Are U.S. Analysts' Recommendation Changes for Cross-Listed Stocks More Informative than Local Analysts'?

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Abstract

We investigate stock return and trading volume reactions to analyst recommendation changes issued by local and foreign analysts for international stocks from 40 countries cross-listed in the U.S. We find that recommendation changes by analysts based in the U.S. lead to significantly higher abnormal returns and lower abnormal volumes in the home market of the cross-listed firm, compared to changes made by local analysts. Our results are robust to various controls, stronger for upgrades, and strengthened by an identification strategy that relies on analysts that move locations. We do not find supporting evidence of U.S. analysts facilitating a bonding mechanism for cross-listed stocks as we find a stronger effect for firms from countries with stronger legal, governance, and reporting environments. We also do not find evidence of a certification role of US analysts. Our results are further robust to timing differences in recommendation changes, geographical distance and analysts' specialization.

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1. Introduction

Firms that cross-list in the U.S. tend to experience an increase in analyst following and usually have both U.S. and local analyst coverage after the cross-listing. Prior research has examined changes in analyst coverage and forecasts accuracy around cross-listing decisions (Lang, Lins, and Miller, 2003) and investigated the effect of the cross-listing on price and volume reactions to earnings announcements (Bailey, Karolyi, and Salva, 2006). Yet little is known about the role of informational intermediaries, such as analysts, located in the country of the cross-listing for the information environment of the firm and price discovery in the home market. For example, Karolyi (2006) observes that:

"*To fully understand the economic consequences of changes in the disclosure requirements for firms listing shares on overseas exchanges, research needs to concentrate more efforts on the role that informational intermediaries play.*[…] *Unfortunately, little is still known about the composition of the analysts, whether they are local or based in the new market, and whether this affects the dispersion or accuracy of their forecasts or the capital market participant's reactions to their forecast skills*" (p.114).

Consequently, in this paper we examine the relative informativeness of U.S-based analysts' recommendation changes compared to local analysts' for international stocks cross-listed in the United States. One strand of the literature shows that analysts' stock recommendations generally tend to be informative (Womack, 1996; Jegadeesh, Kim, Krische, and Lee, 2004) and that geographical distance has a negative effect on the accuracy of analyst earnings forecasts suggesting that local analysts have an information advantage (Malloy, 2005; Bae, Stulz, and Tan, 2008). Another strand of the literature, however, suggests that various monitoring mechanisms improve with a cross-listing and that overseas analysts might play a role in the bonding mechanism as well as in the certification for the home stock (Karolyi, 2006; Stulz, 1999). Thus U.S. analysts' recommendations might be more informative than local analysts' because information production might be more stringently

regulated in the U.S. than in the local market, or because Wall Street intermediaries command a higher perceived reputation alleviating informational and agency concerns of home market investors.

We investigate stock return and trading volume reactions to analyst recommendation changes issued by local and foreign analysts for international stocks from 40 countries cross-listed in the U.S from 2003-2007. We first examine home and U.S. market reactions to recommendation changes irrespective of the location of the issuing analyst. We find recommendation changes to be informative for both home and U.S. market investors, and find no significant differences in stock returns between the home and the U.S. market, but higher abnormal trading volumes in the home market. We next differentiate by the location of the analyst. Our main results show that recommendation changes by analysts based in the U.S. lead to significantly higher abnormal returns in *both*, the U.S. and the home market of the cross-listed firm, but that abnormal volumes are higher in the U.S. for recommendation changes from U.S. analysts and higher in the local market if issued by local analysts. We do not find such a differential effect for other foreign analysts.

We examine price and volume reactions as they allow us to identify information asymmetries and differential information processing among investors (Kim and Verrecchia, 1991, 1994). A price change at announcement of a recommendation change is proportional to the news in the announcement and the precision of the announcement. A volume change is proportional to the absolute price change and differential private information across traders. Our findings of a higher U.S. and home market reaction to U.S. analyst recommendation changes compared to local analysts thus suggests that investors perceive the U.S. analysts' signal to be of higher precision (holding the magnitude of the change constant). The relatively lower abnormal trading volumes in the home market to U.S. analysts' recommendation changes suggest that there is less disagreement among investors about the precision of the U.S. signal compared to that of a local analyst. That is, the recommendation news of U.S.

analysts is relatively more important to home market traders due to less precise private information and thus has a larger impact on their beliefs.

We further find that the U.S. location premium to analyst recommendation changes is higher (and statistically more robust) for recommendation upgrades than downgrades. This result is consistent with the notion that agency costs might be higher for home market investors with respect to recommendation upgrades. If conflicts of interest are more pervasive between local analysts and local firms, which might mean that local analysts are more reluctant to issue downgrades or are more likely to issue upgrades for local firms, then investors will assign a higher U.S.-location premium to upgrades than downgrades.[1]

Our results are robust to controls for firm, analyst, broker and recommendation characteristics as well as in within-firm-analyst estimations. We further strengthen identification by examining a subsample of analysts that move locations during our sample period and change from being a U.S-located analyst to become local analysts or vice versa (and move within the same or across brokerage firms). This empirical strategy allows us to isolate the effect of the location from unobserved differences in analyst, broker or firm characteristics. The U.S.-location premium persists within this subsample.

U.S. located analysts also do not seem to have an information timing advantage as we do not find any significant differences in the timing of the recommendation changes between U.S. and local analysts. That is, U.S. and local analysts are equally as likely to be leaders as followers in making a recommendation change for a particular firm.

Capital-markets-based accounting research has emphasized changes in reporting and disclosure requirements that come with a cross-listing as first order effects on the valuation of the firm. Cross-listings are seen as strategic tools by managers, who cannot credibly convey material information about the future prospects of the firm to shareholders, by helping them

[1] Conflicts of interest could be more pervasive between local analysts and local firms if the local broker is more dependent on other business relationships with the firm compared to an international broker that has more diversified client relationships.

mitigate information and agency problems if the overseas market they cross-list on has higher disclosure and governance requirements (Karolyi, 2006). A cross-listing might thus be a credible way for a firm in a country with weak investor protection to commit to higher-quality governance by borrowing the investor protection of the country of the cross-listing (Doidge, Karolyi, and Stulz, 2007) and by exposing itself to stronger monitoring that is otherwise unavailable in the home market (Coffee, 1999, 2002). In addition to the stronger legal, governance and disclosure environment, Stulz (1999) highlights the role of "reputational intermediaries" such as securities analysts that may serve as a certification mechanism for the quality of the firm.

If the bonding hypothesis explains the U.S.-location premium, we expect to find the results to be stronger for firms that cross-list from countries with weak legal, governance or disclosure environments. We use various proxies that differentiate between the legal, governance and disclosure environments of the home countries. Surprisingly, we find the opposite. These results are somewhat similar to Bailey, Karolyi, and Salva's (2006) findings that after cross-listings home market return volatility and trading volumes are higher to earnings announcements in particular for firms that cross-list from countries with strong legal, governance and disclosure environments. We find a similar puzzling effect as theirs for U.S. analyst recommendation changes. Further, despite finding that U.S. analysts are more likely to work for more reputable brokers, we do not find any evidence that U.S. analysts play a certification role for cross-listed stocks.

Our study contributes to several strands of the literature. A large literature in finance examines the economic consequences of cross-listings and argues that firms located in countries with weak legal protection and governance mechanisms can benefit from the stronger legal and governance environment of overseas markets through cross-listings (Reese and Weisbach, 2002; Doidge, 2004; Doidge, Karolyi, and Stulz, 2004). The benefits in the form of lower information asymmetries and agency costs are suggested to arise by committing

the firm to higher legal and regulatory standards and stronger enforcement of the overseas listing (Coffee 1999, 2002). Several studies also find an increase in institutional ownership in cross-listed firms as additional monitoring device (Edison and Warnock, 2004; Bradshaw, Bushee, and Miller, 2004). In addition, a cross-listing is associated with an improvement in the information and trading environment of the firm (Baker, Nofsinger, and Weaver, 2002; Lang, Lins, and Miller, 2003; Fernandes and Ferreira, 2008). These studies suggest that information intermediaries may play an important role in producing the benefits of an improved information environment and additional monitoring. Others attribute a signalling role to intermediaries that lend their reputation to the cross-listing firm by marketing the firm to host country investors (Stulz, 1999). We contribute to this literature by following Karolyi's (2006) call to concentrate on the role of information intermediaries and the capital market reactions to their signals. Specifically, we examine the capital market consequences of recommendation changes by analysts located in the home and U.S. market.

Another strand of the literature in finance and accounting investigates the market reaction to analyst recommendation changes and generally finds these to be informative (Womack, 1996; Jegadeesh, Kim, Kirsche, and Lee, 2004; Yezegel, 2015). Several studies show, however, that geographical distance has a negative effect on the accuracy of analyst earnings forecasts suggesting that local analysts have an information advantage (Malloy, 2005; Bae, Stulz, and Tan, 2008). We contribute to this literature by examining whether, for international cross-listed stocks, conditional on analyst locations, differences in the informativeness of recommendation changes exist and whether these differences can be attributed to an information advantage of local analysts or to the bonding or certification role of foreign analysts. As such our study is also related to the literature that examines return co-movements and trading volumes in international stock markets (Halling, Pagano, Randl, and Zechner, 2008; Gagnon and Karolyi, 2009; Gagnon and Karolyi, 2010). We find that differential home-US return and volume reactions for cross-listed stocks in international

markets stem from location differences of the information source (i.e., the analyst recommendation change).

In the next section we discuss the related literature and summarize the main hypotheses. Section 3 describes the data and methodology. We discuss preliminary results in Section 4 and present our main findings in Section 5. Section 6 concludes.

2. Related Literature & Key Predictions

Early research on the value of analyst recommendations generally finds these to be informative to investors (Womack, 1996; Jegadeesh, Kim, Kirsche, and Lee, 2004). The recent literature, however, provides conflicting evidence on the incremental information value of recommendation changes once previous or concurrent corporate news (e.g., management guidance, earnings announcements and earnings forecasts) are controlled for. Altinkilic and Hansen (2009), for example, show that recommendation changes simply "piggyback" on recent corporate news and similarly Loh and Stulz (2011) find that only a small fraction of recommendations changes have a significant price and share turnover impact after controlling for confounding firm news.[2]

In contrast, Bradley, Clarke, Lee, and Ornthanalai (2014), using intraday data, find that recommendation revisions are more important than other corporate news and Li, Ramesh, Shen, and Wu (2015) show that, after removing firms' confounding events, recommendation changes generate significant market reactions suggesting that only a marginal fraction of recommendation revisions confirm the information embedded in previous corporate news. Moreover, Yezegel (2015) demonstrates that recommendation changes issued after earnings forecasts revisions are incrementally informative to investors.

[2] Altinkilic, Balashov, and Hansen (2013) find similar evidence for earnings forecast revisions that seem to piggyback on public information from recent events and news about the firm.

The analyst literature thus suggests that recommendation changes should generally lead to significant abnormal returns and higher trading volumes for cross-listed stocks in both the home and the U.S. market.[3]

This strand of the literature further suggests that local analysts have an information advantage. For example, Bae, Stulz, and Tan (2008) investigate the relative accuracy of analyst forecasts in a cross-country study in relation to the location of the analyst (i.e., whether the analyst is resident in the same country as the firms she covers) and find that local analysts perform better than foreign analysts. Malloy (2005) similarly finds within the U.S. that distance to the headquarters of the firm reduces the quality of the analyst's information. This literature thus predicts that recommendation changes of local analysts are associated with significantly larger market reactions (in magnitude) compared to foreign analysts'.

In another strand of the literature the evidence suggests that U.S. cross-listings by non-U.S. companies are associated with positive share price reactions, which is traced back to an improvement in the information and trading environment of the firm. For example, Baker, Nofsinger, and Weaver (2002) find that non-U.S. firms that cross-list in the U.S. experience an increase in the number of analysts that follow the stock as well as an increase in media attention. Similarly, Lang, Lins, and Miller (2003) find increased analyst coverage and higher forecast accuracy for cross-listed firms. Their study suggests that information intermediaries play an important role in producing the benefits of an improved information environment for cross-listings in particular for firms with weaker governance. Both studies show that the improvement in the information environment is associated with positive share price reactions.

Foerster and Karolyi (1999) and Miller (1999) further show that the positive price effects of cross-listings are consistent with an increase in familiarity of the stock to U.S. investors and that the price effects can be explained by the reduction of capital market

[3] Given that ADRs represent US dollar denominated claims on the cash flows from the underlying firm, the no arbitrage condition predicts that ADR prices and currency-adjusted home market prices should react equally to recommendation changes from the same analyst.

segmentation and investment barriers. Their studies also find an increase in trading volumes after the cross-listing. Sarkissian and Schill (2009) show, however, that the positive valuation effects of cross-listings are not permanent.

Other studies further argue that the greater liquidity of U.S. markets and higher legal protection of investors in the US may contribute to the positive effects of a cross-listing (Coffee, 1999; Stulz, 1999; Doidge, Karolyi, and Stulz, 2004). In particular, Coffee (1999, 2002) and Stulz (1999) emphasise the "bonding hypothesis" arguing that through a cross-listing in U.S. markets the foreign firm becomes subject to disclosure rules and falls within the enforcement remit of the SEC, is more effectively and at lower cost exposed to shareholder actions, and has access to more reputable intermediaries such as underwriters, auditors and security analysts that provide additional monitoring unavailable in the home market. Corroborating evidence on the bonding mechanism in cross-listings is provided by Reese and Weisbach (2002), Doidge (2004) and Doidge Karolyi, and Stulz (2004).[4]

The cross-listing literature further points to a possible certification role of U.S.-analysts, whereby analysts employed by the most highly-reputed investment banks signal the quality of foreign firms to U.S. and global investors.

The bonding and certification hypotheses both predict that recommendation changes by U.S. analysts lead to significantly larger reactions in both the local and U.S. market and that this effect should be more pronounced if the cross-listing firm is based in a country with weaker legal, governance and disclosure environments. It then also follows that trading volumes should be higher in these markets, but should be relatively lower for U.S.-located analysts' recommendation changes compared to local analysts' if local market investors perceive U.S analyst signals to be more precise.

[4] Several studies suggest an increase in institutional ownership in cross-listed firms as additional monitoring device (Edison and Warnock, 2004; Bradshaw, Bushee, and Miller, 2004), but also show that ADR holdings are preferred to direct holdings of the home ordinary stock for those firms from countries with weak investor protection, limited analyst following and low liquidity in the home market (Aggarwal, Dahiya, and Klapper, 2007).

Whether cross-listings lead to an improvement in domestic market liquidity and trading volume is examined theoretically by Hargis and Ramanlal (1998), who show that the biggest domestic improvements follow cross-listings from less liquid markets to larger, more transparent markets. Karolyi (2004) finds results consistent with an improvement of trading activity in the home market of the cross-listed stock. Bae, Ozoguz, Tan, and Wirjanto (2012) add to the body of knowledge by showing that foreign investors improve the informational efficiency of prices in emerging stock markets that have undergone liberalization. Their findings suggest that foreign investors have an advantage in processing global information. Their findings complement Lang, Lins, and Miller (2004) who find that analyst coverage is inversely related to firms with poor governance and from low shareholder-protection countries. Their study also finds a higher valuation effect of an increase in analyst following for these firms.

Somewhat conflicting evidence is presented in Bailey, Karolyi, and Salva (2006). Their study shows that home market abnormal return volatility and trading volumes around earnings announcements increase following cross-listings particularly for firms from developed economies. Their findings are puzzling given that the improvement in information environment that comes with a cross-listing due to increased disclosure requirements and larger analyst following does not seem to lower disagreement or information asymmetries among investors.

We now turn to empirically test these predictions.

3. Data and Methodology

3.1. Sample Selection

We obtain data on foreign stocks listed on the three major United States exchanges (NYSE, NASDAQ, Amex) between January 1, 2003 and December 31, 2007 from Thomson Reuters Datastream. We only consider depositary receipts (Level II and Level III ADRs) and

direct (ordinary) listings. We exclude from the initial sample Level I ADRs, Rule 144A ADRs, Reg. S shares and stock denoted as preferred shares, trust units or right issues. In order to identify the final group of Home-U.S. stocks pairs we apply several criteria.

First, we match the parent stock (i.e., the home counterpart) to every ADR recorded in Datastream.[5] We then retrieve the International Securities Identification Number (ISIN) numbers of the ADR and the underlying stock, and compare manually the codes and names with the main depositary banks' directories from Bank of New York Mellon, Citibank, Deutsche Bank and J.P. Morgan.[6,7]

For foreign firms that list in the form of ordinary programs we follow a similar procedure. We identify in Datastream all foreign firms (i.e., firms with a DS item *market* different from United States) listed as secondary quote on the NYSE, NASDAQ or Amex and obtain the ISIN codes of the home counterpart. We further identify the country of origin of the underlying stock and the local exchange market where the foreign stock is traded. We use the Citibank Global DR Directory, the Bank of New York Mellon Terminated DRs Directory and SEC 20-F fillings to ascertain the exact dates of the cross-listings on and delistings from the major markets.[8] Finally, we validate our pair-observations by cross-checking the name,

[5] We use a combination of various Worldscope and Datastream items (WC06116 *ADR non-US identifier security*, *QTEALL* and *QTDALL*) as well as manual matching to identify the primary (home stock) and secondary quotes (U.S. ADR or ordinary share) of each pair.

