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# WORKING PAPERS

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## **Market Revaluations of Foreign Listings' Reconciliations to U.S. Financial Reporting GAAP**

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RECONCILIATIONS TO U.S. FINANCIAL  
REPORTING GAAP**

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## **ABSTRACT**

The Securities and Exchange Commission (SEC) requires foreign firms wishing to list their securities on the U.S. exchanges to convert their financial statements to U.S.-based generally accepted accounting principles (GAAP) in a reconciliation filing known as Form 20-F. This paper extends prior research analyzing the importance of the SEC requirement by examining the value relevance to U.S. capital markets of Form 20-F reconciliation information under two additional hypotheses related to: i) investors' anticipation of the reconciliation, and ii) investors' perception of foreign countries' enforcement and reliability in applying local accounting rules. We argue that the information content of the Form 20-F reconciliation data is preempted (at least partially) on the date of foreign earnings announcements because of investor anticipation of these reconciliations. Therefore, only significant unanticipated reconciliations exhibit value relevance on the date of filing. In addition, investor perception of the reliability of the reconciliations and the degree of confidence in foreign authorities enforcing local GAAP also affect the value relevance of the reconciliation data. We hypothesize that reconciliations made by firms from countries with mature and developed capital markets should be more value relevant to U.S. investors. Our results show that both unexpected foreign earnings and anticipated reconciliations to U.S. GAAP are significantly associated with unexpected market returns during the week of earnings announcements. The region of the foreign country is also significantly associated with market returns. However, unexpected reconciliations are not significantly associated with unexpected market returns during the week of Form 20-F filing.



## INTRODUCTION

Under current market regulations by the Securities and Exchange Commission (SEC), foreign firms listing their securities on the U.S. exchanges must reconcile their financial statements to U.S. generally accepted accounting principles (GAAP), and file these reconciliations with the SEC in Form 20-F. Prior research examining the value relevance of Form 20-F reconciliations has focused on tests of association between security prices and/or returns and the reconciliation data. Finding a significant association suggests that converting foreign-GAAP accounting numbers to U.S. GAAP-based numbers has value to investors. However, the results of the research, so far, are inconsistent and inconclusive. Most studies document a significant association between long-term security prices/returns and shareholders' equity Form 20-F reconciliations, but infrequently for the income reconciliations (e.g., Amir et al. 1993; McQueen 1993). These relationships are not supported by short-window returns tests around the filing date of Form 20-F. Based on these findings, researchers inferred that the information in the reconciliations might have been impounded in market prices from other sources prior to the filing date (Amir et al. 1993; Pope 1993). These authors also argue that reconciliations may exhibit sufficient stability, thereby allowing investors to predict future reconciliations from previous filings. Frost and Kenny (1996) report stronger value relevance of U.S. GAAP earnings of United Kingdom, Japanese, and Canadian firms but weaker value relevance for firms from other countries (e.g., Israel). This finding suggests a differential market response to the reconciliation for firms from different regions of the world.

Rees and Elgers (1997) examined whether the information in the Form 20-F reconciliations is available from other sources and impounded into security prices long before the filing date. Using income and shareholders' equity reconciliations in initial registration statements of non-US registrants, they, retrospectively, tested the value relevance of the Form 20-F reconciliations by examining the association between contemporaneous security prices/returns and retrospective reconciliations made by foreign firms in their initial listings on U.S. exchanges. Their results document that the market-to-book ratios are significantly associated with shareholders' equity reconciliations for periods prior to initial filings with the SEC by at least three months. Furthermore, the results did not show significant association between annual market returns and the reconciliations for the year it filed its first Form 20-F. They suggest that most of the value relevant information in the reconciliation is fully impounded in market prices prior to its Form 20-F filings.

Our study extends prior research by identifying and capturing the sources that provide the reconciliation information prior to its disclosure. We hypothesize two reasons for not finding value relevance to reconciliation information when disclosed/filed: i) investor's anticipation of the reconciliation on the date of the earnings announcements; and ii) the existence of other predislosure (filing)

sources such as analysts following the firm. In this study, we specifically test the anticipatory reconciliation hypothesis.

Our study differs from Rees and Elgers' (1997) in several ways. First, Rees and Elgers (1997) examined the value relevance of the Form 20-F reconciliations by testing their association with security prices determined in local markets. One might argue that local markets are indifferent to the reconciliations to U.S. GAAP since investors are not external to local GAAP and valuation comparisons between firms is less influenced by acceptable accounting rules. Therefore, the results of Rees and Elgers (1997) are not necessarily the appropriate criteria for establishing the value relevance of the Form 20-F reconciliations to U.S. markets. Second, Rees and Elgers' (1997) test results are based on long-window associations. Long-window tests tend to dilute the information content of short-term events such as the filing of the Form 20-F reconciliation. Thus, a short-window event test can be desirable in determining the value relevance of Form 20-F reconciliation metrics.

