

**The Relevance of Target Accounting Quality
to the Long-term Success of Cross-border Mergers**

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ABSTRACT

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We investigate a sample of cross-border mergers involving U.S. firms that acquired foreign targets between 1985 and 1995. Our general interest is in the long-term success of the acquisitions, measured by the post-merger abnormal returns to the U.S. acquirers. Our primary focus is the relationship between the quality of the foreign target's accounting disclosures and the acquisition's long-term success.

Employing a procedure recommended by Lyon et al. (1999), we find that U.S. acquirers in cross-border mergers experience significantly negative long-term abnormal returns post-merger. These returns also are significantly more negative than those realized by a matched sample of U.S. acquirers that acquired U.S. targets.

To investigate the potential association between the U.S. acquirers' post-acquisition returns and target firms' accounting disclosures, we classify the merger transactions by target firm home country. We define variables to reflect the quality of accounting disclosures and control for other important country-specific features. The results reveal that post-merger abnormal returns are less negative for acquirers of targets based in countries where accounting data is less value relevant. This may be due to a higher cost of capital for target firms in these countries, resulting in a built-in discount in the pricing of targets. An examination of the premiums paid in a subset of 79 cross-border mergers reveals evidence consistent with this contention: premiums are lower for target firms based in countries where accounting data is less value relevant. These results suggest that shareholders of targets from such countries pay a price for their country's institutional framework that makes accounting information less value relevant.

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1. Introduction

Cross-border mergers are a fundamental characteristic of the global business landscape (Finkelstein 1999). In 1985, cross-border merger activity consisted of 350 transactions (inbound and outbound) involving \$31.6 billion in value. By 1995, cross-border merger activity had more than quadrupled in frequency (1,591 transactions) and had more than tripled in value (\$101.1 billion). With respect to transactions involving U.S. firms as acquirers of non-U.S. targets (outbound), the increases are more dramatic, from 98 such transactions (\$3.7 billion in value) completed in 1985, to 994 such transactions (\$46.8 billion in value) completed in 1995. Thus, on an aggregate basis, cross-border transactions in which the U.S. firm is an acquirer are an increasingly important component of a growing market of cross-border mergers and acquisitions. Presumably the impetus for this phenomenal growth is the pressing need for U.S. firms to take advantage of opportunities available in a global marketplace. The importance of these transactions extends to the firm level, where they often involve unique characteristics and substantial investment that require decisions both challenging and essential to the acquiring firm's future success.

It is important to study cross-border mergers separately for several reasons. First, post-merger integration challenges accompany the opportunities in a global marketplace, and these are magnified in the cross-border setting due to differences in corporate culture, labor relations, and customer relationships of the target firm. More tangible and at least as daunting to manage are differences in corporate governance and legal and regulatory environments. Thus, there exists a seeming contradiction between widespread acceptance that cross-border transactions are more challenging and the aggregate evidence of their increasing frequency and magnitude. This paradox makes it unclear whether these transactions are beneficial to shareholders of the acquiring firms.

Secondly, existing research on cross-border mergers has focused on short windows around the announcement date (e.g., Markides and Ittner 1994, Doukas and Travlos 1988). Evidence for long-term

performance subsequent to cross-border transactions is limited, with the most recent work focused on U.K. and Canadian acquirers. Furthermore, recent evidence reveals that short-term bidder reaction to merger announcements is significantly worse for cross-border transactions than for domestic transactions (Wei 2002, Moeller and Schlingemann 2005).¹ Combined, this evidence raises questions that make it important to examine the long-run performance of cross-border transactions.

Finally, evidence that disclosures based on foreign GAAP differ in informativeness and timeliness relative to disclosures under U.S. GAAP (Alford et al. 1993) implies that domestic acquirers of foreign targets will face challenges in using targets' foreign financial statements for valuation and pricing. Other evidence (Dewenter 1995, Cheng et al. 1997) suggests that premiums paid by foreign investors are either the same or lower than those paid by domestic investors.² This study's focus on outbound transactions allows investigation of the implications of target accounting quality for the success of cross-border transactions in which the acquirer is a U.S. firm accustomed to U.S. GAAP and the target is a foreign firm utilizing accounting methods that differ from U.S. GAAP.

We base our study on examination of 361 acquisitions of foreign targets by U.S. firms between 1985 and 1995. To evaluate the success of these transactions, we examine the acquirer's abnormal stock-price response for the announcement period and for the one-, three- and five-year post-merger windows. We measure and test long-run returns using a procedure recommended by Lyon et al. (1999) to minimize bias. Then we consider the potential role of differences in accounting systems in explaining the long-run returns. We hypothesize that factors that indicate target accounting data is less value relevant will affect how acquiring firms price targets in these countries. By necessity, our hypothesis is non-directional. It is

¹ In addition, in the case of domestic (U.S.) acquisitions, research provides strong and consistent evidence that the acquiring firm's post-merger performance is negative (e.g., Loughran and Vijh 1997, Agrawal et al. 1992).

² This is consistent with the perception that U.S. firms acquire foreign firms because the pricing in foreign transactions is consistently better than that available for acquisitions of other U.S. firms (e.g. Porter 1997).

equally likely *a priori* that the acquiring firms' use of less value relevant accounting information will result in overpayment or underpayment for target firms, as we explain below.³

We find that for all acquisitions involving U.S. acquiring firms and foreign targets, acquirers' long-term abnormal returns are significantly negative (three- and five-year windows), consistent with prior research regarding domestic mergers (Agrawal and Jaffe 2000) and cross-border mergers involving U.K. acquirers of foreign targets (Gregory and McCriston 2005; Conn et al. 2005) or Canadian cross-border bidders (Andre et al. 2004). In contrast, we find at the time of the merger's announcement, U.S. acquiring firms achieve a small positive abnormal return (7- and 11-day windows). The contrast with the long-run results suggests that the market's optimism at the outset regarding the merger was unwarranted.⁴

When we partition target firms based upon factors associated with less value relevant accounting data (Ali and Hwang 2000), we find the long-term abnormal return is significantly more negative when national accounting standards in the target firm's home country are set by private-sector bodies (versus those set solely by governmental bodies). The return also is significantly more negative when the target firm's home country is classified as a British-American (versus a Continental) model country. This suggests that U.S. acquirers are less likely to be penalized, in terms of negative long-term abnormal returns, when purchasing targets in countries with accounting systems that provide less value relevant information.

A potential explanation for these results is that the lack of value relevant accounting information in the target firm's home country leads to a higher cost of capital for target firms in those countries, which results in a built-in discount to U.S. acquiring firms and lower purchase-price premiums for foreign target firms. Such an explanation is consistent with Merton's (1987) suggestion that increased investor

³ The challenges in pricing foreign targets are comparable to the challenges in using foreign earnings measures. International accounting differences, whether they result in upward or downward biases in earnings, add noise to the reported earnings number, making it more difficult to perform accurate financial analysis (Choi and Levich 1991).

⁴ Jensen and Ruback (1983) were among the first to note a similar outcome and commented at the time, "These post-outcome negative abnormal returns are unsettling because they are inconsistent with market efficiency and suggest that changes in stock prices overestimate the future efficiency gains from mergers." Agrawal et al. (1992) pursue the anomaly noted in Jensen and Ruback (1983). The results again reveal a negative relation between announcement period returns and the acquirers' post-merger performance (5 years).

recognition of those measures associated with international cross-listing also will be associated with reduced cost of capital for firms.⁵ Our investigation of the premiums involved for a subset of 79 mergers in our sample supports this proposition. Transaction premiums are significantly smaller for target firms from countries that do not involve the private sector in accounting standard setting, from countries classified as Continental, or from countries where financial and tax reporting are closely aligned. Our results suggest targets from such countries pay a price, in terms of lower premiums, for their country's use of accounting standards that are less value relevant.

Our results contribute to both the academic and the conceptual debate over the harmonization of accounting standards. Existing research on cross-border mergers is limited to the examination of announcement-period abnormal returns. By addressing the important question of long-term performance and finding evidence comparable to the long-term results of purely domestic transactions, we fill an important gap in the literature. In a more conceptual sense, we provide evidence relevant to the discussion of harmonization. The basis for the International Accounting Standards Board's (IASB) conceptual framework is value relevance (Choi et al. 1992). Ali and Hwang (2000) show that countries with low demand for information from published financial reports tend to employ accounting practices that produce data with low value relevance, and Choi et al. find that some of these countries criticize the IASB's conceptual framework. Our results demonstrate a scenario in which resisting countries would benefit from harmonization, since target firms in resisting countries perhaps bear a higher cost of capital and certainly, on our evidence, realize smaller premiums when purchased.

The remainder of the paper is organized as follows. In section 2, we discuss prior related literature and our hypotheses. In section 3, we discuss our research methodology and sample. In section 4, we present our results. Finally, we conclude with a summary of findings and suggestions for future research.

⁵ Merton's theory has been upheld empirically by several studies (e.g., Miller 1999 and Baker et al. 2002).