[6] Bank of New York Mellon DR Directory (http://www.adrbnymellon.com/dr_directory.jsp), Citi Bank Global DR Directory (https://depositaryreceipts.citi.com/adr/guides/uig.aspx?pageId=8&subpageID=34), Deutsche Bank DR Universe (https://www.adr.db.com/drweb/dr_universe_type_e.html), J.P. Morgan DR Universe (https://www.adr.com/Investors/Markets).

[7] Stock Exchange Daily Official List (SEDOL) numbers for the underlying stocks are also used. When the ISIN code of the ADR is missing in the Depositary Banks directories we use CUSIP number, convert it to its equivalent ISIN number and check it with the Datastream ADR's ISIN.

[8] Although Datastream maintains a record of inactive stocks, only the most recent status and exchange listing is kept, which could potentially lead to a misidentification for some stocks that are recorded as listed on one of the major U.S. exchanges, but are in fact upgrades from past over-the-counter Level 1 ADRs or Rule 144a listings during our sample period. Similarly stocks recorded as listed on OTC markets might have previously traded on the NYSE, Nasdaq or Amex at some point during our sample period. For example, German BASF SE (formerly BASF AG) was listed as ADR on the NYSE for seven years until September 5, 2007. The firm was then downgraded and continues to trade as OTC. Because the stock is still active as of June 2016, Datastream identifies its exchange market as OTC also for the *pre*-2007 period. We identify this issue in the cross-check process between Datastream and the merged dataset of depositary banks.

country and U.S. exchange of cross-listed firms with the annual list of foreign companies registered with the SEC for each year from 2003 to 2007.[9]

In our sample we consider only pairs with daily closing price, stock returns, number of shares traded and number of share outstanding available in Datastream for both the U.S. cross-listing and its local counterpart.[10] We exclude stocks with missing market data in one of the two markets and single-listed foreign firms (i.e., firms that only list on the U.S. exchange but not in their home country).

Datastream local market indices are used for each local stock listing as proxy for the national market portfolio. Effective issue and termination dates from the depositaries banks' directories and the Datastream items *BASE* and *TIME* are used to restrict our analysis just for the time period during which firms are listed simultaneously in the two markets (Home and U.S.). When an ADR or an ordinary program terminates, the local stock delists, or the ADR is downgraded to OTC we set the observations subsequently to missing values both for the U.S. and home series.[11]

The sample of Home-U.S. pairs is further restricted to firms with analyst recommendations data in the Institutional Brokers Estimate System (I/B/E/S) and firms with a valid I/B/E/S ticker for the ADR/ordinary shares or for the home country stock. We remove duplicates and eliminate observations with anonymous analysts (I/B/E/S analyst code *amaskcd* equal to 0). These screens leave us with 550 cross-listed firms from 40 countries with 31,988 recommendation changes/reiterations issued by 4,783 analysts.

3.2. Analyst Location

For the above sample we identify the location of analysts and brokers. We include recommendations in our sample only if the geographical locations of the financial analysts

[9] U. S. SEC: (https://www.sec.gov/divisions/corpfin/internatl/companies.shtml).
[10] Market data are obtained from Datastream using the adjusted unpadded option.
[11] Consider the case of Allied Domecq Plc, a UK firm cross-listed on the New York Stock Exchange. The stock was upgraded from OTC to NYSE on July 31, 2002 and delisted on July 27, 2005 from London and New York after a takeover by Pernod-Ricard SA. The firm is therefore present in our sample only between the two dates (upgrade and delisting).

and brokerage firms for which they work can be unambiguously determined. Using the I/B/E/S analyst code and the year of the recommendation issued by the analyst, we compare the name of the analyst in I/B/E/S with the information contained in the annual volumes of Nelson's Directories of Investment Research (2004-2008).[12] Each edition of Nelson's Directory published in year *t* uses analyst data (name, office address) as of November of the previous year. The country location of analysts and brokers in year *t* is then obtained from the year *t+1* edition of Nelson's Directory. [13] We identify the geographical location (country and city) for 3,869 financial analysts (81% of the total) located in 44 different countries working for 422 brokers issuing a total of 28,453 recommendation changes/reiterations (89% of the total).

Finally, we classify each analyst and brokerage firm as local or foreign by comparing their geographical location with that of the cross-listed firm following Bae, Stulz, and Tan (2008). If the analyst is located in same country as the firm she covers, the analyst is identified as *Local.* By contrast if the analyst is located in a different country from the covered firm, the analyst is classified as *Foreign*. We use the same approach for brokerage firms. A broker is identified as *Local* if its headquarter is located is the same country as the cross-listed firm and *Foreign* otherwise. This specification allows us to identify if the analyst works at the broker's headquarters or in one of the subsidiaries abroad.

The broker location allows us to further classify a local analyst as *Pure Local* if she is employed by a local broker (i.e., headquartered in the same country as the covered firm) or as *Expatriate Local* (i.e., the local analyst works for a foreign broker). We also divide the foreign analyst group into *Foreign_SR* and *Foreign_DR* for foreign analysts located in the same or in a different geographical region from the firm they cover, respectively. Analysts located in the United States (*US_Located*) are by definition foreign analysts and can belong to the

[12] We exclude I/B/E/S/ analyst codes that identify a team or group of analysts and concentrate our analysis on individual analysts.

[13] We thank Hongping Tan for kindly providing us his data on analyst and broker geographical locations. For a more detailed explanation on the matching procedure between the analysts data from I/B/E/S and Nelson's Directories see, among others, Malloy (2005), Bae, Tan, and Welker (2008) and O'Brien and Tan (2015).

Foreign_SD or *Foreign_DR* category. We provide detailed summary statistics for the complete sample of cross-listed firms, analyst locations and recommendations in the next two sub-sections

3.3. Summary Statistics

The distribution of our sample firms across countries, industries, and analyst locations is presented in Table 1. Panel A of the table shows that Canada has the largest number of cross-listed firms (196), followed by the United Kingdom (57), Brazil (36), Japan (26), France and Mexico (21). The smallest number of cross-listed firms belongs to Austria, Belgium, Colombia, Hungary, Peru, Philippines, Sweden, and Turkey with only 1 firm per country with non-missing observations.

Local analysts issued 16,480 recommendations changes or reiterations and foreign analysts 11,973. The largest number of rating changes/reiterations is provided by pure-local analysts (10,895) followed by foreign analysts located in the same geographical region of the covered firms (8,286), expatriate local analysts (5,585) and foreign analysts in a different geographical region (3,687). *US_Located* analysts account for 4,157 recommendation changes and reiterations.

In the far right column of the table we report the respective number of analysts covering the cross-listed firms of a specific country of origin. The total number of analyst observations is 3,876 located in 44 countries. The sum of analysts following firms as pure local, expatriate local, and foreign (in the same or a different region) does not equal to the total number of analysts since a given analyst can follow more than one firm in more than one country and/or sector and can change location in a given year.

Canadian firms have the highest number of recommendations changes/reiterations in our sample (8,068) and the largest number of analysts observations (911) followed by firms from the United Kingdom (734), France (448), the Netherlands (366), and Germany (355).

Firms in these countries also have a higher number of foreign analysts following than local analysts.

Panel B shows that on average our sample covers 436 cross-listed firms in the U.S. per year from 2003 to 2007 with a similar fairly equally distributed number of analysts and recommendation changes/reiterations over the sample years. The far right column in the Panel shows that out of the 550 firms in our sample, more than 300 are present in all the years of our sample period.

3.4. Recommendation Statistics

Table 2 reports the number of recommendation changes and the magnitude of the change compared to the previous recommendation of the same analyst. I/B/E/S converts the recommendations of analysts to a standardized numerical five-point coding. We adopt the convention and reverse the score such that 5 = strong buy, 4 = buy, 3 = hold, 2 = underperform, 1 = sell. We compute recommendations changes/reiterations by comparing the current rating with the prior rating issued by the same analyst.

Rating changes that lie above the main diagonal (reiterations) are downgrades and ratings below the main diagonal are upgrades. Upgrades, downgrades and unchanged ratings account for 37%, 39% and 24% of the total 28,457 rating changes, respectively. The main ratings-change categories are downgrades from *buy-to-hold* (4,539 or 16% of the total), upgrades from *hold-to-buy* (4,252 or 15%), reiterations of prior *hold* (3,051 or 11%) and of prior *buy* (2,382 or 8%) and downgrades from *hold-to-underperform* (1,901 or 7%).[14]

Figure 1 summarizes the relative frequencies of rating changes conditional on prior recommendations. The Figure shows that a movement towards or from a subsequent *hold* rating represents nearly 50% of all the cases and that a prior *hold* rating on average gets upgraded to a *buy* with a 37.08% probability.

[14] In untabulated results, we find that the proprtions of upgrades, downgrades, and reiterations are similar across different analyst locations.

3.5. Methodology

We use a standard event-study methodology to calculate the average cumulative abnormal returns around a three-day event window [-1; +1] centred around the recommendation change/reiteration, both for the home and US market. For each cross-listed firm, we estimate excess returns using the market model of the respective market:

$$AR^{(H)}_{i,t} = R^{(H)}_{i,t} - \hat{\alpha}_i - \hat{\beta}_i R^{(H)}_{m,t} \qquad (1)$$

$$AR^{(US)}_{j,t} = R^{(US)}_{j,t} - \hat{\alpha}_j - \hat{\beta}_j R^{(US)}_{m,t} \qquad (2)$$

$AR^{(H)}_{i,t}$ and $AR^{(US)}_{j,t}$ are stock *i*'s and US counterpart *j*'s (ADR or ordinary share) daily excess returns at time *t;* $R^{(H)}_{i,t}$ and $R^{(US)}_{j,t}$ are stock *i*'s and US counterpart *j*'s (ADR or ordinary share) daily returns at time *t;* $R^{(H)}_{m,t}$ and $R^{(US)}_{m,t}$ are the stock *i*'s corresponding Thomson Reuter Datastream (TRD) national stock market index (Datastream item *TOTMK*[*country_code*]) and the US counterpart *j*'s corresponding TRD US stock market index (Datastream item *TOTMKUS*) daily returns at time *t*. [15]

For each cross-listed firm daily abnormal returns ($AR^{(H)}_{i,t}$ and $AR^{(US)}_{j,t}$) are cumulated from day *t* to day τ and mean domestic and foreign cumulative abnormal returns for a [t, τ] event window are then obtained by averaging the domestic and foreign cumulative abnormal returns corresponding to each recommendation change/reiteration category and analyst location.

Daily trading volumes are computed as $\ln[1 + n^{(H)}_{i,t}] / \ln[1+ S^{(H)}_{i,t}]$ and $\ln[1 + n^{(US)}_{j,t}] / \ln[1+ S^{(US)}_{j,t}]$, where $n^{(H)}_{i,t}$ and $n^{(US)}_{j,t}$ are the daily number of shares traded (Datastream item *VO*) for stock *i* and US counterpart *j* (ADR or ordinary share), respectively. Similarly $S^{(H)}_{i,t}$

[15] See Campbell, Cowan, and Salotti (2010). The model parameters α and β are estimated over daily times-series OLS regressions on domestic and US market models using a [-121,-2] estimation window given by $R^{(H)}_{i,t} = \alpha_i + \beta_i R^{(H)}_{m,t} + \varepsilon_{i,t}$ and $R^{(US)}_{j,t} = \alpha_j + \beta_j R^{(US)}_{m,t} + \varepsilon_{j,t}$. Daily *log*-returns between day *t* and day *t*-1 are computed using the stock or market *cum*-dividend total return index (Datastream item *RI*) in local currency and in US dollars for stock *i* and US counterpart (ADR or ordinary share) *j*, respectively. We restrict our analysis to recommendations changes/reiterations events with sufficient daily return observations for the estimation window. We consider an event before June 18, 2003 only if the firm remains listed in the same markets in the previous 121 trading days. If the recommendation is issued on Saturday or Sunday we consider the first subsequent Monday as day 0 in the event window.

and $S^{(US)}_{j,t}$ are the daily total number of shares outstanding (Datastream item *NOSH*) for stock *i* and US counterpart *j*. Abnormal trading volumes ($AV^{(H)}_{i,t}$ and $AV^{(US)}_{j,t}$) are calculated as the difference between the trading volumes of the stock *i* or the US counterpart *j* at time *t* ($V^{(H)}_{i,t}$ and $V^{(US)}_{j,t}$) and the average volume ($\overline{V^{(H)}_{i,t}}$ and $\overline{V^{(US)}_{j,t}}$) over a [-61, -2] and [+2, +61] estimation window (Womack, 1996):[16]

$$AV^{(H)}_{i,t} = V^{(H)}_{i,t} - \overline{V^{(H)}_{i,t}} \quad (3)$$

$$AV^{(US)}_{j,t} = V^{(US)}_{j,t} - \overline{V^{(US)}_{j,t}} \quad (4)$$

Daily abnormal volumes ($AV^{(H)}_{i,t}$ and $AV^{(US)}_{j,t}$) are aggregated for each cross-listed firm from day -1 to day +1. We then average the domestic and foreign cumulative abnormal volumes analogous to abnormal returns to obtain mean domestic and foreign cumulative abnormal returns over a [-1, +1] event window.

4. Univariate Comparisons

4.1. Analysts' recommendation changes in US and home markets

Table 3 presents results on abnormal returns and volumes in home and US markets conditional on the magnitude of the recommendation change. Table 3 does not distinguish by location of the analyst. The results in the table show that recommendation changes generate significant excess returns both in the home and U.S. markets. Home (U.S.) mean market reactions following upgrades and downgrades are 1.07% (1.06%) and -1.65% (-1.68%), respectively, and statistically significant at 1%-level. This initial evidence confirms that—consistent with the prior literature—recommendations changes are informative and that downgrades convey a stronger signal to markets (e.g., Womack, 1996).

[16] We first apply a logarithmic transformation of volumes as suggested by Ajinkya and Jain (1989) such that $V^{(H)}_{i,t} = ln(1+ Vol^{(H)}_{i,t})$ and $V^{(US)}_{i,t} = ln(1+ Vol^{(US)}_{i,t})$, where $Vol^{(H)}_{i,t}$ and $Vol^{(US)}_{j,t}$ are stock i's and US counterpart j's (ADR or ordinary share) daily trading volumes.

The table further shows that ratings changes on average elicit similar market responses in the home and U.S. markets. The mean and median differences between the 3-day cumulative abnormal returns in the home and U.S. markets are not statistically different from zero (Columns 5 and 6). These results hold for any magnitude of the ratings change as well as on average across upgrades and downgrades. The evidence is consistent with the law of one price.

The right hand-side columns in Table 3 further show abnormal trading volumes around the recommendation changes/reiterations. Analysts' recommendation changes not only generate significant prices reactions but also induce greater-than-average trading volumes both in the home and U.S. markets confirming their informativeness.

However, while there are no significant differences in the cumulative abnormal returns between the home and U.S. markets, upgrades and downgrades exhibit higher excess trading volumes in the home market than in the U.S. market. The mean (median) differences for upgrades and downgrades are both statistically different from zero at 1.33% (2.28%) and 1.13% (2.53%), respectively. These results hold across most of the recommendation change categories, but in particular for 2-point and 1-point recommendations changes.

Overall, these initial results are consistent with the hypothesis that rating changes are equally informative in the local and U.S. market, but also show that on average, excess trading activity is more intense in the home than in the U.S. market suggesting that there exists more disagreement or less prior information among investors in the home market.

4.2. The effect of analysts' locations

Table 4 reports CARs and CAVs in the home and U.S. market by geographical location of the analyst. The table also shows results whether differences in cumulative abnormal returns and volumes generated by the recommendation changes are associated with analyst locations. Results are presented separately for upgrades (Panel A) and downgrades (Panel B). We divide the *Local* group into *Pure Local* and *Expatriate Local* analysts, the *Foreign* group

in *Foreign_SR* and *Foreign_DR* analysts and isolate the group of foreign *U.S.-Located* analysts.

Consistent with the previous results, Panel A reveals that recommendation changes are associated with statistically significant CARs and CAVs in the home and U.S. market irrespective of the analyst location. While mean CARs are not different between home and U.S. markets across the analyst location categories (Column 5), home market CAVs are higher when upgrades are issued by local analysts (and foreign analysts that are located in the same region) and U.S. market CAVs are higher when upgrades are issued by *U.S.-Located* and *Foreign_DR* analysts (Columns 11 and 12). More specifically, upgrades issued by *Local* analysts exhibit mean (median) differences in CAVs of 2.14% (2.82%) while differences in mean (median) CAVs for recommendation changes by *U.S.-Located* analysts are negative and equal to -3.66% (-0.93%).

