Cross-country Evidence of the Impact of ADRs
and Institutions on Stock Price Behavior

Hermann Tribukait-Vasconcelos[*]

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Abstract

This paper studies the stock price reaction to earnings announcements of 338 firms from 40 countries, before and after issuing exchange-listed American Depositary Receipts (ADRs). In the pre-ADR period, prices experience a significant pre-announcement drift in the same direction as the corresponding earnings surprise. However, this price drift disappears once firms issue ADRs. The reduction in earnings news anticipation is significant controlling for firm and country characteristics and is greater in firms from countries with weaker investor protection. These results show that ADRs affect price behavior in a way consistent with increased investor protection and a reduction in insider trading.

EFM classification codes: 630, 150, 230, 350, 540

The institutional and informational environments in financial markets vary significantly around the world. Given the important differences that exist in securities laws and law enforcement across countries, international cross-listings can help analyzing the potential impact of stricter rules and more effective enforcement mechanisms on firm and price behavior. This paper studies the effect of exchange-listed American Depositary Receipts (ADRs) on stock price reaction around earnings news and focuses on the pre-announcement period to analyze potential leakages or news anticipation in prices ahead of earnings news. ADRs are securities issued by foreign firms on U.S. exchanges that clear and settle according to U.S. rules and standards.[1] Firms that issue these instruments commit to comply with the strict Securities and Exchange Commission's (SEC) disclosure and listing requirements and become subject to the United States' financial regulation and market practices.

The main hypothesis to test is that ADRs reduce the amount of private information that is incorporated into prices prior to earnings announcements. In countries with weak investor protection and inefficient enforcement mechanisms self-dealings are more prevalent, including sharing material private information and trading based on it. The latter would result in a significant price drift ahead of news releases in the same direction as the earnings surprise, followed by a weaker price reaction on the public announcement date. Therefore, if ADR listings enhance investor protection, we would observe a significant reduction of the documented news anticipation after firms issue ADRs.[2] Moreover, the reduction in information leakage should be larger in firms from countries with poor investor protection.

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[1] There are three levels of ADRs, Level I ADRs trade in the over the counter market (OTC), while exchange-listed ADRs (Level II and Level III) list and trade on one of the three national exchanges (NYSE, NASDAQ or AMEX). Exchange-listed ADRs, as opposed to ADRs Level I and private placements under Rule 144A, require full registration with SEC and compliance with U.S.'s financial regulation, as well as with listing requirements set by the particular exchange where they choose to cross list. Throughout this study, ADRs refers exclusively to exchange-listed ADRs. See Miller (1999) for a detailed description of these instruments.

[2] For example, Bhattacharya et al. (2000) find no significant abnormal reaction of prices and volume to corporate announcements of Mexican companies and conclude that stock prices in the Mexican Stock

The law and finance literature emphasizes the importance of protecting minority shareholders against expropriation by insiders. La Porta et al. (LLSV 1997, 1998) and others find that countries with weak investor protection have less developed financial markets. More recently, La Porta, López-de-Silanes and Shleifer (LLS 2002) find additional evidence of the effects of laws and institutions on financial markets development.[3] Their results indicate that securities law may have a stronger impact on financial markets than corporate law. The general idea is that legal rights attributed to minority shareholders constrain the ability of controlling shareholders to extract resources at the expense of investors.

Effective legal action depends in part on accurate and transparent disclosure. The bonding hypothesis (Coffee 1999 and Stulz 1999) claims that ADRs improve investor protection, reduce agency costs and limit expropriation risks, because foreign firms that cross-list on U.S. exchanges submit themselves to relatively stricter financial regulation and enforcement mechanisms and commit to extract less private benefits of control.[4] ADR-firms have to increase disclosure; they face stricter liability rules and more effective enforcement along with strong market incentives to follow the rules and built good reputation. Enhanced disclosure should be negatively correlated with the size of private benefits of control, because it increases expected legal and reputation costs of minority shareholders expropriation. Overall, increased disclosure and transparency facilitate discovery and prosecution of illegal activities and help limiting shareholders expropriation.

Exchange fully anticipate corporate events due to widespread insider trading. Nevertheless, Tribukait (2003) shows that based on a representative sample of Mexican firms Bhattacharya et al. conjecture applies only to Mexican firms that are not cross-listed on U.S. exchanges.

[3] Acemoglu et. al (2001) use mortality rates faced by European colonialists to estimate the effect of institutions on economic performance. They find significant effects of institutions on per capita income across countries and conclude that institutional differences are a major factor to explain current wealth differences across former colonies.

[4] Leuz et. al (2001) suggest that there is a strong negative correlation between the extent of earnings management and the level of legal protection, because investor protection reduces asset diversion and rent seeking activities by insiders. Nevertheless, Siegel (2002) claims that U.S. enforcement authorities are not effective against foreign firms that issue ADRs in the U.S. The author finds that there are only a few cases of legal action by the SEC against US-listed foreign firms that expropriated minority shareholders, but he does not take into account civil law suits and bases his main conclusions on very small sample of firms.

There is growing evidence that ADRs improve investor protection. The contribution of this paper is to show that ADRs reduce information leakages ahead of important corporate announcements and that this reduction is larger in firms incorporated in countries with weak investor protection.

The impact of exchange-listed ADRs on price patterns involves several factors and complex relationships. For example, Bailey et al. (2002) assume that after listing ADRs the quality of the prior private information increases and the cost of information acquisition decreases.[5] Therefore, and contrary to their findings, the authors expect less residual uncertainty and a weaker price reaction to earnings news in the period after cross-listings. However, there are limits on the amount and quality of prior private information available to market participants due to the fact that in many countries it is illegal to trade shares based on material private information.[6] The latter is especially true in countries with strict law enforcement. In addition, assuming that insider trading is prevalent in countries with weaker investor protection and lax enforcement mechanisms, stock prices in these countries should incorporate private information prior to relevant news announcements. If so, this would explain why Bailey et. al (2002) actually find a stronger reaction on announcement dates after firms issue ADRs, consistent with my results.

The literature on ADRs documents significant benefits from listing these securities and provide evidence that supports the bonding hypothesis. ADRs are associated with better access to deeper and more developed financial markets (Reese and Weisbach, 2002), increased liquidity and lower costs of capital, as well as higher valuation multiples (Doidge et al. 2001).[7] Dyck and Zingales (2002) measure the country-specific value of private benefits of control and find that cross-listed

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[5] Price reactions to corporate announcements depend on the information content of the news, the quality of the prior information, the cost of information acquisition and the dispersion in investors' opinions or the degree of private information asymmetry (Kim and Verecchia, 1991).

[6] Insider trading is illegal in most countries. See Bris (2000).

[7] See Karolyi (1998) for a review of the earlier studies on ADRs.

firms have lower private benefits.[8] Furthermore, they show that the reduction in private benefits associated with cross-listings is greater for firms from countries that have weaker investor protections, which provides direct support for the bonding hypothesis and the negative relationship between ADRs and shareholders expropriation.

Based on a sample of 1,716 earnings announcements of 338 firms from 40 countries, cross-listed on U.S. exchanges during the period 1990-2001, I conduct an event study to examine asymmetries in stock price reaction to earnings news ahead of public announcements, before and after firms issue exchange-listed ADRs. Specifically, I test the hypothesis that prior to ADR listings stock prices experience a significant drift ahead of earnings announcements in the same direction as the corresponding earnings surprise. If this drift is related to insider trading, and if ADRs effectively enhance investor protection, the pre-announcement drift should be significantly reduced following ADR listings. Moreover, the reduction in price drift should be stronger in firms incorporated in countries with poor investor protection and law enforcement. Finally, on announcement dates, all else equal, prices should react stronger to earnings news following ADR listings, consistent with a reduction in private information leaking into prices ahead of important corporate news.

