

INFORMATION CONTENT OF NON-GAAP EARNINGS
OF CROSS-LISTED COMPANIES

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To supplement earnings reported under generally accepted accounting principles (GAAP), public companies often voluntarily report alternative measures of earnings called non-GAAP earnings (NGE). These companies assert that NGE exclude the effect of non-recurring transactions, thereby helping users of financial information to better assess the company's past performance and prospects. Because NGE measures are not well defined, managers can exploit the inherent discretion in calculating NGE to mislead users. Prior studies provide arguments and evidence on the informative as well as opportunistic use of NGE. However, the studies have examined the characteristics and informativeness of NGE with a focus on U.S. companies. The results of studies that consider the NGE disclosure by U.S. companies may not be generalizable to the cross-listed companies because foreign financial reporting standards are different from the U.S. GAAP. Further, prior studies report a difference in earnings quality of U.S. firms and cross-listed firms, which can also result in a difference in the informativeness of their NGE. To fill this gap in literature, I examine whether the informativeness of NGE of cross-listed companies is different from that of U.S. companies. This study contributes to the debate on the informativeness of NGE. It provides evidence that in general, NGE are equally informative for U.S. and foreign companies but foreign companies are more opportunistic in excluding recurring items from NGE. The results of this study are of potential interest to investors, regulators, and academics who are interested in and interact with cross-listed companies.

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CHAPTER 1

INTRODUCTION

Publicly traded companies in the U.S. are required to calculate and report their earnings per generally accepted accounting principles (GAAP) set forth by the Financial Accounting Standards Board (FASB). Earnings calculated under any alternative method are called non-GAAP earnings (NGE).¹ Companies began to supplement GAAP earnings (GE) with NGE measures in the 1990s, and the practice became widespread by the early 2000s (Baumker, Biggs, McVay, and Pierce 2014). Advocates of this practice assert that earnings calculated under the prescriptive nature of GAAP need to be adjusted (for instance, by removing the effects of non-cash, unusual or unique transactions) to help users of financial statements better assess the company's historical results and prospects (Bradshaw and Sloan 2002). Moreover, because NGE metrics are often used to assess operating results and evaluate executive performance, their disclosure is asserted to increase transparency.² Lending credence to the practice of supplementing GE with NGE measures, empirical research generally demonstrates that NGE are more informative, more

¹NGE measures refer to the earnings that are defined and calculated by either the company management (referred to as pro-forma earnings) or by financial analysts (referred to as street earnings). NGE excludes items that the management (or the financial analysts) deem as non-recurring items thus making NGE different from GE. Common NGE measures include earnings before interest, taxes, depreciation and amortization (EBITDA), adjusted EBITDA, and adjusted earnings per share.

²For instance, the following is an extract from Twitter's earnings announcement for the third quarter of 2016: "The company posted quarterly revenue of \$616 million, up 8% year-over-year. Quarterly GAAP net loss was \$103 million, or (\$0.15) per diluted share, with quarterly non-GAAP net income of \$92 million, or \$0.13 per diluted share... Twitter uses the non-GAAP financial measures of non-GAAP net income and non-GAAP diluted EPS in evaluating its operating results and for financial and operational decision-making purposes. Twitter believes that non-GAAP net income and non-GAAP diluted EPS, among others, help identify underlying trends in its business that could otherwise be masked by the effect of the expenses that it excludes in non-GAAP net income and non-GAAP diluted EPS. Twitter also believes that non-GAAP net income and non-GAAP diluted EPS provide useful information about its operating results, enhance the overall understanding of Twitter's past performance and prospects and allow for greater transparency with respect to key metrics used by Twitter's management in its financial and operational decision-making. Twitter uses these measures to establish budgets and operational goals for managing its business and evaluating its performance. Twitter is presenting these non-GAAP financial measures to assist investors in seeing Twitter's operating results through the eyes of management, and because it believes that these measures provide an additional tool for investors to use in comparing Twitter's core business operating results over multiple periods with other companies in its industry."

permanent, and have incremental value relevance compared to GE measures (Bhattacharya et al. 2003; Lougee and Marquardt 2004; Choi, Lin, Walker, and Young 2007; Choi and Young 2015).

Critics of the practice of publicly reporting NGE measures argue that the discretionary nature of these measures hinders comparability across firms, and can be exploited by management to mislead investors. For example, Bradshaw and Sloan (2002) find that there is a strong bias to report NGE that exceeds the GE. Curtis, McVay, and Whipple (2014) show that an economically significant proportion of firms only disclose NGE when it increases investors' perceptions of their core operating income. Frankel, McVay, and Soliman (2011), and Seetharaman, Wang, and Zhang (2014) suggest that NGE disclosures are less aggressive in companies with better corporate governance, thus providing evidence of the opportunistic use of NGE.

While prior research has focused on the characteristics and informativeness of NGE disclosures of U.S. companies, relatively little is known about such disclosures made by foreign companies traded in U.S. capital markets (hereafter cross-listed companies). This gap in the literature is worthy of attention because foreign financial reporting standards are different from U.S. GAAP.³ In addition, prior studies have found that the quality of GE of cross-listed companies is lower than that of U.S. companies (Lang et al., 2006; Leuz, 2006). It follows that the research conclusions about NGE disclosures by U.S. companies may not be generalizable to similar disclosures made by the significant number of cross-listed companies.⁴ Recognizing this limitation, Entwistle, Feltham, and Mbagwu (2005), and Epping and Wilder (2011) examine the frequency of NGE disclosures, the magnitude of the exclusions from NGE, and the quality of

³See, for example, the 2013 report by EY (U.S. GAAP versus IFRS: The Basics) in which it is noted that even after the convergence projects are completed, there will continue to be significant differences between U.S. GAAP promulgated by the FASB and International Financial Reporting Standards issued by the International Accounting Standards Board.

⁴As of December 31, 2015, there were 923 non-U.S. companies from 53 different countries that were either registered with or reported to the SEC. 755 of these companies were listed on U.S. stock exchanges.

adjustments made to NGE of cross-listed companies. However, to the best of my knowledge, no prior study examines the informativeness of NGE disclosures made by cross-listed companies. In this study, using data for the period of 1986 to 2016, I fill the gap.

I also examine the effect of Regulation G⁵ on the informativeness of NGE disclosures of cross-listed companies. Prior studies document that Regulation G positively affected the market perception and value relevance of NGE, and that it reduced the opportunistic use of NGE for U.S. companies (Marques 2006; Yi 2007; Helfin and Hsu 2008; Black et al. 2012; Black et al. 2015). However, whether Regulation G affected the informativeness of NGE disclosures of cross-listed companies remains to be examined. Extrapolating the results of prior Regulation G studies that are primarily derived from a sample of U.S. firms to cross-listed firms may lead to spurious conclusions because the regulatory environment for cross-listed companies may be different than that for U.S. companies. More specifically, Frost and Pownall (1994), Siegel (2005), and Shnitser (2010) suggest that the Securities and Exchange Commission (SEC) is less effective in enforcing laws against cross-listed companies compared to U.S. companies. Thus, I fill the existing research gap by empirically examining the effect of Regulation G on the informativeness of NGE of cross-listed companies.

