Information Content of Earnings Opacity on Firm Value

Omar Camara

Department of Accounting and Finance, College of Business Administration (COBA)

Prince Mohammad Bin Fahd University, Saudi Arabia

E-mail: ocamara@hotmail.com

Abstract

This study use a panel data set of balance sheet and income statement of US firms within manufacturing and services industries for the period 1987-2015 to examine the impact of two dimensions of earnings opacity on firm value – earnings aggressiveness (i.e. measured by accounting accruals) and earnings smoothing (i.e. measured by the correlation between accruals and operating cash flows). Specifically, the paper investigate if earnings opacity affects equity markets and if there is a differential effect of earnings opacity on equity markets across manufacturing and services industries. Information asymmetry in contract theory and economics expound on the positive role of information in averting price disequilibrium in the capital markets and a potential capital market failures due to an imbalance in accessing information. A capital market sufficiently characterized by efficiency and informational symmetry is expected to embody distinctive qualities in facilitating accurate interpretation of market relevant information and a subsequent timely re-evaluation of prior equity valuations. The empirical results of these panel data tests, after controlling for key influencers on equity price, shows that on average, an increase in earnings opacity is linked to an increase in market value for firms within the manufacturing industry. In contrast, the results shows that on average, an increase in earnings opacity leads to a decrease in market value for firms within the services industry. Furthermore, the results suggest that firms utilize both dimensions of earnings opacity in a sustained manner as implied by the coefficients on time-trend and the interaction of time-trend and earnings opacity.

Keywords: Earnings opacity, Capital markets, Financial reporting, Firm value, Market efficiency

JEL Classification: F00; F30; G15, G30, M41

1. Introduction

The objective of this paper is to determine the impact of earnings opacity on the equity market value of firms within the manufacturing and services industries. An industry approach in this paper is in recognition of the accounting- induced differentiation in the revenue generating processes – certain accounting treatments are industry-specific. To be precise, I explore whether accruals and earnings smoothing (earnings opacity measures) are accurately and timely detected by investors in firms within manufacturing and services industry. Bhattacharya et.al (2003) describes earnings opacity as a phenomenon that obscures relevant information about a firm's true underlying economic performance. This description of earnings opacity by Bhattacharya et. al (2003) is not inconsistent with the statement by Ball et al (2000), that earnings transparency (opposite of earnings opacity) is when unobservable economic income is timely incorporated into accounting earnings. Similarly, Healey and Wahler (1999) described earnings opacity as the alteration or design of a firm's reported economic performance by insiders to either "mislead some stakeholders" or "to influence contractual outcome". Incidentally, both accounting accruals and earnings smoothing used as measures of earnings opacity in this paper can be employed as tools to veil the true economic performance of a firm. Indeed it is reasonable to assert that the existence and necessity of auditing profession is to infuse confidence in financial statements, enabling the auditors to act as modulating forces against earnings opacity practices. Earnings of firm's may not be transparent for many reasons ranging from managerial incentives (Shivakumar, 2000; Barth el al, 1999) to flexibility in accounting standards (Dye and Sridhar, 2008), thus in this paper, I do not focus on the inherent complexities of identifying the causes or motivations of earnings opacity but to rather explore the statistical properties of announced financial data in order to determine the reaction of the market participants to earnings opacity as manifested in equity prices.

Hence earnings opacity decouples reported accounting earnings from the true economic earnings, prior literature has identified accounting accruals and earnings smoothing among others as a proxy for earnings opacity. Accounting conservatism as bedrock of US accounting standards predicated earlier recognition of losses and delayed recording of gains in order to minimize informational gap. From that perspective, accounting accruals is used in this paper as the first proxy for earnings opacity. Moreover, it is a well established notion that financial markets tend to attach a high value premium to stability and continuity of earnings; thus investors are presumed to be delicate to unexpected oscillations in reported earnings. As such managers may be inclined to shift earnings (Trueman and Titman, 1988; Fudenberg and Tirole, 1995) from one period to another in order to portray steady and predictable growth in earnings. Such managerial effort may potentially effect investor sentiment and ensure equity price stability. Given the aforementioned accounting paradigms within the broader financial reporting landscape, this paper utilizes earnings smoothing measure as the second proxy for earnings opacity. The contribution of this paper to the literature is that it is the first paper to my knowledge that measures earnings opacity at industry level by using a panel data to assess the effect of earnings opacity on firm market value.

