

## **Alternative Methods of Convergence toward U.S. Market and Legal Regulations: Cross-listing vs. Merging with U.S. Bidders**

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### Abstract:

Non-U.S. firms have two options to converge toward U.S. capital market and legal regulations – to cross-list in the U.S. or to agree to be acquired by a U.S. bidder. We show that companies that have lower growth opportunities, are more capital intensive, and seek bonding benefits through compliance with U.S. exchange (rather than OTC market) requirements are more likely to be acquired, and that firms from civil law countries tend to cross-list. We document that the adoption of Sarbanes-Oxley Act of 2002 (SOX) led to an increase in the propensity to be acquired for firms from civil law countries, and to a greater rate of cross-listings for capital intensive firms from common law countries and for firms from countries with strong protection of investor rights. We also show that Market-to-Book values of non-U.S. firms following cross-listing in the U.S. tend to be lower when these firms were expected to be acquired. Similarly, both non-U.S. targets and U.S. bidders experience lower abnormal returns in acquisitions involving targets expected to cross-list. Our results imply the existence of optimal convergence choices of non-U.S. firms. In addition, the adoption of SOX appears to have changed some determinants of these choices due to shift in benefits and costs of compliance with U.S. regulations.

Keywords: Bonding, Contractual and functional convergence, Cross-listing, Cross-border mergers, Sarbanes-Oxley Act

JEL classification: G15, G18, G34, K22

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# **Alternative Methods of Convergence toward U.S. Market and Legal Regulations: Cross-listing vs. Merging with U.S. Bidders**

## **1. Introduction and motivation**

The primary purpose of this paper is to analyze the determinants and value impact of foreign firms' choice of method of convergence towards U.S. market and legal regulations - to cross-list in the U.S. or to agree to be acquired by a U.S. bidder. In addition, we study how changes in U.S. legislature, the adoption of Sarbanes Oxley Act of 2002 (hereafter SOX), affected the patterns of foreign cross-listings and cross-border M&A activities.

Countries differ in terms of shareholder and creditor rights, judicial efficiency, overall liquidity of capital markets (La Porta et al., 1998), as well as the extent of the required accounting disclosure (Rajan and Zingales, 1998; Ali and Hwang, 2000). La Porta et al. (1997) document that countries providing stronger investor protection (especially those based on Anglo-American common law, rather than civil law, tradition), better enforcement of law, and stricter disclosure and regulation requirements are associated with bigger, more liquid, and more informative capital markets. Similarly, countries with the lack of protection, poor laws, and enforcement frequently suffer investor expropriation (Johnson et al., 2000), leading to higher capital costs and lower firm values (La Porta et al., 2002).

Differences in market and legal regulations worldwide create an environment of information asymmetry characterized by an increased risk of moral hazard. Convergence to a common standard of disclosure and regulation would lead to an improvement in the opportunity to observe agents' behavior and will occur when efforts towards convergence are publicly visible (Bisin et al, 1998). Coffee (1999) suggests that the process of convergence can be facilitated through "corporate migration and stock exchange harmonization".

In this paper we argue that cross-listing in U.S. and becoming a target of a U.S. bidder in a cross-border merger are two alternative steps that can achieve convergence toward common regulations and in particular toward regulations based on U.S. legal standards - common law-

based, and regarded as strict, investor-friendly, and informative (La Porta et al., 1998, 2000). [Analogously to our approach, Rossi and Volpin (2004) also consider cross-listings and cross-border mergers to be alternatives. They claim: “Selling to a foreign firm is a form of contractual convergence similar to the decision to list in countries with better corporate governance and better-developed capital markets” (p. 278).] By cross-listing in the U.S., foreign companies achieve lower cost of capital, greater access to U.S. capital markets, increased shareholder base, as well as visibility, and prestige (Doidge et al., 2004). Furthermore, foreign companies are subject to superior corporate governance and disclosure requirements and are “renting” U.S. regulations (Coffee, 1999, 2002; Stulz, 1999; Reese and Weisbach, 2002, Fuerst, 1998).<sup>1</sup> This is a form of “functional” convergence to the U.S. governance system while the foreign companies still keep their foreign identity, and actively function both in their domestic and U.S. markets (Riebstein, 2002). Alternatively, companies can bond themselves effectively to U.S. regulations by “contractual” convergence - in the form of becoming a target of a U.S. bidder in a cross-border merger (Rossi and Volpin, 2004).

Cross-listings and cross-border mergers have significant valuation consequences. Doidge et al. (2004) document that foreign firms cross-listed in the U.S. trade at Market-to-Book premiums. Rossi and Volpin (2004) show that cross-border targets of U.S. bidders are bought at high equity premiums. The convergence activities appear to benefit primarily firms from countries with relatively inferior legal systems (e.g. based on civil law origin associated with poorer protection of investor rights). Pagano et al. (2002) and Reese and Weisbach (2002) document that companies from countries with weak legal protection for minority shareholders cross-list more often. Rossi and Volpin (2004) show that firms from countries that provide weaker investor protection tend to be taken over by acquirers from countries with relatively

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<sup>1</sup> Finance literature also recognizes several alternative benefits of cross-listing. These include: overcoming investment barriers and reduction of investment risk by creating larger investor base (Foerster and Karolyi, 1999; Miller 1999), direct access to more developed capital markets (Lins et al., 2005), or signaling value associated with the willingness to comply with strong disclosure requirements (Fuerst, 1998).

stronger investor protection.

U.S. governance and disclosure laws have been considerably strengthened following the adoption of SOX. The main objective of the legislature was to improve the reliability and accuracy of accounting statements following several high-profile corporate scandals in the last decade. It is aimed at “strengthening the standards related to auditor independence, corporate governance, and enhanced financial disclosure and also provides severe penalties for non compliance” (SOX compliance manual, available at [www.sarbanes-oxley.com](http://www.sarbanes-oxley.com)). Chhaochharia and Grinstein (2005) indeed document superior performance of firms required to make substantial changes as a consequence of SOX. Similarly, Li, Pincus and Rego (2004) report SOX has led to improvements in corporate governance and reporting practices.

However, finance studies also suggest sharp increase in compliance costs associated with SOX (e.g. Coffee, 2002). These costs are even higher for foreign firms, which are now required to make some corporate governance changes that contradict laws and practices in their home countries.<sup>2</sup> Consequently, U.S. stock exchanges have experienced a significant post-SOX decline (increase) in new foreign listings (delistings).<sup>3</sup> Since foreign issuers constitute 17 percent of NYSE listings (Coffee, 2002), this trend may have a significant adverse impact on revenues and reputation of U.S. exchanges and could affect investors’ opportunities for international diversification (WSJ, Jan 26, 2005).<sup>4</sup> We expect that SOX might shift the choice of convergence

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<sup>2</sup> Riebstein (2002) and Perino (2005) document that SOX requirements and regulations in some foreign countries differ, for example, in the areas of auditor selection procedures and responsibilities or CEOs and CFOs. Li (2007) shows that foreign cross-listed firms experienced abnormal returns of approximately -10 percent in response to the passage of SOX legislation, consistent with excessive compliance costs for foreign companies. Litvak (2007) further documents that foreign firms listed on OTC markets (i.e. not subject to SOX) did not experience similar losses.

<sup>3</sup> Li (2007), Piotroski and Srinivasan (2007), and Witmer (2006) all report increased levels of foreign delistings following the adoption of SOX. Witmer (2007) further shows that delistings are more frequent for firms from countries with weaker investor protection. Georgieva (2006) shows lower propensity to cross-list in the U.S. among foreign firms following the adoption of SOX. This decline appears to be smaller among firms from civil law countries.

<sup>4</sup> Popular U.S. press has noticed that in contrast, foreign listings at competing foreign exchanges (e.g. London and Luxembourg) soared (WSJ, Apr 17, 2006). In addition, the Mayor of London stated that “The competitive advantage of London Stock Exchange over NYSE is lack of Sarbanes-Oxley Act” during his visit to New York in 2006 (New York Post, Aug. 3, 2006). Piotroski and Srinivasan (2007) show that

methods of foreign companies.

Our study is among the first to document the relative advantages of two different methods (cross-listing vs. agreeing to be acquired) of harmonizing foreign assets with U.S. regulations. Rather than studying *why* firms should converge toward U.S. systems and *why* it should benefit them, we focus on the issue of *how* they should converge (once a firm finds convergence beneficial). In addition, we also provide empirical evidence on changes in relative benefits of cross-listing following the adoption of SOX in terms of changes of determinants affecting the convergence choices. Based on the sample of 188 foreign cross-listing firms and 109 targets in completed acquisitions by U.S. bidders during the period from 1999 to 2004, our main results are:

1) *General determinants of being acquired vs. cross-listing*: The likelihood of becoming a target decreases for non-U.S. firms with higher growth opportunities, as such firms have likely less to gain by acquisition (Lang et al, 1991). Non-U.S. firms with larger capital needs tend to get acquired, consistent with an easier access to extra capital for firms integrated with U.S. bidders due to “home bias” in decisions of U.S. investors (Coval and Moskowitz, 1999). Firms seeking convergence benefits through compliance with U.S. exchange – as opposed to OTC market – requirements (either by independent listing on U.S. exchanges or by being acquired by a U.S. exchange-listed bidder) tend to be taken over, consistent with the existence of high costs of independent exchange cross-listing (Doidge et al., 2004).

2) *The impact of country characteristics on relative likelihood of getting acquired*: Firms from civil law countries are more likely to cross-list more often than merge (54 percent more likely compared to the cross-listing probability for common law country companies). Our results are consistent with research documenting lower takeover activity in countries with civil law legal systems and lower gains to U.S. bidders in acquisitions of targets from such countries (Rossi and Volpin, 2004, Moeller and Schlingemann, 2005).<sup>5</sup> Despite sizable costs of compliance with U.S. laws and regulations for firms from civil law countries (Doidge et al., 2004), cross-listing is the more feasible option for companies from civil law countries desiring benefits associated with convergence toward U.S. regulations.

3) *The impact of SOX adoption on relative likelihood of getting acquired*: After the adoption of SOX, the probability of acquisition of assets from a civil law country increases significantly (by 56 percent compared to the acquisition probability of a firm from a civil law country before the adoption of SOX). This is consistent with substantial increase in costs of compliance after the adoption of SOX, leading to lower rate of cross-listing by firms from civil law countries. On the other hand, we find that firms from common law countries with greater capital needs, as well as firms from countries with stronger minority investor protection due to stronger antidirector rights, tend to cross-list more after SOX. These results suggest that SOX legislation may generate extra benefits for firms needing capital access, especially when the extra costs of compliance with SOX are likely to be smaller.

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except for large profitable firms from emerging markets, U.S. exchanges have indeed experienced outflow of foreign listings at the expense of London Stock Exchange.

