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Earnings Quality Trends
(Quarter 1, 2018)

Earnings Quality Indicator (EQI):

4.61%	6.54%	10.55%
Post-Recession	**Current**	**Recent High**
(Jun. 2011)	**(Mar. 2018)**	**(Sep. 2009)**

Earlier this month brought forth the 10-year anniversary of the collapse of Lehman Brothers. Given that the American economy has followed a general pattern of experiencing roughly one recession every decade, there has been much talk of a potential economic slowdown on the horizon. Despite this, over the last twelve months, the Dow Jones Industrial Average has increased by more than 17%, median revenues have increased by 13.5%, and Congress passed major tax reform legislation.

Our review of data from March 2018 suggests that trends in median earnings quality, measured using EQI (or operating cash margin less net margin), indicate a less-than-optimistic reading of the economy. An observation of the median EQI for the 20 GICS non-financial industry groups shows that earnings quality has fallen for six consecutive quarters going back to September 2016.

Two drivers of this decline in EQI, which measures the extent to which a firm’s earnings are supported by sustainable cash flow, are a declining operating cash margin and a rising net margin. Operating cash margin was 10.27% in the March 2018 period, down from 11.29% in March 2017. Sustainable net margin increased from 5.42% in March 2017 to 5.58% in March 2018. An increase in median working capital during this time contributed to this decline in EQI. Continued declines in EQI could be cause for concern, especially if net margin growth begins to stall.

Regarding individual industries, during the period between March 2017 and March 2018, EQI increased in 4, held stable in 6, and declined in 10. In this report we take a closer look at the Media industry, where EQI has fallen dramatically.

Data for this research were provided by S&P Capital IQ’s Compustat Database. **October 2018**

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Georgia Tech Financial Analysis Lab

The Georgia Tech Financial Analysis Lab conducts research on issues of financial reporting and analysis. Unbiased information is vital to effective investment decision-making. Accordingly, the Lab thinks that independent research organizations, such as this Lab, have an important role to play in providing information to market participants.

Because the Lab is housed within a university, all of its research reports have an educational quality, as they are designed to impart knowledge and understanding to those who read them. Its focus is on issues that it believes will be of interest to a large segment of stock market participants. Depending on the issue, it may focus its attention on individual companies, groups of companies, or on large segments of the market at large.

A recurring theme in the work is the identification of reporting practices that give investors a misleading signal, whether positive or negative, of corporate earning power. The Labs defines earning power as the ability to generate a sustainable stream of earnings that is backed by cash flow. Accordingly, its research may look into reporting practices that affect either earnings or cash flow, or both. At times, its research may look at stock prices generally, though from a fundamental and not technical point of view.

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Earnings Quality: Background and Definition

Earnings quality is an evaluation of the extent to which a firm's earnings are generated from sustainable sources that are backed by cash flow. There are two dimensions to earnings quality: the persistence and cash flow dimensions. In examining the persistence dimension of earnings quality, we identify whether reported earnings have been boosted by nonrecurring items. For example, earnings increased by a nonrecurring gain from an asset sale or a one-time reduction in the effective tax rate due to a tax-loss carryforward would impair earning quality on the persistence dimension. In evaluating the cash dimension of earnings quality, we seek to determine whether reported earnings are supported by cash flow. For example, cash flow would lag earnings for a company that has provided its customers with extended payment terms or that has accumulated inventory in anticipation of increased future sales. Such lagging cash flow would impair earnings quality on the cash dimension.

Earnings that are of low quality increase the likelihood that future earnings will decline from current levels. This is not to say that future earnings will decline, but the likelihood of a decline is increased for companies with low earnings quality. For example, in the case of the nonrecurring gain or the low effective tax rate, future earnings will decline when that gain is excluded or the tax-loss carryforward is no longer available. For the firm that has provided extended payment terms or that has accumulated inventory, future earnings will decline if the resulting receivables or accumulated inventory cannot be realized and write-downs ensue.

