAAP) exhibit higher levels of U.S. institutional ownership. In another study, Lang, Raedy, and Yetman [2003] find that in terms of local GAAP earnings, cross-listed firms appear to be more similar to U.S. firms than other firms in their local markets. Our study seeks to extend this literature. Unlike prior studies examining the impact of disclosure from a single type of market interaction, we comprehensively examine the relation between disclosure and all market interactions: product, labor, and financial markets.

Our empirical analysis uses a new database on international corporate disclosure: the Transparency and Disclosure Survey developed by Standard & Poor's (S&P). These recently released scores provide us with a measure of corporate annual report disclosures. Our sample consists of 794 firms from 24 countries in the Asia-Pacific and Europe. We use a

variety of firm-level and country-level metrics to measure the degree of interaction with the U.S. capital, product, and labor markets. The sample consists of firms from a wide range of institutional contexts: China with very little resemblance to the U.S. institutional context to the United Kingdom with a great deal of similarity to the U.S. institutional context. The degree of interaction with the U.S. markets also varies widely, where some firms are listed on the U.S. capital markets and have significant U.S. operations, and other firms have little or no interaction with the U.S. markets.

Our empirical tests examine the relationship between market interaction variables and the transparency and disclosure measures for the sample firms, after controlling for various other variables known to affect firms' disclosure. Our results show that, on average, greater market interaction with the United States is associated with greater similarities to U.S. disclosure practices.

Our correlational evidence does not, of course, allow for causal inferences. For example, we do not know whether the interactions with U.S. markets lead our sample firms to adopt U.S. disclosure practices, or whether the adoption of U.S. disclosure practices enables the sample firms to become more active in the U.S. factor and output markets. Also, our measure of disclosure does not allow us to distinguish between the quantity and the quality of disclosure, or between voluntary and mandatory disclosures. Finally, because we employ a sample preselected by S&P for inclusion in their indices, our conclusions are not based on a random sample drawn from these countries. Given these limitations, our findings should be interpreted with caution.

We review the relevant prior literature and develop testable hypotheses in section 2. Section 3 contains a description of the S&P Transparency and Disclosure data and the sample. Section 4 provides a description of the empirical proxies for the U.S. interaction and control variables. Section 5 provides the results, and section 6 concludes.

2. Hypotheses and the Related Literature

Globalization and similarities in corporate governance across countries is the subject of much interest in academic literature. The idea of convergence in form postulates that efficiency considerations and, implicitly, some form of global competition will force all nations ultimately to adopt the same corporate governance system (Hansmann and Kraakman [2001]). The functional convergence perspective (Gilson [2000]) presents the idea that each country's institutions are sufficiently flexible so that the key functions of corporate governance can be largely achieved within the different institutional arrangements in each country. At the other end is the view that path dependence and complementarities in economic systems have led different economies to very different corporate governance systems that even the force of global competition will not easily dislodge (Bebchuk and Roe [1999]).

The role of global competition in factor and output markets is at the core of these arguments. The role of capital markets is often emphasized—for example, the idea that global institutional investors, largely originating from the United States, will compel firms that seek their funds to adopt corporate governance standards with which they are familiar. Coffee [1999] presents the idea of sorting a country's firms. Higher quality firms will list in high-quality capital markets abroad and lower quality firms remain in the home country, with resultant pressure on the local capital markets to upgrade. The role of product and labor market competition is less emphasized. In an empirical study, Khanna, Kogan, and Palepu [2002] examine partial convergence between groups of countries that interact with each other through various types of product, labor, and capital market transactions. They find that pairs of economically interdependent countries adopt similar corporate governance practices, especially if these countries are also economically developed.

Given the wide scope of the corporate governance system, we take a focused view and examine one component of the governance system: financial reporting and disclosure. In doing so, we follow a model similar to that expressed in Bushman and Smith [2001]. They posit a governance role for financial accounting information that arises from using information for project identification, monitoring project selection, monitoring managerial expropriation, reducing information asymmetry between investors, and allowing current and potential managers to decide on human capital investment.

In our analysis, we focus on total disclosures of firms, which consists of both mandated and voluntary disclosures. In an international context, we believe that this is the appropriate focus because country-level mandatory disclosures are to some extent voluntary choices by the country regulators. Thus, a country might choose a disclosure regime with a view to facilitating certain types of market interactions between its companies and companies or investors in another country.

We now develop our hypotheses for different types of market interactions.

2.1 CAPITAL MARKET INTERACTION

Greater capital market interaction can take place in two ways. First, companies may cross-list in the U.S. capital markets as American Depositary Receipts (ADRs) or choose one of the U.S. stock exchanges as their primary listing exchange. Second, U.S. investors can invest in companies in markets around the world.

The effect on disclosure when companies list their shares as equity or as ADRs on U.S. stock exchanges is direct. When companies list on U.S. exchanges, they have to follow the stock exchange and Securities and Exchange Commission (SEC) requirements on disclosure. Although there are many disclosure exemptions for foreign companies from the domestic rules, the level of disclosure required is generally high. Level II and level III ADRs have to follow SEC rules for registration and file Form 20-F providing

reconciliation of financial statements with U.S. GAAP (Karolyi [1998]). Hence, we can expect firms that list in the United States to be more likely to adopt U.S. disclosures practices compared with those that do not.

Disclosure can also be affected because of the U.S. portfolio investment in the home country of an international company in a few ways. Managers may voluntarily increase disclosure to attract U.S. investors. Alternatively, foreign investors from countries with better disclosure and governance standards may demand greater disclosure and better governance in companies and countries in which they have invested.¹ Consistent with both these arguments, Bradshaw, Bushee, and Miller [2002], in a study contemporaneous to this research, show that firms with greater levels of conformity with U.S. GAAP exhibit greater levels of U.S. institutional ownership. Finally, countries may improve their mandatory disclosure rules and governance requirements to market themselves to foreign institutional investors. For example, China and Malaysia recently introduced mandatory quarterly reporting in their overhaul of governance and disclosure requirements. Companies and industry associations may also lobby their governments for such improvements.²

From the foregoing discussion we predict a positive association between the extent of capital market interaction with the United States and the adoption of U.S. disclosure practices. In our analysis, we test this directional hypothesis against a null hypothesis of no association.

2.2 PRODUCT MARKET INTERACTION

We are not aware of any prior studies that examine, either theoretically or empirically, the relationship between cross-border product market interaction and corporate disclosure.³ It is possible to make economic arguments that suggest either a positive or negative association between cross-border product market interaction and disclosure. Higher U.S. product market interaction can be associated with greater convergence to the U.S. disclosure

¹ As an example, Tiger Fund forced SK Telecom, a South Korean firm belonging to the SK Group, to abandon shareholder-unfriendly practices.

² At a time when regulations prohibited companies from distributing employee stock options, Infosys and the rest of the software industry in India lobbied the Indian government to change the regulations (Khanna and Palepu [2001]).

³ Prior papers study disclosure in the presence of proprietary costs, that is, the cost incurred when information is useful to competitors, and find that proprietary costs lower the level of disclosure (e.g., Verrecchia [1983, 1990], Wagenhofer [1990], Hayes and Lundholm [1996]). Other papers find that the effect of competition on disclosure depends on the strategic context (e.g., Darrough and Stoughton [1990], Darrough [1993], Newman and Sansing [1993], Gigler [1994], Pae [2002]). Firms may disclose less when they compete on price because the cost-of-capital benefit from increased disclosure is lower than proprietary costs incurred. However, when they compete on capacity, they may disclose more to attract capital at lower costs (Shin [2002]). This literature is relevant for our research. However, all of these studies deal with the interaction between product market competition and voluntary disclosure, whereas our study focuses on total disclosure—both mandated and voluntary—making it difficult to make predictions for our study based on this literature.

regime. Companies and countries that wish to integrate themselves into the U.S. marketplace may find that the costs of doing business are greater if their disclosures do not conform to U.S. practices. Customers may need financial information to assess the long-term viability of their suppliers. Suppliers may not be willing to extend credit when they do not have adequate basis to judge a firm's creditworthiness. Conformance to U.S. practices makes it easier for U.S. customers and suppliers to make such a determination.

The effect on disclosure of greater product market integration across countries also depends on the nature of industrial specialization that results from such integration. International trade theory suggests that countries tend to specialize in different industries and sectors where their factor endowments provide them with a greater competitive advantage. If different industries and sectors have different governance and disclosure needs, we will not observe greater similarity in disclosure practices between countries that trade with each other extensively.

The degree of association between product market interaction and adoption of U.S. disclosure practices, therefore, is unclear. We test the following null hypothesis against a nondirectional alternate hypothesis: there is no association between the extent of product market interaction and adoption of U.S. disclosure practices.

2.3 LABOR MARKET INTERACTION

The effect of increased labor market interactions on disclosure is not studied in prior research. Heightened interaction with the U.S. labor markets can be associated with greater convergence to U.S.-style disclosure for several reasons. First, companies seeking to attract talent from the U.S. labor market may be motivated to provide information so that prospective employees can assess the risk and benefits of the employment opportunities being offered. Furthermore, such information may need to be similar to disclosures provided by U.S. companies to facilitate comparison. Second, interaction with the U.S. markets creates a pool of managers who have worked in a system of U.S. standards of disclosure. If these managers carry home with them practices they find effective in the U.S. environment, this may have a supply-side effect on the amount of disclosure.

