

Value Implications of the Proportion of Non-Operating Income

Andrew Ayimbila Anabila
University of Texas – Pan American

The Senate Committee that investigated Enron's collapse suggests that analysts misled the public by ignoring signals like the firm's high proportion of non-operating income. The analysts denied intentional deceit, alleging instead that they were fooled by Enron. This study examines the implications of a firm's proportion of non-operating income for its information environment and its valuation. The objective is to ascertain whether market participants' ability to value a firm decreases as the proportion of non-operating income increases. The results show that non-operating income is associated with information asymmetry and overvaluation. These results apply to the pre- and post-Enron era, so analysts should be more critical about firms' non-operating income.

INTRODUCTION

Prior studies examined the implications of a firm's earnings mix for its information environment. Bowen (1981) and Jagannathan et al. (2000) suggest that market participants place less weight on reported income as the proportion of non-operating income increases. Fairfield et al. (1996) and Banker and Chen, (2006) suggest that non-operating and operating income components have different predictive values and information content for future earnings. The foregoing studies do not examine the implications of the proportion of non-operating income for the extent of information asymmetry (differences in opinions of market participants), and the impact on firm value.

The significance of the proportion of non-operating income for information asymmetry and valuation applies to Enron's failure. Enron's blatant use of accounting gimmicks notwithstanding, the periods before Enron's failure featured many non-operating activities that accounted for a large proportion of its income (Smith and Emshwiller 2001, and Lashinsky 2001). The Senate Committee that investigated Enron's collapse argued that analysts should have been diligent given Enron's high proportion of non-operating income in earlier periods.¹

The valuation significance of information asymmetry, and in part the eventual fate that befell Enron, are supported in theoretical and empirical research. For example, Miller (1977, 2001) and Diether et. al. (2002), show that information asymmetry is associated with overvaluation, leading to negative future returns. However, these studies did not examine the fundamental determinants of the information asymmetry.

I examine the implications of the proportion of non-operating income (relative to operating income) for both information asymmetry and firm valuation. Firms have the discretion to engage either in production to earn operating income or in secondary (i.e. non-operating) activities like investments in shares to earn nonoperating income. The motivation for this study is twofold. First, this study examines whether the mix between these alternative sources of income affects market participants' ability to

determine and impound future expectations into price. Is the proportion of non-operating income associated with information asymmetry? Second, this study ascertains whether the implications of the proportion of non-operating income for information asymmetry persist after Enron's failure.

Similar to Bowen (1981), I define the proportion of non-operating income as the ratio of non-operating income to operating income. My sample comprises Industrial/Commercial firm years at the intersection of *Compustat*, *I/B/E/S*, and *CRSP* monthly returns files from the ten years beginning 1996 through 2005 fiscal years. This enables me to partition the sample into two sub-periods as follows: five years before the Enron failure (years 1996 through 2000), and five years after.² I use regression analysis.

The results of this study are as follows: First, consistent with FASB's Concept Statement 6 (FASB 1985), non-operating income is recurrent in nature, similar to operating income. However, non-operating income is negatively associated with the operating income of both the firm and its industry (the latter is the average operating income for all the other firms in the industry). Therefore, the proportion of non-operating income signals the extent of a firm's focus on secondary sources of income, for the purpose of smoothing poor operating income results. Second, analysts' forecast inaccuracy and dispersion increase in the proportion of non-operating income, suggesting that the proportion is a fundamental indicator of information asymmetry.

Third, the proportion of non-operating income is negatively associated with cumulative returns over the 12 months ending one month after the earnings release month. This shows that the proportion is associated with overvaluation that reverses when the information asymmetry unravels after earnings release. This corroborates Miller (1977, 2001), and also empirical results in Diether et al. (2002) and Gebhardt et al. (2001) that show a negative relation between forecast dispersion and returns. Firms do not clearly disclose in financial reports whether non-operating income comes from within or without their own industry. Therefore, these results suggest that as the proportion of non-operating income increases, with high probability, at least some of it is from without a firm's industry. This suggests that for firms with a significant non-operating income, analysts need to gain expertise in those other industries. This challenges analysts to expend more effort, which is costly to analysts from a basic moral hazard context.

This study contributes to the literature as follows. First, I show that firms spread their focus, sometimes disproportionately, to non-operating income because the latter is not positively correlated with their operating income. Second, I show that the proportion of non-operating income is associated with information asymmetry not only amongst analysts (forecast dispersion) but between analysts and managers (forecast inaccuracy).

Third, following the Enron failure, there has been a slight decrease in the proportion of non-operating income and information asymmetry. However, the association between the information asymmetry and the proportion of non-operating income persists after Enron. This is partly because analysts seem to ignore, or are just not capable of dealing with, having to be more diligent with firms with a high proportion of non-operating income. These findings suggest that the regulations must be complemented with a conscious change in the attitude of market participants. Finally, my study supports studies like Fairfield et al. (1996), and Banker and Chen (2006), which show that the decomposition of earnings into their components enhances time series forecasting. I show that analysts could benefit, perhaps even more, from such decomposition.

The remainder of this study proceeds as follows. Section II links this study to prior research, discusses why non-operating income is associated with information asymmetry, and firm value, and states the hypotheses. Section III describes the methodology, data, and the sample used in this study. Section IV presents the detailed results, section V addresses sensitivity tests, and section VI summarizes and concludes.

PRIOR RESEARCH AND HYPOTHESIS

Prior Research on Non-operating Income and Information Asymmetry

Under US accounting regulations, firms report income of a recurring nature under continuing operations. This constitutes the income that analysts predict (Thomson Financial, 2004). The two main

components of income from continuing operations are operating income and non-operating or other income, respectively (See APB, 1966; FASB, 1985). Operating income derives from the firm's principal or primary business. Non-operating income derives from secondary activities like investments in other entities, for which management's intent is to not control the investee (i.e. not to operate the assets invested). Firms have the discretion to choose their desired mix of the two earnings components. Operating income should dominate if firms are focused on their principal business, but empirically, non-operating income could dominate for some firms.

Empirical results in Bowen (1981), show for the electric utility industry that as the proportion of allowance for funds used for construction increases relative to operating income, equity value increases at a decreasing rate. The paper attributes the findings to the belief among market participants that the future realization of such income is risky. Fairfield et al. (1996) show that non-operating income (compared to operating income), has less information content and predictive value for future bottom-line income.

Jagannathan et al. (2000) shows that firms choose between dividends and stock repurchases in their payout policy based on the value of financial flexibility to the firms. They find that repurchases are the preferred form of distributions to investors of firms with a high proportion of non-operating cash flows (defined as, non-operating income before depreciation and amortization). They argue that this is because unlike dividends, repurchases offer more financial flexibility by not implicitly committing the firm to future payouts. They argue further that the higher the proportion of non-operating income, the less permanent the income and the higher the value of financial flexibility.