In assessing earnings quality, the balance sheet also plays an important role. We use the term position quality to refer to the effects of the balance sheet on earnings quality. We say that position quality is impaired when assets are carried at amounts that exceed fair value or when obligations are carried at less than the amounts needed to liquidate them. Companies that accumulate overvalued assets or undervalued liabilities will see their earnings decline when those overvalued assets are written down or those undervalued liabilities are written up. For example, at some point an investment in a debt security of a financially-troubled issuer that is held to maturity and carried at cost will need to be written down. Similarly, a charge will be needed to increase the balance of an under-accrued warranty obligation. In both instances, future earnings will suffer.

In this report, we examine issues impacting earnings quality on the cash dimension across all nonfinancial industries as measured by an Earnings Quality Indicator (EQI). EQI is a ratio that measures the relationship between sustainable operating cash flow and net income. The ratio measures the excess of sustainable operating cash flow over net income as a percentage of revenue. The calculation is as follows:

Earnings Quality Indicator (EQI) = [(Operating Cash Flow – Net Income) / Revenue]

Note that before its use in the EQI calculations, operating cash flow measured under generally accepted accounting principles (GAAP) is first adjusted for nonrecurring and non-operating items. Net Income measured under GAAP is similarly adjusted. Such adjustments remove noise and improve the effectiveness of EQI. EQI can also be expressed as: (Operating Cash Flow / Revenue) – (Net Income/Revenue), or Operating Cash Margin less Net Margin.

Interpretations of EQI

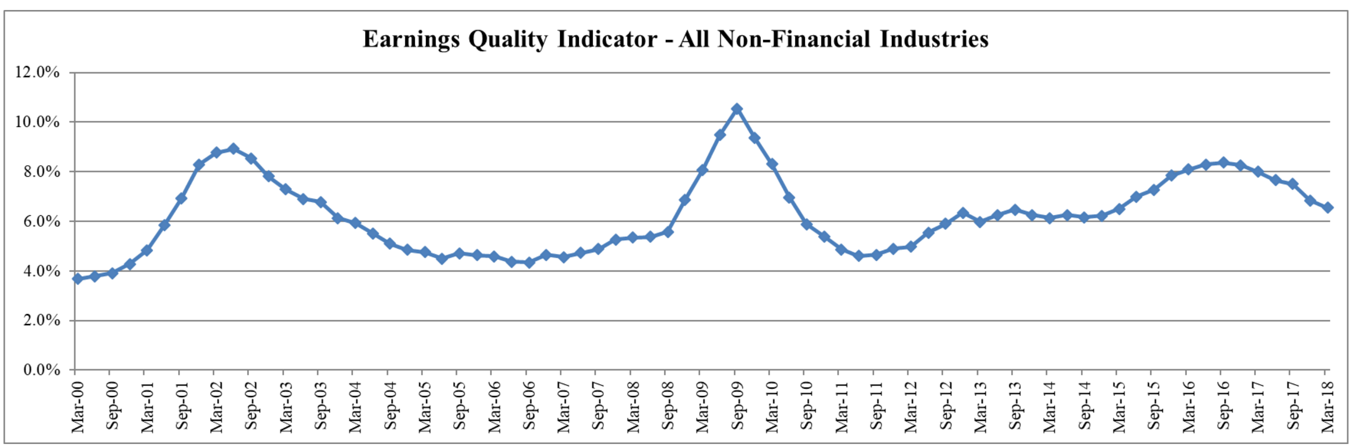
Significant decreases in the ratio over time are of particular concern and indicate that operating cash flow is either growing slower or declining faster than net income, leading to a build-up of non-cash balance sheet accounts and warning of possible operational difficulties or of aggressive practices in the measurement of earnings. Future earnings may be at risk for decline. Significant increases in the ratio over time indicate that operating cash flow is growing faster or declining slower than net income, leading to a decline in non-cash balance sheet accounts. Such a development suggests either the possibility of increasingly conservative accounting practices in the measurement of earnings or of a decline in future operating cash flow. A steady to slightly increasing ratio over time indicates an equilibrium relationship between operating cash flow and net income.