## **BACKGROUND**

The New York Stock Exchange (NYSE) has long held the view that the requirement for non-U.S. firms to reconcile their financial information between home country and U.S. GAAP is a deterrent to more non-U.S. firms listing securities for sale in U.S. markets (Freund 1993; Cochrane 1994). The burden of filing a Form 20-F has been seen as forcing many non-U.S. firms to seek financing in other markets, to the detriment of the U.S. marketplace. The SEC, on the other hand, feels that the information contained in the Form 20-F filing is relevant to investors making economic decisions about investments in non-U.S. firms and has persistently voiced support for its continuation. Recently, the SEC issued a concept release seeking opinions from interested parties (investors, issuers, auditors, and academics) concerning the acceptance of foreign financial statements prepared under the International Accounting Standards (IAS). Nevertheless, this is just a concept that seems unattractive until the infrastructure and composition of the IAS committee is changed to be more coherent with the Financial Accounting Standards Board in the U.S. (AAA: Jonas and Palepu 2000).

The value relevance of local country GAAP financial statements and the reconciliation of earnings and of stockholders' equity to U.S. GAAP, as required by the SEC, has been the subject of considerable research with mixed results. Pope and Rees (1992) used a sample of U.K. firms listed on both U.K. and U.S. stock exchanges and found that both U.K. and U.S. GAAP earnings measures were associated with residual returns, although the significance of association varied with the return model employed; neither dominated the other but the U.S. results were more mixed. Tests of incremental information content using both changes and levels did find evidence that U.K. GAAP earnings changes have more information content than U.S. GAAP earnings changes. U.S. GAAP

earnings adjustments added marginally to the explanatory power. Use of levels variables did not result in significance for GAAP adjustments whether using U.K. or U.S. earnings levels.

Bandyopadhyay et al. (1994) have studied both the magnitude and information content of Canadian firms listed on both the Toronto exchange and U.S. stock exchange. They have found that while the differences between reported earnings under Canadian and U.S. GAAP for sample firms had a large impact on earnings, the reconciliation differences, both in the aggregate of total differences and grouped into six different types of reconciling items, showed no additional value relevance. They found no significant price reaction to the reconciliation between Canadian and U.S. GAAP on the date of the Form 20-F filing.

Chan and Seow (1996) used a sample of forty-seven firms from thirteen countries (about half of which were from the U.K.) to test for association between stock returns and both foreign and U.S. GAAP using the aggregate of both earnings levels and lagged levels. They report higher adjusted R-Squared for return regressions using foreign GAAP earnings than those generated using U.S. GAAP earnings, indicating a stronger return association of foreign GAAP earnings. Using return correlations between foreign stock indexes and the S&P 500 as a surrogate for closeness of foreign business environment to the U.S., these authors suggest that the stronger association of foreign GAAP earnings is indicative of foreign GAAP rules reflecting features more relevant to the particular foreign country environment and that the reconciliation to U.S. GAAP may lose this information content.

Rees and Elgers (1997) analyzed the income and stockholders' equity reconciliations of initial registration statements of non-U.S. registrants to test whether pre-disclosure information contributes to the lack of significant reaction to the announcement of reconciliations in subsequent periods. Initial registration statements provide information on reconciliations for periods prior to the initial registration that can be tested against contemporaneous returns for such prior periods. Tests of sample firms filing initial registration statements found significant price reactions to differences in the stockholders' equity reconciliation in the two years preceding the initial registration, suggesting that some of the value relevant information contained in the initial registration statement is presented to the market from other sources. Tests for market reaction during the period of initial registration to the reconciling earnings items did not show any significant association, suggesting the reconciling items are impounded in prices prior to this disclosure, i.e., reconciliation to U.S. GAAP information is anticipated.

Fulkerson and Meek (1998) test the association of abnormal stock returns with: 1) the difference between the anticipated reconciliation (as measured by the difference between foreign GAAP announced earnings and the *Value Line* forecast of U.S. GAAP earnings), and 2) the actual reconciliation between foreign

and U.S. GAAP earnings revealed in Form 20-F. The sample, consisting of 144 firm years (from 1984-1993), was dominated by U.K. firm years (over 50 percent of sample; over 60 percent when inclusive of British influenced countries). Abnormal returns were accumulated over a period beginning two days before the *Value Line* forecast release and ending two days after the Form 20-F release. They found a significant association for the entire sample on the anticipated reconciliation using the *Value Line* but not the Form 20-F. When the sample was partitioned by region and influence, the Continental European Group had significant results for anticipated and actual reconciliation difference, whereas the British influenced group was significant only for anticipated reconciliation. Their results support the theory of pre-disclosure information preempting the information content of the 20-F reconciliation. It also appears that region and/or accounting influence affect the degree of relevance of the reconciliation.