The foregoing two studies link non-operating income with information asymmetry and examine its implications for earnings. They do not examine its empirical implications for the extent of information asymmetry, that is, differences in expected earnings amongst market participants (analysts), and the impact on firm value.³

Prior Research on Implications of Information Asymmetry for Firm Value

Certain prior studies examine the implications of information asymmetry for firm value. Miller (1977, 2001) show that divergence in opinion is associated with overpricing and negative future returns to stocks, for two reasons: First, demand and supply for the stock would clear beginning with the most optimistic bidders downwards; and second, the most pessimistic market participants may be prevented from short selling, say, due to transactions costs.⁴ Gebhardt et al. (2001) show that forecast dispersion is associated with lower returns premium. Diether et al. (2002) test Miller (1977), empirically and show a negative association between returns in a subsequent month and the dispersion of analysts' forecasts. Thus information asymmetry (dispersion of analysts' forecasts) has negative implications for future firm value.

This Study's Extension to Prior Research

Non-operating income is a recurrent component of income, just like operating income (APB, 1966; FASB 1985). Therefore, it is puzzling that the prior studies discussed in the preceding sections, associate it with uncertainty. Perhaps as suggested by Kothari (2001), linking up the economics underlying the earnings components with the managerial behavior could offer more insight. I identify and examine four attributes of non-operating income that links it to information asymmetry. First, non-operating income is from activities that are secondary to the principal activities of the firm, so its proportion relative to the operating income shows the extent to which a firm has spread, if not shifted, its focus from its principal sources of income. As in the case of Enron, such a change in focus requires market participants like analysts to acquire expertise in those secondary activities or industries in order to understand the firm's business (Lashinsky, 2001). Second is the incentive for changing focus in that manner. Probable reasons for the change is the desire either to expand rather than grow organically in the principal industry or to smooth operating income that management has difficulty sustaining. I examine these incentives.

Third is the extent to which the firm's income would be related to management's expertise as the proportion of non-operating income increases. The guidance in APB Opinion No. 9 and FASB's Concept Statement No. 6 suggest that the assets underlying this class of income are not controlled or operated by

the investing firm's management (APB, 1966; FASB, 1985). Consider the typical example of non-controlling investments in another entity, which effectively delegates the actual operation of the invested assets to the management of that other entity. The income from such an investment will depend on the expertise and effort of the management of the other entity, not the investing firm.

Fourth, choosing between investments in other entities requires the investing firm to possess expertise in the caliber of the investee's management. This poses additional challenges to the investing firm's management, and could divert more of the latter's attention from its principal business. It also has the potential to impair the ability of market participants to forecast and value firms since more activities require more expertise. Based on the foregoing, I hypothesize in alternative form as follows:

H1. Information asymmetry (analysts' forecast inaccuracy and dispersion respectively) is positively associated with the proportion of non-operating income.

H2. Returns are negatively associated with the proportion of non-operating income.

Control Variables

Prior research has also documented implications of business and geographic segment diversification for firms' information environments (Thomas, 2002; Duru and Reeb, 2002). Income from business and geographic segments derive from assets that are operated by the firm's management, but as mentioned earlier, non-operating income results from activities for which management tends not to operate the assets invested. In fact, Aggarwal and Samwick (2003) show that managers undertake segment diversification to signal their ability to handle complex responsibility, for incentives such as compensation and entrenchment. Therefore, operating income includes segment income and relates to the expertise and effort of the managers of the firm in question, but non-operating income tends to relate to the expertise and efforts of the entity in which the non-operating assets are invested. I control for diversification.

Feltham and Ohlson (1995)'s study makes a theoretical distinction between operating assets (that could earn abnormal earnings) and financial assets (that earn the risk free rate). The effect of this distinction is similar to Bowen (1981), because it suggests that for industrial and commercial firms, as financial assets increase, firm value would increase but at a lower rate (compared to operating assets). My study differs from Feltham and Ohlson (1995) because I examine the extent of information asymmetry (differences in belief), not abnormal earnings. Also, the distinction between operating and non-operating income considered in this study is based on APB (1966) and FASB (1985), that is whether assets are controlled/operated by management or not. Therefore, non-operating income in this study includes returns from investments in other industrial or commercial entities that could be making abnormal earnings.

METHODOLOGY, DATA AND SAMPLE

Models Tested

I examine first the association between information asymmetry and the proportion of non-operating income. Following Diether et al. (2002) and Gebhardt et al. (2001), I use analysts' forecast dispersion (divergence in opinions) as a proxy for information asymmetry amongst analysts. I also examine forecast inaccuracy (absolute value of forecast error scaled by absolute actual earnings). Since this latter construct captures the extent to which the mean analysts' expectation differs from what firms eventually report, I use it as a proxy for information asymmetry between analysts and management.⁵

I control for the following determinants of forecast inaccuracy and dispersion identified by prior research: Size (Brown et al. 1987); analyst following (Lys and Soo 1995); earnings performance or firm level profitability (Brown 2001), which also serves as a proxy for the dominant market view of earnings as examined in Bowen (1981); business segment diversification (Thomas 2002) and international or geographic segment diversification (Duru and Reeb 2002). To test H1, I examine the following models (details of the definition and computation of the variables are in Appendix 1):

$$FINAC_{t,i} = \beta_0 + \beta_1 NPINC_{t,i} + \beta_2 FOLLO_{t,i} + \beta_3 ROEIM + \beta_4 SIZM_{t-1,i} + \beta_5 BUDIV_{t-1,i} + \beta_6 GEDIV_{t-1,i} + \varepsilon_{t,i} \quad (1)$$

$$FDISP_{t,i} = \gamma_0 + \gamma_1 NPINC_{t,i} + \gamma_2 FOLLO_{t,i} + \gamma_3 ROEIM + \gamma_4 SIZM_{t-1,i} + \gamma_5 BUDIV_{t-1,i} + \gamma_6 GEDIV_{t-1,i} + \nu_{t,i} \quad (2)$$

Where,

FINAC and FDISP represent the forecast inaccuracy and forecast dispersion respectively. The independent variables (with their predicted signs) are NPINC(+), FOLLO(-), ROEIM(-), SIZM(-), BUDIV(unknown), GEDIV(unknown). They represent the proportion of non-operating income, the log of the number of analysts' earnings forecasts for the firm for the year, profitability, size (log of lagged market value), line of business segment and geographic segment concentration indexes respectively.