2. Prior Literature and the current study

2.1 INTERNATIONAL ACCOUNTING DIFFERENCES

As mentioned in the prior section, there are unique difficulties in cross-border mergers. One such difficulty involves the acquirer's interpretation of foreign GAAP. Since a target's financial statements will have been prepared under the GAAP of its home country, potential U.S. acquiring firms must acclimate themselves to this issue when preparing their offers.⁶ Radebaugh and Gray (1997) discuss the problems that international accounting differences add to financial statement analysis, such as the tendency to view earnings and other financial data from a home country perspective, thereby assuming away the effects of accounting differences. In a survey of investment professionals in five countries, Choi and Levich (1991) find that international accounting diversity often influences capital market decisions. Although there is evidence that accounting worldwide is becoming more comparable (e.g., Land and Lang 2000), major differences remain.⁷ International differences in GAAP have been shown to affect the value relevance of accounting earnings: Ali and Hwang (2000) and Ball et al. (2000) both find the returns-earnings relationship is weaker in nations with low demand for information from published financial reports (e.g., Germany and Japan), and Alford et al. (1993) report that the proportion of returns explained by accounting earnings varies across countries.

In terms of the role of accounting in cross-border mergers, Rossi and Volpin (2004) report evidence that the volume of merger activity (number of targets acquired) is higher in countries with better accounting standards. This finding is consistent with their argument that acquirers find it easier to identify targets in countries with better accounting standards.

⁶ Haller (2002) concludes that even within Europe, where European Union (E.U.) directives have prodded efforts toward harmonization of financial accounting information, "the contents of the accounts and financial figures are often so different that they cannot be compared and analysed decently on a cross-border basis without taking national particulars into account and subsequently arranging reconciliation (p. 159)."

⁷ It has recently been stated that "to a great extent, the cause of differences, and any understanding of real underlying performance, is hidden to the external user" (Whittington 2000, p. 400). Samuels et al. (1995) conclude that outsiders would not have enough information available to translate financial statements from six European countries.

2.2 POST-MERGER SUCCESS

2.2.1 Domestic transactions

Most empirical research (e.g., Bradley et al. 1988, Malatesta 1983) examines short-window abnormal returns. Loughran and Vijh (1997) summarize this research as showing that acquiring shareholders earn little or no abnormal returns from tender offers and negative abnormal returns from mergers. Long-window studies of the post-merger market performance of acquiring firms in domestic deals also provide mixed evidence. Agrawal and Jaffe (2000) summarize this literature as suggesting “strong evidence of an anomaly following mergers,” because research reports significant negative abnormal returns for acquiring firms, though only for mergers, not for tender offers.

Agrawal et al. (1992), studying nearly the entire population of mergers between NYSE and AMEX targets and NYSE acquiring firms between 1955 and 1987, find that stockholders of acquiring firms in mergers realize a loss of approximately 10 percent over the five-year post-merger period, while stockholders of acquiring firms in tender offers realize no loss over this same period. Loughran and Vijh (1997), examine acquisitions by U.S. firms between 1970 and 1989. Over the five-year post-merger period, they find acquirers in mergers (tender offers) earn on average 15.9 percent less (43 percent more) than matching firms. When payment is in stock (cash), acquirers earn 24.2 percent less (18.5 percent more) than matching firms. Loughran and Vijh (1997) conclude their results are consistent with two hypotheses. First, since tender offers usually are hostile to incumbent managers and mergers are not, the wealth gains could occur due to the installation of more efficient managers, as proposed by Martin and McConnell (1991). Second, since acquiring firms are more likely to choose stock payment when their firm is overvalued and cash payment when it is undervalued (Wansley et al. 1987), the market may not be responding efficiently to the message conveyed by the form of payment.

For U.K. acquirers, Gregory (1997) reports evidence of negative abnormal returns in the 24 months post-acquisition, confirming that the transactions were wealth reducing for shareholders. The findings are consistent across return measures and across models that control for risk, size, and book to market ratios. Also for U.K. acquirers, Brown, Finn, and Hope (2000) report, for three years post-acquisition, a negative

association between post-acquisition performance and post-acquisition provision taking (related to goodwill recorded at acquisition).

Healy et al. (1992) examine post-acquisition performance from an accounting and operating perspective, analyzing operating cash flow returns for the 50 largest U.S. mergers from 1979 through mid-1984. The authors find significant improvement in asset productivity of merged firms compared to their industries, leading to higher operating cash flow returns. They also find a positive relation between post-merger increases in operating cash flows and abnormal returns at the time of the merger announcement. Ghosh (2001), in a sample of U.S. acquirers, does not find evidence of an increase in post-acquisition operating performance.⁸ He attributes the difference in his findings to his study's control for the superior performance of acquirers in the pre-acquisition period. Most recently, Powell and Stark (2005) examine post-merger operating performance in a sample of U.K. acquirers using both the industry-adjusted model in Healy et al. and the matching model in Ghosh. Though both models' results are positive, the estimates of post-acquisition operating performance are higher for the industry-adjusted model. For purposes of our study, it is noteworthy that their research also shows only weak association between announcement period returns (initial reaction) and long-term results as reflected in post-merger operating performance.

2.2.2 Cross-border transactions

As with domestic transactions, research on abnormal returns in cross-border mergers primarily examines short windows. Markides and Ittner (1994) find that one-day abnormal returns for U.S. bidders acquiring international targets between 1975 and 1988 are positive and marginally significant. Doukas and Travlos (1988) find that shareholders of U.S. firms acquiring non-U.S. firms between 1975 and 1983 realize positive abnormal returns at the announcement in cases where the U.S. bidder already has foreign operations but is not operating in the target's home country.

⁸ Sharma and Ho (2002) report a similar result for Australian acquisitions: neither cash flow measures nor earnings measures indicate improved performance in the three years post-acquisition.

Cakici et al. (1996) find positive short-run abnormal returns for non-U.S. firms acquiring U.S. targets between 1983 and 1992, but no gains for a control sample of U.S. acquirers of non-U.S. targets during the same period. Kiyamaz and Mukherjee (2000) report similar results for U.S. firms acquiring foreign targets between 1982 and 1991.⁹ Eckbo and Thorburn (2000) examine bids by U.S. and Canadian firms for Canadian targets between 1964 and 1983 and find that Canadian acquiring firms earned positive abnormal returns, but U.S. acquiring firms' abnormal returns were insignificantly different from zero. More recently, Gregory and McCorriston (2005) study transactions in which U.K. firms acquired foreign targets. Descriptive results reveal short-term results that are insignificantly different from zero regardless of the target firm's home country. In sum, the evidence appears mixed regarding short-term wealth benefits to shareholders of acquiring firms involved in cross-border mergers.

Evidence on long-term benefits to acquirer shareholders is limited. Conn and Connell (1990) report negative cumulative abnormal returns in the 12 months following the merger announcement for a sample of mergers between U.K. and U.S. firms. Danbolt (1995) reports negative cumulative abnormal returns for U.S. or Continental acquirers of U.K. firms in the 5 months post-acquisition. Eckbo and Thorburn (2000) find that in the twelve months following a merger announcement, Canadian acquiring firms continued to earn positive abnormal returns, while U.S. acquiring firms continued to be insignificantly different from zero. Gregory and McCorriston's (2005) study of U.K. acquirers of foreign targets finds that while long-term results were insignificantly different from zero overall, when segregated by target home country, abnormal returns were significantly negative for acquirers of U.S. target firms, not different from zero for acquirers of E.U. target firms, and significantly positive for acquirers of target firms in other parts of the world. Finally, Conn et al (2005) study U.K. firms as acquirers of domestic and foreign targets, considering both public and private targets. For cross-border transactions, they find

⁹ Kiyamaz and Mukherjee (2000) also examine abnormal returns to U.S. targets acquired by foreign firms, reporting positive short-run abnormal returns to shareholders of these target firms. Cheng and Chan (1995) focus only on target firm shareholders' short-term abnormal returns in a sample of U.S. targets acquired by non-U.S. firms between 1985 and 1990. They conclude that U.S. targets realize greater short-term abnormal returns when premiums received are higher.

acquiring firms' shareholders experience significant negative long-term returns after acquisition of public targets but zero long-term returns after acquisition of private targets.

Notably, the findings in both Gregory and McCorriston (2005) and Conn et al. (2005) are based on buy-and-hold returns relative to portfolios of similar size and market-to-book valuation and are tested using boot-strapped t-statistics. Thus, they avoid the methodological concerns of earlier studies based on cumulative abnormal returns.

2.2.3 Cross-border transactions versus Domestic transactions

Recent work compares the performance of acquirers in cross-border transactions to that of acquirers in domestic transactions. Aw and Chatterjee (2004) study U.K. acquirers and find the performance of U.K. acquirers in domestic transactions (U.K. targets) surpasses that of U.K. acquirers of U.S. targets, and the performance of U.K. acquirers of U.S. targets exceeds that of U.K. acquirers of Continental targets. Andre et al. (2004) find that long-term abnormal returns of Canadian bidders acquiring Canadian targets exceed abnormal returns generated by Canadian bidders that take over foreign targets. Moeller and Schlingemann (2005) study U.S. acquirers and document significantly lower announcement period returns for acquirers in cross-border transactions than for acquirers of domestic targets. For the long term, they report that cross-border acquirers experience significantly lower improvements in operating performance in the five years after acquisition.