More interestingly, however, significant differences exist between the market reactions within the home and U.S. markets subject to analyst locations. Panel A shows that upgrades by analysts located in the United States generate mean cumulative abnormal returns of 1.89% and 1.95% in the home and U.S. market, respectively. Upgrades issued by *Local* analysts generate a lower market reaction and the mean home (U.S.) CARs amount to 1.06% (1.03%). That is, we find that *U.S.-Located* analysts are more informative than *Local* analysts even in the home market. The differences (local – U.S.-located) are statistically and economically significant in the home (U.S. market) at -0.83% (-0.92%) at the 1%-level (lower panel in Panel A). The pattern is similar when we disaggregate the *Local* analysts into *Pure Local* and *Expatriate Local*. Excess returns range from 1.04% to 1.09% in the home market and from 0.99% to 1.11% in the U.S. market and both are significantly smaller than reactions to *U.S.-Located* analysts.

A similar pattern persists when we examine downgrades (Panel B of table 4). Again, the results support the notion of a higher information value of analysts located in the United

States even for home market trading. The three-day mean cumulative abnormal returns to U.S. analyst downgrades are equal to -2.51% and -2.59% in the home and U.S. market, respectively. *Local* analysts instead generate mean home (U.S.) CARs of -1.65% (-1.63%). The differences in market reactions are statistically significant and similar in economic magnitude to upgrades (second panel in Panel B).

The results on CAVs are equally similar to the pattern observed for upgrades. Downgrades issued by *Local* analysts exhibit mean (median) differences in CAVs equal to 1.67% (2.51%) and differences in mean (median) CAVs to downgrades issued by *U.S.-Located* analysts are negative and equal to -2.42% (-0.21%).

Overall, we find that *U.S.-Located* analyst upgrades are more informative than *Local* analyst upgrades in the Home and US market and similarly *U.S.-Located* downgrades are more informative than *Local* analyst downgrades. We also find incremental excess trading in the home market in response to *Local* analysts' recommendation changes and in the U.S. market in response to *U.S.-Located* analysts'.

5. Cross-Sectional Regressions

5.1. The informativeness of US analyst recommendation changes

The preliminary results in Table 4 highlight statistically and economically significant differences in the cumulative excess returns (and somewhat weaker in excess volumes) between *Local* (*Pure Local* and *Expatriate Local*) and *U.S.-Located* analysts. The results suggest that an *U.S.-Located* analyst's recommendation change has incremental information value for the home market stock compared to a recommendation change by a local analyst based in the home country of the stock.[17]

[17] The results in Tables 3 and 4 also highlight that there are no statistically significant differences in the CARs (-1,+1) between the home and U.S. market. We therefore restrict all subsequent analyses to the domestic (home) market with control variables related to the domestic stock.

We run pooled cross-sectional regressions, using announcement CARs (-1, +1) as dependent variables, on our main variable of interest *Local* (*Pure Local, Expatriate Local*) *vs U.S.-Located,* which is a dummy variable that takes the value of 1 if the recommendation change is issued by a *Local* (*Pure Local, Expatriate Local*) analyst and 0 if issued by an *U.S.-Located* analyst. The model is estimated as follows:

$$CAR_{[-1,+1],i} = \alpha_i + \beta_1 Local\ vs\ U.S.\text{-}Located + \sum \beta_k Controls + \varepsilon_i \quad (5)$$

We control for a set of variables related to analyst, broker, recommendation and firm characteristics based on findings in the prior literature and for various fixed effects (omitted in the equation, but stated at the bottom of Table 5), cluster standard errors by analyst and run the regression separately for upgrades and downgrades. The results are presented in Table 5.

We control for the analyst's experience measured as the number of years since the analyst first appeared in the I/B/E/S database (*Analyst General Experience*) and the difference of the number of years the analyst has covered the firm compared to all other analysts that covered the firm (*Analyst Firm Experience*), the number of firms the analyst follows (*Number Firms Followed),* as well as the size (*Broker Size*) and reputation (*Broker Reputation*) of the broker.[18]

We further control for the potential confounding effects of firm and earnings news highlighted by the prior literature (Altinkilic and Hansen, 2009; Li, Ramesh, Shen, and Wu, 2015). *Pre (Post)-Earnings* are dummy variables equal to one if the recommendation change is issued in the two weeks before (after) an earnings announcement. *Concurrent Earnings Forecast* is equal to one if the recommending analyst issued an EPS revision for the stock in the three-day window around the recommendation change and the estimate was revised in the same direction as the recommendation change.[19]

[18] We use the complete universe of recommendations present in I/B/E/S from 1993 to 2007 in order to compute the broker/analysts controls variable. The final dataset contains 1,367,928 observations for firms listed in 68 countries.

[19] We retrieve data on individual analyst's one-year ahead earnings per share (EPS) estimate from I/B/E/S by using the U.S. and International Detail Earnings Estimate History. We adopt the same selection criteria as with the recommendations in defining the sample of EPS estimate revisions/reiterations. For the final sample of 550

Stickel (1995) notes that downgrades that skip one category change generate, at least in the short term, a significantly higher market reaction. The results in Table 3 confirm that 2, 3 and 4-point changes generate higher cumulative abnormal returns than 1-point category change and that the results are stronger for downgrades compared to upgrades. It is conceivable that US-located analysts are significantly more likely to issue recommendation changes by more than one point compared to local analysts contributing to the higher magnitude in the market reaction.[20] We therefore control for the magnitude of the recommendation change (*Abs. Recommendation Change*).[21]

To control for firm-characteristics we add the following variables: *Size* is the domestic market capitalization (Datastream item *MV*) computed as the domestic share price (Datastream item *P*) times the domestic total number of shares outstanding (Datastream item *NOSH*) as of the end of June in the year prior to the recommendation change/reiteration (converted in millions of U.S. dollar)*; Book-to-Market*, is computed as the book value of equity (Worldscope item WC03501) for the year ended before June 30, divided by market capitalization (Worldscope item WC08001) on December 31st of the same fiscal year. *Turnover*, is the domestic average daily trading volume calculated as the number of domestic shares traded (Datastream item *VO*) scaled by the domestic number of shares outstanding (Datastream item *NOSH*) over the 63 days prior to the recommendation change; *Prev1M* is the domestic stock return over the 21 trading days prior to the recommendation change/reiteration; *Prev1Y* is the domestic stock return over the prior 252 trading days prior to the recommendation change, excluding the 21 trading days prior to the recommendation

cross-listed firms we merge the information drawn from the two I/B/E/S Detail Earnings Estimate files and identify a sample of 128,507 forecast revisions and reiterations of prior forecasts. EPS estimate revisions/reiterations are defined as the current estimate for one-year-ahead EPS minus the prior estimate by the same analyst.

[20] In fact, an untabulated t-test reveals that the mean absolute recommendation change of US-located analysts is significantly lower than that of local analysts at the 0.01%-level (t = -6.70).

[21] For example, going from a hold (=3) to a buy (=4) the variable would have a value of one, going from hold (=3) to sell (=1) the variable would have a value of 2, an unchanged rating would have a value of zero, and so on.

change; *Analyst Coverage* is the total number of analysts covering the firm in the year of the recommendation change.

Columns (1) to (6) in Table 5 show the results for upgrades. Consistent with Table 4, we find that upgrades from *U.S.-Located* analysts outperform upgrades by *Local, Pure Local and Expatriate Local* analysts by a statistically and economically significant 0.82%, 0.94% and 0.90% (Columns 1-3) over the three day announcement window, respectively.[22] Column (4) repeats the main regression with year, and firm fixed effects; column (5) shows results with year, firm and analyst fixed effects, and column (6) with year and firm-analyst pair fixed effects. In all three regressions the market reaction to *U.S.-Located* analyst recommendation upgrades remains economically significantly higher (0.50%, 2.06% and 2.72%, respectively) than to *Local* analyst recommendation upgrades, controlling for observed firm, broker, analyst, and recommendation characteristics and unobserved (constant) firm, analyst and firm-analyst pair heterogeneity. The results in Column 6 suggest that within the same firm-analyst pairing recommendation upgrades by *U.S.-Located* analysts result in an economically significant 2.72% higher market reaction than recommendation upgrades by local analysts.

Columns (7) to (12) show the results for downgrades. Again, consistent with Table 4, we find that downgrades from *U.S.-Located* analysts elicit higher (in magnitude) market reactions than downgrades by *Local, Pure Local and Expatriate Local* analysts by a statistically and economically significant 1.10%, 1.07% and 1.37% (Columns 7-9), respectively.[23] Similar to upgrades Column (10)-(12) report results of the main regression with year and firm fixed effects, year, firm and analyst fixed effects and year and firm-analyst pair fixed effects. In column (10) the market reaction to *U.S.-Located* analyst recommendation downgrades is weakly significantly lower by 0.40% than to *Local* analyst

[22] A Chi-square test (untabulated) reveals that the coefficients on the *Pure Local* and *Expatriate Local* dummies are not significantly different from each other (Chi^2=1.09, p=0.30).
[23] A Chi-square test (untabulated) reveals that the coefficients on the *Pure Local* and *Expatriate Local* dummies are significantly different from each other (Chi^2=2.92, p=0.09).

recommendation downgrades. The coefficients are not statistically significant in Columns (11) and (12).[24]

Overall, the results in Table 5 confirm that recommendation changes by *U.S.-Located* analysts are more informative for home market investors than recommendation changes by local analysts. These findings are economically and statistically significant for upgrades and robust to the inclusion of various observable firm, analyst and broker characteristics as well as fixed effects, but weaker for downgrades.

5.2. Do unobserved analyst and broker characteristics explain the results?

Despite the inclusion of various analyst and broker characteristics and estimation within analyst-firm pairings in Table 5 it is possible that the results are due to unobserved analyst and broker characteristics that change over time that influence the perceived value of US-located analyst recommendation changes relative to their local counterparts.[25] We therefore next examine the informativeness of recommendation changes within a sub-sample of analysts that move from the home market of the firm to the US or from the US to the home market of the firm and continue to cover the same firm, i.e., the *Local vs U.S.-Located* dummy variable switches from 0 to 1 or from 1 to 0 within the subsample of analyst movers.

Table 6, Panel A presents the results. The coefficient on *Local vs U.S.-Located* remains statistically significant for the subsample of upgrades with and without the inclusion of different fixed effects, but is insignificant for the subsample of downgrades confirming the preliminary results of Table 5. The results suggest that an upgrade from the same analyst for the same firm leads to an almost 2.5% higher market reaction when the analyst issues the upgrade when based in the US compared to when based in the home country of the firm (Table 6 Panel A, column 4).

[24] We re-run the regressions for upgrades and downgrades for each recommendation change category (1-4) separately. The results remain unchanged for the first two categories 1 and 2, but are statistically insignificant for categories 4 (for upgrades) and 3 and 4 (for downgrades) possibly because of the lower power due to only little more than 100 observations for each of these categories.

[25] For example, the analyst might receive more training in the U.S. office of the bank, might change offices to a more prestigous broker with more resources, or might benefit from information spillovers from other parts of the broker in the U.S.

The preceding analysis does not distinguish between whether the analyst is moving to another broker when moving location. We investigate whether the results are sensitive to moves within or across brokers by further dividing the subsample of moving analysts into those that at the same time of the location also move to another broker and those that stay with the same broker and only change their office location. Focusing the analysis on this subsample allows us to hold analyst (and broker) characteristics fixed in order to isolate only the effect of the location change on the informativeness of the recommendation change.[26]

Table 6, Panel B presents the results of this analysis. The Panel reveals that for the subsample of upgrades the U.S. location effect persists within and across broker moves. The coefficient on *Local vs U.S.-Located* remains significantly negative at -2.21% when analysts move location, but remain with the same broker. The magnitude of the coefficient is, however, almost double (-4.35% compared to -2.21%) when the analyst moves broker at the same time of moving location.[27] The results suggest that the location effect is less likely due to differences in characteristics within the same and across different brokers across locations.

5.3. Are US-located analysts first to change recommendations and local analysts follow?

The preceding analyses focus on finding explanations for the US-location premium to analyst recommendation changes documented in Table 4 and 5 based on analyst, firm and broker characteristics. In the following we investigate the timing of the recommendation changes, differences in the organization of analyst research and country-specific explanations.

It is conceivable that U.S.-located analysts on average issue more informative recommendation changes due to being the leader in making a recommendation change that local analysts follow. That is, any market moving information might already be public with the first recommendation change for the firm, which happens to be one from a U.S. analyst,

[26] For example, if a German analyst working for Deutsche Bank that covers a German firm cross-listed in the US, moves to the New York office of Deutsche Bank and continues to cover the same German firm, we observe the change in location of the analyst while all other characteristics (firm, broker and analyst) remain constant.

[27] The coefficient on *Local vs US Located* for the subsample of downgrades is also weakly significantly positive for analysts that move to different brokers compared to an insignificant coefficient for downgrades from analysts that move within brokers.

while local analysts piggy back on the recommendation change. U.S. analysts might be first mover in making recommendation changes because they might be faster in processing firm-specific or industry information, might work for brokerages that have better access to inside information of firms they follow, or because international firms may tend to disclose information when their respective home markets are closed, but the U.S. market is still open giving U.S.-located analysts a timing advantage in preparing their recommendation changes.

To investigate this potential explanation for our results we examine the relative timing of the recommendation changes for US-located and local analysts. For this we create an indicator variable *Follower*, that is assigned the value 1, if an analyst's recommendation change is in the same direction and by the same magnitude as a previous recommendation change from a different analyst for the same firm within a 30-day period. Analogously, *Follower* is equal to zero, if the recommendation change is different in magnitude or direction from a previous recommendation change for the same firm made by other analysts during the previous 30 days.

Table 7 Panel A reports the contingency table between *Local vs U.S.-Located* and *Follower*. Of the total of 16,473 recommendation changes by local analysts 2,820 (17.12%) are changes that have followed other analysts recommendation change announcements (*Follower* = 1). This compares to 738 US-located analyst recommendation changes as followers from a total of 4,157 US-located analysts (17.75%). That is, conditional on being a US-located analyst, the likelihood of also being a follower is slightly higher, not lower. This difference in frequencies, however, is not statistically significant ($\chi^2 = 0.94$).

We further include the indicator variable *Follower* in our main regressions and also interact the variable with our main variable of interest *Local vs U.S.-Located.* The results are shown in Table 7, Panel B. The coefficient on *Local vs U.S.-Located* remains statistically significant at -2.53% for the subsample of upgrades. More interestingly, neither the coefficient on *Follower*, nor the interaction effect are statistically different from zero

suggesting that the differential informativeness of US-located analysts is unlikely explained by them being the first to change the recommendations and local analysts being the followers.

5.4. Does analyst specialization matter?

Sonney (2009) and Salva and Sonney (2011) argue that brokerage houses organize their research along country and economic sectors and find that earnings forecasts and recommendations are relatively more informative from analysts with country-specific knowledge compared to sector-specialized analysts. It is thus possible, that the information advantage of U.S. analysts in our sample comes from them being predominantly country-specialized. Sonney (2009) shows that the information advantage of country-specialized analysts stems from the geographical proximity between the analyst and the firm as well as from superior knowledge of country-specific factors.

Our findings that U.S.-located analysts issue more informative recommendation changes compared to local analysts stand in contrast to the proximity argument as local analysts are per definition always located closer to the firm than U.S. analysts. However, it is conceivable that the advantage of having country-specialized knowledge outweighs geographical proximity. We therefore follow Sonney (2009) in classifying each analyst observation in our sample as coming from a country or sector specialist.[28] Table 8, Panel A reports the contingency table between *Local vs U.S.-Located* and *Country Specialist* and reveals that U.S.-located analysts are significantly less likely to be country-specialists. Of the total of 1,811 recommendation changes by U.S. analysts only 292 (16.12%) are from country-specialist, while 4,967 of the total of 8,005 local analyst recommendation changes (62.05%) come from country-specialists. That is, conditional on being a U.S.-located analyst, the likelihood of also being a country-specialist is significantly lower. This difference in frequencies is highly statistically significant ($\chi^2 = 1300$).

[28] We allow for analysts to move between categories e.g., when they move brokerages or locations. For this particular analysis we disregard analysts that according to Sonney's (2009) methodology can neither be classified as country or sector specialists. Including this third category in our analysis does not change our inference.

Consistent with the contingency table, the regression results in Panel B show that conditioning on being a country-specialist does not affect the U.S. location premium. The coefficient on *Local vs U.S.-Located* remains statistically significant at -4.23% for the subsample of upgrades (equation 2) and the interaction effect with the country-specialist indicator variable is insignificantly different from zero. These results suggest that the U.S. location premium is unlikely explained by analyst specialization.

5.5. Do country characteristics explain the results?

One hypothesis why U.S.-located analysts' recommendation changes are more informative to local market investors compared to local analysts' is that the effect is driven by firms that cross-list in the U.S. from countries with weaker investor protection, corporate governance mechanisms and reporting and disclosure environments. Through a cross-listing firms from countries with weaker legal environments are able to bond themselves to the higher legal protection of minority shareholders in the U.S. (Coffee, 1999, 2002). Stulz (1999) highlights an important role of intermediaries in the bonding hypothesis: Analysts based in the U.S. add further scrutiny and monitoring for the home stock as information production might be more stringently regulated in the U.S.—and thus their recommendations might be perceived as more informative than those of home analysts. Moreover, if these analysts are employed by highly reputable investment banks they may further play a certification role for the cross-listed stock (Stulz 1999, Karolyi 2006).