Second, to test H2, I examine the association between returns and the proportion of non-operating income. Liu and Thomas (2000) derive and show that unexpected earnings based on analysts' forecasts, is systematically related to returns, so I control for this variable in the regression. Fama and French (1992) identify size and book-to-market as determinants of returns. Lee and Swaminathan (2000), show that trading volume is negatively related to returns. Jegadeesh and Titman (1993), shows that momentum also drives future returns. Following Gebhardt et al. (2001) and Diether et al (2002), I also control for all these returns drivers in my analysis. I estimate the models below (see Appendix 1 for details on the variables):

$$AREC_{t,i} = \lambda_0 + \lambda_1 NPINC_{t,i} + \lambda_2 UNEXP_{t,i} + \lambda_3 SIZM_{t-1,i} + \lambda_4 BM_{t-1,i} + \lambda_5 TVOL_{t,i} + \lambda_6 AREM_{t,i} + \delta_{t,i} \quad (3)$$

$$DREC_{t,i} = \phi_0 + \phi_1 NPINC_{t,i} + \phi_2 UNEXP_{t,i} + \phi_3 SIZM_{t-1,i} + \phi_4 BM_{t-1,i} + \phi_5 TVOL_{t,i} + \phi_6 DREM_{t,i} + \psi_{t,i} \quad (4)$$

Where,

For these models, AREC and DREC represent the cumulative unadjusted and CRSP CAP-decile adjusted returns respectively. The independent variables and their predicted signs are NPINC(-), UNEXP(+), BM(+), and TVOL(-), representing the proportion of non-operating income, unexpected earnings, book-to-market ratio, and trading volume respectively. AREM and DREM are proxies for momentum using unadjusted and CAP-Decile adjusted returns respectively. Their signs depend empirically on whether the portfolio being examined is dominated by momentum or contrarian stocks.

Data and Sample Selection

I base my tests on US Industrial/Commercial firm year observations at the intersection of Compustat annual active and research files, I/B/E/S (both summary and detailed files) and CRSP monthly returns files. Like most studies, Jagannathan et al. (2000) exclude financial and service firms because they are regulated, so I follow them in this respect. I end at 2005 (i.e. five years after the Enron failure) because the CRSP "Year-end Cap. Deciles with Monthly Returns – NYSE/AMEX/NASDAQ" data file that I use is as of February 22, 2008, which has data for the majority of firms only up to 2005 fiscal years. I start from 1996 to also have 5 years before the Enron failure, so that the results can be compared. The choice of the sample period also enables me to avoid the effects, on returns, of the global financial meltdown that started in 2007.

To be included in my sample, firms must have operating income, and positive values for shareholders' equity and total assets. Also, firms must have standard deviation of analysts' forecast and reported actual earnings in I/B/E/S, over the 12 months preceding the earnings announcement. A total of 28,652 firm years from Compustat have the relevant financial variables, over the years 1996 through 2005. Of these, 22,066 have the forecast variables necessary. From the CRSP monthly CAP-decile file, 21,079 of the 22,066 firm years have returns data over each of the 12 months ending 1 month after the

earnings release month. On a yearly basis, the minimum (maximum) number of observations is 1,881 in 2002 (2,341 in 1997). To address the problem of outliers, I winsorize the test and control variables at the top and bottom 1 percent. Without winsorizing, the regression parameters are directionally similar but less precise.

Following Thomas (2002), I use forecast data as of the month before earnings release, to avoid the generally poor nature of analysts' forecast attributes at earlier horizons. I describe in Appendix 1, the detailed computation of my test variables, and the sources of the data used.

RESULTS OF THIS STUDY

Summary Statistics

In Table 1 below, I present summary statistics for the pooled sample in Panel A. Panel B reports statistics for the two sub-periods and the change in those values.

TABLE 1
SUMMARY STATISTICS

Panel A: Summary Statistics for Pooled Sample						
Variable	Mean	Stdev	P01st	P50th	P99th	Pct<0
<i>Firm attributes and returns</i>						
TMV _t (\$m)	2,561	6,295	22	520	38,756	0.00%
BM _{t-1}	0.4437	0.3304	0.0517	0.3709	1.6105	0.00%
TVOL _t	1.8718	1.5801	0.1936	1.3594	7.7267	0.00%
SIZM _{t-1}	6.3237	1.6087	3.2603	6.1804	10.5747	0.00%
BUDIV _{t-1}	0.8375	0.2425	0.2580	1.0000	1.0000	0.00%
GEDIV _{t-1}	0.7927	0.2521	0.2350	1.0000	1.0000	0.00%
AREC _t	0.1361	0.5496	-0.7089	0.0581	1.5417	45.32%
DREC _t	-0.0063	0.5031	-0.8374	-0.0724	1.3100	56.53%
AREM _t	0.1024	0.3518	-0.5220	0.0515	1.0465	39.40%
DREM _t	0.0180	0.3352	-0.5598	-0.0032	0.8710	50.32%
<i>Forecast attributes</i>						
NFOLLO _t	7.6147	6.4434	2.0000	5.0000	30.0000	0.00%
UNEXP _t	-0.0391	0.3034	-1.7000	0.0081	0.7065	34.65%
FINAC _t	0.1595	0.3454	0.0004	0.0385	2.1429	0.00%
FDISP _t	0.0841	0.1735	0.0001	0.0241	1.0588	0.00%
<i>Profit ratios</i>						
NPINC _t	0.1444	0.3184	-0.2130	0.0492	1.7952	12.24%
ROEIM _t	0.0114	0.0907	-0.3922	0.0302	0.1434	20.56%
ROME _t	0.0531	0.1293	-0.4262	0.0685	0.3645	20.13%
ROMA _t	0.0078	0.0145	-0.0204	0.0037	0.0804	12.24%
CNASS _t	0.2354	0.2467	0.0013	0.1348	0.8958	0.00%
SIGROME _t	0.0567	0.0713	-0.1130	0.0648	0.2080	23.37%

Panel B: Descriptive Statistics of Main Test Variables by Sample Sub-period

Variable	Before Enron Failure			After Enron Failure			Change		
	Mean	Stdev	P50th	Mean	Stdev	P50th	Mean	t-Stat	P50th
FINAC _t	0.1895	0.40	0.0431	0.1257	0.26	0.0340	-0.0638	-13.44	-0.0091
FDISP _t	0.0979	0.20	0.0265	0.0684	0.14	0.0217	-0.0295	-12.38	-0.0047
NPINC _t	0.1561	0.32	0.0568	0.1311	0.31	0.0417	-0.0250	-5.70	-0.0151
ROEIM _t	0.0160	0.09	0.0300	0.0062	0.09	0.0304	-0.0098	-7.84	0.0004

The above statistics relate to the just announced earnings, based on 21,079 firm years as follows: 11,178 (9,901) from fiscal years 1996 through 2000 (2001 through 2005) relating to the before and after the Enron failure respectively. Only US firms with the necessary financial variables, at the intersection of Compustat Industrial Commercial firms, I/B/E/S and CRSP monthly CAP-decile returns files are considered. Appendix 1 describes in detail the sources of the data used and how each of the above variables is computed.