The cross-country empirical evidence supports the hypotheses presented above. First, I find positive (negative) and statistically significant cumulative abnormal returns ahead of good (bad) earnings announcements in the period before ADR listings. Most importantly, these patterns are not present in the period after ADR listings. For example, in the pre-announcement window [-30,-2], i.e. from –30 days through –2 days relative to the announcement date ("day 0"), the aggregate cumulative abnormal returns, ACARs[-30,-2], before ADR listings are on average 2.8% and significant at the 2 percent level, compared to an insignificant –0.4% after ADR listings.[9] The

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[8] Traditional examples of private benefits of control are the perks and self-dealings of firm executives (Jensen and Meckling, 1976).
[9] To aggregate cumulative abnormal returns I multiply by –1 abnormal returns of bad news events and exclude no-news events.

difference in pre-announcement price drift before and after ADR listings is statistically significant even after controlling for firm and country characteristics, as well as for the magnitude of the corresponding earnings surprise and earnings per share reported.[10]

Second, I examine the impact of institutional differences and investor protection on the amount of information incorporated into prices ahead of earnings announcements. The asymmetries documented in the pre-announcement price responses to earnings news hold controlling for measures of investor protection and securities laws.[11] For example, controlling for legal origin ACARs[-30,-2] are on average 2.4% higher and significant in the period before an ADR listing relative to ACARs[-30,-2] after the listing. Furthermore, the reduction in ACARs[-30,-2] following an ADR listing is larger in firms from countries with weaker investor protection. Controlling for firm characteristics, the results support the hypothesis that the reduction in information leakage is larger in firms incorporated in French civil law countries and, alternatively, in non-U.K. firms versus U.K. firms. Similarly, firms from countries with weak insider trading laws and inferior corporate governance experience a significantly stronger reduction in the pre-announcement price drift ahead of earnings announcements. Results hold using "extra legal institutions" as alternative measures of the quality of institutions and level of investor expropriation, such as corporate tax enforcement (tax compliance) and public opinion pressure (newspaper circulation) suggested by Dyck and Zingales (2002), as well as the mortality rates in former colonies (Acemoglu et. al 2001).

Finally, I analyze price reaction on announcement dates and find some evidence that stock prices react stronger to earnings news on announcement dates after ADR listings, consistent with

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[10] Results hold for median ACARs and for three alternative normal return models used to estimate abnormal returns: the market model, the Scholes-Wiliams market model and a constant mean return model. There is no evidence of significant asymmetries in price reaction depending on the sign of the news.
[11] Measures of investor protection include the legal origin of commercial laws of the countries' of incorporation (LLSV 1997, 1998), as well as the indices of anti-directors rights, insider trading laws and securities laws constructed by LLSV (1998), Beny (1999) and LLS (2002), respectively. Alternatively, I use firms incorporated in the United Kingdom as a benchmark. The latter based on the idea that the institutional environment and investor protection in the U.K. are similar than in the United States.

Bailey et al (2002). Aggregate CARs during the announcement window [-1,1] are 0.8 percentage points higher after firms issue ADRs.

Overall, my results show that ADRs affect price behavior prior to important corporate announcements and provide further evidence that exchange-listed ADRs serve as instruments to enhance investor protection. In the period before an ADR listing, I find significant evidence of information leakage ahead of earnings news. However, in the period following ADR listings stock prices do not systematically anticipate earnings surprises. I conclude that the increased disclosure requirements and more effective enforcement mechanisms that firms face following ADR listings, both through formal enforcement mechanisms (i.e. private plaintiffs in courts and a strong public enforcer), as well as through informal (market based) enforcement mechanisms reduce illegal information sharing and trading ahead of corporate announcements and protect uninformed investors. This paper complements the literature on ADRs and contributes to the law and finance by providing additional evidence on the effects of institutions on financial markets and the link between international cross-listings and institutional differences across countries.

The remainder of the paper is organized as follows. Next section analyzes the relationship between institutions, ADRs and price behavior. Section III describes the data and methodology. Section IV presents the empirical findings and regression analysis and section V concludes.

III. Data and Methodology

To compile the sample of foreign firms cross-listed on U.S. exchanges I first identify all exchange-listed ADRs and collect annual earnings report dates and annual earnings per share (EPS) available from I/B/E/S international database during the period 1990-2001.[12] In addition, I collect daily stock price information available from Datastream and from the Center for Research in Securities Prices (CRSP) of the University of Chicago.

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[12] As of December 2002, 561 ADRs were listed on one of the three national U.S. exchanges (JP Morgan and Bank of New York ADR databases).

Table I summarizes the number of firms and observations in the sample sorted by country. The sample consists of 1,716 firm-year observations of 338 firms from 40 different countries, which together represent 60% of all exchange-listed ADRs. The United Kingdom is the country with most firms (64) in the sample, followed by Japan (25), France (25) and Mexico (24).[13]

[INSERT TABLE I]

Next, I sort all observations into three news categories based on the corresponding earnings surprise, given by the actual return over the 3-day window surrounding the announcement, i.e. from day –1 through day +1 relative to the announcement date ("day 0").[14] I classify observations as good news (bad news) events if the earnings surprise is higher (lower) than 0.5% (-0.5%). All observations with an absolute surprise of less than or equal to 0.5% belong to the no-news events category. Table II contains variable definitions and sources.

[INSERT TABLE II]

Table III shows the number of observations by news type, as well as summary statistics of the magnitude of market surprises and earnings per share (EPS). In the period "Before ADR listing" the sample includes 111 good news events, 44 no-news events and 105 bad news events. The period after ADR listings contains 662, 175 and 619 good news, no- news and bad news events, respectively. The differences before and after issuing ADRs in terms of the earnings per share and the magnitude of market surprises are not significant, except for the case of positive earnings surprises, where the average surprise is 3.91% before ADR listings versus 5.26% afterwards. Good news event firms report on average EPS of $1.15. In the case of negative news events, EPS increases from $1.04 before ADR listings to $1.20 after the listings, while the market surprise is on average –4.10% (-3.90% before and –4.13% after).

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[13] It is common that firms decide to cross-list on U.S. exchanges at the time of the initial public offering (IPO), which in part explains why the sample contains less observations (260) that correspond to foreign firms before the ADR listing than to the period after the cross listing (1,456).

[14] Using a 3-day event window is standard practice in the literature and it is intended to account for the fact that some firms release their earnings reports when the market is closed. Using alternative thresholds to define the news category does not qualitatively alter the results.

[INSERT TABLE III]

In order to examine abnormal price behavior around earnings announcements I estimate daily abnormal returns. For this purpose, I follow standard event study methodology and consider three alternative normal returns models: the market model, the Scholes-Williams market model and a constant mean return model.[15] I use returns on the value weighted CRSP market index as a measure of market returns. First, I define an event window of 121 days around the event day, i.e. 60 days before and 60 days after the corresponding announcement date. Next, I estimate the parameters for each of the three normal return models over the estimation period of 255 days through 61 days prior to the announcement. Abnormal returns (AR) are the residual returns or excess returns during the event window and the cumulative abnormal returns (CARs) are the measure of the market's reaction to earnings announcements. I define the report date as event day "0" and accumulate abnormal returns from day –1 through day +1 to get CARs[-1,1]. Finally, in order to analyze abnormal price behavior around all relevant events in the pre-announcement period [-60,-2], I calculate aggregate cumulative abnormal returns (ACARs) by multiplying abnormal returns of bad news events by –1 and exclude no-news event observations.

IV. Results

This section presents empirical evidence that shows significant asymmetries in price reaction to earnings news in the pre-ADR period relative to the post-ADR period. First, I show graphical evidence of the differential price behavior before and after firms issue ADRs, followed by cross-sectional regressions of cumulative abnormal returns on the dummy variable "Before U.S. listing" and various controls of firm and country characteristics.[16] The variable of interest "Before U.S.

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[15] Scholes-Williams (1997) propose slope parameters to account for thin trading. Constant mean adjusted returns are computed by subtracting the arithmetic mean return of the common stock of the jth firm computed over the estimation period, Rj , from its return on day t:
$Ajt = Rjt - Rj$.