Purpose

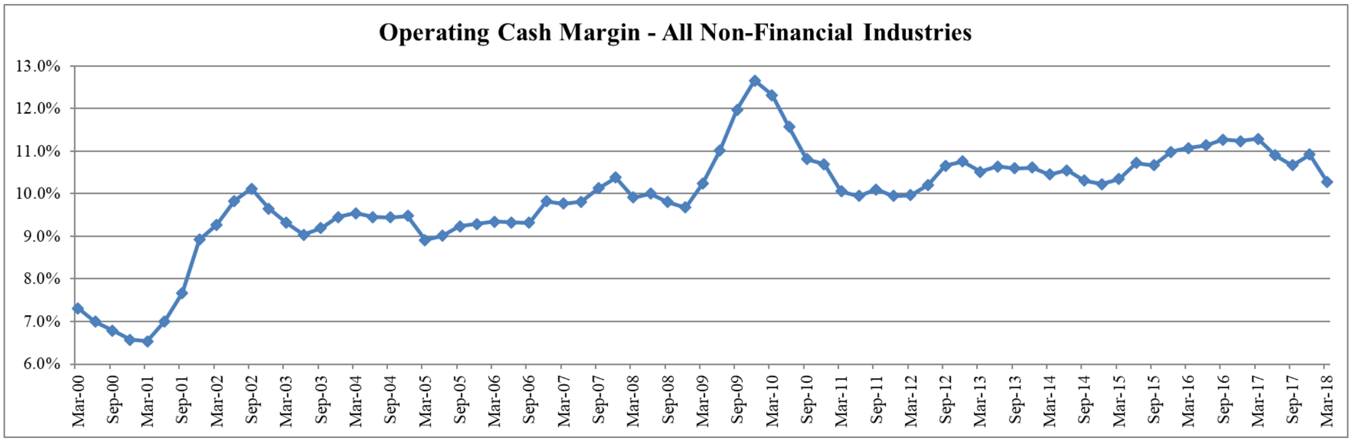
In this study we look at the trend in EQI across all non-financial industries. We present median data for all industries combined for the quarters ending March 2000 through March 2018. Then, for individual industries, we present median data for the 3 months ended September 2000 through March 2018.

Results – All Industry Data

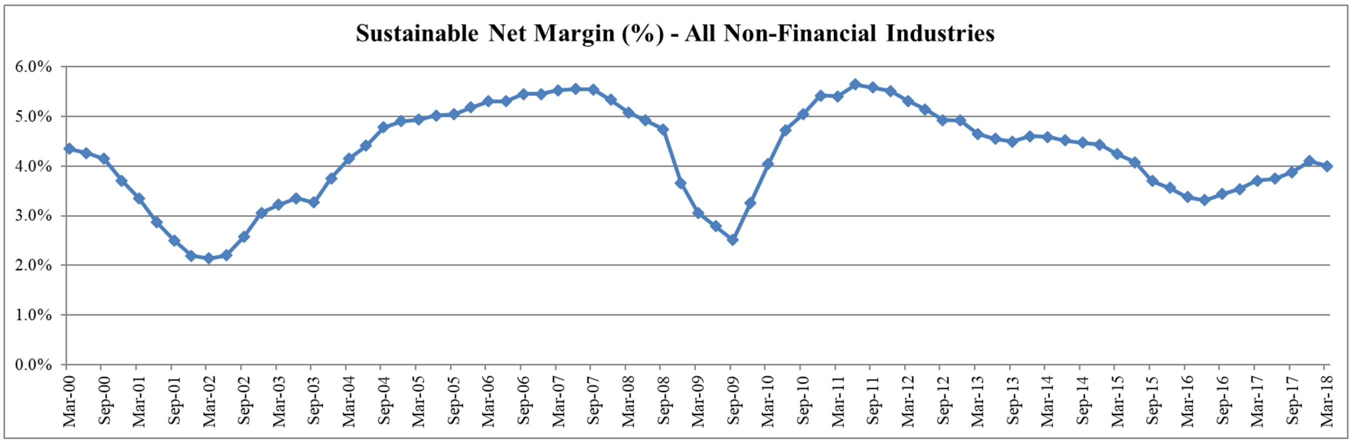
For all industries combined, as indicated in the chart below, EQI has trended downwards since September 2016. This was driven by declines in operating cash margin, which have been greater in magnitude than the growth in sustainable net margin that has occurred during this time frame. It should be noted that the use of median data for all non-financial industries, while representative of the broad economy, produces an EQI that does not equal the difference between sustainable operating cash margin and sustainable net margin. This is because the three measurements, EQI, sustainable operating cash margin and sustainable net margin, represent industry medians, and as a result, may reflect measures taken from different companies.