2.3 CURRENT STUDY

We analyze long-term results realized by U.S. acquiring firms in cross-border mergers with foreign targets. We hypothesize that the relationship noted in Agrawal and Jaffe (2000) with respect to domestic mergers will persist: acquiring firms will experience negative long-term abnormal returns post-merger. Indeed, the relationship may be even stronger with respect to cross-border mergers, given the additional factors that make accurate valuation of international targets difficult. Specifically, we anticipate that acquirers' long-run performance post-merger will vary by target firm country, and we hypothesize that the factors reflective of value relevance identified in Ali and Hwang (2000) will be related to this variation in the long-term outcomes of mergers. As noted above, it is unclear whether these factors will

make such mergers more or less likely to succeed, so our hypothesis is non-directional. As detailed in a subsequent section, we utilize statistical methods that forestall difficulties in some prior work based on acquirers' cumulative abnormal returns.

3. Sample selection and methodology

3.1 SAMPLE DESCRIPTION

Our sample consists of cross-border mergers and acquisitions between 1985 and 1995 involving domestic (U.S.) acquiring firms and foreign targets in 17 countries.¹⁰ We confine our study to pre-1996 transactions in order to examine five-year stock returns. We identify the sample through the SDC Worldwide Mergers, Acquisitions and Alliances database, a comprehensive listing of merger and acquisition events in the U.S. since 1979 and internationally since 1985. We identify 493 such transactions through this database. Data availability on CRSP and Compustat reduces the final sample to 361 transactions.

The number of cross-border mergers in the sample increases nearly monotonically throughout the sample period, with slightly over half the mergers occurring in the last three years of the study. The overwhelming majority (358, 97 percent) of the transactions in the sample are friendly.¹¹ In 83 transactions (23 percent), stock was part of the consideration, while in 278 no stock was involved. About 55 percent (197) were horizontal mergers (i.e., the bidder and the target share the same two-digit SIC code); the rest were vertical or conglomerate. Acquiring firms generally are much larger than targets: in the year prior to the merger, average total assets of acquiring firms were over \$7 billion, while the average value of the transaction was \$184 million. Nevertheless, target transaction value divided by acquirer assets averages 25.9 percent, indicating that the sample consists of significant transactions for the

¹⁰ By the term mergers and acquisitions, we mean transactions where the bidder acquires at least a majority of the stock in the target.

¹¹ This is not surprising, since hostile cross-border takeovers are rare (for example, the 1999 acquisition of the German firm Mannesmann by the British firm Vodafone AirTouch was the first-ever hostile takeover of a German firm). Ownership structures in many countries discourage such takeovers, and statutory barriers also exist in some cases to prevent such events.

acquirers. Over two-thirds of our sample involves targets in four countries: the United Kingdom (24 percent), Canada (20 percent), France (15 percent), and Germany (11 percent). No other country makes up more than six percent of the sample (Table 1, Panel B). We restrict the sample to the countries in Table 1 to permit our analysis of country-specific factors, building on Ali and Hwang (2000) and Alford et al. (1993).

As shown in Table 1, Panel C, almost 40 percent of the acquiring firms in the sample, and almost 35 percent of the targets, are manufacturing firms (SIC Codes 3000-3999). Another 19 percent of the acquiring firms and almost 18 percent of the targets are from SIC Codes 2000-2999 (merchandising), and almost 15 percent of the acquiring firms and 16 percent of the targets are from SIC Codes 7000-7999 (services).

Insert Table 1, Panels A-E, about here, please.

3.2 METHODOLOGY

3.2.1 Long-term abnormal returns to acquirers

Our tests of long-run abnormal returns use the technique developed by Lyon et al. (1999), outlined below. We use this approach to control for several sources of misspecification that prior research (e.g., Barber and Lyon 1997, Kothari and Warner 1997) describes as common. Central to the process is reliance on reference portfolios constructed based on stratification by key characteristics (firm size and the ratio of book value to market value, Lyon et al. 1999).

First, we form reference portfolios in a three-step process.

- We construct firm-size reference portfolios by placing all NYSE firms in deciles based on the market value of equity in the month the acquisition is completed, according to SDC. We further divide the smallest decile into quintiles.¹² We sort AMEX and NASDAQ firms by size into one of the 14 portfolios.

¹² The subdivision within the smallest decile (based on NYSE values) is because AMEX and NASDAQ firms are on average significantly smaller. Without this subdivision, the smallest decile would be overpopulated with AMEX and NASDAQ firms.

- Within each of the 14 size-based portfolios, we place all firms into one of five different reference portfolios, each constructed based upon quintiles of book-to-market ratios in the month of acquisition. This results in 70 portfolios.
- Within each of the 70 size and book-to-market portfolios, we construct three reference portfolios based on 12-month buy-and-hold returns. The result is 210 portfolios.

Second, we pair each bidder firm in this study's sample with one of the 210 portfolios that best matches based on size, book-to-market ratio, and prior performance.

Third, we measure abnormal returns as the difference between the buy-and-hold return for the sample firm and the buy-and-hold return for the equally weighted matched portfolio.¹³ We compute abnormal returns for one-, three- and five-year periods, beginning one month after the merger completion date. We compute the abnormal return for a sample firm as the difference between the sample firm return (actual return) and the average of the returns on the matched portfolio (expected return), as shown in equation 1:

$$AR_{it} = R_{it} - E(R_{pt}) \quad (1)$$

The statistical significance of abnormal returns is based on bootstrapped t-statistics. We calculate these as follows. A random "resample" is drawn: for each sample firm with acquisition month t, a replacement firm is drawn from the matched reference portfolios in month t. After we form a resample (size $n_b = n/4$) using this algorithm, we compute abnormal performance in the resample as described above. We repeat the resample process 1,000 times to form an empirical distribution of long-term abnormal returns. The statistical significance of the mean sample portfolio abnormal return is based on the proportion (out of 1,000) of resample portfolios yielding either a greater abnormal return than that of the resample, if the resample abnormal return exceeds the average abnormal return, or a smaller abnormal return than that of the resample, if the resample abnormal return is less than the average abnormal return.

3.2.2 Model of long-term abnormal returns to acquirers

¹³ If either the sample firm or any of the firms in the matching portfolio is delisted, proceeds from the investment are re-invested into an equally weighted market CRSP return until the maturity of the investment.

The primary explanatory variables reflect target country variation in the value relevance of accounting information. This allows examination of the extent to which abnormal returns are associated with the value relevance of the underlying accounting information for the target firms. Alford et al. (1993) demonstrate substantial between-country variation in the quality of accounting information in their study of firms from 17 non-U.S. countries, using matched U.S. firms as the benchmark. Ali and Hwang (2000) extend Alford et al. by examining country-specific factors potentially related to the value relevance of financial accounting information.¹⁴ Their results indicate that the value relevance of accounting information is lower as follows:

- 1) in countries in which the government directs the development of accounting standards, versus countries in which a role exists for the private sector in standard setting (variable CYGAAP in our tests);
- 2) in countries with accounting systems based on the Continental model, versus countries with accounting systems based on the British-American model, which generally is viewed as providing information that is more relevant in decision-making (variable CYACC in our tests);
- 3) in countries in which tax rules affect financial reporting standards and measures, versus countries in which tax law – and the associated political and economic influences – is separate from accounting standards (variable CYFINTAX in our tests);
- 4) in countries that have bank-oriented (versus market-oriented) financial systems, in which a limited number of banking institutions supply capital to businesses (we do not test based on this variable, since we determined for our sample it is essentially identical to CYACC); and,
- 5) in countries where less is spent on external auditing services, versus countries in which greater spending on auditing suggests more importance is assigned to financial reporting (variable CYAUD in our tests).

We use the dummy variables noted in capital letters above to represent four of the five dimensions Ali and Hwang (2000) examine. In addition, we use a dummy variable (NOT_WORSE) to distinguish between those nations where Alford et al. (1993, p. 184) find GAAP generates less timely and value relevant information than U.S. GAAP and those nations where GAAP generates equally or more timely and value relevant information than U.S. GAAP.^{15, 16} Since Agrawal et al. (1992) and Loughran and Vijh

¹⁴ Ali and Hwang (2000) examine 16 of the 17 countries in Alford et al. (1993), omitting South Africa. We report results including three mergers with South African targets; our results are nearly identical when these three firms are omitted.

¹⁵ We provide a complete listing of nations classified by each dummy variable in Table 4.

(1992) show that acquisition of a relatively larger target has a more profound impact on a bidder, we also examine the differential impact of target accounting quality factors for acquisitions of relatively larger and smaller targets (groups separated by the sample median of the relative target/bidder size).