Generally, the improvement of the information environment that comes with a cross-listing (Fernandes and Ferreira 2008) should be stronger for firms from countries with weak information environments. Furthermore, local market investors might pay more attention to information produced by US-located intermediaries due to perceived higher reliability of the information, higher accuracy, and potentially fewer conflicts of interests. Our main results that the differential informativeness is more pronounced for upgrades compared to downgrades points towards this explanation. Prior evidence suggest that analysts might be

reluctant to downgrade firms they follow due to conflicts of interests related to their broker's other business relationships with the firm. If these conflicts of interests are more pervasive between local analysts and local firms than between US-located analysts and these firms, then the location effect should be stronger for upgrades than downgrades, which is what we find.[29]

If the bonding and certification hypotheses explain our findings we would expect our results to be stronger for analyst recommendation changes that are issued for firms from countries with weak investor protection, governance or disclosure environments. We therefore repeat our main regressions distinguishing our sample, using dummy variables, by the socio-economic, legal and political, regulatory and governance, and reporting and disclosure environment of the home country of the cross-listed firm. We also include interaction effects of the particular country characteristic with our main variable of interest *Local vs U.S.-Located.*

Table 9 reports the regression results. The table shows in each row the coefficient and *t*-statistic of each regression for our main indicator *Local vs U.S.-Located,* the particular country characteristic and their interaction effect. All other control variables and year fixed effects are suppressed for ease of exposition. Variable definitions are provided in the appendix. If the certification hypothesis holds we should observe a positive coefficient on the interaction effect for upgrades and a negative coefficient on the interaction effect for downgrades. We predominantly find the contrary.

For example, in the first row of Table 9 we report results distinguishing by whether the home country of the cross-listed firm is an advanced economy (country characteristic indicator = 1) or an emerging economy. The coefficient on the interaction effect shows that the differential market reaction to US-located analyst recommendation changes compared to local analysts is wider when the cross-listed firm is from an advanced economy (coefficient

[29] Another reason might be that local market investors may be more concerned about buying shares after an upgrade from a local analyst when they believe that conflicts of interest or governance problems exist than about selling shares after a downgrade from a local analyst.

on the interaction effect = -0.90, p-value<0.05). This result is the contra our expectations. We find similar results using proxies for the rule of law, accountability, and government effectiveness as well as the regulatory quality, corruption control and disclosure environment of the country. Depending on the proxy used we either find no difference in the premium for US-located recommendation changes across countries (interaction effect is not statistically different from zero) or find a higher premium for countries with the *stronger* legal, regulatory or disclosure environment (interaction effect is negative for upgrades and positive for downgrades).[30] These results are somewhat consistent with findings in Bae, Stulz, and Tan (2008) that the local analyst advantage is higher for firms with weaker disclosure environments and more concentrated ownership. Overall, our findings suggest that recommendation changes by US-located analysts are significantly more informative for firms from countries with stronger legal, regulatory and disclosure environments.

5.6. Alternative explanations and further robustness

We further investigate whether investors over-react to US-analysts' recommendation changes, or equally under-react to local analysts' recommendation changes. If the incremental informativeness of U.S.-located analysts is explained by over-reaction of home market investors to U.S.-analysts' news or under-reaction to local analysts' recommendations, we should observe a (partial) reversal of the event-window effect over longer event horizons after the even date. In untabulated results we do not find evidence of a reversal of the effect over 5 days, 1 month or 3 months post-announcement of the recommendation changes for upgrades or downgrades.

An alternative explanation might be that U.S.-based analyst recommendations are predominantly targeted at U.S. investors who might trade differently than local investors. Prior evidence suggests that institutional ownership increases in cross-listed firms and that investors' trade larger blocks after cross-listings (Doidge, 2004; Edison and Warnock, 2004;

[30] The only result (out of 18 proxies we use) that is consistent with the certification hypothesis is when the sample is divided by legal origin (whether common or civil law).

Bradshaw, Bushee, and Miller, 2004). However, our results that there is a premium to US-located analyst recommendation changes in the *home* market of the firm would mean that US investors trade more in the home market of the stock instead of the equally liquid ADR[31] or that trading in the U.S. in response to the U.S.-analyst recommendation change spills over to the home market. The preliminary evidence in Table 4 on abnormal volumes in the two markets is inconsistent with such explanation. Abnormal volumes are significantly lower in the home market in response to a U.S.-located analyst recommendation change compared to that of a local analyst, while abnormal volumes are significantly higher in the U.S. in response to a U.S.-located analyst recommendation change.

We further test the robustness of our results controlling for the geographical distance and conditioning our sample on broker reputation. Our findings that U.S. analysts' recommendation changes are more informative than local analysts is somewhat contrary to Bae, Stulz, and Tan (2008) and Malloy (2005) who find and inverse relationship of forecasting quality and geographical distance between analyst and firm headquarters. Although U.S. analysts will per definition in almost all cases be located further away from the firm than local analysts, it is possible (although unlikely) that for some Canadian or Central and South American firms the U.S. analyst is physically located closer. We therefore directly test the effect of the distance by controlling for the proximity of the analyst to the headquarters of the firm measured as a direct distance in kilometres. In untabulated results we do not find any evidence that the geographical distance materially changes our inference.

Lastly, we condition our main regression based on broker reputation to further assess whether the U.S. analyst location premium can be explained by a certification effect stemming from U.S. analysts being more likely to work for reputable brokers. Although we find in untabulated results that U.S. analysts are indeed significantly more likely to work for

[31] In addition to better liquidity, transaction and foreign exchange costs are likely also lower for a US investor when trading the ADR instead of the common stock in the home market of the firm.

reputable (highly ranked) brokers, we do not find any evidence that this affects and explains our results.

6. Conclusions

We investigate stock return and trading volume reactions to analyst recommendation changes issued by local and foreign analysts for international stocks from 40 countries cross-listed in the U.S from 2003-2007. We find strong evidence of a U.S.-location premium: Our main results show that recommendation changes by analysts based in the U.S. lead to significantly higher abnormal returns in *both*, the U.S. and the home market of the cross-listed firm. We do not find such a differential effect for other foreign analysts. We further find that the results on the U.S. location premium to analyst recommendation changes are stronger for recommendation upgrades than downgrades consistent with market concerns of higher conflicts of interest of local analysts.

Our results are robust to various controls and to an identification strategy that uses a subsample of analysts that move locations during our sample period and change from being a U.S-located analyst to become local analysts or vice versa. The U.S.-location premium persists within this subsample after isolating the effect of the location from unobserved differences in analyst, broker or firm characteristics.

We further investigate whether the U.S. location premium can be explained by a bonding facilitation and certification role of U.S. intermediaries for stocks that cross-list from countries with weaker legal, governance, and reporting environments. We find the opposite. Our findings that recommendation changes by U.S. located analysts lead to a higher market reaction in the home market compared to recommendation changes by local analysts are stronger for firms from countries with *stronger* legal, governance, and reporting environments. These results are consistent with Bae, Stulz and Tan (2008) who document a stronger *local* advantage of analysts in countries with weaker governance and disclosure

environments. We also do not find the differential effect to be explained by the relatively higher reputation of U.S. brokers.

We explore alternative explanations for which we find little empirical support. For example, we examine whether the market over-react to U.S.-located analyst recommendation changes in the short-term. However, we do not find a reversal of the effect over longer-term horizons in the subsequent months of the recommendation change. We also find no evidence that U.S.-located analysts pre-empt local analysts' recommendation changes or that the geographical distance to the firm's headquarters matters.

Overall, our findings suggest the existence of an economically significant U.S.-location premium to analyst recommendation changes for cross-listed stocks, in particular for changes that reflect upgrades, which stand in contrast to prior findings of a local analyst information advantage and at the same time cannot be explained by a bonding or certification role of the U.S. analyst. We invite future research to further investigate this phenomenon.

Appendix: Variable definitions

Broker and analyst characteristics

Local vs U.S- Located	A dummy variable equal to the value 1 if the recommendation change is issued by a local analyst and 0 if issued by an U.S.-located analyst. *Source*: Nelson's Directory of Investment Research for 2004-2008; Bae, Stulz and Tan (2008).
Pure Local vs U.S.-Located	A dummy variable equal to 1 if the recommendation change is issued by a Pure Local analyst and 0 if issued by an U. S. Located analyst. *Source*: Nelson's Directory of Investment Research for 2004-2008; Bae, Stulz and Tan (2008).
Expatriate Local vs U.S.-Located	A dummy variable equal to 1 if the recommendation change is issued by an Expatriate local analyst and 0 if issued by an U. S. Located analyst. *Source*: Nelson's Directory of Investment Research for 2004-2008; Bae, Stulz and Tan (2008).
Broker Size	Natural logarithm of the total number of analysts working for the brokerage firm *j* with which the recommending analyst *i* is associated in year *t*. *Source*: Institutional Brokers' Estimate System (I/B/E/S)
Broker Reputation	Dummy variable equal to 1 if the analyst works for a brokerage firm that is ranked among the Top10 All-American broker in year t in the annual polls of Institutional Investor magazine. *Source*: Institutional Investor Magazine
Analyst General Experience	Number of years between recommendation *l* of analyst *i* and the analyst's first recommendation recorded in I/B/E/S. *Source*: Institutional Brokers' Estimate System (I/B/E/S)
Analyst Firm Experience	Number of years analyst *i* has covered firm *k* minus the average number of years all other analysts have covered firm *k*. *Source*: Institutional Brokers' Estimate System (I/B/E/S)
Number Firms Followed	Number of firms analyst *i* covers in year *t* in the I/B/E/S database *Source*: Institutional Brokers' Estimate System (I/B/E/S)
Country Specialist	Indicator variable equal to 1 if the analyst is a country specialist, zero if the analyst is a sector specialist. An analyst is classified as a country specialist if her or his country Herfindahl Index (HI) is larger than 0.90 and her or his sector Herfindahl Index (HI) is smaller than 0.90. An analyst is classified as a sector specialist if her or his sector Herfindahl Index (HI) is larger than 0.90 and her or his country Herfindahl Index (HI) is smaller than 0.90. Following Sonney (2009) and Salva and Sonney (2011), for each analyst, both a sector and a country HI are computed as follows: $HI_{a,y}^{Country} = \sum_{c=1}^{C} \alpha_c^2 \quad and \quad HI_{a,y}^{Sector} = \sum_{s=1}^{S} \alpha_s^2$ where $\alpha_c = N_{c,a,y}/N_{a,y}$ and $\alpha_s = N_{s,a,y}/N_{a,y}$. · $N_{c,a,y}$ ($N_{s,a,y}$) is the number of firms in country *c* (sector *s*) for which analyst *a* issued forecasts over fiscal year *y*. $N_{a,y}$ is the total number of firms followed by analyst *a* over fiscal year *y*. Sectors are defined according to the Industry Classification Benchmark (ICB) Level 1 definitions which provide a hierarchy of 10 industries (Datastream item ICBIN). *Sources*: Sonney (2009) and Salva and Sonney (2011); Thomson Reuters Datastream; Institutional Brokers' Estimate System (I/B/E/S).
GeoDistance	The shortest geographical distance measured in (thousand) kilometres between the firm's headquarter city and the analyst's office city. The geographical distance is computed using the Haversine formula as :

$$R \times 2 \times \arccos\left[\sqrt{\sin^2\left(\frac{Lat_f - Lat_a}{2}\right) + \cos(Lat_f) \times \cos(Lat_a) \times \sin^2\left(\frac{Long_f - Long_a}{2}\right)}\right]$$

where Lat_f and $Long_f$ are the geographical latitude and longitude of the firm city and Lat_a and $Long_a$ the geographical latitude and longitude of the analyst city expressed in decimal degrees, respectively. *R* is the mean radius of the earth (6371.10.km). Firms' corporate office locations are obtained using the following Worldscope items: Street Address (WC06022); City (WC06023); State, Province, County or District (WC06024); Nation (WC06026). Analysts' office locations are obtained from the Nelson's Directory of Investment Research for 2004-2008. Latitudes and longitudes are obtained with the *Geocoding* process in the *Google Maps API Service*. Analysts with missing data for the city location and firms headquartered in country different from the home listing country are excluded.
Sources: Thomson Reuters Worldscope, Nelson's Directory of Investment Research for 2004-2008; Bae, Stulz and Tan (2008).

Recommendation characteristics

Abs. Recommendation Change	Absolute value of the recommendation change. For example, a recommendation change from underperform (=2) to buy (=4) has a value of 2. *Source*: Institutional Brokers' Estimate System (I/B/E/S)
Concurrent Earnings Forecast	Dummy variable equal to one if the recommending analyst issued an earnings forecast revision for the stock in the three day period surrounding the recommendation and the forecast revision was in the same direction as the recommendation change. Forecast revisions are computed as the current forecast for one-year-ahead earnings minus the prior forecast by the same analyst. *Source*: Institutional Brokers' Estimate System (I/B/E/S)
Pre-Earnings	Dummy variable equal to one if the recommendation change is issued in the two weeks prior to an earnings announcement. *Source*: Institutional Brokers' Estimate System (I/B/E/S)
Post-Earnings	Dummy variable equal to one if the recommendation change is issued in the two weeks after an earnings announcement. *Source*: Institutional Brokers' Estimate System (I/B/E/S)

Firm Characteristics

Analyst Coverage	Total number of analysts covering the firm in the year of the recommendation change. *Source*: Institutional Brokers' Estimate System (I/B/E/S)
Average Turnover	Domestic average daily trading volume obtained as the number of domestic shares traded (Datastream item VO) scaled by the domestic number of shares outstanding (Datastream item NOSH) over the 63 days prior to the recommendation change. *Source*: Thomson Reuters Datastream
Book-to-Market	Book to market ratio computed as the book value of equity (Worldscope item WC03501) for the year ended before June 30, divided by market capitalization (Worldscope item WC08001) on December 31st of the same fiscal year. Negative values are excluded. *Source*: Thomson Reuters Worldscope
Prev1M	Domestic stock return over the 21 trading days prior to the recommendation change. *Source*: Thomson Reuters Datastream
Prev1Y	Domestic stock return over the prior 252 trading days prior to the recommendation change, excluding the 21 trading days prior to the recommendation change. *Source*: Thomson Reuters Datastream
Size	Domestic market capitalization (Datastream item MV) computed as share price

	times total shares outstanding as of the end of June in the year prior to the recommendation change (in millions of dollars). *Source*: Thomson Reuters Datastream

Socio-economic environment

Advanced Economy	Indicator variable equal to 1 if the country is an Advanced Economy and zero otherwise. *Source*: International Monetary Fund (IMF) World Economic Outlook (2004-2008 Editions)
GDP Per Capita	Indicator variable equal to 1 if GDP per capita of the country is above the sample median. Values are time-varying. *Source*: World Bank national accounts data, and OECD National Accounts data files.
Cultural Distance	A measure of cultural distance based on Hofstede's (2001) and Hofstede, Hofstede and Minkov's (2010) cultural frameworks. Specifically, the definition of cultural distance (CD_{ij}) between home market *i* and host (U.S.) market *j* is based on Dodd, Frijns and Gilbert (2015): $CD_{ij} = \sqrt{\sum_{k=1}^{K}\left\{\left(I_{kj} - I_{ki}\right)^2 / V_k\right\}}$ where I_{kj} is country *j*'s score on the k^{th} cultural dimension and V_k is the variance of the score of the dimension *k*. The higher the score on the cultural distance measure, the greater the cultural difference between countries *i* and *j*, based on the chosen cultural framework. The 6 cultural dimensions are: *Uncertainty Avoidance, Individualism, Power Distance, Masculinity, Long-term vs Short term Orientation, Indulgence vs Restraint.* The values are time-invariant. *Source*: own calculations based on Hofstede (2001), Hofstede, Hofstede and Minkov (2010) and Dodd, Frijns and Gilbert (2015).

Legal & political environment

Legal origin	Indicator is set equal to 1 if the countries legal origin is common law, and zero otherwise. *Source:* La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) and La Porta, Lopez-de-Silanes and Shleifer (2008)
Rule of Law	Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. The variable ranges from -2.5 (weak) to 2.5 (strong). Values are time-varying. *Source*: World Bank data files and estimates.
Voice and Accountability	Reflects perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. The variable ranges from approximately -2.5 (weak) to 2.5 (strong). Values are time-varying. *Source*: World Bank data files and estimates
Political Stability	Measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. The variable ranges from approximately -2.5 (weak) to 2.5 (strong). Values are time-varying. *Source*: World Bank data files and estimates.
Government Effectiveness	Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. The variable ranges from approximately -2.5 (weak) to 2.5 (strong). Values are time-varying. *Source*: World Bank data files and estimates.