Amir et al. (1993) tested the Form 20-F earnings reconciliation and stockholders' equity reconciliation both in the aggregate and disaggregated, by the components of the reconciliation, using sample firms with 20-F filings from 1982-1991, excluding Canadian firms. No market reaction to aggregated earnings reconciliations was found to the filing of Form 20-F using returns measured around the filing date. When the data was disaggregated, only the "Other" earnings reconciling category was significant, but only in a short-window test. Tests of aggregate data based on annual returns indicated that both the stockholders' equity and earnings reconciliation are value relevant. However, further analysis indicated the results may have been driven by the results of only one of the ten years' data. When the earnings reconciliation was disaggregated, several reconciling items were found to be significant; namely, goodwill, asset revaluations, taxes, and other. Market-to-Book regressions found similarly significant components in the stockholders' equity reconciliation. Since approximately 50 percent of the firms were U.K. and Australian, the sample was also divided into two portfolios. Test results indicated several differences a few similarities between portfolios in the value relevance of specific components. As alluded to earlier, region and/or accounting influence may affect the value relevance of the information. The authors concluded that the aggregated reconciliations of both earnings and stockholders' equity are value relevant as are several disaggregated components. The strongest results appeared from tests of the stockholder equity reconciliation.

Barth and Clinch (1996) used a sample of U.K., Australian, and Canadian firms from 1985-1991 that have equity shares traded in U.S. markets to test the value relevance of earnings and stockholders' equity reconciliations. The aggregate differences between local and U.S. GAAP of both earnings and stockholders' equity was found to be value relevant for both U.K. and Australian firms but not Canadian firms. In addition, differences in accounting for goodwill, asset revaluation, deferred taxes, and pensions were also found to have incremental explanatory power for U.K. and Australian firms, whereas only interest capitalization was a significant variable for the Canadian portfolio.

The previously cited studies investigate the reconciliation between local country and U.S. GAAP. In order to investigate the association between International Accounting Standards (IAS) and U.S. GAAP, Harris and Muller (1999) examined a sample of foreign firms listed on U.S. exchanges between 1992-1996 using IAS as their reporting GAAP. Both a market value model (based on the market value six months after fiscal year end) and an annual return model (for the period ending six months after fiscal year end) were used to test for value relevance. Both models found the aggregate earnings reconciliation to be significant, indicating that it has value relevance. The test results also indicated that U.S. GAAP earnings reconciliation is valued differently from IAS earnings. When a price-per-share market model was used, however, no significance was associated with the reconciliation. Tests of greater association using IAS or U.S. GAAP earnings and alternative models produced mixed results.

The above-cited studies support the value relevance of foreign GAAP financial information but are not very clear on the value relevance of the information content of the Form 20-F reconciliation, either in the aggregate or individually. Several of the studies (e.g., Amir et al. 1993; Rees and Elgers 1997) suggest that predisclosure information may be the reason why no significant market reaction is associated with the reconciliation, either in the aggregate or individually. More conclusive studies are needed to resolve the apparently conflicting results and to furnish the SEC with more evidence with which to respond to questions about continuing use of Form 20-F. Therefore, this study attempts to resolve the conflicting results by examining the effect of U.S. investors' anticipation of the foreign firm reconciliation, and their perceived confidence in a foreign country's enforcement of local GAAP.

## **HYPOTHESES**

### ***Investor's Anticipation***

Prior research suggests that the market impounds the reconciliation information in security prices for periods of at least three months prior to the filing date. This implies that the market learns about the reconciliation information from other sources. As alluded to earlier, possible sources include: investors anticipated the reconciliation and factored it into the security prices on the date of the local earnings announcements, leakage of private information about the magnitude of the reconciliations prior to the filing, or extensive U.S. analysts' following of these firms resulted in accurate predictions of the reconciliation subsequent to the earnings announcements.

We hypothesize that investors anticipate the magnitude of the reconciliation, largely accurately, once earnings become known (i.e., earnings announcement week). The anticipated reconciliation may be determined by using last year's reconciliation as a surrogate for the reconciliation of the current year. We limit our analysis to the value relevance of foreign earnings reconciliations.