[16] Pagano et al. (2001) find that European firms that cross-list in the U.S. tend to be large high-tech and export-oriented firms.

listing" takes the value one if the observation corresponds to the pre-ADR period, and zero if the observation corresponds to the period after issuing ADRs. The coefficient of this variable represents the difference in aggregate cumulative abnormal returns (ACARs) between the two sample periods, before and after the ADR listing; a positive (negative) coefficient indicates a stronger (weaker) price response –or earnings news anticipation- in the period before ADR listings relative to the post-ADR period.

Graphs 1 and 2 show plots of cumulative abnormal returns (CARs) during the 121-day event window [-60,60] before and after ADR listings, respectively.[17] Firm observations are sorted by earnings surprises in three groups or news categories, good news, bad news and no-news events. Consistent with the existing literature on the information content of earnings, these graphs show that earnings announcements have a significant impact on firm value. In both samples, before and after ADR listings, prices react strongly to earnings news on announcement dates. But the more interesting results are the asymmetries observed during the pre-announcement period [-60,-2]; Graph 1 indicates that during the pre-ADR period prices experience a strong positive pre-announcement drift ahead of good news, starting well ahead of the actual public announcement date. Similarly, in the case of bad news, prices begin to anticipate the news about 30 trading days prior to its public release. These patterns suggest that stock prices start incorporating or predicting earnings surprises more than a month ahead of its public releases. In sharp contrast, graph 2 shows that after ADR listings prices do not experience similar pre-announcement drifts. In the post-ADR period, cumulative abnormal returns for the three news categories are stable and close to zero prior to earnings releases, as we would expect in the absence of relevant news and widespread information leakages. In the case of no-news events, average CARs are close to zero in both periods, before and after ADR listings, as we would expect. Finally, graphs 1 and 2 do not

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[17] Abnormal returns shown are based on the market model. I do not account for confounding contemporaneous events and assume that on average they cancel out. In addition, I winsorize abnormal returns at the 1 percent and at 99 percent. Results and conclusions hold for alternative methods to estimate abnormal returns including the market model adjusted for thin trading (Scholes-Williams) and the constant mean return model.

suggest any systematic patterns or differences during the post-announcement period, before or after ADR listings.

   [INSERT GRAPHS 1 AND 2]

   Based on these preliminary results and given that the focus of this study are the asymmetries in price behavior ahead of earnings announcements, the analysis below centers on the pre-announcement period as follows. As a first step, I break up the period [-60,-1] in three event windows, [-60,-31], [-30,-2] and [-1,1] and analyze the statistical significance of mean and median aggregate cumulative abnormal returns in table IV and table V. Next, I focus on the two windows of interest, the announcement window [-1,1] and the pre-announcement window [-30,-2] and examine if there are systematic differences in price reaction to news depending on the sign, i.e. good news versus bad news (tables VI and VII) and include various controls for firm and country characteristics. Finally, tables VIII through XI focus exclusively in the pre-announcement window [-30,-2]; table VIII includes control for the actual earnings surprise and earnings per share reported (EPS) and tables IX through XI explore the relationship between institutional differences across countries and the observed reduction in information leakages.

   Table IV and Table V report average and median aggregate cumulative abnormal returns (ACARs) in the three event windows for the two sample periods before and after ADR listings based on the market model (Panel A), as well as on the Constant Mean Return Model (Panel B).[18] Column III in each table tests the statistical significance of the difference between ACARs before and after ADR listings. For example, during the announcement window [-1,1], ACARs[-1,1] are on average 3.9% before ADR listings compared to 4.7% after ADR listings, both are statistically significant at the 1 percent level. The difference of 0.8 percentage points is also statistically

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[18] Results hold using the market model corrected for thin trading (Scholes and Williams 1997).

significant. However, further analysis below shows that this difference on announcement dates is not robust to additional controls.[19]

As mentioned before, the more interesting results are the asymmetries observed in the pre-announcement period [-30,-2]. Results in table 4 show significantly higher ACARs[-30,-2] in the pre-ADR period compared to ACARs[-30,-2] in the post-ADR period, regardless of the normal return model used to estimate abnormal returns. On average, ACARs[-30,-2] before ADR listings are 2.82 % and statistically significant at the 1% level, compared to only –0.40% after ADR listings that are not statistically different from zero. The reduction of 3.22 percentage points in ACARs[-30,-2] following ADR listings is significant at the 2 percent level.

[INSERT TABLE IV]

In addition, Table V shows that these same patterns and conclusions hold for median ACARs and for both estimation models, the market model (Panel A) and the constant mean return model (Panel B). For example, median ACARs[-30,-2] based on the market model are 1.3% in the pre-ADR period and significant at the 10 percent level, compared to –0.7% after ADR listings that are statistically insignificant. Furthermore, the estimated reduction in median ACARs[-30,-2] of 2 percentage points after ADR listings is significant at the 9 percent level.

[INSERT TABLE V]

These results support the hypothesis that stock prices of anticipate earnings news during the pre-ADR period and this trend disappears after ADR listings. The regression analysis below provides additional support to this conclusion.

To further analyze the asymmetries in price behavior before and after ADR listings documented above, I run cross-sectional regressions of aggregate CARs$[t_1,t_2]$ on the dummy variable "Before U.S. listing" and a set of control variables. Table VI and table VII test for asymmetric

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[19] The ex-post measure of earnings surprises generates by construction a positive correlation between the earnings surprise measure and abnormal returns on announcement dates, which accounts in part for the strong abnormal returns documented on the announcement window [-1,1]. However, this definition of surprise should not generate any systematic differences in the cross-section and it should not have any systematic effect during the period of interest, which is the pre-announcement window [-60,-2].

price reaction depending on the sign of earnings surprises that is, good news events relative to bad news events, during the event windows [-1,1] and [-30,-2], respectively. The dummy variable "Good News" equals 1 for good news events and zero for bad news events.[20] Each table contains two panels, Panel A tests the full sample of all firm-year observations, while Panel B controls for firm characteristics by including only those firms in the sample with observations before and after ADR listings. Models II and IV in both tables control for country effects. Results show no evidence of significant differences in price behavior of good news compared to bad news events, either during the announcement window or during the pre-announcement period. Table VI also shows that the stronger price reaction during the announcement window [-1;1] following ADR listings is not robust to controls for firm characteristics, the coefficient on the variable "Before U.S. listing" is statistically significant only in the first two model specifications of Panel A. In contrast, table VII confirms that the asymmetries in price behavior documented in the pre-announcement window [-30,-2] before and after ADR listings hold controlling for country and firm characteristics. All coefficients on the variable "Before U.S. listing" are positive and strongly significant in all model specifications in both panels.

[INSERT TABLE VI]

[INSERT TABLE VII]

Table VIII adds controls for the magnitude of earnings surprises and earnings per share reported. The strong asymmetry in ACARs[-30,-2] documented before and after U.S. listings holds controlling for earnings per share and earnings surprises, as well as for country and firm characteristics. Additional robustness tests include controls fo time effects. All previous conclusions hold controlling for time effects. [21]

[INSERT TABLE VIII]

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[20] Regressions do not include no-news events, as these observations are excluded when calculating ACARs.
[21] As additional robustness tests to analyze if the results are due to time effects and not a cause of U.S. listings per se, I include year dummy variables in all regression models from table 8. All previous conclusions hold controlling for time effects. These results are not reported in the table.