In some industries, improved corporate disclosure may be the response to increasing pressure to retain a talented labor force in a market where talent can move across borders. For example, companies in the software industry around the world risk losing talented engineers and programmers to U.S. companies because the talent in this industry is fairly mobile across national borders. We therefore test the null hypothesis against the following directional alternate hypothesis: there is a positive association between the extent of labor market interaction and the adoption of U.S. disclosure practices.

3. *Data*

To measure a firm's level of disclosure practices, we rely on a new data set recently released by S&P. This data set provides standardized scores of

disclosure for a large number of firms outside the United States, using an implicit U.S. disclosure benchmark. For measures of interaction with the U.S. factor and output markets, we hand collect various proxies at either the country or company level from several data sources.

3.1 S&P TRANSPARENCY AND DISCLOSURE DATA

3.1.1. Description of the Data Set. We use a newly released data set on corporate disclosures in our analysis. In 2002, S&P released the results of its Transparency and Disclosure Survey for companies in various countries around the world. S&P describes the rankings as “an evaluation of the public disclosure practices of companies in various markets around the world.”⁴

S&P evaluates the disclosure score by examining company annual reports and standard regulatory filings for disclosure of 98 items. One point is awarded when information on an item is available. The results from the 98 questions are then converted into a percentage and translated into scores from 1 to 10, with a higher score indicating greater disclosure. A percentage of 91% to 100% gives a company a score of 10, and a percentage of 11% to 20% gives a company a score of 2. In our sample, scores range from 1 to 9; that is, there are no companies that have percentage values from 91% to 100%.

The questions used for scoring are provided in the appendix. The questions are divided by S&P into three broad categories: Financial Transparency and Information Disclosure (35 items), Board and Management Structure and Process (35 items), and Ownership Structure and Investor Relations (28 items). Almost all the items on the list correspond to either mandatory disclosures in the United States or to perceived best practices in U.S. corporate disclosure. As a result, we believe that the scoring uses an implicit U.S. benchmark and assesses the extent to which companies around the world have adopted U.S. disclosure practices.

The financial transparency and disclosure (hereafter, financial) category consists of 35 questions that assess whether information provided by the company enables stakeholders to evaluate the financial condition and future viability of the company. These include information on the quality of accounting standards used in the preparation of financial statements (e.g., U.S. GAAP or international accounting standards (IAS)), frequency of publication of financial statements (e.g., quarterly or annual), extent to which aggregated and disaggregated disclosures are provided (e.g., consolidated financial statements, segment data, information on affiliates in which the firm owns a minority stake, related party transactions), key accounting policies (e.g., asset valuation and depreciation), disclosure on auditors (e.g., identity, audit fees, and nonaudit fees), disclosure on business (e.g., nature of business, physical statistics, corporate strategy), and management analysis and forecasts (e.g., specific performance ratios, investment plans, earnings forecasts, industry trends).

⁴ The information in this section is drawn from S&P [2002].

The board and management structure and processes (hereafter, governance) category consists of 35 questions. These range from board composition (e.g., number of directors, names and background information on directors, whether the directors are independent), board committees (e.g., information on audit, compensation, and nominating committees), board compensation (e.g., directors' salaries), top management composition (e.g., names, background), top management compensation (e.g., salary levels, specifics of performance-based compensation plans), and top management shareholdings.

The ownership structure and investor rights (hereafter, ownership) category consists of 28 questions regarding the composition of shareholdings in a company (e.g., number and identify of shareholders who own 5% or more shares each, identity of top 10 shareholders, percentage of cross-ownership), description of the equity claims against the company (e.g., description of share classes), details of shareholder rights (e.g., procedure for putting proposals at shareholder meeting, and the way shareholders nominate directors to the board).

The subsection scores are derived in the same way as the overall scores, by awarding 1 point for each item disclosed, and 0 otherwise, and summing the total points for all the questions in each subsection. S&P makes available publicly the overall scores and the subsection scores but not the detailed item-by-item scores.

Several comments on S&P's method for computing scores are in order. First, although the scores could in theory measure the level of disclosure against a global benchmark, we believe that in reality they measure disclosure levels with respect to an implicit U.S. benchmark. This is substantiated by the fact that a vast majority of the 98 questions included in the scoring process are based on U.S. best practices. As a result, as we show later, U.S. companies on average have higher scores than other companies. We therefore feel more comfortable using the scores as an index of convergence to U.S. disclosure practices rather than as an absolute measure of disclosure level.

Second, the scores measure whether a particular financial statement item or governance mechanism is disclosed rather than evaluating the quality of the disclosure itself or whether a particular governance mechanism is optimal. The scores are, therefore, a quantitative assessment of the disclosure practices of a company. They are not a qualitative indicator of the value of that information.

Third, the items used for scoring do not distinguish between mandatory and voluntary disclosures in the sample countries. Therefore, any analysis using these scores cannot discriminate between mandatory and voluntary disclosures. Finally, although S&P analysts group the questions into subcategories—financial, governance, and ownership—these categories do not appear to represent a “clean” group of questions. For example, some items classified under the ownership category, such as number of shares outstanding, can also be thought of as a financial reporting item. Because

we do not have access to data pertaining to individual questions, but only to aggregate scores in each category, we are constrained to use S&P's grouping of items rather than create our own grouping. As a result of this limitation, although we report descriptive data on the subgroup scores for our sample firms, we use only the overall disclosure score and, as a subsidiary data set, the scores for the financial transparency subgroup in our multivariate analysis.

In a conceptual sense, the S&P disclosure score is similar to the measure used by Botosan [1997], who measures disclosure directly by examining a comprehensive set of disclosures in annual reports and constructs a disclosure index. This measure is also similar to the Center for International Financial Analysis and Research (CIFAR) disclosure scores used in prior papers (e.g., La Porta et al. [1998], Hope [2002], Rajan and Zingales [1998], Bushman, Piotroski, and Smith [2004]).⁵ The CIFAR scores were created by examining annual reports for the omission or inclusion of 90 annual report items.

Some prior papers use analysts' rating of disclosure (e.g., Lang and Lundholm [1993, 1996], Healy, Hutton, and Palepu [1999]) to proxy for firm-level disclosure scores. Khanna, Kogan, and Palepu [2002] use analyst ratings of firm-level corporate governance practices. One advantage of scoring from financial reports is that, unlike an analyst's subjective assessment of disclosure, these are an objective assessment of disclosures. The drawback from using this method is that although the S&P scores allot equal weights to every item on the list, some disclosure items may be more important in reality than others.

3.1.2. Sample and Descriptive Statistics. The sample used in this study consists of all of the companies covered in the four Transparency and Disclosure Surveys covering companies in the Japan S&P/Topix index, S&P Asia Pacific 100 index, S&P IFC Emerging Asia index, and the Europe 350 index—a total of 814 companies in 32 countries. We drop all countries that have less than 5 companies in the sample. This results in 794 companies in 24 countries in our final sample.

The sample coverage varies across countries. Japan with 150 companies and the United Kingdom with 127 companies are the most represented countries in the sample. The least represented countries are Denmark and Portugal, with 6 and 7 companies, respectively. According to S&P, the scores are based on the latest reports available during the survey. The annual reports used are from 2001 for Japan and for countries in Europe, and from 2000 for all other countries. Based on the Global Industry Classification system used by S&P, the sample comes from 10 broad industry categories: consumer cyclicals (14.5%), consumer stable (7.4%), energy (2.0%), financial (21.6%), healthcare (3.6%), industrials (17.8%), information

⁵ CIFAR scores are not available beyond 1995 when the last edition of *International Accounting and Auditing Trends* was published.

technology (12.02%), materials (10.26%), telecommunications (5.4%), and utilities (5.4%). As can be seen, except for financial firms, there is no significant concentration of sample firms in any one industry.

One limitation of the sample is that the firms represent a group of companies preselected by S&P for inclusion in its indexes, probably because they are the most prominent firms of interest to international investors. These firms are therefore unlikely to be a random sample of companies. In particular, because S&P is based in the United States, a company is more likely to be covered if it has substantial transactions with the United States. If this is true, our sample will have a greater representation of companies with interactions with the United States, potentially reducing the within-sample cross-sectional variation on this dimension.⁶

Table 1 provides the distribution of the overall transparency score and its three subcomponents: financial, governance, and ownership. In the sample as a whole, there is considerable variation in the overall transparency score from a high of 9 to a low of 1. There is no company in our sample with a score of 10. The mean (median) transparency score is 5.90 (6). The mean (median) financial disclosure score is 7.18 (7), the mean (median) governance disclosure score is 4.95 (5), and the mean (median) ownership disclosure score is 5.56 (6). Thus, on average, there is greater disclosure on financial performance, and less disclosure on ownership and governance, in our sample companies.