Panel A shows a wide variation in these characteristics: Market capitalization (that is TMV, has 1st percentile of \$22 million, 99th percentile of \$38,756 million); book-to-market (BM); and trading volume (TVOL). Therefore, the results can be generalized to a wide spectrum of industrial commercial firms. A minimum of half of the firm years have focused business and geographic operations, since the median concentration indexes are each equal to one. Consistent with my expectation, the mean and median unadjusted cumulative returns (AREC) are greater than those of the size- or CAP-decile adjusted returns (DREC), due to the adjustment of the latter. The pattern is similar for the matching momentum values (AREM compared to DREM).

The mean and median analysts following (NFOLLO) are 7.6147 and 5.0000 respectively, but some firm years have as high as 30 and others as low as 2. This suggests that controlling for analysts following in the multiple regressions is very important. The mean of my unexpected earnings (UNEXP) is -0.0391, so the analysts of my sample firms are overly optimistic on average.

The mean of the proportion of non-operating income relative to operating income (NPINC) is 0.1444 but the 99th percentile is 1.7952, suggesting that for some firms, non-operating income dominates. The I/B/E/S reported actual earnings scaled by price (ROEIM) has mean (median) value of 0.0114 (0.0302), and 20.56% of the observations have negative values. The Compustat reported operating income scaled by price (ROME) has mean (median) of 0.0531 (0.0685). The mean (median) of non-operating income scaled by price (ROMA) is 0.0078 (0.0037) but 12.24% of the firm years have a negative value for this variable, suggesting that non-operating income is positive on average, and for most firms. The total investments scaled by total assets (CNASS) has a mean of 0.2354, median of 0.1348 and 99th percentile of 0.8958 suggesting that some firms have about as much investment assets as operating assets.

In Panel B, means of all the main information asymmetry variables (NPINC, FINAC, FDISP) are lower in the periods after Enron's failure. Since the forecast inaccuracy (FINAC) and dispersion (FDISP) constitute proxies for information asymmetry, the decreases give reason to suspect that analysts are learning from the Enron failure, and/or the related regulatory changes are having a positive impact. However, the mean I/B/E/S reported actual (ROEIM) also decreased, and this raises the possibility that the pattern is reflecting differences in the general economic environments for the two periods. For these reasons, I analyze the two periods separately.

Correlation Between Main Test Variables, Analysts' Forecasts and Returns

In both panels of Table 2, the Spearman (Pearson) coefficients are to the lower left (upper right) of the diagonal. For each pair of rows, the first (second) reports the coefficients (significance values).

TABLE 2
CORRELATION CO-EFFICIENTS

Panel A: Correlation Co-efficients for Main Test Variables - Income and Investments

Variable	NPINC _t	ROME _t	ROME _{t-1}	ROMA _t	ROMA _{t-1}	CNASS _{t-1}	CNASS _t	SIGROME _t
NPINC _t	1	-0.206	-0.207	0.589	0.410	0.322	0.335	-0.182
<i>p-Value</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROME _t	-0.362	1	0.740	-0.198	-0.139	-0.504	-0.525	0.538
<i>p-Value</i>	0.00		0.00	0.00	0.00	0.00	0.00	0.00
ROME _{t-1}	-0.324	0.774	1	-0.105	-0.116	-0.563	-0.554	0.595
<i>p-Value</i>	0.00	0.00		0.00	0.00	0.00	0.00	0.00
ROMA _t	0.853	-0.176	-0.166	1	0.603	0.235	0.232	-0.056
<i>p-Value</i>	0.00	0.00	0.00		0.00	0.00	0.00	0.00
ROMA _{t-1}	0.582	-0.158	-0.130	0.646	1	0.192	0.176	-0.039
<i>p-Value</i>	0.00	0.00	0.00	0.00		0.00	0.00	0.00
CNASS _{t-1}	0.438	-0.500	-0.583	0.336	0.314	1	0.848	-0.519
<i>p-Value</i>	0.00	0.00	0.00	0.00	0.00		0.00	0.00
CNASS _t	0.477	-0.565	-0.563	0.353	0.284	0.803	1	-0.555
<i>p-Value</i>	0.00	0.00	0.00	0.00	0.00	0.00		0.00
SIGROME _t	-0.247	0.573	0.606	-0.123	-0.093	-0.462	-0.522	1
<i>p-Value</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Panel B: Correlation Coefficients for Main Test Variables - Forecast Attributes and Returns

Variable	NPINC _t	FINAC _t	FDISP _t	TVOL _t	AREC _t	DREC _t
NPINC _t	1	0.247	0.288	0.133	-0.063	-0.059
<i>p-Value</i>		0.00	0.00	0.00	0.00	0.00
FINAC _t	0.193	1	0.610	0.000	-0.125	-0.138
<i>p-Value</i>	0.00		0.00	0.97	0.00	0.00
FDISP _t	0.222	0.532	1	-0.008	-0.108	-0.123
<i>p-Value</i>	0.00	0.00		0.27	0.00	0.00
TVOL _t	0.151	0.030	0.029	1	0.009	0.028
<i>p-Value</i>	0.00	0.00	0.00		0.21	0.00
AREC _t	-0.082	-0.112	-0.151	-0.036	1	0.908
<i>p-Value</i>	0.00	0.00	0.00	0.00		0.00
DREC _t	-0.077	-0.121	-0.167	-0.005	0.876	1
<i>p-Value</i>	0.00	0.00	0.00	0.45	0.00	

The Spearman (lower-left of diagonal) and Pearson (upper right of diagonal) correlation coefficients are computed for the pooled sample. For each pair of rows, the first contains the coefficients themselves and the second contains the related p-values. The sample size is 21,079 Industrial/Commercial firm years at the intersection of Compustat, I/B/E/S and CRSP, over the periods 1996 through 2005. The variables maintain the definitions in Appendix 1, where their computations are also described.

From Panel (A), operating (ROME) and non-operating (ROMA) income have Pearson coefficients of 0.740 and 0.603 respectively with their lagged values. This suggests that they both tend to recur, though operating income recurs more.⁶ This is consistent with APB (1966), FASB (1985) and Fairfield et al. (1996). A similar and even stronger relation exists between proportion of non-operating assets (CNASS) and its lagged value (Pearson coefficient 0.848).