Next, I examine the relationship between the asymmetric price behavior documented ahead of earnings news and the differences in institutions and investor protection across countries. According to the hypotheses presented, we would expect to observe a stronger reduction in news anticipation following ADR listings of firms incorporated in countries with poor disclosure requirements and enforcement mechanisms. In the seminal paper by LLSV (1998), the authors emphasize the role of laws to protect minority shareholders against expropriation. The authors classify countries into four categories or legal families: English common law, French civil law, German civil law and Scandinavian civil law and show that investor protection is highest in common law countries and lowest in French civil law countries.[22] Regression models in tables IX and X include dummy variables for legal origin and a set of additional control variables associated with differences in investor protection and securities laws, as well as the interaction terms between these measures and the dummy variable "Before U.S. listing".[23] The interaction terms are designed to test the claim that the reduction in information leakage following ADR listings is larger in firms from countries with weak investor protection. Table IX analyzes ACARs[-30,-2] by legal origin of a country's commercial laws in panel A. Alternatively, panel B compares ACARs[-30,-2] of firms from the United Kingdom relative to non-U.K. firms. The dummy variable "Non-U.K." equals one if the firm is not incorporated in the United Kingdom and zero otherwise. Table X includes measures of securities laws, such as the insider trading law index constructed by Beny (1999), the public and private enforcement indices and the burden of proof index presented by LLS (2002), as well as a measure of general quality of institutions given by the level of economic development (log GDP per capita) and all the corresponding interaction terms with "Before U.S. listing". LLS (2002) find that securities laws provide better investor protection in common law countries compared to civil law countries, as indicated by the

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[22] In addition a few observations in the sample correspond to firms from countries classified as "Other" legal family. These countries are Russia, China and Hungary.

[23] Models I.1 – III.1 in Panel A and Panel B of table IX present separate regression results controlling for firm characteristics by including only firms with observations in both periods, before and after the cross-listing.

significantly higher scores in the public and private enforcement indices of common law countries.

Results in table IX show that the asymmetries in price behavior hold controlling for legal origin (model I). ACARs[-30,-2] holding legal origin constant are on average 2.4% higher in the pre-ADR period relative to the post-ADR period.[24] Most interestingly, model V indicates that controlling for firm characteristics, ACARs[-30,-2] of firms incorporated in French legal origin countries are 5.8 percentage points higher prior to ADR-listings relative to the post-ADR listing period and this difference is significant at 4 percent level. Furthermore, model VI shows that the 5.7 percentage points difference in the reduction in ACARs[-30,-2] following ADR listings of firms from French legal origin countries compared to the corresponding change in ACARs[-30,-2] of firms incorporated in English common law countries is significant at the 10 percent level.[25]

Du and Wei (2002) argue that the market integrity in the United Kingdom is similar like in the United States. For this reason, firms from the U.K. may be a natural benchmark for this study. To analyze differences in the reduction of earnings news anticipation following ADR listings of U.K. and non-U.K. firms, Panel B in table IX includes dummy variables for U.K. and non-U.K. firms. The results are consistent with those in Panel A; the asymmetries in ACARs[-30,-2] hold controlling for UK and non-U.K. firm characteristics (model I). Model II shows that ACARs[-30,-2] of firms from non-U.K. countries are on average 3 percentage points higher and significant in the period before relative to after the ADR listing, compare to 1.9 percentage points in the case of U.K. firms that are not statistically significant. Models IV-VI add controls for firm characteristics. Based on the sample of firms with observations in both periods, ACARs[-30,-2]

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[24] Similarly, ACARs[-30,-2] before the ADR listing are 4.5, 4.2 and 15.0 percentage points higher compared to the period after the cross-listing , in the case of firms from German, Scandinavian and "Other" legal origin countries respectively. However, only the latter change is statistically significant. Model II shows that ACARs[-30,-2] of firms from the French civil law countries are 2 percentage points higher in the pre-ADR period than after ADR-listings, while in firms from English legal origin countries this difference is 2.3 percentage points. But these changes are not statistically significant in either case.

[25] Consistent with previous studies that find highest private benefits of control in communist countries, I find that firms from communist countries labeled as "Other" experience the highest earnings news anticipation in prices. However, this result is based in few observations and should be taken with caution.

of non-U.K firms before ADR listings are 5.0 percentage points higher than after the listing and this difference is significant at the 2 percent level (model V). In contrast, ACARs[-30,-2] in the case of U.K. firms are not statistically different before or after ADR-listings (model IV). Furthermore, model VI indicates that the difference of 6.8 percentage points in the reduction in ACARs[-30,-2] of non-U.K. firms following ADR listings compared to the corresponding change in ACARs[-30,-2] of U.K. firms is statistically significant at the 6 percent level.

   [INSERT TABLE IX]

   Consistent with the previous results and hypotheses, all models in table X show a negative relationship between the reduction in pre-announcement price drift and better investor protection. The negative coefficients on all interaction terms between the various securities indices and the "Before U.S. listing" dummy variable indicate that the reduction documented in ACARs[-30-2] following an ADR listing is higher in firms incorporated in countries with weak institutions and poor investor protection. Controlling for firm characteristics, stricter insider trading laws and lower costs to the plaintiffs to establish liability -measured by a higher score of the burden of proof index- appear to be especially effective in reducing the pre-announcement price drift, as indicated by model specifications II and VIII. Finally, the negative coefficient on the interaction term between the dummy variable "Before U.S. listing" and the level of economic development in model X also corroborates the hypothesis that the reduction in pre-announcement price drift is inversely related to higher quality institutions and investor protection.

   [INSERT TABLE X]

   To conclude, table XI analyzes the relationship between the change in pre-announcement price drift after ADR listings and corporate governance, quality of institutions and moral norms. Model II includes the difference between anti-director rights index (LLSV, 1998) in the firms' home countries relative to the anti-director rights index in the U.S. as a measure of corporate governance and add the interaction term with "Before U.S. listing". The latter test is similar to Dyck and Zingales (2002), who provide direct support for the bonding hypothesis by showing

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that the reduction in private benefits of control associated with ADR listings is higher for firms incorporated in countries with weaker investor protection. Consistent with their results, I find that the reduction in earnings surprise anticipation following ADR listings is significantly higher in firms from countries with inferior corporate governance. The coefficient of the interaction term between the relative strength of anti-director rights and the dummy variable "Before U.S. listing" is −3.6 percentage points and significant at the 5 percent level.

The fact that in table X the dummy variable "Before U.S. listing" is still positive and significant controlling for the various indices of securities laws and the level of GDP per capita indicates that issuing exchange-listed ADRs has implications that go beyond improving disclosure and enforcement as reflected in written laws. ADR listings also create incentives for firms and managers to reduce expropriation of minority shareholders through the repeated interaction with market participants and the resulting reputation concerns. Reputation can be a powerful disciplinary force and being exposed in the press might be an effective mechanism to curb investor expropriation, especially if the media coverage is widespread. Controlling shareholders may reduce asset diversion and their private benefits of control due to reputation damage associated with the risk of being exposed by the press. Similarly, effective tax enforcement can be associated with lower minority shareholders expropriation, given that controlling shareholders find it harder to hide related party transactions and other forms of "tunneling" and the tax authorities try to prevent revenue diversions.[26] In sum, both increased media coverage and tax enforcement increase expected legal and reputation costs from self-dealings. Consistent with these ideas, I test if the reduction in information leakages ahead of earnings surprises following ADR listings is higher in firms from countries with lower diffusion of the press, measured by the newspaper circulation relative to total population, and from countries with low tax compliance. Column IV in table XI shows that higher tax compliance is negatively related to the change in

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[26] Dyck and Zingales (2002) explain that tax authorities should be especially concerned about revenue diversions aimed at reducing taxable income, regardless if the firm in question is domestic or foreign.

ACARs[-30,-2] after ADR listing, which suggests significantly stronger reductions in countries with lower tax compliance following ADR listings. Similarly, firms from countries with a higher diffusion of the press experience a higher reduction in ACARs[-30,-2], but this effect is not statistically significant.

Additional tests follow Acemoglu et. al (2001), who use mortality rates faced by European colonialists to estimate the effect of institutions on economic performance. The underlying argument is that in places where Europeans could not settle -due to high mortality rates- they were more likely to set up extractive institutions, which to some extent define the present institutions. They find significant effects of institutions on per capita income across countries and conclude that institutional differences are a major factor to explain current wealth differences across former colonies. Consistent with this theory and with the previous results presented, column VIII in table XI suggests a positive relationship between mortality rates that is, more extractive institutions, and information leakages prior to earnings news, but this relationship is not statistically significant.