The paper proceeds as follows. Section 2 reviews the literature. Section 3 introduces data and methodology. Section 4 presents the results, and section 5 concludes the paper.

2. Literature Review

As part of a growing accounting literature, researchers have examined the value relevance of accounting measures to equity market (Ali and Hwang (2000), Land and Lang (2002)), analyst forecasts (Ashbaugh and Pincus (2001), Chang et al. (2000)), timeliness of earnings and conservatism (Ball et al. (2000)), or the impact of institutional variables on earnings management (Leuz et al. (2001).) In addition, an increasing body of literature has established a preponderant role of asymmetric information in the equity markets (Gehrig (1993), Brennan and Cao (1997)). More recently, Portes et al. (2001), using a gravity model, reported that informational asymmetries are key determinants of international transactions in financial assets.

Since the Enron debacle and other high profile accounting malfeasance in US in 2000, coordinated regulations, including expanded disclosure acts were enacted by US congress to minimize the risk of accounting shenanigans. However, it is well understood that regulations alone will not guarantee complete immunization from earnings opacity. Indirectly referring to earnings opacity, Kothari and Robin (2000) argue that accounting conservatism is positively related to accounting transparency (i.e. opposite of earnings opacity). Bekaert and Harvey (2000) explore in great detail the relationship between dividend yields and the cost of equity. Both in theory and practice, earnings opacity may influence dividend yields, which in turn may influence equity market valuation. The timely detection of such pass-through linkage between earnings opacity and equity price partially depends on the severity of informational asymmetry, market efficiency, and the degree of investor sophistication. To this effect, Heath and Tversky (1991) affirm that "… holding judged probability constant; people prefer to bet in a context where they feel ignorant and uninformed". Furthermore, Bhattacharya et al. (2003) stated that, an apparent manifestation of low level of accounting quality is the high level of earnings opacity. Perpetuation of earnings opacity is consistent with rational conditions, particularly in a financial market that rewards firms with predictable patterns of increasing earnings (Barth, el al. 1999, Degeorge, F, J. Patel, and R. Zeckhauser. 1999, Healey, P., and J. Wahlen. 1999). The motivational factor for management's earnings opacity practices varies and may be strictly circumstantial. For example, Healy (1985) finds a positive link between bonus schemes and accounting decisions, while Rangan (1998) shows a relationship between earnings management practices and the performance of seasoned equity offerings. Shivakumar, L. (2000) also studied the overstatement of earnings prior to seasoned equity offerings. In contrast to the relationship between earnings opacity and seasoned offerings, Teoh, S. H et.al (2002) shows that high accrual firms tend to underperform with new equity offerings. From the above prior studies, it is obvious that accounting measures have value relevance in the financial markets. The contribution of my paper to the literature is that it is the first paper to my knowledge that measures earnings opacity at industry level by using a panel data to assess the effect of earnings opacity on firm market value. I took the investor perspective in the interpretation of the assessed effect of earnings opacity on market

value – that is whether investors of manufacturing and services industry accurately and timely detect and therefore attach earnings opacity premium to equity prices.

3. Data and Methodology

All annual firm level data used in constructing the two earnings opacity variables – earnings aggressiveness and earnings smoothing, and other control variables come from the Compustat-CRSP database for the years 1987 through 2015. Due to continuous data unavailability, I restrict the sample to two US industries (SIC codes 2000-3999 and SIC codes 7000-8999). Since the underlying earnings generating process and the industry accounting practices are similar for firms within the industry, I ran a pooled regression including an industry dummy variable in table 3 and 4 to ensure that the inferences from the pooled sample are statistically and meaningfully different from individual industry regressions due to industry specific characteristics. In order to minimize spurious relationship, I include firms which have data for more than ten consecutive years. This yields a total of 30,854 firm-year observations before trimming the data at upper and lower 1%, and prior to calculation of accruals and cash flows which requires data from year t-1. The final sample data has 25,863 firm-year observations of which manufacturing industry represents 20,158 firm-year observation and the remaining 5,705 firm-year observations represents services industry. Similar to Leuz et al. (2003), if input variables are missing, I assume the value to be zero.