Based on this analysis, the following hypothesis can be stated and tested:

**HO1 : *There is a positive relationship between last year's reconciliation and security returns on or around the current year's earnings announcement.***

The public usually knows about actual reconciliations on the date the foreign firm files the Form 20-F with the SEC. Therefore, it is reasonable to expect that the market revises its assessment of the reconciliations on that date. Significant unanticipated reconciliations are assumed to initiate market revaluations to reflect the effect of the revised anticipated reconciliations on a foreign firm's future earnings and equity. Unanticipated reconciliations (UNANTICP) are measured in this paper using a simple random walk model, where expected reconciliation (RECON) of firm  $j$  for year  $t$  is actual reconciliation of year  $t-1$ . Thus,  $UNANTICP_{jt} = RECON_{jt} - RECON_{jt-1}$ . Detailed descriptions of the measuring variables are presented in the methodology section. Based on this argument, we test the following hypothesis on the filing date:

**HO2: *There is a positive relationship between unanticipated reconciliations and security market returns on or around the date of filing the Form 20-F with the SEC.***

### ***The Region Hypothesis***

The findings of Frost and Kinney (1996) of stronger value relevance of U.S. GAAP earnings for firms of some foreign countries, with weaker value relevance for others, suggest a market differential response by region to the reconciliation. We interpret this finding as indicative of the market differential perception of the characteristics of a foreign country's enforceability of accounting rules and the maturity of local capital markets. Specific reconciliations of firms from countries with mature capital markets and effective enforcement of mandated disclosures are perceived by investors as reliable information and thus would be acted upon.

Countries from a specific geographic region in the world often share similar socio-economic values and cultural principles. These values are further shaped and reinforced by the economic, legal, political, educational, and religious systems that characterize a region. They also share some business practices and obligations imposed by cartels and union membership. For instance, firms of the European Union share and practice some common cultural values and business principles such as corporate governance, and financial reporting, and disclosure standards. A region may also reflect some economic, legal, and business conditions that have implications for the interpretation and content of financial reports by firms that belong to the region, such as closeness of the foreign country's accounting licensing process to the U.S. system, inflation rate, taxation policies, tariffs, duties, and restrictions on capital flows. In fact, Miller (1999)

presents evidence of a market differential reaction to the 20-F data for emerging markets with free capital flows policies versus those with restricted capital flows.

In this paper, we consider regional characteristics that have implications for corporate disclosure of financial information, and that may bear on the U.S. investor's interpretation and use of the 20-F reconciliation data. These regional characteristics include: i) presence of a professional licensing process similar to the U.S. system; ii) presence and effectiveness of capital market regulation and enforcement; iii) common cultural and socio-economic values; v) presence of trade unions; vi) maturity and age of the capital markets; and vii) inflation rates and taxation. In assigning ranks, we gave regions that are closest to the U.S. standings on these factors the highest score of six (e.g., Canada) and firms from regions that are farthest from U.S. standings on these factors the lowest score of one (e.g., South America).

Since we are testing for the value relevance of the 20-F reconciliation data to the U.S. market, we assume that reconciliations by firms from regions closest in culture to the U.S. are perceived as having more reliable information and thus, investors may act on it. Reconciliations by firms from regions that are significantly different from the U.S. in terms of cultural values and business practices are perceived as noisy (less reliable) and thus require more time and effort to construe and act upon. Indeed this latter assumption, if correct, makes interpretation of the reconciliation data more costly and time-consuming and thus, may not be acted upon in a timely manner even if the information is value relevant. Based on this analysis, we test the following hypothesis:

**HO3: *There is a differential market response to the reconciliations of firms from different regions in the world.***

## **METHODOLOGY**

### ***Sample***

A list of foreign firms traded on the New York Stock Exchange for the years 1994-1996 was obtained. This list revealed 375 firms listed as of 1996. Firms were then screened for availability of the following: market returns on the CRSP tape, earnings announcement dates, and filing date of the Form 20-F reconciliation. This screening produced 116 firms for 1996 and 110 firms for 1995. The 1994 filed reconciliations are used as the anticipated reconciliations for the 1995 fiscal year. Thus, tests are performed only for the years 1995 and 1996.

## MODEL

### *The Dependent Variable*

We use change in security prices during periods of earnings announcements and reconciliation filing dates as the dependent variable. We measure the market reaction to the earnings announcement or the filing of the reconciliation by an information variable. This information variable takes the value of one during a short window of five days (-2, 0, +2) where day 0 is the announcement (filing) date. In the statistical model, this variable is called INFOann<sub>jt</sub>, on date of earnings announcement, and INFOfiling<sub>jt</sub>, on date of filing of the reconciliation.

### *The Explanatory Variables*

The dependent variable is regressed against the hypothesized explanatory variables on date of earnings announcement. These variables are: unexpected earnings (UE<sub>jt</sub>), anticipated reconciliation (ANTCIPR<sub>jt</sub>), and Region<sub>j</sub>. Unexpected earnings is used here as a control variable to target the effect of the new variables applicable to hypothesis 3 (investor's anticipated reconciliation and region).