<sup>5</sup> Results of Moeller and Schlingemann (2005) have one exception – the acquisitions involving targets from United Kingdom (a common law country) are associated with the lowest U.S. bidder gains.

4) *Valuation consequences of decisions to get acquired vs. to cross-list:* Creating a suboptimal organization structure (by cross-listing when a firm was expected to get acquired or by merging when the target was expected to cross-list) leads to losses for both foreign and U.S. firms. After listing on U.S. exchanges, non-U.S. firms that were expected to get acquired trade at the Market-to-Book discount of 0.37 on average. This discount virtually eliminates the Market-to-Book premium of 0.40 due to cross-listing on U.S. exchanges. Similarly, both non-U.S. targets and U.S. bidders gain less during acquisitions involving targets expected to cross-list rather than to be taken over. Targets' (bidders') abnormal acquisition returns drop by 20% (11%) in such deals.

Overall, our study documents determinants of two alternative decisions to converge toward U.S. market and legal regulations – cross-listing vs. agreeing to become a target of a U.S. bidder. Our findings further suggest that adoption of SOX substantially affected costs and benefits of compliance with U.S. regulations, and impacted relative benefits of the alternative convergence methods. Ultimately, our results should help answer the question whether adoption of SOX benefited foreign firms and whether potential changes in SOX-related legislature could positively impact U.S. economy and U.S. exchanges. In this respect, our paper could contribute toward finding optimal policy adjustments of the regulation of foreign firms operating in the U.S.

The rest of the paper is organized as follows. In the next section, we discuss hypotheses regarding the alternative convergence methods. We describe our data in Section 3. In Section 4, we analyze determinants of the alternative convergence decisions. Valuation impact of decisions to converge toward U.S. regulation for the three groups of involved firms (non-U.S. cross-listing firms, non-U.S. targets, and U.S. bidders) is analyzed in Section 5. Section 6 concludes.

## **2. Hypotheses regarding determinants of the decision to cross-list vs. to become acquired by a U.S. bidder**

In this section, we present our hypotheses. First, we discuss general firm-specific determinants of the convergence choices. Second, we study the impact of country characteristics on the relative likelihood of getting acquired. Third, we examine the expected impact of SOX adoption on the preferences of foreign companies to cross-list vs. to get acquired. Last, we predict the valuation consequences of alternative convergence decisions.

### *2.1. General firm-specific determinants of the choice to cross-list vs. to become acquired*

Cross-listing in U.S. and cross-border merger with a U.S. bidder are alternative, but also conceptually different forms of convergence towards U.S. market and legal regulations. Cross-listing is an independent decision of a foreign firm undertaken whenever benefits of cross-listing outweigh costs. However, for a foreign firm to get acquired, there has to exist a U.S. bidder willing to complete the acquisition. Ultimately, the cross-border acquisition will likely be undertaken only if the benefits of the acquisition outweigh the costs for the U.S. bidder (in addition to being value-enhancing for the foreign target). We anticipate:

H1: The foreign firm's choice to cross-list vs. to get acquired by a U.S. bidder is affected by the potential for acquisition synergy that can be captured by the U.S. bidder and by the relative benefits of cross-listing for the foreign firm.

Our primary measures of the acquisition synergy potential for the U.S. bidder include foreign firm's growth opportunities (measured by MB ratio) and profitability. Our principal determinants of the cross-listing benefits for foreign firms are capital needs (measured by Capex/Assets) and the desire to bond with the U.S. regulations by compliance with U.S. exchange, as opposed to OTC market, requirements (determined by whether the foreign firm assets are ultimately subject to exchange regulations – either through direct cross-listing or through being taken over by an exchange-listed U.S. bidder). We predict that foreign firms with lower growth opportunities and profitability, higher capital needs, and desiring bonding with U.S. exchange requirements, are more likely to get taken over than to cross-list (we provide detailed discussion of these predictions in Section 3).

### *2.2. Country-specific determinants of the choice to cross-list vs. to become acquired*

Firms from countries with civil (common) law legal tradition, with poorer (stronger) protection of investor rights, and with less (more) developed capital markets and accounting disclosure systems must spend significant (less significant) resources if they decide to cross-list in the U.S. and to comply with relatively stringent U.S. regulations (Doidge et al. 2004). At the same time, greater differences between investor protection standards, legal, capital markets, and

accounting disclosure systems between the above foreign countries and U.S. increase the cost and lower the likelihood of cross-border acquisitions involving U.S. bidders (Moeller and Schlingemann, 2005; Rossi and Volpin, 2004). The ultimate impact of country characteristics on the cross-listing likelihood is an empirical question of lower (higher) costs of cross-listing vs. lower (higher) costs of acquiring of companies from countries with more (less) developed investor protection, legal, capital markets, and accounting disclosure systems:

H2 [H2A]: Provided the convergence to U.S. systems is beneficial, firms from countries with civil law legal origin, and/or with poorer protection of investor rights, less developed legal, capital markets, and accounting disclosure systems are less [more] likely to get taken over by a U.S. bidder rather than to cross-list.

Civil law legal origin is defined by a dummy variable indicating a firm from a country with a civil law legal origin. This dummy should be negatively (positively) related to the relative likelihood of getting taken over under hypothesis H2 (H2A). Our primary characteristics of country's investor protection, legal, capital markets, and accounting disclosure developments are the Antidirector Rights Index, Judicial Efficiency, Liquidity Ratio, and Rating of Accounting Standards described in La Porta et al. (1998). We expect the above variables to be positively (negatively) related to the likelihood of getting taken over under hypothesis H2 (H2A).

### *2.3. The impact of SOX adoption on relative likelihood of getting acquired*

Costs of foreign listing arguably increased following the adoption of SOX. As listed U.S. companies have to comply with SOX, some fixed costs that otherwise would have to be spent by foreign firms after cross-listing could be mitigated or eliminated by becoming a target. For example, Section 301 of SOX requires issuers to have a wholly independent audit committee that hires and oversees auditors. Contrary to this requirement, in some foreign countries (e.g. Germany), supervisory boards of companies are allowed to appoint auditors at the annual shareholder's meeting (Riebstein, 2002). In addition, Section 302 of SOX allocates ultimate responsibility for the accuracy of the company's financial statements to the CEO and CFO, while in some foreign countries this responsibility resides with the board (Perino, 2005). Following the

acquisition, foreign targets typically cease to exist as free-standing entities, and they become integrated within the bidder's firm structure. The responsibility to comply with SOX falls onto the U.S. bidder, but since the foreign unit no longer has independent boards, CEOs, or CFOs, compliance with SOX does not likely need to contradict foreign practices.

The highest additional costs of SOX compliance, and thus the highest increase in post-SOX acquisition likelihood, should be primarily associated with firms from countries whose investor protection standards, legal, capital markets, and accounting disclosure systems are considerably different from those in the U.S. Consequently:

H3: The acquisitions of foreign firms by U.S. bidders are more likely during the post-SOX period, particularly for firms from countries with civil legal origin, with poorer protection of investor rights, and less developed legal, capital markets, and accounting disclosure systems.

To assess the impact of SOX, we create a dummy variable denoting acquisitions and cross-listings initiated after the adoption of SOX, interacted with country characteristics described in the previous section. We expect the post-SOX impact of civil law dummy to be positively related to the acquisition likelihood. On the other hand, the post-SOX impact of Antidirector Rights Index, Judicial Efficiency, Liquidity Ratio, and Rating of Accounting Standards on the probability of getting acquired should be negative.

#### *2.4. Valuation consequences of decisions to get acquired vs. to cross-list*

Previous finance research has shown that the decisions to converge to U.S. systems (by getting acquired or by cross-listing) lead to value gains for the involved firms (Rossi and Volpin, 2004, Doidge et al. 2004). However, if firms are to follow optimal decisions regarding *how* to converge, then companies selecting suboptimal convergence choices should be penalized:

H4: Foreign firms that choose to cross-list in the U.S. while predicted to be taken over, as well as foreign firms predicted to cross-list, but taken over by U.S. bidders should experience value losses.

Specifically, we expect that following listing on U.S. exchanges, foreign firms predicted to be acquired will trade at a Market-to-Book discount compared to their counterparts that listed according to expectations. We anticipate that non-U.S. firms predicted to cross-list, but taken

over by U.S. bidders instead, will be associated with lower acquisition abnormal gains. Similarly, U.S. bidders should gain less when acquiring a target predicted to stay independent and cross-list.

### **3. Data**

The sample consists of foreign firms cross-listed in U.S. and foreign firms that are targets to successful cross-border mergers with U.S. bidders. We created the sample of foreign cross-listing firms based on the Bank of New York ADR directory that provides a complete sample of all currently active ADR programs. We restricted the observations in our sample to firms that initially cross-listed in U.S. between 1999 and 2004 and for which annual accounting data is available from Compustat Global. The final sample of foreign cross-listing firms in our study contains 188 firms.

We obtained information about cross-border mergers involving non-U.S. targets and U.S. bidders between 1999 and 2004 from *Thomson SDC Platinum Worldwide M&A* database and manually collected accounting data for foreign firms from *Worldscope* annual reports database. Our final sample of foreign targets consists of 105 firms.

Table 1 provides description of the sample. Panel A of Table 1 shows the number of foreign firms, cross-listing firms and foreign targets to U.S. bidders by year. The numbers are relatively consistent across the years with an expected decrease in cross-listing firms after 2002, possibly attributable to high disclosure requirements and costs of cross-listing imposed by SOX. Panel B of Table 1 shows the cross-listing and target firms by year of cross-listing/becoming a target and the legal origin of the home country. For each year between 1999 and 2004 cross-listed firms from civil law countries outnumber cross-listed firms from common law countries, whereas this relationship does not hold for the targets.

There are two sets of variables needed to conduct this study: company-specific accounting variables and country-specific characteristics. Table 2 provides description of the company-specific variables. The company specific variables in our study are Market-to-Book,

Assets, Return on Assets (ROA) and CAPEX/Assets. Market-to-Book is calculated as  $(\text{Total Assets} - \text{Book Equity} + \text{Market Value of Equity}) / \text{Total Assets}$ , ROA is calculated as  $\text{EBIT} / \text{Assets}$ . We compare means and medians of the above variables for target and cross-listing firms using T-test and Wilcoxon tests respectively. Table 2 shows that cross-listing firms have significantly higher Market-to-Book (mean 2.48, median 1.37) compared to target firms and non converging foreign firms. ROAs for target firms (mean -0.41%, median 4.61%) are significantly lower than those for cross-listing companies (mean 4.5%, median 6.9%). Assets of targets are smaller than assets of cross-listing firms (mean size of cross-listed firms of \$6,745 million exceeds that of target firms more than five times).