Regulatory & governance environment

Regulatory Quality	Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. The variable ranges from approximately -2.5 (weak) to 2.5 (strong). Values are time-varying. *Source*: World Bank data files and estimates.
Control of Corruption	Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Ranges from approximately -2.5 (weak) to 2.5 (strong). Values are time-varying. *Source*: World Bank data files and estimates
Anti-director rights index	Indicator variable equal to 1 if the anti-director rights index of the country is above the sample median. The anti-director rights index is formed by adding 1 when: (1) the country allows shareholders to mail their proxy vote; (2) shareholders are not required to deposit their shares prior to the general shareholders' meeting; (3) cumulative voting or proportional representation of minorities on the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) shareholders have pre-emptive rights that can only be waived by a shareholders meeting; and (6) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than or equal to 10%. The index ranges from 0 to 6. A higher score indicates a higher level of investor protection. The index is time-invariant and based on data available in May 2003. *Source*: Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008)
Anti-self-dealing index	Indicator variable equal to 1 if the anti-self-dealing rights index of the country is above the sample median. The anti-self-dealing index is formed by taking the average of ex ante and ex post private control of self-dealing indices. The index of ex ante control of self-dealing transactions is an average of approval by disinterested shareholders and ex ante disclosure. The index of ex post control of self-dealing transactions is an average of disclosures in periodic filings and ease of proving wrongdoing. A higher score indicates a higher level of strength of minority shareholder protection against self-dealing by the controlling shareholder. The index is time-invariant and based on data in May 2003. *Source*: Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008)

Reporting & disclosure environment

CIFAR Transparency Index	Indicator variable equal to 1 if the index of the country is above the sample median. The index is created by the Center for Financial Analysis and Research based on firms' 1995 annual reports. It counts the inclusion or omission of 90 items in the annual report in each country. The index covers a minimum of three companies and is time-invariant. *Sources*: CIFAR and Bushman, Piotroski and Smith (2004)
Disclosure Requirements Index	Indicator variable equal to 1 if the index of the country is above the sample median. The index captures disclosure requirements for domestic corporations that raise capital through an initial public offering on the country's largest stock exchange. The index captures prospectus, compensation, shareholders; inside ownership; contracts; and transactions disclosures. A higher score indicates a higher level of disclosure. The index is time-invariant and based on data in May 2003. *Source*: Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008)
Reporting Frequency	The within country average frequency of financial reports issued each year by all domestic public companies in each country using the *Earnings Report Frequency* Worldscope item (WC05200) . For each firm, its reporting frequency is coded as 1 for quarterly reporting, 2 for semi-annual, 3 for three fixed interims, 4 for annual and 0 for missing quarter/quarters. Only domestic firms indicated as major stock and primary issue in a domestic stock exchange are considered. Data are from Thomson Reuters Worldscope countries' constituent lists for the 40 countries in the sample and are time-varying for 2003-2007. *Source*: own calculations

BIG 4 Auditor	Indicator variable equal to 1 if the fraction of public firms in the country that use a Big Four auditor is above the sample median (as reported in Hope, Kang, Thomas, and Yoo, 2008). The primary source for identifying the firm's auditor is Compustat Global (CG#Auop1). The values are time-invariant and based on values computed between 1992 and 2004. *Source*: Hope, Kang, Thomas and Yoo (2008).

Earnings quality

Earnings Management	Indicator variable equal to 1 if earnings management and opacity scores of the country are above the sample median. Earnings management and opacity scores are based on Leuz, Nanda and Wysocki (2003) and tabulated and updated in Leuz (2010). These aggregate scores consist of 4 metrics measuring the extent to which firms' reported earnings obfuscate or potentially misrepresent economic performance as a result of earnings smoothing and the use of reporting discretion. A higher score indicates a higher level of earnings management. The index is time-invariant and based on values computed between 1996 and 2005. *Source*: Leuz, Nanda and Wysocki (2003) and Leuz (2010)
Timely Bad News Recognition	This variable captures the average country-level association between reported firm-level earnings and bad news in stock returns as defined in Bushman and Piotroski (2006). The values of the variable are obtained by the country estimates of the coefficients β_3 obtained from within country pooled regressions: $NI = \beta_0 + \beta_1 NEG + \beta_2 RET + \beta_3 RET*NEG$, where NI is a firm's reported net income (Worldscope item WC01706), RET is the annual stock return and NEG is a dummy variable which equals one if RET<0. A higher score means more timely recognition of bad news, i.e., higher quality financial reporting. Only domestic non-financial firms indicated as major stock and primary issue in a domestic stock exchange are considered. Data are from Thomson Reuters Worldscope countries' constituent lists for the 40 countries in the sample and are for the period 1996-2005. The variable is time-invariant. *Source*: own calculations based on Bushman and Piotroski (2006)

References

Aggarwal, R., Dahiya, S., Klapper, L., 2007. ADR holdings of US-based emerging market funds. Journal of Banking and Finance 31, 1649–1667.

Ajinkya, B., Jain, P., 1989. The behavior of daily stock market trading volume. Journal of Accounting and Economics 11, 331-359.

Altinkilic, O., Hansen, R., 2009. On the information role of stock recommendation revisions. Journal of Accounting and Economics 48, 17-36.

Altinkilic, O., Balashov, V., Hansen, R., 2013. Are analysts' forecasts informative to the general public? Management Science 59, 2550 – 2565.

Bae, K-H., Stulz, R., Tan, H., 2008. Do local analysts know more? A cross-country study of the performance of local analysts and foreign analysts. Journal of Financial Economics 88, 581–606.

Bae, K.-H., Ozoguz, A., Tan, H., Wirjanto, T., 2012. Do foreigners facilitate information transmission in emerging markets? Journal of Financial Economics 105, 209–227.

Bae, K.-H., Tan, H., Welker, M., 2008. International GAAP differences: the impact on foreign analysts. Accounting Review 83, 593–628.

Bailey, W., Karolyi, A., Salva, C., 2006. The economic consequences of increased disclosure. Evidence form international cross-listings. Journal of Financial Economics 81, 175-213.

Baker, H., Nofsinger, J., Weaver, D., 2002. International cross-listing and visibility. Journal of Financial and Quantitative Analysis 37, 495–521.

Bradley, D., Clarke, J., Lee, S., Ornthanalai C., 2014. Are analysts' recommendations informative? Intraday evidence on the impact of time stamp delays. Journal of Finance 69, 645–673.

Bradshaw, M., Bushee, B., Miller, T., 2004. Accounting choice, home bias and U.S. investment in non-U.S. firms. Journal of Accounting Research 42, 795–841.

Bushman, R., Piotroski, J., Smith, A., 2004. What determines corporate transparency? Journal of Accounting Research 42, 207-252.

Bushman, R., Piotroski, J., 2006. Financial reporting incentives for conservative accounting: the influence of legal and political institutions. Journal of Accounting and Economics 42, 107–148.

Campbell, C., Cowan, A., Salotti, V., 2010. Multi-country event-study methods. Journal of Banking and Finance 34, 3078-3090.

Coffee, J., 1999. The future as history: the prospects for global convergence in corporate governance and its implications. Northwestern University Law Review 93, 641–708.

Coffee, J., 2002. Racing towards the top? The impact of cross-listings and stock market competition on international corporate governance. Columbia Law Review 102, 1757–1831.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2008. The law and economics of self-dealing. Journal of Financial Economics 88, 430–465.

Dodd, O., Frijns, B., Gilbert, A., 2015. On the role of cultural distance in the decision to cross-list. European Financial Management 21,706-741.

Doidge, C., 2004. U.S. cross-listings and the private benefits of control: evidence from dual-class firms. Journal of Financial Economics 72, 519–553.

Doidge, C., Karolyi, A., Stulz, R., 2004. Why are foreign firms listed in the U.S. worth more? Journal of Financial Economics 71, 205–238.

Doidge, C., Karolyi, A., Stulz, R., 2007. Why do countries matter so much for corporate governance? Journal of Financial Economics 86, 1-39.

Edison, H., Warnock, F., 2004. U.S. investors emerging market equity portfolios: a security-level analysis. Review of Economics and Statistics 86, 391–704.

Fernandes, N., Ferreira, M., 2008. Does international cross-listing improve the information environment? Journal of Financial Economics 88, 216-244.

Foerster, R., Karolyi, A., 1999. The effects of market segmentation and investor recognition on asset prices: evidence from foreign stocks listing in the United States. Journal of Finance 54, 981–1013.

Gagnon, L., Karolyi, A., 2009. Information, trading volume, and international stock return comovements. Evidence from cross-listed stocks. Journal of Financial and Quantitative Analysis 44, 953-986.

Gagnon, L., Karolyi, A., 2010. Multi–market trading and arbitrage. Journal of Financial Economics 97, 53-80.

Halling, M., Pagano, M., Randl, O., Zechner, J., 2008. Where is the market? Evidence from cross-listings in the U.S. Review of Financial Studies 21, 725-761.

Hargis, K., Ramanlal, P., 1998. When does internationalization enhance the development of domestic stock markets? Journal of Financial Intermediation 7, 263–292.

Hofstede G., 2001. Culture's consequences: comparing values, behaviors, institutions and organizations across nations. 2nd Edition, Thousand Oaks CA, Sage Publications.

Hofstede, G., Hofstede, G. J., Minkov, M., 2010. Cultures and organizations: software of the mind. Revised and expanded 3rd Edition, New York, McGraw-Hill, USA.

Hope, O., Kang, T., Thomas, W., Yoo, Y., 2008. Culture and auditor choice: a test of the secrecy hypothesis. Journal of Accounting and Public Policy 27, 357-373.

Jegadeesh, N., Kim, J., Kirsche, S., Lee, C., 2004. Analyzing the analysts: when do recommendations add value? Journal of Finance 59, 108-1124.

Karolyi, A., 2004. The role of ADRs in the development of emerging equity markets. Review of Economics and Statistics 86, 670–690.

Karolyi, A., 2006. The world of cross-listings and cross-listings of the world. Challenging conventional wisdom. Review of Finance 10, 99-152.

Kim, O., Verrecchia, R., 1991. Trading volume and price reactions to public announcements. Journal of Accounting Research 29, 302 – 321.

Kim, O., Verrecchia, R., 1994. Market liquidity and volume around earnings announcements. Journal of Accounting and Economics 17, 41 - 67.

Lang, M., Lins, K., Miller, D., 2003. ADRs, analysts, and accuracy: does cross listing in the United States improve a firm's information environment and increase market value? Journal of Accounting Research 41, 317-345.

Lang, M., Lins, K., Miller, D., 2004. Concentrated control, analyst following and valuation: do analysts matter most when investors are protected least? Journal of Accounting Research 42, 581–623.

La Porta, R., Lopez-de-Silanes, F., Shleifer A., Vishny R., 1998. Law and finance. Journal of Political Economy 106, 1113-1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer A., 2008. The economic consequences of legal origins. Journal of Economic Literature 46, 285-332.

Li, E.X., Ramesh, K., Shen, M., Wu, J.S., 2015. Do analyst stock recommendations piggyback on recent corporate news? An analysis of regular-hour and after-hours revisions. Journal of Accounting Research 53, 821-861.

Loh, R., Stulz, R., 2011. When are analyst recommendations influential? Review of Financial Studies 24, 593-627.

Leuz, C., Nanda, D., Wysocki, P., 2003. Earnings management and investor protection: an international comparison. Journal of Financial Economics 69, 505– 527

Leuz, C., 2010. Different approaches to corporate reporting regulation: how jurisdictions differ and why. Accounting and Business Research 40, 229–256.

Malloy, C., 2005. The Geography of equity analysts. Journal of Finance 60, 719-755.

Miller, D. P., 1999. The market reaction to international cross-listing: evidence from depositary receipts. Journal of Financial Economics 51, 103–123.

O'Brien, P., Tan, H., 2015. Geographic proximity and analyst coverage decisions: evidence from IPOs. Journal of Accounting and Economics 59, 41-59.

Reese, W., Weisbach, M., 2002. Protection of minority shareholder interests, cross listings in the United States, and subsequent equity offerings. Journal of Financial Economics 66, 65–104.

Salva, C., Sonney, F., 2011. The value of analysts' recommendations and the organization of financial research. Review of Finance 15, 397-440

Sarkissian, S., Schill, M., 2009. Are there permanent valuation gains to overseas listing? Review of Financial Studies 22, 371-412.

Sonney, F. 2009. Sector versus country specialization and financial analysts' performance. Review of Financial Studies 22, 2087–2131.

Stickel, S., 1995. The anatomy of buy and sell recommendations. Financial Analyst Journal 51, 25-39.

Stulz, R., 1999. Globalization, corporate finance and the cost of capital. Journal of Applied Corporate Finance 12, 8-25.

Womack, K., 1996. Do brokerage analysts' recommendations have investment value? Journal of Finance 51, 137-167.

Yezegel, A., 2015. Why do analysts revise their stock recommendations after earnings announcements? Journal of Accounting and Economics 59, 163–181.

Table 1. Analyst and Recommendation Summary Statistics

Panel A: Analysts and Recommendation Statistics by Country

Country	# of firms	(%)	Number of Recommendations Changes/Reiterations issued by							Number of Analysts					
			Local Analysts		Foreign Analysts			Total No. of Rec. Changes/Reit.	(%)	Local Analyst		Foreign Analysts			Total No. of Analysts by countries obs.
			Pure Local	Expatriate Local	Foreign SR	Foreign DR	U.S.-Located			Pure Local	Expatriate Local	Foreign SR	Foreign DR	U.S.-Located	
Argentina	11	2.00%	23	2	4	24	18	53	0.19%	2	1	1	14	11	18
Australia	11	2.00%	170	332	24	37	28	563	1.98%	32	61	2	10	6	105
Austria	1	0.18%	1	0	55	0	0	56	0.20%	1	0	20	0	0	21
Belgium	1	0.18%	26	2	72	2	2	102	0.36%	7	2	26	1	1	36
Brazil	36	6.55%	590	363	1	643	463	1,597	5.61%	53	28	1	75	59	157
Canada	196	35.64%	5,192	781	1,777	318	1,777	8,068	28.36%	396	68	384	63	384	911
Chile	11	2.00%	72	43	33	100	82	248	0.87%	5	9	8	27	21	49
China	14	2.55%	46	59	346	329	194	780	2.74%	12	15	87	78	47	192
Colombia	1	0.18%	0	0	0	6	5	6	0.02%	0	0	0	2	2	2
Denmark	3	0.55%	26	47	150	5	5	228	0.80%	5	15	55	1	1	76
Finland	2	0.36%	48	11	307	84	79	450	1.58%	9	5	68	28	27	110
France	21	3.82%	317	144	956	61	47	1,478	5.19%	98	38	282	30	26	448
Germany	13	2.36%	764	76	597	73	66	1,510	5.31%	109	28	187	31	29	355
Greece	2	0.36%	52	8	117	2	2	179	0.63%	13	2	34	1	1	50
Hong Kong	10	1.82%	342	127	294	496	289	1,259	4.42%	59	35	67	107	56	268
Hungary	1	0.18%	5	0	28	1	1	34	0.12%	2	0	11	1	1	14
India	11	2.00%	169	326	46	90	60	631	2.22%	42	55	9	19	14	125
Indonesia	2	0.36%	17	27	100	34	15	178	0.63%	7	8	13	5	2	33
Ireland	5	0.91%	43	0	225	21	21	289	1.02%	14	0	61	8	8	83
Israel	10	1.82%	6	12	0	19	12	37	0.13%	2	3	0	9	4	14
Italy	7	1.27%	106	88	242	11	11	447	1.57%	30	21	86	5	5	142
Japan	26	4.73%	369	684	8	54	35	1,115	3.92%	76	109	2	18	11	205
Luxembourg	2	0.36%	0	0	65	25	21	90	0.32%	0	0	22	8	6	30
Mexico	21	3.82%	89	0	31	309	241	429	1.51%	14	0	4	58	45	76
Netherlands	16	2.91%	311	198	912	89	84	1,510	5.31%	62	38	237	29	27	366
New Zealand	2	0.36%	0	15	8	0	0	23	0.08%	0	6	2	0	0	8
Norway	6	1.09%	196	145	188	4	4	533	1.87%	34	29	61	1	1	125
Peru	1	0.18%	1	0	6	32	30	39	0.14%	1	0	2	9	8	12
Philippines	1	0.18%	1	10	17	21	5	49	0.17%	1	5	4	6	3	16
Portugal	3	0.55%	20	5	159	0	0	184	0.65%	7	2	43	0	0	52
Russia	5	0.91%	43	12	75	19	16	149	0.52%	10	2	20	6	5	38
South Africa	8	1.45%	188	227	0	175	76	590	2.07%	16	19	0	40	15	75
South Korea	8	1.45%	298	164	18	86	67	566	1.99%	61	37	7	19	11	124
Spain	5	0.91%	23	87	346	15	15	471	1.66%	10	20	85	4	4	119
Sweden	1	0.18%	13	3	17	0	0	33	0.12%	4	1	7	0	0	12
Switzerland	10	1.82%	103	35	618	38	34	794	2.79%	33	14	156	10	9	213
Taiwan	7	1.27%	44	231	68	101	71	444	1.56%	12	41	20	34	26	107
Turkey	1	0.18%	18	0	46	8	8	72	0.25%	6	0	10	2	2	18
United Kingdom	57	10.36%	1,163	1,320	327	334	262	3,144	11.05%	270	248	120	96	81	734
Venezuela	1	0.18%	0	1	3	21	11	25	0.09%	0	1	1	8	5	10
Total	550	100.00%	10,895	5,585	8,286	3,687	4,157	28,453	100.00%					All Analysts	3,876