This study makes several contributions to the literature. First, it contributes to the debate on the informativeness of NGE by focusing on the informativeness of NGE of cross-listed companies. Prior studies suggest that cross-listed companies are likely to have more information

⁵Regulation G was formulated by the U.S. Securities and Exchange Commission (SEC) under the Sarbanes-Oxley Act of 2002 with an intention to ensure that investors receive adequate information in evaluating a company's use of non-GAAP financial measures (SEC, 2003). The regulation requires SEC registrants that publicly disclose or release non-GAAP financial measures to provide the most directly comparable GAAP measure and a reconciliation of the Non-GAAP measure to the most directly comparable GAAP measure. The regulation also requires companies to furnish the earnings announcement on Form 8-K within 5 days of public disclosure of Non-GAAP information. Regulation G came into effect on March 28, 2003.

asymmetry between management and investors than their U.S. counterparts because of the lower quality and quantity of available public information for cross-listed companies (Leuz, Nanda, and Wysocki 2003; Bradshaw, Bushee, and Miller 2004; DeFond, Hung, and Trezevant 2006; Atilgan, Ghosh, Yan, Zhang 2015). Therefore, NGE disclosures of cross-listed companies can potentially be more informative to investors in cross-listed firms than to investors of U.S. companies. In this study, I investigate that potential. Second, this study contributes to the debate on the effectiveness of the SEC in enforcing U.S. regulations on cross-listed companies. As noted earlier, prior studies provide evidence that the SEC has not effectively enforced regulations against foreign companies (Frost and Pownall 1994; Siegel 2005; Shnitser 2010). This study uses the natural experimental setting of the implementation of Regulation G to examine whether Regulation G differentially affected cross-listed companies relative to U.S. companies. The effect of Regulation G on the informativeness of NGE of cross-listed companies examined in this study is a timely issue. The SEC updated its compliance and disclosure interpretations in May 2016 to clarify the non-GAAP disclosure practices that violate Regulation G⁶. Furthermore, the SEC has recently taken actions against companies for violating Regulation G. For example, in January 2017, the SEC settled charges against MDC Partners Inc., a Canadian corporation, for failure to comply with the rules related to non-GAAP disclosure. MDC failed to provide equal or greater prominence to GAAP measures in earnings release presentations containing non-GAAP financial measures. MDC also did not reconcile “organic revenue growth”, a non-GAAP financial measure, to GAAP measure. The company paid a penalty of \$1.5 million for the violation of the regulation and took several

⁶In the updated compliance and disclosure interpretations, the SEC clarified that 1) excluding normal, recurring, cash operating expenses necessary to operate a registrant’s business 2) disclosing non-GAAP measures inconsistently between periods without explaining the reasons 3) excluding non-recurring charges but not excluding non-recurring gains 4) using individually-tailored accounting principles to calculate non-GAAP earnings such as accelerated revenue recognition in non-GAAP measure than for GAAP purposes are misleading non-GAAP disclosures that violate Regulation G.

remedial actions. As such, results of this study have implications to investors, regulators, and foreign companies.

Finally, prior studies suggest that cross-listed companies have lower earnings quality (Lang, Raedy, and Wilson 2006), which is primarily attributed to the weak home-country institutional environment (Leuz, 2006). This study contributes to the literature on the earnings quality of cross-listed companies by examining whether NGE of cross-listed companies continue to exhibit lower earnings quality (measured using earnings informativeness). Evidence in this study also helps evaluate the motivation of foreign firms to list their stock in the U.S. capital markets. That is, if cross-listed companies are committed to bonding themselves with the stricter regulatory and information environment of the U.S. capital markets, they would use NGE as an opportunity to provide additional information over and above GE. However, if the cross-listed companies' intention is to opportunistically rent the U.S. capital markets, the NGE of foreign companies would be less informative than their GE.

The cumulative abnormal returns (CARs) for the quarterly NGE surprise during the earnings announcement event window (0, +1) is used as a measure of the information content. A sample of cross-listed companies and matched U.S. companies based on asset size and industry is used in the study. Consistent with prior studies (Kolev, Marquardt, and McVay 2008; and Seetharaman et al. 2014), actual earnings per share as reported in I/B/E/S database is used as a measure of NGE. Firm level information is obtained from Compustat database. Price and market information is obtained from CRSP database.

Using a sample of cross-listed firms covered by I/B/E/S and matched U.S. firms for the period of 1986 to 2016, I find that NGE are not differently informative for U.S. and cross-listed companies in general. However, additional analysis shows that the informativeness of NGE can

be different between U.S. and cross-listed firms in some industries. I also find evidence that exclusion from NGE are more opportunistic for foreign firms compared to that of U.S. firms. However, I do not find differential impact of Regulation-G on the informativeness of U.S. and foreign firms.

The remainder of this paper is organized into four sections. Chapter 2 presents related studies in the area. Chapter 3 presents the hypotheses development, chapter 4 presents the research methodology used in the study, chapter 5 presents the data analysis and results of the tests, and chapter 6 summarizes and concludes the study.

CHAPTER 2

BACKGROUND AND LITERATURE REVIEW

Information Content of Non-GAAP Earnings

The ability of an accounting measure to explain returns or stock price is generally referred to as the information content of the accounting measure.⁷ The increasing use of NGE measures in earnings announcements has led to questions about the information content of such NGE metrics. A stream of literature suggests that NGE are informative to investors and have incremental value relevance over GE. For example, Bradshaw and Sloan (2002) show that CARs have greater association to NGE forecast errors than GE forecast errors. Bhattacharya et al (2003) also show that NGE forecast errors are positively associated with CARs, incremental to GE. Furthermore, Bhattacharya et al (2003) show that analysts' forecast revision has greater association with NGE forecast error than with GE forecast error, thus providing evidence that analysts find NGE to be more informative than GE. Brown and Sivakumar (2003) provide evidence confirming the earlier findings by reporting that NGE have greater association with abnormal returns, stock price and future earnings than GE.

Another stream of research argues that firm-specific characteristics can affect the informativeness of NGE. Consistent with this argument, Lougee and Marquardt (2004) find that the relative and incremental informativeness of NGE are higher for firms with low GE informativeness than firms with high GE informativeness. Other studies suggest that NGE disclosures are more informative when GAAP earnings exceed market expectations but that they are less informative when NGE falls short of market expectations (Choi and Young 2015). More

⁷Biddle, Seow, and Siegel (1995) provide an example of the standard model to assess information content of earnings by regressing stock price or returns on earnings forecast error.

recent studies provide evidence that NGE provide additional information about the persistence of the earnings when firms have transitory gains (Curtis, McVay, and Whipple 2014), and for firms that report loss under GE but report profit under NGE (Leung and Veeman 2016). Although NGE disclosures are voluntary in the U.S., there are countries that have made such disclosures mandatory. For example, NGE disclosure is mandatory in South Africa. Using sample from South Africa, Venter, Emanuel, and Cahan (2014) show that mandated NGE provide information incremental to GE, suggesting that the informativeness of NGE is not limited to the voluntary disclosure regimes.