EQI = [(Sustainable Operating Cash Flow – Sustainable Net Income) / Revenue] or
Sustainable Operating Cash Margin – Sustainable Net Margin



Operating Cash Margin (Sustainable) = Operating Cash Flow(Sustainable)/ Revenue



Sustainable Net Margin = Sustainable Net Earnings / Revenue

Results – Individual Industry Data

In the table below we compare EQI results for the 20 separate non-financial industry groups we follow. Consistent with the combined industry data, we find median EQI to be falling over the period March 2017 through September 2018, with EQI rising in 4 industries, stable in 6 industries, and falling in 10 industries.

Earnings Quality Indicator for 20 Non-financial industry groups

	Industry	Mar. 2017	Mar. 2018	Trend*
1	1010-Energy	26.67%	19.55%	Falling
2	1510-Materials	7.57%	4.97%	Falling
3	2010-Capital Goods	4.26%	2.40%	Falling
4	2020-Commercial & Prof Services	5.49%	4.17%	Falling
5	2030-Transportation	10.93%	4.70%	Falling
6	2510-Automobiles & Components	1.92%	4.52%	Rising
7	2520-Consumer Durables & Apparel	3.50%	2.98%	Falling
8	2530-Consumer Services	8.34%	6.41%	Falling
9	2540-Media	9.34%	5.83%	Falling
10	2550-Retailing	3.98%	3.17%	Falling
11	3010-Food & Staples Retailing	2.03%	2.05%	Stable
12	3020-Food, Beverage, & Tobacco	4.47%	2.42%	Falling
13	3030-Household & Personal Products	3.59%	5.82%	Rising
14	3510-Health Care Equipment & Services	7.11%	7.16%	Stable
15	3520-Pharmaceuticals, Biotech, & Life Sciences	20.18%	24.53%	Rising
16	4510-Software & Services	12.70%	12.73%	Stable
17	4520-Technology Hardware & Equipment	5.41%	5.50%	Stable
18	4530-Semiconductors & Equipment	8.57%	11.01%	Rising
19	5010-Telecommunication Services	17.64%	18.50%	Stable
20	5510-Utilities	15.41%	14.52%	Stable

*Note – Stable is considered to be within a +/- 15% change

We also look at the components of EQI, Operating Cash Margins and Sustainable Net Margins, for each of the industry categories.

Operating Cash Margins for 20 Non-financial industry groups

	Industry	Mar. 2017	Mar. 2018	Trend*
1	1010-Energy	25.12%	24.28%	Stable
2	1510-Materials	12.09%	10.25%	Falling
3	2010-Capital Goods	8.78%	6.53%	Falling
4	2020-Commercial & Prof Services	9.80%	9.00%	Stable
5	2030-Transportation	13.29%	15.30%	Rising
6	2510-Automobiles & Components	7.97%	8.13%	Stable
7	2520-Consumer Durables & Apparel	8.99%	6.99%	Falling
8	2530-Consumer Services	12.99%	11.92%	Stable
9	2540-Media	13.40%	12.13%	Stable
10	2550-Retailing	6.52%	5.79%	Stable
11	3010-Food & Staples Retailing	3.74%	3.88%	Stable
12	3020-Food, Beverage, & Tobacco	12.20%	10.63%	Stable
13	3030-Household & Personal Products	12.03%	13.06%	Stable
14	3510-Health Care Equipment & Services	10.17%	9.99%	Stable
15	3520-Pharmaceuticals, Biotech, & Life Sciences	-4.70%	-31.56%	Rising
16	4510-Software & Services	12.79%	13.19%	Stable
17	4520-Technology Hardware & Equipment	9.13%	9.20%	Stable
18	4530-Semiconductors & Equipment	16.96%	20.48%	Rising
19	5010-Telecommunication Services	23.15%	23.74%	Stable
20	5510-Utilities	25.26%	26.10%	Stable