The proportion of non-operating income (NPINC) is negatively correlated with both ROME and SIGROME (average of the operating income of the firm's other industry members), but positively correlated with ROMA and CNASS. This suggests that the proportion of non-operating income is consistent with the proportion of non-operating assets. The ROME is negatively correlated with ROMA (Pearson coefficient of -0.198) and CNASS (Pearson coefficient of -0.525). This suggests that firms with a high proportion of non-operating income are focusing on non-operating income at the expense of generating operating income. The ROMA is negatively correlated with SIGROME (correlation coefficient of -0.056), suggesting that focus on non-operating income, weakens the relation between the firm's operating income and that of its industry. Since ROMA is positively correlated with CNASS, this corroborates the relation between lagged and current non-operating income.

The results suggest that non-operating income is meant to smooth operating income. If ROMA were positively related to SIGROME, then this would be consistent with a planned future expansion within the firm's industry. A disproportionate focus on generating non-operating income diverts management's effort and attention from its operating income. Also, since non-operating assets are not operated by management of the investing firm, this renders the firm's income less dependent on its principal industry and its management's expertise. The results further suggest that for firms with a high proportion of non-operating income, market participants will be doing guess work if they focus on such firms' operating activities and managerial expertise relating to the operating activities.

From Panel B, NPINC is positively correlated with forecast inaccuracy (FINAC, Pearson co-efficient of 0.247) and forecast dispersion (FDISP, Pearson co-efficient of 0.288), so it is an indicator of information asymmetry. This, coupled with the results in Panel A, suggest that as the proportion of non-operating income increases, analysts differ more amongst themselves, and collectively from management. Further supporting this inference is the positive relation between NPINC and trading volume (TVOL) which is an indicator of information asymmetry (Lee and Swaminathan, 2000) further supports.

Relation Between Information Asymmetry and Non-Operating Income

In Table 3, the results are based on regression models (1) and (2). I report test statistics that include the variance inflation factor for each independent variable, to help highlight collinearity, if any (Kennedy, 1998). I find this important because the correlations reported above show relations between some of the control variables.⁷

In Panel A (prior to Enron failure), forecast inaccuracy (FINAC) is positively associated with the proportion of non-operating income (NPINC has a slope estimate of 0.2786). In Panel B (after Enron), the pattern is similar: NPINC is positively associated with FINAC (slope of 0.2310). The control variables that are significant and have the predicted signs have slope estimates in panels A and B respectively as follows: FOLLO (-0.0522 and -0.0272), ROEIM (-0.9348 and -0.3212) and SIZM (-0.0117 and -0.0093).

The intercept is lower in Panel B compared to A. This suggests that all other variables not included in the regressions have a lower though still significant relation with FINAC after the Enron incident. Thus the Enron experience seems to have a positive effect (lower inaccuracy), though slight. The mixed and insignificant results for industry (BUDIV) and geographic (GEDIV) concentration indexes contradict Duru and Reeb (2002), but corroborate Thomas (2002). The variance inflation factors are all less than 3, implying that collinearity, if at all any, is not a significant cause for concern.

In Panels C and D, the results relate to model (2). For the same reason as for Panels A and B, I report test statistics that include the variance inflation factors. In both Panels C (before Enron) and D (after Enron), NPINC is positively associated with forecast dispersion (FDISP). The slope estimate for NPINC is 0.1549 in Panel C, and 0.1508 in Panel D. The slopes for the control variables (in panels C and D respectively) are as follows: FOLLO (-0.0113 and -0.0035), ROEIM (-0.5389 and -0.1629) and SIZM (-0.0108 and -0.0082). These estimates for the control variables are significant and have the predicted signs, consistent with prior research, except for business (BUDIV) and geographic (GEDIV) concentration indexes.

Similar to Panels B compared to A, the intercept is lower in Panel D compared to C. This suggests that all other variables not included in the regressions have a lower though still significant relation with

FINAC after the Enron failure. Further, the decrease in slope estimate for NPINC from panel A to B and also panel C to D suggests that analysts are at least slightly more critical about the proportion of non-operating income. The variance inflation factors are less than 3. The analyses in this table support H1, that the proportion of non-operating income is associated with information asymmetry.

TABLE 3
RELATION BETWEEN FORECAST ATTRIBUTES AND THE
PROPORTION OF NON-OPERATING INCOME

Variable	Slope	t-Stat	pVal	VIF	Slope	t-Stat	pVal	VIF
A: Forecast Inaccuracy, before Enron failure					B: Forecast Inaccuracy, after Enron failure			
Panel								
Intercept	0.2932	16.79	0.00	0.00	0.2085	17.15	0.00	0.00
NPINC _t	0.2786	23.82	0.00	1.02	0.2310	23.85	0.00	1.02
FOLLO _t	-0.0522	-10.93	0.00	2.42	-0.0272	-8.39	0.00	2.25
ROEIM _t	-0.9348	-25.55	0.00	1.05	-0.3212	-13.22	0.00	1.11
SIZM _{t-1}	-0.0117	-4.86	0.00	2.61	-0.0093	-5.40	0.00	2.46
BUDIV _{t-1}	-0.0175	-1.71	0.09	1.12	-0.0083	-1.21	0.23	1.10
GEDIV _{t-1}	0.0204	2.01	0.04	1.13	-0.0115	-1.78	0.07	1.11
<i>AdjRsq</i>	<i>0.1654</i>				<i>0.1188</i>			
C: Forecast Dispersion, before Enron failure					D: Forecast Dispersion, after Enron failure			
Panel								
Intercept	0.1588	18.71	0.00	0.00	0.1039	17.57	0.00	0.00
NPINC _t	0.1549	27.24	0.00	1.02	0.1452	30.83	0.00	1.02
FOLLO _t	-0.0113	-4.89	0.00	2.42	-0.0035	-2.20	0.03	2.25
ROEIM _t	-0.5389	-30.31	0.00	1.05	-0.1629	-13.78	0.00	1.11
SIZM _{t-1}	-0.0108	-9.25	0.00	2.61	-0.0082	-9.84	0.00	2.46
BUDIV _{t-1}	-0.0122	-2.45	0.01	1.12	-0.0015	-0.45	0.65	1.10
GEDIV _{t-1}	0.0093	1.89	0.06	1.13	0.0005	0.16	0.87	1.11
<i>AdjRsq</i>	<i>0.1906</i>				<i>0.1486</i>			

The results in Panels A (Years 1996 through 2000, N=11,178) and B (Years 2001 through 2005, N=9,901) are based on regression model (1) of this study. That is, regressions of forecast inaccuracy (FINAC) on the proportion of non-operating income (NPINC) and control variables. The results in Panels C (Years 1996 through 2000, N=11,178) and D (Years 2001 through 2005, N=9,901) are based on regression model (4) of this study. That is, regressions of forecast dispersion (FDISP) on the proportion of non-operating income and control variables. The variables maintain the meanings and definitions as in Appendix 1, and 'pVal' represents the level of significance.