We also include several control variables in our multivariate analysis, based on prior research. We include the book value of acquiring firm assets (ASSETS) as a proxy for size, since Fama and French (1992) find a negative relationship between average returns and firm size, and Fama and French (1995) find larger abnormal returns for small-stock portfolios than for large-stock portfolios. In addition, Agrawal et al. (1992) find that acquirer long-term returns increase with acquirer size. They argue that a larger acquirer is more likely to weather the on-average negative long-term impact of acquiring a target's assets. In addition, a relatively larger acquirer may have greater bargaining power in the transaction (Wulf (2002) claims that the relative bargaining power of target's management for post-acquisition influence on governance increases with target size). The ratio of market value to book value of acquiring firm assets (M/B) is an approximation of Tobin's Q for our acquiring firms (Chung and Pruitt 1994) and serves as a proxy for managerial quality. Yung (2001) finds that foreign acquisitions by low-Q firms seem to take place without consideration of firm performance and may represent an example of the "free cash flow" problem discussed by Jensen (1986) and others.¹⁷ We control for the type of consideration paid (STOCK, a dummy variable set to 1 if consideration included stock in the bidding firm) since prior research (e.g., Loughran and Vijh 1997) finds that long-term post-acquisition abnormal returns are lower for bidders who finance the purchase using stock.

We include target industry growth opportunities (GROWTH), equal to the median M/B ratio for firms from the target's two-digit SIC Code, since prior research (e.g., Jensen and Meckling 1995) finds that companies with high growth opportunities are subject to high information asymmetry. It may be more

¹⁶ We do not expect our results to be driven by the quality of target economies. In fact, all of our target countries are among the most economically advanced in the world. According to the United Nations Human Development Report (2002), 16 out of our 17 target countries are among the 20 richest in the world.

¹⁷ Recent work by Gregory (2005) examines the free cash flow problem in the context of acquirers' long-run post-merger performance. His results, based on a sample of UK takeovers, do not provide evidence consistent with the free cash flow problem. Instead, the results reveal that acquirers with high free cash flow exhibit better long-run performance than acquirers with low free cash flow.

difficult to integrate such targets into existing bidder structures. Consequently, we introduce this variable to control for the possibility that bidders for targets from more value-relevant accounting systems are more likely to bid for targets with higher growth opportunities (e.g., riskier targets).¹⁸

We also include exchange performance differential (EXCHANGE), equal to the difference between the five-year performance of the major index in the target's home country and the five-year performance of the S&P 500. This variable controls for the possibility that the poorer performance of cross-border mergers (in comparison to domestic mergers) is attributable to the fact that the U.S. stock market in the 1990s significantly outperformed the majority of stock markets around the world.¹⁹ We expect this effect to be less important in the case of large acquirers, since the target is likely to be a smaller portion of the acquirer's total assets in this case. Consequently, we also introduce an interactive variable (LARGE*EXCHANGE), where LARGE is a dummy variable equal to 1 if the acquirer's total assets exceed those of the sample median.

4. Results

4.1 TESTS OF LONG-RUN ABNORMAL RETURNS

First, we report long-run abnormal returns in Table 2, Panel A, based on the approach in Lyon et al. (1999) described above. Both three- and five-year returns are significantly negative. The mean three-year abnormal return is -0.132 ($p = .003$), and the mean five-year abnormal return is even more negative at -0.229 ($p = .001$). The median three- and five-year returns were also negative and were more significant than the mean returns, at -0.162 ($p < .0001$) and -0.430 ($p < .0001$), respectively. For the one-year window, the median abnormal return of -0.031 was significantly negative ($p = 0.04$), but the mean abnormal return of -0.024 was not significantly different from zero ($p = 0.28$).

¹⁸ We do not find this to be the case – the differences in means and medians of target industry growth opportunities are statistically insignificant.

¹⁹ The exchange performance differences are sizable in our sample. During the five years following the takeover, the target's stock market underperforms the U.S. stock market by 82.5% (mean) and 74.3% (median), respectively (both values are significant at the 1% level). However, we find no statistically significant differences in exchange performance differences between samples of targets in countries with high vs. low accounting relevance.

Place Table 2, Panels A-C, about here, please.

These findings imply that for our sample, a completed cross-border acquisition is on average a value-reducing proposition for long-term shareholders of the bidding firm. This result is consistent with our expectations and with prior research regarding domestic mergers, as summarized in Agrawal and Jaffe (2000).²⁰

To compare the long-term performance of cross-border and domestic mergers, we report long-term abnormal returns for a sample of 1,285 mergers between U.S.-based listed bidders and targets in Table 2, Panel B.²¹ Several trends are noteworthy. First, we find a significantly negative median performance for both a three-year window (-0.0656, $p=0.009$) and five-year window (-0.185, $p < 0.001$). The mean abnormal return, however, is not significantly different from zero for the one-, three- or five-year window. These returns are similar in magnitude to those Agrawal et al. (1992) report for the period 1955 to 1987, using an alternative methodology. Second, the long-term performance of acquirers in domestic mergers is significantly less negative than the performance of acquirers in cross-border mergers. As reflected in the contrasts, the differences in mean and median performance for both three- and five-year windows are significant at least the five percent level. This result suggests that the short-term performance differences (see, e.g., Moeller and Schlingemann 2005) between domestic and cross-border U.S. bidders persist and, judging by their magnitudes, may deepen in the long-run.

²⁰ The significantly negative three- and five year abnormal returns reported in Panel A of Table 2 suggest that a randomly observed cross-border acquisition will cause a negative long-term bidder abnormal performance. In fact, 222 (221) bidders have negative three- (five-) year abnormal returns – that is more than 60 percent of our sample bidders. If the matched portfolios are constructed based on acquirer market value rather than equal-weighting, abnormal long-run performance of acquirers is *positive* (0.0396, 0.2864, and 0.5528 for 1-, 3-, and 5-year windows). This finding is consistent with the evidence in previous research that reports a positive association between acquirer size and post-merger performance. When sample acquirers are sorted by market valuation into size quartiles, we find that long-term abnormal returns (equally-weighted) are significantly negative in the three smallest quartiles but not different from zero in the largest size quartile. Furthermore, we find that the largest ten acquirers account for almost one-third of sample acquirers' market value and significantly outperform the typical acquirer in the sample, causing the significantly positive abnormal performance for the full sample. Because our interest is in the impact of a cross-border acquisition on “typical” acquirers in general and not on just the largest acquirers, we focus the study and results on equally-weighted abnormal returns.

²¹ We identify our sample of domestic mergers using the “US Targets” section of the SDC database. As with to our sample of cross-border mergers, we require the original announcement date to be between 1985 and 1995.

One possible explanation for the above results, advanced for similar findings in prior research, is that successful acquiring firms typically are outperforming the market as a whole at the time of the bid, and that simple mean reversion of stock prices would lead to negative abnormal returns. This seems unlikely for our sample. First, the Lyon et al. (1999) procedure, through its use of prior performance as a variable in the control portfolios, is designed to control for mean-reverting stock prices. Second, as reported in Table 2, Panel C, we find statistically significant positive short-run abnormal returns (7-day window (-5, +1) and 11-day window (-5, +5)) around the merger announcement date. It therefore appears that after an initial positive reaction, the long-term market reaction is to punish those U.S. firms that successfully complete a cross-border acquisition.

We report abnormal returns on a country-by-country basis in Table 3. Three-year mean (and median) abnormal returns are significantly negative when targets are based in Canada, Germany or Hong Kong. Five-year mean abnormal returns are significantly negative when targets are based in Belgium, Canada, or Hong Kong, and five-year median abnormal returns are significantly negative in Canada, Hong Kong and the United Kingdom and significantly positive in Switzerland (for $n = 7$ firms). The power of country-specific tests is affected by sample size.

Insert Table 3 about here, please

4.2 ABNORMAL RETURNS AND ACCOUNTING DIVERSITY

4.2.1 Univariate results

We next consider whether the value relevance of accounting data in the host country (based on Ali and Hwang 2000) is associated with the long-term success of the merger. Our hypothesis is non-directional: U.S. firms acquiring foreign targets in countries where accounting information is less value relevant will find it more difficult to price these targets accurately, but the result may be overpayment or underpayment, with opposite effects on acquiring firms' long-run stock performance.

We make a set of binary comparisons, reported in Table 4. The results indicate that five-year mean abnormal returns are less negative for acquiring firms if targets are:

- from countries where GAAP is set by governmental bodies, versus countries where private-sector bodies are involved in setting accounting standards (CYGAAP: $p = 0.03$);
- from countries classified as Continental model countries, versus countries classified as British-American model countries (CYACC: $p = 0.09$); or
- from countries where Alford et al. (1993) find that GAAP generates less timely and value relevant information than U.S. GAAP (NOTWORSE: $p = 0.08$).