Finally, moral norms represent another type of sanctions or deterrence mechanisms that have been associated with private benefits of control and minority shareholders expropriation. Controlling shareholders may abstain from extracting resources from their firms due to moral considerations. Consistent with Dyck and Zingales (2002) results, table XI shows that firms from countries with higher private benefits of control, based on moral norms, experience a significantly greater reduction in pre-announcement price drift following ADR listings.[27]

[INSERT TABLE XI]

There are potential distortions associated with the firms' decision to issue an ADR. The documented asymmetries in price behavior may be related to the firms' strategic decisions. For

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[27] To test which factor plays a more important role in reducing information leakages ahead of important corporate announcements we could simultaneously include all variables in a multivariate regression. However the fact that the institutional variables are highly correlated creates a multi-colinearity estimation problem. Second, all variables are approximations measured with a significant level of noise, which would add estimation problems.

example, firms with aggressive growth strategies that require significant amounts of capital to exploit high growth opportunities may decide to "play by the rules" in order to gain good reputation and access to external sources of financing. In addition, owners/managers need to build a good reputation to be able to divest their shares at a higher price. Gomes (2000) presents a model that shows how firms can commit not to expropriate minority shareholders without any explicit corporate governance mechanism in place to protect them. One way to address this question is to include controls for capital needs and growth opportunities such as leverage and book to market multiples.[28] Another alternative would be to find adequate instruments for the decision to issue ADRs unrelated to any firm strategies. One way to analyze it would be if countries had regulatory barriers in place that prevented firms from cross-listing shares in foreign markets and lifted these restrictions. In such cases we could analyze firms from these countries that issued ADRs following the reforms and determine if the asymmetries in cumulative abnormal returns are still present. These topics remain for future research. In any case, the reputation story and the enforcement story are probably complementary, because firms will be better able to build a good reputation in an institutional and informational environment that provides the credibility and incentives to do so.

V. Conclusions

The view that "law matters" and in particular that securities laws play a key role for financial market development assumes that stricter financial regulation can reduce enforcement costs and opportunistic behavior whenever general law and private contracting mechanisms are not effective in preventing frauds. In countries with poor investor protection the incentives to participate in rent seeking activities are higher and, in many instances, stronger than the incentives from good behavior and the associated long-term benefits.

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[28] Tribukait (2003) shows that results hold controlling for these factors in the case of Mexican firms.

The question analyzed in this paper is if international cross-listings affect stock price reaction to earnings announcements in a way consistent with increased investor protection. In particular, I analyze if issuing exchange-listed ADRs reduce information leakages prior to relevant earnings announcements, given that firms that issue these securities commit to adhere to the stricter U.S. financial regulation and market practices. Results show that ADRs significantly affect stock price behavior around important corporate news announcements. Results show that in the pre-ADR listing period prices experience a significant drift in the same direction as the corresponding earnings surprise during the pre-announcement window [-30,-2]. Moreover, these patterns disappear after firms issue ADRs. The reduction in information leakages documented following ADR listings holds controlling for firm and country characteristics, as well as time effects. Furthermore, I find evidence that this reduction is larger in firms from countries with poor investor protection. Measures of investor protection include legal origin, as well as indices of securities laws (LLS, 2002), the insider trading law index (Beny, 1999), as well as extra-legal variables associated to corporate tax enforcement and public opinion pressure (Dyck and Zingales, 2002). Overall, the cross-country evidence indicates that ADR listings affect stock price behavior in a way consistent with increased investor protection and a reduction of insider trading and private information sharing ahead of relevant corporate announcements.

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Price Reaction to Annual Earnings Announcements
Graph 1. Before ADR listings
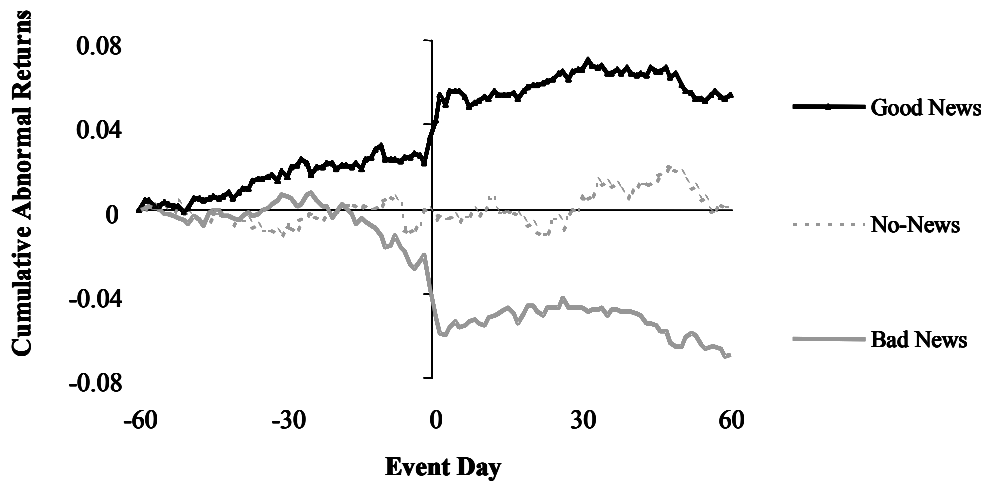
Graph 2. After ADR listings
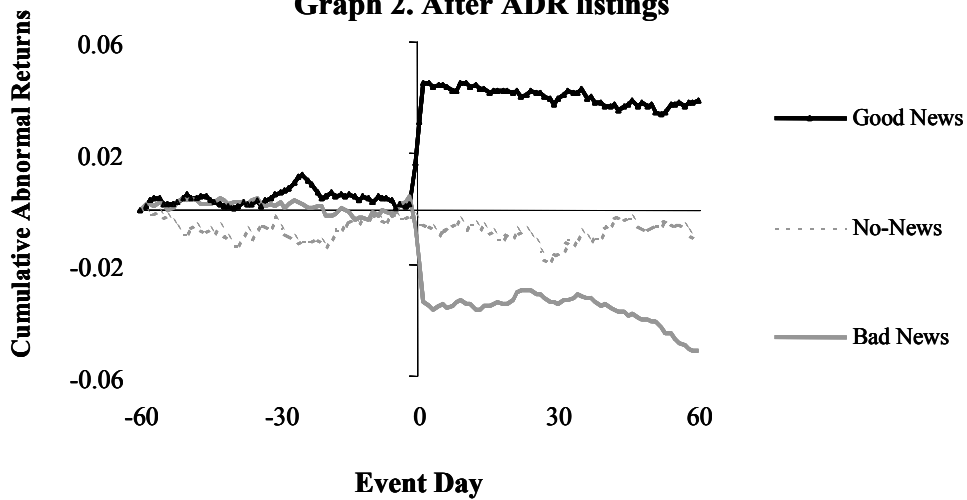
Graphs 1 and 2. Plot of cumulative abnormal returns (CARs) around earnings announcements from event day –60 to event day +60. Events ranked by the actual return compounded over the 3-day window surrounding the announcement, i.e. from day –1 to day +1 relative to the event Day 0, and grouped into 3 categories, Good News if actual return > 0.5%, Bad News if actual Return <-0.5% and No News if absolute actual return<= 0.5%. The sample consists of 287 (338) firms from 27 (40) countries with information available before (after) cross-listing ADRs during the period 1990-2001.