In addition, we study the market reaction to the announcement of the merger by analyzing target acquisition premiums and bidder acquisition abnormal returns. Target abnormal returns are estimated by offer price premium with respect to target trading price one week prior to the original announcement date, as reported by *SDC Platinum Worldwide M&A* database. The targets in the sample have statistically significant premiums (mean of 37.29% and median of 36.47%). Bidder abnormal returns are calculated over (-5,+5) window around the initial announcement date using market model where the beta parameters are estimated from linear regression utilizing returns from day -220 to -20 before the announcement date. The bidders in our sample earn insignificantly positive acquisition abnormal returns (mean equal to 0.86%, median equal to 0.95%).

We also examine the difference between cumulative foreign (exchange index in the country of origin of each particular foreign firm) and U.S. (S&P 500) market returns from one year to one month prior to cross-listing date or merger announcement. The results show that foreign stock exchanges slightly outperformed S&P 500 one year prior to both foreign cross-listings (mean of return differences equal to 7.43%, median equal to 3.53%) and cross-border deal announcements (mean of return differences equal to 7.59%, median equal to 4.36%). However, none of the return differences are statistically significant.

The remaining part of Table 2 shows the proportion of firms from civil law countries in the sample of targets and cross-listing firms – 66 percent of cross-listing firms are from civil law countries and 43 percent of target firms are from civil law countries. The Proportion of exchange is a dummy variable that in the sample of cross-listing foreign firms has a value of 1 if a firm is cross-listing on a major U.S. exchange and 0 if the foreign firm is selling ADR shares over the counter. For the sample of bidders, Proportion of exchange dummy equals 1 if a foreign firm is a target in a cross-border merger by a U.S. bidder that is listed on a U.S. exchange and zero if the foreign firm is a target of U.S. bidder not listed on exchange. The table shows that 40 percent of the firms in the cross-listings sample are listed on exchange and that 58 percent of the U.S. bidders acquiring foreign targets are listed on a U.S. exchange.

The second group of variables used in our analysis and presented in Table 3 consists of country specific variables that describe our 32 sample countries. We report the legal tradition of the home country of our sample firms, indicated by the Civil dummy variable. The variable equals 1 if the country is from the civil legal family and equals 0 if the country has a common law tradition. To account for the protection mechanisms available for minority shareholders we use the revised Antidirector rights index from Djankov et al. (2006). Antidirector rights is an index variable that takes value from 0 to 6 and is based on several characteristics of shareholder rights (the higher the score, the more antidirector rights, and stronger protection for minority investors, the country's legal system provides).

In addition, Table 3 shows the number foreign non converging firms, foreign targets of U.S. bidders and cross-listing foreign firms by country. The countries with the largest numbers of cross-listed companies are United Kingdom, Japan, Germany, and Taiwan.<sup>6</sup> Approximately 40 percent of the targets are Canadian firms.

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<sup>6</sup> Our sample of cross-listed firms is collected from the Bank of New York interactive ADR directory available at [http://www.adrbny.com/dr\\_directory.jsp](http://www.adrbny.com/dr_directory.jsp) and it does not contain Canadian ADRs. According to Moel (2001), Canadian firms tend to directly list (rather than cross-list) in the U.S.

#### 4. Determinants of alternative decisions to converge toward U.S. regulations

In this subsection, we present Probit analysis of foreign firms' decisions to agree to be acquired by a U.S. bidder vs. to independently cross-list in the U.S. Factors expected to influence these choices (anticipated impact on the relative likelihood of becoming a target in parentheses):<sup>7</sup>

Firm's growth opportunities measured by Market-to-Book (MB) ratio (-): Lang et al. (1991) report that acquisitions of high MB targets lead to relatively low synergies. Also, since MB tends to be positively related to the value of intangibles, high MB firms may be less desirable targets due to bidder's difficulty to value target's assets. Consequently, high MB foreign firms desiring convergence benefits may have to cross-list due to the inability to find an interested bidder.

Profitability measured by Return on Assets (ROA) equal to EBIT/Assets (-): More profitable firms may be less desirable targets because of lower synergy potential due to smaller chance to generate improvements not already factored into the targets' high values. In addition, more profitable firms are arguably managed more efficiently, and so they should find it easier and less costly to comply with stricter U.S. regulations as independent entities.

Post-SOX time period measured by a dummy variable equal to one if the decision to cross-list/get acquired was undertaken after the adoption of SOX in July of 2002 (?): Adoption of SOX is associated with both additional benefits and extra costs of cross-listing. If the additional benefits (costs) are ultimately prevalent, cross-listings (acquisitions) should become more likely during the post-SOX period.

Capital needs measured by Capex/Assets (?): Foreign firms with greater capital needs will likely benefit from a greater access to U.S. capital markets and from convergence toward U.S. regulations. If U.S. investors display "home bias" in their decisions (e.g. Coval and Moskowitz, 1999), then foreign entities may enjoy better access to investment funds if acquired by U.S. firms.

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<sup>7</sup> All models in Table 4 are estimated by Probit analysis incorporating the country-clustering effect due to potential correlation of independent variables on the country level. Under this specification, firms response variables are assumed to be independent and responses related to the same country are expected to be correlated. However, when we re-ran our analysis without considering the country-clustering effects, our results were qualitatively the same as those reported in Table 4.

If, however, SOX adoption is associated with extra (e.g. signaling) benefits for foreign cross-listing firms, one should expect higher incidence of cross-listings, especially during post-SOX period for firms from common law countries (for which the extra costs due to compliance with SOX are likely low).

Civil law legal origin of the legal system in the foreign firm's country measured by the dummy variable equal to one if the foreign country's legal systems are based on civil law (?): The costs of compliance with U.S. regulations are large for firms from civil law countries (e.g. Doidge et al., 2004) which should lead to higher incidence of mergers for firms from those countries. However, Moeller and Schlingemann (2005) show that U.S. bidder gains generally suffer if the target is from a civil law country, and Rossi and Volpin (2004) document lower intensity of M&A activity in civil law countries. Ultimately, the impact of civil law legal origin on the relative likelihood of acquisitions is an empirical question. We expect, though, a positive marginal impact of civil law origin on the probability of merging in the post-SOX period, as marginal costs of cross-listing and direct costs of compliance with U.S. regulations likely increased substantially for firms from civil law countries. Acquisition by a U.S. bidder can mitigate or eliminate some of the compliance costs (e.g. related to auditor requirements and CEO/CFO responsibility for the financial statement accuracy).

Bonding by compliance with U.S. exchange (as opposed to OTC market) requirements measured by the "Exchange" dummy variable equal to one if a foreign firm cross-lists on one of U.S. stock exchanges, or if a foreign target is acquired by a U.S. exchange-listed firm (+): OTC and private companies are subject to substantially weaker SEC regulations. Foreign firms cross-listed on OTC markets or acquired by non-exchange bidders are neither expected to reap the strong benefits of *legal* bonding with U.S. regulations, nor to be subject to the costs of compliance associated with such bonding.<sup>8</sup> However, if a foreign firm desires stronger (and costlier) benefits

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<sup>8</sup> Foreign companies may still benefit from limited *reputational* bonding benefits associated with the ability to raise capital in the U.S. even if they end up cross-listed on OTC markets or being acquired by non-

associated with legal bonding, and if the costs of compliance with U.S. regulations can be lowered or internalized via merger with a U.S. exchange-listed entity, mergers should be a prevalent form of bonding for such foreign firms. Nevertheless, if a firm from a civil law country seeks benefits of exchange listing, it is more likely to do so through cross-listing. The reason is potentially significantly higher costs of complying with U.S. regulations borne by the U.S. bidders (consistent with Moeller and Schlingemann, 2005; and Rossi and Volpin, 2004).

Investor protection in the foreign firm's country measured by the Antidirector Rights Index reported by La Porta et al. (1998) (?): Countries with a higher number of antidirector rights are associated with a greater protection of investors (especially minority shareholders) according to La Porta et al., 1998. The costs of compliance with U.S. regulations should be smaller, and companies seeking convergence benefits should be more likely to stay independent and cross-list. At the same time, the acquisition costs should be smaller for such firms, making them more desirable targets of U.S. bidders. We expect, though, that during the post-SOX period, the likelihood of cross-listing should relatively decrease for firms from countries with weaker antidirector rights, as the costs of compliance with U.S. standards increase for countries not offering investor protection similar to that in the U.S.

Development of foreign countries' legal, capital markets, and accounting disclosure systems measured by Judicial Efficiency, Liquidity Ratio, and Rating of Accounting Standards described in La Porta et al. (1998) (?): Efficient legal systems, capital markets, and accounting regulations of a particular foreign country lower both the costs of compliance with U.S. standards, and the cost of acquisition by U.S. bidders.

Difference in foreign and U.S. stock exchange performances measured by the differences in cumulative abnormal return of the foreign firm's major stock exchange and S&P 500 between one year and one month prior to merger announcement or cross-listing date (?): Superior

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exchange bidders. Siegel (2005) actually argues that Mexican firms cross listed in the U.S. benefit primarily from reputational, rather than legal bonding.

performance of U.S. equity markets may both increase the U.S. bidders' acquisition activity due to hubris (Roll, 1986), and raise the likelihood of cross-listing, as foreign firms can achieve greater benefits when cross-listed on an exchange associated with superior performance.

Before we analyze the acquisition versus cross-listing choices of foreign firms we study the overall propensity of foreign firms to converge to U.S regulations (by cross-listing *or* becoming a target to a U.S. bidder) versus to remain only on their domestic exchange. Our results, presented in Panel A of Table 4 suggest that firms from countries with civil law legal tradition are less likely to cross-list or to become targets to U.S. bidders however after the implementation of SOX firms from civil law countries are incrementally more likely to converge. These findings are consistent with the expectation that converging to U.S. standards is more difficult and expensive for firms from civil law countries however after the implementation of SOX converging is motivated by a need to bond with a considerably stronger regulatory environment. Further our results show that foreign firms with higher growth opportunities (as measured by Market-to-Book), larger firms (measured by Total Assets) and firms from civil law countries, with high Capital expenditures and after SOX are more likely to converge to U.S. standards.

Our empirical results in Panel B of Table 4 show that firms with lower growth opportunities and/or greater capital needs tend to become acquired rather than to cross-list. Firms seeking bonding benefits through compliance with U.S. exchange (as opposed to OTC market) requirements tend to become acquired as well. These findings support Hypothesis H1. Even more importantly, all models show that convergence benefits-seeking firms from countries with civil law legal systems are associated with a greater likelihood of cross listing, consistent with Hypothesis H2. When other variables are held at their means, the "Civil Law" coefficient of -0.99 in Model 1 implies that a firm from a country with a civil law legal origin has 69 percent lower chance of getting acquired compared to the acquisition probability for a common law country company.