These results indicate that U.S. firms acquiring foreign targets perform better in the long run (experience smaller negative long-term returns) when the targets are based in countries where the accounting system is dissimilar to that in the U.S. As discussed below in Section 4.2.3, one potential explanation for this result is that U.S. acquirers are less likely to overpay for targets in such countries, making them less likely to fall into what Sirower (1997) calls the “synergy trap” that destroys value.²²

Consistent with Loughran and Vijh (1997), five-year mean abnormal returns are more negative for acquiring firms that paid for the target with some stock, as opposed to acquiring firms who paid for the target solely with cash (STOCK: $p = 0.04$). Whether the acquirer and the target are in the same or different industries does not matter: long-run abnormal returns are negative and significant in both cases. The mean abnormal return is more negative when the firms are in different industries, but the difference is not statistically significant ($p = 0.44$).

Insert Table 4 about here, please.

4.2.2 Multivariate analysis

We test our hypothesis in a multivariate setting through regression analysis, as shown in equation 2:

$$AR_i = \beta_0 + \beta_1 ASSETS_i + \beta_2 M/B_i + \beta_3 STOCK_i + \beta_4 GROWTH_i \quad (2)$$

²² In the unreported analysis, we find that the return differences due to target accounting quality variables documented in Table 4 are equally statistically significant for value-weighted returns as well (the results of this analysis are available from the authors upon request).

+ β_5 EXCHANGE_i + β_6 LARGE_i*EXCHANGE_i + β_7 CY_____i + β_8 NOTWORSE +

β_9 SmallRelSize + ϵ , where

AR = the abnormal return, calculated as shown in equation (1), for firm i for the three- or five-year period beginning one month after the merger completion date;

ASSETS = the book value of acquirer's total assets as of the fiscal year-end prior to the merger announcement;

M/B = the market value of acquirer assets divided by the book value of assets, calculated as $(MVE + (BVA - BVE))/BVA$, all as of the fiscal year-end prior to the merger announcement;

STOCK = 1 if consideration included some stock; 0 if no stock used;

GROWTH = the median value of M/B for all firms in the target's two-digit SIC code;

EXCHANGE = the difference between the five-year market return for the primary stock index in the target's home country and the five-year market return for the U.S. S&P 500;

LARGE = 1 if acquirer's total assets exceed the sample median; 0 otherwise;

CY____ = a 0-1 variable, either CYGAAP, CYACC, CYFINT, or CYAUD.

NOT_WORSE = a 0-1 variable, as defined previously.

SmallRelSize = 1 if the relative target/bidder size (measure as SDC transaction size divided by market value of bidder assets) is smaller than the sample median; 0 otherwise.²³

We report results of this analysis for five-year abnormal returns in Table 5.²⁴ Multicollinearity among the dummy variables requires us to examine them in individual equations, rather than jointly in a single regression equation.²⁵ We find a significant coefficient on CYGAAP, representing the source of GAAP

²³ The SDC database provides data on relative size (measured as SDC Transaction Size normalized by the market value of bidder assets) for 219 out of 361 sample acquisitions. To supplement this data, we hand-collected information on relative size for 50 additional acquisitions by searching newswires and newspaper articles, using the LexisNexis and ProQuest databases.

²⁴ Results over the three-year period, not reported, are similar.

²⁵ We report the Pearson correlation coefficients in Table 6.

(government versus private sector), indicating that abnormal returns are less negative when targets come from countries where national accounting standards are set by governmental bodies (as opposed to countries where private-sector bodies are involved in setting accounting standards). We also find a significant coefficient estimate for NOT_WORSE, indicating that abnormal returns are less negative when targets come from countries that Alford et al. (1993) classify as having GAAP that generates less timely or value relevant information than U.S. GAAP. Results in columns b and g suggest that both CYGAAP and NOT_WORSE have a more negative and more statistically significant return for acquisitions involving relatively larger targets.

None of the coefficients for the three remaining variables for target firm-country accounting (CYACC, CYFINTAX, or CYAUD) are significantly different from zero. In terms of control variables, returns are positively related to book value of assets (ASSETS), the market to book value of assets (M/B), target industry growth opportunities (GROWTH) and the relative performance of the target firm nation's stock exchange with respect to the S&P 500, all as expected. Abnormal returns also are negatively related to the use of stock as part of the consideration in the merger.²⁶ Again, this is consistent with Loughran and Vijh (1997) and may indicate that acquiring firms are using stock as payment when managers believe their firm is overvalued. In sum, it appears that U.S. acquirers experience less negative abnormal returns when purchasing targets in countries where accounting standards are set solely by government bodies, and that this result holds after controlling for common causes of negative long-term abnormal returns in mergers (size, quality of management, type of consideration paid, and growth opportunities) and for differential stock performances of national indexes.

In column h of Table 5, we report a pooled multivariate analysis of five-year abnormal returns for 1,283 mergers, both cross-border and domestic.²⁷ The results suggest that the relatively worse performance of U.S. acquirers of foreign targets, as opposed to U.S. acquirers of domestic targets (as

²⁶ Our other control variable, the dummy variable that indicates whether the merger was between firms in the same industry, was not statistically significant, and its inclusion does not change our reported overall results.

²⁷ This total is less than the 1,285 domestic mergers and 361 cross-border mergers reported in Table 2 due to data availability limitations. The firms in column f include all 361 cross-border mergers and 922 domestic mergers.

reported in Table 2), is due primarily to two factors: the significantly worse performance of the stock markets in the target countries and the fact that some of the targets are in countries with more value-relevant accounting systems.²⁸ The worse performance of the stock markets in the target countries has more impact on smaller acquirers, as evidenced by the fact that the sum of the coefficients that measure the impact of exchange differential on performance of large acquirers [EXCHANGE + (LARGE* EXCHANGE)] is not significant while the impact of EXCHANGE is significant both statistically and economically. The standard deviation of EXCHANGE is 70 percent, which means that if the target economy underperforms the S&P 500 by one standard deviation, a small U.S. acquirer is expected to underperform by approximately 14 percent over the five years following the acquisition.²⁹ There is no significant underperformance for large U.S. acquirers.

Insert Tables 5 and 6 about here, please

4.2.3 Premiums paid and the cost of capital

As mentioned previously, a potential explanation for both the univariate and multivariate results is that the countries where accounting earnings are less value relevant also are countries where the cost of equity capital is higher. In nations where the contemporaneous returns-earnings relation is weaker, the target firm's earnings are less comparable with U.S. GAAP earnings and are more likely to be discounted by U.S. acquirers. Target firms in these countries will have a higher cost of capital that is reflected in their share price.³⁰ This built-in discount makes it less likely that U.S. acquiring firms will overpay (again, by U.S. standards) for such target firms, which in turn, makes it less likely that acquiring firms' long-run

²⁸ The sum of the cross-border dummy and the coefficient on CYGAAP ($0.0574 - 0.2762 = -0.2188$), which measures the long-term performance consequences of acquiring foreign targets in countries with highly value relevant accounting systems, is significantly negative.

²⁹ $0.20136 * (-0.70) = -14$ percent

³⁰ Severe limitations on data availability make it impossible to calculate a reasonable estimate of the cost of equity capital for our target firms. Barth et al. (1999) demonstrate analytically a parabolic relationship between GAAP cross-country harmonization and the cost of capital, showing that the cost of capital first increases, then decreases as GAAP measurement error increases. Dimson et al. (2002) determine the equity risk premia for stocks as opposed to treasury bills for many of the countries in our sample, with results that support our theory: the mean risk premia for stocks are significantly higher in countries where GAAP is set solely by governmental bodies, where the country is classified as Continental, and where the tax-financial alignment is high. These higher risk premia imply investors would be willing to pay less of a premium over market values to acquire targets in these countries.

abnormal returns will be negative when target firms are from such countries.³¹ Sirower (1997) finds the single most important factor in post-merger performance of a successful bidder is the size of the premium paid, and that overpayment dooms many mergers to failure.

There is an additional reason to expect that bidders acquiring targets from countries with less value-relevant accounting systems should be expected to perform better in the long run. It can be argued that having the target assets under the bidder supervision should, over time, help bidder management and investors to value target assets better. This diminished informational asymmetry should, in turn, lower the cost of capital applied toward the valuation of the target's cash flow, and, ultimately, lower or remove the extra discount associated with valuation of targets from countries with less value relevant accounting systems.

To investigate the potential influence on premiums, we collect data for the market price of target firm stock 40 trading days prior to the merger announcement. We report premiums paid on a sub-sample of 79 mergers in Table 7.³² We compare differences in means for premiums based upon Satterthwaite's (1946) approximation for unequal variances.³³ We find that the mean premium paid is significantly higher for targets from countries where private-sector bodies are involved in standard-setting (CYGAAP, $p = 0.001$), and for targets from countries classified as British-American model countries (CYACC, $p = 0.0002$).³⁴ It therefore appears that U.S. bidders are less likely to overpay for targets from countries where accounting systems are less value relevant, and that this reduces the negative abnormal return such bidders suffer over the subsequent three- and five-year periods.

Insert Table 7 here, please.