Following Healy (1985), and Leuz et al. (2003), I used scaled accruals to measure earnings aggressiveness from balance sheet and income statement information as follows:

$$Accruals_{it} = \left(\frac{\Delta TCA_{it} - \Delta TCL_{it} - \Delta LIQ_{it} + \Delta CPLT_{it} - ATTRITION_{it} + \Delta TL_{it}}{TA_{it-1}} \right) \quad (1)$$

Where

ΔTCA_{it} = Change in total current assets for firm i at time t

ΔTCL_{it} = Change in total liabilities for firm i at time t

ΔLIQ_{it} = Change in cash for firm i at time t

$\Delta CPLT_{it}$ = Change in current portion of long-term debt for firm i at time t

$ATTRITION_{it}$ = Depreciation and amortization expense for firm i at time t

ΔTL_{it} = Change in income taxes payable for firm i at time t

TA_{it-1} = Total assets for firm i at time $t-1$

The scaled accrual defined above is used along with other salient accounting variables in order to examine the marginal effect of earnings aggressiveness on the market value of firms across the manufacturing and services industry. In addition to earnings aggressiveness, I examined the second dimension of earnings opacity - earnings smoothing (i.e. a proxy for earnings management) on market capitalization. Generally, earnings smoothing allows earnings to obscure the underlying volatility of the firm's economic performance. A two stage derivation approach is used to compute earnings smoothing. At first stage, I followed the methodology of Flannery et al. (2011) to derive firm's operating cash flow as follows:

$$CashFlows_{it} = \frac{OI_{it} - Tax_{it} - IntPaid_{it}}{TA_{it-1}} - CapEx\_Industry_{it} \qquad (2)$$

Where

OI_{it} is the operating income before depreciation

Tax_{it} is the total taxes reported on the income statement

$IntPaid_{it}$ is the interest paid

TA_{it-1} is the lagged total book assets

$CapEx\_Industry_{it}$ is the industry mean value of capital expenditure in year t scaled by lagged total book assets.

At the second stage given the first stage, I followed the methodology of Leuz et al. (2003) by defining earnings smoothing as a correlation between the change in accruals and the change in cash flows, both scaled by lagged total assets for firm i, in year t as follows:

$$ES = \frac{n\left(\sum \Delta Accr_{it} \Delta CF_{it}\right) - \left(\sum \Delta Accr_{it}\right)\left(\sum \Delta CF_{it}\right)}{\left[n\sum \Delta Accr_{it}^{1/0.5} - \left(\sum \Delta Accr_{it}\right)^{1/0.5}\right]^{0.5}\left[n\sum \Delta CF_{it}^{1/0.5} - \left(\sum \Delta CF_{it}\right)^{1/0.5}\right]^{0.5}} \qquad (3)$$

Where

ES = Earnings Smoothing

$\Delta Accr_{it}$ = changes in Accruals for firm *i* at time *t*

ΔCF_{it} = changes in Cash flows for firm *i* at time *t*

Prior papers in this strand of literature used either market returns (Chen and Zhang, 2007) or market capitalization (Easton and Harris, 1991) as a dependent variable for changes in firm value; As such I employed level market capitalization as the explained variable by adopting the additive linear model of Barth et al. (1998) in equation 4, and market returns formulations, known as the "deflated" additive model of Easton and Harris (1991) in equation 5 (i.e. Due to lack of dividend data, I did not adjust the returns by dividend) is used to estimate the effect of

earnings aggressiveness and earnings smoothing on firm's value. Model 5 addresses the perceived scale problem in the levels regressions as recommended by Christie (1987) and further argued by (Barth & Kallapur, 1996; Kothari & Shanken, 1997, 2003). Notably, market model was also used among others by (Chen & Zhang, 2007; Fama & French, 1992)

$$M_{it} = z_{it} + v_{it}K_{it} + \phi IND + \varepsilon_{it} \tag{4}$$

$$\frac{M_{it}}{M_{it-1}} = Z'_{it} + v'_{it}\frac{K_{it}}{M_{it-1}} + \phi IND + \varepsilon_{it} \tag{5}$$

M_{it} is the market value of firm i at time t; K_{it} is a vector of accounting variables of firm i

at time t; the estimates of the parameters z, v, Z', and v' are vectors of coefficients; and ε_{it}

is the white noise error term. To further examine whether there is a trend and timing element to firm's earnings aggressiveness and earnings smoothing practices, model 6 and 7 includes the time trend t and the interaction between time trend and the two earnings opacity measures tx as follows:

$$M_{it} = z_{it} + v_{it}K_{it} + \lambda t + \gamma(tx) + \varepsilon_{it} \tag{6}$$

$$\frac{M_{it}}{M_{it-1}} = Z'_{it} + v'_{it}\frac{K_{it}}{M_{it-1}} + \lambda t + \gamma(tx) + \varepsilon_{it} \tag{7}$$

Where

λ is the coefficient on time trend t with the definition of $\frac{\partial M_{it}}{\partial t}$ in eq. 6 and $\frac{\left(\partial \frac{M_{it}}{M_{it-1}}\right)}{\partial t}$ in

eq.7; tx is the interaction between time trend t and earnings opacity x.