There are clearly country-specific patterns in the transparency scores. Table 2 provides descriptive statistics by country for the transparency score. The United Kingdom has the highest mean score of 7.6, followed by France with 7.2. The lowest mean score is for Taiwan at 2.5. There is considerable variation in the range of scores in each country as well. For example, the scores range from 9 to 6 in the United Kingdom, from 7 to 5 in Japan, and from 6 to 5 in Hong Kong. In contrast, the scores range from 7 to 3 in China, from 7 to 2 in Thailand and India, and from 7 to 1 in South Korea. At the bottom end, the scores range from 5 to 3 in Indonesia and Pakistan, and from 4 to 2 in the Philippines and Taiwan.

The mean overall transparency score for the U.S. S&P 500 companies, based on data not reported here, is 7.5.⁷ The mean scores for U.S. S&P

⁶ Because of the way the sample firms in each country are chosen by S&P, company characteristics may also vary across countries for a variety of reasons. For example, S&P follows prominent companies in each country, and these firms may be drawn from different industries. Also, the decision to go public in each country depends on the institutional environment in that country. Because S&P only follows public companies, the distribution of companies it draws from may vary from country to country. Finally, the average size of companies varies across countries. Although we are unable to eliminate potential biases arising out of these sample-selection issues, we attempt to address them in several ways. First, we include industry dummies in all our multiple regressions to control for industry effects. Second, we include size as a control variable in the regressions. Third, as a sensitivity check on our main results, we estimate regressions with country fixed effects to see whether the results related to company-level variables change significantly when country-level effects are controlled.

⁷ Of the 460 companies in the U.S. sample, 4 companies have a score of 6, 223 have 7, 230 have 8, and 3 have 9. No company has a score of 10.

TABLE 1

Distribution of Scores for Overall Transparency and for Financial, Governance, and Ownership Subsections for the Entire Sample of 794 Firms Used in the Study

Reported are the numbers of companies in the entire sample that have a particular score for each type of disclosure in the S&P Transparency and Disclosure Survey. Transparency refers to the overall disclosure score using all 98 questions given in the appendix. The presence of a disclosure item gets 1 point. The total points are converted into a percentage and then translated into scores from 1 to 10, with a higher score indicating greater disclosure. For example, a percentage of 81% to 90% gets a score of 9, and a percentage of 11% to 20% gets a score of 2. Financial disclosure scores are derived from the 35 questions in the financial transparency and disclosure category. Governance disclosure scores are derived from the 35 questions in the board and management structure and processes category. Ownership disclosure scores are derived from the 28 questions in the ownership structure and investor rights category. The subsection scores are derived in the same way as the overall scores.

Score	Transparency	Finance	Governance	Ownership
1	1	0	52	17
2	31	1	30	41
3	26	0	158	45
4	81	30	137	80
5	115	64	105	140
6	267	110	84	192
7	157	243	89	228
8	105	234	112	46
9	11	94	25	5
10	0	18	2	0
Mean	5.90	7.18	4.95	5.56
Median	6	7	5	6

500 companies for the subsections are 8.1 for financial, 8.2 for governance, and 5.7 for ownership. The mean transparency scores and subsection scores for financial and governance for the United States are higher than for all of the countries in our sample, except for the United Kingdom, which has scores comparable to the United States. This confirms our hypothesis that the scores rely on an implicit U.S. benchmark.

Table 2 also provides descriptive statistics for the subsections on financial, governance, and ownership. Countries that score high (low) on one of the dimensions also typically score high (low) on the other two dimensions. However, there are clear exceptions to this pattern. For example, Germany scores high (8.0) on financial transparency but low on governance disclosures (4.8) and ownership (5.0). Japan scores high on financial disclosures (7.6) and ownership disclosures (7.0) but low on governance disclosures (3.7). In general, in most countries the average level of financial disclosure is higher than governance and ownership disclosure.

To check the validity of the disclosure measures of S&P, we compare the country means for the S&P scores with the CIFAR country index disclosure scores used in earlier research (e.g., La Porta et al. [1998], Hope [2002], Rajan and Zingales [1998], Bushman et al. [2004]). The CIFAR scores are based on disclosure data from 1995 and before. The S&P data are based on more recent disclosure data. The CIFAR index is correlated 0.65 (significant

TABLE 2
Descriptive Statistics for Transparency, Financial, Governance, and Ownership Scores

Country	N	Transparency		Financial		Governance		Ownership	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Australia	26	7.0	7	7.2	7	7.3	7	6.0	6
Belgium	8	6.3	7	6.9	7	6.1	6	5.0	5
China	17	5.2	6	7.4	7	4.1	4	4.3	4
Denmark	6	5.5	5.5	7.7	7.5	4.3	5	4.5	4.5
France	45	7.2	7	7.7	8	7.1	7	6.8	7
Germany	32	6.1	6	8.0	8	4.8	4	5.0	5
Hong Kong	23	5.4	5	7.0	7	4.5	5	4.2	4
India	42	4.5	4	5.7	6	3.4	3	4.3	4
Indonesia	13	4.2	4	6.3	6	2.2	2	4.4	4
Italy	26	6.0	6	7.2	7	5.5	6	4.8	4.5
Japan	150	6.0	6	7.6	8	3.7	4	7.0	7
Korea	47	5.0	5	6.4	7	4.2	5	4.8	5
Malaysia	51	5.0	5	6.2	6	3.6	3	6.1	6
Netherlands	25	6.9	7	7.4	8	6.9	7	6.1	6
Pakistan	10	4.2	4	5.9	6	2.3	2	4.6	4.5
Philippines	9	3.3	3	5.8	6	1.7	1	2.7	3
Portugal	7	6.1	6	6.9	7	4.7	4	6.7	7
Singapore	11	6.9	7	7.9	8	5.6	6	6.8	7
Spain	17	5.9	6	7.1	7	5.3	5	4.8	5
Sweden	18	6.7	7	7.7	8	6.1	6	5.7	6
Switzerland	17	6.2	6	7.8	8	5.8	6	4.9	5
Taiwan	40	2.5	2	4.9	5	1.5	1	1.8	2
Thailand	27	5.2	6	6.1	6	4.3	5	5.6	6
United Kingdom	127	7.6	8	8.4	8	7.8	8	6.1	6
Total	794	5.91	6	7.19	7	4.96	5	5.57	6

at the 1% level) with the S&P overall transparency scores country means and 0.67 (significant at 1% level) with the financial subsection scores.

The S&P survey is also used in Durnev and Kim [2002]. They find that firms that are larger, have more research and development (R&D) expenditure, have profitable investment opportunities, and have a greater reliance on external financing disclose more as measured by these scores. Firms with higher transparency ratings invest more and are valued higher. These relations are stronger in countries that are less investor friendly, suggesting that firms adapt to poor legal environments by increasing transparency.

4. Measures of Interaction with U.S. Markets

We develop proxies to measure the extent of interaction with the United States in capital, product, and labor markets. We develop both firm- and country-level proxies for interaction. In this section we discuss the motivation for these variables and how they are created. In all cases data have been collected such that they correspond to the same period as the annual report used by S&P in the Transparency and Disclosure Survey. Table 3 provides a summary of the variables, their definitions, and source.

TABLE 3
Variable Definitions

Variable Name	Description	Source
Disclosure measures		
Transparency	Overall transparency score using all 98 questions given in the appendix.	S&P Transparency and Disclosure Survey
Financial	Disclosure score derived from 35 questions in the subsection: financial transparency and disclosure, given in the appendix.	S&P Transparency and Disclosure Survey
Financial market interaction variables		
<i>U.S. Listing</i>	Whether a firm is listed in the U.S. either as equity or as level 2 or level 3 American Depositary Receipt (ADR).	Bank of New York ADR directory at www.adrbny.com , NYSE, NASDAQ, and company annual reports
<i>U.S. Equity Investment</i>	Stock of U.S. equity investment in given country divided by country's market capitalization, in percentage.	Report on U.S. Holding of Foreign Securities, Division of International Finance, Board of Governors of the Federal Reserve System at www.Ustreas.gov/fpis/flts.html
<i>U.S. FDI</i>	Stock of U.S. direct investment divided by GDP of country, in percentage.	Bureau of Economic Analysis at www.bea.gov
<i>Investment Interaction</i> (factor)	Variable representing <i>U.S. FDI</i> and <i>U.S. Equity Investment</i> created from factor analysis of the economic interaction variables.	
Product market interaction variables		
<i>U.S. Exports</i>	Ratio of export sales to U.S. to total sales of the company.	Annual report and company Web site.
<i>Has U.S. Exports</i>	Indicator variable equals 1 if firm has exports to the U.S., and 0 otherwise.	Annual report and company Web site.
<i>U.S. Operations</i>	Ratio of assets in U.S. to total assets of the company.	Annual report and company Web site.
<i>Has U.S. Operations</i>	Indicator variable equals 1 if the firm has operations in the U.S., and 0 otherwise.	Annual report and company Web site.
<i>U.S. Trade</i>	Trade with U.S. (Exports + Imports)/GDP of country in percentage.	Bureau of Economic Analysis at www.bea.gov
<i>Operations Interaction</i> (factor)	Variable representing <i>U.S. Exports</i> and <i>U.S. Operations</i> (and the corresponding indicator variables) created from factor analysis of the economic interaction variables.	