**Unexpected Earnings (UE<sub>jt</sub>):** This variable is the earnings surprise. We assume a simple random walk model. That is, the expected earnings of year t equals the earnings of year t-1. Hence, unexpected earnings of firm j for year t (UE<sub>jt</sub>) is calculated as follows:

$$UE_{j,t} = (E_{j,t} - E_{j,t-1}) / E_{j,t-1}$$

**Anticipated Reconciliation (ANTCIPR<sub>jt</sub>):** With regard to anticipated reconciliation (ANTCIPR<sub>jt</sub>), we use two measures: i) last year's reconciliation percentage, and ii) last year's reconciliation percentage multiplied by the unexpected earnings of the current year. Using last year's reconciliation percentage surrogates for the magnitude of the firm's foreign earnings sensitivity when converted to U.S. GAAP. However, one may argue that last year's percentage reconciliation is old information and is already impounded in prior security prices. Therefore, we introduce a second measure (UE<sub>jt</sub>\* RECON%<sub>t-1</sub>), which takes into consideration the earnings surprise as the new information of year t.

### *The Region Variable*

Based on the earlier discussion of the region hypothesis and the sample compositions, we divided the world into six geographical regions. Our guides for this partitioning are the foreign country's status in comparison to the U.S. standards in the following dimensions: licensing of professional accountants, generally accepted accounting standards, age of the foreign stock exchange, inflation rate, and regulatory authorities. These factors and many others are

summarized in *Capital Markets Guide* published by the PRIMARK, the financial information division of Disclosure Incorporated (PRIMARK 1999). We gave the highest ranking to the region closest to the U.S. system and practice. The following are the regions from the lowest to the highest rankings:

1. South America;
2. Asia;
3. Scandinavia;
4. Europe and United Kingdom;
5. Australia and New Zealand;
6. Canada.

To test for value relevance on the date of filing, we regress unexpected market returns (the information variable on the date of filing,  $INFO_{filing,jt}$ ) against the unanticipated reconciliation ( $UNANTICP_{jt}$ ). This variable is measured by the difference between actual reconciliation and anticipated reconciliation of firm  $j$  for year  $t$ .

Incorporating the variables in the model, it takes the following form:

$$INFO_{ann,jt} = A_0 + A_1 (UE_{jt}) + A_2 (ANTCIPR1_{jt}) + A_3 (ANTCIPR2_{jt}) + A_4 (REGION_j) + m_j \quad (1)$$

$$INFO_{filing,jt} = A_0 + A_1 (UNANTICP_{jt}) + m_j \quad (2)$$

Where:

$INFO_{ann,jt}$  = the coefficient of the earnings announcement ( $C_{jt}$ ) dummy variable in the market model from the following equation:  $R_{jt} = A_{jt} + B_{jt} (R_{mt}) + C_{jt} (D_{jt}) + e_{jt}$ .  $D_{jt}$  is a dummy variable taking the value of one during the test period (-2, 0, + 2) and zero otherwise;

$INFO_{filing,jt}$  = the coefficient of the reconciliation's filing effect on security returns ( $K_{jt}$ ) in the market model:  $R_{jt} = A_{jt} + B_{jt} (R_{mt}) + K_{jt} (D_{jt}) + e_{jt}$ .  $D_{jt}$  is a dummy variable taking the value of one during the test period (-2, , 0, + 2) and zero otherwise;

$UE_{j,t}$  = the percentage of unexpected earnings of firm  $j$  for year  $t$ , measured by the difference between current year's earnings and last year's earnings divided by last year's earnings. Mathematically,  $UE_{j,t} = (E_{j,t} - E_{j,t-1}) / E_{j,t-1}$ ;

$ANTCIPR(1)_{jt}$  = the percentage of the anticipated earnings reconciliation of foreign earnings of firm  $j$  for year  $t$ , measured by the percentage of the firm  $j$ 's reconciliation to earnings in  $t-1$ ;

$ANTCIPR(2)_{jt}$  = an alternate measure of anticipated reconciliation that takes into consideration the unexpected earnings of the current year, measured by last year's reconciliation percentage multiplied by unexpected earnings of the current year as follows:  $UE_{j,t} * RECON\%_{t-1}$ ;

$UNANTICP_{jt}$  = percentage of unanticipated earnings reconciliation of firm  $j$  for year  $t$ , measured by the difference between the filed reconciliation for year  $t$  and the reconciliation for year  $t-1$  divided by reconciliation of year  $t-1$ ;

$REGION_j$  = a scaling variable that takes the value of one for firms from South America; two for firms from Asia; three for firms from Scandinavia; four for firms from Europe and UK; five for firms from Australia and New Zealand; and six for firms from Canada;

$m_j$  = the disturbance term for firm  $j$  in year  $t$ .