4. Results

As can be seen from the descriptive information in Table 1, there are significant variations in earnings opacity variables for manufacturing and services industries. These differences may be associated with dissimilarities in industry characteristics, not simply by dint of earnings opacity. As anticipated, in table 1b and 1c, average accruals are negative, averaging about 6 % and 1% of lagged total assets for manufacturing and services industries respectively. Curiously, average earnings smoothing is positive for manufacturing industry, but negative for services industry as anticipated.

In Table 2, the correlation between accruals and earnings smoothing is negative. The negative correlation is expected because earnings smoothing materialized to some extent in reaction to the accrual-based accounting process which inherently accommodates considerable level of

flexibility in accounting treatments, particularly in the sphere of accounting estimates, allowances and reversals. As expected, control variables in the correlation matrix in table 2, shows opposing correlation signs with the two earnings opacity measures.

Figure 1 shows level of earnings smoothing on the distribution of accounting earnings over the sample period. It can be seen in graph 2 of figure 1 that on average, firms within the manufacturing industry smooth earnings within a wider space (-.48 to .5) than firms within services industry (-.2.3 to .2) in graph 3. Such graphical information provides an insight to the empirical results in table 3. It can be argued that, in contrast to services industry, the wider operating space for accruals within the manufacturing industry increases information asymmetry and therefore pose a challenge for accurate and timely detection by investors. This reasoning appears to be substantiated in table 3 showing a positive (i.e. wrong sign) and statistically significant at 1% level for earnings smoothing. Suggesting that investors instead of demanding earnings opacity premium are rewarding these firms. Graph 3 is consistent with Table 3 in suggesting that firms within the services industry tend not to engage in wider scale earnings smoothing due to its negative impact on firm value. Moreover, Figure 1 and Table 3, demonstrated that on average, investors in services industry are relatively able to detect and priced into equity-value the uncertainty induced by earnings smoothing. In Figure 2, graphs 5 and 6, in conjunction with tables 1b and 1c, shows that accruals over the sample period for manufacturing industry are relatively more disperse than in services industries. A cursory view of graph 5 shows that earlier period of the sample has an inordinate influence on the dispersion of accruals for manufacturing industry. In graph 5, on average from period 2004 – 2015, accruals for manufacturing firms relatively decline from one period to another, implying an increasingly inflated reported earnings and deflated liabilities.

Table 3 presents the results of ordinary least squares (OLS) regression using level market value. In this and succeeding empirical tests, I explore the effect of earnings opacity on two dimensions of equity market for manufacturing and services industry – the level average market value of firms (models 4 and 6) and the return to market value (i.e. excluding dividends) in a form of scaled market capitalization (models 5 and 7). After controlling for industry, and other variables known in the literature to have some influence on earnings opacity, the coefficient of earnings smoothing (earnings opacity measure) in model 4 is positive and statistically significant at 1% level for manufacturing industry, and negative and statistically significant at 1% level for services industry. However, the coefficient of accruals (earnings opacity measure) shows no statistical significance for both manufacturing and services industry. For control variables, the coefficients of return on assets (ROA) and earnings before interest, depreciation and amortization (EBITDA) on level market value, as expected, are positively and statistically significant for both industries. In this study, a positive and statistically significant coefficient on earnings opacity measures (accruals and earnings smoothing) means that an increase in earnings opacity is associated with an increase in firm value in the stock market irrespective of whether firm value is measured as total market capitalization (level market value) or as a market return (scaled market value). This association is consistent with the implications of information asymmetry and inefficient

market in which equity mispricing is highly probable, due among other factors, to lack of detection of earnings opacity.