TABLE 3—Continued

Variable Name	Description	Source
Labor market interaction variable		
<i>Business Travel to U.S.</i>	Number of business visas granted to country in category/total number of visas issued in that category, in percentage.	Immigration and Naturalization Service Yearbook
Control variables		
<i>Size</i>	Market capitalization normalized by country mean.	Compustat Global Vantage
<i>Analyst Following</i>	Number of analysts issuing forecasts on IBES.	IBES
<i>Performance</i>	Three-year market-adjusted stock return performance.	Compustat Global Vantage
<i>Financial Leverage</i>	Debt-equity ratio.	Compustat Global Vantage
<i>R&D</i>	Firm research and development expenditure over total assets * 100.	Worldscope
<i>Stock Return Comovement</i>	Correlation between weekly stock market index changes between a country and U.S., in percentage.	Datastream
<i>English Legal Origin</i>	if country has English legal origin, O otherwise.	La Porta et al. [1998]

4.1 FINANCIAL MARKET INTERACTION VARIABLES

We use three financial market interaction variables, one at the firm level and two at the country level. As discussed in the hypothesis section, we expect all three variables to have a positive coefficient.

U.S. Listing. The first financial market interaction measure we use is *U.S. Listing*, which indicates whether a firm is listed on a U.S. stock exchange.⁸ We identify whether a company is listed in the United States either as direct equity or as an ADR using the Bank of New York ADR database, New York Stock Exchange (NYSE) and NASDAQ listing of foreign securities, and company annual reports. There are many levels of listing that a company can choose from while making a decision to list in the United States. *U.S. Listing* equals 1 when the company is listed as equity or a level 2 or 3 ADR, and 0 otherwise. Disclosure requirements are stricter for these types of listings. For other types of listing (level 1 and Rule 144A), disclosure requirements are weaker and voluntary. For example, level 1 and Rule 144A ADR companies are not required to file Form 20-F statements. We check all of the results for robustness when *U.S. Listing* equals 1 for any type of listing in the United States.

U.S. Equity Investment. The proxy for country-level capital market interaction is the extent of U.S. equity investment in that country through financial markets. We measure this as U.S. portfolio holdings of equity in the country in 2001 divided by the market capitalization of the country. These data are from the 2002 version of the *Report on U.S. Holdings of Foreign Long Term Securities*, published by the U.S. Department of Treasury.

U.S. FDI. We use foreign direct investment (FDI) from the United States as another proxy for the extent of U.S. investments at the country level. Although portfolio investments are one way U.S. investors make investments in a foreign market, FDI is an alternative way to invest in a foreign market. When U.S. multinationals operate in another country by making FDI

⁸ Prior research suggests that product market factors play a role in firms' listing decisions. Large companies and those with a high proportion of overseas sales are most likely to list outside their home country, and the level of exports to a given country influences the choice of foreign listing location. (Saudagaran [1988], Biddle and Saudagaran [1995]). In a survey of 78 Canadian companies listed in the United States or United Kingdom, Mittoo [1992] finds that access to markets and increased marketability of products are the major benefits, whereas complying with SEC requirements and legal listing fees are the major costs. Pagano, Roell, and Zechner [2002] find that European firms that list abroad tend to be large and expand their exports after listing abroad more than those that do not. In addition, firms that cross-list in the United States rely heavily on export markets both before and after listing, and tend to belong to the high-technology sector. As a result of these arguments, *U.S. Listing* can also be viewed as a proxy for product market interaction rather than for purely financial market interaction. However, to be consistent with prior accounting work, we treat *U.S. Listing* as a financial market interaction variable.

investments, they bring with them U.S. business practices and, frequently, information intermediaries such as auditors and analysts. As a result of these, local markets begin to be influenced by U.S. corporate practices, including disclosure and transparency. Domestic firms competing in an economy with a significant presence of U.S. multinationals are therefore likely to experience a greater demand from local factor and output markets to converge to U.S. practices, relative to firms in economies with little U.S. FDI. *U.S. FDI* is calculated as the stock of U.S. FDI divided by the gross domestic product (GDP) of the country for the relevant year. These data come from the U.S. Bureau of Economic Analysis.

4.2 PRODUCT MARKET INTERACTION VARIABLES

We use two firm-level variables (measured in two different ways) and one country-level variable to proxy for the degree of interaction with the U.S. product market. As discussed earlier, we do not make a directional prediction on the signs of the coefficients of these variables.

U.S. Exports. Our first proxy for product market interaction is the extent of exports by the company to the United States. We examine the annual report geographical segment disclosures of all companies and hand collect the extent of exports to the United States. *U.S. Exports* is the ratio of exports to the United States divided by total sales. Data are available for 628 companies in the sample. For the remaining companies it is not possible to estimate the export ratio to the United States because the data are presented either in an aggregate form such as total exports or as exports to United States and Europe.

Has U.S. Exports. As an alternative to *U.S. Exports*, we create an indicator variable *Has U.S. Exports* that equals 1 if we can determine that the company exports to the United States (even if we cannot determine the exact value), and 0 otherwise. For companies for which export ratio data are available, this variable equals 1 when the U.S. export ratio is greater than 5%. For companies for which export ratio data are not available, we identify whether the company has U.S. exports based on the information from its annual report and description of operations at its Web site. We identify this information for 788 companies in the sample. This helps increase the number of observations used in the tests.

U.S. Operations. At the firm level, we also use the extent of a company's operations in the United States as a proxy for its degree of product market interaction. Although exporting goods produced abroad is one way for a foreign company to access U.S. product markets, another way is to locate operations in the United States itself. We measure the extent of a company's U.S. operations using the share of assets of the company in the United States. We hand collect data on share of assets in the United States from the

geographical segment disclosures of companies.⁹ *U.S. Operations* measures the ratio of assets in the United States to the total assets of the company. This captures the effect of locating assets and people in the United States that may have a different effect from exports, which can be done without any assets in the United States. The data are available for 576 companies. The data are not available when geographical asset disclosures are not presented or when we cannot disaggregate the value of assets in the United States from a consolidated number such as assets in foreign countries.

Has U.S. Operations. As an alternative to *U.S. Operations*, we create an indicator variable that equals 1 if we identify the firm as having operations in the United States, and 0 otherwise. For companies for which the asset ratio data are available, this variable equals 1 when the U.S. asset ratio is greater than 5%. For companies for which asset ratio data are not available, we identify whether the company has U.S. operations based on information from its annual report and description of operations at its Web site. Hence, we are able to construct this variable for all 794 companies. *Has U.S. Operations* is for 2000 or 2001 as applicable.

U.S. Trade. Trade with the U.S. is the proxy for the country level product market interaction. It is computed as the sum of Exports to and Imports from the U.S. divided by GDP of the respective country. The variable is computed for the year 2000 or 2001 as applicable. The data is from the U.S. Bureau of Economic Affairs.

4.3 LABOR MARKET INTERACTION VARIABLE

Labor market interactions are difficult to measure because public data on such interactions are not easily available. We use one measure of labor market interaction at the country level and expect this measure to have a positive coefficient.

Business Travel to U.S. A country-level proxy for the extent of labor market interaction with the United States is the extent of business travel from the country to the United States. Business visitors have to possess a visa to enter the United States. These data are provided by the U.S. Immigration and Naturalization Service [2001, 2002] in its annual handbook. *Business Travel to U.S.* is the country's share in the total number of business visas granted in 2000 or 2001 as applicable for the particular country.

⁹ We use information from segment disclosures to develop the variables *U.S. Exports* and *U.S. Operations*. Although geographical segment disclosure is not an item scored in the Transparency and Disclosure Survey by S&P, segment disclosure (broken down by business line) is an item used in the scoring. Segment disclosures are therefore endogenous to the disclosure scores. This problem is mitigated in the indicator variables *Has U.S. Exports* and *Has U.S. Operations* because we use a mix of annual report disclosures and other public information to develop them.

4.4 CONTROL VARIABLES

We control at the firm level and country level for the following factors that are documented in earlier research as being associated with disclosure. Data are collected to match the year for which the annual report is used by S&P.

Size. We control for firm size using market capitalization of the company divided by the mean for the country.¹⁰ We also use *Assets* and *Sales* (normalized in a similar way) for robustness checks. Data are for end of fiscal year 2000 or 2001 as applicable.

Analyst Following. We identify the number of analysts following the company from the IBES International database. We use the maximum number of analysts who issue one-year-ahead forecast.¹¹ *Analyst Following* is available for 785 companies of our sample. For the 9 companies that IBES does not cover, we assume that the analyst following is zero. Data are for the year of the annual report, 2000 or 2001 as applicable.