Most importantly, Model 2 suggests that after adoption of SOX, the likelihood of being acquired relatively increases for firms from civil law countries. The positive coefficient for the “Civil Law\*SOX” dummy remains significant even when we control for the impact of ROA in Model 3. “Civil Law\*SOX” coefficient of +0.46 in Model 3 can be translated into a 58 percent higher probability of being acquired for a firm from a civil law country, compared to the acquisition probability of a firm from a civil law country before the adoption of SOX. This result is consistent with our hypothesis H3 that SOX increased costs of compliance – and caused cross-listings to be less optimal – for foreign firms from countries with (civil) legal systems considerably different from that in the U.S.

Model 4 shows that after the adoption of SOX, common law firms with greater capital needs tend to cross-list, rather than get acquired.<sup>9</sup> This result suggests that SOX can be associated with additional benefits for foreign firms, primarily those not subject to high extra compliance costs. Model 5 implies that worse investor protection due to smaller number of antidirector rights is associated with the lower likelihood of independent cross-listing during the post-SOX period when the relative costs of compliance with U.S. standards increased for countries with poor investor protection. Results in Model 6 show that the desire to bond with U.S. regulations by compliance with U.S. exchange requirements has different consequences for firms based on the legal origin of their home countries. The significantly positive coefficient of the Exchange dummy variable suggests that companies from common law countries tend to be acquired by exchange-listed bidders. On the other hand, the significantly negative coefficient of Exchange\*Civil Law dummy implies that firms from civil law countries are more likely to cross-list if they want to enjoy bonding benefits due to compliance with U.S. exchange requirements. Model 7 suggests that the differential performance of foreign and U.S. exchanges does not have a

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<sup>9</sup> The marginal impact of capital needs after SOX for a common law country is measured by a statistically significant coefficient of -3.017 on “(CAPEX/Assets)\*SOX”. The marginal impact of capital needs for a civil law country is measured by a sum of a coefficients of -3.017 on “(CAPEX/Assets)\*SOX” and of +2.23 on “(CAPEX/Assets)\*SOX\*Civil Law”. The resulting coefficient is statistically insignificant.

significant impact on the choice to cross-list or get taken over. Last, while we do not have a specific expectation for the impact of the foreign firm's asset size on the relative likelihood of getting acquired, Model 8 implies that large foreign firms tend to cross-list. Even more importantly, all our major findings (notably, the impact of civil law legal tradition both before and after SOX adoption) remain unaffected by our inclusion of the foreign company's assets.

Overall, our results show that there are factors that influence choices of convergence methods for foreign firms. Moreover, it appears that the adoption of SOX led to substantial changes in relative costs and benefits of cross-listing in the U.S. and caused foreign firms to use alternative methods of convergence toward U.S. systems. We find that during the post-SOX period, firms from civil law countries agree to get acquired more, and firms with greater capital needs or stronger antidirector rights are associated with relatively increased likelihood of independent cross-listing. In the next section, we will study the value impact of foreign firms' convergence choices. First, we will examine whether foreign firms that cross-list despite being predicted to be acquired tend to trade at relative Market-to-Book discounts compared to companies cross-listing according to expectations. Second, we will study whether non-U.S. targets gain less during acquisitions involving foreign firms expected to cross-list rather than to be taken over. Third, we will study whether, similarly, U.S. bidders achieve lower acquisition abnormal returns when they take over a target that was expected to cross-list, rather than taking over a firm expected to be acquired.

## **5. Value impact of alternative decisions to converge toward U.S. regulations**

### *5.1. Analysis of Market-to-Book values of non U.S. firms following cross-listing*

In this subsection, we present the analysis of Market-to-Book (MB) values of non-U.S. firms one year after cross-listing on U.S. exchanges. For each of 133 cross-listing firms with available data, we select a matching non cross-listing company from the same country, industry

(based on 2-digit SIC codes) and the closest asset value in the year of cross-listing.<sup>10</sup> Consistent with previous finance research (e.g. Doidge et al., 2004), we expect that cross-listed firms will trade at a MB premium. However, we also anticipate that cross-listing companies predicted to be acquired rather than to stay independent (based on our Probit analysis in Panel B of Table 4) will be penalized by the market for their suboptimal convergence choices and trade at a relative MB discount, possibly due to lower benefits and/or higher costs associated with such a decision.

The value consequences of cross-listing are examined by the regression analysis of MB values measured one year after cross-listing for both cross-listing and their matching firms. The explanatory variables used to detect a cross-listing premium are ‘Exchange’ (‘OTC’), defined as dummy variables equal to one if a cross-listing firm lists on one of U.S. exchanges (on an over-the-counter market). We measure MB discount by the coefficient of “Mismatch” dummy variable equal to one if the cross-listing firm is predicted to get acquired by Probit model 3 in Table 4.<sup>11</sup> This model identifies 40 mismatches (30 percent) among 133 cross-listing companies used in our analysis. In addition, we control for determinants expected to influence the MB values – asset size, ROA, and firm’s capital needs (Measured by Capex/Assets). We measure the impact of country characteristics by adding Civil Law dummy and Antidirector Rights index into our regression models. Last, we control for potential shift in MB values for all companies (cross-listing and matching firms) during post-SOX years.<sup>12</sup>

The regression analysis results are presented in Table 5. The dependent variable in Models 1-3 is the MB value one year after the cross-listing. We show that more profitable firms (measured by ROA) tend to have higher MB values. During post-SOX years, MB values of both cross-listing and matching companies increased, as indicated by significantly positive coefficient

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<sup>10</sup> Fourteen cross-listing firms were matched based on 1-digit SIC code due to absence of firms in their 2-digit industries.

<sup>11</sup> The impact of “Mismatch” dummy was qualitatively the same when we defined it using other models in Table 4.

<sup>12</sup> In all our regression models, we also control for unique country effects. We first perform a reverse linear regression to predict the country effects by projecting them into the dependent variable’s space. Then, we project the resulting adjusted dependent variable into the space of our independent variables.

on post-SOX dummy in Models 1-3. Similarly to previous finance research (Doidge et al., 2004; La Porta et al., 2002), we also show that firms in countries with civil law legal origin (both cross-listing and their matching firms) have lower values. Our results also suggest that this effect is not stronger during post-SOX years (the negative coefficient on interaction of Civil Law and post-SOX dummies in Models 1-3 is not significant). Consistent with findings of Doidge et al. (2004), we find that 57 of non-U.S. firms listing on U.S. exchanges trade at significant MB premiums (0.23 according to Model 1). Foreign firms listing on OTC markets (77 firms in our sample), however, do not appear to be associated with extra value gain compared to their matching non cross-listing firms (Doidge et al. (2004) and Georgieva and Lee (2006) document similar results).

Most importantly, the significantly negative coefficient -0.23 on the ‘Mismatch’ dummy in Model 2 suggests that firms that cross-listed despite being expected to be acquired indeed trade at MB discount (in fact, this discount appears to decrease the premium of 0.33 associated with listing on a U.S. exchange according to expectations). This result supports our Hypothesis H4 according to which the market penalizes non-U.S. companies selecting suboptimal methods of convergence toward U.S. systems. Model 3 shows that this result holds even when we control for capital needs of foreign firms measured by Capex/Assets.

Models 4-6 are analogous to Models 1-3, except for dependent variable being industry-adjusted (by taking the difference of the firm’s MB and the median MB of all the companies from the same country, industry based on a 2-digit SIC code, and year). Since industry adjustment controls for time trends, the post-SOX dummy is no longer significant in Models 4-6. However, all the relevant coefficients (particularly, cross-listing premiums and mismatch discounts) keep the same levels of significance and very similar magnitudes when compared to coefficient from Models 1-3. Overall, the findings presented in Table 6 suggest that market penalizes firms for choosing a suboptimal convergence method. Firms that independently cross-list on U.S. markets despite being expected to get acquired trade at significant MB value discounts.

## *5.2. Analysis of acquisition equity premiums for non-U.S. targets*

Computing market model-adjusted abnormal returns for foreign firms is typically imprecise due to short market and firm return histories. Consequently, we estimate target abnormal returns by offer price premium with respect to target trading price one week prior to the original announcement date, as reported by *SDC Platinum Worldwide M&A* database.

We expect that if there is an optimal convergence method for each foreign firm in our sample (as implied by the results in Table 4), acquisition announcements of mergers involving targets expected to independently cross-list in the U.S. should be penalized by the market and consequently associated with significantly lower target equity premiums (due to lower benefits and/or higher costs associated with such a decision).

We examine the existence of potential target penalties by regressing non-U.S. target acquisition premiums on the “Mismatch” dummy defined as (0,1) variable equal to one if a particular target was taken over despite being predicted to cross-list. We identify 7 mismatches (i.e. 14 percent) among 51 acquisitions with available target abnormal returns and non-missing target financial characteristics.<sup>13</sup> In addition, we control for other determinants of target premiums identified by previous financial research – target size (log of Total Assets), target growth (Market-to-Book ratio), and target’s capital needs (Capex/Assets). Further, we control for deal characteristics such as type of payment (dummy equal to one if cash used to pay for the target’s assets), and the size of the ownership sought by the bidder (‘Merger’ dummy equal to one (zero) if the bidder seeks 100% (less than 100%) of the target through merger (acquisition of majority interest)). We also factor in the foreign-U.S. stock exchange return differential one year before the deal announcement, the impact of target country’s legal system (Civil Law dummy), as well as the potential change in abnormal return magnitudes for all post-SOX deals.<sup>14</sup>

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<sup>13</sup> The sample size dropped due to limited availability of offer price premium data on *SDC Worldwide M&A* database.

<sup>14</sup> Because of relatively smaller sample size, the covariance matrix of unique country effects failed to be positive definite when we controlled for the country impact. Consequently, we present our results without the country controls. Nevertheless, our results are nearly identical both in magnitude and in significance when we use the country controls.

The results of the analysis of non-U.S. target premiums around acquisition announcements are presented in Table 6. We show that target premiums are significantly negatively related to target's asset size, consistent with Rossi and Volpin (2004). Target's Market-to-Book ratio, deal characteristics, and foreign-U.S. stock exchange return differential are all statistically insignificantly related to target premiums, despite generally expected signs of their coefficients. Model 2 further shows that deals announced after the adoption of SOX do not generate significantly different premiums for the targets. On the other hand, Model 3 documents that acquisitions of targets not expected to be acquired by our Probit model of convergence choices leads to a 30.85% drop in target acquisition premiums. According to Model 4, these target penalties are unaffected by consideration of the form of payment and the size of the equity stake sought by the bidder. Target penalties remain significant even when we control for foreign country's legal origin in Model 6.

