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A Natural Experiment  
Involving the Supreme Court  
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## **What Makes the Bonding Stick? A Natural Experiment Involving the Supreme Court and Cross-Listed Firms**

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Using a natural experiment to overcome the empirical challenges facing the debate over the bonding hypothesis, we analyze markets' reaction to a sudden radical change in the law governing U.S.-listed foreign firms. In March 2010, the U.S. Supreme Court signaled its intention to geographically limit the reach of the U.S. antifraud regime. The Court thus excluded the overwhelming majority of investors in U.S.-listed foreign firms from the protection of the U.S. civil liability regime and cast at least partial limitations on the SEC's regulatory authority. This event nonetheless was met with positive abnormal returns of U.S.-listed foreign firms in both home and U.S. markets. These abnormal returns are actually higher the greater the percentage of a firm's capital listed on non-U.S.-exchanges but are unrelated to the corporate governance and legal environment in foreign issuers' home country. These results challenge the legal bonding hypothesis while suggesting that the U.S. regime of civil liability as currently designed may not have been seen as a source of economic value for outside investors.

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## 1. Introduction

It is a truth universally acknowledged, that a foreign firm in possession of a good fortune, must be in want of a U.S. listing. This paraphrase on Austen's immortal opening to *Pride and Prejudice*<sup>1</sup> may not be too far removed from the original as one might first believe. A growing literature documents positive outcomes that visit firms, especially ones with good growth opportunities, that list on a U.S. exchange.<sup>2</sup> These outcomes have been related to improved corporate governance, but the mechanisms that could engender such improvements consequent to a U.S. cross-listing remain debatable. In particular, it is unclear whether “legal bonding”—i.e., subjecting the foreign firm to U.S. legal institutions with a view to improving its corporate governance (Stulz (1999), Coffee (1999))—may be responsible for these beneficial outcomes.

When a firm cross-lists its securities on a foreign securities market, it creates a composite legal regime pertaining to its corporate governance. This legal regime is a hybrid of the firm's home-country corporate law, the securities laws of both the home- and host countries, additional corporate governance rules under host country's laws that apply to foreign companies (e.g., under the Sarbanes-Oxley Act of 2002 (“SOX”)), and stock exchange listing rules in both countries. Such a hybrid regime comprises the more stringent rules from each of its components (see Licht (1998) for a general theory). Whether a more stringent rule is in fact beneficial may vary according to the circumstances of the firm, its home country and host country, and the actual enforcement of this rule.<sup>3</sup>

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<sup>1</sup> Compare Austen (1813: 1) (“It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife.”)

<sup>2</sup> For a comprehensive survey see Karolyi (2006). Karolyi (2010) provides a review of cross-listing and bonding. See, in particular, Lel and Miller (2008) (top management turnover), King and Segal (2009) (investor recognition), Hail and Leuz (2009) (cost of capital), Ball, Hail, and Vasvari (2009) (price of debt), Frésard and Salva (2010) (value of excess cash).

<sup>3</sup> See, e.g., Bushee and Leuz (2005), with regard to mandatory disclosure by over-the-counter bulletin-board firms, and Doidge, Karolyi, and Stulz (2010) as well as Fernandes, Lel, and Miller (2010) with regard to opting out of stringent disclosure. We abstract from further discussion of SOX because it is highly controversial in terms of the

This complex setting makes it difficult to assess the actual impact of legal bonding. Potential endogeneity of firm factors and cross-listing poses a significant identification challenge (see Doidge et al. (2004); see Karolyi (2010) for a thorough review). In particular, it is difficult empirically to disentangle the legal bonding hypothesis from a different but similarly-aligned “reputational bonding” hypothesis, which highlights informal reputation building as a mechanism for committing to improved corporate governance (Siegel (2005)) and from an opposite “avoiding hypothesis,” that emphasizes agency concerns that may deter from such commitment (Licht (2003)). Identifying a causal role for legal bonding thus may necessitate a natural experiment, but to our knowledge, only Siegel (2005) thus far has implemented this natural experiment methodology to identify the importance of reputational bonding over legal bonding. Answering this question has profound implications for firms and governments alike, especially in emerging economies, that contemplate corporate governance improvements. It is one thing to mimic the U.S. by adopting similar laws, or listing rules, or company bylaws; it is quite another thing to replicate the U.S. capital market should non-legal features of the latter be responsible for the observed effects. Furthermore, natural experiments are needed to deal with the real alternative explanation of unobserved firm heterogeneity.

We exploit an abrupt change in the U.S. legal regime applicable to U.S.-listed foreign firms to conduct such a natural experiment. This regime comprises a set of disclosure duties that rest on two enforcement pillars: public enforcement by the SEC and private enforcement imposing civil liability through class actions. In the case of *Morrison v. National Australia Bank Ltd.* (2010) (“*Morrison*”), the Supreme Court of the United States ruled that civil liability for securities fraud applies only to securities listed on an American market and to securities

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benefits or burdens it might have brought about for firms and markets. See Li (2010) for a discussion of the overall governance regime.

transactions effected in the United States. Rather than clarifying and stabilizing a well-established, decades-old line of cases on this subject, the Court discarded this entire body of law and replaced it with a brand new test with regard to civil liability. U.S.-listed foreign private issuers (“FPIs”) (also referred to in the extant literature simply as cross-listed firms) thus were suddenly shielded from civil claims by investors who purchased their shares on their home markets. Moreover, although the case before the Court dealt most immediately with civil liability, much of the legal analysis by the Supreme Court revolved around the interpretation of Congressional language of the antifraud regime in general. This analysis extends to public enforcement, as the SEC later also acknowledged.

Such a massive abrupt change in the law of securities fraud is nearly unprecedented.<sup>4</sup> This change presents an opportunity to examine not only the legal bonding hypothesis but more generally the value of U.S. civil liability for foreign firms. The Court’s dramatic, precedent-altering position on this issue became clear only during oral argument on March 29, 2010. These features render *Morrison* uniquely suitable to conducting a natural experiment for identifying causality in this complex setting. Thus, using a comprehensive sample of FPIs listed on U.S. stock exchanges, we examine whether markets reacted to *Morrison* consistently with the notion that the U.S. antifraud regime—in particular, the civil liability regime as it is currently designed—plays a beneficial bonding role.

We compare the U.S. and home market stock returns of foreign private issuers listed on U.S. stock exchanges to the returns on the S&P 500 index. We find a positive “Morrison effect” primarily around the date of oral argument before the Supreme Court. Specifically, we find aggregate abnormal returns of 0.74% in both the U.S. and home markets for cross-listed FPIs

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<sup>4</sup> Legislative reforms are preceded by a lengthy process of public comment and hearings and court decisions of such magnitude are exceedingly rare. See Cox and Thomas (2010) for a review.

around that date. Given a total market capitalization of about US\$ 8 trillion for sample FPIs, these returns alone represent an increase of some US\$ 60 billion in the market value of these firms. If we take into consideration both the oral argument and the decision days, the total abnormal returns are as high as 1.13%. To ensure the reliability of the inferences for these and other event period reactions, we employ Monte Carlo simulations, which is the only methodology that overcomes known potential pitfalls in event studies.<sup>5</sup> We find that the event period reactions of cross-listed FPIs are significant at the 1% level based on the empirical distributions created by bootstrapping the abnormal returns on non-event days during 2010.

We also examine the event period reactions of both a natural event control sample of FPIs that are SEC-compliant and trade over the counter (“OTC”) and a natural non-event control sample of FPIs that are not listed or traded in U.S. markets. We find similar abnormal returns for OTC traded FPIs that are SEC-compliant on event days that are significant at the 1% level, whereas the abnormal returns of the non-event control sample of FPIs are not affected, which further supports the notion that the reactions of cross-listed FPIs are due to *Morrison*. The reactions of cross-listed FPIs are also robust to a variety of other checks including alternative benchmarks, return metrics, subsamples, and time-windows.

Cross-sectional analyses with a broad array of control variables show that the positive abnormal returns exhibited by FPIs associate highly robustly with the relative size of firms’ equity capital that is listed outside the United States. This major finding supports the proposition that *Morrison* affected FPIs proportionally to their relative exposure to U.S. civil liability. Strikingly, these abnormal returns exhibit virtually no relation to a set of variables that have been widely used as measures of home-country and firm-level corporate governance. Such measures

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<sup>5</sup> These pitfalls include the differences between event firms and benchmark firms (e.g., size or growth opportunities), cross-sectional correlation and clustering events, or the measure of abnormal returns and the benchmarks used.

include indexes of disclosure and private litigation in securities laws, shareholder protection, legal origin, both staff and budget of securities agencies, legality (rule of law), and firm-level ownership concentration.

The results may be fairly summarized as suggesting that investors the world over may have sighed in relief, when the U.S. Supreme Court signaled its intention to dispense with U.S. civil liability in connection with FPIs and the shareholders (even U.S. shareholders) who purchase their shares in those firms on non-U.S. exchanges. Since a large proportion of the trading volume in cross-listed firms is still done on non-U.S. exchanges, the effect of the Supreme Court ruling is considerable. In light of legal developments subsequent to the main event in *Morrison*, one may interpret these positive market reactions as also referring to some likelihood of geographically limiting the SEC's public enforcement authority, in addition to the limitation of civil liability. This evidence goes a considerable way toward disproving the legal bonding hypothesis, at least with regard to the current U.S. civil liability regime as a legal bonding mechanism and possibly also with regard to partial limitations on SEC authority.

