

Point-In-Time – What’s the Fuss About?

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This paper follows on from the research '[Point-In-Time vs. Lagged Fundamentals, This time i\(t\)'s different?](#)' written by Ernest Breitschwerdt, Quantamental Research, and examines the relevance of Point-In-Time financial data for Asian markets, especially when used for quantitative or research purposes.

This paper looks at the timing lag between a fiscal period end and the date when the financials for that period are reported, as well as the effects of restatements, and how both of these factors make it more difficult to mimic Point-In-Time data using customized lags.

When working with company reported data, researchers tend to apply a time lag to the latest data as an approximation for the Point-In-Time financials. This lag will be based on the filing timeliness required by the capital market regulator in that country. This paper looks at a restatement of one of ZTE Corporation's fiscal quarters as an example, and how this practice of lagging data is a poor proxy for actual point in time data.

We also examine the reason for restatements and the frequency, as well as whether financial ratios calculated using original vs. restated values can result in significantly different values, especially when applied to quantitative techniques.

Point-In-Time – What’s the Fuss About?

On 27 April 2018, China’s second largest telecommunications equipment producer ZTE Corporation (ZTE) reported a net profit of RMB 1,687,020 thousand for the first quarter (Q1) of 2018.¹ Three months later on 27 July 2018, they restated their Q1 2018 filings to now report a net profit (loss) of RMB (5,407,237) thousand, a decrease of 394%.² This restatement was prompted by the US\$1 billion global settlement that ZTE had entered into with the U.S. Government with regards to its historical conduct relating to U.S. export controls and sanctions.³ Other metrics such as revenue, operating income, and total equity also changed resulting in significant changes in the net income margin, return on equity (ROE) and gross profit growth.

The table and chart below display the standardized⁴ financial line items (in USD) and ratios taken from the S&P Capital IQ platform. These numbers were derived based on the original and the updated quarterly report that ZTE published with the China Securities Regulatory Commission (CSRC).

Table 1: Standardized Income Statement line items for ZTE for Q1 2018 based on the original filings and the subsequent restatement

ZTE Corporation (SZSE:000063) Financials > Income Statement			
	3 months Q1	Restated 3 months Q1	Restated 3 months Q1
Filing Date	Mar-31-2018	Mar-31-2018	Mar-31-2018
Currency	USD	USD	USD
Revenue [112]	4,603.6	4,387.9	4,387.9
Other Revenue [90]	-	-	-
Total Revenue [28]	4,603.6	4,387.9	4,387.9
Cost Of Goods Sold [34]	3,068.8	3,158.8	3,158.8
Gross Profit [10]	1,534.8	1,229.0	1,229.0
Selling General & Admin Exp. [102]	595.2	505.1	505.1
Provision for Bad Debts [95]	-	-	-
R & D Exp. [100]	547.0	431.0	431.0
Depreciation & Amort. [41]	-	-	-
Other Operating Expense/(Income) [260]	(59.9)	(59.9)	(62.5)
Other Operating Exp., Total [380]	1,082.3	876.2	873.6
Operating Income [21]	452.5	352.8	355.5
Interest Expense [82]	(29.6)	(29.6)	(34.2)
Interest and Invest. Income [65]	-	-	45.9
Net Interest Exp. [368]	(29.6)	(29.6)	11.7
Currency Exchange Gains (Loss) [38]	-	-	-
Other Non-Operating Inc. (Exp.) [85]	6.7	6.7	(1,110.3)
EBT Excl. Unusual Items [4]	429.6	329.9	(743.2)
Impairment of Goodwill [209]	-	-	-
Gain (Loss) On Sale Of Invest. [62]	17.7	17.7	17.7
Gain (Loss) On Sale Of Assets [56]	(1.1)	(1.1)	-
Asset Writedown [32]	(77.1)	(159.2)	(159.2)
Other Unusual Items [87]	(3.3)	(1,071.9)	-
EBT Incl. Unusual Items [139]	365.7	(884.7)	(884.7)
Income Tax Expense [75]	81.2	(38.4)	(38.4)
Earnings from Cont. Ops. [7]	284.6	(846.3)	(846.3)
Earnings of Discontinued Ops. [40]	-	-	-
Extraord. Item & Account. Change [42]	-	-	-
Net Income to Company [41571]	284.6	(846.3)	(846.3)
Minority Int. in Earnings [83]	2.1	2.1	2.1
Net Income [15]	286.6	(844.2)	(844.2)
Pref. Dividends and Other Adj. [97]	17.7	17.7	17.7
NI to Common Incl Extra Items [16]	268.9	(861.9)	(861.9)

Source: S&P Capital IQ platform, as of 26 August 2019. Table for illustrative purposes only.