Taken together, prior studies suggest that NGE are generally informative to investors and provide information incremental to GE. In addition, the studies provide evidence of firm-specific features, such as the presence of transitory gains and losses, when NGE can be more informative.

Characteristics of NGE of Cross-Listed Companies

Relatively few studies examine the characteristics of NGE of cross-listed companies, or compare the NGE disclosure behavior of foreign firms and U.S. firms. Existing literature provides evidence that there are significant differences in the characteristics of NGE of U.S. companies and cross-listed companies. These studies suggest that, when reporting NGE, U.S. companies can be more opportunistic than their foreign counterparts. For example, Entwistle et al. (2005) is an early study that compares the characteristics of NGE of U.S. companies with Canadian firms. The study provides evidence that U.S. firms place greater emphasis on NGE and disclose pro forma earnings more frequently than their Canadian counterparts disclose. In addition, this study provides evidence that NGE of U.S. firms have more income-increasing adjustments than that of Canadian firms.

A more recent study by Epping and Wilder (2011) confirms the suggestions of Entwistle et al. (2005) by reporting that NGE of U.S. firms have higher number of adjustments, adjustments of greater magnitude, and more income increasing adjustments. However, they do not find a difference in the frequency of disclosure. In a related study, Isidro and Marques (2014) find that managers in countries with strong regulatory enforcement, developed institutional environment, and effective investor protection are more likely to use NGE to meet or beat earnings benchmarks and exclude recurring expenses from NGE than their counterparts in countries with weaker institutional settings. This result can be interpreted as managers strategically using of NGE when institutional forces restrict manipulation of GE. The characteristics such as investor protection, strong regulatory enforcement, and developed institutional environment are reflective of the characteristics of U.S. capital markets. That being the case, the results of Isidro and Marques (2014) provides one potential explanation to the results of Entwistle et al. (2005), and Epping and Wilder (2011).

NGE Exclusions and Future Firm Performance

NGE measures exclude non-recurring gains and losses that obfuscate the implications of GAAP earnings. Absent any opportunistic motivation, items excluded from NGE are transitory and they should not be associated with future earnings or firm performance. However, managers can opportunistically conceal recurring charges within the NGE exclusions that can undermine the benefits of NGE. Significant association between the exclusions from NGE and future firm performance would suggest that exclusions are opportunistic whereas findings of no association would suggest that the exclusions are transitory.

A stream of prior studies provides evidence that the expenses excluded from NGE have significant explanatory power to forecast future cash flow. For example, Doyle, Lundholm, and Soliman (2003) show that exclusion of expenses from NGE results to a lower future cash flow. They find that, on average, \$1 of expenses excluded in NGE predicts \$3.32 fewer cash flow over the following three years. Consistent with these results, Kolev, Marquardt, and McVay (2008) show that expenses excluded from NGE in current quarter are associated with reduced future operating income. Gu and Chen (2004) also find that exclusions from NGE have ability to explain future earnings. However, further analysis in Gu et al. (2004) shows that the predictive power of the included items is much higher than that of excluded items, thus suggesting informative NGE disclosures.

Other scholars argue that the implications of the exclusions of NGE to future firm performance can depend on the commitment of the firms to provide transparent information. For instance, Curtis et al. (2014) find that transitory gains excluded from NGE of firms that are committed to transparency are not associated with future operating income but such gains are negatively associated with future operating income for opaque firms. The association between NGE exclusions and future performance can also depend on the corporate governance of the firms. Strong corporate governance can curb the opportunistic intention of managers and thus the NGE exclusions can be purely transitory for such firms. Consistent with this argument, Frankel et al. (2011) provides evidence that exclusions from NGE have lower association with future GAAP and operating earnings in companies with more independent boards than in companies with less independent boards. Consistent with these findings, Seetharaman et al. (2014) also report that the association between NGE exclusions and future GAAP income is lower after companies appoint accounting experts in audit committees.

In summary, prior studies suggest that items excluded from NGE are not always transitory and that exclusions can be strategic. Prior studies also note that strategic exclusions are dependent on firm characteristics and the environment in which they operate.

Effect of Regulation-G on NGE Disclosure

Regulation G, enacted in 2003, is designed to enhance the transparency of NGE disclosure and protect the public and investors' interests by providing them adequate information related to NGE disclosed by companies (SEC 2003). Prior studies provide evidence that Regulation G effectively enhanced the quality of NGE disclosure. These studies show that there is positive market reaction to NGE in the post-Regulation G period but not in the pre-regulation era (Marques 2006; Yi 2007; Black, Black, Christensen, and Heninger 2012). Yi (2007) further shows that the firms that made misleading adjustments in the pre-regulation period stopped disclosing NGE after the regulation came into effect.

Other studies provide evidence that, after the implementation of Regulation G, the magnitude of exclusions, and the probability of NGE meeting or beating earnings forecasts declined. For example, Black, Christensen, Kiosse, and Steffen (2015) provide evidence that firms are less likely to exclude recurring items from NGE beyond the ones excluded by analysts in the post-Regulation G period. Firms are also less likely to use NGE for meeting earnings benchmarks in the post- Regulation G period (Helfin and Hsu 2008; Black, Christensen, Kiosse, and Steffen 2015). Shiah-Hou and Teng (2016) also provide evidence that NGE disclosure on average are of higher quality after the implementation of Regulation G.

Thus, evidence indicates that the quality, informativeness, and credibility of NGE improved after the implementation of Regulation G. Evidence also suggest that Regulation G has

improved the transparency and curbed opportunistic disclosures of NGE, and consequently benefited investors.

Enforcement of U.S. Regulations on Foreign Companies

Studies that examine cross-listing of securities in the U.S. capital markets presume that U.S.-domiciled firms and foreign issuers are held to similar standards (Coffee 2002; Shnister 2010). However, prior studies provide evidence that regulatory and legal exposure can differ in practice even if many of the safeguards are nominally the same. For example, Frost and Pownall (1994) do not find any instance of foreign firms being prosecuted in the courts, or formally investigated by SEC for disclosure related violation. The authors note that SEC faces many challenges, such as lack of co-operative arrangement with other countries, to monitor and enforce regulations against foreign issuers. Contradictory and incompatible regulatory requirements across nations (Grundfest 1990) can further complicate the enforcement actions against foreign issuers. Siegel (2005) shows that cross-listed Mexican firms are more likely to misappropriate company assets than their home country counterparts. Further, Siegel (2005) provides evidence that the SEC did not prosecute many firms that were prosecuted in Mexico for wrongdoing, and that the SEC was not successful in prosecuting insiders in the few cases that it pursued.