Overall, the results presented in Table 6 support Hypothesis H4 and suggest that some foreign firms have characteristics that make them optimal acquisition targets. It also appears that market penalizes foreign companies for suboptimal choice (getting acquired while expected to cross-list) of the method used to converge toward U.S. market and legal regulations. Consequently, our results of target premiums analysis are analogous to those presented in Table 5 for non-U.S. cross-listing firms.

### *5.3. Analysis of acquisition abnormal returns to equity of U.S. bidders*

We define abnormal returns as:

$$AR_i = R_i (-5,+5) - E[R_i(-5,+5)]$$

where  $R_i (-5,+5)$  and  $E[R_i(-5,+5)]$  denote actual and expected returns for firm  $i$  from five days before to five days after the deal announcement date. The expected return for firm  $i$  is estimated by market model:  $E[R_i(-5,+5)] = \alpha_i + \beta_i * R_M$ , where  $R_M$  denotes the return on CRSP market portfolio from five days before to five days after the announcement date. Parameters  $\alpha_i$  and  $\beta_i$  are estimated by linear regression using returns from day -220 and -20 before the acquisition

announcement date.

Our analysis is similar to that used in the previous subsection. We expect acquisitions involving targets expected to cross-list to be associated with lower benefits and/or higher costs. Consequently, these deals should generate lower benefits for all parties involved – including U.S. bidders taking over such “mismatched” targets.

We analyze the bidder penalties by regressing U.S. bidder abnormal acquisition returns on the “Mismatch” dummy defined as dummy variable equal to one if a particular bidder takes over a target predicted to cross-list. There are 8 mismatches (i.e. 14 percent) among 58 acquisitions with available bidder abnormal returns and non-missing bidder financial characteristics.<sup>15</sup> Our set of bidder abnormal return determinants is similar to that used in target premium analysis presented in Table 6. In addition, we control for both target’s and bidder’s Market-to-Book and for both target’s and bidder’s size.

The analysis of U.S. bidder abnormal returns is presented in Table 7. Interestingly, Model 1 shows that none of the accounting variables or deal characteristics related to the form of payment and the equity stake sought by the bidder appear to be significantly related to bidder gains. However, Model 2 suggests that deals announced after the adoption of SOX generate significantly larger abnormal returns for the bidders. The significantly positive coefficient for Civil Law dummy in Model 3 implies that in our sample, acquisitions involving civil law targets lead to greater gains for the bidders. Most importantly, the significantly negative coefficient on the “Mismatch” dummy suggests that bidders lose 15.4% of equity value when they acquire a non-U.S. target expected to stay independent and cross-list.

Overall, our results are consistent with Hypothesis H4. They suggest that acquisitions of non-U.S. targets expected to cross-list leads to value losses . The findings of Table 7 imply that those losses lead to lower gains for U.S. bidders involved in such deals, in addition to lower

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<sup>15</sup> Sample size drops due to bidder return availability on *CRSP*. In addition, some bidders involved in acquisitions of the initial sample of 105 non-U.S. targets are private firm without return data.

acquisition premiums for the non-U.S. targets documented in Table 6.

## **6. Conclusion**

Finance research has documented that foreign firms benefit from convergence toward U.S. market and legal regulations (generally regarded as strict, investor-friendly, and informative). There are two methods to achieve this convergence toward higher standards – to cross-list in the U.S. or to agree to be acquired by a U.S. bidder. We study the determinants of these convergence choices and show that companies with lower growth opportunities, as well as more capital intensive firms tend to get acquired, while firms from civil law countries tend to cross-list. We further show that acquisition probability increases for firms seeking bonding benefits through compliance with U.S. exchange requirements (such firms can either cross-list on a U.S. exchange or to get acquired by an exchange-listed U.S. bidder). We also examine the impact of the adoption of SOX in 2002 and find that this change in legislature affected the patterns of foreign cross-listings and cross-border M&A activities. Our findings suggest that the adoption of SOX increased costs of compliance with the U.S. regulations, and led to a higher likelihood of getting acquired for firms from civil law countries or countries with weaker protection of investor rights during the post-SOX period. We also find evidence consistent with the increase in benefits of cross-listing during post-SOX period, as capital intensive firms from common law countries are more likely to cross-list.

We further document the economic significance of our analysis of determinants of convergence decisions. Non-U.S. cross-listing companies predicted to be taken over trade at a significant Market-to-Book discount compared to values of companies that cross-listed according to expectations. Similarly, both non-U.S. targets and U.S. bidders gain less in takeovers involving targets expected to cross-list rather than to be acquired.

In conclusion, our study not only analyzes the determinants of alternative choices of convergence toward U.S. market and legal regulations, but also contributes to determining the

overall benefits and costs associated with SOX adoption. In this respect, our findings could play a role in finding optimal policies and regulations governing foreign firms cross-listed in the U.S.

## References:

- Ali, A., Hwang, L. (2000), "Country-specific factors related to financial reporting and the value relevance of accounting data." *Journal of Accounting Research* 38 (Spring 2000): 1-21.
- Bisin, A., Gottardi, P., Guaitoli, D., 1999, "A Note on the Convergence to Competitive Equilibria in Economies with Moral Hazard", Working paper, New York University
- Chhaochharia, V., Grinstein, Y., 2005, "Corporate governance and firm value – the impact of 2002 governance rules", Working paper, World Bank
- Coffee, J., 1999, "The future as history: the prospects for global convergence in corporate governance and its implications", *Northwestern University Law Review* 93, 641-708
- Coffee, J., 2002, "Racing towards the top? The impact of cross-listings on stock market competition on international corporate governance", *Columbia Law Review* 102, 1757- 1831
- Coval, J., Moskowitz, T., 1999, "Home bias at home: Local equity preferences in domestic portfolios", *Journal of Finance* 54, 2045-2073.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., and Shleifer, A., 2006, "The Law and Economics of Self-Dealing", Working Paper, Harvard University
- Doidge, C., Karolyi, A., Stulz, R., 2004, "Why are foreign firms listed in the U.S. worth more?" *Journal of Financial Economics* 71, 205-238
- Foerster, L., Karolyi, G., 1999, "The effects of Market Segmentation and Investor Recognition on Asset prices: Evidence from Foreign stocks Listing in the U.S.", *Journal of Finance* 54, 981-1013
- Fuerst, O., 1998, "A theoretical analysis of the investor protection regulations argument for global listing of stocks" Working paper, International center for finance at Yale.
- Georgieva, D., Lee, W., 2006, "Impact of Sarbanes-Oxley Act on Cross-Listing", Working Paper, University of Arkansas.
- Johnson, S., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer, 2000. Tunneling. *American Economic Review* 90, 22-27.
- La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 1997. Legal determinants of external finance. *Journal of Finance* 52, 1131-1150.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1998, "Law and finance", *Journal of Political Economy*, 106, 1113-1155
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2000. Investor protection and corporate governance. *Journal of Financial Economics* 58, 3-27.
- La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 2002. Investor protection and corporate valuation. *Journal of Finance* 57, 1147-1170.

- Lang, L.H.P., Stulz, R.M., Walkling, R.A., 1991. A test of the free cash flow hypothesis: The case of bidder returns. *Journal of Financial Economics* 24, 137–154.
- Li, H., Pincus, M., Rego, S., 2004, “Market Reaction to Events Surrounding the Sarbanes-Oxley Act of 2002”, Working paper, University of Iowa
- Li, X., 2007, “The Sarbanes-Oxley Act and Cross-Listed Foreign Private Issuers”, Working paper, University of Miami
- Lins, K., Strickland, D., Zenner, M., 2005, “Do non-U.S. firms issue equity on U.S. stock exchanges to relax capital constraints?” *Journal of Financial and Quantitative Analysis*, 109-133.
- Litvak, K., 2007, “The Effect of the Sarbanes-Oxley Act on Non-US Companies Cross-Listed in the U.S.”, Forthcoming, *Journal of Corporate Finance*
- Miller, D., 1999, “The market Reaction to International Cross-Listing: Evidence from Depositary Receipt”, *Journal of Financial Economics* 51, 103-123
- Moel, A., 2001, “The Role of American Depositary Receipts in the Development of Emerging Markets”, *Economia* (Fall 2001), 209-273.
- Moeller, S., Schlingemann, F., 2005, “Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions”, *Journal of Banking and Finance* 29, 533-564.
- New York Post, 2006, Wylde, K., “Strangling NYC: Feds choke Wall Street”, Aug. 3
- Pagano, M., Roell, A., Zechner, J., 2002. The geography of equity listing: Why do companies list abroad? *Journal of Finance* 57, 2651–2694.
- Perino, M., 2005, “American Corporate Reform Abroad: Sarbanes-Oxley and the foreign private issuer”, Working paper, St. John’s University Law School
- Piotroski, J., Srinivasan, S., 2007, “The Sarbanes-Oxley Act and the Flow of International Listings”, Working paper, University of Chicago
- Rajan, R., Zingales, L. (1998), “Financial Dependence and Growth”, *American Economic Review*, 88 (3), 559-586.
- Reese, W., Weisbach, M., 2002. Protection of minority shareholder interests, cross-listing in the United States, and subsequent equity offerings. *Journal of Financial Economics* 66, 65–104.
- Riebstein, L., 2002, “Market vs. Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002”, Working paper, University of Illinois College of Law
- Roll, R., 1986, “The Hubris Hypothesis of Corporate Takeovers”, *Journal of Business* 59, 197-216.
- Rossi, S., Volpin, P., 2004, “Cross-country determinants of mergers and acquisitions”, *Journal of Financial Economics* 74, 277-304

Stulz, R., 1999, "Globalization of equity markets and the cost of capital", Prepared for the SBF/NYSE Conference on Global Equity Markets

Siegel, J., 2005, "Can Foreign Firms Bond Themselves Effectively by renting U.S. Securities Laws", *Journal of Financial Economics* 75, 319–359.

Travlos, N.G., 1987, "Corporate takeover bids, methods of payment, and bidding firms' stock return", *Journal of Finance* 42, 943-963.

Wall Street Journal, 2005, Ascarelli, S., Reilly, D., "Escaping U.S. markets could get easier soon", Jan 26, p. C.18

Wall Street Journal, 2006, Cowan, L., "IPO Outlook: Small U.S. Firms Take AIM in London" Apr 17, p. C.5

Witmer, J.L., 2006, "Why do Firms Cross-(de)list? An Examination of the Determinants and Effects of Cross-delisting", Working Paper, Bank of Canada.

**Table 1**  
**Sample Description**

Table 1 shows cross-listed and targets to cross-border mergers by US bidders by year, and by legal origin. Cross-listed firm are available from Bank of New York ADR directory. Targets are collected from *SDC Platinum Worldwide M&A* database.