Be it as it may, the present findings may call upon policy-makers in developed and in emerging economies alike to reassess the institutional mechanisms that could support corporate governance reform. The current evidence might be interpreted yet more broadly, as asking if secondary market civil liability indeed may be a liability. As discussed extensively in Siegel (2005), the civil liability regime as currently designed often has involved the insiders not compensating the aggrieved minority investors out of their own pockets, the minority investors only recovering a small fraction of their conservatively measured losses, and the minority investors still owning shares in the firms often in effect compensating themselves via the company's current insurance policy. Thus, while our natural experiment focuses on cross-listed

FPIs, our results highlight the importance of an inquiry into the merits of the current U.S. civil liability regime on U.S. firms as well.

The paper proceeds as follows. Part 2 lays down the theory and hypotheses and maps this study in relation to other literature. Part 3 explicates the institutional background, the decision in *Morrison*, and its aftermath. Part 4 describes the data. Part 5 presents the analyses and the results. Part 6 concludes.

## **2. Theory**

This part first delineates the theoretical framework on the legal bonding hypothesis and on the desirability of civil liability in general, which motivates the present empirical analysis. The following section orients the current study in relation to the literature on the subject. The last section summarizes the hypotheses.

### *2.1. Theoretical Background*

Firms may often want to signal to investors their superior quality in terms of corporate governance. By cross-listing on a better-regulated market such firms can legally bond themselves and their insiders to better governance as they become subject to a better legal regime (Stulz (1999), Coffee (1999)). Coffee (2002: 1796) thus argues: “All that is necessary for the [legal] bonding hypothesis to have validity is that the defendant’s perceived risk of liability rises at least marginally with its entry into the U.S. markets... If, as a result, the controlling persons of the foreign issuer provide superior disclosure or consume less private benefits of control... then the value of the public shares in such companies should logically rise (and it does).”

Yet legal bonding is not the only mechanism with which firms can use cross-listing credibly to commit to better governance. Firms may also opt for reputational bonding—i.e., develop a reputation for good governance among the host country’s financial community, which

will serve as a hostage to ensure voluntary compliance (Siegel (2005)). A corollary is that in some cases, insiders may be deterred by a stringent regime and prefer to avoid the concomitant decrease of private benefit extraction. Licht (2003) has dubbed this point “the avoiding hypothesis.” These hypotheses are not mutually exclusive. Stulz (2009: 349) thus notes that “some firms will choose stronger securities laws than those of the country in which they are located and some firms will do the opposite.”

Although there is substantial evidence that a U.S. cross-listing could be beneficial, especially for firms from emerging economies, evidence directly in support of legal bonding is limited. The identification challenge is considerable. One has to show that it is the legal system which “makes the bonding stick”—both by setting better corporate governance rules *and* by inducing compliance with these rules. The former element may be difficult to show but is at least observable: one could compare the laws of two countries and try to rank them.<sup>6</sup> The latter element, of the compliance mechanism, is more elusive. Legal bonding implies that compliance obtains because of the legal system—due to deterrence—as opposed to voluntary compliance, which would obtain even absent public and private legal enforcement. A good deal of the literature surveyed below assumes, but does not show, that a beneficial effect associated with a U.S. cross-listing can be attributed to legal bonding. In tandem, there is substantial evidence for the reputational bonding and the avoiding hypotheses. In an illuminating review of the bonding theory, Karolyi (2010: 12) tentatively concludes: “A proper verdict about the bonding hypothesis, especially of its purer ‘legal’ form, has not yet been rendered. We still need a complete understanding of the enforcement mechanisms around the world, their financial needs as inputs and the full scope of legal outcomes.”

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<sup>6</sup> As Spamann (2010) demonstrates, however, identifying, comparing, and ranking countries’ laws on corporate governance is no small feat.

From a broader perspective, this study deals with the law of securities fraud, which in turn is part of the general regulation of disclosure in securities markets. More accurate and timely disclosure helps market participants to better price financial assets. Disclosure also helps in mitigating agency problems and is therefore generally believed to be desirable (see Beyer et al. (2010) for a survey). Although firms may have some incentive to make voluntary disclosure (see, e.g., Hollander, Pronk, and Roelfsen (2010)), securities regulation regimes also rely on deterrence to curb fraud. To achieve deterrence, these regimes combine punishments, imposed through public enforcement, with civil liability, imposed by private litigation. Both of these mechanisms appear to be important. Jackson and Roe (2009) show that the scope of regulatory staff and budget affects financial market outcomes. La Porta, Lopez-de-Silanes, and Shleifer (2006) point to rules on disclosure and on civil litigation as the rules that “work” in securities laws. In connection with legal bonding Coffee (2002: 1788) argued that the market appreciates civil liability as “a powerful engine of private enforcement (e.g., the contingent fee-motivated plaintiffs bar) [that] stands ready to enforce U.S. legal rules.”

Legal scholars, however, have long been questioning the merit of civil liability in the secondary market (the “after market”).<sup>7</sup> Legally, an issuer or insiders who divulge misleading information to the market do not receive a direct financial benefit from any two investors who trade securities in prices affected by this information. For any transaction in the secondary market, one investor’s loss is the counterparty’s gain, such that the social harm from fraud is visited on the entire market as a public institution (compare Bhattacharya and Daouk (2002)). Imposing civil liability in the secondary market thus may result in suboptimal outcomes. Siegel’s (2005) field work on cross-listed firms examined in detail the actual operation of the

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<sup>7</sup> See, e.g., Alexander (1996), Coffee (2006), Jackson and Roe (2009), Mahoney (1992; 2009), Seligman (2004). Coffee thus seems to be of two minds with regard to civil liability. See also Coffee (2007). Fox (2009) argues that an issuer not publicly offering securities at the time of a disclosure violation (fraud) should have no liability.

civil liability regime among firms and securities lawyers. Observing the well-known fact that virtually all cases end in settlement, Siegel further finds that shareholders often only received the value of the insurance in the settlement, while insiders who committed the fraud while being covered by director and officer insurance rarely had to pay anything directly. That insurers provide additional products to the firms might be the reason that multiple generations of managers at the same companies repeatedly violated the securities laws. Consequently, public shareholders may end up paying for insiders' misdeeds.

The upshot is that civil liability as currently designed may mobilize lawyers as private enforcers of the securities laws but such liability might not achieve optimal deterrence and instead engender inefficient redistribution among past and present shareholders and social waste. A 1995 legal reform that sought to address several deficiencies in the U.S. civil liability regime yielded mixed results, such that the general desirability of civil antifraud liability remains debatable (see Cox and Thomas (2010) for a review). Langevoort (2008: 199) thus opines with regard to FPIs that “a case can be made for some pull back in terms of antifraud liability exposure in private actions.”

## *2.2. Related Literature*

This study relates most closely to the burgeoning literature on cross-listing as a bonding mechanism. As noted, it is empirically challenging to identify causality with regard to the legal bonding hypothesis. Firstly, specific firm characteristics may provide financial or strategic motivations for cross-listing, in addition to corporate governance factors, thus leading to identification problems due to endogeneity (see Karolyi (2010), Hail and Leuz (2009)). Whether the U.S. legal regime works to support bonding or deter from it is also ambiguous. Corporate insiders—who in non-U.S./U.K. firms are primarily controlling shareholders—may prefer to

avoid institutional constraints on their ability to extract private benefits. Evidence for this avoiding hypothesis has been accumulating recently.<sup>8</sup>

It is especially difficult, however, to disentangle legal bonding from reputational bonding. Some studies fail to make this distinction and refer simply to “bonding” (e.g., Bancel, Kalimipalli, and Mittoo (2009), Boubakri, Cosset, and Anis (2010), Melvin and Valero (2009)). Several studies mention both legal and reputational bonding and assume, but do not show, that both play a causal role in engendering the observed beneficial effect.<sup>9</sup> While it is certainly plausible that legal bonding may exert a positive effect in such cases, it is equally likely that these firms may also take advantage of reputational bonding.

Other studies find direct evidence consistent with reputational bonding irrespective of legal bonding and sometimes even to the exclusion of legal bonding. Frésard and Salva (2010) investigate the link between U.S. cross-listing and the value of excess cash, which insiders may abuse. These authors find “clear-cut evidence” for increased monitoring and pressure on the cross-listed firms, including firms listed in the over-the-counter market, which, they argue, are not subject to increased regulation, in line with reputational bonding. Crawford (2009) finds an increase in analyst coverage following a cross-listing, especially in firms from countries with *better* corporate governance institutions. He attributes this effect primarily to market forces, consistent with the notion that such forces may play a role irrespective of legal institutions. Similarly, Ammer, Holland, Smith, and Warnock (2008: 6) show that cross-listing increases information production, thus increasing U.S. investors’ demand, “without necessarily putting

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<sup>8</sup> See Doidge, Karolyi, Lins, Miller, and Stulz (2009); see also Boubakri, Cosset, and Samet (2010), Doidge, Karolyi, and Stulz (2010), Hope, Kang, and Zang (2007). Li (2010) shows that only about 15 percent of the cross-listed FPIs in 2001 have more than 10% controlling shareholders, suggesting the dominant shareholders may prefer to avoid the U.S. market.

<sup>9</sup> See Ball, Hail, and Vasvari (2008), Bris, Cantale, and Nishiotis (2007), Doidge, Karolyi, and Stulz (2004), Doidge, Karolyi, and Stulz (2009), Hail and Leuz (2009), and Lel and Miller (2010).

weight on explicit protections provided the U.S. legal system” (see also King and Segal (2009), Litvak (2009)). In a study of foreign acquisitions of U.S. targets, Burns, Francis, and Hasan (2007) find some support for reputational bonding, while also noting that such bonding does not fully supplant firms’ home-country legal environment.

