CLAY TOKENS
The Uniform Accounting Monthly Report

Deficiencies in GAAP/IFRS vis a vis Uniform Accounting — March 31, 2021

The Late, Great Whitman - Adjust for Stock Option Expensing and See Reality

Of all of the investors who achieved market-beating investment results in recent history, the late, great Marty Whitman was one of the most vocal critics of Generally Accepted Accounting Principles.

Whitman built impressive investment results over decades. While he accomplished this feat, Whitman also found time to call out the problems with as-reported financial statements under GAAP.

"GAAP is not truth or reality." - Martin J. Whitman

And of all his criticisms of GAAP accounting, the handling of stock option expenses may have been the issue that bothered him most. That's a tall statement.

Whitman acknowledged that Graham & Dodd, authors of the book, Security Analysis, stressed the need to adjust GAAP to determine true earnings. However, he often said that Graham and Dodd didn't go far enough. GAAP also needs to be adjusted to determine cash flows, assets, and liabilities. "In Fundamental Finance, the analyst always adjusts GAAP."

In other words, no investor ought to rely on GAAP-reported earnings, cash flows, assets, or liabilities. Period.

> *"GAAP and related accounting measures, unadjusted by the analyst, are almost always misleading…"* - Martin J. Whitman

The UAFRS framework highlights more than 130 of these adjustments necessary to fix GAAP numbers. Without these adjustments, income statement and balance sheet items provide incredibly misleading numbers for investors, creditors, and other users of the financial statements.

Presented to the UAFRS Advisory Council

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And of all the deficiencies in GAAP, the ridiculous stock option expensing rules can single-handedly make earnings an irrelevant number.

Whitman's examples and comments about GAAP's handling of stock option expenses were scathing because they were entirely accurate.

Current stock option accounting requires the company to determine the market value of the option and expense that option as compensation expense. However, the market value of the option is not the cost to the company. Certainly, there is some cost to the company, however the option's market value is not that.

In Modern Security Analysis, Whitman likens the stock option to an employee discount. Assume an employee buys a store's sweater priced at $100 with a discount of 40%. The employee pays $60. Following the thinking of current stock option accounting, GAAP would require the company to expense the $40 as employee compensation, given that the market value of the sweater was $100.

Forcing market values into financial statement line items distorts those statements when compared to the economic reality of a firm's activities. Also, the firm and the shareholders of the firm are not the same thing.

So, while additional options may at some point in the future be executed, more stock will be outstanding. That will certainly dilute the value of the total firm *to each individual shareholder.* However, it certainly does not reduce the value of the firm as a whole.

In fact, by issuing options, the firm has ostensibly avoided paying some cash compensation to employees and management. This is exactly the crux of the issue. The stock option expense should not, and cannot, be measured in terms of some cash-represented value such as the market value of the options specifically because the company issues the options in order to not have to spend that cash!

By issuing stock options, the earnings available to the firm for servicing debt, for funding additional growth, and even for hiring more employees, is increased by issuing options and avoiding cash compensation. Treating it as cash compensation is just silly.

Should the current shareholders of the firm consider the dilution of having additional outstanding stock options? Of course, they should.

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Should they estimate if the firm itself is more valuable by conserving cash and using options to recruit and retain management and employees than they would have otherwise? Absolutely.

Should shareholders view earnings as having fallen when stock option expenses have been calculated as having risen, where no cash impact to the firm exists?

Of course not.

This month we highlight three examples from three different industries wherein stock option expensing so terribly thwarts the reliability of earnings.

- Twilio, a telecom services firm
- Insulet, a medical devices firm
- Square, a payment processing firm

In the charts below, we show the difference between as-reported GAAP earnings and UAFRS-computed Uniform Earnings. While all of the 130+ adjustments have been applied, we show how stock options create super-material deteriorations from economic reality.

We also show that these three firms are innovators. Along with stock options, these firms also have super-material levels of research and development expenses. GAAP is particularly bad for innovative companies. To wit, Whitman noted how GAAP financial statements were "least useful in appraising companies whose value depends on inventions and discoveries."

In each case shown below, it's quite obvious the stock market does not and has not valued firms on GAAP earnings. This is apparent across a database of 32,000 companies wherein Uniform Accounting and GAAP Accounting differences are made obvious and visual, as seen here in three cases.

Just a note about our examples, Whitman might have chastised us for overly focusing on earnings. The assets and liabilities of the firm are also materially distorted under GAAP computations. However, for ease of the examples, we focus this month on just the earnings dislocations.

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The report name "Clay Tokens" comes from the earliest known form of accounting and bookkeeping and a foundation for tracking the earliest debits and credits. In this regard, Uniform Accounting is an attempt to get financial statements back to the foundations of the purpose of accounting… to be useful to the users of the accounting information. Clay Tokens is produced monthly by Valens Research on behalf of and for the UAFRS Advisory Council for Uniform Adjusted Financial Reporting Standards.