*Panel A: Cross-listed and target firms by year*

| Cross-listed firms |     | Targets |     | Non converging control firms |       |
|--------------------|-----|---------|-----|------------------------------|-------|
| YEAR               | N   | YEAR    | N   | YEAR                         | N     |
| 1999               | 26  | 1999    | 17  | 1999                         | 6395  |
| 2000               | 31  | 2000    | 23  | 2000                         | 7682  |
| 2001               | 42  | 2001    | 9   | 2001                         | 8376  |
| 2002               | 35  | 2002    | 13  | 2002                         | 8798  |
| 2003               | 27  | 2003    | 23  | 2003                         | 9046  |
| 2004               | 26  | 2004    | 20  | 2004                         | 9232  |
| Total              | 187 | Total   | 105 | Total                        | 49529 |

*Panel B: Cross-listed and target firms by year and legal origin of the domestic country*

| Cross-listed firms |              |    | Targets |              |    | Non converging control firms |              |      |
|--------------------|--------------|----|---------|--------------|----|------------------------------|--------------|------|
| YEAR               | Legal origin | N  | YEAR    | Legal origin | N  | YEAR                         | Legal origin | N    |
| 1999               | Common law   | 9  | 1999    | Common law   | 9  | 1999                         | Common law   | 2536 |
| 1999               | Civil law    | 17 | 1999    | Civil law    | 8  | 1999                         | Civil law    | 3859 |
| 2000               | Common law   | 11 | 2000    | Common law   | 18 | 2000                         | Common law   | 2619 |
| 2000               | Civil law    | 20 | 2000    | Civil law    | 5  | 2000                         | Civil law    | 5063 |
| 2001               | Common law   | 11 | 2001    | Common law   | 6  | 2001                         | Common law   | 2784 |
| 2001               | Civil law    | 31 | 2001    | Civil law    | 3  | 2001                         | Civil law    | 5592 |
| 2002               | Common law   | 9  | 2002    | Common law   | 6  | 2002                         | Common law   | 2938 |
| 2002               | Civil law    | 26 | 2002    | Civil law    | 7  | 2002                         | Civil law    | 5860 |
| 2003               | Common law   | 12 | 2003    | Common law   | 12 | 2003                         | Common law   | 3034 |
| 2003               | Civil law    | 15 | 2003    | Civil law    | 11 | 2003                         | Civil law    | 6012 |
| 2004               | Common law   | 12 | 2004    | Common law   | 11 | 2004                         | Common law   | 3109 |
| 2004               | Civil law    | 14 | 2004    | Civil law    | 9  | 2004                         | Civil law    | 6123 |

**Table 2**  
**Sample Firm Characteristics**

Table 2 shows firm characteristics for cross-listed firms, targets and U.S. bidders in cross-border mergers. Market-to-Book is calculated as ((Total Assets – Book Equity) + Market Value of Equity)/Total Assets. ROA (return on assets) is computed as EBIT/Assets. Bidder abnormal returns reported for 58 bidders in acquisitions with both bidder and target accounting data available. Returns are calculated over (-5,+5) window around the initial announcement date using market model where the beta parameters are estimated from linear regression utilizing returns from day -220 to -20 before the deal announcement date. Target abnormal returns are estimated by offer price premium with respect to target trading price one week prior to the original announcement date, as reported by *SDC Platinum Worldwide M&A* database. Foreign-U.S. return difference is the difference between the cumulative returns from the foreign exchange and S&P 500 for the period of one year to one month before the cross-listing or merger date. Proportion of civil represents the fraction of cross-listed and target firms from the countries with civil law legal tradition. Proportion of exchange in cross-listed firms represents the fraction of exchange listed foreign firms that cross-listed in U.S. while the proportion of exchange listed firms for the target represents the proportion of foreign target of U.S. bidders listed an exchange in U.S..

| Variables                      | Cross-listed firms (n = 187) |                        | Foreign Targets (n = 105) |                         | U.S. Bidders (n = 59) |         | Non converging control firms (n=9946) |                       |
|--------------------------------|------------------------------|------------------------|---------------------------|-------------------------|-----------------------|---------|---------------------------------------|-----------------------|
|                                | mean                         | median                 | mean                      | median                  | mean                  | median  | mean                                  | median                |
| Market-to-Book                 | 2.4801                       | 1.3682                 | 1.8253                    | 1.4274                  | 2.2478                | 1.5497  | 1.3254 <sup>xx</sup>                  | 1.0542 <sup>xxx</sup> |
| ROA                            | 0.045                        | 0.069                  | -0.0041 <sup>**</sup>     | 0.0461 <sup>***</sup>   | 0.0965                | 0.0868  | 0.012                                 | 0.046                 |
| Capex/Assets                   | 0.0604                       | 0.0453                 | 0.0845                    | 0.0429                  | 0.0559                | 0.0368  | 0.0443                                | 0.0274                |
| Assets (\$ million)            | \$6,745 <sup>***</sup>       | \$1,933 <sup>***</sup> | \$1,157                   | \$313                   | \$24,171              | \$5,153 | \$1,426                               | \$197                 |
| Abnormal returns               |                              |                        | 0.3729 <sup>***,a</sup>   | 0.3647 <sup>***,a</sup> | 0.0086                | 0.0095  |                                       |                       |
| Foreign-U.S. return difference | 0.0743                       | 0.0353                 | 0.0759                    | 0.0436                  |                       |         |                                       |                       |
| Proportion of civil            | 0.66                         |                        | 0.43                      |                         |                       |         | 0.65                                  |                       |
| Proportion of exchange         | 0.4                          |                        | 0.58                      |                         |                       |         |                                       |                       |

<sup>\*\*\*</sup>, <sup>\*\*</sup>, <sup>\*</sup>: statistical difference between cross-listed and target firms significant at 1%, 5%, and 10% respectively using T-test (mean) and Wilcoxon test (median).

<sup>xxx</sup>, <sup>xx</sup>, <sup>x</sup>: statistical difference between non converging and cross-listed firms and between non converging and target firms significant at 1%, 5%, and 10% respectively using T-test (mean) and Wilcoxon test (median).

<sup>a</sup>: Abnormal returns are reported for 51 target firms with one week premiums available in *SDC Platinum Worldwide M&A* database

**Table 3**  
**Country Characteristics for the Cross-listed and Target Firms**

Table 3 shows the number of cross-listed and target firms by company and country-level variables. Antidirector rights is an index variable that takes value from 0 to 6 and is based on several characteristics of shareholder rights (the higher the score, the more antidirector rights the country's legal system provides), following Djankov et al (2006). Judicial efficiency is an index variable from 0 to 10 (the higher the score, the better the efficiency of the judicial system) and could be explained as measuring "efficiency and integrity of the legal environment as it affects business, particularly foreign firms" Accounting standards is an index from 1 to 5 based on companies' annual reports, the higher the index the higher the accounting standards. Liquidity ratio measures the liquidity of the local capital markets, it is calculated by dividing the dollar amount of shares traded by the market capitalization in the foreign country.

| Country        | Cross-listed | Targets | Non converging | Civil Law | Antidirector rights |
|----------------|--------------|---------|----------------|-----------|---------------------|
| Argentina      | 3            | 8       | 15             | 0         | 2                   |
| Australia      | 10           | 1       | 252            | 1         | 4                   |
| Austria        | 1            |         | 45             | 0         | 2.5                 |
| Belgium        | 2            | 1       | 69             | 0         | 3                   |
| Brazil         | 9            |         | 166            | 0         | 5                   |
| Canada         |              | 45      | 543            | 1         | 4                   |
| Chile          | 6            | 2       | 84             | 0         | 4                   |
| Denmark        | 4            | 2       | 109            | 0         | 4                   |
| Finland        | 1            | 1       | 111            | 0         | 3.5                 |
| France         | 12           | 10      | 474            | 0         | 3.5                 |
| Germany        | 17           | 9       | 580            | 0         | 3.5                 |
| Greece         |              | 1       | 53             | 0         | 2                   |
| Hong Kong      | 3            |         | 111            | 1         | 5                   |
| India          | 8            | 1       | 191            | 1         | 5                   |
| Ireland        | 2            | 1       | 33             | 1         | 5                   |
| Israel         |              | 2       | 34             | 1         | 4                   |
| Italy          | 4            | 1       | 206            | 0         | 2                   |
| Japan          | 19           | 4       | 3284           | 0         | 4.5                 |
| Korea          | 5            | 2       | 261            | 0         | 4.5                 |
| Malaysia       | 3            | 1       | 707            | 1         | 5                   |
| Mexico         | 10           | 3       | 50             | 0         | 3                   |
| Netherlands    | 3            | 5       | 124            | 0         | 2.5                 |
| Philippines    |              | 1       | 132            | 0         | 4                   |
| Singapore      | 1            |         | 408            | 1         | 5                   |
| South Africa   | 8            |         | 52             | 1         | 5                   |
| Spain          | 1            |         | 66             | 0         | 5                   |
| Sweden         | 2            |         | 249            | 0         | 3.5                 |
| Switzerland    | 4            |         | 183            | 0         | 3                   |
| Taiwan         | 19           |         | 217            | 0         | 3                   |
| Thailand       | 1            | 1       | 278            | 1         | 4                   |
| Turkey         | 1            |         | 33             | 0         | 3                   |
| United Kingdom | 28           | 3       | 826            | 1         | 5                   |

**Table 4**

**Panel A. Probit Analysis for Determinants of Converging with U.S. Market and legal regulations vs. not converging**

The dependent variable is equal to one if the firm converged to U.S. market and legal regulations (by becoming a target of a U.S. bidder or cross-listing in U.S.), zero otherwise. Market-to-Book is calculated as ((Total Assets – Book Equity) + Market Value of Equity)/Total Assets. SOX dummy variable takes the value of one if the firm is cross-listed or became a target after the implementation of SOX in July 2002 and zero otherwise. ROA (return on assets) is computed as EBIT/Assets. CAPEX/Assets is the ratio of Capital expenditures divided by total assets. Civil law is a dummy variable equal to one if the firm is from a country with civil law legal tradition and zero otherwise. Antidirector rights are defined in Table 3. P-values are reported in parentheses.