Two studies exploit a legal reform that made it easier for cross-listed firms to delist and deregister from the American market and could therefore shed light on legal bonding. Fernandes, Lel, and Miller (2010) and Doidge, Karolyi, and Stulz (2010) find that the market reacted more negatively to this reform with regard to firms from countries with weak disclosure and governance regimes. This finding suggests that such firms more extensively rely on, and benefit from, the American corporate governance components in the hybrid regime created by the cross-listing. A closer look reveals that the evidence for the legal bonding hypothesis is only partial. The observed effects support Rock’s (2002) “lobster trap” argument—namely, that the (then-in-force) rules applying U.S. securities laws to foreign firms with U.S. shareholders operate like a lobster trap: easy to enter voluntarily; hard to exit (see also Marosi and Massoud (2008) and Li (2010)). This structure thus enables foreign firms to make a credible commitment to remain subject to U.S. laws for a long time—a critical feature, which the legal reform eroded. However, while this credible commitment mechanism is legally-based and may be instrumental for bonding, it says nothing about the mechanism that may induce compliance—whether it is legal deterrence or reputation-based.

In a study of the factors that may affect foreign firms’ decision to cross-list in the U.S., Doidge et al. (2009) come closest to supporting the legal bonding hypothesis. These authors find that firms, in which private benefits extraction is more likely, tend to avoid the higher regulation U.S. listings on a major exchange, in line with the avoiding hypothesis. In tandem, analyst

coverage increases for all types of foreign listings (Levels 1, 2, 3, and Rule 144A). These authors thus argue that “this suggests that direct U.S. securities laws and enforcement are more important constraints in the extraction of private benefits than is the scrutiny of financial analysts” (p. 428). This inference, however, hinges on the assumption, that a similar coverage change by financial analysts must rule out the possibility of reputational bonding and, hence, by elimination, support legal bonding. Analysts indeed play a pivotal role in improving the informational environment of cross-listed firms (Lang, Lins, and Miller (2004)), but the number of analysts following the firm as a characteristic of this environment may be a measure of informativeness and does not necessarily signify bonding. This assumption, moreover, ignores other mechanisms for reputational bonding, such as creditors and investment banks.

The present study relates more generally to a new rivulet of research that reflects disenchantment with cross-listing not only as a vehicle for bonding. Gozzi, Levine, and Scmukler’s (2008) fail to find a permanent improvement in firms’ valuation subsequent to a U.S. foreign listing, which they interpret as challenging the bonding-to-better-institutions hypothesis. King and Segal (2009) find similarly for Canadian firms, as do Sarkissian and Schill (2008) in a sample of firms from 25 countries. Using an especially broad canvass of a 57-year global panel, Sarkissian and Schill (2010) document waves of cross-listings and observe that in the long run, value premiums tend to be fleeting. While these finding do not disprove the bonding hypothesis, in either of its versions, they underscore the idea that insiders may want to use cross-listing to time (or game) the market. An intriguing study finding negative market reactions to *involuntary* U.S. cross-listings is consistent with this notion (Iliev, Miller, and Roth (2010)).

On a broader level yet, as it deals with the legal regulation of corporate disclosure, our study is linked to a vast literature on this subject (see Beyer et al. (2010)). As noted, a number of studies within this field discuss the role of public and private enforcement mechanisms as necessary components in every disclosure regime, needed to overcome insiders' inclination to hide or delay bad news because they may fear getting sued (Skinner (1994)). Importantly, much of the extant empirical literature does not distinguish between public and private enforcement (but see La Porta et al. (2006)). For example, Bushman and Piotroski (2006) examine the impact of securities laws on timely disclosure. These authors find that firms in countries with strong public enforcement are more conservative, i.e., slow the recognition of good news, but private enforcement aspects (as measured by proxies for disclosure and litigation) have no impact on conservative financial reporting (see also Hope (2003)). DeFond, Hung, and Trezevant (2007) find that annual earnings announcements are more informative in countries with better-enforced anti-insider trading laws. (In the U.S., insider trading is considered a form of securities fraud.) Finally, Daske, Hail, Leuz, and Verdi (2008) argue that capital market benefits to more transparent firms accrue only to firms from countries where legality, or a general norm of law-abidingness, is prevalent—what these authors term “strong legal enforcement” and measure with a rule of law index from the World Bank.

### 2.3. Hypotheses

To summarize the research questions, the *legal bonding hypothesis* implies that by denying a U.S. civil liability cause of action from foreign securities transactions *Morrison* severed the ties that bond FPIs vis-à-vis their non-U.S. investors. One therefore expects *Morrison* to exert a negative effect proportionate to the share of non-U.S. investors within firms' shareholder basis. This hypothesis further implies that the weaker the firm's corporate governance—due to home country or firm-level factors—the greater will be the loss due to

severing these bonds. Finally, more valuable firms, e.g., ones with greater growth opportunities, might suffer more from the loss of these bonds. With regard to civil antifraud liability in general, the literature suggests opposite hypotheses. A *beneficial deterrence hypothesis* dovetails the legal bonding hypothesis, as it implies that markets should react negatively to *Morrison* as it eroded the credibility of firms' disclosures by blunting the threat of liability. In contrast, the *regulatory burden hypothesis* implies that *Morrison* relieved a set of issuers from unnecessary, costly burden such that markets would react positively with regard to these issuers.

### 3. The scope of legal liability before and after *Morrison*

To fully understand the impact of *Morrison* we first note the legal implications of cross-listing and explicate the extraterritorial application of U.S. securities law pertaining to fraud. The linchpin of the U.S. civil liability regime in the secondary market is Section 10(b) of the Securities and Exchange Act of 1934 ("SEA"), which prohibits securities fraud and authorizes the SEC to promulgate rules for implementing this provision.<sup>10</sup> Famously, the SEA does not explicitly provide for civil liability and it is silent with regard to its extraterritorial reach. The U.S. Supreme Court nonetheless had held that civil liability for securities fraud is clearly implied by §10(b) and later adopted the fraud-on-the-market doctrine.<sup>11</sup> This paved the way for numerous investors to be grouped in a single class action. Most other countries do not recognize this doctrine and class actions are much less developed, which significantly limits the exposure

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<sup>10</sup> Section 10(b) provides in relevant parts:

It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce or of the mails, or of any facility of any national securities exchange ... (b) To use or employ, in connection with the purchase or sale of any security registered on a national securities exchange or any security not so registered, ... any manipulative or deceptive device or contrivance in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of investors.

The SEC exercised its authority under Section 10(b) to promulgate Rule 10b-5.

<sup>11</sup> Respectively, *Blue Chip Stamps v. Manor Drug Stores*, 421 U.S. 723 (1975) and *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988).

to civil liability outside the United States. In a gradual process since the 1960s, U.S. district courts have developed two tests for applying U.S. securities law when foreign elements are involved. The *conduct test* required that at least a certain amount (defined by such modifiers as “significant”, “material”, etc.) of the fraudulent conduct takes place in the U.S. The *effects test* alternatively sought to protect the domestic securities market from the effects of purely foreign fraudulent conduct. Both tests are fact-intensive and as such, inevitably somewhat vague, but with some differences they have become well-established in all the federal circuits (see Buxbaum (2007) for a review).

On the public front, the SEC has always insisted that it can assert its regulatory jurisdiction extraterritorially under the conduct and effects tests but in reality, practical limitations on operating overseas and a motivation to preserve U.S. markets’ competitiveness have led the SEC to adopt a more reserved stance toward FPIs. In its rule-making capacity, the SEC repeatedly promulgated more lenient regulations for FPIs and provided exemptions from certain corporate governance requirements (see Licht (2003), Li (2010), Shnitser (2010)). During the 2000s, the SEC actively promoted regulatory cooperation in lieu of unilateral action. In 2007, the SEC’s International Division advanced a revolutionary blueprint for far-reaching regulatory deference to foreign regulators (Tafara and Peterson (2007)). With regard to enforcement, too, Siegel (2005) shows that the SEC employed a relatively light punishment approach with regard to FPIs and their insiders. Based on new data on public enforcement, Shnitser (2010) observes that relative to domestic U.S. issuers, FPIs have benefited not only from a laxer set of rules but also from a more forgiving public enforcement agency. Put otherwise, the rumors of the SEC’s imminent threat of public enforcement have been greatly exaggerated.

Against this backdrop, *Morrison* involved a large Australian bank with common shares trading in Australia and in several other countries and ADRs trading in the U.S. The fraud took place in a wholly-owned Florida subsidiary but was communicated to the market by the Australian bank. In these circumstances, it was natural for the U.S. District Court of Appeals to dismiss the claim of a class made up solely of foreign investors who purchased common stocks in Australia for lack of sufficient linkage to the U.S., based on the regular tests.

Oral argument before the Supreme Court took place on the morning of March 29, 2010. The transcript reveals that it already reflected all the major elements which would later appear in the Court's written decision—namely, totally abolishing the conduct and effects tests with regard to civil liability. After Justice Ginsburg commented that this case “has ‘Australia’ written all over it” (*Morrison Transcript*, 2010: 5), Justice Scalia explicitly stated: “We don't want the determination of whether there has been a misrepresentation on the Australian exchange and whether Australian purchasers relied upon that misrepresentation to be determined by an American court” (p. 16). Chief Justice Roberts complained that “there are a lot of moving parts in that [conduct] test. You know, significant conduct, material, you require it to have a direct causal relationship. Doesn't the complication of that kind of defeat the whole purpose?” (p. 41). Finally, Justice Scalia noted that the Court need not say anything about the government's authority (p. 45). Capital markets around the world were watching this case closely. One blogger on the *Wall Street Journal* Blogs wrote: “We can't remember a case about jurisdiction that's generated such feverish interest as the one to be argued Monday at the U.S. Supreme Court” (Jones, 2010).