In Table 4, market return (scaled market value) measurement is used to examine the impact of earnings opacity. Interestingly, using this measurement, investors of manufacturing industry appears indifferent to earnings, whilst the investors of services industry appear to detect the adverse implications of accruals. Nevertheless, the same investors of services firms were unable or have misinterpreted earnings smoothing. Notably, earnings opacity of manufacturing industry consistently appears to be relatively receptive to level market value measurement than market return measurement, whilst services industry is relatively receptive to market return (scaled market value) measurement than level market value measurement.

In Tables 5, 6 and 7, the coefficient on time-trend is positively and statistically significant at 1% level and the coefficient on the interaction of time-trend and accruals is negative and statistically significant at 1 percent level. This suggests undetected earnings opacity at a point in time followed by a correction over time by investors of manufacturing firms. Again, this is in contrast to the investors of services firm as report in Table 6. The time trend and its interaction with earnings smoothing in Table 7 suggest immediate detection by both investors of manufacturing and services firms, however the interaction of time trend and earnings smoothing were subsequently misinterpreted by investors of services firms.

Table 1a. Earnings Opacity Measures (*) & Control Variables

Summary Statistics - Pooled

Variables	# of Obs	Mean	Std. Dev.	Min	Max
Accruals (*)	25863	-4.474	870.213	-137941	23602.46
Smoothing (*)	25863	-.0003	.2679	-.9899	.9996
ROA	25863	-.0133	.4009	-27.58	2.5488
ROS	25863	-1.6193	49.856	-4939.75	609.07
EBITDA	25863	575.994	2499.357	-2214	81730
MV	25863	4772.788	19712.32	.0727	647506
Scaled MV	25863	1.2890	1.6722	.0046	140.6651

Table 1b. Earnings Opacity Measures (*) & Control Variables

Summary Statistics - Manufacturing

Variables	# of Obs	Mean	Std. Dev.	Min	Max
Accruals (*)	20158	-5.7204	985.6925	-137941	23602.46
Smoothing (*)	20158	.0020	.2623	-.9899	.9996
ROA	20158	-.0135	.4142	-27.5752	2.5488
ROS	20039	-1.9538	55.6821	-4939.75	21.8464
EBITDA	20158	636.9545	2722.443	-2214	81730
MV	20133	5237.684	21170.82	.1804	647506.9
Scaled MV	18959	1.2708	1.2162	.0056	49.4330

Table 1c. Earnings Opacity Measures (*) & Control Variables

Variables	# of Obs	Mean	Std. Dev.	Min	Max
Accruals (*)	5705	-.0714	3.1999	-214.815	14.3811
Smoothing (*)	5705	-.0085	.2869	-.9587	.9134
ROA	5705	-.0128	.3499	-12.3310	1.6757
ROS	5693	-.4417	17.8799	-863.15	609.0735
EBITDA	5705	360.5964	1439.356	-622.541	25849
MV	5695	3129.288	13204.29	.0727	314623.5
Scaled MV	5310	1.3539	2.7375	.0046	140.6651