*Note – Stable is considered to be within a +/- 15% change

Sustainable Net Margins for 20 Non-financial industry groups

	Industry	Mar. 2017	Mar. 2018	Trend*
1	1010-Energy	1.84%	4.70%	Rising
2	1510-Materials	5.56%	5.93%	Stable
3	2010-Capital Goods	5.52%	5.13%	Stable
4	2020-Commercial & Prof Services	4.70%	4.85%	Stable
5	2030-Transportation	4.63%	5.66%	Rising
6	2510-Automobiles & Components	5.55%	5.12%	Stable
7	2520-Consumer Durables & Apparel	5.30%	5.61%	Stable
8	2530-Consumer Services	6.42%	6.73%	Stable
9	2540-Media	6.18%	6.11%	Stable
10	2550-Retailing	3.28%	3.17%	Stable
11	3010-Food & Staples Retailing	1.89%	1.82%	Stable
12	3020-Food, Beverage, & Tobacco	7.49%	8.29%	Stable
13	3030-Household & Personal Products	8.89%	9.11%	Stable
14	3510-Health Care Equipment & Services	6.24%	5.73%	Stable
15	3520-Pharmaceuticals, Biotech, & Life Sciences	6.04%	5.64%	Stable
16	4510-Software & Services	6.86%	5.40%	Falling
17	4520-Technology Hardware & Equipment	4.43%	4.49%	Stable
18	4530-Semiconductors & Equipment	7.23%	8.89%	Rising
19	5010-Telecommunication Services	5.17%	3.54%	Falling
20	5510-Utilities	9.59%	9.47%	Stable