Shnitser (2010) posits that the cost of enforcing laws against foreign issuers is higher, and the visibility and beneficiaries of such actions in the U.S., are lower. In other words, the SEC has weaker incentive to commit its scarce resources to pursue actions against foreign companies. In support of her conjecture, Shnister (2010) finds that the rate of SEC enforcement actions against foreign firms is significantly lower than that for U.S. firms. The limited SEC actions against foreign companies are either high-profile cases that cannot be ignored, or are relatively easy to

enforce. She further shows that private enforcement of laws through class action lawsuits is also significantly lower on cross-listed companies than on U.S. companies.

Overall, evidence suggests that public enforcement and private enforcement (through class-action lawsuits) of U.S. securities laws is weaker against foreign companies.

CHAPTER 3

HYPOTHESIS DEVELOPMENT

Informativeness of NGE for U.S. Firms and Cross-Listed Firms

Empirical studies provide evidence that confirms the notion that stricter accounting regulations and law enforcement in the U.S. results in higher earnings quality for U.S. companies compared to that of foreign companies. For example, U.S. firms have less earnings smoothing, lower proportion of small positive earnings,⁸ and more timely recognition of losses compared to cross-listed firms (Lang et al. 2006). U.S. GAAP measures are also more value-relevant than non-U.S. GAAP measures (Emir, Harris, and Venuti 1993; Lang et al. 2006). Measure of earnings quality, such as less earnings smoothing, is positively associated with greater informativeness of annual earnings announcements (DeFond, Hung, and Trezevant 2007). Given the evidence, that earnings quality is positively associated with greater informativeness of annual earnings announcements and that the earnings quality of U.S. firms is better than that of cross-listed firms, evince that earnings of U.S. firms are more informative than that of foreign firms. Supporting this conjecture, Gordon, Jorgense, and Linthicum (2008) provide evidence that GE reported under U.S. GAAP have incremental informativeness over IFRS earnings for cross-listed companies. The higher informativeness of GE of U.S. firms compared to that of cross-listed firms may spill over to NGE because NGE are obtained by excluding transitory items from GE. This can result in more informative NGE of U.S. firms compared to that of cross-listed firms.

On the other hand, as discussed in the literature review, studies that compare the characteristics of NGE of U.S. and foreign firms provide reasons to expect lower informativeness

⁸Small positive earnings signal firms' incentive to avoid losses. Burgstahler and Dichev (1997) show that firms manage reported earnings to avoid losses. If a firm's annual net income scaled by total assets is between 0 and 0.01, this is considered a small positive earnings (Lang et al. 2006).

of NGE of U.S. firms compared to that of cross-listed firms. For instance, the greater number of adjustments, adjustments of greater magnitude, and more income increasing adjustments in NGE of U.S. firms compared to that of foreign firms (Entwistle et al. 2005; Epping and Wilder 2011) are potentially opportunistic. Such opportunistic adjustments may result in less informative NGE of U.S. firms compared to that of cross-listed firms.

Thus, there are reasons to expect greater informativeness in NGE of U.S. firms as well as cross-listed firms. We do not know whether the spillover effect or opportunistic disclosure dominate the comparative informativeness of NGE of U.S. and foreign firms. Therefore, I posit my first hypothesis in non-directional form as follows:

H1: The informativeness of non-GAAP earnings is different for U.S. companies and cross-listed companies.

Incremental Informativeness of NGE for U.S. Firms and Cross-Listed Firms

H1 examines the aggregate information content of NGE for U.S. companies and cross-listed companies. It does not distinguish between the incremental information content, i.e. the information content of NGE beyond the information in the GE, of U.S. firms and cross-listed firms. Examination of the incremental information content of NGE provides different insights into the informativeness of NGE than the aggregate informativeness examined in H1. Even if I fail to reject the null hypothesis in H1, finding no difference in the informativeness of NGE for U.S. and cross-listed firms, the incremental informativeness of NGE can be different for U.S. and foreign companies for two reasons. First, as discussed earlier, GE of U.S. companies are of higher quality and thus are likely to contain more information than that of foreign companies. So, there is only a narrow potential of NGE to add to the already high information content of GE for U.S. companies. But the opposite is true for cross-listed companies. That is, the additional information contributed

by disclosing NGE can be significantly higher for cross-listed companies due to the potentially low informativeness of GE compared to that of U.S. firms.

Second, as evidenced in prior studies, U.S. companies make more aggressive NGE adjustments compared to cross-listed companies (Entwistle et al. 2005; Epping and Wilder 2011). Aggressive NGE adjustments may be viewed as opportunistic and thus the ability of NGE to provide additional information beyond GE may not be exploited to its full potential for U.S. firms. On the other hand, the less aggressive NGE adjustments for foreign companies may be viewed as informative and thus such firms may utilize the ability of NGE to provide additional information beyond GE to its full potential. Therefore, it is reasonable to predict that there is difference in the incremental informativeness in the NGE of cross-listed firms compared to that of U.S. firms. Hence, I present the second hypothesis as:

H2: The incremental informativeness of non-GAAP earnings over GAAP earnings is different for U.S. companies and cross-listed companies.

NGE Exclusions and Future Firm Performance for U.S. Firms and Cross-Listed Firms

As discussed in the literature review, U.S. companies make more aggressive NGE adjustments, such as greater number of adjustments and adjustments of greater magnitude, compared to foreign companies. Greater number of adjustments are likely to include some items that are recurring and have implications to future firm performance. Further, Isidro and Marques (2014) show that managers in countries with developed institutional and economic conditions are more likely to exclude recurring expenses from NGE. Capital market environment in the U.S. is identified by such characteristics. Therefore, U.S. firms are likely to exclude recurring expenses from the NGE. By definition, if any item is recurring, it has implications to the measures of future

firm performance. Therefore, NGE exclusions of U.S. firms are likely to have strong association with measure of future firm performance.

On the other hand, SEC has exempted foreign issuers from important corporate governance mechanisms such as board independence and audit committee expertise (Licht 2003). Such corporate governance mechanisms positively affect the quality of NGE exclusions and lower the association of NGE exclusions with future firm performance (Frankel et al. 2011; Seetharaman et al. 2014). These exemptions from corporate governance requirements to foreign issuers can negatively affect the quality of NGE exclusions. In other words, without oversight of mechanisms that curb opportunistic behavior, foreign firms may exclude recurring items from NGE and thus such recurring exclusions are likely to be associated with measures of future firm performance.