Panel B: Analyst and Recommendation Statistics by Year

Year	# of firms	(%)	Number of Recommendations Changes/Reiterations issued by: Local Analysts: Pure Local	Local Analysts: Expatriate Local	Foreign Analysts: Foreign SR	Foreign Analysts: Foreign DR	Foreign Analysts: U.S.-Located	# of Rec. Changes/Reit.	(%)	Number of Analysts: Local Analysts: Pure Local	Local Analysts: Expatriate Local	Foreign Analysts: Foreign SR	Foreign Analysts: Foreign DR	Foreign Analysts: U.S.-Located	# of Analysts by year obs.	Year(s) with Rec. Changes/Reit.	# of firms
2003	432	56.73%	2,256	1,613	2,060	902	990	6,831	24.01%	655	512	755	274	313	2,196	5 Years	312
2004	442	12.00%	2,115	1,411	1,612	624	642	5,762	20.25%	710	459	686	212	233	2,067	4 Years	66
2005	436	10.91%	2,251	917	1,746	623	727	5,537	19.46%	681	361	606	236	274	1,884	3 Years	60
2005	448	11.64%	2,223	854	1,446	783	881	5,306	18.65%	676	315	589	250	291	1,830	2 Years	64
2007	422	8.73%	2,050	790	1,422	755	917	5,017	17.63%	620	288	533	220	267	1,661	1 Year	48
		100.00%	10,895	5,585	8,286	3,687	4,157	28,453	100.00%				All Analysts		3,869	All Firms	550

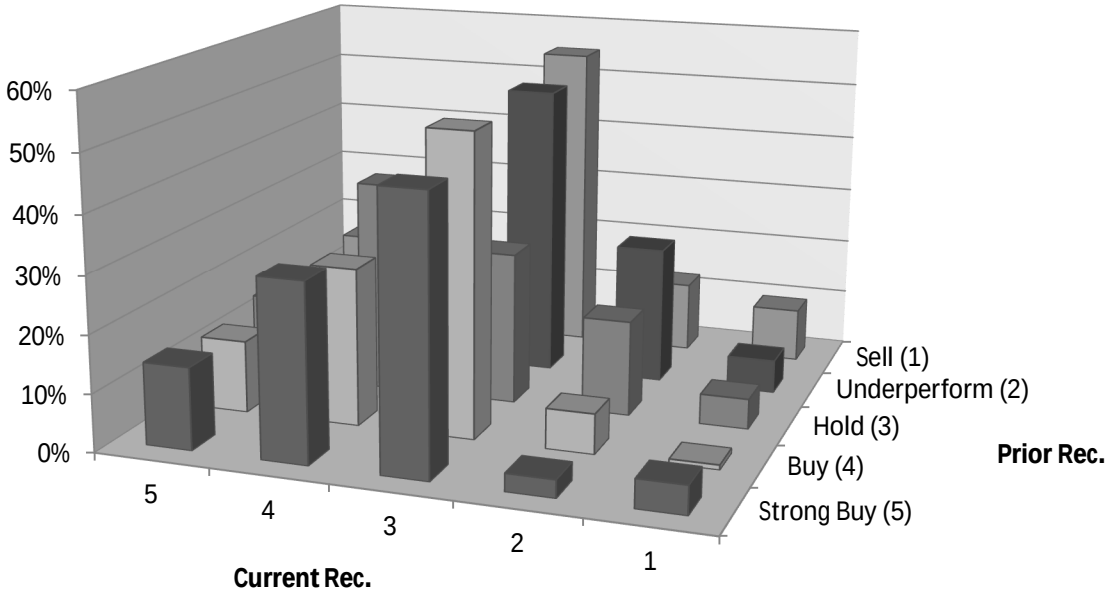
This table reports analyst and recommendation summary statistics for firms cross-listed on NYSE, NASDAQ and AMEX as ADR Level II, ADR Type III and Ordinary Shares between 2003 and 2007 by country (Panel A) and year (Panel B). Recommendations and analysts are grouped into seven analyst-location categories: *Local* refers to a recommendation change or reiteration issued by an analyst whose location is the same as the covered firm. *Foreign* refers to a recommendation change or reiteration issued by analysts who are located in a different country from the firm they cover. *Pure Local* and *Expatriate Local* are the subsets of the *Local* category. *Pure local* analysts work for local research firms, while *Expatriate Local* analysts work for research firms from foreign countries. *Foreign_SR* and *Foreign_DR* and subsets of the *Foreign* category. *Foreign_SR* are analysts located in a different country from the firm they cover but in the same geographical region. *Foreign_DR* are analysts located in a different country from the firm they cover and in a different geographical region. *US-located* is a subset of the *Foreign* category that refers to analyst who are located in the United States. *US-located* analyst can belong to the *Foreign_SD* or to the *Foreign_DR* category. The sum of analysts following firms as *Pure Local*, *Expatriate Local*, *Foreign_SR*, *Foreign_DR* does not equal the total actual number of analysts since a given analyst can follow more than one firm in more than one sector and can change location in a given year.

Table 2. Descriptive Statistics of Recommendation Changes

	Current Recommendation					
	(5)	(4)	(3)	(2)	(1)	**Total**
Prior Recommendation	Strong Buy	Buy	Hold	Underperform	Sell	
(5) Strong Buy	509 14.21%	1,100 30.72%	1,686 47.08%	110 3.07%	176 4.91%	3,581 100%
(4) Buy	1,093 12.58%	2,382 27.41%	4,539 52.23%	603 6.94%	73 0.84%	8,690 100%
(3) Hold	1,659 14.47%	4,252 37.09%	3,051 26.61%	1,901 16.58%	601 5.24%	11,464 100%
(2) Underperfom	94 2.62%	578 16.09%	1,844 51.32%	869 24.19%	208 5.79%	3,593 100%
(1) Sell	182 16.18%	83 7.38%	617 54.84%	138 12.27%	105 9.33%	1,125 100%
Total	3,537	8,395	1,1737	3,621	1,163	28,453

The sample of recommendation changes/reiterations are from I/B/E/S Detail U.S. and International Files 2003 to 2007. Each recommendation change (reiteration) is an analyst's current rating minus his prior rating. Ratings are coded as 1 (sell) to strong buy (5), and rating changes lie between -4 and 4. Anonymous analysts are excluded. The table reports the transition probabilities of recommendation changes/reiterations. For example in column 4, when the prior recommendation is a hold, it has a 37.09% of transiting to a buy rating.

Fig. 1. Transition Probabilities of Recommendation Changes



The sample of recommendation changes/reiterations are from I/B/E/S Detail U.S. and International Files 2003 to 2007. Each recommendation change (reiteration) is an analyst's current rating minus his prior rating. Ratings are coded as 1 (sell) to strong buy (5), and rating changes lie between -4 and 4. Anonymous analysts are excluded. The chart plots the probability that a prior recommendation transits to any of the five rating categories.

Table 3. Cumulative Abnormal Returns (CAR) and Volumes (CAV)

Rec. Change/Reit.	# of Rec Change/reit	(%)	CAR [-1, +1] Home		US		(H – US)		CAV [-1, +1] Home		US		(H – US)	
			(1) Mean H	(2) Median H	(3) Mean U.S.	(4) Median U.S.	(5) (col. 1 – col.3)	(6) (col. 2 – col. 4)	(7) Mean H	(8) Median H	(9) Mean U.S.	(10) Median U.S.	(11) (col. 7 – col. 9)	(12) (col. 8 –col. 10)
-4	176	0.62%	-1.61***	-0.89***	-1.63***	-1.09***	0.02	0.20	8.40***	10.73***	10.84***	9.38***	-2.44	0.45
			(-3.05)	(-3.53)	(-3.08)	(-4.01)	(0.07)	(0.65)	(3.43)	(7.46)	(6.14)	(6.72)	(-0.94)	(1.04)
-3	183	0.64%	-3.98***	-0.92***	-3.77***	-0.95***	-0.21	0.03	11.75***	11.32***	9.26***	8.74***	2.49	2.58**
			(-3.84)	(-4.08)	(-3.56)	(-3.38)	(-0.95)	(-1.60)	(6.33)	(7.99)	(4.62)	(6.15)	(1.38)	(2.56)
-2	2,890	10.16%	-1.79***	-0.82***	-1.82***	-0.85***	0.03	0.03	9.50***	10.38***	8.69***	8.39***	0.81*	1.99***
			(-13.02)	(-16.47)	(-12.93)	(-15.80)	(0.61)	(0.53)	(21.97)	(31.12)	(22.09)	(25.26)	(1.94)	(5.53)
-1	7,748	27.23%	-1.54***	-0.86***	-1.58***	-0.82***	0.04	-0.04	9.33***	10.22***	8.02***	7.96***	1.31***	2.26***
			(-22.67)	(-25.32)	(-22.44)	(-24.07)	(1.20)	(-0.39)	(37.41)	(50.74)	(34.72)	(40.52)	(5.26)	(11.24)
0	6,916	24.31%	-0.03	-0.08**	-0.07	-0.06**	0.04	-0.02	3.94***	6.34***	3.60***	4.79***	0.34	1.55***
			(-0.76)	(-1.98)	(-1.37)	(-2.31)	(1.23)	(-0.47)	(14.91)	(35.15)	(15.52)	(25.70)	(1.18)	(7.64)
+1	7,327	25.75%	1.14***	0.62***	1.14***	0.68***	0.00	-0.04	8.30***	9.75***	7.00***	7.51***	1.30***	2.24***
			(19.59)	(20.73)	(18.20)	(20.02)	(0.05)	(-1.30)	(34.64)	(48.20)	(29.78)	(38.47)	(5.05)	(10.56)
+2	2,854	10.03%	0.90***	0.53***	0.89***	0.59***	0.01	-0.06	7.60***	9.29***	6.04***	7.09***	1.56***	2.20***
			(8.12)	(11.15)	(7.43)	(10.38)	(0.26)	(-0.81)	(19.29)	(29.03)	(16.46)	(21.84)	(3.75)	(7.73)
+3	177	0.62%	0.62**	0.28**	0.72**	0.20*	-0.10	-0.08	5.94***	8.18***	5.44**	5.67***	0.50	2.51*
			(2.29)	(2.05)	(2.16)	(1.73)	(-0.44)	(-0.14)	(3.34)	(6.43)	(2.43)	(5.86)	(0.20)	(1.68)
+4	182	0.64%	1.25***	0.88***	1.18***	0.81***	-0.07	-0.07	6.57***	9.08***	6.66***	6.71***	-0.09	2.37**
			(3.01)	(4.31)	(2.80)	(3.45)	(0.34)	(0.71)	(3.47)	(5.86)	(4.65)	(5.08)	(-0.04)	(2.19)
Upgrades	10,540	37.04%	1.07***	0.54***	1.06***	0.33***	0.01	0.22	8.03***	8.35***	6.70***	6.07***	1.33***	2.28***
			(20.90)	(23.94)	(19.35)	(22.77)	(0.16)	(-1.42)	(39.69)	(56.90)	(34.15)	(44.86)	(6.11)	(13.36)
Downgrades	10,997	38.65%	-1.65***	-0.71***	-1.68***	-0.61***	0.03	-0.09	9.37***	9.27***	8.26***	6.74***	1.13***	2.53***
			(-26.14)	(-30.65)	(-25.87)	(-29.24)	(1.19)	(-0.20)	(43.64)	(60.53)	(41.79)	(48.61)	[5.34]	(12.75)
Total	28,453	100.00%												

This table reports domestic and foreign cumulative abnormal returns (CARs) in percent and cumulative abnormal volumes (CAVs) following recommendation changes and reiterations for firms cross-listed on NYSE, NASDAQ and AMEX as ADR Level II, ADR Level III or Ordinary Shares between 2003 and 2007 over a three-day [-1, +1] event window. Each recommendation change (reiteration) is an analyst's current rating minus her prior rating. Ratings are coded as 1 (sell) to strong buy (5), and rating changes lie between -4 and +4. Mean (columns 1 and 3) and median (columns 2 and 4) Domestic (Foreign) abnormal returns are measured as the domestic (foreign) raw return less the return on their national (US) stock market index. Similarly, mean (columns 7 and 9) and median (columns 8 and 10) domestic (foreign) abnormal volumes are computed as the domestic (foreign) raw volume less the average domestic (foreign) volume. (H-US) differences report differences in means and medians for cumulative abnormal returns (columns 5 and 6) and volumes (columns 11 and 12) computed between the domestic and US markets for a same category or ratings change. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level. *t*-statistics for the two-sided test and *z*-statistics for the one sample and two-sample Wilcoxon signed-rank tests are in parentheses below the mean and median estimates, respectively. Differences in means are computed assuming equal variance.

Table 4. Differences in CARs and CAVs between Home and US Markets by Analysts Locations

Panel A: Upgrades

		CAR [-1; +1]						CAV [-1; +1]					
Analyst Location	**Obs.**	**Home**		**U.S.**		**(H – U.S.)**		**Home**		**U.S.**		**(H – U.S.)**	
		(1) Mean	**(2) Median**	**(3) Mean**	**(4) Median**	**(5) (col. 1 – col. 3)**	**(6) (col. 2 – col.4)**	**(7) Mean**	**(8) Median**	**(9) Mean**	**(10) Median**	**(11) (col. 7 – col. 9)**	**(12) (col. 8 – col. 10)**
Local	**6,388**	1.06***	0.59***	1.03***	0.59***	0.03	0.01	8.62***	9.95***	6.48***	7.13***	2.14***	2.82***
		(16.14)	(17.46)	(14.64)	(16.20)	(0.81)	(0.25)	(33.64)	(44.28)	(25.25)	(33.16)	(7.78)	(13.46)
Pure Local	*4,415*	1.04***	0.55***	0.99***	0.49***	0.05	0.06	9.05***	10.01***	7.21***	7.67***	1.84***	2.34***
		(12.44)	(13.08)	(11.23)	(11.86)	(1.17)	(0.69)	(29.75)	(36.89)	(22.69)	(28.89)	(5.77)	(9.22)
Expatriate Local	*1,973*	1.09***	0.73***	1.11***	0.85***	-0.02	-0.12	7.68***	9.86***	4.85***	5.93***	2.83***	3.93***
		(10.96)	(11.94)	(9.88)	(11.47)	(-0.16)	(-0.50)	(16.16)	(24.53)	(11.33)	(16.35)	(5.25)	(10.03)
Foreign	**4,152**	1.08***	0.60***	1.11***	0.74***	-0.03	-0.14***	7.13***	9.02***	7.04***	7.57***	0.08	1.45***
		(13.28)	(16.55)	(12.68)	(16.24)	(-0.81)	(-2.59)	(21.68)	(35.78)	(23.18)	(30.35)	(0.24)	(4.53)
Foreign_SR	*2,933*	1.06***	0.56***	1.11***	0.70***	-0.05	-0.15**	7.66***	8.58***	6.51***	7.21***	1.15***	1.37***
		(11.14)	(13.21)	(10.84)	(13.18)	(-1.12)	(-2.22)	(21.05)	(31.25)	(19.35)	(24.94)	(3.06)	(5.80)
Foreign_DR	*1,219*	1.13***	0.75***	1.12***	0.83***	0.01	-0.08	5.85***	10.02***	8.34***	8.76***	-2.50***	1.26
		(7.25)	(10.02)	(6.61)	(9.47)	(0.14)	(-1.22)	(8.42)	(17.47)	(12.92)	(17.26)	(-3.13)	(-0.53)
U.S.-located	***1,417***	1.89***	1.04***	1.95***	1.26***	-0.06	-0.22*	7.26***	10.16***	10.92***	11.09***	-3.66***	-0.93***
		(10.49)	(13.10)	(10.21)	(12.71)	(-0.23)	(-1.77)	(11.40)	(19.30)	(18.00)	(21.99)	(-5.58)	(-5.55)
(Local – U.S.-located)		-0.83***	-0.45***	-0.92***	-0.67***			1.34**	-0.21	-4.45***	-3.96***		
		(-4.36)	(-5.33)	(-4.55)	(-5.66)			(1.96)	(-0.06)	(-6.75)	(-9.88)		
(Pure Local – U.S.-located)		-0.85***	-0.49***	-0.96***	-0.77***			1.78**	-0.15	-3.72***	-3.42***		
		(-4.31)	(-5.62)	(-4.57)	(-6.06)			(2.53)	(0.22)	(-5.43)	(-7.99)		
(Exp. Local – U.S.-located)		-0.79***	-0.31***	-0.84***	-0.41***			0.36	-0.30	-6.08***	-5.16***		
		(-3.85)	(-3.51)	(-3.80)	(-3.51)			(0.46)	(-0.60)	(-8.18)	(-11.27)		