Performance. Prior papers examine the role of past performance on improved disclosure (e.g., Lang and Lundholm [1993], Miller [2002]). We control for past performance using past three-year market-adjusted returns. Data are from the Compustat Global Vantage database and are for end of fiscal year 2000 or 2001 as applicable. Market returns are based on the Morgan Stanley Capital Index from Datastream for that country for the same period.

Financial Leverage. Companies with greater degree of equity financing may disclose more in their public financial statements. We control for this using the debt-equity ratio. Data are from Compustat Global Vantage. Data are for 2000 or 2001 as applicable.

R&D. We control for R&D expenditure because Durnev and Kim [2002] find that companies with greater R&D intensity also disclose more. *R&D* is computed as R&D expenditure over total assets expressed in percentage. Data are from Worldscope. Following Durnev and Kim, we assume that R&D expenditure is zero when data are not available in Worldscope.

¹⁰ Because the sample companies are all constituents of the broad S&P indexes, they tend to be the largest in their home countries. There is a wide variation across countries in the size of the average market capitalization of the sample firms. At the top end, Switzerland and Germany have the largest companies in the sample with average market capitalization of \$U.S. 26.26 billion and \$U.S. 20.28 billion, respectively. At the other end are emerging market countries Pakistan and Thailand, with average market capitalization of \$U.S. 294 and \$U.S. 656 million, respectively. To control for cross-country variation in firm size, we use the normalized size variable.

¹¹ We also use data from the 11th month of the fiscal year to calculate number of analysts following a company, consistent with the methodology in Lang, Lins, and Miller [2003] to check for robustness. Our measure of analyst following takes the maximum across the 12 months. The results are not sensitive to this difference in method.

English Legal Origin. Many recent papers (e.g., La Porta et al. [1998]) highlight the role of legal systems concerning investor protection laws and show that country-level differences in this are associated with hypothesized differences in financial markets. Results generally indicate that *English Legal Origin* is associated with higher levels of disclosure. To control for this potential effect, we use an indicator variable that measures whether the country has an English legal origin.

Stock Return Comovement. Similar disclosure practices can also be the result of similar economies in two countries. We use *Stock Market Comovement* to proxy for this similarity. The variable is the correlation of percentage change in weekly stock market index between the United States and a given country for 2000 or 2001 as applicable. Index data are from Morgan Stanley Stock Index from Datastream.

All of our tests include industry dummies based on the Global Industry Classification System as described earlier. The industry distribution does not appear to vary systematically across countries. We face data limitations because data are not available for all sample companies for all variables. As a result, fewer observations than the sample size of 794 are available to be used in the regression analysis. We can use 750 observations in the tests that use indicator variables for exports and operations and 555 observations in the tests that use actual values for exports and operations variables.

4.5 DESCRIPTIVE DATA FOR INDEPENDENT AND CONTROL VARIABLES

Table 4 provides descriptive statistics for the independent variables and control variables for the sample as a whole and by country. Panel A of table 4 provides descriptive statistics on firm-level variables and panel B provides information on country-level variables.

Of the 794 sample companies, 186 are listed in the United States either as equity or through a level 2 or level 3 ADR listing.¹² The United Kingdom has the most listed companies (48), followed by Japan (25), France (16), the Netherlands (14), and Germany (12).

We find that 494 companies have exports to the United States, with the highest number coming from Japan (117) and the lowest number coming from the Philippines and Indonesia (1). The mean export ratios of the sample companies at the country level behave as might be expected. For our sample, the mean export ratios at the top end are Switzerland (0.32), Sweden (0.30), the Netherlands (0.29), and the United Kingdom (0.26), and at the bottom are China, Pakistan, Philippines, and Thailand, with 0 exports to the United States. In our sample, 339 companies have operations in the United States under our definition of *Has U.S. Operations*. The largest numbers are from the United Kingdom (82), Japan (75), France (30), and Germany (26).

¹² Of the sample companies, 411 are listed in the United States if we consider all types of listing arrangements (including level 1 and Rule 144A ADRs).

TABLE 4
Descriptive Statistics

Country	N	U.S. Listing		U.S. Exports		Has U.S. Exports		U.S. Operations		Has U.S. Operations		Market Cap (\$ billions)		Performance		Financial Leverage		Analysts	R ² D
		U.S. Listing	U.S. Exports	U.S. Exports	Has U.S. Exports	U.S. Operations	Has U.S. Operations	Market Cap (\$ billions)	Performance	Financial Leverage	Analysts	R ² D							
Australia	26	9	0.18	17	0.16	14	9.23	-0.05	0.78	15.0	0.22								
Belgium	8	0	0.20	5	0.07	2	12.87	-0.09	0.35	19.6	1.21								
China	17	8	0.00	3	0.00	0	1.34	0.84	0.30	16.6	0.07								
Denmark	6	2	0.20	4	0.04	3	8.38	0.48	2.38	18.8	18.39								
France	45	16	0.22	38	0.23	30	19.34	-0.30	1.19	25.6	2.35								
Germany	32	12	0.23	29	0.17	26	20.28	-0.10	1.48	34.1	3.63								
Hong Kong	23	2	0.04	7	0.01	3	14.70	0.19	0.25	31.0	0.00								
India	42	8	0.12	18	0.00	11	1.47	3.14	0.58	11.4	0.40								
Indonesia	13	2	0.00	1	0.00	0	0.74	-0.06	0.93	19.1	0.04								
Italy	26	6	0.17	11	0.03	9	15.04	-0.13	1.53	21.3	0.34								
Japan	150	25	0.12	117	0.08	75	13.85	0.57	1.19	15.6	2.31								
South Korea	47	8	0.09	29	0.02	13	2.41	0.65	1.02	14.0	0.32								
Malaysia	51	0	0.01	5	0.00	2	1.22	0.17	1.15	16.5	0.03								
Netherlands	25	14	0.29	24	0.27	22	18.68	-0.20	1.33	28.9	1.45								
Pakistan	10	0	0.00	0	0.00	0	0.29	0.00	0.70	5.1	0.02								
Philippines	9	1	0.00	1	0.00	0	1.65	-0.18	0.64	26.2	0.00								
Portugal	7	3	0.02	2	0.00	0	4.98	-0.10	2.16	18.3	0.00								
Singapore	11	1	0.10	6	0.01	3	7.52	0.25	0.38	27.8	0.28								
Spain	17	5	0.17	8	0.10	6	14.38	-0.19	0.96	27.8	0.30								
Sweden	18	5	0.30	18	0.22	13	9.16	-0.20	1.61	22.3	19.05								
Switzerland	17	7	0.32	14	0.28	13	26.26	-0.07	1.09	24.9	3.43								
Taiwan	40	4	0.21	30	0.01	8	3.39	0.35	0.31	13.1	1.23								
Thailand	27	0	0.00	3	0.00	2	0.66	1.35	1.77	15.0	0.00								
United Kingdom	127	48	0.26	97	0.27	82	14.07	0.02	0.20	11.5	0.97								
Overall Sample	794	186	0.15	494	0.12	339	10.59	0.36	0.91	17.8	1.70								

Panel B: Descriptive statistics of country-level interaction and control variables

Country	U.S. FDI %	U.S. Equity Investment %	U.S. Trade %	Business Visitors to U.S. %	English Legal Origin	Stock Returns Comovement
Australia	8.98	9.73	4.81	1.78	1	0.59
Belgium	8.88	4.64	10.30	0.69	0	0.59
China	0.91	0.41	10.76	1.31	0	0.35
Denmark	4.03	6.99	3.09	0.52	0	0.63
France	2.95	7.79	3.85	3.72	0	0.74
Germany	3.33	5.69	4.83	5.43	0	0.81
Hong Kong	16.30	4.85	15.94	0.37	1	0.60
India	0.32	4.66	3.23	1.00	1	0.34
Indonesia	6.22	5.76	9.33	0.22	0	-0.07
Italy	2.19	4.40	3.10	2.34	0	0.63
Japan	1.55	5.44	4.44	16.30	0	0.28
South Korea	1.95	17.28	14.90	2.20	0	0.43
Malaysia	8.63	2.23	42.66	0.26	1	0.26
Netherlands	34.72	17.63	7.64	1.89	0	0.71
Pakistan	0.80	1.30	4.71	0.20	1	0.08
Philippines	3.64	2.63	30.24	0.63	0	0.06
Portugal	1.67	6.31	2.43	0.34	0	0.42
Singapore	27.78	13.95	40.09	0.35	1	0.39
Spain	3.34	6.45	1.88	1.33	0	0.69
Sweden	8.55	7.42	5.93	0.98	0	0.70
Switzerland	25.42	9.71	7.87	1.09	0	0.73
Taiwan	2.52	7.95	20.93	1.16	0	0.32
Thailand	5.31	6.57	18.42	0.24	1	0.20
United Kingdom	17.47	13.57	5.75	15.79	1	0.77

The table is presented in alphabetical order by country. See table 3 for variable definitions.

^aThe numbers in all columns in panel A except for *U.S. Listing*, *Has U.S. Exports*, and *Has U.S. Operations* are the mean values for the companies for which data are available. For *U.S. Listing*, *Has U.S. Exports*, and *Has U.S. Operations*, the values represent the number of companies in each country that have the respective feature. *Market Cap* is the average market capitalization in billions of U.S. dollars as of the relevant year for the companies in the sample for the given country. In the regression analysis we normalize the firm market capitalization with this country mean.