|                                 | <b>M1</b>                             | <b>M2</b>                             | <b>M3</b>                             | <b>M4</b>                             | <b>M5</b>                             |
|---------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| <b>Intercept</b>                | -1.6810<br>( <i>&lt;.0001</i> )       | -1.6670<br>( <i>&lt;.0001</i> )       | -1.6741<br>( <i>&lt;.0001</i> )       | -1.6889<br>( <i>&lt;.0001</i> )       | -1.7209<br>( <i>&lt;.0001</i> )       |
| <b>Market-to-Book</b>           | <b>0.1006</b><br>( <i>&lt;.0001</i> ) | <b>0.1006</b><br>( <i>&lt;.0001</i> ) | <b>0.1012</b><br>( <i>&lt;.0001</i> ) | <b>0.1021</b><br>( <i>&lt;.0001</i> ) | <b>0.1014</b><br>( <i>&lt;.0001</i> ) |
| <b>SOX</b>                      | <b>0.1386</b><br>( <i>0.0039</i> )    |                                       |                                       |                                       | 0.1959<br>( <i>0.3267</i> )           |
| <b>Antidirector rights</b>      | <b>-0.2340</b><br>( <i>0.0048</i> )   | <b>-0.2336</b><br>( <i>0.0046</i> )   | <b>-0.2334</b><br>( <i>0.0046</i> )   | <b>-0.2334</b><br>( <i>0.0044</i> )   | <b>-0.2256</b><br>( <i>0.0166</i> )   |
| <b>ROA</b>                      |                                       |                                       | 0.0327<br>( <i>0.5273</i> )           | 0.0313<br>( <i>0.6169</i> )           | 0.0328<br>( <i>0.5227</i> )           |
| <b>CAPEX/Assets</b>             | <b>0.8191</b><br>( <i>0.0001</i> )    | <b>0.8188</b><br>( <i>0.0001</i> )    | <b>0.8748</b><br>( <i>0.0001</i> )    | <b>1.0293</b><br>( <i>0.0005</i> )    | <b>0.8779</b><br>( <i>0.0001</i> )    |
| <b>Civil</b>                    | <b>-0.2811</b><br>( <i>0.0491</i> )   | <b>-0.3081</b><br>( <i>0.0771</i> )   | <b>-0.3077</b><br>( <i>0.0773</i> )   | <b>-0.3038</b><br>( <i>0.0743</i> )   | <b>-0.2815</b><br>( <i>0.0493</i> )   |
| <b>Civil*SOX</b>                |                                       | <b>0.1590</b><br>( <i>0.0137</i> )    | <b>0.1598</b><br>( <i>0.013</i> )     | <b>0.1609</b><br>( <i>0.0158</i> )    |                                       |
| <b>Common*SOX</b>               |                                       | <b>0.1103</b><br>( <i>0.0982</i> )    | <b>0.1129</b><br>( <i>0.0901</i> )    | <b>0.1779</b><br>( <i>0.002</i> )     |                                       |
| <b>(CAPEX/Assets)*SOX</b>       |                                       |                                       |                                       | <b>-0.9911</b><br>( <i>0.1121</i> )   |                                       |
| <b>(CAPEX/Assets)*SOX*CIVIL</b> |                                       |                                       |                                       | <b>1.0082</b><br>( <i>0.0499</i> )    |                                       |
| <b>Antidirector rights*SOX</b>  |                                       |                                       |                                       |                                       | -0.0138<br>( <i>0.7926</i> )          |
| <b>Total Assets</b>             | <b>0.0008</b><br>( <i>&lt;.0001</i> ) | <b>0.0008</b><br>( <i>&lt;.0001</i> ) | <b>0.0008</b><br>( <i>&lt;.0001</i> ) | <b>0.0008</b><br>( <i>&lt;.0001</i> ) | <b>0.0008</b><br>( <i>&lt;.0001</i> ) |

**Panel B. Probit Analysis for Determinants of Becoming a Target to an U.S. Bidder  
vs. decision to Cross-listing in U.S.**

The dependent variable is equal to one if the firm becomes target to a U.S. bidder, zero if the firm decides to cross-list in U.S. Exchange dummy variable has a value of one if the foreign firm is a target to a bidder listed on exchange or if the foreign firm is cross-listed on exchange and zero otherwise. Foreign-U.S. return difference is the difference between the cumulative returns from the foreign exchange and S&P 500 for the period of one year to one month before the cross-listing or merger date. The rest of the variables are described in Panel A. P-values are reported in parentheses.

|   | <b>M1</b>                  | <b>M2</b>                  | <b>M3</b>                  | <b>M4</b>                  | <b>M5</b>                  | <b>M6</b>                  | <b>M7</b>                  |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <b>Intercept</b>                        | 2.3062<br>(0.0924)         | 2.4398<br>(0.075)          | 2.4219<br>(0.085)          | 2.3309<br>(0.0885)         | 2.0099<br>(0.1550)         | 1.9373<br>(0.1579)         | 2.6086<br>(0.0728)         |
| <b>Market-to-Book</b>                   | <b>-0.0813</b><br>(0.0140) | <b>-0.0843</b><br>(0.0108) | <b>-0.0817</b><br>(0.0055) | <b>-0.0800</b><br>(0.0078) | <b>-0.0798</b><br>(0.006)  | <b>-0.0941</b><br>(0.0018) | <b>-0.0837</b><br>(0.0047) |
| <b>SOX</b>                              | 0.1239<br>(0.3646)         | -0.1125<br>(0.3373)        | -0.1159<br>(0.2851)        | 0.0814<br>(0.6221)         | 0.5935<br>(0.4545)         | 0.1172<br>(0.4185)         | -0.1172<br>(0.2693)        |
| <b>Antidirector rights</b>              | <b>-0.5365</b><br>(0.0488) | <b>-0.5342</b><br>(0.0477) | <b>-0.5407</b><br>(0.0471) | <b>-0.5363</b><br>(0.0467) | <b>-0.4733</b><br>(0.0841) | <b>-0.5165</b><br>(0.0471) | <b>-0.5700</b><br>(0.0381) |
| <b>ROA</b>                              |                            |                            | -0.4364<br>(0.2961)        | -0.4126<br>(0.3213)        | -0.42233<br>(0.2998)       | -0.5395<br>(0.2313)        | -0.3878<br>(0.3607)        |
| <b>Exchange</b>                         | <b>0.5410</b><br>(0.0408)  | <b>0.5516</b><br>(0.0364)  | <b>0.5773</b><br>(0.0246)  | <b>0.5653</b><br>(0.0296)  | <b>0.5732</b><br>(0.0259)  | <b>1.0664</b><br>(0.0001)  | <b>0.5669</b><br>(0.0253)  |
| <b>CAPEX/Assets</b>                     | <b>1.3851</b><br>(0.0656)  | <b>1.2733</b><br>(0.0925)  | <b>1.3702</b><br>(0.0624)  | <b>2.1894</b><br>(0.0393)  | <b>1.4772</b><br>(0.0467)  | <b>1.6653</b><br>(0.0326)  | <b>1.3025</b><br>(0.0728)  |
| <b>Civil Law</b>                        | <b>-0.9885</b><br>(0.0794) | <b>-1.2414</b><br>(0.0400) | <b>-1.2232</b><br>(0.0495) | <b>-1.2011</b><br>(0.0505) | -0.9594<br>(0.1045)        | -0.5048<br>(0.4183)        | <b>-1.2501</b><br>(0.0446) |
| <b>Civil law*SOX</b>                    |                            | <b>0.4337</b><br>(0.0594)  | <b>0.4563</b><br>(0.0477)  | 0.3199<br>(0.2342)         |                            |                            | <b>0.4491</b><br>(0.0451)  |
| <b>(CAPEX/Assets)*SOX</b>               |                            |                            |                            | <b>-3.0167</b><br>(0.0513) |                            |                            |                            |
| <b>(CAPEX/Assets)*SOX*Civil Law</b>     |                            |                            |                            | 2.2349<br>(0.3260)         |                            |                            |                            |
| <b>Antidirector rights *SOX</b>         |                            |                            |                            |                            | <b>-0.1184</b><br>(0.5270) |                            |                            |
| <b>Exchange*Civil</b>                   |                            |                            |                            |                            |                            | <b>-0.8953</b><br>(0.0460) |                            |
| <b>Foreign - U.S. return difference</b> |                            |                            |                            |                            |                            |                            | -0.5037<br>(0.3700)        |
| <b>Total Assets</b>                     | <b>-0.0001</b><br>(0.0112) | <b>-0.0001</b><br>(0.0112) | <b>-0.0001</b><br>(0.0136) | <b>-0.0001</b><br>(0.0147) | <b>-0.0001</b><br>(0.0160) | <b>-0.0001</b><br>(0.0114) | <b>-0.0001</b><br>(0.0165) |

**Table 5**  
**Market-to-Book Value Analysis of Cross-listing Firms**

This table presents results for the sample of 133 cross-listing firms and 133 matching not cross-listed firms from the same country, industry and closest asset size. The dependent variables in Models 1 through 3 is Market-to-Book for the year after cross-listing and Industry adjusted Market-to-Book (Models 4 through 6) for the year after cross-listing for each company. Market-to-Book is calculated as  $((\text{Total Assets} - \text{Book Equity}) + \text{Market Value of Equity}) / \text{Total Assets}$ . Industry adjustment is based on median Market-to-Book for firms from the same country, industry, and year. SOX equals to one if the firms cross-listed in U.S. after July 2002 and zero otherwise. All accounting independent variables are based on the year after the cross-listing. Return on Assets is computed as  $\text{EBIT} / \text{Assets}$ . CAPEX/Assets is the ratio of Capital expenditures divided by total assets. Civil (common) law is a dummy variable equal to one if the firm is from a country with civil (common) law legal tradition. Antidirector rights is an index variable (defined by Djankov et al., 2006) that takes value from 0 to 6 and is based on several characteristics of shareholder rights (the higher the score, the more antidirector rights the country's legal system provides). Exchange dummy variable equals one if the foreign firm is listed on one of U.S. exchanges. OTC is a dummy variable equal to one if the foreign firm is listed on an OTC market in the U.S. Mismatch is a dummy variable equal to one if a cross-listing firm is predicted to be a target in a cross-border merger. P-values are reported in parentheses.