Relation Between the Proportion of Non-Operating Income and Returns

In Table 4, I report results for model (3), the regression of cumulative returns on the proportion of non-operating income and returns. For similar reasons as in Tables 3 and, I include the variance inflation factors.

Panels A and B have cumulative unadjusted returns (AREC) as the dependent variable. The slope estimate for NPINC is -0.1522 in Panel A (before Enron failure), and -0.2772 in Panel B (after Enron failure). The following control variables have positive slope estimates (in Panels A and B respectively): earnings news (UNEXP, 0.5519 and 0.5229), book-to-market equity (BM, 0.1836 and 0.3169) and trading volume (TVOL, 0.0231 and 0.0149). However, size (SIZM, -0.0032 and -0.0357), and momentum (AREM, -0.0527 and -0.0531) are negatively associated with AREC.

TABLE 4
RELATION BETWEEN CUMULATIVE RETURNS AND THE PROPORTION OF
NON-OPERATING INCOME

Variable	Slope	t-Stat	pVal	VIF	Slope	t-Stat	pVal	VIF
	<i>A: Unadjusted Returns, before Enron</i>				<i>B: Unadjusted Returns, after Enron</i>			
<i>Panel</i>		<i>failure</i>				<i>failure</i>		
Intercept	0.0724	2.46	0.01	0.00	0.2572	8.85	0.00	0.00
NPINC _t	-0.1522	-5.38	0.00	1.04	-0.2772	-9.24	0.00	1.03
UNEXP _t	0.5824	23.96	0.00	1.03	0.5680	15.58	0.00	1.01
SIZM _{t-1}	-0.0032	-0.83	0.41	1.14	-0.0357	-9.89	0.00	1.15
BM _{t-1}	0.1836	8.80	0.00	1.23	0.3169	18.14	0.00	1.17
TVOL _t	0.0231	5.19	0.00	1.17	0.0149	4.23	0.00	1.07
AREM _t	-0.0527	-3.42	0.00	1.11	-0.0531	-3.58	0.00	1.02
<i>AdjRsq</i>	<i>0.0582</i>				<i>0.0813</i>			
	<i>C: Size-Adjusted Returns, before Enron</i>				<i>D: Size-Adjusted Returns, after Enron</i>			
<i>Panel</i>		<i>failure</i>				<i>failure</i>		
Intercept	-0.0531	-1.88	0.06	0.00	-0.0553	-2.23	0.03	0.00
NPINC _t	-0.1211	-4.46	0.00	1.04	-0.2191	-8.56	0.00	1.03
UNEXP _t	0.5519	23.64	0.00	1.03	0.5229	16.77	0.00	1.01
SIZM _{t-1}	-0.0082	-2.25	0.02	1.15	-0.0030	-0.98	0.33	1.14
BM _{t-1}	0.1584	7.84	0.00	1.25	0.2333	15.62	0.00	1.17
TVOL _t	0.0267	6.26	0.00	1.16	0.0080	2.65	0.01	1.07
DREM _t	-0.0114	-0.74	0.46	1.13	0.0736	5.40	0.00	1.01
<i>AdjRsq</i>	<i>0.0560</i>				<i>0.0601</i>			

The results in Panels A (Years 1996 through 2000, N=11,178) and B (Years 2001 through 2005, N=9,901) are based on regression model (3) of this study. The dependent variable for these regressions (AREC) is the Cumulative CRSP unadjusted returns over the twelve months ending one month after earnings release. For each firm year, monthly returns (ret from CRSP) are each first grossed up by adding one. The gross returns are compounded over the twelve months ending one month after earnings release. Then one is subtracted from the compounded unadjusted return. A momentum measure (AREM) is computed similarly, over the six months preceding the 12 months window for AREC. The results in Panels C (Years 1996 through 2000, N=11,178) and D (Years 2001 through 2005, N=9,901) are based on regression model (4). The dependent variable for these regressions (DREC) is the Cumulative CRSP Size or Cap-Decile adjusted returns over the twelve months ending one month after earnings release. For each firm year, monthly CAP-Decile returns (decret from CRSP) and unadjusted returns (ret) are each first grossed up by adding one. The gross returns are compounded over the twelve months ending one month after earnings release. Then, the compounded CAP-Decile return is subtracted from the compounded unadjusted return. A momentum measure (DREM) is computed similarly, over the six months preceding the 12 months window for DREC. Appendix 1 provides details of the definition and computation of all variables. VIF and pVal represent Variance Inflation Factor and significance level respectively.

For an alternative returns measure, I considered three separate adjustments to the cumulative returns: first the equal-weighted market, second the value-weighted market returns and third the CAP-decile returns. The first two (the third) adjustments yield results that are more similar (least similar) to the results obtained using cumulative unadjusted returns. Panels C and D of the table report the regressions based on the cumulative size or CAP-decile adjusted returns, since these yield the least similar results. The slope estimate for NPINC is -0.1211 in Panel C (before Enron) and -0.2191 in Panel D (after Enron). Except for

a few of the control variables like size (SIZM) and DREM, all other slope estimates are similar to those in Panels A and B. Across the four panels, the AdjRsq do not differ by more than 3%.

The negative relation between the NPINC and both AREC and DREC in the four panels confirm H2, that the proportion of non-operating income is negatively associated with information asymmetry. This finding, based on Miller (1977, 2001), and compared to the empirical findings in Diether et al (2002), suggests that non-operating income is associated with overvaluation that reverses after the earnings announcement.

SENSITIVITY TESTS

Forecast Data at Earlier Forecast Horizons

Following Thomas (2002), I used forecasts as of the month preceding earnings release. It is not certain if forecasts at an earlier horizon would yield different results. To verify this, I estimated models (1) and (2) using FINAC and FDISP computed as of month -12, and find results (not reported in this study) similar to those in Table 3.

Alternative Returns Window

The results in Table 4, are based on cumulative returns over the twelve month window ending one month after earnings announcement. This ensures that the information asymmetry during the year, if any, is resolved following earnings announcement so that the implication for value would be captured. I considered an alternative window commonly used in the literature: a fixed period of twelve months ending three months after the fiscal year end instead of one month after earnings release. Except for slight variations in the magnitude of the slope estimates, the results, not reported in this study, are similar to those reported.