¹ Source: ZTE Corporation 2018 First Quarterly Report, Filed with the China Securities and Regulatory Commission, 27 April 2018, <https://res-www.zte.com.cn/mediare/zte/Investor/20180427/E3.pdf>, accessed 18 October 2019.

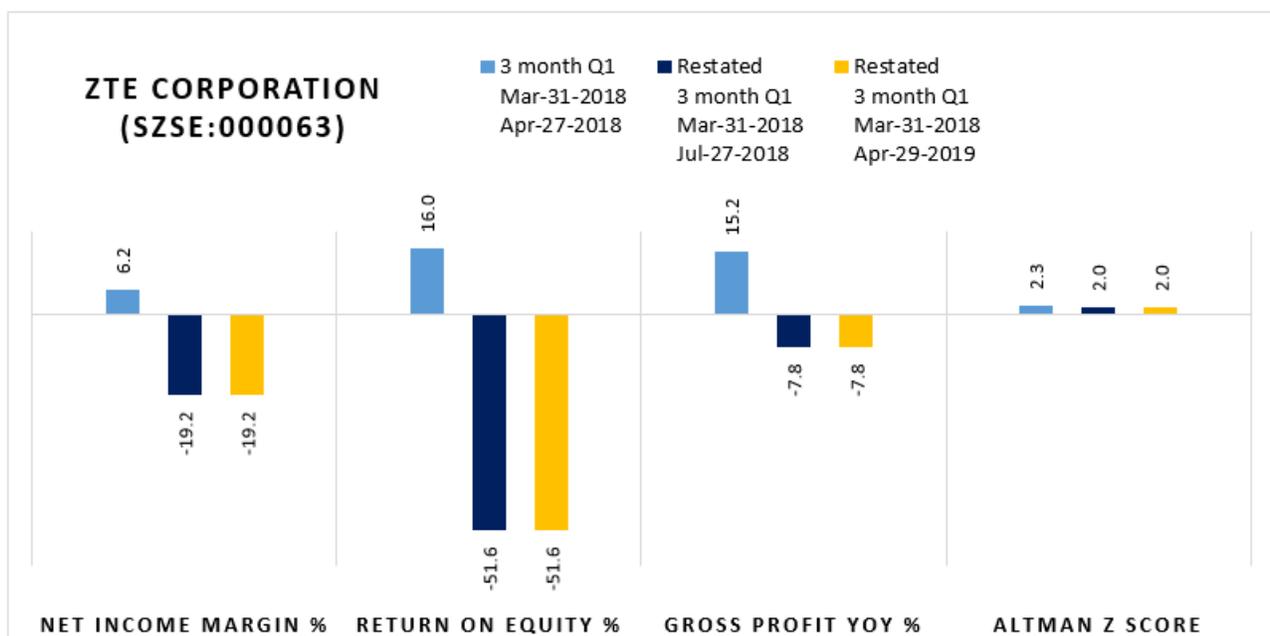
² Source: ZTE Corporation 2018 First Quarterly Report (Updated Version), Filed with the China Securities and Regulatory Commission, 27 June 2018, <https://res-www.zte.com.cn/mediare/zte/Investor/20180727/E3.pdf>, accessed 18 October 2019.

³ Source: U.S. Mission China, 8 June, 2018, “Secretary Ross Announces \$1.4 Billion ZTE Settlement”, *U.S. Embassy & Consulates in China*, <https://china.usembassy-china.org.cn/secretary-ross-announces-1-4-billion-zte-settlement/>, accessed 18 October 2019.