Therefore, there are reasonable arguments to expect association between NGE exclusions and future firm performance for both, U.S. firms and foreign firms. We do not know whether the greater number and magnitude of exclusions from NGE for U.S. firms or lax corporate governance requirements for foreign issuers dominate the comparative association of NGE exclusions and future firm performance. This leads to the third hypothesis for this study, which is presented as:

H3: The strength of the association between exclusions from non-GAAP earnings and future firm performance is different for U.S. companies and cross-listed companies.

Impact of Regulation G on the Informativeness of NGE for U.S. Firms and Cross-Listed Firms

Prior studies show that Regulation G improved the informativeness of NGE (Marques 2006; Yi 2007; Black et al. 2012). As noted earlier and discussed in the literature review, the enforcement of U.S. securities laws against cross-listed companies is not as effective as it is for U.S. companies (Frost and Pownall 1994; Licht 2003; Siegal 2005; Shnitser 2010). If foreign issuers recognize the differential enforcement of regulations and if they do not expect effective

enforcement of security laws against themselves, such firms may have reduced incentive to change their reporting and disclosure behavior to comply with any regulation. Thus, the impact of any security regulations, including the Regulation G, can be different for U.S. companies and cross-listed companies. More specifically, I expect that the effect of Regulation G on informativeness of NGE is attenuated for cross-listed firms compared to the U.S. firms. Therefore, I present the fourth hypothesis for this study as:

H4: The effect of Regulation G on the informativeness of NGE is greater for U.S. companies compared to that of cross-listed companies.

CHAPTER 4

RESEARCH METHODOLOGY: SAMPLE AND DATA

The primary sources of data used in this study are I/B/E/S, Compustat, and CRSP databases. The sample cover the period from 1986 to 2016. I begin with the year 1986 because the coverage of I/B/E/S is limited before this (Bradshaw and Sloan 2002). The sample period ends in 2016, as it is the most recent data available. I obtain the sample of cross-listed firms for the period from the Bank of New York Mellon Corporation depository receipts directory. The sample includes sponsored Level II or Level III American Depository Receipts (ADRs), which trade on the New York Stock Exchange (NYSE), NYSE MKT (American Stock Exchange-AMEX before 2008), or Nasdaq. Restricting the cross-listed sample to Level II and III ADRs is consistent with prior studies that examine cross-listed companies (e.g. Lang, Raedy, and Yetman 2003; Lang et al. 2006; Huijgen, and Lubberink 2005). To include a firm quarter in the sample, the firm should have actual earnings per share (EPS) information available in the I/B/E/S⁹ for the quarter t and $t-1$. Information for the quarter t should also be available in Compupstat and CRSP to include a firm quarter in the sample.

I match the cross-listed firm quarters with U.S. firms quarters in same industry (4 digit SIC code) for the same fiscal year and quarter. The closest match on the size (firms' total assets) are chosen as the matched U.S. firm. Matching the firms based on industry, year/quarter, and size

⁹ I use I/B/E/S reported actual earnings per share (EPS) to proxy for NGE per share. This proxy for NGE is consistent with prior research (Bradshaw and Sloan 2002; Brown and Sivakumar 2003; Doyle, Lundholm, and Soliman 2003; Kolev, Marquardt, and McVay 2008; and Seetharaman et al. 2014). NGE disclosed in earnings releases is also used as a proxy for NGE. Seetharaman et al. (2014) note several reasons that validate the use of I/B/E/S actual EPS to proxy for NGE. First, I/B/E/S actual EPS are obtained from corporate earnings press releases. Second, it has been used and accepted in prior studies as a proxy for non-GAAP EPS. Third, the NGE coverage in I/B/E/S is approximately equal to the actual NGE disclosure in press releases as reported in Marques (2006). Further, on a subsample test using management disclosed NGE, Seetharaman et al. (2014) report that the results are not sensitive to using either of the two proxies. The earnings per share before extraordinary items and discontinued operations in Compustat is used as a proxy for GAAP EPS. This measure of GE is consistent with prior studies (Brown and Sivakumar 2003; Doyle, Lundholm, and Soliman 2003; Kolev, Marquardt, and McVay 2008; and Seetharaman et al. 2014)

controls for industry, year, and size effects. Any cross-listed firm quarter without matching firm quarters are not included in the sample.

Table 1 shows the sample selection procedure and distribution of sample for the study. As seen in Panel A in Table 1, there are 6,340 cross-listed firm quarters in IBES from 1986 to 2016 that have required information in Compustat and CRSP. 122 foreign firm quarters do not have exact match. Therefore, the final sample consists of 6,218 foreign firm quarters from 34 different countries and matched U.S. firm quarters making the final sample to 12,436 firm quarters. The largest proportion of firms (27%) represented in the sample come from China and Top 5 countries China, UK, Brazil, Argentina and Mexico account for half of the firms represented in the sample (see Table 1 Panel B). Durable manufacturers represent about a third of the firm quarters and Durable manufacturing and computer industry represent more than half of the firm quarters in the sample (see Table 1 Panel C).

TABLE 1: Sample Selection and Distribution

A. Sample Selection		
Foreign firm quarters with non-missing information in Compustat and CRSP	6,340	
Foreign firm quarters with matching U.S. firms available	6,218	
Matched U.S. Sample	6,218	
Final Sample	12,436	
B. Sample Distribution by Country		
Country	Number of Companies	Percentage
China	61	27
United Kingdom	17	7
Brazil	13	6
Argentina	12	5
México	11	5
Chile	10	4

(table continues)

B. Sample Distribution by Country		
Country	Number of Companies	Percentage
Israel	9	4
India	8	4
Japan	8	4
Taiwan	8	4
France	7	3
Korea	6	3
Australia	5	2
Italy	5	2
Netherlands	5	2
South Africa	5	2
Others	38	17
Total	228	100
C. Sample Distribution by Industry		
Industry	Firm Quarters	Percentage
Durable manufacturers	4,130	33.21
Computers	2,886	23.21
Transportation	1,442	11.60
Financial institutions	1,036	8.33
Services	852	6.85
Food	614	4.94
Mining and construction	566	4.55
Utilities	540	4.34
Retail	172	1.38
Other	94	0.76
Textiles, printing, and publishing	62	0.50
Insurance and real estate	42	0.34
Total	12,436	100

H1 states that the informativeness of non-GAAP earnings is different for U.S. companies and cross-listed companies. A standard approach to assess the informativeness of an earnings measure is to examine the statistical significance of the slope coefficient in the ordinary-least-squares regression in which abnormal stock returns around earnings release are regressed on the earnings measure. To evaluate the differential information content of NGE for U.S. companies and cross-listed companies, I add an intercept and slope dummy variables to capture the differential informativeness of NGE for the two set of companies as follows:

$$CAR_{it} = \beta_1 + \beta_2 CL + \beta_3 \Delta NGE_{it} + \beta_4 CL * \Delta NGE_{it} + \varepsilon \quad (1)$$

where

CAR = Market adjusted cumulative abnormal returns over a two-day event window (0, +1), where day 0 is the date of the earnings announcement.