In its written opinion, the majority of Supreme Court justices, led by Justice Scalia, boldly discarded the conduct and effects tests and replaced them with a new “transaction test,”

under which civil liability applies only to transactions in securities listed on an American stock exchange and to securities transactions in the United States.<sup>12</sup> In doing so, the majority leveled the elaborate legal edifice built by district courts in the course of over 40 years, which, in turn, was part and parcel of the general U.S. jurisprudence on extraterritoriality (American Law Institute, 1987: §416). Justice Stevens, in a concurring minority opinion, noted that this new rule does not affect public enforcement (*Morrison*: 2895).

The Supreme Court's decision was publicized on June 24, 2010. Within less than 24 hours, by June 25, 2010, a conference committee approved the final version of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("DFA"). It transpired that in the last round of legislative process, two sections have been added to this mammoth statute. Sections 929P and 929Y provide that U.S. courts will have jurisdiction regarding public enforcement of the Securities Acts by the SEC and the Department of Justice based on the conduct and effects test. With regard to civil liability Congress only instructed the SEC to conduct a study on the desirability of using these two tests without making any substantive provisions, thus leaving the ruling in *Morrison* intact. The upshot of this chain of events is that foreign private issuers have been extensively shielded from civil antifraud liability under U.S. law.

With regard to public enforcement, however, the legal situation post-*Morrison* and post-DFA is murkier. Although the case before the Court involved civil liability and the majority opinion defines the ruling as such, much of the legal analysis both during oral argument and in the written decision revolves around general principles of statutory interpretation, treatment of Congressional silence, and international comity. These principles are applicable to public

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<sup>12</sup> The Court's exact language (*Morrison*: 2888) closely follows the statutory language of Section 10(b):  
Section 10(b) reaches the use of a manipulative or deceptive device or contrivance only in connection with the purchase or sale of a security listed on an American stock exchange, and the purchase or sale of any other security in the United States.

enforcement, especially bearing in mind that the conduct and effects tests too have been applied to both civil liability and public enforcement (ALI, 1987: §416 cmt. b). In August 2010, the SEC invoked these DFA provisions with regard to Moody's' European operations yet declined to pursue a fraud enforcement action "because of uncertainty regarding a jurisdictional nexus to the United States in this matter" (SEC (2010a)). In an October 2010 release requesting public comment toward the above-mentioned study, the SEC acknowledged that *Morrison* may affect its public enforcement authority abroad, as it stated: "In the Dodd-Frank Act, Congress *restored* the ability of the Commission and the United States to bring actions under Section 10(b) in cases involving transnational securities fraud." (SEC 2010b: 5; emphasis added).<sup>13</sup> In an actual fraud complaint against Goldman Sachs's Fabrice Tourre, Tourre argued that the charges should be dismissed in light of *Morrison*. The SEC, in December 2010, responded by filing an amended complaint acknowledging that *Morrison* applies to the SEC—for a case like Tourre's that involves alleged conduct taking place prior to July 2010—but still arguing for that specific case that Tourre's actions were substantially carried out in Goldman Sachs's New York headquarters.

## 4. Data

### 4.1. Dependent Variable

Our sample of FPIs contains foreign companies with cross listings on U.S. stock exchanges and foreign companies trading on OTC markets. We identify our sample FPIs using numerous sources. The primary sources, however, were the SEC and the websites of the various exchanges, COMPUSTAT North America, the CRSP Monthly Stock File, the CUSIP Master File, and the depository services directories of BNY Mellon, JP Morgan Chase, and Citigroup.

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<sup>13</sup> An arcane legal reasoning furthermore suggests that in the DFA, Congress may have undermined the SEC's extraterritorial authority to enforce §10(b) as it failed to provide explicitly for such authority (Conway (2010)).

Information on which exchanges the firms list on, and whether they have a listing in their home country, was also verified using Capital IQ's screening tools. In addition to those principal sources, the other sources consulted are detailed in Appendix 1.

We identify the set of cross-listed FPIs with SEC compliance at the end of 2009 along with their country of incorporation from the SEC website. A total of 676 FPIs were listed in the U.S. on December 31, 2009 according to the SEC. We hand-match the list of cross-listed FPIs with CRSP, Compustat, Worldscope, and Interactive Data Corporation to obtain various identifiers for our sample FPIs. We require that FPIs have listings in both the U.S. and home markets because the *Morrison* decision refers to transactions effected outside the U.S. We also require that sample FPIs have non-missing returns on at least one of the event days to maintain consistency in the cross-sectional regressions. We further require that sample FPIs have at least 60 valid returns over the estimation period between January 1, 2008 and December 31, 2009. These requirements result in a sample of 542 cross-listed FPIs with home market return data and 519 cross-listed FPIs with U.S. market return data. The difference between the U.S. and home samples is due to data availability. We obtain accounting data from Compustat and Worldscope and U.S. stock returns from Interactive Data Corporation. All the financial data were downloaded in U.S. dollars to ensure that home returns across FPIs from different countries are comparable. Our sample includes firms that are no longer traded but were covered by these data vendors.

A lesser-known fact about foreign firms listed in the U.S. is that not all of them qualify as foreign private issuers for regulatory purposes. The SEC's definition of a foreign private issuer excludes firms incorporated outside the United States, in which the majority of voting rights are held by American shareholders and one of the following criteria is also met: the majority of the

top management is American; the majority of assets is located in the U.S.; the business of the firm is managed primarily from in the U.S (SEC Rule 405 and Rule 3b-4). We obtain the roster of firms that are foreign according to the banks' websites but are regarded as domestic firms by the SEC. We compare the rosters of cross-listed FPIs from the banks' websites and from the SEC. Any cross-listed FPI that is not on the SEC roster but is on the roster of the banks' websites is classified into this category of "domestic foreigners." Since firms regarded as foreign by the SEC cannot file 10-K report, we further verify the domestic foreigner status of these firms through EDGAR database and Thomson Analytics.

While the vast majority of foreign firms enter U.S. securities markets using ADRs or other depositary facilities issued by depositary banks, a subset of foreign firms use "direct listing," namely, they list the same shares or stocks that are listed in their home market. Such direct listing is common among Canadian issuers and a small number of firms from other countries. We identify the direct listings from the above-mentioned sources.

Because the benchmark choice is a major methodological issue in event studies of cross-listed firms (Karolyi (2010)) we use several market benchmarks to verify the robustness of our findings. Our primary market benchmark is the S&P 500 index, as it has the advantage of not including any foreign firms. For robustness tests we also use as benchmarks the Russell 1000, Russell 3000, and CRSP value-weighted indexes. Although event studies sometimes use international indexes as benchmarks, those indexes are actually less appropriate benchmarks for FPIs. The FPIs that cross-list or trade on U.S. markets are generally the larger firms in their home markets. These firms therefore constitute a significant portion, if not the majority, of international indexes in terms of market capitalization, a fact that may contaminate the index for

the present purposes. We nonetheless also test the robustness of our results against the MSCI All Country World Index as a benchmark.

#### 4.2. Explanatory and Control Variables

The second part of the analysis examines cross-sectional variation in the event period market reaction of FPIs. Because *Morrison* restricted the scope of antifraud civil liability to securities listed in the U.S. and transaction effected in the U.S. we focus on firms' market capitalization outside the U.S. as a rough proxy for the capital that (transactions in which) became shielded from liability. *Non-U.S.-Market Capitalization* is one minus the ratio of the market value of equity from CRSP, which represents the market value of FPIs in the form of cross-listed securities in the U.S., divided by company market value from Compustat. The higher this value the more we expect *Morrison* to affect the firm.

From prior literature and international organizations we obtain data on countries' institutional factors pertaining to corporate governance and governance more generally, as follows. We use the indexes of legal rules on *civil liability (private litigation)* and on *disclosure* in securities regulation laws drawn from La Porta *et al.* (2006), namely, the securities rules that these authors identify as ones that “work” against insiders. A measure of shareholder protection known as the *anti-director-rights index* (“ADRI”) comes from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008). Refining and improving on a prior index of the latter three authors, the ADRI focuses on countries' company laws. Spamman (2010) discusses alternative codings for the legal provisions included in the ADRI so we also obtain his versions of this prominent index. In addition to the ADRI, which focuses on the content of legal rules, Djankov *et al.* (2008) advance a measure of formal shareholder protection that emphasizes legal process—the *anti-self-dealing index* (“ASDI”), which we use, too.

Legal origin (family) has been shown to be a powerful predictor of financial development and other major outcomes (La Porta, Lopez-de-Silanes, and Shleifer (2008)). We therefore control for *legal origin* as a general proxy for the “style” of legal environment as a whole. A dummy is set equal to 1 when the country’s legal origin is the common law. We use the coding of La Porta et al. (2008). From Jackson and Roe (2009) we obtain data on *public enforcement* of securities laws as measured by the weighted sizes of the budget and of the staff of the regulatory agency. As a broad measure of legality, or the *rule of law*, we use the rule of law index from the World Bank Governance Indicators (2009). From the World Development Indicators we draw data on GDP per capital as a measure of economic development.

We also obtain several firm-level characteristics. *Ownership concentration* has been used by Doidge et al. (2009) as a proxy for the likelihood of private benefits extraction by insiders. We use the data item on closely-held shares from Worldscope. From Compustat we take the following control variables. *Sales growth* is one-year sales growth and controls for growth opportunities. *Capital expenditure* is capital expenditure as a percentage of total assets. *Leverage* is short-term debt as a percentage of total assets. *Fixed assets ratio* is property, plant, and equipment as a percentage of total assets and controls for the firms’ collateral resources and information asymmetry. We include *Tobin’s Q* to control for firm valuation. *Log (total assets)*, the natural logarithm of total assets, controls for firm size. Using data from the Stanford Securities Class Action Clearinghouse we identify all the FPIs in our sample that have been thus sued and the number of such lawsuits.