Panel B: Downgrades

		CAR [-1; +1]						CAV [-1; +1]					
Analyst Location	**Obs.**	**Home**		**U.S.**		**(H – U.S.)**		**Home**		**U.S.**		**(H – U.S.)**	
		(1) Mean	**(2) Median**	**(3) Mean**	**(4) Median**	**(5) (col. 1 – col. 3)**	**(6) (col. 2 – col.4)**	**(7) Mean**	**(8) Median**	**(9) Mean**	**(10) Median**	**(11) (col. 7 – col. 9)**	**(12) (col. 8 – col. 10)**
Local	**6,633**	-1.65***	-0.82***	-1.63***	-0.76***	-0.02	-0.04	9.99***	10.59***	8.32***	8.08***	1.67***	2.51***
		(-19.90)	(-22.28)	(-19.53)	(-21.36)	(-0.59)	(-1.15)	(37.09)	(46.74)	(32.07)	(36.84)	(6.36)	(12.16)
Pure Local	*4,646*	-1.78***	-0.79***	-1.75***	-0.78***	-0.03	-0.01	10.62***	10.62***	9.08***	8.35***	1.53**	2.27***
		(-16.43)	(-18.23)	(-16.10)	(-17.57)	(-0.68)	(-0.98)	(32.80)	(39.51)	(27.99)	(31.49)	(5.06)	(8.88)
Expatriate Local	*1,987*	-1.35***	-0.87***	-1.35***	-0.78***	0.00	-0.09	8.52***	10.57***	6.55***	7.23***	1.96***	3.34***
		(-12.07)	(-12.83)	(-11.85)	(-12.21)	(-0.04)	(-0.64)	(17.62)	(24.95)	(15.75)	(19.12)	(3.85)	(8.465)
Foreign	**4,364**	-1.64***	-0.89***	-1.75***	-0.93***	0.11***	0.04	8.47***	9.95***	8.16***	8.21***	0.31	1.74***
		(-17.00)	(-21.33)	(-16.99)	(-20.13)	(2.59)	(1.08)	(23.87)	(38.50)	(26.83)	(31.77)	(0.89)	(5.20)
Foreign_SR	*3,027*	-1.66***	-0.90***	-1.75***	-0.93***	0.09**	-0.87	8.95***	9.76***	8.19***	7.91***	0.75*	1.85***
		(-14.31)	(-18.36)	(-14.23)	(-17.20)	(1.96)	(0.34)	(22.25)	(32.82)	(22.97)	(26.47)	(1.85)	(4.40)
Foreign_DR	*1,337*	-1.61***	-0.86***	-1.77***	-0.91***	0.16*	0.06	7.40***	10.18***	8.10***	8.74***	-0.70	1.45***
		(-9.19)	(-10.98)	(-9.29)	(-10.57)	(1.69)	(1.33)	(10.33)	(20.15)	(13.99)	(17.53)	(-0.84)	(2.71)
U.S.-located	*1,583*	-2.51***	-1.27***	-2.59***	-1.35***	0.08	0.08	10.26***	11.65***	12.68***	11.86***	-2.42***	-0.21***
		(-12.49)	(-15.06)	(-12.38)	(-14.56)	(1.15)	(-0.57)	(16.46)	(23.35)	(22.70)	(23.73)	(-4.20)	(-2.90)
(Local – U.S.-located)		0.86***	0.45***	0.96***	0.59***			-0.28	-1.06***	-4.37***	-3.78***		
		(3.95)	(4.71)	(4.26)	(4.91)			(-0.42)	(-2.97)	(-7.09)	(-9.30)		
(Pure Local – U.S.-located)		0.79***	0.48***	0.84***	0.57***			0.34	-1.03**	-3.61***	-3.51***		
		(3.21)	(4.52)	(3.56)	(4.61)			(0.49)	(-2.52)	(-5.59)	(-7.63)		
(Exp. Local – U.S.-located)		1.16***	0.41***	1.24***	0.44***			-1.74**	-1.47***	-6.12***	-3.12***		
		(5.03)	(3.95)	(5.21)	(4.31)			(-2.21)	(-3.15)	(-8.79)	(-10.33)		

This table reports percent domestic and foreign cumulative abnormal returns (CARs) and cumulative abnormal volumes (CAVs) following recommendation changes for firms cross-listed on NYSE, Nasdaq and AMEX as ADR Level II, ADR Level III or Ordinary Shares between 2003 and 2007 over a three-day [-1, +1] event window. Panel A shows the results for upgrades, Panel B for downgrades. Recommendations are grouped into seven analyst-location categories: *Local* refers to a recommendation changes issued by analysts whose location is the same as the covered firm. *Foreign* refers to recommendation changes issued by analysts who are located in a different country from the firm they cover. *Pure Local* and *Expatriate Local* are subsets of the *Local* category. *Pure Local* analysts work for local research firms, while *Expatriate Local* analysts work for research firms from foreign countries. *Foreign_SR* and *Foreign_DR* and subsets of the *Foreign* category. *Foreign_SR* are analysts located in a different country from the firm they cover but in the same geographical region. *Foreign_DR* are analysts located in a different country from the firm they cover and in a different geographical region. *U.S.-located* is a subset of the *Foreign* category that refers to analysts who are located in the United States. *U.S.-located* analyst can belong to the *Foreign_SD* or to the *Foreign_DR* category. Mean and median domestic (foreign) abnormal returns are measured as the domestic (foreign) raw return less the return on their national (U.S.) stock market index. Similarly, mean and median domestic (foreign) abnormal volumes are computed as the domestic

(foreign) raw volume less the average domestic (foreign) volume. (H-U.S.) columns report differences in means and medians for CARs (columns 5 and 6) and CAVs (columns 11 and 12) computed between the domestic and US markets for a same category of analysts and (local – U.S.-located) rows report differences in means and medians for CARs and CAVs by analyst location. *, **, and *** denote significance at the 10%, 5%, and 1% level. *t*-statistics for the two-sided test and *z*-statistics for the one sample and two-sample Wilcoxon signed-rank tests and rank-sum tests are in parentheses below the mean and median estimates, respectively. Differences in means are computed assuming equal variance for the (H-US) difference and unequal variance for the (local-US-located difference).

Table 5. Cross-Sectional Regressions on Home Market CARs

	Upgrades						Downgrades					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Local vs U.S.-Located	**-0.822**			**-0.500**	**-2.066**	**-2.712**	**1.102**			**0.401**	**-0.789**	**-0.125**
	(-3.39)* **			**(-2.00)** **	**(-2.11)** **	**(-2.27)** **	**(4.06)*** **			**(1.67)***	**(-0.89)**	**(-0.14)**
Pure Local vs U.S.-Located		**-0.943**						**1.075**				
		(-3.12)* **						**(3.15)*** **				
Expatriate Local vs U.S.- Located			**-0.898**						**1.368**			
			(-3.17)* **						**(4.44)*** **			
Broker Size	0.148	0.104	0.123	0.186	-0.008	0.037	-0.100	-0.191	-0.090	-0.277	0.127	0.266
	(2.07)**	(0.94)	(0.99)	(2.33)**	(-0.03)	(0.09)	(-1.43)	(-1.87)*	(-0.76)	(-4.07)***	(0.37)	(0.45)
Broker Reputation	-0.104	-0.325	-0.023	0.214	1.005	1.137	0.376	0.761	0.073	-0.367	0.001	1.149
	(-0.43)	(-0.76)	(-0.08)	(0.96)	(1.93)*	(1.79)*	(1.38)	(1.69)*	(0.25)	(-1.63)	(0.00)	(0.78)
Analyst General Experience	0.051	0.047	0.033	0.018	-0.098	0.257	-0.056	-0.046	-0.071	0.008	-0.466	-0.162
	(1.77)*	(1.34)	(0.70)	(0.57)	(-0.17)	(0.39)	(-1.57)	(-1.08)	(-1.31)	(0.26)	(-0.75)	(-0.19)
Analyst Firm Experience	-0.035	-0.030	0.013	-0.017	-0.036	-0.037	-0.003	-0.007	0.001	-0.070	-0.064	-0.129
	(-0.98)	(-0.68)	(0.26)	(-0.49)	(-0.61)	(-0.41)	(-0.07)	(-0.13)	(0.02)	(-1.80)*	(-1.02)	(-1.28)
Number Firms Followed	-0.029	-0.038	-0.024	-0.022	-0.020	-0.049	0.025	0.026	0.018	0.003	0.017	0.011
	(-3.33)***	(-3.72)***	(-1.58)	(-2.13)**	(-0.90)	(-1.66)*	(2.44)**	(2.28)**	(1.06)	(0.28)	(0.75)	(0.38)
Concurrent Earnings Forecast	0.397	0.450	0.532	0.336	0.556	0.734	-1.160	-1.298	-0.873	-1.140	-1.160	-1.523
	(1.99)**	(1.79)*	(1.71)*	(1.73)*	(2.31)**	(2.55)**	(-5.21)***	(-4.62)***	(-2.98)***	(-5.84)***	(-5.38)***	(-5.95)***
Pre-Earnings	0.324	0.497	0.034	0.083	-0.063	-0.280	0.846	0.786	0.698	0.457	-0.051	-0.638
	(1.00)	(1.26)	(0.08)	(0.26)	(-0.16)	(-0.61)	(3.31)***	(2.51)**	(1.67)*	(1.58)	(-0.14)	(-1.52)
Post-Earnings	0.301	0.226	0.631	0.180	0.276	0.288	-0.797	-0.700	-0.977	-0.766	-0.732	-0.692
	(1.24)	(0.76)	(1.79)*	(0.81)	(1.02)	(0.94)	(-2.52)**	(-1.84)*	(-2.08)**	(-2.53)**	(-1.97)**	(-1.53)
Abs. Recommendation Change	-0.031	-0.172	0.286	0.031	0.327	0.388	-0.463	-0.532	-0.484	-0.430	-0.792	-0.770
	(-0.25)	(-1.13)	(1.47)	(0.25)	(1.59)	(1.68)*	(-2.72)***	(-2.55)**	(-2.11)**	(-2.89)***	(-2.76)***	(-2.19)**
Prev1M	-2.220	-2.487	-0.333	-2.345	-1.863	-0.817	-1.011	-1.212	0.711	-2.023	-1.426	0.638
	(-2.48)**	(-2.25)**	(-0.29)	(-2.29)**	(-1.49)	(-0.52)	(-0.90)	(-0.89)	(0.56)	(-1.70)*	(-1.12)	(0.44)
Prev1Y	-0.533	-0.398	-0.527	-1.018	-1.191	-1.441	1.353	1.878	1.005	0.504	0.883	0.527
	(-1.91)*	(-1.22)	(-1.14)	(-2.38)**	(-2.10)**	(-2.17)**	(4.29)***	(4.81)***	(2.22)**	(1.44)	(1.95)*	(0.98)
Avgerage Turnover	-0.000	-0.001	-0.000	-0.001	-0.001	-0.026	0.001	0.001	0.001	0.004	0.003	0.003
	(-0.32)	(-0.53)	(-0.37)	(-0.56)	(-0.68)	(-1.66)*	(2.04)**	(1.97)**	(1.97)**	(5.86)***	(4.05)***	(8.39)***
Size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	(-6.29)***	(-6.60)***	(-4.46)***	(-3.05)***	(-2.11)**	(-2.41)**	(8.52)***	(8.44)***	(5.27)***	(-1.63)	(-0.86)	(-1.47)
Book-to-Market	-0.026	-0.059	-0.053	-0.494	-0.453	-0.622	0.031	0.129	0.085	-1.339	-1.709	-1.880

	(-0.50)	(-0.96)	(-0.80)	(-1.40)	(-1.48)	(-1.50)	(0.49)	(1.60)	(0.96)	(-3.91)***	(-3.50)***	(-2.78)***
Analyst Coverage	-0.013	-0.001	-0.009	-0.048	-0.067	-0.054	-0.010	-0.012	-0.009	-0.155	-0.229	-0.248
	(-1.31)	(-0.12)	(-0.76)	(-2.43)**	(-2.40)**	(-1.67)*	(-0.77)	(-0.80)	(-0.69)	(-6.00)***	(-5.86)***	(-5.14)***
Year Fixed Effects	N	N	N	Y	Y	Y	N	N	N	Y	Y	Y
Firm Fixed Effects	N	N	N	Y	Y	N	N	N	N	Y	Y	N
Analyst Fixed Effects	N	N	N	N	Y	N	N	N	N	N	Y	N
Firm-analyst Fixed Effects	N	N	N	N	N	Y	N	N	N	N	N	Y
Observations	7,554	5,619	3,304	7,510	6,637	5,446	7,835	5,901	3,446	7,782	6,836	5,585
Adj. R^2	0.01	0.01	0.01	0.08	0.08	0.06	0.02	0.03	0.02	0.20	0.22	0.15

This table reports results of pooled cross-sectional OLS estimations for domestic cumulative abnormal returns (CARs) following recommendation changes for firms cross-listed on NYSE, NASDAQ and AMEX as ADR Level II, ADR Level III or Ordinary Shares between 2003 and 2007. *Local* refers to a recommendation change issued by an analyst whose location is the same as the covered firm. *Pure Local* and *Expatriate Local* are the subsets of the *Local* category. *Pure Local* analysts work for local research firms, while *Expatriate Local* analysts work for research firms from foreign countries. *U.S.-located* is a subset of the *Foreign* category that refers to analysts who are located in the United States. *Local vs U.S.-located* is a dummy variable that takes 1 if the recommendation change is issued by a *Local* analyst and 0 if issued by an US-located analyst. *Pure Local vs U.S.-located* is a dummy variable that takes 1 if the recommendations change is issued by a *Pure Local* analyst and 0 if issued by an US-located analyst. *Expatriate Local vs U.S.-located* is a dummy variable that takes 1 if the recommendation change is issued by an *Expatriate Local* analyst and 0 if issued by an U.S.-located analyst. Variable descriptions of the control variables are provided in the main body of the paper. Domestic abnormal return is measured as the domestic return less the return on the national stock market index portfolio. Columns (1)-(6) show estimation results for recommendation upgrades and columns (7)-(12) show estimation results for recommendation downgrades. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively. *t*-statistics are in parentheses below the coefficient estimates. Standard errors are clustered by analyst.

Table 6. Cross-Sectional Regressions within Analyst Movers

Panel A: All analysts that move locations to/from the U.S.

	Upgrades				Downgrades			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Local vs U.S.-Located	**-1.075**	**-1.089**	**-2.190**	**-2.465**	**0.342**	**-0.524**	**-0.596**	**0.176**
	(-2.90)***	**(-1.67)***	**(-2.08)****	**(-2.24)****	**(0.75)**	**(-0.49)**	**(-0.61)**	**(0.16)**
Broker Size	0.075	-0.012	-0.339	-0.354	-0.086	-0.498	-0.925	-0.676
	(0.70)	(-0.02)	(-0.46)	(-0.36)	(-0.59)	(-0.92)	(-1.70)*	(-0.99)
Broker Reputation	0.012	1.310	0.866	0.707	-0.245	-1.515	0.046	0.064
	(0.04)	(1.99)**	(1.06)	(0.79)	(-0.59)	(-1.17)	(0.04)	(0.04)
Analyst General Experience	0.161	-0.012	-0.207	0.239	-0.148	-0.318	-0.140	0.110
	(3.01)***	(-0.01)	(-0.25)	(0.31)	(-1.89)*	(-0.62)	(-0.27)	(0.22)
Analyst Firm Experience	-0.045	-0.003	0.100	-0.002	0.136	0.131	0.259	0.199
	(-0.71)	(-0.02)	(0.88)	(-0.01)	(1.70)*	(0.93)	(1.68)*	(1.19)
Number Firms Followed	-0.078	-0.190	-0.141	-0.154	-0.010	0.033	0.000	-0.021
	(-3.20)***	(-2.46)**	(-1.84)*	(-1.76)*	(-0.40)	(0.55)	(0.01)	(-0.31)
Concurrent Earnings Forecast	0.174	0.294	0.414	0.584	-0.659	-0.682	-0.950	-1.002
	(0.61)	(0.86)	(1.15)	(1.58)	(-1.79)*	(-1.54)	(-2.23)**	(-2.30)**
Pre-Earnings	-0.803	-1.013	-0.198	-0.182	0.544	-0.198	-0.606	-1.073
	(-1.24)	(-1.25)	(-0.24)	(-0.20)	(1.03)	(-0.31)	(-0.89)	(-1.54)
Post-Earnings	-0.426	-0.185	-0.580	-0.510	-1.082	-1.554	-1.632	-1.891
	(-1.17)	(-0.42)	(-1.22)	(-0.96)	(-1.67)*	(-2.19)**	(-1.95)*	(-2.04)**
Abs. Recommendation Change	-0.009	0.423	0.130	-0.085	0.249	0.803	1.093	1.174
	(-0.05)	(1.71)*	(0.38)	(-0.23)	(1.03)	(1.87)*	(2.36)**	(2.27)**
Prev1M	-1.160	-0.109	-2.320	-2.557	-1.896	-1.572	-2.444	-0.996
	(-0.75)	(-0.06)	(-1.02)	(-1.10)	(-1.09)	(-0.68)	(-0.90)	(-0.32)
Prev1Y	-1.689	-1.900	-3.281	-3.384	0.211	-0.289	-0.645	-0.597
	(-4.15)***	(-3.45)***	(-2.61)***	(-2.69)***	(0.52)	(-0.51)	(-0.81)	(-0.71)
Avgerage Turnover	0.143	0.200	0.400	0.537	0.042	-0.076	-0.196	-0.526
	(0.85)	(0.91)	(1.02)	(1.45)	(0.62)	(-0.35)	(-0.58)	(-1.27)
Size	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	(-4.32)***	(-0.11)	(-0.68)	(-0.77)	(3.41)***	(0.37)	(1.33)	(0.51)
Book-to-Market	0.021	-0.050	-0.233	-0.335	-0.074	-0.173	-0.829	-1.087
	(0.29)	(-0.51)	(-0.39)	(-0.54)	(-1.01)	(-2.23)**	(-1.30)	(-1.47)
Analyst Coverage	-0.028	-0.013	-0.054	-0.085	-0.024	-0.040	-0.262	-0.258
	(-1.83)*	(-0.48)	(-1.21)	(-1.71)*	(-1.15)	(-1.00)	(-2.89)***	(-2.60)***
Year Fixed Effects	N	Y	Y	Y	N	Y	Y	Y
Firm Fixed Effects	N	N	Y	N	N	N	Y	N
Analyst Fixed Effects	N	Y	Y	N	N	Y	Y	N
Firm-Analyst Fixed Effects	N	N	N	Y	N	N	N	Y
Observations	1,643	1,471	1,421	1,223	1,692	1,524	1,454	1,251
Adj. R^2	0.04	0.03	0.04	0.07	0.01	0.16	0.17	0.19