³¹ Since it is more difficult for U.S. managers and market participants to predict future performance of targets when their home country's GAAP is less comparable to U.S. GAAP, it may be more likely that managers and markets under-extrapolate future performance in such cases. In this sense, our results are somewhat similar to Rau and Vermaelen (1998), who advance the performance extrapolation hypothesis as an explanation of why glamour acquiring firms underperform value acquiring firms after mergers. Sudarsanam and Mahate (2003), using a sample of domestic UK takeovers, report similar results.

³² We are limited to this size for our sub-sample due to lack of data availability. Data sources include *Datastream* and international stock-market listings reported in the financial press (e.g., *Financial Times*, *Toronto Star*).

³³ This analysis can be considered a special case of a one-way analysis of variance with two levels of classification.

³⁴ For this sub-sample of firms, the correlation between members of CYACC and CYFINT is exact; we therefore do not report the results for CYFINT.

4.2.4 Supplemental analyses

Our results persist when based on an alternate measure of long-term performance, acquiring firms' return on equity, as we report in Table 8. Again, we use Satterthwaite's (1946) approximation to compare differences in means for levels. In the year before the merger (t-1), the ROE levels are similar across all our groupings based on the value relevance of accounting information. However, in year t+3, ROE levels are lower for U.S. acquiring firms acquiring targets in nations where GAAP is set by private-sector bodies as well as governmental bodies ($p = .06$) or in nations that are classified as British-American model countries ($p = .09$).³⁵

Insert Table 8 about here, please

Because 20 percent of the acquisitions in the full sample involve a Canadian target firm and because of the proximity of firms operating in the U.S. and Canada, we also examine returns for a subsample excluding Canadian targets. We find our results are robust to this partition of our sample, as long-term abnormal returns for the reduced sample (291 transactions) remain significantly negative. In the three-year window post-merger, mean and median abnormal returns equal -0.104 ($p = .033$) and -0.105 ($p = .003$); and in the five-year post-merger window mean and median abnormal returns equal -0.161 ($p = .034$) and -0.290 ($p = .001$). In addition, both three- and five-year returns remain significantly more negative than the abnormal returns achieved by bidders in domestic mergers we report in Table 2, Panel B. The multivariate results also persist for the reduced sample. Most importantly, the coefficient estimates for the variables measuring target country's accounting quality (the main variables of our interest), CYGAAP and NOT_WORSE, continue to be negative, statistically significant and are comparable in magnitude.³⁶

5. Conclusions

³⁵ We are unable to compute ROE for year t+5 due to lack of data availability.

³⁶ For brevity's sake, we do not include more detailed results of our analysis involving this subsample; those results are available from the authors upon request.

In this study, we contribute to the growing body of evidence that finds international accounting diversity is relevant to market returns and that long-term abnormal returns for successful acquirers in mergers are on average negative. We examine the long-range success of 361 acquisitions of foreign targets by U.S. acquiring firms between 1985 and 1995. We first examine whether the acquirers in our sample realize negative abnormal returns over a three- to five-year period following completion of such mergers. We employ a methodology recommended by Lyon et al. (1999) in order to minimize bias in our calculations. We find that for both a three- and a five-year period, mean and median abnormal returns are significantly negative. Although median abnormal returns are significantly negative for a one-year period, mean abnormal returns are statistically insignificant. Our three- and five-year results are consistent with those of Agrawal et al. (1992) and Loughran and Vijh (1997) with respect to domestic mergers. Existing research on cross-border mergers is limited to the examination of announcement-period abnormal returns. We fill a gap in the literature by examining long-term performance and finding evidence comparable to the long-term results of purely domestic transactions. We also provide evidence of the usefulness of the Lyon et al. approach to estimating and testing long-term abnormal returns.

The primary focus of our investigation is whether international accounting diversity – more specifically, the value relevance of accounting information in the target’s home country – is associated with the level of long-term abnormal returns realized by successful acquirers. In our analysis of this issue, we employ a classification matrix Ali and Hwang (2000) develop. We hypothesize that factors that make accounting data less value relevant (e.g., the source of GAAP) will affect how acquiring firms price targets in such countries. Our hypothesis is of necessity non-directional, since less value relevant accounting information is equally likely to make overpayment more likely (due to the relative lack of information) or less likely (due to a built-in discount in the cost of capital in such countries reducing security prices).

We find that for three of the five classifications employed by Ali and Hwang, there is an inverse relationship between the value relevance of accounting information and abnormal returns – i.e., long-term abnormal returns are less negative for U.S. bidders that acquire targets based in countries where

accounting information is less value relevant. We analyze a potential explanation for this result – targets from such countries may have a higher cost of capital due to the difficulty of predicting future earnings and cash flows, reducing the premium over the intrinsic economic value of the firm that is paid by acquiring firms. Since prior research (e.g., Sirower 1997) links long-term abnormal performance of acquirers to the size of the premium paid, we expect smaller premiums to be associated with better long-term performance. We examine the premiums for a sub-sample of 79 firms and find the premium is significantly lower when the target is based in a country where accounting information is less value relevant. These results suggest that shareholders of targets from such countries pay a price for their country's institutional framework that makes accounting information less value relevant. We thus provide evidence relevant to the discussion of harmonization of accounting standards. The basis for the IASB's conceptual framework is value relevance (Choi et al. 1992). Ali and Hwang (2000) show that countries with low demand for information from published financial reports often have accounting practices that produce data with low value relevance, and Choi et al. find that some of these countries oppose the IASB's conceptual framework. Our results demonstrate a scenario in which resisting countries would benefit from harmonization, since target firms in resisting countries appear to bear a higher cost of capital and therefore realize smaller premiums when purchased.

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TABLE 1

Panel A
Transaction Frequency by Years

Year	Number	Percentage
1985	6	1.65
1986	17	4.67
1987	12	3.30
1988	17	4.67
1989	34	9.34
1990	21	5.77
1991	22	6.04
1992	46	12.91
1993	45	12.36
1994	63	17.58
1995	78	21.70
Total	361	100.00

Panel B
Transaction Frequency by Target Country

Country	Number	Percentage
Australia	17	4.67
Belgium	4	1.10
Canada	72	20.05
Denmark	4	1.10
France	54	15.11
Germany	40	10.99
Hong Kong	10	2.75
Ireland	1	0.27
Italy	23	6.32
Japan	10	2.75
Netherlands	12	3.30
Norway	4	1.10
Singapore	1	0.27
South Africa	4	1.10
Sweden	11	3.02
Switzerland	7	1.92
United Kingdom	87	24.18
Total	361	100.00

Table 1

Panel C
 Frequency of Acquiring Firms and Target Firms by One-Digit SIC Code

SIC Code	Number of Acquirers	Percentage of Acquirers	Number of Targets	Percentage of Targets
0000-0999	1	0.27	2	0.55
1000-1999	23	6.37	21	5.82
2000-2999	68	18.84	64	17.73
3000-3999	141	39.06	126	34.90
4000-4999	22	6.09	19	5.26
5000-5999	28	7.76	48	13.30
6000-6999	16	4.43	13	3.60
7000-7999	53	14.68	57	15.79
8000-8999	9	2.49	11	3.05
Total	361	100.00	361	100.00

Panel D
 Descriptive Statistics

	Mean	Median
Total acquirer assets (\$MM)	7,006	478
Target transaction value (\$MM)	184	43
Target transaction value / Acquirer assets	25.9%	8.7%
M/B of assets for the bidder	2.14	1.62
Target industry growth opportunities	1.57	1.45

Panel E
 Descriptive Statistics

	Number	Frequency
Horizontal Mergers	197	54.6%
Vertical or conglomerate mergers	164	46.4%
Mergers involving stock	83	23.0%
Mergers not involving stock	278	77.0%
Friendly acquisitions	358	99.1%
Hostile takeovers	3	0.9%

Table 2

Panel A
Long-Run Abnormal Returns for Successful Acquiring Firms in Cross-Border Mergers

Window	Mean	p-value	Median	p-value
1 years	-0.0239	0.284	-0.0309	0.037
3 years	-0.1320	0.003	-0.1617	<0.001
5 years	-0.2289	0.001	-0.4295	<0.001

N = 361

We calculate long-run abnormal returns by comparing firm returns over a window beginning one month after the merger completion date to buy-and-hold returns for a reference portfolio based on the key characteristics of firm size, M/B ratio, and prior performance, a procedure developed by Lyon et al. (1999).

Panel B
Long-Run Abnormal Returns for Successful Acquiring Firms in Domestic Mergers

Window	Mean	p-value	Contrast	Median	p-value	Contrast
1 years	-0.0058	0.534		-0.0063	0.435	*
3 years	0.0067	0.761	***	-0.0656	0.009	***
5 years	-0.0444	0.192	**	-0.1849	<0.001	***

N = 1,285

We calculate long-run abnormal returns by comparing firm returns over a window beginning one month after the merger completion date to buy-and-hold returns for a reference portfolio based on the key characteristics of firm size, M/B ratio, and prior performance, a procedure developed by Lyon et al. (1999).

Contrast: ***, **, or * denotes statistical significance of the difference between long-term performance of bidders in cross-border and domestic mergers at 1%, 5%, and 10%, respectively.