Results by Year

Studies like Diether et al. (2002), report results based on annual regressions, partly because the study uses monthly observations. Pooled regressions in for their study would render the results vulnerable to auto-correlation, since forecasts for the same year but at different horizons could be counted for the 12 months. My study differs from Diether et al (2002) in two respects. First, I consider annual observations, and use FINAC and FDISP at month -1 only. Second, the annual regressions approach is most necessary when a long time series, say 10 or more years, is considered, but I estimate pooled regressions for each sub-period of five years (before and after Enron failure respectively). For further robustness, I estimate and summarize annual regressions in Table 5 based on models (1), (2), (3) and (4). Here, I report only slope estimates for NPINC.

Panel A of the table focuses on results for regressions of FINAC and FDISP on NPINC, for models (1) and (2) respectively. The slope estimates range from a low of 0.1628 in 2001, to a high of 0.3285 in 1997 for the relation between FINAC and NPINC. Those for the relation between FDISP and NPINC range from a low of 0.1041 in 2000, to a high of 0.1823 in 1998. These results suggest that NPINC is consistently associated with information asymmetry between analysts and management, and among analysts.

In Panel B of the table, the slope estimates for NPINC and the two cumulative returns measures (AREC and DREC) are not consistently of the same sign or significance. For nine (seven) out of the ten years, the slope estimate for the regression of AREC on NPINC is of the predicted sign (and significant at 5% or better). For nine (five) out of the ten years, the slope estimate for the regression of DREC on NPINC is of the predicted sign (and significant at 5% or better). Consistent with Table 4, these results show that the proportion of non-operating income is associated with overvaluation.

TABLE 5
SUMMARY ANNUAL REGRESSIONS OF INFORMATION ASYMMETRY AND RETURNS
ON THE PROPORTION OF NON-OPERATING INCOME AND CONTROL VARIABLES

Panel A: Information asymmetry on non-operating income							
Dependent Variable		FINAC; Model (1)			FDISP; Model (2)		
Year	N	Slope	t-Stat	pVal	Slope	t-Stat	pVal
1996	2139	0.2550	9.37	0.00	0.1413	10.40	0.00
1997	2341	0.3285	13.22	0.00	0.1767	13.88	0.00
1998	2330	0.2887	10.85	0.00	0.1823	15.17	0.00
1999	2220	0.2898	10.97	0.00	0.1483	11.83	0.00
2000	2148	0.2034	7.78	0.00	0.1041	9.20	0.00
2001	1972	0.1628	7.65	0.00	0.1093	10.85	0.00
2002	1881	0.2454	10.77	0.00	0.1288	12.12	0.00
2003	1913	0.1867	8.54	0.00	0.1296	12.94	0.00
2004	2032	0.3265	15.28	0.00	0.1801	18.65	0.00
2005	2103	0.2336	11.39	0.00	0.1544	16.34	0.00

Panel B: Returns on non-operating income							
Dependent Variable		AREC; Model (3)			DREC; Model (4)		
Year	N	Slope	t-Stat	pVal	Slope	t-Stat	pVal
1996	2139	-0.3795	-6.75	0.00	-0.3501	-6.36	0.00
1997	2341	-0.3273	-5.50	0.00	-0.3445	-5.94	0.00
1998	2330	-0.1093	-1.95	0.05	-0.0560	-1.10	0.27
1999	2220	0.2973	4.13	0.00	0.2787	3.78	0.00
2000	2148	-0.1467	-2.18	0.03	-0.0653	-0.97	0.33
2001	1972	-0.3147	-5.14	0.00	-0.2909	-5.03	0.00
2002	1881	-0.3311	-5.93	0.00	-0.3169	-6.12	0.00
2003	1913	-0.0405	-0.61	0.54	-0.0348	-0.54	0.59
2004	2032	-0.3420	-5.79	0.00	-0.3201	-5.79	0.00
2005	2103	-0.0679	-1.14	0.25	-0.0691	-1.22	0.22

This table reports the slope parameters for NPINC (the Proportion of Non-operating Income only, ignoring those for the control variables for the sake of brevity), from annual multiple regressions. Complete set of results is available on request. These results are similar to those of Tables 3 and 4 which report pooled regression results. Panel A of this table focuses on regression results for models (1) and (2) in the study, where FINAC (Forecast Inaccuracy) and FDISP (Forecast Dispersion) are the dependent variables respectively. Panel B focuses on regression results for models (3) and (4) in the study, where AREC (Cumulative Unadjusted Returns) and DREC (Cumulative Cap-decile Adjusted Returns) are the dependent variables. The slope parameters for the control variables have been left out for the sake of brevity. The pVal represents significance levels. Appendix 1 reports the definitions and computations of all the variables.

SUMMARY AND CONCLUSION

I show that the proportion of non-operating income indicates the extent to which a firm is focused on secondary sources of income at the expense of its operating sources. It is associated with information asymmetry (forecast inaccuracy and dispersion), which, consistent with the Miller (1977, 2001) and Diether et al. (2002), is associated with overvaluation that reverses when the asymmetry resolves after earnings release.

The results of this study support the view of the Enron investigators that analysts should be more critical of firms that have a high proportion of non-operating income. The analysts denied intentionally ignoring the implications of the proportion of non-operating income, or being victims of pressure from their brokerage employers. However, after Enron collapse, analysts did not improve significantly on their ability to predict earnings as the proportion of non-operating income.

If market participants (e.g. analysts) are not critical enough of the implications of recurring components of earnings like non-operating income, then they offer an opportunity for firms to mislead analysts as Enron did. This inability of market participants to distinguish good (focus on operating activities) from bad (focus on non-operating or secondary activities) managers would fuel adverse selection as described in Darrough and Stoughton (1986). Future research can further examine the adverse selection implications of such differences in focus by managers.