Table I Number of Firms and Observations by Country

Country	Firms		Observations		
	#	Total*	#	Before ADR Listing	After ADR Listing
Argentina	9	64%	41	5	36
Australia	14	58%	97	9	88
Belgium	1	100%	1	0	1
Brazil	8	22%	29	11	18
Chile	21	91%	113	21	92
China	7	58%	23	3	20
Colombia	1	100%	6	0	6
Denmark	1	33%	12	0	12
Dominican Rep.	1	100%	3	0	3
Finland	3	43%	16	3	13
France	25	68%	102	14	88
Germany	9	36%	22	4	18
Ghana	1	100%	3	0	3
Greece	4	80%	9	0	9
Hong Kong	9	64%	32	12	20
Hungary	1	100%	3	0	3
India	3	27%	6	0	6
Indonesia	2	100%	10	0	10
Ireland	12	75%	57	1	56
Israel	8	89%	35	0	35
Italy	12	80%	67	9	58
Japan	25	69%	198	15	183
Luxembourg	2	40%	2	0	2
Mexico	24	80%	103	14	89
Netherlands	18	53%	112	11	101
New Zealand	5	83%	18	8	10
Norway	4	57%	21	0	21
Peru	2	100%	11	6	5
Philippines	2	67%	8	0	8
Portugal	3	100%	13	4	9
Russia	3	60%	5	0	5
Singapore	2	100%	5	3	2
South Africa	5	56%	15	8	7
South Korea	4	57%	16	0	16
Spain	6	67%	52	21	31
Sweden	9	60%	49	0	49
Switzerland	5	42%	10	0	10
Taiwan	1	17%	4	0	4
United Kingdom	64	59%	380	74	306
Venezuela	2	100%	7	4	3
Total	**338**	**60%**	**1,716**	**260**	**1,456**

* Percentage of total firms with ADRs listed on U.S. exchanges as of December 2002. *Source: Bank of NY.*

Table II Description of Variables

Variable	Description
Events	Annual earnings announcements of foreign firms with American Depositary Receipts (ADRs) listed on U.S. exchanges during the period 1990-2001. Events are classified as Good (Bad) News if the corresponding earnings surprise is higher (lower) than 0.5% (-0.5%); and as No-News Events otherwise.
CARs [t1,t2]	Abnormal returns accumulated over the event window from day t1 to day t2 relative to the announcement day.
ACARs [t1,t2]	Aggregate cumulative abnormal returns. To aggregate CARs [t1,t2], abnormal returns of bad news events are multiplied by -1; and no-news events are excluded.
Before U.S. listing	Dummy variable that equals 1 if the firm-observation corresponds to the period before the firm cross-listed on U.S. exchanges, i.e. issued an exchange-listed ADR.
Surprise	Actual stock return compounded during the event window [-1,1], i.e. during the three day period around the corresponding earnings announcement. *Source: Datastream International Database and CRSP database.*
EPS	Earnings per share in U.S. dollars as reported in the corresponding earnings announcement. *Source: I/B/E/S*
GDP per capita (log)	Logarithm of per capita Gross Domestic Product (in U.S. dollars) in 1999. *Source: World Bank.*
Legal origin	Dummy variables that identify the legal origin of the company law or commercial code of each country. *Source: LLSV (1998).*
Non-U.K.	Dummy variable that equals 1 if the observation corresponds to a firm incorporated in a country other than the United Kingdom.
IT law index	Aggregates rules against insider trading by adding 1 when (a) insiders are liable for tipping outsiders; (b) tipped outsiders are considered secondary insiders and are therefore liable for insider trading; (c) insider trading constitutes a criminal offense; (d) affected investors have the right to sue insiders and demand monetary compensation for trading losses incurred from trading with insiders; and (e) the monetary penalties are proportional to illegal profits. A higher number indicates stronger protection against insider trading. *Source: Beny (1999).*
Public enforcement index	Measure of securities laws and regulations based on the powers of public enforcers. Constructed by LLS (2002) to test the view that claims that the principal contribution and benefits of securities laws derive from the creation of a public enforcer such as the SEC, which is more efficient and better able in enforcing the law relative to private plaintiffs. A higher value indicates stronger investor protection. *Source: LLS (2002).*
Private enforcement index	Measure of the characteristics and restrictions on private contracting. Constructed by LLS (2002) to test a second view that holds that the main benefits from securities laws come from a direct reduction in the costs of private contracting and enforcement by standardizing the rules and requirements, including contracts and disclosure, and simplifying private litigation. A higher value indicates stronger investor protection. *Source: LLS (2002).*
Burden of proof index	Shifts in the burden of proof from the plaintiffs (investors) to the defendants (distributor, directors and accountants) can, in principle, significantly reduce the costs to the plaintiffs of establishing liability. The index of burden of proof aggregates various indices that measure the difficulty to recover losses, it equals the arithmetic mean of: (a) Role of distributor, (b) Burden director, (c) Burden distributor, and (4) Burden accountant. A higher value indicates stronger investor protection. *Source: LLS (2002).*

Table II (Continued) Description of Variables

Variable	Description
Relative strength of anti-director rights	Difference between anti-director rights in the firm's home country and anti-director rights in the United States. The anti-director rights index constructed by LLSV (1998) aggregates shareholder rights by adding 1 when (a) the country allows shareholders to mail their proxy vote to the firm, (b) shareholders are not required to deposit their shares prior to the general shareholder's meeting, (c) cumulative voting or proportional representation of minorities in the board of directors is allowed, (d) an oppressed minorities mechanism is in place, (e) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholder's meeting is less than or equal the sample median (10%), and (f) shareholders have preemptive rights that can be waived only by a shareholders' vote. The index ranges from 0 to 6 and the measure of relative strength ranges from -4 to 0, where a higher number indicates superior investor protection.*Source: LLSV (1998).*
Tax compliance	Measure of corporate tax enforcement. It ranges from 0 to 6, where higher scores indicate higher compliance in 1995. *Source: The Global Competitiveness Report 1996.*
Newspaper circulation / population	Measure of media coverage or public opinion pressure given by the number of copies sold per 100,000 inhabitants. *Source: UNESCO Statistical yearbook 1996, as reported in Dyck and Zingales (2002).*
Mortality rates	Measure of potential settler mortality in former colonies, given by the deaths per annum per 1000 people. *Source: Curtin (1989 and 1998) and Gutierrez (1986) as reported in Acemoglu et al. (2001).*
Catholic religion	Dummy variable that equals 1 if the country's primary religion is catholic. *Source: CIA World Factbook (2000) as reported in Stulz and Williamson (2001) and Dyck and Zingales (2002).*

Table III Summary Statistics by News Category

Number of firm-year observations; Earnings per share in U.S. dollars; Surprise is the actual return compounded from day -1 to day +1. Standard errors shown in brackets and the probability of rejecting a test of means (Wald test) shown in parenthesis.

News Category	All	Before ADR Listing	After ADR Listing	Before minus After (Prob>F)
Good News				
Observations	773	111	662	
Earnings per share	1.15	1.16	1.14	0.02
	[0.096]	[0.254]	[0.104]	(0.952)
Surprise	5.07%	3.91%	5.26%	-1.35%
	[0.002]	[0.005]	[0.002]	(0.035)
No-News				
Observations	219	44	175	
Earnings per share	1.09	0.81	1.16	-0.35
	[0.177]	[0.396]	[0.198]	(0.426)
Surprise	0.02%	0.00%	0.02%	-0.02%
	[0.001]	[0.002]	[0.001]	(0.379)
Bad News				
Observations	724	105	619	
Earnings per share	1.17	1.04	1.20	-0.15
	[0.117]	[0.308]	[0.127]	(0.65)
Surprise	-4.10%	-3.90%	-4.13%	0.23%
	[0.001]	[0.004]	[0.001]	(0.614)

Table IV Stock Price Behavior Before and After ADR listings
Mean Cumulative Abnormal Returns Around Earnings Announcements

Mean aggregate CARs during the corresponding event window [t1,t2]. To aggregate abnormal returns of bad news events were multiply by -1. No-news events are excluded. p-values shown in brackets; values statistically significant at 10% (*), 5% (**) and 1% (***), respectively.