Panel B: Analysts that move locations to/from the U.S. and move…

	…within the same broker							
	Upgrade				Downgrade			
	Coeff.	*t-stat*	*N*	*Adj. R^2*	*Coeff.*	*t-stat*	*N*	*Adj. R^2*
Local vs U.S.-located	-2.207	(-3.00)***	912	0.06	-0.783	(-0.74)	918	0.16
Firm-analyst fixed effects	Y				Y			
Broker fixed effects	Y				Y			
	…to a different broker							
	Upgrade				**Downgrade**			
	Coeff.	*t-stat*	*N*	*Adj. R^2*	*Coeff.*	*t-stat*	*N*	*Adj. R^2*
Local vs U.S.-located	-4.350	(-2.52)**	324	0.08	2.222	(1.69)*	354	0.13
Firm-analyst fixed effects	Y				Y			
Broker fixed effects	Y				Y			

This table reports results of pooled cross-sectional OLS estimations for domestic cumulative abnormal returns (CARs) following recommendation changes for firms cross-listed on NYSE, NASDAQ and AMEX as ADR Level II, ADR Level III or Ordinary Shares between 2003 and 2007. *Local vs U.S.-located* is a dummy variable that takes 1 if the recommendation change is issued by a *Local* analyst and 0 if issued by an U.S.-located analyst. Domestic abnormal returns are measured as the domestic return less the return on the national stock market index. Panel A shows results of OLS regressions within the subset of analysts that move locations from local to U.S.-located or from US-located to local. Variable descriptions are provided in the appendix. Columns (1)-(4) show estimation results for recommendation upgrades and columns (5)-(8) show estimation results for recommendation downgrades. Standard errors are clustered by analyst. Panel B shows results of OLS regressions within the subset of analysts that move locations from local to U.S.-located or from U.S.-located to local, and stay with the same brokerage firm (upper panel) or move to a different broker (lower panel). The regressions control for firm-analyst and broker fixed effects. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively. *t*-statistics are provided in parentheses.

Table 7. Relative Timing of Local and U.S. Recommendation Changes

Panel A: Contingency table

Local vs U.S.-Located		Follower: 0	Follower: 1	Total
	0	**3,419**	**738**	**4,157**
		16.57%	*3.58%*	*20.15%*
	1	**13,653**	**2,820**	**16,473**
		66.18%	*13.67%*	*79.85%*
	Total	**17,072**	**3,558**	**20,630**
		82.75%	*17.25%*	*100%*

Pearson χ^2 = 0.9356, Pr = 0.333

Panel B: Cross-sectional and interaction effects

	Upgrade		**Downgrade**	
	(1)	(2)	(3)	(4)
Local vs U.S.-located	**-2.692**	**-2.529**	**-0.085**	**-0.078**
	(-2.26)**	**(-2.05)****	**(-0.10)**	**(-0.09)**
Follower	**0.230**	**0.831**	**-0.401**	**-0.329**
	(0.87)	**(1.61)**	**(-1.21)**	**(-0.42)**
Local vs US-located × Follower		**-0.731**		**-0.086**
		(-1.23)		**(-0.10)**
Broker Size	0.028	0.040	0.270	0.269
	(0.07)	(0.09)	(0.46)	(0.46)
Broker Reputation	1.144	1.148	1.106	1.109
	(1.80)*	(1.81)*	(0.76)	(0.76)
Analyst General Experience	0.272	0.292	-0.157	-0.157
	(0.41)	(0.44)	(-0.19)	(-0.19)
Analyst Firm Experience	-0.039	-0.042	-0.129	-0.129
	(-0.43)	(-0.46)	(-1.28)	(-1.29)
Number Firms Followed	-0.049	-0.049	0.011	0.011
	(-1.65)*	(-1.65)*	(0.37)	(0.37)
Concurrent Earnings Forecast	0.731	0.737	-1.540	-1.540
	(2.53)**	(2.55)**	(-6.02)***	(-6.02)***
Pre-Earnings	-0.280	-0.278	-0.589	-0.590
	(-0.61)	(-0.61)	(-1.39)	(-1.39)
Post-Earnings	0.280	0.286	-0.661	-0.662
	(0.91)	(0.93)	(-1.45)	(-1.45)
Abs. Recommendation Change	0.402	0.404	-0.792	-0.792
	(1.73)*	(1.74)*	(-2.23)**	(-2.23)**
Prev1M	-0.817	-0.806	0.640	0.640

	(-0.52)	(-0.52)	(0.44)	(0.44)
Prev1Y	-1.443	-1.446	0.517	0.518
	(-2.17)**	(-2.17)**	(0.97)	(0.97)
Avgerage Turnover	-0.026	-0.025	0.003	0.003
	(-1.66)*	(-1.63)	(8.60)***	(8.61)***
Size	-0.000	-0.000	-0.000	-0.000
	(-2.40)**	(-2.42)**	(-1.46)	(-1.46)
Book-to-Market	-0.636	-0.662	-1.893	-1.894
	(-1.53)	(-1.60)	(-2.80)***	(-2.80)***
Analyst Coverage	-0.054	-0.054	-0.249	-0.249
	(-1.68)*	(-1.67)*	(-5.14)***	(-5.14)***
Year fixed effects	Y	Y	Y	Y
Firm fixed effects	N	N	N	N
Analyst fixed effects	N	N	N	N
Firm-analyst fixed effects	Y	Y	Y	Y
Observations	5,445	5,445	5,584	5,584
Adj. R2	0.06	0.06	0.15	0.15

Panel A summarizes a contingency table between the indicator variables *Local vs U.S.-Located* and *Follower*. *Local vs U.S.-Located* is a dummy variable equal to 1 if the recommendation change is issued by a *Local* analyst and 0 if issued by an US-located analyst. *Follower* is a dummy variable equal to 1 if an analyst's recommendation change is in the same direction and by the same magnitude as a previous recommendation change from a different analyst for the same firm within a 30-day period. Analogously, *Follower* is equal to zero, if the recommendation change is different in magnitude or direction from a previous recommendation change for the same firm made by other analysts during the previous 30 day. Panel B shows the results of pooled cross-sectional OLS estimations for domestic cumulative abnormal returns (CARs) following recommendation changes for firms cross-listed on NYSE, NASDAQ and AMEX as ADR Level II, ADR Level III or Ordinary Shares between 2003 and 2007. Variable descriptions are provided in the appendix. Columns (1)-(2) show estimation results for recommendation upgrades and columns (3)-(4) show estimation results for recommendation downgrades. Standard errors are clustered by analyst. The regressions control for fixed effects. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively. *t*-statistics are provided in parentheses.

Table 8. Analyst Specialization and the Information Value of Recommendation Changes

Panel A: Contingency table

Local vs U.S-Located		Country vs Sector Specialist: 0	1	Total
	0	**1,519**	**292**	**1,811**
		15.47%	*2.97%*	*18.45%*
	1	**3,038**	**4,967**	**8,005**
		30.95%	*50.60%*	*81.55%*
	Total	**4,557**	**5,259**	**9,816**
		46.42%	*53.58%*	*100%*

Pearson χ^2 = 1300.0, Pr < 0.001

Panel B: Cross-sectional and interaction effects

	Upgrade		**Downgrade**	
	(1)	(2)	(3)	(4)
Local vs U.S.-located	**-3.541**	**-4.227**	**-0.007**	**0.174**
	(-2.66)* **	**(-3.43)*** **	**(-0.00)**	**(0.08)**
Country Specialist	**-1.917**	**-3.765**	**0.423**	**0.825**
	(-1.32)	**(-1.99)** **	**(0.34)**	**(0.40)**
Local vs U.S.-located x Country Specialist		**2.077**		**-0.440**
		(1.11)		**(-0.22)**
Broker Size	0.135	0.137	1.818	1.817
	(0.21)	(0.21)	(1.31)	(1.31)
Broker Reputation	1.259	1.268	2.489	2.480
	(0.99)	(0.99)	(1.49)	(1.48)
Analyst General Experience	2.642	2.613	1.502	1.514
	(2.30)**	(2.28)**	(1.65)*	(1.65)
Analyst Firm Experience	-0.017	-0.017	-0.133	-0.134
	(-0.12)	(-0.13)	(-1.16)	(-1.17)
Number Firms Followed	-0.071	-0.071	0.026	0.025
	(-1.87)*	(-1.87)*	(0.73)	(0.72)
Concurrent Earnings Forecast	0.945	0.936	-1.064	-1.063
	(2.57)**	(2.55)**	(-3.05)***	(-3.05)***
Pre-Earnings	-2.126	-2.140	-0.332	-0.329
	(-2.68)***	(-2.70)***	(-0.52)	(-0.52)
Post-Earnings	-0.393	-0.403	-0.866	-0.864
	(-0.82)	(-0.84)	(-1.35)	(-1.35)
Abs. Recommendation Change	0.157	0.161	-0.833	-0.831
	(0.45)	(0.46)	(-1.62)	(-1.62)
Prev1M	-4.330	-4.301	0.787	0.795

	(-2.46)**	(-2.45)**	(0.46)	(0.46)
Prev1Y	-2.433	-2.403	0.452	0.442
	(-2.25)**	(-2.25)**	(0.65)	(0.63)
Avgerage Turnover	0.041	0.034	-0.190	-0.188
	(0.21)	(0.18)	(-0.72)	(-0.71)
Size	-0.000	-0.000	-0.000	-0.000
	(-0.61)	(-0.63)	(-1.68)*	(-1.67)*
Book-to-Market	-1.384	-1.369	-1.044	-1.058
	(-1.89)*	(-1.87)*	(-1.13)	(-1.13)
Analyst Coverage	0.011	0.013	-0.217	-0.217
	(0.25)	(0.29)	(-3.22)***	(-3.23)***
Year fixed effects	Y	Y	Y	Y
Firm fixed effects	N	N	N	N
Analyst fixed effects	N	N	N	N
Firm-analyst fixed effects	Y	Y	Y	Y
Observations	2,460	2,460	2,488	2,488
Adj. R2	0.147	0.147	0.15	0.15

Panel A summarizes a contingency table between the indicator variables *Local vs U.S.-Located* and *Country Specialist. Local vs U.S.-located* is a dummy variable equal to 1 if the recommendation change is issued by a *Local* analyst and 0 if issued by an US-located analyst. *Country Specialist* is a dummy variable equal to 1 if the analyst is a country specialist, and zero if the analyst is a sector specialist. The measures for county and sector specialization are defined in the variable appendix. Panel B shows the results of pooled cross-sectional OLS estimations for domestic cumulative abnormal returns (CARs) following recommendation changes for firms cross-listed on NYSE, NASDAQ and AMEX as ADR Level II, ADR Level III or Ordinary Shares between 2003 and 2007. Variable descriptions are provided in the appendix. Columns (1)-(2) show estimation results for recommendation upgrades and columns (3)-(4) show estimation results for recommendation downgrades. Standard errors are clustered by analyst. The regressions control for fixed effects. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively. *t*-statistics are provided in parentheses.

Table 9. Cross-Sectional Regressions by Country Characteristics

	Upgrade				Downgrade			
	Local indicator	Country characteristic	Interaction effect (Local x country characteristic)	*Adj. R^2*	Local indicator	Country characteristic	Interaction effect (Local x country characteristic)	*Adj. R^2*
Socio-economic environment								
Advanced economy	-0.218	1.327	-0.897	0.02	0.392	-2.128	1.114	0.03
	(-0.73)	(3.64)***	(-2.31)**		(1.26)	(-5.43)***	(2.51)**	
GDP per capita	-0.735	0.236	-0.191	0.01	0.447	-2.062	1.430	0.03
	(-2.67)***	(0.56)	(-0.44)		(1.69)*	(-4.36)***	(2.85)***	
Cultural distance	-1.266	-0.261	0.207	0.01	2.243	0.804	-0.510	0.03
	(-2.82)***	(-2.16)**	(1.61)		(4.32)***	(6.08)***	(-3.46)***	
Legal & political environment								
Legal origin	-1.173	-1.182	0.911	0.01	1.551	2.025	-1.135	0.03
	(-3.43)***	(-3.34)***	(2.41)**		(3.93)***	(5.08)***	(-2.57)**	
Rule of law	-0.379	0.653	-0.427	0.02	0.674	-1.034	0.458	0.03
	(-1.50)	(3.78)***	(-2.25)**		(2.36)**	(-5.13)***	(1.98)**	
Voice & Accountability	-0.615	0.526	-0.257	0.01	0.790	-1.418	0.491	0.03
	(-2.22)**	(2.36)**	(-1.03)		(2.60)***	(-6.07)***	(1.74)*	
Political Stability	-0.596	0.830	-0.463	0.02	0.629	-1.575	0.849	0.03
	(-2.79)***	(2.94)***	(-1.57)		(2.66)***	(-4.94)***	(2.41)**	
Government Effectiveness	-0.164	0.768	-0.510	0.02	0.445	-1.131	0.533	0.03
	(-0.56)	(3.76)***	(-2.31)**		(1.30)	(-4.98)***	(2.06)**	
Regulatory & governance environment								
Regulatory quality	-0.034	0.817	-0.666	0.01	0.345	-1.038	0.647	0.02
	(-0.11)	(3.59)***	(-2.75)***		(0.96)	(-3.90)***	(2.20)**	
Corruption Control	-0.173	0.652	-0.501	0.02	0.515	-0.922	0.481	0.02
	(-0.62)	(3.88)***	(-2.77)***		(1.70)*	(-4.93)***	(2.27)**	
Anti-director rights	-0.612	0.301	-0.244	0.01	0.265	-1.721	1.049	0.02
	(-1.22)	(0.65)	(-0.44)		(0.35)	(-3.73)***	(1.30)	
Anti-self-dealing	-0.794	0.102	-0.634	0.01	0.872	0.547	0.706	0.02
	(-3.19)***	(0.20)	(-1.25)		(3.14)***	(0.84)	(1.13)	
Reporting & disclosure environment								
CIFAR	-0.912	-0.918	0.552	0.01	0.878	0.577	0.556	0.02
	(-3.62)***	(-1.90)*	(1.09)		(3.13)***	(0.99)	(0.89)	
Disclosure Requirements	-0.276	1.057	-0.799	0.01	1.248	-0.490	-0.258	0.02
	(-0.82)	(2.90)***	(-2.03)**		(2.99)***	(-1.13)	(-0.55)	
Reporting frequency	-1.073	-0.606	0.200	0.01	0.054	0.319	0.511	0.02

	(-1.60)	(-1.77)*	(0.54)		(0.06)	(0.75)	(1.08)	
Big4 Auditors	-0.649	0.405	-0.170	0.01	0.550	-1.515	0.442	0.03
	(-2.00)**	(0.99)	(-0.41)		(1.76)*	(-3.68)***	(1.00)	
Earnings quality								
Earnings management	-1.015	-0.732	0.506	0.01	1.614	2.044	-1.302	0.03
	(-2.98)***	(-1.96)*	(1.26)		(4.12)***	(5.07)***	(-2.88)***	
Timely bad news recognition	-0.939	-0.300	0.169	0.01	1.156	0.200	-0.082	0.02
	(-3.19)***	(-1.86)*	(0.93)		(3.43)***	(1.01)	(-0.36)	

This table reports results of pooled cross-sectional OLS estimations for domestic cumulative abnormal returns (CARs) following recommendation changes for firms cross-listed on NYSE, NASDAQ and AMEX as ADR Level II, ADR Level III or Ordinary Shares between 2003 and 2007. *Local vs U.S.-Located* is a dummy variable that takes 1 if the recommendation change is issued by a *Local* analyst and 0 if issued by an U.S.-located analyst. The specific country characteristic is reported in the row headings. Domestic abnormal returns are measured as the domestic return less the return on the national stock market index. The table shows in each row the coefficient and t-statistic of each regression for our main indicator *Local vs U.S.- Located*, the particular country characteristic and their interaction effect. All other control variables and year fixed effects are suppressed for ease of exposition. Variables descriptions are provided in the appendix. Standard errors are clustered by analyst. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively. *t*-statistics are provided in parentheses.