ENDNOTES

1. According to Ackman (2002), Howard Schilit argued that analysts should not have ignored red flags in Enron's financial reports for periods before the scandal such as one billion dollars in related party revenues and two-thirds of company profits in one quarter coming from unconsolidated affiliates.
2. I use 'earnings' and 'income' synonymously. The structure of the income statement in the USA has been modified a bit since 2005. For example companies report changes in accounting principles "retrospectively" rather than "currently" as used to be done before 2005. To focus on the time around the Enron failure, and to avoid the effects of such changes on inter-period comparability and inference, I limit the data period to up to 2005. In an alternative set of analyses, I included years up to 2008 after adjusting for reporting differences but got qualitatively the same results. I chose to keep the original set of analyses for ease of comparison and inference.
3. Bowen (1981) differs from this study as follows: First, he examines the Allowance for Funds used during Construction, an imputed income equal to an interest rate times the construction cost of power plants; Consider a hypothetical example of two firms, N and O, each with Income from Continuing Operations (Operating Income + Non-operating Income, ignore tax effects) of \$1. Suppose further that firm N (O) has \$0.40 (\$0.90) in Operating Income and \$0.60 (\$0.10) in Non-operating Income. Bowen (1981) examines whether the market puts a lower weight on firm N's \$1.00 (say 0.80) than firm O's. I examine first the divergence of analysts' forecasts of firm N's income (standard deviation of forecasts for firm N, divided by the average of \$0.80), and second the collective error in analysts' forecast of each firms' realized earnings. I compare these two forecast attributes for the firms (N and O).
4. They argue that the over pricing is associated with lower subsequent returns because the prices will revert (decrease) to the true value when the information asymmetry unravels.
5. Information asymmetry between managers and analysts is important when analysts who are critical of a firm's managers are either excluded from disclosures by the firm's managers or fired by their brokerage employers as happened in the Enron case (Perin, 2002; Burr, 2005).
6. This is consistent with FASB's Concept Statement No. 6, that operating and non-operating income should be grouped under income from continuing operations (FASB, 1985). Therefore, the non-operating income is not a transitory income item.
7. Because Thomson Financial (2004) states that analysts follow firms on a continuing basis, therefore, the reported I/B/E/S *Actual* earnings is the sum of the operating and non-operating income.

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APPENDIX 1

VARIABLES DEFINITIONS, DATA SOURCES, AND COMPUTATIONS

Variable	Definition: Data source(s); and computation of variable (for firm "i", fiscal year "t")
TMV _{t,i} (\$m)	Year end Market Capitalization: Compustat; $(data25_{t,i}) * Absolute(data199_{t,i})$
BM _{t,i}	Book-to-Market ratio: Compustat; $(data60_{t,i} + data227_{t,i} - data242_{t,i}) / (data25_{t,i} * data199_{t,i})$
TVOL _{t,i}	Trading volume: Compustat; $(data28_{t,i}) / (data25_{t,i})$
SIZM _{t,i}	Size (Log of Market capitalization): Log of TMV _{t,i}
BUDIV _{t,i}	Business concentration index: Compustat Segment; $\sum_{j=1}^J \left[Sales_{t,i,j} / \left(\sum_{j=1}^J Sales_{t,i,j} \right) \right]^2$, given the j^{th} of the firm's J business segments.
GEDIV _{t,i}	Geographic concentration index: Compustat Segment; $\sum_{j=1}^J \left[Sales_{t,i,j} / \left(\sum_{j=1}^J Sales_{t,i,j} \right) \right]^2$, given the j^{th} segment of the firm's J geographic segments.
AREC _{t,i}	Cumulative unadjusted returns: CRSP Monthly; $\left[\prod_{m=-10}^{m=1} (1 + ret_{t,i,m}) \right] - 1$ where $ret_{t,i,m}$ = returns in month m relative to year t's earnings release month.
DREC _{t,i}	Cumulative CAP-decile adjusted returns: CRSP Monthly; $\prod_{m=-10}^{m=1} (1 + ret_{t,i,m}) - \prod_{m=-10}^{m=1} (1 + decret_{t,i,m})$ where $ret_{t,i,m}$ = returns and $decret_{t,i,m}$ = CAP-decile returns respectively, in month m relative to year t's earnings release month.
AREM _{t,i}	Momentum (unadjusted returns): CRSP Monthly; $\left[\prod_{m=-11}^{m=-16} (1 + ret_{t,i,m}) \right] - 1$ where $ret_{t,i,m}$ = returns in month m relative to year t's earnings release month.

DREM _{t,i}	Momentum (CAP-decile adjusted): CRSP Monthly; $\prod_{m=-16}^{m=-1} (1 + ret_{t,i,m}) - \prod_{m=-16}^{m=-1} (1 + decret_{t,i,m})$ where $ret_{t,i,m}$ = returns and $decret_{t,i,m}$ = CAP-decile returns respectively, in month m relative to year t's earnings release month.
NFOLLO _{t,i}	Analyst following: I/B/E/S; $NUMEST_{t,i}$ (number of earnings forecasts in I/B/E/S for year t) in month -1 to year t earnings release month
FOLLO _{t,i}	Log of Analyst following: Log of NFOLLO _{t,i}
UNEXP _{t,i}	Unexpected earnings: I/B/E/S; $(ACTUAL_{t,i} - MEANEST_{t,i}) / absolute(ACTUAL_{t,i})$ for year t, where $ACTUAL_{t,i}$ is the I/B/E/S reported actual EPS for year t, and $MEANEST_{t,i}$ is the mean forecast for year t in month -1 to year t earnings release month
FINAC _{t,i}	Forecast inaccuracy: Absolute value of UNEXP _{t,i}
FDISP _{t,i}	Forecast dispersion: I/B/E/S; $(STDEV_{t,i}) / (absolute MEANEST_{t,i})$ for year t in the month -1 to year t earnings release. $STDEV_{t,i}$ is the I/B/E/S reported standard deviation of earnings forecasts.
NPINC _{t,i}	Proportion of Non-Operating Income: Compustat; $data61_{t,i} / absolute(data178_{t,i})$, for year t
ROEIM _{t,i}	Overall firm's earnings (profitability): I/B/E/S and Compustat; $(ACTUAL_{t,i}) / absolute(data199_{t,i})$ for year t
ROME _{t,i}	Operating income scaled by price: Compustat; $(data178_{t,i}) / (TMV_{t-1,i})$
ROMA _{t,i}	Non-operating income scaled by price: Compustat; $(data61_{t,i}) / (TMV_{t-1,i})$
CNASS _{t,i}	Proportion of Non-operating Assets: Compustat; $(Data193 + data31 + data32)_{t,i} / data6_{t,i}$
SIGROME _{t,i}	Mean of Operating Income scaled by price at t-1, for all other firms in the firm's industry: Compustat and I/B/E/S; $\frac{1}{F} \sum_{f \neq i, 1 \leq f \leq F} ROME_{t,f}$ given the f th of the F firms (excluding firm i) in firm i's SIGC group.

ACKNOWLEDGEMENTS

I thank the faculty of the Department of Accounting and Business Law, UTPA for their invaluable comments in 2008. I also thank 2 anonymous reviewers of the 2012 AAA South West region Conference for their comments. All errors remain my sole responsibility.