Panel A. Market Model

Event Window	I ACARs BEFORE ADR LISTING	II ACARs AFTER ADR LISTING	III: I-II BEFORE minus AFTER
[-60,-31]	0.000	0.005	-0.004
	[0.97]	[0.36]	[0.75]
[-30,-2]	0.028	-0.004	0.032
	[0.02]**	[0.39]	[0.02]**
[-1,+1]	0.039	0.047	-0.008
	[<0.01]***	[<0.01]***	[0.06]*

Panel B. Constant Mean Return Model

Event Window	I	II	III: I-II
[-60,-31]	0.003	0.001	0.002
	[0.96]	[0.44]	[0.83]
[-30,-2]	0.028	-0.006	0.034
	[0.02]**	[0.26]	[0.01]***
[-1,+1]	0.040	0.047	-0.007
	[<0.01]***	[<0.01]***	[0.07]*

Table V Stock Price Behavior Before and After ADR listings
Median Cumulative Abnormal Returns Around Earnings Announcements

Median aggregate CARs during the corresponding event window [t1,t2]. To aggregate abnormal returns of bad news events were multiply by -1. No-news events are excluded. p-values shown in brackets; values statistically significant at 10% (*), 5% (**) and 1% (***), respectively.

Panel A. Market Model

Event Window	I ACARs BEFORE ADR LISTING	II ACARs AFTER ADR LISTING	III: I-II BEFORE minus AFTER
[-60,-31]	-0.005	-0.001	-0.004
	[0.60]	[0.84]	[0.66]
[-30,-2]	0.013	-0.007	0.020
	[0.10]*	[0.12]	[0.09]*
[-1,+1]	0.026	0.030	-0.004
	[<0.01]***	[<0.01]***	[0.18]

Panel B. Constant Mean Return Model

	I	II	III: I-II
[-60,-31]	-0.003	-0.006	0.003
	[0.77]	[0.20]	[0.83]
[-30,-2]	0.015	-0.005	0.020
	[0.24]	[0.27]	[0.08]*
[-1,+1]	0.027	0.031	-0.004
	[<0.01]***	[<0.01]***	[0.16]

Table VI Asymmetric Stock Price Reaction to Good News
Cumulative Abnormal Returns during Announcement Window [-1,1]

Dependent variable is the aggregate CARs during the announcement window [-1,1]. To aggregate, the abnormal returns of bad news events were multiplied by -1; no-news events are excluded. OLS regression models for the full sample in Panel A and for the sub-sample of firms with observations before and after ADR listing in Panel B. Clusters by year and country included to control for contemporaneous cross-correlations between observations in the same year and country. Heteroskedasticity-consistent p-values following White (1980) are shown in brackets. Coefficients significant at 10% (*), 5% (**) and 1% (***), respectively.

Panel A: Full Sample

Independent Variables	I	II	III	IV
Before U.S. listing	-0.007	-0.008	-0.002	-0.003
	[0.05]**	[0.03]**	[0.61]	[0.45]
Good News	0.004	0.004	0.005	0.005
	[0.20]	[0.19]	[0.14]	[0.14]
Good News * before			-0.009	-0.008
			[0.14]	[0.14]
Constant	0.041	0.022	0.041	0.022
	[0.00]***	[0.00]***	[0.00]***	[0.00]***
Observations	1497	1497	1497	1497
Country Effects	No	Yes	No	Yes

Panel B: Only Firms with Observations Before and After ADR listing

Independent Variables	I	II	III	IV
Before U.S. listing	-0.001	-0.003	0.003	0.002
	[0.88]	[0.50]	[0.52]	[0.72]
Good News	-0.001	0.000	0.004	0.006
	[0.86]	[1.00]	[0.54]	[0.35]
Good News * before			-0.008	-0.010
			[0.36]	[0.23]
Constant	0.038	0.017	0.036	0.014
	[0.00]***	[0.00]***	[0.00]***	[0.01]***
Observations	347	347	347	347
Country Effects	No	Yes	No	Yes

Table VII Asymmetric Stock Price Reaction Prior to Good News
Cumulative Abnormal Returns during Pre-Announcement Window [-30,-2]

Dependent variable is the aggregate CARs during the pre-announcement window [-30,-2]. To aggregate, the abnormal returns of bad news events were multiplied by -1; no-news events are excluded. OLS regression models for the full sample in Panel A and for the sample of firms with observations before and after ADR listing in Panel B. Clusters by year and country included to control for contemporaneous cross-correlations between observations in the same year and country. Heteroskedasticity-consistent p-values following White (1980) are shown in brackets. Coefficients significant at 10% (*), 5% (**) and 1% (***), respectively.

Panel A: Full Sample

Independent Variables	I	II	III	IV
Before U.S. listing	0.032	0.035	0.051	0.052
	[0.02]**	[0.02]**	[0.01]***	[0.01]***
Good News	0.000	-0.001	0.005	0.004
	[0.98]	[0.93]	[0.73]	[0.80]
Good News * before			-0.036	-0.033
			[0.21]	[0.25]
Constant	-0.006	-0.001	-0.009	-0.003
	[0.53]	[0.95]	[0.37]	[0.91]
Observations	1497	1497	1497	1497
Country Effects	No	Yes	No	Yes

Panel B: Only Firms with Observations Before and After ADR listing

Independent Variables	I	II	III	IV
Before U.S. listing	0.044	0.045	0.059	0.057
	[0.01]**	[0.02]**	[0.04]**	[0.03]**
Good News	-0.020	-0.018	-0.001	-0.003
	[0.26]	[0.33]	[0.96]	[0.91]
Good News * before			-0.030	-0.025
			[0.48]	[0.54]
Constant	-0.008	-0.024	-0.016	-0.033
	[0.58]	[0.66]	[0.40]	[0.57]
Observations	347	347	347	347
Country Effects	No	Yes	No	Yes

Table VIII ADRs and Price Behavior Prior to Earnings Announcements
Cumulative Abnormal Returns during the Pre-Announcement Window [-30,-2]

Dependent variable is the aggregate CARs during the window [-30,-2]. To aggregate, the abnormal returns of bad news events were multiplied by -1. Panel A includes all observations and Panel B includes only firms with observations in both periods, before and after listing ADRs on U.S. exchanges. SURPRISE is the actual compounded return from day -1 to day +1 in absolute value. EPS is the earnings per share reported in absolute value (US$). Clusters by year and country included to control for contemporaneous cross-correlations between observations in the same year and country. Heteroskedasticity-consistent p-values following White (1980) are shown in brackets. Coefficients significant at 10% (*), 5% (**) and 1% (***), respectively.

Panel A: Full Sample   Dependent Variable: ACARs [-30,-2]

Independent Variables	I	II	III	IV	V	VI	VII
Before U.S. listing	0.035	0.031	0.033	0.027	0.030	0.027	0.029
	[0.023]**	[0.023]**	[0.030]**	[0.037]**	[0.040]**	[0.045]**	[0.049]**
Surprise		-0.101	-0.138			-0.098	-0.130
		[0.712]	[0.625]			[0.719]	[0.639]
EPS				0.007	0.009	0.007	0.009
				[0.156]	[0.059]*	[0.155]	[0.058]*
Constant	-0.002	-0.001	0.003	-0.016	-0.012	-0.011	-0.008
	[0.933]	[0.918]	[0.912]	[0.057]*	[0.605]	[0.348]	[0.755]
Observations	1497	1497	1497	1497	1497	1497	1497
Country Effects	Yes	No	Yes	No	Yes	No	Yes
Adj. R-squared	0.00	0.00	0.00	0.01	0.02	0.01	0.02

Panel B: Only Firms with Observations Before and After ADR listing

Independent Variables	I	II	III	IV	V	VI	VII
Before U.S. listing	0.044	0.044	0.047	0.029	0.025	0.030	0.028
	[0.028]**	[0.014]**	[0.025]**	[0.094]*	[0.104]	[0.095]*	[0.117]
Surprise		0.343	0.575			0.208	0.381
		[0.537]	[0.321]			[0.619]	[0.327]
EPS				0.015	0.017	0.015	0.017
				[0.111]	[0.089]*	[0.102]	[0.080]*
Constant	-0.038	-0.031	-0.047	-0.035	-0.032	-0.044	-0.039
	[0.462]	[0.197]	[0.379]	[0.025]**	[0.546]	[0.085]*	[0.474]
Observations	347	347	347	347	347	347	347
Country Effects	Yes	No	Yes	No	Yes	No	Yes
Adj. R-squared	0.04	0.01	0.05	0.06	0.10	0.06	0.10

Dependent variable is the aggregate CARs during the window [-30,-2]. To aggregate, the abnormal returns of bad news events were multiplied by -1. See table 2.2 for definition of all variables. All regressions control for the absolute earnings surprise and the absolute earnings per share (coefficients not reported). Models I - III include the full sample and Models IV-VI only include firms with observations before and after the ADR listing. Clusters by year and country included to control for contemporaneous cross-correlations between observations in the same year and country. Heteroskedasticity-consistent p-values following White (1980) are shown in brackets. Coefficients significant at 10% (*), 5% (**) and 1% (***), respectively.