⁴ Source: S&P Global Market Intelligence Standardization Methodology, http://support.standardandpoors.com/xpressfeed/images/stories/CIQ-Compustat/Xpressfeed/data-resources/financials/premium_financials/ciq_financials_methodology.pdf, accessed 18 October 2019.

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Chart 1: Financial ratios for ZTE for Q1 2018 based on the original filings and the subsequent restatement



Source: S&P Global Market Intelligence Capital IQ Premium Financials, as of 26 August 2019. Chart for illustrative purposes only.

What are restatements and reclassifications?

For various reasons (divestitures, mergers, accounting changes etc.), companies may reclassify or restate their historical results from their previous filings for the same period. For example, a financial filing for a given period can be restated for the same filing period at a later date, i.e., a quarterly filing for Q1 2017 can be restated in Q3 2017. Restatements and reclassifications for a previously reported period can have any of the following 3 characteristics:

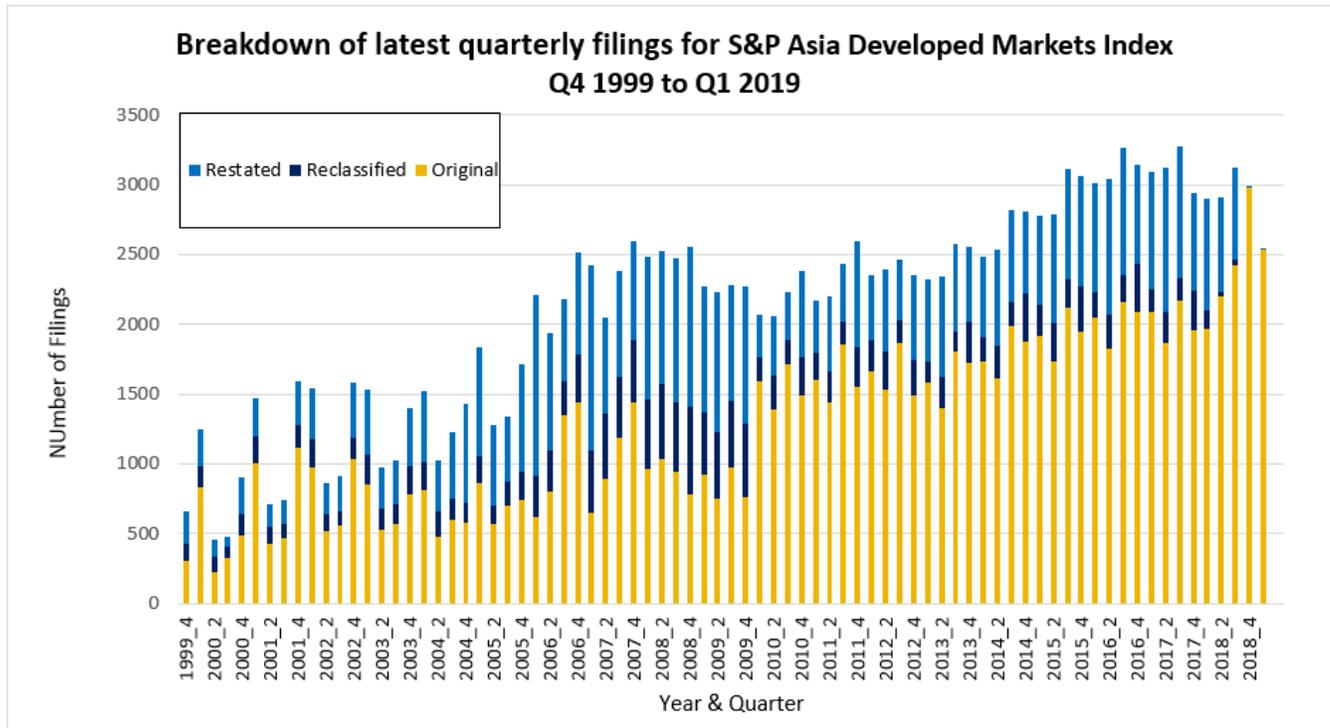
1. No Change – This is when a fiscal period appears again in a later filing by the company but remains unchanged from the original or are sometimes not comparable due to different reporting currencies.
2. Reclassification - Some line items are different from the original, but bottom line results such as net income or retained earnings are the same.
3. Restatements - Results are fundamentally different from the original i.e., net income, retained earnings, total assets or cash from operations. Restatements usually happen after an acquisition, divestiture, merger or accounting change.