#### 4.3. Summary Statistics

Panel A of Table 2 reports the number of our sample FPIs by country. These firms are from 45 countries, based on the SEC’s country designation. The countries with the most FPIs are Canada (143 FPIs), Cayman Island (58 FPIs), Israel (36 FPIs), the United Kingdom (33

FPIs), and Brazil (30 FPIs). These countries also have far more FPIs than any other country. For example, the country with the next largest number of FPIs is Japan (21 FPIs). Sample FPIs are geographically diverse, including 152 FPIs from two North American countries, 147 FPIs from 10 countries and regions in the rest of the Americas, 106 FPIs from 17 European countries, and 89 FPIs from thirteen Asian countries/regions. Sample FPIs are also somewhat diverse in their legal origin. English legal origin has the greatest number of sample FPIs, with 320 FPIs from ten countries.

Panel B of Table 2 reports the summary statistics for the variables used in our cross-sectional regressions. We report the number of observations with non-missing value for a specific variable. We also report the mean, median, standard deviation, and the 5<sup>th</sup> and 95<sup>th</sup> percentiles of these variables across all sample FPIs.

## 5. Tests and Results

The empirical analysis consists of three parts. First, we test markets' reaction to the events surrounding the decision in *Morrison*. We then examine the sensitivity of the basic findings in different subsamples and benchmarks. Finally, we examine whether the abnormal returns subsequent to *Morrison* relate to a set of factors that may affect legal bonding.

### 5.1. Abnormal Returns around Focal Events

We compare the U.S. and home market stock returns of our sample of FPIs listed on the U.S. stock exchanges to the returns on the S&P 500 index (see Table 3). We consider two focal events: oral argument on March 29, 2010 and publication of the Court's decision on June 24, 2010 (Event 1 and Event 2, respectively). Since the *Morrison* decision affects all the FPIs that are listed or traded in the U.S. markets, and these FPIs are a substantial portion of the home

country markets, international indexes are contaminated benchmarks for these FPIs. We therefore use the S&P 500 index as our main benchmark.

It is important to ensure that market reactions of cross-listed FPIs are not due to differences between the FPIs that access U.S. markets and those that do not (e.g., because of size or growth opportunities), cross-sectional correlation and clustering events, or the measure of abnormal returns and the benchmarks used. Although the prior literature offers several solutions that generally address one single aspect of the above issues each, only one solution, Monte Carlo simulation, addresses all of these issues (see Lo (2003) and Zhang (2007), and Li (2010)).

Following Brown and Warner (1985), we measure abnormal returns with market model adjusted returns as follows:

$$A_{i,t} = R_{i,t} - \alpha_i - \beta_i R_{m,t}, \quad (1)$$

where  $R_{m,t}$  is the day  $t$  return on the benchmark index, and  $\alpha_i$  and  $\beta_i$  are ordinary least squares market model estimates from the estimation period between January 1, 2008 to December 31, 2009. While we provide the Brown and Warner (1985)  $t$ -statistic, we use bootstrapped  $p$ -values for inferences following Lo (2003) and Zhang (2007). Specifically, we draw non-event days between January 1, 2010 and August 31, 2010 with the same number of days as each event and calculate the cumulative abnormal returns over these non-event days. We repeat the drawing with replacement 10,000 times to obtain an empirical distribution for the event period abnormal returns. The one-tailed  $p$ -values are the proportion of the 10,000 abnormal returns that are greater than the event period abnormal returns. We double these proportions to obtain two-tailed  $p$ -values. The trading periods for the U.S. and home markets are asynchronous for many FPIs. Allowing adding up to three-day leading and lagging benchmark returns to Equation (1) to control for asynchronous trading yields similar results.

Table 3 shows that for the oral argument in *Morrison*, we find aggregate abnormal returns of 0.74% in both the U.S. and home markets for cross-listed FPIs for the time-window. Given a total market capitalization of about US\$ 8 trillion for sample FPIs, these returns alone represent an increase of about US\$ 60 billion in the market value of these FPIs. For the full time-window of the decision we observe insignificant abnormal returns. However, as Table 4 immediately below shows, for the common FPIs with shares listed at home and ADRs listed in the U.S. both stages of *Morrison* brought about a significant value appreciation. A breakdown of Event 2 time-window into separate days shows significant aggregate abnormal returns of 0.56% in the U.S. market and 0.52% in the home markets on the day following the publication of the opinion. The total abnormal returns on the two events related to *Morrison* are no less than 1.13% in the U.S. market and 1.00% in the home markets, both at a significance level much higher than that for either of the two individual events. The abnormal returns observed for Event 1 thus may represent a lower bound of the market reaction. To be conservative, we focus on this event in subsequent analyses.

These findings are consistent with the idea that market prices already on March 29, 2010 reflected the financial implications of the legal regime, that was to be expounded in detail in the written opinion but the general contours of which nonetheless emerged during oral argument. The decision date event itself, June 24, therefore is not associated with a significant price reaction in our main sample. The positive market reaction on the following day, June 25, may stem from the appearance of the new DFA provisions. Thus, when Congress, for the first time since the enactment of the Securities Acts, signaled its position on extraterritorial reach of §10(b) in line with the Court's ruling, market reaction was again positive and significant.<sup>14</sup> A more

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<sup>14</sup> We also tested for abnormal returns during subsequent stages of the DFA's legislative process but found insignificant results.

expansive conjecture (which we do not necessarily endorse) would suggest that the positive abnormal returns on June 25 are due to the additional uncertainty that the DFA's imperfect language cast over the SEC's extraterritorial public enforcement authority.

## 5.2. Sensitivity of Abnormal Returns

Table 4 presents several tests of the sensitivity of the abnormal returns for Events 1 and 2. Panel A presents results for subsamples of particular interest. First, we examine the event period reactions of a natural event control sample of OTC-traded FPIs with SEC compliance. The latter FPIs are subject to the same antifraud regime under §10(b) and Rule 10b-5 that exchange-listed FPIs are subject to regarding the information they provide to the market. If the reactions of cross-listed FPIs are due to *Morrison*, the abnormal returns of these OTC-traded FPIs on event days should be similarly affected (significantly positive). Panel A indeed shows a positive reaction of 0.68% (0.65% in home markets), which is similar in magnitude to the reaction observed in the main sample.

Next, we look at firms that are incorporated outside the United States but are nonetheless deemed domestic U.S. issuers under SEC rules. With securities listed on a U.S. market and no formal basis to claim an exemption from the U.S. regulatory regime, these firms are expected not to exhibit a significant reaction to *Morrison*, which is the result we obtain. A diametrically different category includes foreign firms that are not listed or traded on U.S. markets. Barring externalities from U.S.-listed FPIs to non-U.S.-listed firms (see, e.g., Melvin and Valero (2009)), investors in the latter firms should be agnostic about *Morrison*. In line with this prediction, we observe nil abnormal returns in foreign markets. Next, we address the fact (overlooked by many studies) that our full sample includes some 140 PFIs incorporated in tax havens, all of which have a common law legal origin. These FPIs might be treated differently by financial markets because, among other things, the law on the books and corporate governance practice might

diverge more for them. Nevertheless, abnormal returns in the subsample with no FPIs that are incorporated in a tax haven are very similar to the results in the general sample.

The final set of tests in Panel A address a certain legal ambiguity in the wake of *Morrison*. The majority's reasoning underscores both the utmost importance of Congressional language and the presumption against extraterritorial reach of U.S. legislation. Against this backdrop, FPIs from several countries use direct listing—namely, rather than use an ADR facility they may list on U.S. exchanges the same securities that they also list on their home-market and elsewhere. This practice is particularly common among Canadian issuers. One might wonder, therefore, if *Morrison* exerted any differential effect on these issuers.

Two tests thus examine different subsamples that are relatively devoid of direct listings: first, a sample excluding Canadian listings; second, a sample comprising only ADRs. The results in the former case are similar to the general sample but now the abnormal returns for Event 2 are significantly positive as well. In the latter case, too, abnormal returns are significantly positive for both Event 1 and Event 2 and they are also somewhat higher. This pattern is consistent with the notion that for the common FPIs, the written opinion may have solidified the impression that market participants have formed following the oral argument.

Finally, we present results for a complementary sample comprising only direct listings. Interestingly, we observe significantly positive abnormal returns for Event 1, though they are weaker in comparison to the returns in the full sample, and nearly no reaction at all for Event 2. These results are susceptible to several interpretations. Especially in light of the aforementioned results for the ADRs-only subsample, it could be the case that dicta during the oral argument stage might have led market participants to form expectations that directly-listed FPIs would be

exempted from U.S. civil liability for foreign-located transactions but these expectations were not clarified by the written opinion.

Panel B of Table 4 repeats the main tests in Table 3 using different return measurements. First, we use market-model-adjusted returns,  $A_{i,t} = R_{i,t} - R_{m,t}$ , to measure abnormal performance.<sup>15</sup> Next, we examine only returns of which the absolute value is smaller than 25 percent. Finally, we also use the cross-section of market-adjusted returns during the event period, instead of those of the estimation period, to estimate its variance. Brown and Warner (1985) recommend using this procedure to control for potential variance increases during the event period. Since this procedure ignores the estimation period data, it has weaker power if variance does not increase substantially. The results for Event 1 are consistent with our main results throughout the three tests, and in the first and third test we also find a significantly positive market reaction for Event 2, in line with the results for the ADRs-only subsample.