Panel A	Dependent Variable: ACARs [-30,-2]					
Independent Variables	**I**	**II**	**III**	**IV**	**V**	**VI**
Before U.S. listing	0.024		0.023	0.028		0.001
	[0.064]*		[0.283]	[0.132]		[0.955]
Legal Origin:						
English	-0.008	-0.007		-0.036	-0.021	
	[0.579]	[0.591]		[0.188]	[0.411]	
French	-0.008	-0.007	0.000	-0.049	-0.069	-0.048
	[0.595]	[0.626]	[0.970]	[0.107]	[0.127]	[0.163]
German	-0.022	-0.024	-0.016	-0.010	0.015	0.036
	[0.082]	[0.073]*	[0.168]	[0.732]	[0.696]	[0.243]
Scandinavian	-0.016	-0.017	-0.009	-0.038	-0.011	0.009
	[0.425]	[0.41]	[0.594]	[0.474]	[0.839]	[0.832]
Other/1	-0.027	-0.031	-0.024	-0.216	-0.312	-0.290
	[0.462]	[0.407]	[0.513]	[0.066]	[<0.01]***	[<0.01]***
Legal Origin * Before:						
English * before		0.023			0.001	
		[0.283]			[0.955]	
French * before		0.020	-0.003		0.058	0.057
		[0.26]	[0.921]		[0.037]**	[0.100]*
German * before		0.045	0.022		-0.011	-0.012
		[0.177]	[0.574]		[0.84]	[0.840]
Scandinavian * before		0.042	0.019		-	-
		[0.417]	[0.738]		-	-
Other * before		0.150	0.127		0.411	0.410
		[<0.01]***	[0.002]***		[<0.01]***	[<0.01]***
Constant			-0.007			-0.021
			[0.591]			[0.411]
Observations	1497	1497	1497	347	347	347
Adj. R-squared	0.02	0.02	0.02	0.09	0.09	0.09

/1 Other: includes observations of firms from Russia, China and Hungary.

Table IX (Continued) Legal Origin, Institutions and Price Behavior Prior to Earnings Announcements

Panel B	Dependent Variable: ACARs [-30,-2]					
Independent Variables	**I**	**II**	**III**	**IV**	**V**	**VI**
Before U.S. listing	0.027		0.019	0.029		-0.018
	[0.043]**		[0.494]	[0.114]		[0.544]
U.K.	-0.019	-0.017		-0.050	-0.024	
	[0.214]	[0.273]		[0.089]*	[0.362]	
Non-U.K.	-0.010	-0.010	0.007	-0.041	-0.055	-0.031
	[0.422]	[0.403]	[0.580]	[0.113]	[0.054]*	[0.195]
U.K. * before		0.019			-0.018	
		[0.494]			[0.544]	
Non-U.K. * before		0.030	0.011		0.050	0.068
		[0.041]**	[0.718]		[0.017]**	[0.052]*
Constant			-0.017			-0.024
			[0.273]			[0.362]
Observations	1497	1497	1497	347	347	347
Adj. R-squared	0.02	0.02	0.02	0.06	0.06	0.06

Table X ADRs, Securities Laws and Price Behavior Prior to Earnings Announcements

Dependent variable is the aggregate CARs during the pre-announcement window [-30,-2]. The sample includes only those firms with observations in both periods, before and after ADR listing. All regressions include controls for the absolute earnings surprise and absolute earnings per share reported (coefficients not included). See table 2.2 for definitions of all variables. Clusters by year and country included. Heteroskedasticity-consistent p-values following White (1980) are shown in brackets. Coefficients significant at 10% (*), 5% (**) and 1% (***), respectively.

Independent Variables	I	II	III	IV	V	VI	VII	VIII	IX	X
	Dependent Variable: ACARs [-30,-2]									
Before U.S. listing	0.029	0.259	0.022	0.074	0.023	0.044	0.020	0.112	0.036	0.989
	[0.230]	[0.037]**	[0.213]	[0.225]	[0.193]	[0.348]	[0.257]	[0.091]*	[0.049]**	[0.060]*
IT law index	-0.012	0.024								
	[0.604]	[0.118]								
IT law * before		-0.076								
		[0.058]*								
Private enforcement			-0.018	0.038						
			[0.752]	[0.647]						
Private enforcement * before				-0.081						
				[0.373]						
Public enforcement					-0.064	-0.043				
					[0.143]	[0.282]				
Public enforcement * before						-0.040				
						[0.617]				
Burden of proof							-0.096	0.003		
							[0.082]*	[0.964]		
Burden of proof * before								-0.140		
								[0.095]*		
GDP per capita (log)									0.046	0.116
									[0.146]	[0.019]**
GDP per capita * before										-0.097
										[0.067]*
Constant	-0.021	-0.138	-0.026	-0.062	-0.005	-0.017	0.025	-0.041	-0.499	-1.182
	[0.785]	[0.028]**	[0.555]	[0.296]	[0.832]	[0.568]	[0.558]	[0.403]	[0.115]	[0.016]**
Observations	249	249	343	343	343	343	343	343	347	347
Adj. R-squared	0.076	0.093	0.058	0.057	0.065	0.063	0.068	0.070	0.071	0.079

Table XI ADRs, Legal and Extra-Legal Institutions and Price Behavior Prior to Earnings Announcements

Dependent variable is the aggregated CAR during the window [-30,-2]. Sample includes only those firms with observations in both periods, before and after the U.S. listing. All regressions include controls for the absolute earnings surprise and absolute earnings per share reported (coefficients not included). See table 2.2 for definitions of all variables. Clusters by year and country included. Heteroskedasticity-consistent t-values following White (1980) are shown in brackets. Coefficients significant at 10% (*), 5% (**) and 1% (***), respectively.

				Dependent Variable: ACARs [-30,-2]						
Independent Variables	I	II	III	IV	V	VI	VII	VIII	IX	X
Before U.S. listing	0.024	-0.012	0.028	0.147	0.028	0.054	0.029	-0.079	0.027	0.002
	[0.173]	[0.544]	[0.134]	[0.037]**	[0.125]	[0.154]	[0.222]	[0.424]	[0.139]	[0.928]
Relative strenght of anti-director rights	-0.006	0.019								
	[0.51]	[0.11]								
Relative strenght of anti-director rights * before		-0.036								
		[0.016]**								
Tax compliance			0.004	0.026						
			[0.699]	[0.088]*						
Tax compliance* before				-0.030						
				[0.069]*						
Newspaper circulation/pop					0.003	0.009				
					[0.612]	[0.390]				
Newspaper circulation/pop * before						-0.009				
						[0.409]				
Mortality Rates							-0.021	-0.081		
							[0.686]	[0.239]		
Mortality Rates * before								0.083		
								[0.294]		
Catholic religion									-0.013	-0.052
									[0.528]	[0.043]**
Catholic religion * before										0.060
										[0.095]*
Constant	-0.043	-0.017	-0.052	-0.139	-0.045	-0.063	-0.018	0.060	-0.031	-0.015
	[0.125]	[0.513]	[0.262]	[0.038]**	[0.134]	[0.106]	[0.807]	[0.504]	[0.275]	[0.583]
Observations	332	332	328	328	328	328	250	250	328	328
Adj. R-squared	0.071	0.089	0.059	0.063	0.060	0.059	0.062	0.061	0.060	0.064