Summary Statistics - Services

Table 2. Relation between Earnings Opacity Measures (8) & Control Variables

Correlation Matrix

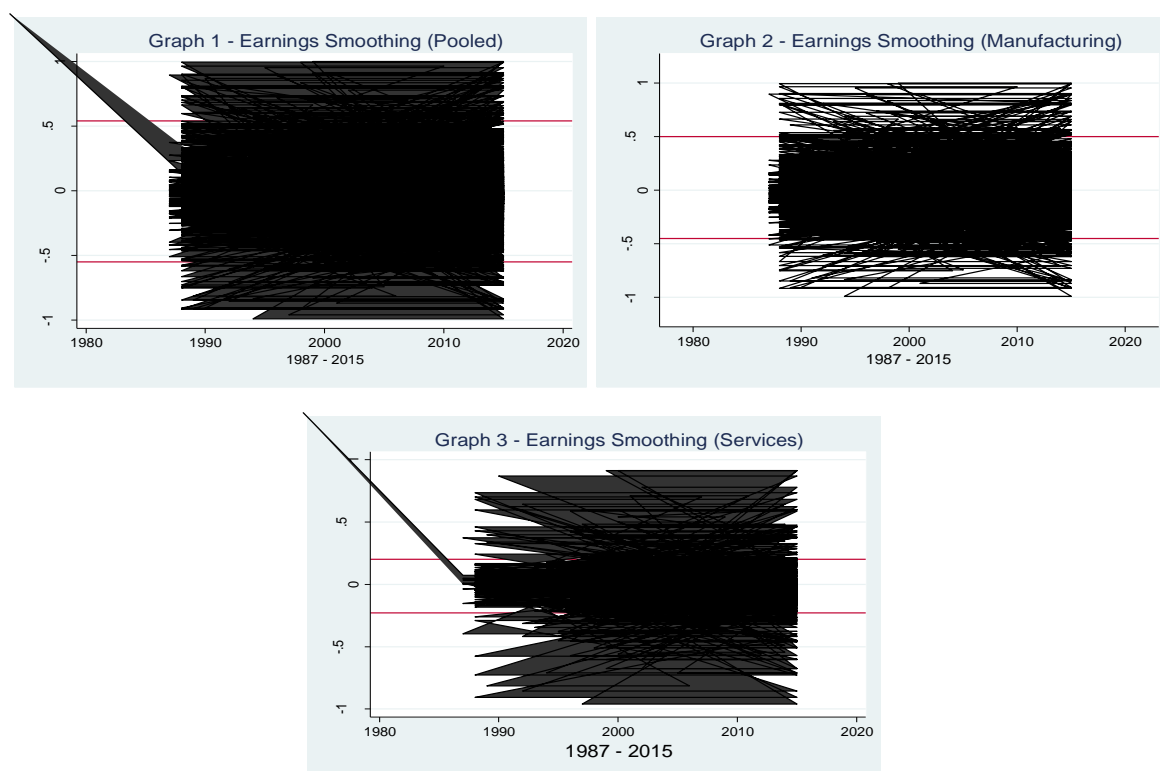|	Smoothing	ROA	ROS	EBITDA	MV	S.MV
Accruals (*)	-0.011	0.013	-0.011	0.003	0.004	-0.168
Smoothing (*)	1	-0.014	0.001	-0.019	-0.005	0.013
ROA		1	0.139	0.067	0.077	-0.025
ROS			1	0.008	0.007	-0.029
EBITDA				1	0.868	-0.021
MV					1	-0.010
Scaled MV						1

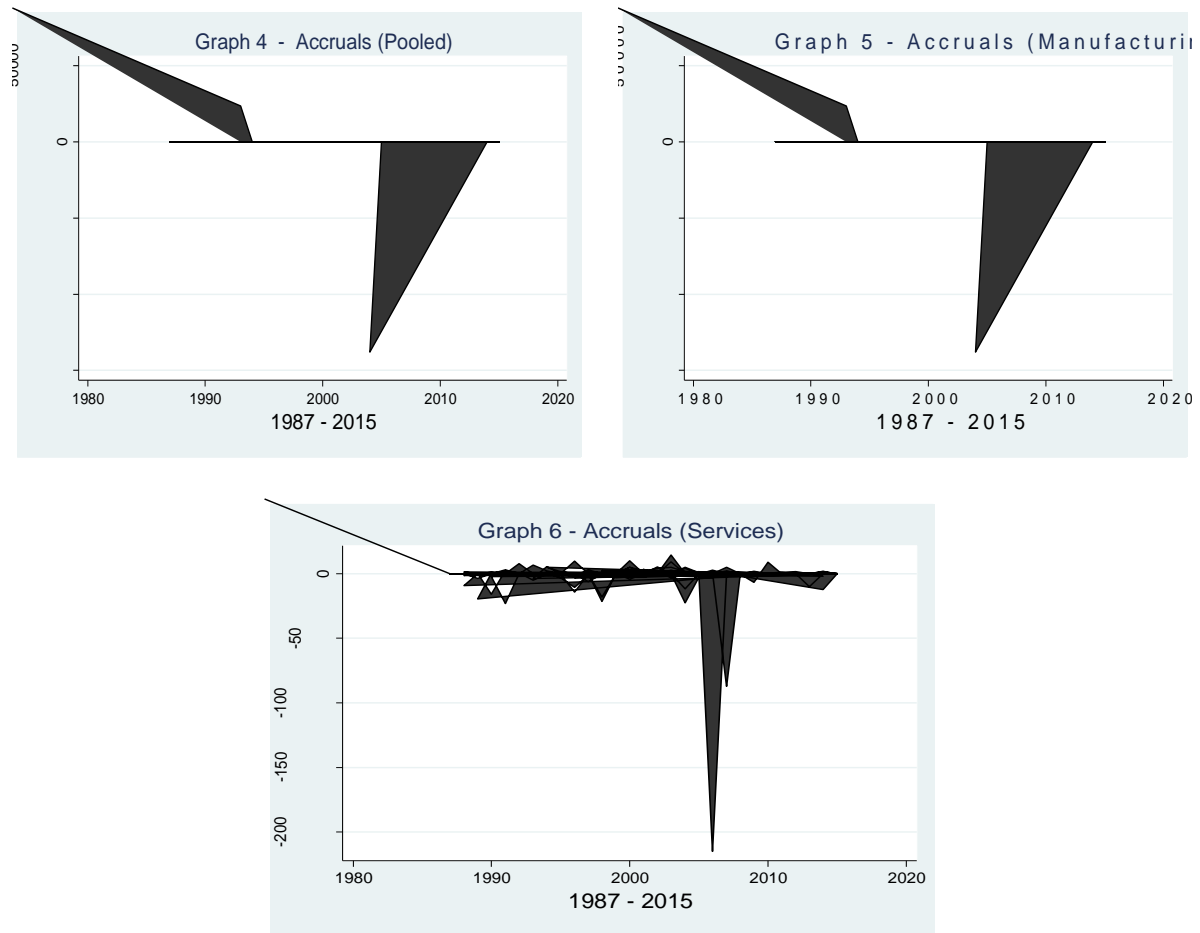Figure 1. Time-Series Behaviour of Earnings Opacity Variable – Earnings Smoothing