Panel C
Short-Run Abnormal Returns for Successful Acquiring Firms in Cross-Border Mergers

Window	Mean	p-value	Median	p-value
- 5 days to + 5 days	0.015	0.003	0.0124	0.009
- 5 days to + 1 day	0.009	0.026	0.0031	0.063

N = 360

Short-run abnormal returns are calculated using standard event-study methodology.

Table 3
Long-Run Abnormal Returns by Target Firm Country

Country	N	1-year		3-year		5-year	
		mean	median	mean	median	mean	median
Australia	16	-0.0168	-0.1707	-0.1282	-0.4995	0.1740	-0.1540
Belgium	4	-0.2934	-0.2508	-0.4750	-0.4404	-1.4530 **	-1.2568
Canada	70	-0.0751	-0.0865 **	-0.2494 **	-0.4183 ***	-0.5120 ***	-0.7392 ***
Denmark	3	-0.1224	-0.1423	-0.1946	-0.3038	0.0804	0.2975
France	57	-0.0298	-0.0028	-0.1122	-0.0645	-0.0982	-0.2532
Germany	38	-0.0598	-0.0193	-0.2977 ***	-0.1082 ***	-0.1834	-0.0806
Hong Kong	12	-0.2046 **	-0.1232 **	-0.6302 ***	-0.6611 ***	-1.0373 ***	-1.0793 ***
Ireland	2	-0.3643	-0.3643	-0.5069	-0.5069	-0.8558	-0.8558
Italy	23	0.0258	-0.0012	0.2020	0.0864	0.1516	0.1539
Japan	12	-0.1411	-0.1619 *	-0.2993	-0.4304	-0.5094	-0.5555
Netherlands	14	0.1388	0.0893	0.0845	0.1302	-0.0812	-0.1852
Norway	2	-0.2526	-0.2526	-0.9727	-0.9727	-1.4339	-1.4339
Singapore	1	-0.3471	-0.3471	-1.3575	-1.3575	-2.5113	-2.5113
South Africa	3	0.0435	0.0653	-0.0003	0.1300	0.8903	-0.2482
Sweden	10	0.1079	0.2052	0.5191	0.1929	0.5211	0.2651
Switzerland	7	0.1489	0.1489	0.3611	0.5954	0.5656	0.4081 **
United Kingdom	87	0.0385	-0.0034	-0.0692	-0.1265	-0.2296	-0.4437 ***

We calculate long-run abnormal returns by comparing firm returns over a window beginning one month after the merger completion date to buy-and-hold returns for a reference portfolio based on the key characteristics of firm size, M/B ratio, and prior performance, a procedure developed by Lyon et al. (1999).

* = significant at $p < .10$; ** = significant at $p < .05$; *** = significant at $p < .01$

Table 4
Binary Comparisons
Variable: 5-year abnormal stock return

Variable	N	Mean	p-value	Median	p-value
CYGAAP=0	169	-0.07052		-0.11686	
CYGAAP=1	192	-0.36826		-0.57509	
Difference			0.0318		0.0068
CYACC=0	156	-0.09269		-0.11670	
CYACC=1	205	-0.33250		-0.57164	
Difference			0.0864		0.0177
CYFINT=0	154	-0.11177		-0.11770	
CYFINT=1	207	-0.31599		-0.56714	
Difference			0.1451		0.0403
CYAUD=0	143	-0.13925		-0.16634	
CYAUD=1	205	-0.23294		-0.47519	
Difference			0.5158		0.1791
NOT_WORSE=0	75	-0.00724		0.06083	
NOT_WORSE=1	286	-0.28699		-0.51449	
Difference			0.0804		0.0162
SAMEIND=0	166	-0.28692		-0.52099	
SAMEIND=1	195	-0.17946		-0.35990	
Difference			0.4403		0.5074
STOCK=0	278	-0.13861		-0.23019	
STOCK=1	83	-0.53121		-0.88054	
Difference			0.0391		0.0002
CASH=0	175	-0.21010		-0.43231	
CASH=1	186	-0.24654		-0.41967	
Difference			0.7943		0.9244

We calculate long-run abnormal returns by comparing firm returns over a window beginning one month after the merger completion date to buy-and-hold returns for a reference portfolio based on the key characteristics of firm size, M/B ratio, and prior performance, a procedure developed by Lyon et al. (1999).

Definitions:

Value Relevance Variables

CYGAAP = 1 if national accounting standards are set by private-sector bodies, alone or in conjunction with governmental bodies (Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if national accounting standards are set solely by governmental bodies (Australia, Belgium, France, Germany, Italy, Japan, Norway, Sweden and Switzerland).

CYACC = 1 if the country is classified as a British-American model country (Australia, Canada, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if the country is a Continental model country (Belgium, Denmark, France, Germany, Italy, Japan, Norway, Sweden, Switzerland).

CYFINT = 1 if the level of alignment of financial and tax accounting is low (Australia, Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if it is high (Belgium, France, Germany, Italy, Japan, Norway, Sweden, Switzerland).

CYAUD = 1 if spending on audit services (as defined by Ali and Hwang 2000) is at or above the median of .36 (Australia, Canada, Denmark, Ireland, Netherlands, Sweden, Switzerland, United Kingdom); 0 otherwise (Belgium, France, Germany, Italy, Japan, Norway).

NOT_WORSE = 1 if classified by Alford et al. (1993) as a nation where GAAP generates more or equally timely and value relevant information than U.S. GAAP (Australia, Belgium, Canada, France, Ireland, Japan, the Netherlands, Norway, South Africa, Switzerland, and the United Kingdom); 0 if classified as a nation where GAAP generates less timely and value relevant information than U.S. GAAP (Denmark, Germany, Italy, Singapore, and Sweden).

All CY Variables come from those used by Ali and Hwang (2000), Table 1, p. 7. Ali and Hwang code CYGAAP based upon the survey of accounting practices included in Alford et al. (1993). Their decision on whether to classify a country as British-American or Continental, based largely on a common-law or civil-law heritage, is from Mueller et al. (1994). They code nations as having low or high financial-tax alignment based upon the Alford et al. data, and their data on spending on audit services is from Mueller et al., which reports total fees of the country's ten largest accounting firms as a percentage of the country's gross domestic product for 1990.

NOT_WORSE is based on the results that Alford et al. report.

Control Variables

SAMEIND = 1 if both firms in the business combination are from the same 2-digit SIC; 0 otherwise.

STOCK = 1 if consideration included some stock; 0 if no stock used.

CASH = 1 if consideration included some cash; 0 if no cash used.

Table 5
Multivariate analysis
Dependent Variable: 5-year abnormal stock return

Model								
Independent Variables	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Intercept	-0.61913 ^{**} (-2.18)	-0.61234 ^{**} (-2.17)	-0.69120 ^{**} (-2.40)	-0.71337 ^{**} (-2.47)	-0.78093 ^{***} (-2.69)	-0.57926 ^{**} (-1.98)	-0.56483 [*] (-1.93)	0.05723 (0.41)
Cross-Border								0.05741 (0.44)
ASSETS	0.00465 [*] (1.70)	0.00447 (1.62)	0.00484 [*] (1.77)	0.00489 [*] (1.79)	0.00486 [*] (1.78)	0.00451 [*] (1.65)	0.00415 (1.51)	0.00727 ^{***} (3.82)
M/B	0.11048 [*] (1.93)	0.10744 [*] (1.88)	0.11081 [*] (1.93)	0.11060 [*] (1.92)	0.11104 [*] (1.92)	0.11780 ^{**} (2.09)	0.11279 ^{**} (2.01)	0.00627 (0.17)
STOCK	-0.35622 ^{**} (-2.04)	-0.35561 ^{**} (-2.04)	-0.37149 ^{**} (-2.12)	-0.37757 ^{**} (-2.15)	-0.36655 ^{**} (-2.01)	-0.38043 ^{**} (-2.18)	-0.37581 ^{**} (-2.15)	0.02203 (0.30)
GROWTH	0.27593 [*] (1.79)	0.28055 [*] (1.81)	0.27880 [*] (1.78)	0.28370 [*] (1.81)	0.30146 [*] (1.91)	0.27851 [*] (1.79)	0.28600 [*] (1.83)	-0.11905 (-1.19)
EXCHANGE	0.21826 ^{**} (2.28)	0.21704 ^{**} (2.26)	0.19567 [*] (1.95)	0.19822 ^{**} (1.97)	0.21148 ^{**} (2.06)	0.19804 ^{**} (1.99)	0.18860 [*] (1.88)	0.20136 ^{**} (2.53)
LARGE* EXCHANGE	-0.15761 (-1.30)	-0.14249 (-1.17)	-0.15890 (-1.30)	-0.15983 (-1.30)	-0.23209 [*] (-1.90)	-0.16265 (-1.32)	-0.11886 (-0.95)	-0.16624 (-1.40)
CYGAAP	-0.24295[*] (-1.89)	-0.30354^{**} (-2.05)						-0.27624^{**} (-2.12)
CYGAAP * SmallRelSize		0.13011 (0.73)						
CYACC			-0.14057 (-1.08)					
CYFINT				-0.10870 (-0.84)				
CYAUD					-0.02044 (-0.14)			
NOT_WORSE						-0.25432[*] (-1.79)	-0.35304^{**} (-2.22)	
NOT_WORSE * SmallRelSize							0.20620 (1.36)	
Adjusted R ²	0.0576	0.0563	0.0511	0.0498	0.0505	0.0548	0.0573	0.0250
N	361	269	361	361	348	361	269	1,283

We calculate long-run abnormal returns by comparing firm returns over a window beginning one month after the merger completion date to buy-and-hold returns for a reference portfolio based on the key

characteristics of firm size, M/B ratio, and prior performance, a procedure developed by Lyon et al. (1999).