ΔNGE = The difference between actual EPS in current quarter and EPS for the same quarter in the previous year as reported in IBES for U.S. or foreign firms. As noted earlier, this measure of NGE is consistent with prior research (Bradshaw and Sloan 2002; Brown and Sivakumar 2003; Doyle, Lundholm, and Soliman 2003; Kolev, Marquardt, and McVay 2008; and Seetharaman et al. 2014).

CL= Dummy variable that equals to 1 for cross-listed companies and 0 for U.S. firms.

H2 states that the incremental informativeness of non-GAAP earnings over GAAP earnings is different for U.S. companies and cross-listed companies. The standard approach to assess incremental information content of an earnings measure E_2 over another earnings measure E_1 is to regress abnormal returns on both E_1 and E_2 and examining whether the coefficient on E_2 is different from zero. A finding that the coefficient on E_2 is different from zero would provide evidence that the E_2 provides incremental informativeness over E_1 . Prior studies use this approach to examine the incremental information content of earnings measures (see, e.g., Bowen et al. 1987; Lougee and Marquardt 2004). Using similar approach, and including a dummy interaction term to

incorporate the differential incremental information content of NGE for foreign firms, I estimate the following regression model to test H2:

$$CAR_{it} = \beta_1 + \beta_2*CL + \beta_3*\Delta NGE_{it} + \beta_4*\Delta GE_{it} + \beta_5*CL*\Delta GE_{it} + \beta_6*CL*\Delta NGE_{it} + \varepsilon \quad (2)$$

where ΔGE = the difference between the earnings per share before extraordinary items in current quarter and the same quarter in previous year as reported in Compustat.

This measure of GE used is consistent with prior studies (Brown and Sivakumar 2003; Doyle, Lundholm, and Soliman 2003; Kolev, Marquardt, and McVay 2008; and Seetharaman et al. 2014). Definitions of all other variables are as specified in H1. Equation 2 is estimated for the cross-listed firms and matched U.S. sample together. The null hypothesis to test H2 is: $\beta_6 = 0$. The null hypothesis is rejected if the coefficient β_6 is significantly different from zero. This result would support H2 suggesting that the incremental informativeness of NGE is different for U.S. companies compared to that of cross-listed companies.

H3 states that the strength of the association between exclusions from non-GAAP earnings and future firm performance is different for U.S. companies and cross-listed companies. The model to test H3 regresses future measure of firm performance on exclusions from NGE and other control variables. This approach is similar to the ones used in prior studies (see, e.g., Gu and Chen 2004; Kolev, et al. 2008; Seetharaman et al. 2014). To test H3, I use the model applied by Kolev et al. (2008) and include a dummy interaction term $CL * NGE_{excl}$ to examine the differential association of NGE exclusions for cross-listed firms. I use future operating income as the measure of firm performance, which is similar to Kolev et al. (2008). Future operating income is defined as the earnings per share from operations summed over future four quarters. Following Kolev et al. (2008), I control for sales growth, total assets, earnings volatility, a loss indicator, and the book-to-market assets ratio. The equation to examine H3 is specified as follows:

$$FOI = \beta_1 + \beta_2 * NGE_q + \beta_3 * NGE_{excl_q} + \beta_4 * CL + \beta_5 * CL * NGE_{excl_q} + \beta_6 * Growth + \beta_7 * Size + \beta_8 * EV + \beta_9 * Loss + \beta_{10} * BTM + \varepsilon \quad (3)$$

where

FOI= Future operating income. The earnings per share from operations summed over four quarters starting with quarter q+1.

NGExcl= Non-GAAP exclusions. It is defined as non-GAAP Earnings (I/B/E/S actual earnings per share) less earnings per share before extraordinary items.

Growth= Sales growth per share. The increase in sales scaled by shares outstanding i.e. (sales_q - Sales_{q-4}) scaled by number of shares outstanding.

Size = Natural log of the firm's total assets at the end of quarter q.

EV = Earnings volatility. The standard deviation of return on assets

Loss= A dummy variable that takes a value of 1 if GAAP earnings in quarter q is less than 0, and 0 otherwise.

BTM= Book-to-market assets. The book value of equity divided by the book value of debt plus market value of equity.

Definitions of all other variables are as specified earlier. β_5 is the coefficient of interest in equation (3). To examine H3, I test for the null hypothesis $\beta_5 = 0$. Rejection of the null hypothesis with statistical significance would support H3 and provide evidence that the association of NGE exclusions and future firm performance is different for U.S. firms and cross-listed firms.

H4 states that the increase in informativeness of NGE after Regulation G is greater for U.S. companies compared to that of cross-listed companies. To test H4, I regress CARs on ΔNGE and incorporate two dummy variable terms to incorporate the differential effect of Regulation G to the CARs of U.S. firms. The model to test H4 is specified as follows:

$$CAR_{it} = \beta_1 + \beta_2 * CL + \beta_3 * Reg-G + \beta_4 * CL * Reg-G + \beta_5 * \Delta NGE_{it} + \beta_6 * CL * \Delta NGE_{it} + \beta_7 * \Delta NGE_{it} * Reg-G + \beta_8 * \Delta NGE_{it} * Reg-G * CL + \varepsilon \quad (4)$$

where Reg-G = dummy variable that takes a value of 1 if the quarter end date is after March 28, 2003 and takes a value of 0 otherwise.

Definitions of all other variables are as specified earlier. To test H4, I test for the null hypothesis $\beta_8 \leq 0$. Rejection of null hypothesis would suggest that the increase in informativeness of NGE after Regulation G is greater for U.S. companies compared to that of cross-listed companies, and thus, support H4.

CHAPTER 5

RESULTS

Results of the Test that Compares the Informativeness of NGE:

The first test compares the informativeness of NGE for U.S. firms and cross-listed firms. If there is a differential informativeness of NGE for U.S. firms and cross-listed firms, the coefficient β_4 on the dummy interaction term (CL* Δ NGE) on model (1) should be different from zero with statistical significance. However, a failure to find that β_4 is different from zero would suggest that there is no differential informativeness of NGE for the two set of firms. As seen in Table 2, the value of β_4 on the interaction term (CL* Δ NGE) is -0.0009 (P- value 0.45) which is not significantly different from zero at conventional level of significance. Therefore, the result does not support the H1 for the study. Thus, I conclude that there is no differential informativeness of NGE for U.S. and cross-listed firms. One of the reason for failure to find differential informativeness could be because the reduced informativeness due to aggressive NGE reporting behavior of U.S. firms offset the spillover effect from the more informative GE of U.S. firms. However, this possible explanation is not investigated in this study.