Figure 2. Time-Series Behaviour of Earnings Opacity Variable – Accruals

Table 3. Effect of Earnings Opacity on Firm Value

Model (4): $M_{it} = z_{it} + v_{it}K_{it} + \phi IND + \varepsilon_t$ OLS regression with robust standard errors in bracket (n/(n-k)). *;**;*** denotes 1%, 5% and 10% significance respectively.

	Pooled	Manufacturing	Services
Accruals	.004 (.005)	.003 (.004)	-.8563 (2.895)
Earnings Smoothing	784.44 (226.94)*	1180.48 (302.26)*	-615.90 (127.82)*
ROA	1204.12 (200.23)*	1430.10 (267.38)*	465.86 (255.30)***
ROS	-.682 (.399)***	-.7206 (.4376)	-2.822 (1.61)***
EBITDA	6.84 (.215)*	6.7473 (.2285)*	8.06 (.314)*
IND	197.82 (104.68)***	-	-
Cons	680.89 (112.03)*	940.10 (103.98)*	217.71 (80.55)*
R^2	0.7563	0.7560	0.7744
F-Statistics: Prob>F	0.0000	0.0000	0.0000
# of Obs.	25,701	20,018	5,683

Table 4. Effect of Earnings Opacity on Firm Value (Scaled)

Model (5): $\dfrac{M_{it}}{M_{it-1}} = Z'_{it} + v'_{it}\dfrac{K_{it}}{M_{it-1}} + \phi IND + \varepsilon_t$ OLS regression with robust standard errors in bracket (n/(n-k)). *;**;*** denotes 1%, 5% and 10% significance respectively.

	Pooled	Manufacturing	Services
Accruals	-1.37 (.665)**	.003 (.216)	-1.40 (.758)***
Earnings Smoothing	7.32 (3.44)**	.434 (.797)	8.44 (4.28)**
ROA	-1.75 (2.11)	-1.50 (1.47)	-3.46 (5.41)
ROS	-.217 (.146)	-.103 (.109)	-.343 (.539)
EBITDA	.209 (.197)	.705 (.193)*	.162 (.135)
IND	-.049 (.027)***	-	-
Cons	1.27 (.041)*	1.15 (.028)*	1.26 (.033)*
R^2	0.2647	0.0502	0.4506
F-Statistics: Prob>F	0.0809	0.0132	0.0943
# of Obs.	24,160	18,861	5,299

Table 5. Effect of Earnings Opacity on Firm Value

Model (6): $M_{it} = z_{it} + v_{it}K_{it} + \lambda t + \gamma(tx) + \varepsilon_{it}$ FGLS with robust standard errors in bracket (n/(n-k)). *;**;*** denotes 1%, 5% and 10% significance respectively.