Definitions of Variables:

Control Variables

STOCK = 1 if consideration included some stock; 0 if no stock used.

ASSETS = Book value of acquirer assets as of the last fiscal year-end prior to the merger announcement (\$ billion).

M/B OF ASSETS = Market value of acquirer assets/Book value of acquirer assets = $\{MVE + (BVA - BVE)\} / BVA$, all as of the last fiscal year-end prior to the merger announcement.

GROWTH = the median value of MVA/BVA for all firms in the target's two-digit SIC code.

EXCHANGE = The difference between the 5-year stock market index return of the target country and 5-year return on S&P 500 following the merger completion.

LARGE = 1 if acquirer total assets exceed the sample median; 0 otherwise.

CROSS BORDER = 1 if the target is not from the USA; 0 otherwise.

SmallRelSize = 1 if the relative target/bidder size (measure as SDC transaction size divided by market value of bidder assets) is smaller than sample median; 0 otherwise.

Value Relevance Variables

CYGAAP = 1 if national accounting standards are set by private-sector bodies, alone or in conjunction with governmental bodies (Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if national accounting standards are set solely by governmental bodies (Australia, Belgium, France, Germany, Italy, Japan, Norway, Sweden and Switzerland).

CYACC = 1 if the country is classified as a British-American model country (Australia, Canada, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if the country is a Continental model country (Belgium, Denmark, France, Germany, Italy, Japan, Norway, Sweden, Switzerland).

CYFINT = 1 if the level of alignment of financial and tax accounting is low (Australia, Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if it is high (Belgium, France, Germany, Italy, Japan, Norway, Sweden, Switzerland).

CYAUD = 1 if spending on audit services (as defined by Ali and Hwang 2000) is at or above the median of .36 (Australia, Canada, Denmark, Ireland, Netherlands, Sweden, Switzerland, United Kingdom); 0 otherwise (Belgium, France, Germany, Italy, Japan, Norway).

NOT_WORSE = 1 if classified by Alford et al. (1993) as a nation where GAAP generates more or equally timely and value relevant information than U.S. GAAP (Australia, Belgium, Canada, France, Ireland, Japan, the Netherlands, Norway, South Africa, Switzerland, and the United Kingdom); 0 if classified as a nation where GAAP generates less timely and value relevant information than U.S. GAAP (Denmark, Germany, Italy, Singapore, and Sweden).

All CY Variables come from those used by Ali and Hwang (2000), Table 1, p. 7.

* = significant at $p < .10$; ** = significant at $p < .05$; *** = significant at $p < .01$

P-values (in parentheses) based upon heteroskedasticity-adjusted standard errors (White 1980).

Dependent variable winsorized at 1% and 99% levels

Table 6
Pearson Correlation Coefficients
For Entire Sample

	Consideration	Form	CYGAAP	CYFINT	CYAUD
Friendly	-0.075	-0.007	-0.020	-0.072	-0.069
Consideration		0.070	0.116*	0.105	0.128**
Form			0.345***	0.347***	0.352***
CYGAAP				0.910***	0.935***
CYFINT					0.975***

FRIENDLY = 1 if a friendly merger; 0 otherwise.

CASH = 1 if consideration included cash paid by buyer; 0 otherwise.

FORM = 1 if merger; 0 if acquired majority interest.

CYGAAP = 1 if national accounting standards are set by private-sector bodies, alone or in conjunction with governmental bodies (Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if national accounting standards are set solely by governmental bodies (Australia, Belgium, France, Germany, Italy, Japan, Norway, Sweden and Switzerland).

CYFINT = 1 if the level of alignment of financial and tax accounting is low (Australia, Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if it is high (Belgium, France, Germany, Italy, Japan, Norway, Sweden, Switzerland).

All CY Variables come from those used by Ali and Hwang (2000), Table 1, p. 7.

N = 361

* = significant at $p < .10$; ** = significant at $p < .05$; *** = significant at $p < .01$

Table 7
Binary Comparisons
Variable: Premiums Paid

Variable	N	Mean	p-value ¹	Median	p-value ²
CYGAAP=0	18	0.0802		0.0751	
CYGAAP=1	61	0.2276		0.1625	
Different?			0.0010		0.0092 ³
CYACC=0	14	0.0638		0.0682	
CYACC=1	65	0.2220		0.1625	
Different?			0.0002		0.0040 ⁴

1. test based on means using Satterthwaite's (1946) test method for unequal variances
2. test based on medians using two-sided test
3. Wilcoxon Scores based on ranks: p-value = 0.0271 (two-sided test)
4. Wilcoxon Scores based on ranks: p-value = 0.0281 (two-sided test)

CYGAAP = 1 if national accounting standards are set by private-sector bodies, alone or in conjunction with governmental bodies (Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if national accounting standards are set solely by governmental bodies (Australia, Belgium, France, Germany, Italy, Japan, Norway, Sweden and Switzerland).

CYACC = 1 if the country is classified as a British-American model country (Australia, Canada, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if the country is a Continental model country (Belgium, Denmark, France, Germany, Italy, Japan, Norway, Sweden, Switzerland).

All CY Variables come from those used by Ali and Hwang (2000), Table 1, p. 7.

Premiums are calculated as the difference between the target firm market price 40 days before the first announcement of the merger and the final price offered by the acquirer, as reported on the SDC database.

Table 8
T-Tests of Mean Differences in Return on Equity by Portfolio Grouping

Portfolio Group	ROE _{t-1}	ROE _{t+3}
SAMEIND = 0	-0.012	0.097
SAMEIND = 1	0.205	0.091
p-stat for difference	0.06	0.85
FRIENDLY = 0	0.110	0.186
FRIENDLY = 1	0.109	0.093
p-stat for difference	0.99	0.05
CASH = 0	0.087	0.094
CASH = 1	0.128	0.093
p-stat for difference	0.68	0.99
STOCK = 0	0.144	0.095
STOCK = 1	-0.029	0.004
p-stat for difference	0.10	0.13
FORM = 0	0.019	0.108
FORM = 1	0.172	0.083
p-stat for difference	0.22	0.36
CYGAAP = 0	0.101	0.120
CYGAAP = 1	0.115	0.069
p-stat for difference	0.89	0.06
CYACC = 0	0.099	0.118
CYACC = 1	0.116	0.074
p-stat for difference	0.72	0.09
CYFINT = 0	0.117	0.117
CYFINT = 1	0.097	0.075
p-stat for difference	0.70	0.14
CYAUD = 0	0.108	0.113
CYAUD = 1	0.110	0.076
p-stat for difference	0.98	0.18

Pr > |t| is calculated using Satterthwaite's (1946) test method for unequal variances.

Definition of Variables:

ROE = return on equity (net income before extraordinary items / common equity)

t-1 = the fiscal year before the merger is announced

t+3 = the third fiscal year after the merger is completed

Definition of Portfolio Groupings:

SAMEIND = 1 if both firms in the business combination are from the same 2-digit SIC; 0 otherwise.

FRIENDLY = 1 if friendly; 0 otherwise.

CASH = 1 if consideration given included some cash; 0 if no cash used.

STOCK = 1 if consideration included some stock; 0 if no stock used.

FORM = 1 if merger; 0 if acquired majority interest.

CYGAAP = 1 if national accounting standards are set by private-sector bodies, alone or in conjunction with governmental bodies (Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if national accounting standards are set solely by governmental bodies (Australia, Belgium, France, Germany, Italy, Japan, Norway, Sweden and Switzerland).

CYACC = 1 if the country is classified as a British-American model country (Australia, Canada, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if the country is a Continental model country (Belgium, Denmark, France, Germany, Italy, Japan, Norway, Sweden, Switzerland).

CYFINT = 1 if the level of alignment of financial and tax accounting is low (Australia, Canada, Denmark, Hong Kong, Ireland, Netherlands, Singapore, South Africa, United Kingdom); 0 if it is high (Belgium, France, Germany, Italy, Japan, Norway, Sweden, Switzerland).

CYAUD = 1 if spending on audit services (as defined by Ali and Hwang 2000) is at or above the median of .36 (Australia, Canada, Denmark, Ireland, Netherlands, Sweden, Switzerland, United Kingdom); 0 otherwise (Belgium, France, Germany, Italy, Japan, Norway).

All CY Variables come from those used by Ali and Hwang (2000), Table 1, p. 7.