How common are restatements?

The chart below depicts the number of filings for quarterly periods for the S&P Asia Developed Markets Index from 1999 to 2019. The colored bars indicate whether the latest results for the quarters were unchanged from the original filing, reclassified or restated. As evidenced by the below graph, the number of periods with financials that ultimately changed from the original is significant. Also noteworthy is the restatement behaviour during the 2008-2009 financial period, almost 40% of the companies ended up restating the financials for these fiscal quarters in a

future filing.

Chart 2: Original filings vs restated filings for the S&P Asia Developed Markets Index*



Source: S&P Global Market Intelligence Capital IQ Premium Financials, as of 26 August 2019. Chart for illustrative purposes only.

*Contains data for all quarters and not just Q2 and Q4. Labels for Q3 and Q4 have been omitted due to space constraints.

What is the effect of restatements?

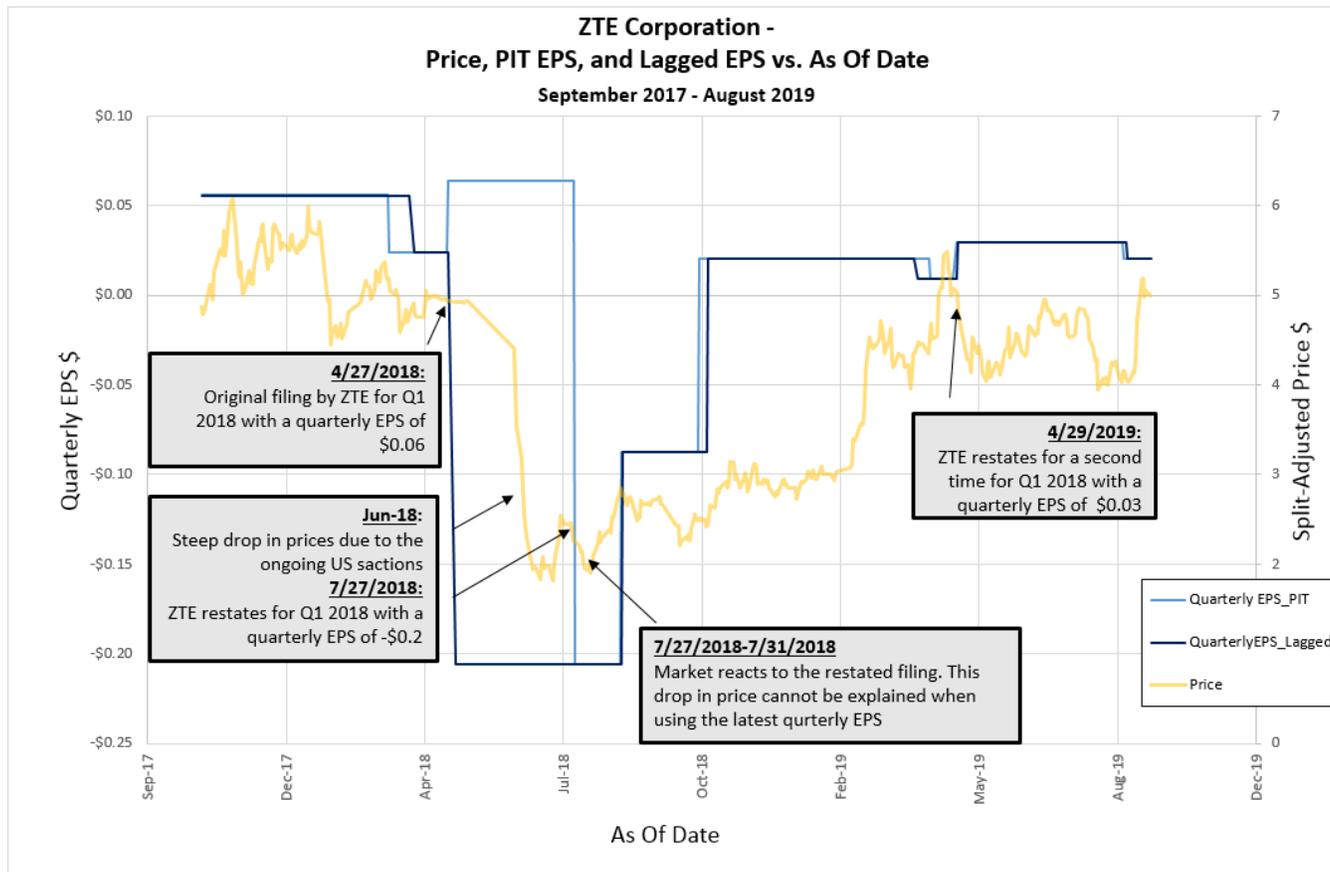
A restatement can cause changes in common ratios such as ROE, gross margin, net income margin, and the Altman Z-score. In the ZTE example illustrated above, the reported ROE changed from +16% to -51.6%. For the three months between the original filing and the first restatement, investors were trading on ZTE based on much more favorable results for the quarter than what was later reported.