TABLE 2: Comparing the Informativeness of NGE

Parameter	Expected Sign	Estimate	t Value	Pr > t
Intercept	?	-0.0001	-0.12	0.90
CL	?	0.0002	0.17	0.87
Δ NGE	+	0.0013	1.41	0.08
CL* Δ NGE	?	-0.0009	-0.75	0.45
N	12,436			
R-Square	0.44%			

Results of the Test that Compares the Incremental Informativeness of NGE

The second test compares the incremental informativeness of NGE for U.S. firms and cross-listed firms. If the incremental informativeness of NGE over GE for U.S. firms and cross-listed firms is different, the coefficient β_6 on the dummy interaction term (CL * Δ NGE) on model (2) should be different from zero with statistical significance. However, a failure to find that the coefficient β_6 is different from zero would suggest that the incremental informativeness of NGE over GE is not different for the two set of firms. As seen in Table 3, the value of coefficient β_4 on the interaction term (CL* Δ NGE) is -0.0009 (P- value 0.48) which is not different from zero at conventional level of significance. Thus, the result do not support the predictions of H2 for the study. This result suggests that the incremental informativeness of NGE over GE is not different for U.S. and cross-listed firms. If we look at the coefficient on the Δ NGE variable on the regression, it is positive (0.0005) and marginally significant (P-Value 0.09) at conventional level of significance. This suggests that there is some incremental information in the NGE but the incremental information is not different for the foreign and U.S. firms, thus rejecting the prediction of H2.

TABLE 3: Comparing the Incremental Informativeness of NGE

Parameter	Expected Sign	Estimate	t Value	Pr > t
Intercept	?	-0.0001	-0.11	0.91
CL	?	0.0003	0.21	0.83
Δ NGE	+	0.0013	1.35	0.09
Δ GE	+	0.0005	0.51	0.31
CL* Δ NGE	?	-0.0009	-0.71	0.48
CL* Δ GE	-	0.0017	1.21	0.12
N	12,436			
R-Square	0.49%			

Results of the Test that Compares the Association between NGE Exclusions and Future Firm Performance

The third test for this study compares the strength of association between NGE exclusions and future firm performance for U.S. companies and cross-listed companies. I lose a large number of observations in this test because, to consider an observation, four consecutive future earnings and other control variables are required. The dummy interaction term CL*NGExcl is the variable of interest in this test. If the coefficient β_5 on the variable of interest is different from zero with statistical significance, it would suggest that the strength of association between NGE exclusions and future firm performance is different for U.S. companies and cross-listed companies. As seen in Table 4, the value of β_5 is -1.1480 (P-Value <0.01) which is different from zero with statistical significance providing evidence that the negative relationship between NGE exclusions and future operating income is greater for cross-listed companies compared to U.S. companies. The result supports the prediction of H3. This result suggests that a dollar excluded from NGE in the current quarter predicts a lower future operating income (in quarters Q1 through Q4) for cross-listed companies but it may not be the case for U.S. firms (Coefficient on NGExcl -0.3717 with p value 0.23). This result suggests that cross-listed firms opportunistically exclude recurring items from NGE more than what U.S. firms may do. One possible explanation for the results is that the absence of oversight mechanisms, due to SEC exemptions from board independence and audit committee expertise requirements for foreign firms (Licht 2003), results to a failure to curb the opportunistic exclusions from NGE. This explanation aligns with the results of prior studies that corporate governance mechanisms positively affect the quality of NGE exclusions and lower the association of NGE exclusions with future firm performance (Frankel et al. 2011; Seetharaman et al. 2014).

TABLE 4: Comparing the Association between NGE Exclusions and Future Firm Performance

Parameter	Estimated Sign	Estimate	t Value	Pr > t
Intercept	?	-0.2205	-1.06	0.29
NGE	+	1.5790	4.06	<.01
NGExcl	-	-0.3717	-1.22	0.23
CL	?	-0.2425	-3.18	<.01
CL *NGExcl	?	-1.1480	-2.72	<.01
Growth	+	0.1592	2.62	<.01
Size	+	0.2114	4.81	<.01
EV	?	-5.54181	-2.25	0.03
Loss	-	-0.1479	-0.39	0.70
BTM	?	-0.6509	-5.04	<.01
R-Square	60.09%			
N	5,892			

Results of the Test that Compares the Effect of Regulation-G on the Informativeness of NGE

The final test in this study compares the effect of Regulation-G on the informativeness of NGE for U.S. companies and cross-listed companies. Coefficient β_8 on the three way interaction term $\text{RegG} * \text{CL} * \Delta\text{NGE}$ is of interest in this test. As seen in Table 5, the value of coefficient β_8 on $\text{RegG} * \text{CL} * \Delta\text{NGE}$ is 0.0003 (P-value 0.95). The result suggests that there is no differential effect of Regulation-G on the informativeness of NGE for U.S. companies and cross-listed companies which contradicts the expectations in H4. This result is surprising given the fact that prior studies have consistently reported that SEC is not effective in enforcing security regulations to foreign companies (Frost and Pownall 1994; Licht 2003; Siegal 2005; Shnitser 2010). However, the introduction of Sarbanes-Oxley Act of 2002 (SOX) may have changed the regulatory environment and the effectiveness of regulations not only for U.S. based firms but also for cross-

listed foreign firms. Therefore, the changed regulatory and enforcement environment after SOX can be one potential explanation for not finding a differential impact of Regulation- G on the informativeness of NGE for U.S. and foreign firms.

TABLE 5: Comparing the Effect of Regulation G on the Informativeness of NGE

Parameter	Estimate	t Value	Pr > t
Intercept	0.0032	1.09	0.28
Δ NGE	0.0019	0.48	0.63
RegG_NGE	-0.0005	-0.13	0.90
cl	0.0012	0.33	0.74
cl_NGE	-0.0012	-0.31	0.76
RegG	-0.0038	-1.22	0.22
RegG*CL	-0.0011	-0.29	0.78
RegG*CL* Δ NGE	0.0003	0.06	0.95
R-Square	0.48%		
N	12,436		

Additional Analysis

In this study, I have used I/B/E/S reported actual EPS as the measure of NGE. As discussed earlier, using this measure of NGE is consistent with prior research (Bradshaw and Sloan 2002; Brown and Sivakumar 2003; Doyle, Lundholm, and Soliman 2003; Kolev, Marquardt, and McVay 2008; and Seetharaman et al. 2014). However, it is unclear whether analyst reported NGE such as in I/B/E/S systematically deviate from managers' disclosed NGE. Bentley et al. (2017) find that NGE reported by managers and analysts largely overlap (they are same for 78.9 percent of their sample). Their findings provides additional assurance about the validity of the use of I/B/E/S disclosed NGE. However, to get further assurance about the validity of the results, I hand collect the NGE disclosed by management for 100 foreign firm quarters and matched 100 US firm quarters

in the year 2016. I obtain the information from press releases of the companies filed with SEC in form 6-K and form 8-K for foreign and U.S. firms respectively. Table 6 presents the results of the analysis for the sub sample with hand collected NGE information. Where, Δ MNGE is the change in the EPS in current quarter compared to the same quarter in the previous year. Other variables are as defined earlier. As seen in Table 6 Panel A, the coefficient on the variable of interest (CL* Δ MNGE) is negative and not different from zero at conventional level of significance. The results suggest that the informativeness of NGE are not different for cross-listed and U.S. companies which is consistent with the results of the main analysis using the full sample.