Because the sample companies tend to be the largest in their home countries, the average market capitalization of the sample is fairly large, US \$10.59 billion. However, there is a wide variation across countries in the size of the average market capitalization of the sample firms. At the top end, Switzerland and Germany have the largest companies in the sample, with average market capitalizations of \$US26.26 billion and \$US20.28 billion, respectively. At the other end are emerging market countries Pakistan and Thailand, with average market capitalizations of \$US294 million and \$US656 million, respectively.

The firms in the sample have performed well on average in terms of their stock returns. Recall that for this computation, we use the return on the Morgan Stanley Country Index as the market return. The average market-adjusted return for the sample is 36% over the three years before the year in which disclosure was measured for these firms. Thus, the sample companies have significantly outperformed their respective broad country indexes. There is, of course, some variation in this measure across countries. Whereas companies in India, China, and Thailand have large average positive market-adjusted returns, companies in France, the Netherlands, and Sweden have average negative market-adjusted returns.

The mean level of analyst coverage of our sample companies is high at 17.8 (range = 1 to 45). At the country level, the highest average analyst followings are in Germany (34) and Hong Kong (31). The least mean analyst followings are in Pakistan (5) and India (11).

Panel B of table 4 presents descriptive statistics for country-level market interaction variables. These data show that there is a wide variation across countries in terms of the level of market interaction with the United States. *U.S. FDI* (U.S. FDI/GDP) varies from a low of 0.32% in India to a high of 34.72% in the Netherlands, and *U.S. Trade* (U.S. trade/GDP) varies from 1.88% in Spain to 42.66% in Malaysia. *U.S. Equity Investment* (U.S. equity/market capitalization) varies from 0.41% in China to 17.63% in the Netherlands. *Stock Return Comovement* between the domestic market and the U.S. market varies from a low of -0.07 in Pakistan to a high of 0.81 in Germany. Eight of the 24 sample countries have an English common law legal origin, and the remaining 16 have a different legal origin. Finally, countries vary widely in their use of U.S. business travel visas. Pakistan accounts for 0.2% of all U.S. business visas, whereas Japan accounts for 16.30%.

In sum, there is a wide variation in our sample in the level of market interaction with the United States, at both the firm and country levels. The next section examines whether this variation is associated with the variation in disclosures scores for the sample firms documented in table 2.

5. Results

Table 5 provides univariate correlations between variables. Transparency has a positive and significant correlation with *U.S. Listing*, *U.S. Equity Investment*, *U.S. FDI*, *U.S. Exports*, *Has U.S. Exports*, *U.S. Operations*, *Has U.S. Operations*, *Business Travel to U.S.*, *Size*, *Analyst Following*, *R&D*, *English Legal*

TABLE 5
Univariate Correlations

	Overall	Transparency	Financial	Listing	U.S. Equity	U.S. FDI	Has U.S. Exports	U.S. Exports	Has U.S. Operations	U.S. Operations	U.S. Trade	U.S. Business Travel to U.S.	Size	Analysts	Financial Leverage	Performance	R&D	English Legal Origin	
Overall	1																		
Transparency		1																	
Financial			1																
U.S. Listing				1															
U.S. Equity					1														
U.S. FDI						1													
Has U.S. Exports							1												
U.S. Exports								1											
Has U.S. Operations									1										
U.S. Operations										1									
U.S. Trade											1								
Business Travel to U.S.												1							
Size													1						
Analysts														1					
Financial															1				
Leverage																1			
Performance																	1		
R & D																		1	
English Legal																			1
Origin																			
Stock Return																			
Comment																			

Please see table 3 for variable definitions. The numbers shown are Pearson correlations. Spearman correlations, not shown for brevity, are consistent with Pearson correlations. * indicates significance at the 5% level (two tailed).

Origin, and Stock Return Comovement. Financial Transparency is also significantly and positively correlated with the same set of variables, except *English Legal Origin*. *U.S. Trade* is negatively correlated with overall transparency and with financial transparency. These correlations provide a preliminary indication that several of our U.S. market interaction variables and control variables are associated with disclosure scores of foreign firms.

There are also some significant correlations across the independent variables. Most notably, *U.S. Exports* and *U.S. Operations* (and the corresponding indicator variables) are highly correlated (0.79 and 0.69, respectively). There is a large significant correlation between *U.S. Equity Investment* and *U.S. FDI* (0.61).

Given the magnitude of these correlations among the independent variables, it is difficult to draw inferences when we include all of the variables in a multivariate regression. To address this issue, we perform factor analysis of all of the market interaction variables (with varimax rotation) to identify common factors.

The factor analysis (not tabulated) allows us to identify two common factors. *U.S. Exports* and *U.S. Operations* (and the respective indicator variables) load on the same factor. We label this underlying construct as *Operations Interaction*. The two country-level variables *U.S. Equity Investment* and *U.S. FDI* also load on a common factor. We label this *Investment Interaction*. None of the other market interaction variables load on common factors that have an eigenvalue greater than 1; therefore, we treat them as separate variables. This result is consistent with the observed correlation pattern.¹³ In the multivariate analysis we present results using these two factors and not the individual variables underlying the two factors.

5.1 MULTIVARIATE ANALYSIS

We use the firm- and country-level interaction measures in a regression analysis to examine the association between disclosure and economic interaction with the United States. We include industry fixed effects and control variables. For the country-level variables, the effective sample size is only 24. Furthermore, the independent variables could be clustered by country and the ordinary least squares (OLS) standard errors are likely to be understated. We therefore follow the procedure in Rogers [1983] and Cohen, Polk, and Vuolteenaho [2003] to correct the standard errors used in our tests. To test the robustness of these results, we conduct a second set of tests where we remove all country-level measures and instead include country fixed effects.

We present results for the regression with the overall transparency score as the dependent variable in table 6. Model 1 includes the *Operations Interaction* factor formed using indicator variables for U.S. exports and operations (rather than actual magnitudes of these variables), leading to the maximum

¹³ We also repeat the factor analysis where we only include the four variables *U.S. Operations*, *U.S. Exports* (and their corresponding indicator variables), *U.S. Equity Investment*, and *U.S. FDI* in the factor analysis. The results are invariant to this procedure change.

TABLE 6

Overall Transparency and Interaction with U.S. Markets

Regression estimates of overall transparency score on company- and country-level U.S. interaction variables, control variables, and industry dummies are reported. All variables are defined in table 3. Industry dummies are based on Global Industry Classification Standards. In model 1, the indicator variables for U.S. exports and operations are used in the factor analysis to create the *Operations Interaction* variable, and in model 2 the actual magnitude of U.S. exports and operations are used. The *t*-statistics (in parentheses) are robust to heteroskedasticity and are corrected for clustering by country. *N* refers to the number of observations used in each model. * and ** indicate significance at the 5% and 1% levels, respectively (two-tailed).

	Model 1	Model 2
Industry dummies	Included	Included
<i>U.S. Listing</i>	0.63 (4.27)**	0.45 (3.08)**
<i>Investment Interaction</i>	0.21 (3.97)**	0.21 (2.98)**
<i>Operations Interaction</i>	0.22 (4.68)**	0.25 (3.32)**
<i>U.S. Trade</i>	-0.01 (-0.41)	0.00 (-0.1)
<i>Business Travel to U.S.</i>	0.08 (4.61)**	0.09 (5.18)**
<i>Size</i>	0.01 (0.2)	0.03 (0.88)
<i>Analysts</i>	0.02 (1.4)	0.02 (1.64)
<i>Financial Leverage</i>	0.01 (0.77)	0.00 (0.22)
<i>Performance</i>	0.03 (2.97)**	0.03 (3.49)**
<i>R&D</i>	0.01 (4.08)**	0.01 (1.94)
<i>English Legal Origin</i>	0.43 (3.82)**	0.32 (2.43)*
<i>Stock Return Comovement</i>	2.00 (2.78)**	2.17 (2.93)**
Constant	3.43 (5.72)**	3.15 (4.92)**
<i>N</i>	750	555
Adjusted <i>R</i> ²	0.598	0.586

possible sample size of 750 observations. Model 2 alters model 1 by using actual magnitude of U.S. exports and operations in forming the *Operations Interactions* factor, reducing the sample size to 555. Both of the models include all of the remaining firm- and country-level explanatory variables, and all of the firm- and country-level controls.

Model 1 estimates show that transparency is positively associated with the *U.S. Listing*, *Investment Interaction*, *Operations Interaction*, and *Business Travel to U.S.*¹⁴ *U.S. Trade* has an insignificant coefficient. Among the control variables, *Performance*, *R&D*, *English Legal Origin*, and *Stock Return Comovement* are significantly associated with the overall transparency score. Model 2 leads to identical inferences. The firm- and country-level market interaction variables, along with the control variables, explain a significant portion (59.8% in model 1 and 58.6% in model 2) of the variation in the overall transparency scores.