In Panel C, we experiment with alternative definitions of the event windows without much change in the results. Finally, Panel D employs different return benchmarks. The Russell 1000 and Russell 3000 indexes yield essentially identical results to the S&P 500 benchmark. The CRSP value-weighted index, too, yields qualitatively similar results—abnormal returns of 0.65% in both U.S. and home markets for Event 1. Finally, we use a global benchmark of the MSCI All Country World Index. This index is different from the MSCI World Index often used by the prior literature in that it also includes emerging stock markets. Given that FPIs from emerging markets are a significant portion of cross-listed FPIs, it is more appropriate to use this index as a global benchmark. We find that this index yields significantly positive abnormal returns for Event 1, the size of which is somewhat smaller than the returns obtained with the

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<sup>15</sup> We also use the period between January 1, 2009 and December 31, 2009 as the estimation period for market model adjusted returns and find qualitatively the same results.

S&P 500. This result likely provides a lower bound in terms of the magnitude of event period reactions, in line with our caveat that U.S.-listed FPIs tend to constitute a significant portion of such global indexes.

### 5.3. Cross-Sectional Analysis

Having established the stability of the finding on abnormal returns following *Morrison*, we now turn to examining their possible relations to different factors that may affect them cross-sectionally. In selecting these factors we are guided by theoretical considerations pertaining to corporate governance and to disclosure in securities markets and by prior literature on the bonding hypothesis, as elaborated above.

Table 5 reports the results of cross-sectional regressions where country-level and firm-level variables of U.S.-listed FPIs are used to explain cross-sectional variation in the abnormal returns of individual FPIs during event 1. As before, we use the S&P 500 index as the benchmark. Panel A controls for a set of firm characteristics while also controlling for GDP per capita to allay concerns about endogeneity and wealth effects on our focal variable of non-U.S. market capitalization. For both U.S. and home-market abnormal returns, the relative size of non-U.S. market capitalization exhibits a strong positive sign, consistent with the results in previous tests above. Adding a battery of firm characteristics as control variables does not much affect this result. This again is strong evidence that *Morrison* indeed affected FPIs' valuation proportionately to their relative exposure to U.S. civil liability. In this specification, only sales growth, capital expenditure, and leverage also exhibit a significant positive sign. Taken together, these three variables may be interpreted as characterizing “firms with a good fortune”—that is, firms with more growth opportunities, whose managers invest more in long-term assets, and who are able to raise more debt from outside creditors. That capital markets reacted positively to the partial abolition of U.S. civil antifraud liability with regard to such firms is hard to reconcile with

the legal bonding hypothesis. In addition, firm quality as reflected in Tobin's Q—a factor that has been related to a U.S. cross-listing premium possibly due to legal bonding—does not relate to abnormal returns.<sup>16</sup> This evidence is more consistent with the regulatory burden hypothesis—namely, that U.S. civil liability as currently designed was especially burdensome—perhaps even a nuisance—for firms with better future prospects.

We now move to examining the role of the legal environment pertaining to corporate governance in explaining the variability of abnormal returns following *Morrison* in the U.S. and the home markets. Panels B and C of Table 5 respectively present regressions, in which in addition to the above-mentioned factors we also enter a battery of variables that capture different facets of the legal environment in firms' home country (excluding tax havens). Roughly speaking, these variables move from narrow aspects of securities regulation to broader aspects of governance and legality. We also enter a firm-level variable on ownership concentration as a proxy for the likelihood of agency problems. As noted above, these variables feature prominently in accounts of cross-listing and the bonding hypothesis. We control for GDP per capital to avoid spurious effects from the level of national wealth and economic development. To avoid collinearity problems we enter the governance variables seriatim.

The results are striking. With all *t*-statistics of these legal and corporate governance variables showing values well below 1, one would be safe to say that the legal home-country environment is simply unrelated to markets' reaction to *Morrison*. We enter variables that capture governance at different levels of generality, that have been developed using different methodologies, that cover both formal and informal social institutions relevant to governance, only to obtain essentially zero coefficients. These results remained unchanged when we

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<sup>16</sup> We also experimented with scores of other firm-level factors but these were not significant and did not change the results reported above. These results are available upon request.

experimented with numerous alternative measures of corporate governance, including alternative codings of the ADRI described by Spamman (2010)<sup>17</sup>, regulatory budget instead of regulatory staff from Jackson and Roe (2009) as a proxy for public enforcement, and several measures of efficiency of the judicial system from the World Bank's Doing Business database (not shown).<sup>18</sup> In tandem, the coefficients for non-U.S. market capitalization and other firm-level variables discussed above remain largely stable.

In a separate set of tests we examine if abnormal returns on Event 1 were different for FPIs that have been named as defendants in securities class actions since 1996. We have 115 such cases in our sample. While having been sued is not a conclusive evidence for wrongdoing, procedural rules since 1995 require that the complaint in a securities class action state with particularity the factual basis for fraud claims. Such a checkered litigation history thus may be treated as *prima facie* evidence for investor protection quality (see Fernandes et al. (2010)). We find that the abnormal returns of these defendant firms are similar to those of the non-defendant firms. In regressions using the basic specification as in Table 5, we enter a dummy variable taking a value of 1 for defendant FPIs or, alternatively, an index counting of the number of lawsuits against the FPIs, which may better account for recidivist firms. These variables exhibit insignificant signs in both tests.

Thus, even for firms, in which investors have sought redress through the civil liability system, markets do not respond differently to the loss of this legal protection due to *Morrison*. If one were to summarize these results in simple language, it seems that in assessing the impact of *Morrison* on U.S.-listed FPIs, world capital markets could not care less about corporate governance or legal bonding.

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<sup>17</sup> The extent to which this index, in whatever coding, in fact captures the gist of shareholder protection under national company laws is a question we abstract from.

<sup>18</sup> Similar results obtain in a slightly different sample based on other designations of firms' home country.

## 6. Conclusion

This study examines capital markets' reaction to a U.S. Supreme Court decision that abruptly changed the civil liability regime to which U.S.-listed foreign private issuers are subject. We exploit this event as a natural experiment for testing the legal bonding hypothesis as well as a broader, opposite, hypothesis that rather than serving as a beneficial bonding mechanism for corporate governance self-improvement, this regime imposes a regulatory burden.

We find robust evidence that *Morrison* brought about significantly positive abnormal returns. We find no evidence, however, that the corporate governance and legal environment in the home countries of U.S.-listed foreign issuers plays any role in explaining markets' reaction to this legal change, which denied the protection of U.S. civil liability to investors in foreign-located transactions. These results challenge the legal bonding hypothesis, namely, the proposition that the U.S. legal regime—in particular, its civil antifraud liability regime as it is currently designed—may be used by foreign firms to compensate for corporate governance deficiencies that they might suffer from. Quite to the contrary, the results support the notion that by severing the ties to the U.S. civil liability regime, the Supreme Court did a beneficial service to U.S.-listed foreign firms, especially those with better future prospects.

As regards public enforcement vis-à-vis FPIs, one should first bear in mind that it has not been too vigorous in practice. Because much of *Morrison*'s legal reasoning could be extended beyond civil liability it could have cast a shadow over the SEC's regulatory authority. The SEC in fact explicitly acknowledges this conclusion (see above). This effect of *Morrison* would cast a shadow also on the public enforcement prong of the legal bonding hypothesis.

The positive market reaction we observe do not mean, however, that civil liability *should* be abolished. Private enforcement of securities laws may be beneficial. The broad pattern of the

current results does lend support to long-standing criticisms of the U.S. secondary market civil liability at it is currently structured. Which component of this regime may be particularly problematic—whether it is the fraud-on-the-market doctrine, or class action rules, or another legal institution—clearly warrants further research.

In conclusion, we find that the Supreme Court's sudden and unexpected limitation on legal bonding led to a positive market response. This could mostly be due to the deficiencies in the current design of the U.S. civil liability regime, by which insiders accused of civil misconduct rarely pay out of pocket to compensate outside investors effectively. Furthermore, the SEC's already weak enforcement authority was possibly further weakened by the *Morrison* decision, whether restricted to events prior to July 2010 or not. A system with weak formal enforcement but with considerable enforcement costs may just not have been worthwhile. Instead, either a better design system of civil liability that actually delivers strong deterrence and punishment and compensation to aggrieved minority investors, and/or a system of SEC public enforcement that is far more active and vigilant across borders, may be what is required for legal bonding to have teeth. Without that, reputational bonding, albeit an imperfect mechanism that relies on market sticks and rewards, can still explain any positive bonding benefits. Also, emerging economies that sought to piggy-back on U.S. legal bonding may need to reinvest in strengthening their own public enforcement at home in light of the *Morrison* decision.

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## Tables

**Table 1. Chronological Events surrounding *Morrison***

Table 1 provides a chronological account of legal events surrounding the U.S. Supreme Court's decision in *Morrison*. All times are U.S. Eastern Time.