TABLE 6: Analysis Using Hand Collected Sub-Sample

Panel A: Comparing the Informativeness of NGE				
Parameter	Expected Sign	Estimate	t Value	Pr > t
Intercept	?	0.0127	1.58	0.12
CL	?	-0.0043	-0.41	0.68
Δ MNGE	+	0.0062	0.38	0.35
CL* Δ MNGE	?	-0.0049	-0.29	0.77
N	200			
R-Square	0.23%			
Panel B: Comparing the Incremental Informativeness of NGE				
Parameter	Expected Sign	Estimate	t Value	Pr > t
Intercept	?	0.0123	1.48	0.14
CL	?	-0.0037	-0.34	0.73
Δ GE	+	0.0019	0.43	0.33
Δ MNGE	+	0.0051	0.29	0.38
CL* Δ MNGE	?	-0.0046	-0.26	0.80
CL * Δ GE	-	0.0012	0.17	0.43
N	200			
R-Square	0.35%			

Table 6 Panel B presents the results of the test of incremental informativeness using the

hand-collected sub-sample. As seen in the table, the coefficient on the variable of interest ($CL * \Delta NGE$) is not significant at traditional level of significance. The result suggests that the incremental informativeness of NGE is not different for the U.S. and foreign companies. This result is consistent with the results of the main analysis using the full sample. Therefore, the results of this additional test suggest that using hand-collected data from the earnings release do not change the results and the implications of the current study. The lower R-Square of the sub-sample test (0.23% and 0.35%) compared to the R-Square of full sample test (0.44% and 0.49%) aligns with the suggestions of Bentley et al. (2017) that I/BE/S reported NGE is less aggressive and more informative than the ones disclosed in the earnings releases.

Next, U.S. GAAP is rule-based, whereas IFRS is principle-based (Forgeas 2008). Under the principles-based framework, the preparers have flexibility to interpret and record transactions that best reflect the substance of the transaction. So, firms that follow rule based accounting standards may communicate more information using NGE compared to the firms that follow principle based standards that already provide flexibility to use professional judgment of preparers. Therefore, to examine whether the accounting standard followed (U.S. GAAP versus non-U.S. accounting standards) affect the informativeness of non-GAAP earnings, I further test H1 using only the cross-listed firms that report their financial statements following non-U.S. accounting standards. The Firm quarters with missing accounting standard information are excluded from the sample. This reduces the sample size to 5,992. As seen in Table 7, the coefficient on the dummy interaction term ($CL * \Delta NGE$) is not significantly different from zero at conventional level of significance. This result from the reduced sample test is consistent with the full sample test in the main analysis providing further credence to the main results.

TABLE 7: Comparing Informativeness of NGE for CL Firms that Use Non-U.S. Accounting Standard and U.S. Firms

Parameter	Expected Sign	Estimate	t Value	Pr > t
Intercept	?	-0.0023	-1.89	0.06
cl	?	0.0019	1.16	0.24
Δ NGE	+	0.0021	1.99	0.05
CL * Δ NGE	?	-0.0008	-0.41	0.68
R-Square	3.36%			
N	5,992			

TABLE 8: Comparing Informativeness of NGE by Industry

Parameter	Food	Durable Manufacturers	Financial Institutions	Insurance and real estate	Services
Intercept	0.0030 (0.42)	-0.0012 (0.41)	-0.0031 (0.30)	0.0138 (0.15)	-0.0075 (0.10)
CL	-0.0051 (0.23)	0.0000 (0.99)	0.0027 (0.47)	-0.0146 (0.47)	0.0040 (0.50)
Δ NGE	0.0468 (<0.01)	-0.0000 (0.99)	0.0039 (<0.01)	-0.0329 (0.37)	0.0365 (0.03)
CL * Δ NGE	-0.0393 (<0.01)	0.0018 (0.03)	-0.0070 (<0.01)	0.1326 (0.05)	-0.0336 (0.04)
N	614	4,130	1,036	42	852

The information environment, disclosure requirement, and the importance of NGE can be different for various industries in the U.S. and abroad. Therefore, there can be industry level differences in the importance and thus the informativeness of NGE for U.S. and foreign firms. To examine this possibility, I examine the informativeness of NGE for U.S. and foreign firms based on industry as per the industry classification in Barth et. al (1998) (see Table 1 panel C). As seen in Table 8, the results are mixed. I find that in food, financial institutions, and service industry, cross-listed firms have less informative NGE compared to that of U.S. firms. On the other hand, for durable manufacturers and insurance and real estate firms, NGE of foreign firms are more

informative than that of U.S. firms. Results (not tabulated) show that the informativeness of NGE is not different for U.S. and cross-listed firms in all other industries. The differential regulatory scrutiny and disclosure requirement in each industry in the U.S. and abroad can be a possible reason behind the results observed.

CHAPTER 6

SUMMARY AND CONCLUSION

In this study, I examine the differences in informativeness of NGE for U.S. and foreign firms. I compare the aggregate information content and incremental information content of NGE of U.S. companies and cross-listed companies. I find that the aggregate and incremental informativeness are not different for U.S. and cross-listed firms. I also compare the association of NGE exclusions to future firm performance for the two set of companies. The results show that there is greater negative association between NGE exclusions and firms' future operating income for foreign companies compared to that of U.S. companies suggesting a more opportunistic exclusions from NGE for foreign firms. I also fail to find a differential effect of Regulation-G on informativeness of NGE for U.S. and cross-listed firms.

This study is subject to some limitations. First, similar to other capital market studies, I assume that capital markets are efficient when evaluating the informativeness of NGE. However, it is possible that the market participants give undue weight to the GE or NGE due to market inefficiency. Next, this study uses short-window market response test. Short-window market response test is suitable to capture the contemporaneous information in earnings (Brown, and Shivakumar, 2003). However, there is also a possibility that the results of the short-window market response test are contaminated by other news and events. Another limitation of the study is regarding the effect of Regulation- G. The implementation of Regulation G was concurrent with other requirements mandated by SOX. For example, certification of financial statements by managers, composition of the board of directors, and audit committees, and reports on effectiveness of internal controls could have affected the informativeness of the earnings rather than the Regulation – G. Finally, the NGE information in this study are obtained from I/B/E/S.

There is a reasonable possibility that the NGE disclosed by managers is different from the ones in I/B/E/S and the outcomes are affected.

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