The financial market interaction variables at both the company and country levels have a positive coefficient. The positive coefficient on *U.S. Listing* is not surprising. *U.S. Listing* requires providing disclosures according to U.S. standards. Thus, companies that list on U.S. stock exchanges provide U.S.-style disclosures either because of listing regulations or because of

¹⁴ Throughout this section, we use a level of 5% or lower as a cutoff for identifying statistically significant results.

self-selection by the listing companies. The results also show that *Investment Interaction* at the country level, through FDI or portfolio investment, are associated with similarities in disclosure.

At the firm level, the positive and significant coefficient on *Operations Interaction* indicates that such interaction is associated with U.S.-style disclosure. At the country level, *U.S. Trade* does not have a statistically significant association with disclosure similarities.

Among the firm-level control variables, there is a positive association between *Performance* and disclosure. Clearly, international firms that adopt U.S. disclosure practices also appear to be good performers. Consistent with the result in Durnev and Kim [2002], *R&D* is positively associated with disclosure. At the country level, *English Legal Origin* and *Stock Return Comovement* have a positive association with U.S.-style disclosure practices.

5.2 ROBUSTNESS CHECKS

5.2.1. Analysis of Financial Disclosure. As discussed in section 3, the overall transparency score consists of not only traditional disclosures related to financial statements but also disclosures related to ownership and governance. To see whether the observed relationships between market interaction and disclosure similarities hold when the focus is on the core financial statement disclosures, we re-estimate the two models in table 6 by substituting the overall transparency score with its component, *Financial Disclosure*.

We present the results in table 7. Results show that the associations with market interaction variables observed in table 6 hold up when *Financial Disclosure* is the dependent variable. *U.S. Listing*, *Investment Interaction*, *Operations Interaction*, and *Business Travel to U.S.* are all significantly and positively associated with the financial disclosure scores. *U.S. Trade* once again has an insignificant coefficient.

Among the control variables, *R&D* and *Stock Return Comovement* continue to have significant and positive coefficients. *Performance* has a positive coefficient significant at the 10% (two-sided) level. Unlike in table 6, *Size* and *Analysts* also have significant and positive coefficients; *English Legal Origin*, which had a significant coefficient in table 6, is not significant in table 7.

We conclude from this analysis that the relation between market interaction variables and transparency is similar, whether one looks at the overall transparency or only financial transparency. There are, however, some differences in the relation between the control variables and the two types of transparency scores. It is also interesting to note that *English Legal Origin* is significant when the dependent variable is *Overall Transparency* and not with financial disclosure scores. This suggests that, although sample companies from non-English legal origin countries are similar to their counterparts from English legal origin countries with respect to similarity with U.S. practices on the financial disclosure dimension, ownership and governance systems are stickier.¹⁵

¹⁵ This is consistent with Bushman, Piotroski, and Smith (2004). We thank a conference participant for bringing this to our attention.

TABLE 7

Financial Disclosures and Interaction with U.S. Markets

Regression estimates of financial disclosure score on company- and country-level U.S. interaction variables, control variables, and industry dummies are reported. All variables are defined in table 3. Industry dummies are based on Global Industry Classification Standards. In model 1, the indicator variables for U.S. exports and operations are used in the factor analysis to create the *Operations Interaction* variable, and in model 2 the actual magnitude of U.S. exports and operations are used. The *t*-statistics (in parentheses) are robust to heteroskedasticity and are corrected for clustering by country. *N* refers to the number of observations used in each model. * and ** indicate significance at the 5% and 1% levels, respectively (two-tailed).

	Model 1	Model 2
Industry dummies	Included	Included
<i>U.S. Listing</i>	0.71 (6.45)**	0.66 (6.34)**
<i>Investment Interaction</i>	0.11 (2.06)*	0.10 (2.08)*
<i>Operations Interaction</i>	0.16 (2.49)*	0.12 (2.32)*
<i>U.S. Trade</i>	0.00 (0.20)	0.00 (0.60)
<i>Business Travel to U.S.</i>	0.09 (8.72)**	0.09 (10.04)**
<i>Size</i>	0.04 (1.29)	0.05 (2.31)*
<i>Analysts</i>	0.02 (2.31)*	0.02 (2.52)*
<i>Financial Leverage</i>	0.00 (-0.32)	0.00 (-0.4)
<i>Performance</i>	0.02 (1.85)	0.02 (1.88)
<i>R&D</i>	0.01 (1.92)	0.02 (5.02)**
<i>English Legal Origin</i>	0.00 (0.01)	-0.05 (-0.23)
<i>Stock Return Comovement</i>	1.29 (3.15)**	1.33 (3.33)**
Constant	5.21 (13.83)**	4.79 (11.83)**
<i>N</i>	750	555
Adjusted <i>R</i> ²	0.552	0.531

5.2.2. Country Fixed Effects. As the descriptive statistics in table 4 show, there are systematic country patterns among the firm-level market interaction variables. Also, as discussed in the sample section, there are potentially unknown sample-selection biases as a result of the way S&P selects companies to include in its stock indexes. To assess the sensitivity of our findings on company-specific market interaction variables, we attempt to control for these patterns by including country-level variables in the multivariate analysis discussed earlier. We test the robustness of the results reported in the previous sections by removing the country-level variables and instead using country fixed effects. For these tests, we present results using model 1 in tables 6 and 7.¹⁶ Table 8 reports the results for two regressions: with the overall transparency score and with the financial disclosure score as the independent variable. As before, we also include industry fixed effects in these models to control for any industrywide effects.

Results in table 8 show that the earlier associations observed between firm-level market interaction variables and disclosure remain when country fixed effects are included. *U.S. Listing* and *Operations Interaction* are positively associated with overall transparency and financial disclosure. We are not able

¹⁶ Results using model 2 are similar.

TABLE 8
Tests Using Country Fixed Effects

Regression estimates of overall transparency score and subsection scores for financial disclosures on all firm-level U.S. interaction variables, country fixed effects, industry fixed effects, and firm-level control variables are reported. All variables are defined in table 3. The indicator variables for U.S. exports and operations are used in the factor analysis to create the *Operations Interaction* variable. Industry dummies are based on Global Industry Classification Standards. The *t*-statistics (in parentheses) are robust to heteroskedasticity and are corrected for clustering by country. *N* refers to the number of observations used in each model. * and ** indicate significance at the 5% and 1% levels, respectively (two-tailed).

	Overall Transparency	Financial
Industry dummies	Included	Included
Country dummies	Included	Included
<i>U.S. Listing</i>	0.60 (4.7)**	0.70 (6.93)**
<i>Operations Interaction</i>	0.17 (4.58)**	0.16 (2.47)*
<i>Size</i>	0.04 (1.42)	0.07 (3.01)**
<i>Analysts</i>	0.01 (1.56)	0.00 (0.78)
<i>Financial Leverage</i>	0.00 (-0.3)	-0.01 (-0.79)
<i>Performance</i>	0.03 (10.6)**	0.02 (2.35)*
<i>R&D</i>	0.01 (2.66)*	0.00 (0.72)
Constant	4.62 (18.56)**	7.02 (34.02)**
<i>N</i>	750	750
Adjusted R^2	0.756	0.617

to include the country-level interaction variables in these country fixed-effects regressions. Company-level control variables also show significant associations with the transparency scores. *Performance* is positively associated with disclosure in both cases, *R&D* is significantly associated with the overall transparency score, and *Size* is significantly associated with the financial transparency score. Both models explain a large amount of the variation in the dependent variable, with an adjusted R^2 of .76 for transparency and an adjusted R^2 of .62 for financial disclosure.

5.2.3. Definition of U.S. Listing. In our analysis thus far we use a strict definition of *U.S. Listing*, that is, listing as equity and level 2 and level 3 ADR. Under this definition, 186 firms in the sample are classified as U.S. listed. However, another 225 sample firms are listed as level 1 or Rule 144A ADRs. These types of listings allow a company to raise funds in U.S. capital markets and do not subject them to stricter SEC disclosure rules, but they might have an impact on companies' voluntary disclosures. By not including these firms in our classification of U.S.-listed firms, we might be reaching erroneous conclusions on the relation between *U.S. Listing* and disclosure levels. Furthermore, 96 of these 225 firms listed as level 1 or Rule 144A ADRs also have U.S. operations, and 144 of the 225 have U.S. exports. Therefore, the positive association between *Interaction Factor* and disclosure documented earlier might be due in part to the way we classify these firms for *U.S. Listing*.

We repeat all estimations in tables 6 to 8 (results not reported in tables) to examine the effect of our *U.S. Listing* definition on our results using a more expansive definition of *U.S. Listing* that classifies firms with all types of listing as U.S. listed. Results show that the association between *U.S. Listing* and disclosure becomes weaker under this weaker definition of listing. However, the results for all other variables, including *Operations Interaction*, remain unchanged.

We conclude that the positive association between disclosure and *Operations Interactions* documented in our earlier tests is not caused by the firm-level product market variables' picking up the effect of a strict classification of U.S. listing. Also, a more expansive definition of *U.S. Listing* only weakens the association between *U.S. Listing* and disclosure.