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TWLO – Twilio Inc.

- **TWLO's Uniform earning power has proven to be consistently positive, and has accelerated to more robust levels over the past several years**

- **The firm's stock price seems to move in line with Uniform-calculated earnings, with a material positive inflection starting in 2019**

- **Meanwhile, GAAP earnings have been negative and deteriorating over the same time period. Clearly, these standards are in total dislocation from the economic reality of the firm's strong performance.**

Since its IPO in 2016, TWLO shares have skyrocketed, rising from approximately $26/share to almost $330/share, an over 12x price appreciation. That said, according to the market, TWLO appears to be a firm that has seen consistently negative profitability, and not one with improving fundamentals which would warrant such success.

However, using Uniform Accounting, we can identify distortions such net income being artificially decreased due to GAAP treatment of stock options. Specifically, stock options are treated as an expense, rather than a non-cash dilution to equity holders, and as such TWLO sees profitability metrics that understate reality. As-reported metrics make the firm appear to have seen negative profitability levels, with EPS declining from -$0.78 in 2016 to -$3.35 in 2020. Meanwhile, UAFRS-adjusted metrics paint a significantly different picture of TWLO, where Uniform EPS has actually improved materially, rising from $0.34 to $1.24 in the same period, justifying stock price appreciation.

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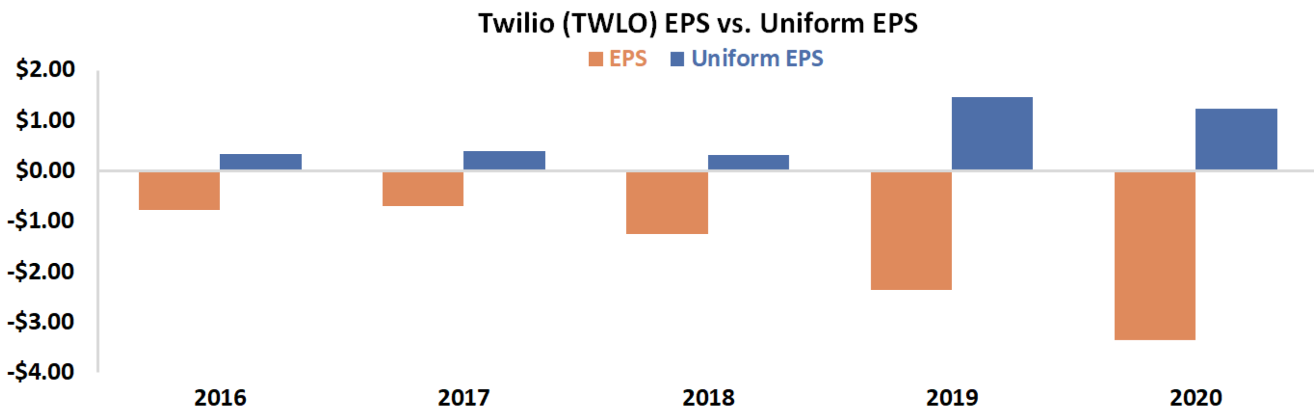

Source: CapitalIQ

Source: CapitalIQ

TWLO - Twilio Inc.	2016	2017	2018	2019	2020
R&D expense	68.3	102.7	136.7	275.1	368.6
Stock option expense	24.2	49.6	93.3	264.3	361.9
Uniform earnings	18.1	36.4	31.1	190.3	181.7
Net income	-41.3	-63.7	-121.9	-307.1	-491.0
% Variance	-328.2%	-275.0%	-492.0%	-261.4%	-370.2%
Uniform EPS ($)	0.34	0.40	0.32	1.46	1.24
As-reported EPS ($)	(0.78)	(0.70)	(1.26)	(2.36)	(3.35)
Uniform ROA vs ROA - Variance	111.8%	109.7%	157.5%	382.3%	458.5%

**in USD millions*

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PODD – Insulet Corporation

- **PODD's Uniform earning power has grown consistently more robust over the past few years**

- **In accordance to this UAFRS-based earnings trend, the market has rewarded the firm with gradual stock price appreciation**

- **Meanwhile, GAAP earnings have remained modest over this time period, and faltered in recent years, misleading investors into believing the firm has struggled to eke out a profit, when in reality the firm has seen strong performance**

Since 2018, PODD shares have increased significantly, rising from approximately $75/share to over $250/share, an increase of over 260%. That said, according to the market, PODD appears to be a firm that has seen muted profitability over the past three years, and not one with fundamental improvements warranting stock appreciation.