Event	Date	Description	Event Window
1	March 29, 2010	Oral argument in <i>Morrison</i>	March 26, 29
2	June 24 and 25, 2010	June 24 – The decision in <i>Morrison</i> is publicized. June 25 – The House and Senate approve final versions of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010	June 23, 24, 25

**Table 2. Summary Statistics**

Table 2 reports summary statistics of our sample. Panel A reports the distribution of cross-listed FPIs by country. Panel B reports the distributions of country- and firm-level variables of cross-listed foreign private issuers (FPIs).  $N$  is the number of cross-listed FPIs in both Panels A and B.  $N$  varies for different variables in Panel B due to data availability. In Panel B, *Non-U.S. Market Cap* is one minus the ratio of the market value of equity from CRSP, which represents the market value of FPIs in the form of cross-listed shares in the U.S., divided by company market value from Compustat. *Capital Expenditure* is capital expenditure as a percentage of total assets. *Current Leverage* is short-term debt as a percentage of total assets. *Fixed Assets Ratio* is property, plant, and equipment as a percentage of total assets. *Sales Growth* is the change in annual revenues. *Tobin's Q* is (market value of equity + total assets - common equity) / total assets. *Log (Total Assets)* is the logarithm of total assets. *Ownership Concentration* is the data item of closely held shares from Worldscope. *Disclosure* is an index of securities law disclosure rules and *Private Litigation* is an index of securities litigation rules, both from La Porta et al. (2006). *Anti-Director Rights* is an index of shareholder protection laws, and *Anti-Self-Dealing Rights* is an index of self-dealing regulation, both from Djankov et al. (2008). *Common Law* is a dummy taking 1 for a common law legal origin. *Public Enforcement* is the weighted size of staff of the securities regulation agency from Jackson and Roe (2009). *Rule of Law* is an index of legality from the World Bank Governance Indicators. *Log (GDP per capita)* is the logarithm of the GDP per capita of the home countries of individual FPIs. Country-level source data in Panel B vary in sample size according to the number of countries in the original data source as well as the number of countries with SEC-compliant FPIs. The sample data are from January 2008 through August 2010.

## Panel A. Country Distribution

Country	N	Country	N	Country	N	Country	N
ANTIGUA	1	DENMARK	3	LIBERIA	2	SINGAPORE	1
ARGENTINA	11	FINLAND	1	LUXEMBOURG	5	SOUTH AFRICA	6
AUSTRALIA	6	FRANCE	9	MARSHALL ISLANDS	14	SOUTH KOREA	11
BAHAMAS	1	GERMANY	9	MEXICO	8	SPAIN	5
BELGIUM	2	GREECE	5	NETHERLANDS	14	SWEDEN	1
BERMUDA	15	HONG KONG	4	NEW ZEALAND	1	SWITZERLAND	7
BRAZIL	30	INDIA	10	NORWAY	1	TAIWAN	5
CANADA	143	INDONESIA	2	PAPUA NEW GUINEA	1	UK	33
CAYMAN ISLANDS	58	IRELAND	4	PERU	1	VIRGIN ISLAND,	18
CHILE	11	ISRAEL	36	PHILIPPINES	1	BRITISH	
CHINA	12	ITALY	5	PORTUGAL	2		
COLOMBIA	1	JAPAN	21	RUSSIA	4		
Total	542						

Panel B. Variable Distributions

Variable	N	Mean	Median	Standard Deviation	5 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
<b>Firm-Level Variables</b>						
Non-U.S. Market Cap	474	44.74	33.82	40.81	0.00	98.51
Sales Growth	449	0.25	0.09	0.92	-0.37	0.96
Capital Expenditure	485	0.08	0.05	0.08	0.00	0.23
Leverage	491	0.06	0.02	0.08	0.00	0.23
Fixed Assets Ratio	492	0.35	0.26	0.30	0.01	0.88
Tobin's Q	489	1.40	1.06	1.08	0.58	2.95
Log (Total Assets)	493	7.82	7.72	2.81	3.52	12.66
Ownership Concentration	392	30.89	24.69	27.52	0.07	80.26
<b>Country-Level Variables</b>						
Disclosure	34	6.28	6.25	1.90	3.30	9.20
Private Litigation	34	0.53	0.66	0.24	0.11	1.00
Anti-Director Rights	38	3.46	3.50	1.07	1.00	5.00
Anti-Self-Dealing Rights	38	0.52	0.47	0.23	0.20	0.96
Common Law	44	0.36	0.00	0.48	0.00	1.00
Public Enforcement - Staff	18	12.47	6.58	15.10	0.43	59.59
Rule of Law	44	0.78	0.99	0.98	-0.77	1.91
Log (GDP per capita)	42	9.24	9.67	1.41	6.57	10.65

**Table 3. The Abnormal Returns of Cross-Listed FPIs and the Supreme Court Decision**

Table 3 reports the percentage abnormal returns of cross-listed FPIs and associated Brown and Warner (1985) *t*-statistics during the events related to the Supreme Court decision. *US Returns – S&P 500* represents the U.S. abnormal returns of FPIs using the S&P 500 index as the benchmark. *Home Returns – S&P 500* represents the home market abnormal returns of FPIs using S&P 500 index as the benchmark. We use market model adjusted returns to measure abnormal returns with the period from January 2008 to December 2009 as the estimation period. The numbered events in the first column correspond to the events detailed in Table 1. *# of Positives* is the number of FPIs with positive abnormal returns for a set of events. \*\*\*, \*\*, and \* indicate that estimates are significant at the 1%, 5%, and 10% levels, respectively, according to the bootstrapped abnormal returns on the non-event days during the January-August, 2010 period. *N* is the number of observations. The data are from January 2008 through August 2010.

	Date	U.S. Returns – S&P 500			Home Returns – S&P 500		
		Returns	t-stat.	# of Positives	Returns	t-stat.	# of Positives
Event 1	3/26/2010	0.06	0.11		0.07	0.12	
	3/29/2010	0.67 ***	4.37		0.68 ***	4.51	
Event 2	6/23/2010	-0.19	-0.89		-0.23	-1.19	
	6/24/2010	0.02	0.68		-0.03	0.37	
	6/25/2010	0.56 ***	3.07		0.52 ***	2.94	
Sum for Event 1		0.74 ***	3.17	309	0.74 ***	3.27	321
Sum for Event 2		0.39	1.65	296	0.26	1.22	303
Total		1.13 ***	3.78	305	1.00 ***	3.69	316
N		519			542		

**Table 4. Sensitivity Tests for Event Period Abnormal Returns**

Table 4 reports sensitivity tests for the percentage abnormal returns of FPIs and associated *t*-statistics. *U.S. Returns – S&P 500* represents the U.S. abnormal returns of FPIs using the S&P 500 index as the benchmark. *Home Returns – S&P 500* represents the home market abnormal returns of FPIs using S&P 500 index as the benchmark. Unless otherwise stated, we use market model adjusted returns to measure abnormal returns with the period from January 2008 to December 2009 as the estimation period. Panel A presents the results of different subsamples. Panel B presents the results with different return measurement. Panel C presents the results for different event windows. Panel D presents the results with different return benchmarks. \*\*\*, \*\*, and \* indicate that estimates are significant at the 1%, 5%, and 10% levels, respectively, according to the bootstrapped abnormal returns on the non-event days during the January-August, 2010 period. The data are from January 2008 through August 2010.

## Panel A. Different Subsamples

		U.S. Returns – S&P 500		Home Returns – S&P 500	
		(1)		(2)	
		Returns	t-stat.	Returns	t-stat.
1. OTC FPIs	Event 1	0.68***	2.88	0.65***	2.76
	Event 2	0.28	1.37	0.31	1.42
2. Foreign-Incorporated Firms Regarded as Domestic by the SEC's Criteria	Event 1	0.42	1.13	0.38	0.56
	Event 2	0.09	0.33	0.11	0.24
3. Foreign Firms Not Listed or Traded in U.S. Markets	Event 1			0.00	0.00
	Event 2			0.00	0.00
4. Excluding FPIs Incorporated in Tax Havens	Event 1	0.77***	3.06	0.77***	3.15
	Event 2	0.28	1.10	0.54**	2.34
5. Excluding Canadian Listings	Event 1	0.78***	3.39	0.77***	3.41
	Event 2	0.57**	2.45	0.41*	1.95
6. ADRs only	Event 1	0.91***	3.69	0.88***	3.71
	Event 2	0.74***	2.88	0.54**	2.37
7. Direct Listings	Event 1	0.50*	1.87	0.58**	1.96
	Event 2	0.12	0.38	0.07	0.31

Panel B. Different Return Measurements

		U.S. Returns – S&P 500		Home Returns – S&P 500	
		(1)		(2)	
		Returns	t-stat.	Returns	t-stat.
1. Market Adjusted Returns	Event 1	0.63***	3.08	0.63***	3.05
	Event 2	0.59***	2.59	0.51**	2.31
2. Abs (Return) <= 25%	Event 1	0.56***	2.55	0.56***	2.66
	Event 2	0.22	1.31	0.10	0.95
3. Cross-Sectional Variance	Event 1	0.63**	2.29	0.63**	2.33
	Event 2	0.59**	2.03	0.51*	1.96

Panel C. Different Event Windows

		U.S. Returns – S&P 500		Home Returns – S&P 500	
		(1)		(2)	
Event Days		Ret.	t-stat.	Ret.	t-stat.
(-1, +1)	Event 1	0.79***	2.82	0.78***	2.87
	Event 2	0.12	0.67	0.08	0.54
(0, +1)	Event 1	0.72***	3.37	0.71***	3.44
	Event 2	0.32	1.29	0.30	1.31

Panel D. Different Return Benchmarks

		U.S. Returns – S&P 500		Home Returns – S&P 500	
		(1)		(2)	
		Returns	t-stat.	Returns	t-stat.
Russell 1000 Index	Event 1	0.72***	3.09	0.72***	3.19
	Event 2	0.40	1.68	0.27	1.26
Russell 3000 Index	Event 1	0.74***	3.19	0.74***	3.29
	Event 2	0.27	1.15	0.15	0.72
CRSP Value-Weighted Index	Event 1	0.65***	2.78	0.65***	2.88
	Event 2	0.13	0.52	0.01	0.09
MSCI All Country World Index	Event 1	0.43**	2.32	0.45**	2.35
	Event 2	0.12	0.44	0.10	0.41