*Note – Stable is considered to be within a +/- 15% change

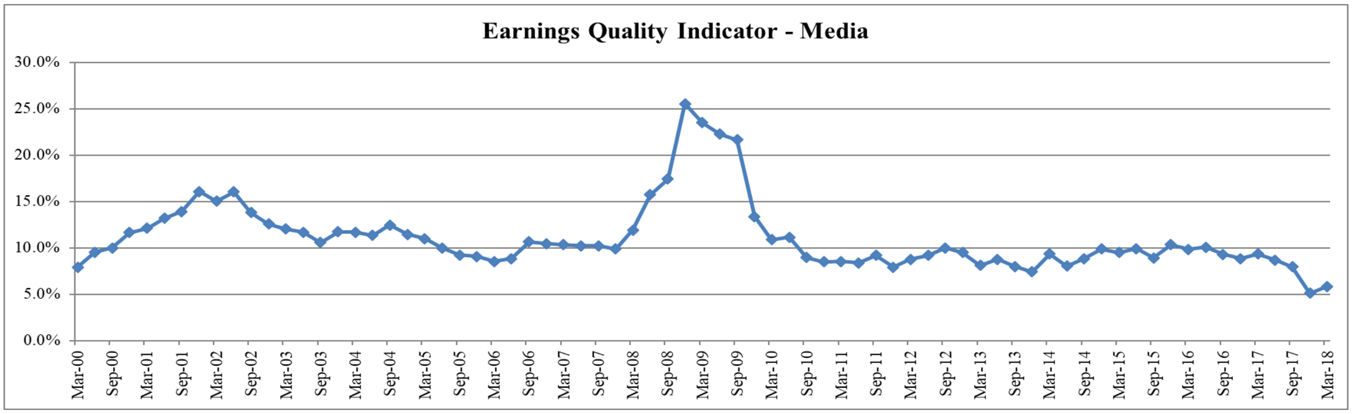
A Closer Look at the Media Industry

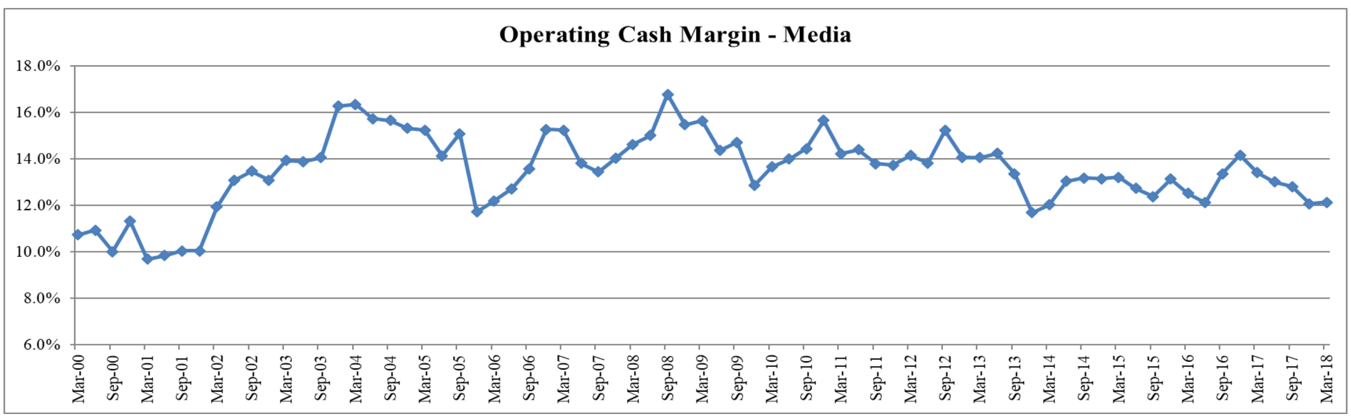
One of the industries that had significant changes in earnings quality over the previous year was the Media industry. Median trailing three months EQI for the industry fell from 9.34% to 5.83% from March 2017 to March 2018. During this period, median operating cash margin fell from 13.40% to 12.13% while sustainable net margin remained steady, going from 6.18% to 6.11%.

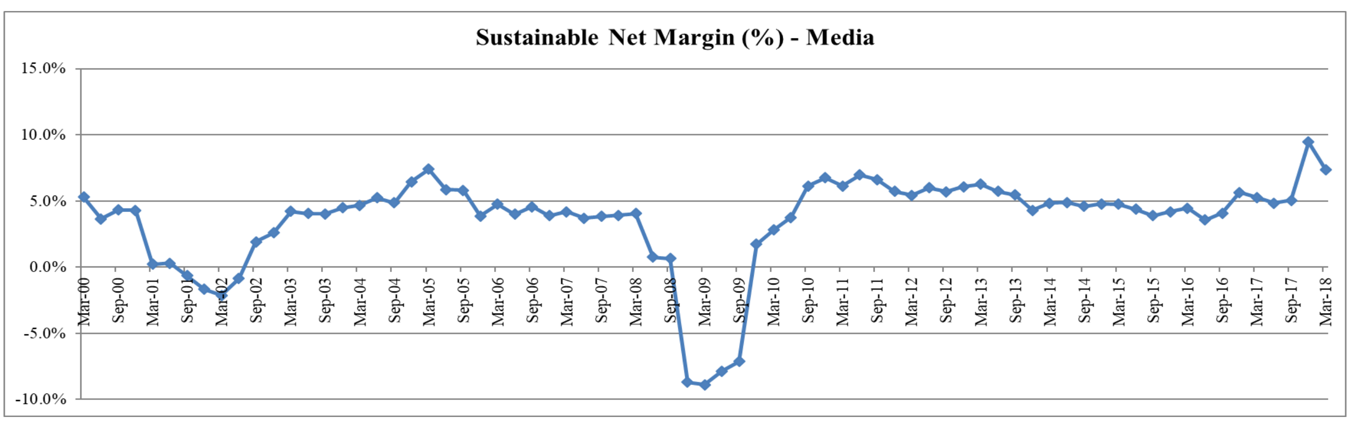
The decline in median operating cash margin can be attributed to an increase in the cash cycle revenue days from 43.55 days to 43.91 days, driven by an increase in receivable days from 60.37 to 62.06. This longer cash cycle reduced operating cash flow. Median operating cash margins for this industry have been in a somewhat steady decline since the height of the recession, peaking at 16.78 in September 2008. During this time, capital expenditures as a percentage of revenue have also declined, indicating potentially serious structural cash flow concerns within the industry.

Median sustainable net margin in this industry held steady despite revenues falling from $1,574.45 in March 2017 to 1,242.87 in March 2018 due in part to a decline in median Selling, General, and Administrative expenses as a percentage of revenue, which fell from 22.73% to 21.73%. Lower taxes brought on by the tax reform passage in Q4 2017 also had a large mitigative effect, as median income taxes to revenue fell from 2.51% to 0.00%.