## RESULTS

### *Summary Statistics*

Table 1 presents summary statistics of the measuring variables. Panel A provides summaries of variables for the total sample, while Panels B, C, and D partition the statistics by region and year of study. From Panel A, the statistics reveal that the mean market reaction ( $INFOann$ ) to foreign earnings announcement is 1.98 percent of the security's price and 1.04 percent during the filing period ( $INFOfiling$ ). These results (holding other factors constant) indicate that earnings announcements convey new information on average, confirming prior research on both U.S. and foreign earnings announcement studies. Unexpected earnings ( $UE$ ) is of higher magnitude with a mean of 56.42 percent. The means of foreign GAAP earnings anticipated reconciliations ( $ANTCIPR_{jt}$ ) to U.S. GAAP earnings and unanticipated reconciliations ( $UNANTCPR_{jt}$ ) are 19.82 and 95.11, respectively.

In Panel B, the total sample is distributed by region. Both South America and Mexico, and Europe and the U.K., have the highest number of firms in the sample. This probably reflects the effects of location and corporate development. South American firms consider the U.S. capital market as a normal extension of their home market for raising capital, and thus many of them have been listed on U.S. exchanges. As for the European firms, it could have been the globalization of their operations in addition to capital market access. Panel C partitions sample variables by year. Some variables exhibit different magnitudes in different years, but that has no implications for the hypotheses or the overall results. Panel D extends the analysis of the variables by region. The distribution of the variable  $INFOann_{jt}$ , the market reaction to foreign earnings announcements, indicates higher values for regions closer to the U.S. in market regulations and integrity of financial reporting. This finding is consistent with the region hypothesis.

### *Extreme Values*

Some of the above statistics (such as the unanticipated reconciliation) are relatively high due to the presence of some extreme values. Extreme values could

present a serious problem in testing the relationship between the dependent variable(s) and the hypothesized explanatory variables. To mitigate the effect of this problem, we took several measures:

1. truncated the variables at 100 percent of the denominator variable, e.g., the unanticipated reconciliation is truncated at 100 percent of the anticipated reconciliation;
2. supplemented the OLS regressions by “Regression on Ranks” where ranks of variables replace the original values in the regression.

### ***The Regression Results***

Table 2 presents the coefficient estimates of the regression model. Panel A provides the results of regressing the market reaction to earnings announcement ( $INFOann_{jt}$ ) on unexpected earnings ( $UE_{jt}$ ), anticipated reconciliations ( $ANTCIPR_{jt}$ ), and the region of the firm ( $REGION_j$ ). Panel B presents the results of regressing unexpected market returns during the filing period ( $INFOfiling_{jt}$ ) on unanticipated reconciliations ( $UNANTCIPR_{jt}$ ). In Panel A, two measures of the anticipated reconciliation variable are used. The first measure ( $ANTCIPR1$ ) is the percentage of the earnings reconciliation at time  $t-1$ , while the second ( $ANTCIPR2$ ) takes current year's earnings surprise into account. The inclusion of  $ANTCIPR2$  is necessary to revise the anticipated reconciliation for the new information (earnings surprise). The results in Panel A show a positive and significant relationship between the market reaction and the earnings surprise ( $UE$ ), confirming prior research.

For the anticipation hypothesis, the results show a positive and significant relationship between the market reaction to earnings announcement and the anticipated reconciliation ( $ANTCIPR1$  and  $ANTCIPR2$ ) with R-Squared a little higher when using the second measure of anticipated reconciliation. This result indicates that investors estimate the Form 20-F reconciliation of foreign earnings on the date of the earnings announcement and impound these estimates in the revaluation of foreign securities once the foreign earnings are known. This analysis suggests that there is a value relevance of the information provided in the Form 20-F reconciliations. The issue, however, is one of timing; that is, when the market actually uses the information.

The coefficient of the region ( $REGION_j$ ) of the firm is positive and significant. This indicates that U.S. investors give more weight to reconciliations made by firms from regions with a market environment that is closer to that of the U.S. market. That environment includes effective regulations and enforcement of securities laws, financial reporting and disclosure, and the presence of a professional process for licensing and practice of accounting, among others.

Panel B presents the regression estimate of unanticipated reconciliation ( $UNANTCIPR_{jt}$ ) provided in Form 20-F numbers on the date of filing with the SEC. The coefficient is positive, indicating that the higher the unanticipated reconciliation, the higher the market revaluation to the filing of the Form 20-F data. But the coefficient is statistically insignificant. This insignificance is consistent with the hypothesis (stated above) that the content of the Form 20-F reconciliation data is preempted by investors' anticipation of the reconciliation during the earnings announcement period. Tests of the same models using regressions on ranks and variables in no absolute values produced similar results. Therefore, we do not report them in the current version.