5.2.4. Excluding Japan from the Sample. Because Japan contributes the largest number of firms from any one country to the sample, we repeat the tests in tables 6 through 8 after excluding Japanese companies. The conclusions regarding the association between the market interaction variables and the disclosure scores remain unchanged when the sample excludes Japan.

6. Discussion and Conclusions

The empirical analysis presented here examines the hypothesis that foreign companies that have significant interactions with U.S. product, labor, and financial markets are more likely to use U.S. disclosure practices relative to those that do not have such interactions. We test this hypothesis using a sample of 794 companies from 24 countries from Asia, the Asia-Pacific, and Europe. We use scores from S&P's Transparency and Disclosure Survey for the companies in our analysis. These scores use the U.S. disclosure standards as an implicit benchmark; therefore, they measure the degree of similarity of a company's disclosure practices to U.S. practices. To measure the extent of market interaction with the United States, we hand collect a variety of country- and company-level variables.

The results indicate that U.S. listing by a company, the extent of investment interaction (through U.S. FDI or equity investments in the company's country), the extent of operations interaction (through a company's exports to or operations in the United States), and the extent of business travel to the United States from the company's country are all positively associated with a company's disclosure scores. We do not find a significant association between a country's trade with the United States and the disclosure scores of companies in that country. Our analysis controls for the previously documented association of disclosure with firm size, performance, analyst following, R&D intensity, financial leverage, and country legal origin.

Our findings are consistent with the view that market interactions are associated with similarities in disclosure practices, either because countries choose to adopt regulations that lead to similarities in disclosure practices or companies voluntarily adopt practices to facilitate market transactions.

However, there are several potential limitations to our study that warrant caution in interpreting our results. First, because we are able to present only correlational evidence, it is not possible to draw causal inferences.¹⁷ Second, because we only have one year of data, we do not test convergence in a literal sense. Rather, our analysis is about similarities in disclosure at a point in time. Third, our measure of disclosure does not allow us to distinguish between the quantity and quality of disclosure, or between voluntary and mandatory disclosures. Fourth, because of data limitations, we rely on a sample preselected by S&P for inclusion in the respective stock indexes. Clearly, this is not a random sample, leading to potentially unknown biases in the research design. Fourth, although our sample consists of several hundred firms, they are drawn from only 24 countries. Therefore, there are issues of cross-sectional correlation. This is of particular concern with respect to country-level variables. Although we take care to correct for the resulting biases in our statistical tests, we must ultimately recognize the data limitations arising from the cross-country research design. Despite these limitations, we believe our study provides useful evidence on the relation between globalization and corporate disclosure practices.

Our study focuses on a narrow aspect of the broader debate related to the impact of market globalization on the convergence of corporate governance practices. We study only one element of corporate governance, namely, corporate disclosure and transparency. We also study interactions only with U.S. markets. Much further work remains to be done to resolve the debate regarding the relation between globalization and corporate governance convergence.

APPENDIX

Standard & Poor's Transparency and Disclosure Survey Questions

The transparency and disclosure scores provide a measure of a company's public disclosures. The scores are developed by searching company annual reports for the 98 items listed in this appendix. The company receives 1 point when it provides information on an item. The results from the following 98 questions are converted into a percentage and then translated into scores from 1 to 10; for example a percentage of 11% to 20% gets a score of 2, and a percentage from 71% to 80% gets a score of 8. According to S&P, the scores are designed to be unaffected by nondisclosure of items that are not applicable. The scores are not released to the public by S&P, but the rankings are made available from its Web site: www.standardandpoors.com. The 98 items are grouped into three subcategories as shown in the following table.

¹⁷ In a clinical study of Infosys Technologies Limited, a leading software company based in India, Khanna and Palepu [2001] find that intense global product market competition and the consequent need to attract talent (with global options) caused the company to adopt high-quality corporate governance. Exposure to global capital markets was the result rather than the cause of improved governance standards.

Financial Transparency and Information Disclosure

Does the company in its annual accounts disclose:

- 1 its accounting policy?
- 2 the accounting standards it uses for its accounts?
- 3 accounts according to the local accounting standards?
- 4 accounts according to an internationally recognized accounting standard (IAS/U.S. GAAP)?
- 5 its balance sheet according to international accounting standard (IAS/U.S. GAAP)?
- 6 its income statement according to international accounting standard (IAS/U.S. GAAP)?
- 7 its cash flow statement according to international accounting standard (IAS/U.S. GAAP)?
- 8 a basic earnings forecast of any kind?
- 9 a detailed earnings forecast?
- 10 financial information on a quarterly basis?
- 11 a segment analysis (broken down by business line)?
- 12 the name of its auditing firm?
- 13 a reproduction of the auditors' report?
- 14 how much it pays in audit fees to the auditor?
- 15 any non-audit fees paid to auditor?
- 16 consolidated financial statements (or only the parent/holding company)?
- 17 methods of asset valuation?
- 18 information on method of fixed assets depreciation?
- 19 a list of affiliates in which it holds a minority stake?
- 20 a reconciliation of its domestic accounting standards to IAS/U.S. GAAP?
- 21 the ownership structure of affiliates?
- 22 details of the kind of business it is in?
- 23 details of the products or services produced/provided?
- 24 output in physical terms (number of users, etc.)?
- 25 characteristics of assets employed?
- 26 efficiency indicators (ROA, ROE, etc.)?
- 27 any industry-specific ratios?
- 28 a discussion of corporate strategy?
- 29 any plans for investment in the coming year(s)?
- 30 detailed information about investment plans in the coming year(s)?
- 31 an output forecast of any kind?
- 32 an overview of trends in its industry?
- 33 its market share for any or all of its businesses?
- 34 a list/register of related party transactions?
- 35 a list/register of group transactions?

Board and Management Structure and Process

Does the company in its annual accounts disclose:

- 1 a list of board members (names)?
- 2 details about directors (other than name/title)?
- 3 details about current employment/position of directors?
- 4 details about previous employment/positions?
- 5 when each of the directors joined the board?
- 6 classification of directors as an executive or an outside director?
- 7 a named chairman?
- 8 details about the chairman (other than name/title)?
- 9 details about role of the board of directors at the company?
- 10 a list of matters reserved for the board?
- 11 a list of board committees?
- 12 the existence of an audit committee?

- 13 the names on the audit committee?
- 14 the existence of a remuneration/compensation committee?
- 15 the names on the remuneration/compensation committee?
- 16 existence of a nomination committee?
- 17 the names on the nomination committee?
- 18 the existence of other internal audit functions besides the Audit Committee?
- 19 the existence of a strategy/investment/finance committee?
- 20 the number of shares in the company held by directors?
- 21 a review of the last board meeting (e.g., minutes)?
- 22 whether they provide director training?
- 23 the decision-making process of directors' pay?
- 24 the specifics of directors' pay (e.g., the salary levels, etc.)?
- 25 the form of directors' salaries? (e.g., cash, shares, etc.)
- 26 the specifics on performance-related pay for directors?
- 27 the decision-making of managers' (not board) pay?
- 28 the specifics of managers' (not on board) pay (e.g., salary levels, etc.)?
- 29 the form of managers' (not on board) pay?
- 30 the specifics on performance-related pay for managers?
- 31 the list of the senior managers (not on the board of directors)?
- 32 the backgrounds of senior managers?
- 33 the details of the CEO's contract?
- 34 the number of shares held by the senior managers?
- 35 the number of shares held in other affiliated companies by managers?

Ownership Structure and Investor Relations

Does the company in its annual accounts disclose:

- 1 number of issued and outstanding ordinary shares?
 - 2 number of issued and outstanding other shares disclosed (preferred, non-voting)?
 - 3 par value of each ordinary share?
 - 4 par value of each other shares (preferred, non-voting)?
 - 5 number of authorized but unissued and outstanding ordinary shares?
 - 6 number of authorized but unissued and outstanding other shares?
 - 7 par value of authorized but unissued and outstanding ordinary shares?
 - 8 par value of authorized but unissued and outstanding other shares?
 - 9 top 1 shareholder?
 - 10 top 3 shareholders?
 - 11 top 5 shareholders?
 - 12 top 10 shareholders?
 - 13 description of share classes?
 - 14 review of shareholders by type?
 - 15 number and identity of shareholders holding more than 3%?
 - 16 number and identity of shareholders holding more than 5%?
 - 17 number and identity of shareholders holding more than 10%?
 - 18 percentage of cross-ownership?
 - 19 existence of a Corporate Governance Charter or Code of Best Practice?
 - 20 Corporate Governance Charter or Code of Best Practice itself?
 - 21 details about its Articles of Association. (e.g., changes)?
 - 22 voting rights for each voting or non-voting share?
 - 23 way that shareholders nominate directors to board?
 - 24 way shareholders convene an EGM?
 - 25 procedure for putting inquiry rights to the board?
 - 26 procedure for putting proposals at shareholders meetings?
 - 27 review of last shareholders meeting (e.g., minutes)?
 - 28 calendar of important shareholders dates?
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