|                            | <b>M1</b>                            | <b>M2</b>                         | <b>M3</b>                         | <b>M4</b>  | <b>M5</b>                         | <b>M6</b>                         |
|----------------------------|--------------------------------------|-----------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------------|
|                            | <b>Dep. Variable: Market-to-Book</b> |                                   |                                   | <b>Dep. Variable: Industry-adjusted Market-to-Book</b> |                                   |                                   |
| <b>Intercept</b>           | 1.4458<br><i>(0.0014)</i>            | 1.6202<br><i>(0.0006)</i>         | 1.6215<br><i>(0.0006)</i>         | 0.5126<br><i>(0.1919)</i>                              | 0.6732<br><i>(0.0988)</i>         | 0.6662<br><i>(0.1056)</i>         |
| <b>SOX</b>                 | <b>0.3459</b><br><i>(0.0095)</i>     | <b>0.3812</b><br><i>(0.0044)</i>  | <b>0.3747</b><br><i>(0.0054)</i>  | -0.0140<br><i>(0.9140)</i>                             | 0.0187<br><i>(0.8858)</i>         | 0.0159<br><i>(0.9035)</i>         |
| <b>Log(Assets)</b>         | -0.0271<br><i>(0.2110)</i>           | -0.0372<br><i>(0.0919)</i>        | -0.0381<br><i>(0.0869)</i>        | -0.0244<br><i>(0.2515)</i>                             | -0.0338<br><i>(0.1193)</i>        | -0.0351<br><i>(0.1089)</i>        |
| <b>ROA</b>                 | <b>1.6397</b><br><i>(0.0001)</i>     | <b>1.6547</b><br><i>(0.0001)</i>  | <b>1.6387</b><br><i>(0.0001)</i>  | <b>1.6378</b><br><i>(0.0001)</i>                       | <b>1.6527</b><br><i>(0.0001)</i>  | <b>1.6481</b><br><i>(0.0001)</i>  |
| <b>CAPEX/Assets</b>        |                                      |                                   | 0.6357<br><i>(0.2845)</i>         |  |                                   | 0.3046<br><i>(0.6022)</i>         |
| <b>Civil law</b>           | -0.1101<br><i>(0.5194)</i>           | -0.1644<br><i>(0.3390)</i>        | -0.1757<br><i>(0.3158)</i>        | -0.1163<br><i>(0.4826)</i>                             | -0.1663<br><i>(0.3222)</i>        | -0.1681<br><i>(0.3235)</i>        |
| <b>Civil law* SOX</b>      | -0.2611<br><i>(0.0916)</i>           | -0.2824<br><i>(0.0670)</i>        | -0.2784<br><i>(0.0725)</i>        | -0.0394<br><i>(0.7950)</i>                             | -0.0590<br><i>(0.6961)</i>        | -0.0585<br><i>(0.7006)</i>        |
| <b>Antidirector rights</b> | -0.0431<br><i>(0.5753)</i>           | -0.0786<br><i>(0.3162)</i>        | -0.0861<br><i>(0.2821)</i>        | -0.07941<br><i>(0.2871)</i>                            | -0.1121<br><i>(0.1436)</i>        | -0.1142<br><i>(0.1425)</i>        |
| <b>Exchange</b>            | <b>0.2283</b><br><i>(0.0094)</i>     | <b>0.3282</b><br><i>(0.0010)</i>  | <b>0.3384</b><br><i>(0.0008)</i>  | <b>0.1973</b><br><i>(0.0222)</i>                       | <b>0.2897</b><br><i>(0.0032)</i>  | <b>0.2936</b><br><i>(0.0031)</i>  |
| <b>OTC</b>                 | 0.0322<br><i>(0.6672)</i>            | 0.0915<br><i>(0.2499)</i>         | 0.0987<br><i>(0.2215)</i>         | 0.0332<br><i>(0.6513)</i>                              | 0.0882<br><i>(0.2594)</i>         | 0.0890<br><i>(0.2634)</i>         |
| <b>Mismatch</b>            |                                      | <b>-0.2322</b><br><i>(0.0363)</i> | <b>-0.2457</b><br><i>(0.0285)</i> |  | <b>-0.2148</b><br><i>(0.0487)</i> | <b>-0.2196</b><br><i>(0.0467)</i> |

**Table 6**  
**Analysis of Non-U.S. Target Firms' Acquisition Premiums Around Deal Announcements**

This table presents results for the sample of 51 foreign targets of U.S. bidders for which abnormal returns round the announcement date and accounting data are available in Worldscope or in Compustat Global. The dependent variable is abnormal returns of the target firms estimated by offer price premium with respect to target trading price one week prior to the original announcement date, as reported by *SDC Platinum Worldwide M&A* database. SOX dummy variable takes the value of one if the firm is cross-listed (or became a target) after the implementation of SOX in July 2002 and zero otherwise. Market-to-Book is calculated as  $((\text{Total Assets} - \text{Book Equity}) + \text{Market Value of Equity}) / \text{Total Assets}$ . Return on Assets is computed as  $\text{EBIT} / \text{Assets}$ . CAPEX/Assets is the ratio of Capital expenditures divided by total assets. Cash payment is a dummy variable equal to one if cash was used to pay for the target's assets. Merger is a dummy variable equal to one if the bidder acquired 100% of target's shares via merger (as opposed to acquiring majority control below 100%) and is based on *SDC Platinum M&A* database classification. Civil law is a dummy variable equal to one if the firm is from a country with civil law legal tradition and zero otherwise. The type mismatch dummy equals to one if the particular observation of a target firm is predicted to cross-list independently in the U.S. rather than to become a target of U.S. bidders. Foreign-U.S. return difference is the difference between the cumulative returns from the foreign exchange and S&P 500 for the period of one year to one month before the deal announcement date. P-values are reported in parentheses.

|  | <b>M1</b>                           | <b>M2</b>                           | <b>M3</b>                           | <b>M4</b>                            | <b>M5</b>                           |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|
| <b>Intercept</b>                       | 0.7022<br>( <i>&lt;.0001</i> )      | 0.7263<br>( <i>0.0008</i> )         | 0.3689<br>( <i>0.3803</i> )         | 0.3929<br>( <i>0.3615</i> )          | 0.2139<br>( <i>0.7407</i> )         |
| <b>SOX</b>                             |                                     | -0.0231<br>( <i>0.8424</i> )        | 0.0160<br>( <i>0.8854</i> )         | 0.0077<br>( <i>0.9462</i> )          | 0.0060<br>( <i>0.9587</i> )         |
| <b>Market-to-Book of target firm</b>   | -0.0250<br>( <i>0.4535</i> )        | -0.0252<br>( <i>0.4539</i> )        | -0.0336<br>( <i>0.2954</i> )        | -0.0262<br>( <i>0.4358</i> )         | -0.0245<br>( <i>0.4779</i> )        |
| <b>Log(Assets) of target firm</b>      | <b>-0.0491</b><br>( <i>0.0373</i> ) | <b>-0.0495</b><br>( <i>0.0386</i> ) | <b>-0.0434</b><br>( <i>0.0572</i> ) | <b>-0.04507</b><br>( <i>0.0588</i> ) | <b>-0.0461</b><br>( <i>0.0578</i> ) |
| <b>CAPEX/Assets of target firm</b>     | -0.5244<br>( <i>0.2075</i> )        | -0.5398<br>( <i>0.2070</i> )        | -0.5403<br>( <i>0.2024</i> )        | -0.6099<br>( <i>0.1681</i> )         | -0.58<br>( <i>0.2013</i> )          |
| <b>Cash payment</b>                    |                                     |                                     |                                     | 0.0532<br>( <i>0.6023</i> )          | 0.04949<br>( <i>0.633</i> )         |
| <b>Merger</b>                          |                                     |                                     |                                     | 0.0994<br>( <i>0.4200</i> )          | 0.1116<br>( <i>0.3866</i> )         |
| <b>Foreign -U.S. return difference</b> | 0.2591<br>( <i>0.4064</i> )         | 0.2393<br>( <i>0.4690</i> )         | 0.3434<br>( <i>0.2861</i> )         | 0.2724<br>( <i>0.4206</i> )          | 0.2916<br>( <i>0.3993</i> )         |
| <b>Civil Law</b>                       |                                     |                                     |                                     |                                      | 0.06819<br>( <i>0.7092</i> )        |
| <b>Antidirector rights</b>             |                                     |                                     | 0.0892<br>( <i>0.3072</i> )         | 0.0606<br>( <i>0.5240</i> )          | 0.1013<br>( <i>0.4867</i> )         |
| <b>Mismatch dummy</b>                  |                                     |                                     | <b>-0.3085</b><br>( <i>0.0113</i> ) | <b>-0.2651</b><br>( <i>0.0486</i> )  | <b>-0.3131</b><br>( <i>0.0959</i> ) |

**Table 7**  
**Analysis of US Firms' Abnormal Returns Around Deal Announcements**

This table is based on a sample of 58 bidders for which abnormal return and accounting data are available. The abnormal returns are measured as the difference between stock returns and expected returns measured using market model over the period from five days before to five days after the original deal announcement. SOX dummy variable takes the value of one if the firm is cross-listed (or became a target) after the implementation of SOX in July 2002 and zero otherwise. Market-to-Book is calculated as ((Total Assets – Book Equity) + Market Value of Equity)/Total Assets. Return on Assets is computed as EBIT/Assets. Same industry is a dummy variable equal to one if both the bidder and the target share the same 2-digit SIC industry code. Cash payment is a dummy variable equal to one if cash was used to pay for the target's assets. Merger is a dummy variable equal to one if the bidder acquired 100% of target's shares via merger (as opposed to acquiring majority control below 100%) and is based on *SDC Platinum M&A* database classification. Civil law is a dummy variable equal to one if the firm is from a country with civil law legal tradition and zero otherwise. Mismatch is a dummy variable equal one if the particular bidder took over a firm predicted to cross-list in U.S Foreign-U.S. return difference is the difference between the cumulative returns from the foreign exchange and S&P 500 for the period of one year to one month before the deal announcement date. P-values are reported in parentheses.

|                                       | <b>M1</b>           | <b>M2</b>                 | <b>M3</b>                  |
|---------------------------------------|---------------------|---------------------------|----------------------------|
| <b>Intercept</b>                      | 0.1094<br>(0.2454)  | 0.0341<br>(0.7375)        | -0.3676<br>(0.0904)        |
| <b>SOX</b>                            |                     | <b>0.0475</b><br>(0.0909) | <b>0.0536</b><br>(0.0516)  |
| <b>Market-to-Book of target firm</b>  | 0.0014<br>(0.9259)  | 0.0017<br>(0.9040)        | 0.0072<br>(0.6194)         |
| <b>Market-to-Book of bidder firm</b>  | -0.0002<br>(0.9807) | 0.0015<br>(0.8386)        | 0.0002<br>(0.9744)         |
| <b>Log(Assets) of target firm</b>     | -0.0081<br>(0.2938) | -0.0059<br>(0.4451)       | -0.0060<br>(0.4584)        |
| <b>Log(Assets) of bidder firm</b>     | -0.0084<br>(0.3209) | -0.0047<br>(0.5801)       | -0.0016<br>(0.8513)        |
| <b>Cash payment</b>                   | 0.0196<br>(0.5044)  | 0.0196<br>(0.4976)        | 0.0323<br>(0.2637)         |
| <b>Merger</b>                         | -0.0014<br>(0.9701) | 0.0021<br>(0.9531)        | 0.0322<br>(0.4387)         |
| <b>Foreign-U.S. return difference</b> | -0.0452<br>(0.6337) | -0.0110<br>(0.9073)       | 0.0249<br>(0.7917)         |
| <b>Antidirector rights index</b>      |                     |                           | <b>0.0737</b><br>(0.0774)  |
| <b>Civil Law</b>                      |                     |                           | <b>0.1605</b><br>(0.0151)  |
| <b>Mismatch dummy</b>                 |                     |                           | <b>-0.1540</b><br>(0.0115) |