The below chart plots ZTE’s stock price and the quarterly net diluted earnings per share (EPS) using two versions of fundamental data, S&P Global Market Intelligence Capital IQ Premium Financials (which are point in time in nature) (CIQ PIT) vs. latest financials. CIQ PIT calculates the EPS using the earnings data based on the numbers that were reported by the company as of that point in time, and the latest financials calculates the EPS using the final earnings data that the company has reported for the quarter, including restatements. We lagged the latest restated data to reflect how the latest restated figures are typically used as a substitute for CIQ PIT. The lag is an approximation of the quarterly filing timelines. For public companies listed on the Shanghai stock exchange, the quarterly reports should be filed with the China Securities Regulatory Commission within one month of the quarter end while semiannual and annual reports need to be filled within two and four months respectively.

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In July 2018 ZTE restated its Q1 2018 financials to report a net loss. As is evidenced by the graph there was a drop in the stock price⁵ from 23 July to 30 July 2018. CIQ PIT EPS experienced a drastic drop, unlike the latest EPS figure which remained unchanged between June 2018 to August 2018. Hence CIQ PIT EPS is a better measure to explain the stock price movement as compared to latest EPS.

Chart 3: Stock price and EPS data for ZTE Corporation



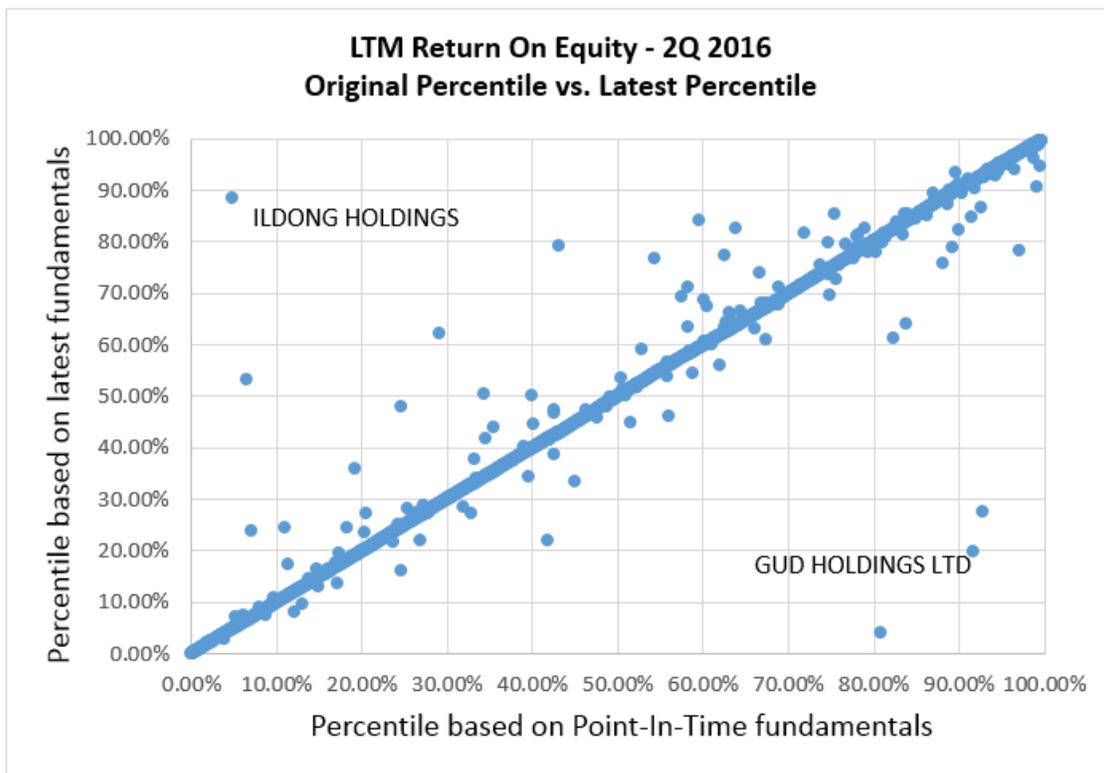
Source: S&P Global Market Intelligence Capital IQ Premium Financials, as of 26 August 2019. Chart for illustrative purposes only.