**Table 5. Cross-Sectional Analysis of Abnormal Returns at Event 1**

Table 5 reports the results of cross-sectional regressions where country- and firm-level variables of cross-listed foreign private issuers (FPIs) are used to explain cross-sectional variation in the abnormal returns of individual FPIs during event 1. Panel A presents the results for which the home market percentage abnormal returns of cross-listed FPIs using S&P 500 index as the benchmark. *Non-U.S. Market Cap* is one minus the ratio of the market value of equity from CRSP, which represents the market value of FPIs in the form of cross-listed shares in the U.S., divided by company market value from Compustat. We also include a few mostly firm level variables as controls. *Capital Expenditure* is capital expenditure as a percentage of total assets. *Current Leverage* is short-term debt as a percentage of total assets. *Fixed Assets Ratio* is property, plant, and equipment as a percentage of total assets. *Sales Growth* is the change in annual revenues. *Tobin's Q* is (market value of equity + total assets - common equity) / total assets. *Log (Total Assets)* is the logarithm of total assets. Panels B and C present the results for which the U.S. and home market percentage abnormal returns of cross-listed FPIs using the S&P 500 index as the benchmark are the dependent variable. *Log (GDP per capita)* is the logarithm of the GDP per capita of the home countries of individual FPIs. Panels B and C include mostly country-level measures of corporate governance and the legal environment. *Disclosure* is an index of securities law disclosure rules and *Private Litigation* is an index of securities litigation rules, both from La Porta et al. (2006). *Anti-Director Rights* is an index of shareholder protection laws, and *Anti-Self-Dealing Rights* is an index of self-dealing regulation, both from Djankov et al. (2008). *Common Law* is a dummy taking 1 for a common law legal origin. *Public Enforcement* is the weighted size of staff of the securities regulation agency from Jackson and Roe (2009). *Rule of Law* is an index of legality from the World Bank Governance Indicators. *Ownership Concentration* is the data item of closely held shares from Worldscope. We estimate a country random-effects model to control for potential cross-sectional correlations among FPIs within each country. \*\*\*, \*\*, and \* indicate that *t*-statistics are significant at the 1%, 5%, and 10% levels, respectively, according to bootstrapping. *N* is the number of observations. The data are from January 2008 through August 2010.

Panel A. Importance of *Non-U.S. Market Cap*

	U.S. Returns – S&P 500		Home Returns – S&P 500	
	1	2 4	3	
Non-U.S. Market Cap	1.66 *** (5.06)	1.55 *** (3.51)	1.57 *** (4.90)	1.49 *** (3.45)
Sales Growth		0.61 ** (2.12)		0.61 ** (2.10)
Capital Expenditure		6.11 ** (2.20)		5.09 * (1.92)
Leverage		4.28 *** (2.78)		4.02 *** (2.65)
Fixed Assets Ratio		0.74 (1.21)		0.82 (1.37)
Tobin's Q		-0.14 (-0.90)		-0.10 (-0.83)
Log (Total Assets)		0.09 (1.22)		0.07 (1.04)
Log (GDP per capita)		0.18 (1.24)		0.22 (1.58)
Intercept	-0.18 * (-0.85)	-3.55 ** (-2.29)	0.16 (-0.76)	-3.86 *** (-2.57)
N	474	364	457	349
Adjusted R-Squared	0.05	0.15	0.05	0.13

Panel B. Controlling for Legal Environment, US Results

	1	2	3	4	5	6	7	8
Non-U.S. Market Cap	1.57 *** (2.98)	1.58 *** (2.82)	1.60 *** (3.38)	1.61 *** (3.37)	1.60 *** (3.10)	2.30 *** (2.98)	1.52 *** (3.40)	1.84 *** (3.76)
Disclosure	-0.03 (-0.36)							
Private Litigation		-0.12 (-0.16)						
Anti-Director Rights			-0.12 (-0.70)					
Anti-Self-Dealing Rights				-0.59 (-0.82)				
Common Law					0.06 (0.14)			
Public Enforcement						0.01 (0.61)		
Rule of Law							-0.19 (-0.73)	
Ownership Concentration								0.01 (0.59)
Sales Growth	0.56 * (1.88)	0.56 * (1.88)	0.59 ** (2.01)	0.60 ** (2.04)	0.61 ** (2.12)	0.59 * (1.95)	0.62 ** (2.15)	0.65 ** (2.15)
Capital Expenditure	7.51 ** (2.18)	7.42 ** (2.20)	7.49 ** (2.28)	7.57 *** (2.33)	6.11 ** (2.21)	6.84 * (1.73)	6.20 ** (2.23)	6.36 * (1.70)
Leverage	3.65 * (1.82)	3.70 * (1.84)	4.62 *** (2.50)	4.86 *** (2.79)	4.31 *** (2.81)	4.13 * (1.80)	4.19 *** (2.74)	3.41 * (1.75)
Fixed Assets Ratio	0.59 (0.79)	0.59 (0.77)	0.57 (0.82)	0.63 (0.88)	0.74 (1.18)	0.60 (0.63)	0.72 (1.17)	0.59 (0.71)
Tobin's Q	-0.07 (-0.51)	-0.07 (-0.55)	-0.12 (-0.78)	-0.13 (-0.80)	-0.14 (-0.91)	-0.05 (-0.16)	-0.12 (-0.76)	-0.14 (-0.83)
Log (Total Assets)	0.07 (0.93)	0.07 (0.94)	0.08 (1.02)	0.07 (0.95)	0.09 (1.22)	0.04 (0.46)	0.10 (1.32)	0.12 (1.30)
Log (GDP per capita)	0.47 *** (2.49)	0.46 *** (2.33)	0.29 (1.61)	0.29 (1.63)	0.18 (1.23)	0.49 * (1.94)	0.29 (1.48)	0.19 (1.06)
Intercept	-6.20 *** (-3.11)	-6.30 *** (-3.29)	-4.18 ** (-2.09)	-4.32 ** (-2.29)	-3.59 ** (-2.23)	-6.91 *** (-2.91)	-4.47 *** (-2.46)	-4.02 ** (-2.09)
N	300	300	322	322	331	216	349	263
Adjusted R-Squared	0.14	0.14	0.15	0.15	0.14	0.16	0.14	0.15

Panel C. Controlling for Legal Environment, Home Country Results

	1	2	3	4	5	6	7	8
Non-U.S. Market Cap	1.47 *** (2.83)	1.51 *** (2.70)	1.56 *** (3.35)	1.58 *** (3.36)	1.54 *** (3.07)	2.31 *** (3.02)	1.48 *** (3.35)	1.75 *** (3.68)
Disclosure	-0.05 (-0.59)							
Private Litigation		-0.09 (-0.13)						
Anti-Director Rights			-0.13 (-0.79)					
Anti-Self-Dealing Rights				-0.50 (-0.73)				
Common Law					0.08 (0.21)			
Public Enforcement						0.01 (0.63)		
Rule of Law							-0.10 (-0.39)	
Ownership Concentration								0.01 (0.79)
Sales Growth	0.57 * (1.90)	0.56 * (1.88)	0.59 * (1.98)	0.60 ** (2.01)	0.61 ** (2.10)	0.58 * (1.91)	0.61 ** (2.12)	0.65 ** (2.11)
Capital Expenditure	6.71 ** (2.07)	6.52 ** (2.05)	5.99 * (1.92)	6.05 * (1.96)	5.08 * (1.93)	6.10 (1.61)	5.14 * (1.94)	4.74 (1.34)
Leverage	3.10 (1.58)	3.20 (1.63)	4.08 ** (2.24)	4.37 *** (2.53)	4.08 *** (2.69)	3.25 (1.44)	3.98 *** (2.64)	3.15 (1.62)
Fixed Assets Ratio	0.62 (0.86)	0.62 (0.83)	0.71 (1.05)	0.77 (1.10)	0.82 (1.34)	0.65 (0.70)	0.81 (1.35)	0.71 (0.88)
Tobin's Q	-0.05 (-0.46)	-0.06 (-0.55)	-0.08 (-0.67)	-0.08 (-0.70)	-0.10 (-0.86)	-0.11 (-0.38)	-0.09 (-0.75)	-0.08 (-0.71)
Log (Total Assets)	0.07 (0.87)	0.06 (0.87)	0.06 (0.85)	0.06 (0.78)	0.08 (1.04)	0.04 (0.47)	0.08 (1.10)	0.10 (1.15)
Log (GDP per capita)	0.48 *** (2.58)	0.47 *** (2.35)	0.32 * (1.86)	0.33 * (1.89)	0.22 (1.57)	0.48 * (1.88)	0.28 (1.46)	0.26 (1.49)
Intercept	-6.07 ** (-3.15)	-6.22 *** (-3.32)	-4.37 ** (-2.24)	-4.64 *** (-2.54)	-3.91 *** (-2.52)	-6.61 *** (-2.77)	-4.34 *** (-2.42)	-4.59 *** (-2.43)
N	315	315	337	337	345	224	364	275
Adjusted R-Squared	0.13	0.12	0.13	0.13	0.13	0.15	0.13	0.13

## Appendix 1. Data Sources on U.S. Cross-Listed FPIs

The database contains foreign companies with cross listings on U.S. stock exchanges, including OTC markets. Companies were identified to be foreign and listed on a U.S. exchange using all of the sources below. The primary sources, however, were the websites of the SEC and various exchanges, COMPUSTAT North America, the CRSP Monthly Stock File, the CUSIP Master File, and the depository services directories of BONY Mellen, JP Morgan Chase, and Citigroup. Information on which exchanges the firms list on, and whether they have a listing in their home country, was also verified using Capital IQ's screening tools. In addition to those principal sources, the other sources consulted included:

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