## **CONCLUSIONS AND RECOMMENDATIONS**

This paper examines the value relevance of the 20-F reconciliation to US-GAAP with two additional variables: 1) investor's anticipation of the reconciliations, and 2) the region of the foreign firms. We hypothesize that the value of the reconciliation provided by foreign firms to the U.S. market (on the filing date) is preempted during the earnings announcement period by investors' anticipation of the reconciliation. Therefore, the measures of value relevance during the filing period are diluted and reflect only the unanticipated part of the reconciliation. The results confirm our hypotheses to a large extent. We found a significant relationship between the market revaluation and both the earnings surprise and the anticipated Form 20-F earnings reconciliations during the earnings announcement periods. The results also show a lower and less significant relationship between the market revaluation during the filing period and the unanticipated reconciliation amount, confirming the preemptive hypothesis. In addition, the region variable is significantly related to the market reaction to earnings announcements, suggesting that reconciliations by firms from regions of mature capital markets and reliable enforcement systems get more weight in the valuation process of foreign securities by U.S. investors.

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## **APPENDICES**



**Table 1****Summary Statistics of the Variables****Panel A: Total Sample**

Variable	Mean (Median)	Standard Deviation	Highest Value	Lowest Value
INFOann <sub>jt</sub>	0.0198 (0.0022)	0.1230	0.5213	-0.3358
UE <sub>jt</sub>	0.5642 (0.1183)	12.1193	112.5174	-97.863
ANTCIPR(1) <sub>jt</sub>	0.1982 (0.0599)	1.5131	20.3363	-3.7171
ANTCIPR(2) <sub>jt</sub>	0.1036 (0.0881)	1.3574	38.0258	-24.7724
UNANTICP <sub>jt</sub>	0.9511 (-0.5440)	25.0473	337.000	-70.0832
INFOfiling <sub>jt</sub>	0.0104 (0.0070)	0.06258	0.4873	-0.0413

**Panel B: Sample Frequency Distribution by Region**

Region	1 S.America & Mexico	2 Asia	3 Scandinavia	4 Europe & UK	5 Australia & NZ	6 Canada
Frequency	63	26	12	85	13	27

**Panel C: Variable Distribution by Year of Study**

Variable/Year	Mean (Median)	Standard Deviation	Highest Value	Lowest Value
INFOann <sub>jt</sub>				
1995	0.0411 (0.173)	0.173	1.0000	-0.0713
1996	0.0046 (0.046)	0.063	0.5210	-0.3360
UE <sub>jt</sub>				
1995	0.2932 (0.161)	14.275	112.5120	-97.8617
1996	0.8610 (0.044)	9.253	91.8000	-9.7551
ANTCIPR(1) <sub>jt</sub>				
1995	0.1745 (0.093)	1.339	20.3362	-2.8821
1996	0.2311 (0.182)	1.090	18.3792	-3.7171
ANTCIPR(2) <sub>jt</sub>				
1995	0.0833 (0.045)	1.424	38.0258	-21.785
1996	0.1300 (0.924)	1.229	27.0862	-24.772
UNANTICP <sub>jt</sub>				
1995	0.0833 (0.045)	1.424	253.125	-26.651
1996	0.1300 (0.924)	1.229	337.000	-70.083

Table 1

INFOfiling <sub>jt</sub>					
1995	0.0162 (0.008)	0.082	0.4873	-0.037	
1996	0.0093 (0.005)	0.079	0.4138	-0.041	

**Panel D: Sample Variables by Region**

(Mean, Median, Standard Deviation)

Region / Variables	1 S.America & Mexico	2 Asia	3 Scandinavia	4 Europe & UK	5 Australia & NZ	6 Canada
INFOann <sub>jt</sub>	0.0013 0.0022 0.0074	0.0025 0.0022 0.0093	0.0036 0.0011 0.0224	0.0317 0.0042 0.1440	-0.0406 0.00194 0.02527	0.0439 0.0202 0.2145
UE <sub>jt</sub>	-1.3350 -0.6432 12.5763	0.7795 0.1698 2.9002	8.2796 0.1511 27.7053	1.3672 0.1621 12.6590	-0.5753 0.0587 2.1800	-0.3378 0.0793 1.3800
ANTCIPR(1) <sub>jt</sub>	-0.1678 0.0533 1.9091	0.0352 0.0113 0.3267	-0.1365 0.0177 0.4410	0.0301 0.0042 0.3776	-0.1955 0.0081 0.8852	0.7078 0.0302 3.1846
UNANTICP <sub>jt</sub>	0.6455 -0.057 3.2533	0.1364 0.0103 0.7710	0.4733 0.0233 1.0400	0.0611 0.0114 0.4041	-0.0713 0.0156 0.9971	-0.5557 0.0166 3.1522