	Pooled	Manufacturing	Services
Accruals	.073 (.017)*	.085 (.019)*	-8.26 (9.26)
ROA	306.8 (121.9)**	333.69 (151.2)**	327.4 (221.26)
ROS	.075 (.093)	.113 (.114)	-.740 (.622)
EBITDA	6.39 (.639)*	6.32 (.668)*	7.645 (.365)*
λ	96.18 (22.90)*	112.59 (25.69)*	4.982 (10.97)
$\lambda(tx)$	-.005 (.001)*	-.005 (.001)*	.452 (.502)
R^2	.7567	.7565	.7743
F-statistics.	85.43 (0.0000)*	73.90 (0.0000)*	134.86 (0.0000)*

Table 6. Effect of Earnings Opacity (Accruals) on Firm Value (Scaled)

Model (7): $\frac{M_{it}}{M_{it-1}} = Z'_{it} + v'_{it}\frac{K_{it}}{M_{it-1}} + \lambda t + \gamma(tx) + \varepsilon_{it}$ FGLS with robust standard errors in bracket (n/(n-k)).

*;**;*** denotes 1%, 5% and 10% significance respectively.

	Pooled	Manufacturing	Services
Accruals	2.55 (1.67)	-.549 (.384)	5.91 (162)*
ROA	1.25 (2.17)	-1.89 (.917)**	-1.07 (3.43)
ROS	-.227 (.121)***	-.089 (.079)	-.314 (.206)
EBITDA	.129 (.149)	.974 (.232)*	.058 (.089)
λ	-.009 (.001)*	-.004 (.001)*	-.016 (.003)*
$\lambda(tx)$	-.196 (.098)**	.069 (.057)	-.374 (.099)*
# of obs.	24,160	18,861	5,299
R^2	.2356	.0514	.4394
F-statistics.	60.10 (0.0000)	12.88 (0.0000)*	65.82 (0.0000)*

Table 7. Effect of Earnings Opacity (Earnings Smoothing) on Firm Value (Scaled)

Model (7): $\frac{M_{it}}{M_{it-1}} = Z'_{it} + v'_{it}\frac{K_{it}}{M_{it-1}} + \lambda t + \gamma(tx) + \varepsilon_{it}$ FGLS with robust standard errors in bracket (n/(n-k)).

*;**;*** denotes 1%, 5% and 10% significance respectively

	Pooled	Manufacturing	Services
Earnings Smoothing	-2.94 (2.99)	1.49 (1.04)	-35.88 (13.32)*
ROA	-2.54 (2.09)	-1.19 (.752)	-5.21 (4.71)
ROS	-.439 (.326)	-.094 (.085)	-.847 (.569)
EBITDA	.189 (.126)	.957 (.233)*	.379 (.118)*
λ	-.008 (.001)*	-.004 (.001)*	-.012 (.004)*
$\lambda(tx)$	.236 (.183)	-.201 (.228)	2.36 (.866)*
# of obs.	24,160	18,861	5,299
R^2	.1115	.0495	.3031
F-statistics.	18.96 (0.0000)*	12.56 (0.0000)*	150.90 0.0000)*

5. Conclusion

Though earnings opacity has been documented in the past literature, it has not been clear whether earnings opacity is accurately and timely reflected in equity valuation. It is a well-known stylized fact that the accounting standards (i.e. US GAAP) allows divergent accounting revenue generating processes based on industry classification (i.e. industry

specific accounting treatments). For example, by nature of the transactions, revenue recognition within the services industry in certain circumstances substantially differs from their manufacturing counterparts. Therefore this paper attempts to shed light on this issue by exploring the link between earning opacity and equity markets for a panel of firms within manufacturing and services industry. The two characteristics of equity markets that I explore are the total market capital capitalization and the market return for manufacturing and services industry. The two dimensions of earnings opacity (i.e. accruals and earnings smoothing) are measured directly from the financial statements obtained from compustat database. The empirical results overall shows that that on average, an increase in earnings opacity is linked to an increase in market value for firms within the manufacturing industry. In contrast, the results shows that on average, an increase in earnings opacity leads to a decrease in market value for firms within the services industry. Consequently, the results suggest that investors in services firms appear to have detected accurately and timely an occurrence of earnings opacity and in contrast, investors in manufacturing firms appears to have inaccurately and untimely uncover the occurrence of earnings opacity. Furthermore, the results suggest that firms utilize both dimensions of earnings opacity in a sustained manner as implied by the coefficients on time-trend and the interaction of time-trend and earnings opacity

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