Are original vs. restated values noticeably different?

In the chart below, the ROE, calculated using the original filings vs the latest filings, is plotted for the companies in the S&P BMI Asia Developed Markets Index. Each dot represents a company’s last twelve month ROE based on their Q2 2016 filing. The x-axis represents the percentile rank of the stock based on originally reported results, and the y-axis represents the percentile rank of the stock based on the latest reported results including restatements, if any. Ranks that remained unchanged lie along the 45 degree diagonal. The further away the dots are from the 45 degree line, the greater the magnitude of the change in restatements for that company.

⁵ Source: “763-HK: ZTE Corp - Stock Price, Quote and News.” CNBC, CNBC, 13 November 2017, www.cnbc.com/quotes/?symbol=763-HK
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Chart 4: Original filing percentile vs Restated filing percentile for the S&P BMI Asia Developed Markets index



Source: S&P Capital IQ Point-In-Time Financials database, as of 26 August 2019. Chart for illustrative purposes only.

For example, the outlier point in the top left corner represents Ildong Holdings. Its original ROE ranked it in the top ~5% of companies in the index, and may have triggered investors to buy. However, it’s restated ROE is much worse in the 88th percentile, which may have caused investors to avoid or sell it. Whereas on the other side of the chart, GUD Holdings’ originally reported ROE placed it at the 92th percentile, but this changed to the 27th percentile after restatement.

This is a significant point when it comes to backtesting for screens or quantitative models, as the originally reported values for a period can be significantly different from the latest reported values. Artificial lags (e.g. 1/2/4 months for China, 2/3 months for the U.S.) is an approximation used by many researchers when PIT data is not available. However, such approximation does not provide the same quality that reflects reality that PIT data provides.

Conclusion

Using the charts above we have illustrated that restatements in the Asia Developed Market Index are significant and that these restatements can be materially different from the original filing. Sometimes companies can restate financials even years after the fiscal period is over. Solvency metrics like the Piotroski F Score, Benish M score and Altman Z-score use multiple line items from a company’s financial reports and, when used in quantitative analysis, can introduce significant look ahead bias.

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The Altman Z-score comprises of six financial line items including Revenue, EBIT, Working Capital, Total Debt, Retained Earnings, and Total Assets. Over the period 2000-2018 in the S&P Asia Developed Market Index, approximately 16% of the reported quarters had a measurable change in at least one of the Altman Z-score items between original and latest filings. When any one of the items change, look ahead bias can be introduced into a backtest that isn't using Point-In-Time data.

Actual performance results may differ from the results of a hypothetical backtest⁶, and look ahead bias is one of the reasons why. If research and testing is based on restated data with look ahead bias, it brings the research further from reality. It may inflate the backtest results and may lead to miscalibration of the model runs compared to actual production. If underlying assumption is that the market had access to restated data before it was reported, assumption is overoptimistic. While no backtest perfectly matches reality, the purpose of using PIT data is to make backtests come closer to how a strategy performs in real-life.

⁶ Back tested returns do not represent actual trading results and were constructed with the benefit of hindsight. Returns do not include payments of any sales charges, fees or expenses as such costs would lower performance. Past performance is not a guarantee of future results.
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