Falling EQI indicates that operating cash flow is growing slower or declining faster than net income, leading to an increase in non-cash balance sheet accounts. In the case of the current trend in the Media industry, we believe that falling EQI may signify reduced earnings in the periods to come.





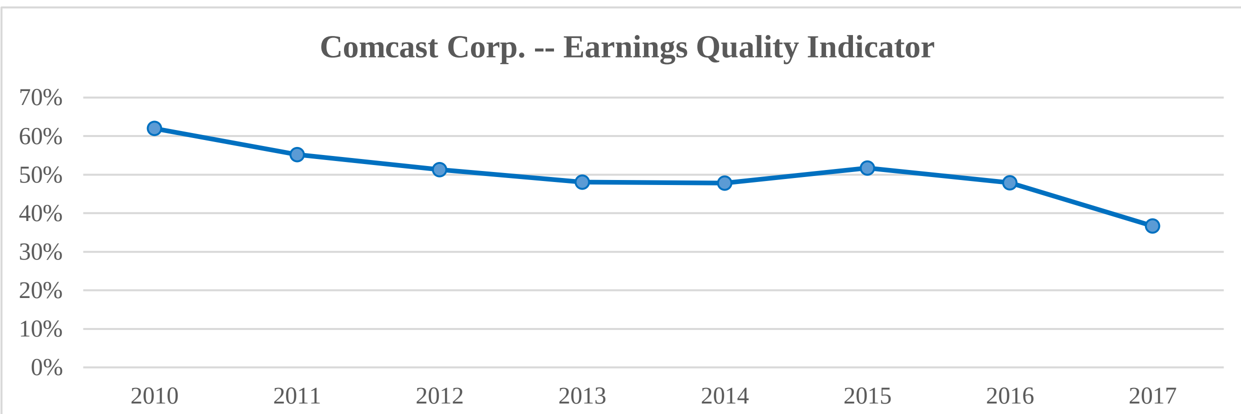


Two companies in this industry that fit this trend are Twenty-First Century Fox Inc. and Comcast Corp.

The Earnings Quality Indicator for Twenty-First Century Fox was at 17.5% at the end of the first quarter of 2018, down from 21.1% compared to 12 months prior. This decline in EQI was brought on by both changes in net income and operating cash flow. Net income was reported to be $858 million in Q1 2018, up from $799 million in Q1 2017. Operating cash flow was reported to be $2,160 in Q1 2018, down from $2,397 in Q1 2017. Net income for Twenty-First Century Fox was up 28% in calendar year 2017 compared to calendar year 2016, but operating cash flow only grew by 2% during this time.

EQI trends for Comcast Corporation tell a similar story. Comcast's EQI in Q1 2018 was 10.3%, compared to 15.0% in Q1 2017. This was brought on by increased net income, which was at $3,118 million in Q1 2018 compared to $2,573 million a year prior, and by declining operating cash flow, which was $5,474 in Q1 2018 compared to $5,656 a year prior.

The fact that for both companies, increased earnings were not met with increased cash flows could bring into question the sustainability of their earnings. If these firms and the industry as a whole don't begin to see increased cash flow from operations, then future earnings increases could be suspect.



Summary and Conclusion

The Earnings Quality Indicator, calculated as operating cash margin less sustainable net margin, is a measure of cash flow-related quality of earnings. When the metric declines for extended periods, reported earnings are not backed by cash flow. When this happens, non-cash accounts may swell on the balance sheet. This may lead to future write-downs if these accounts are not converted to earnings. When EQI rises for extended periods, then these non-cash balance sheet accounts are being liquidated, which may indicate a reduced ability to generate operating cash flow in the future. Stable EQI trends, on the other hand, does not raise similar questions about the sustainability of earnings or cash flow.

Median EQI for all non-financial industries has shown potentially disconcerting declines in recent months. While median EQI is still somewhat high relative to pre-and-post recession norms, it has declined for six consecutive quarters. Median reported net margins have been stable during this time, so this downward trending EQI may indicate reduced earnings in the future.