**Definitions:**

INFOann<sub>jt</sub> = the coefficient of the earnings announcement ( $C_{jt}$ ) dummy variable in the market model from the following equation:  $R_{jt} = A_{jt} + B_{jt}(R_{mt}) + C_{jt}(D_{jt}) + e_{jt}$ .  $D_{jt}$  is a dummy variable taking the value of one during the test period (-2, 0, + 2) and zero otherwise;

INFOfiling<sub>jt</sub> = the coefficient of the reconciliation's filing effect on security returns ( $K_{jt}$ ) in the market model:  $R_{jt} = A_{jt} + B_{jt}(R_{mt}) + K_{jt}(D_{jt}) + e_{jt}$ .  $D_{jt}$  is a dummy variable taking the value of one during the test period (-2, 0, + 2) and zero otherwise;

UE<sub>jt</sub> = the percentage of unexpected earnings of firm  $j$  for year  $t$ , measured by the difference between current year's earnings and last year's earnings divided by last year's earnings. Mathematically,  $UE_{j,t} = (E_{j,t} - E_{j,t-1}) / E_{j,t-1}$ ;

ANTCIPR(1)<sub>jt</sub> = the percentage of the anticipated earnings reconciliation of foreign earnings of firm  $j$  for year  $t$ , measured by the percentage of the firm  $j$ 's reconciliation to earnings in  $t-1$ ;

$ANTCIPR(2)_{jt}$  = an alternate measure of anticipated reconciliation that takes into consideration the unexpected earnings of the current year, measured by last year's reconciliation percentage multiplied by unexpected earnings of the current year as follows:  $UE_{j,t} * RECON\%_{t-1}$ ;

$UNANTICP_{jt}$  = percentage of unanticipated earnings reconciliation of firm j for year t, measured by the difference between the filed reconciliation for year t and the reconciliation for year t-1 divided by reconciliation of year t-1;

$REGION_j$  = a scaling variable that takes the value of one for firms from South America; two for firms from Asia; three for firms from Scandinavia; four for firms from Europe and UK; five for firms from Australia and New Zealand; and six for firms from Canada.

**Table 2**

**Coefficient Estimates from Regressing the Market Reaction to Earnings Announcement and Filing of the 20-F on the Unexpected Foreign Earnings, the Anticipated Reconciliations, the Unanticipated Reconciliations of Foreign Earnings, and the Region**

**Panel A: Foreign Earnings Announcement Date**

$$\text{INFOann}_{jt} = A_0 + A_1 (\text{UE}_{jt}) + A_2 (\text{ANTCIPR1}_{jt}) + A_3 (\text{ANTCIPR2}_{jt}) + A_4 (\text{REGION}_j) + m_j$$

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<b>Model 1</b>	A0	A1	A2	A3	A4
Coefficient	-0.0351	0.0409	0.0813	NU	0.0087
(level of sig.)	(0.062)		(0.057)		(0.025)
(0.032)					

R-Squared = .084  
N = 226

<b>Model 2</b>	A0	A1	A2	A3	A4
Coefficient	-0.0229	0.0552	NU	0.0573	0.0093
(level of sig.)	(0.068)	(0.053)		(0.023)	(0.028)

R-Squared = .091  
N = 226

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**Panel B: Filing Date of 20-F Data**

$$\text{INFOfiling}_{jt} = A_0 + A_1 (\text{UNANTCIPR}_{jt}) + m_j$$

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	A0	A1
Coefficient	0.0075	0.0068
(level of sig.)	(0.019)	(0.081)

R-Squared = .005  
N = 226

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**Definitions:**

$\text{INFOann}_{jt}$  = unexpected market return during foreign earnings announcement period (day -2 to day +2);

$INFO_{filing_{jt}}$  = unexpected market return during the SEC 20-F filing period (day – 2 to day +2);

$UE_{jt}$  = the percentage of unexpected earnings of firm j for year t and is measured by the difference between current year's earnings and last year's earnings divided by last year's earnings;

$ANTCIPR(1)_{jt}$  = the percentage of the anticipated earnings reconciliation of firm j for year t, measured by the reconciliation of t-1 divided by last year's foreign earnings;

$ANTCIPR(2)_{jt}$  = an alternate measure of anticipated reconciliation which is adjusted for earnings surprise of current year, and is calculated as  $[ANTCIPR(1)_{jt} * UE_{jt}]$  (Table 2 continued)

$UNANTICP_{jt}$  = the percentage of unanticipated earnings reconciliation of firm j for year t, measured by the difference between filed reconciliation for year t and reconciliation of year t-1 divided by reconciliations of year t-1;

$REGION_j$  = a scaling variable that takes the following values: 1 for firms from South America and Mexico; 2 for firms from Asia; 3 for from Scandinavia; 4 for firms from Europe and UK; 5 for firms from Australia and New Zealand; and 6 for firms from Canada.