However, using Uniform Accounting, we can identify distortions such as a firm's expenses being overstated due to the treatment of R&D expenses, as is the case with PODD, which substantially suppresses profitability metrics. Due to its material R&D investments, as-reported metrics make the firm appear to have historically struggled to achieve profitability, with EPS ranging at muted $0.06-$0.19 levels after first turning positive in 2017. Meanwhile, UAFRS-adjusted metrics tell a completely different story for PODD, showing a firm that had seen its R&D investments lead to more robust Uniform EPS in recent years, improving from under $0.60 in 2018 to almost $1.80 in 2020, justifying its recent stock performance.

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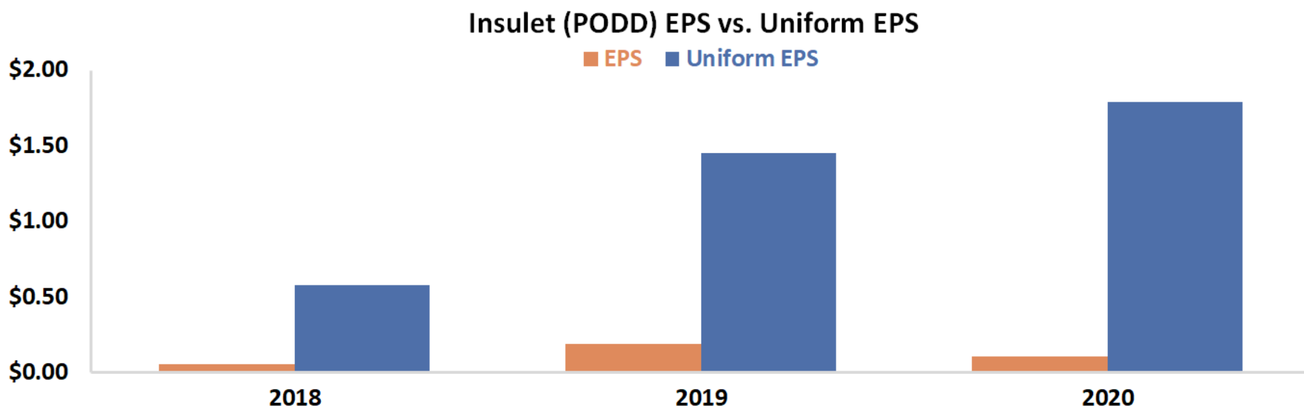

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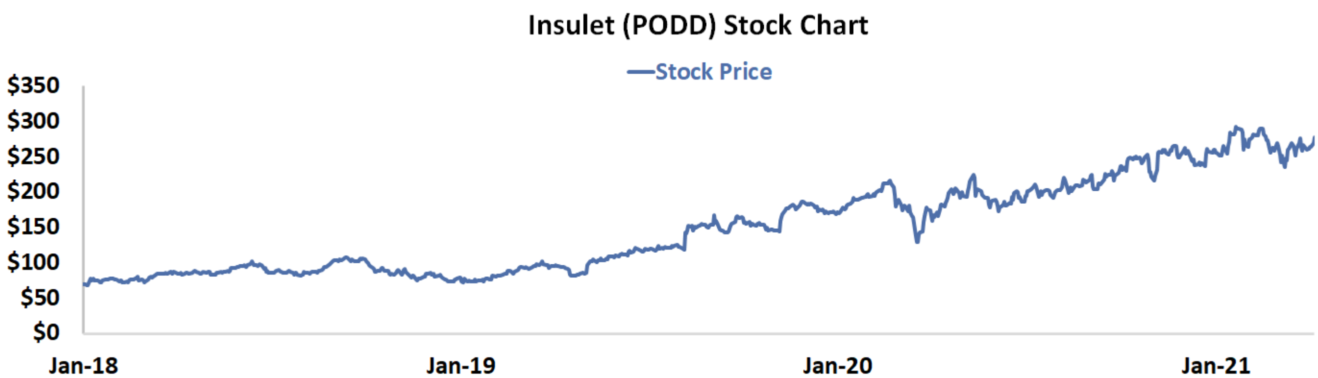

Source: CapitalIQ

PODD - Insulet Corporation	2018	2019	2020
R&D expense	86.6	123.2	135.9
Stock option expense	37.5	28.7	35.9
Uniform earnings	35.2	90.3	117.8
Net income	3.3	11.6	6.8
% Variance	-90.6%	-87.2%	-94.2%
Uniform EPS ($)	0.58	1.45	1.79
As-reported EPS ($)	0.06	0.19	0.11
Uniform ROA vs ROA - Variance	52.2%	125.8%	168.2%

**in USD millions*

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SQ – Square, Inc.

- **SQ has seen its Uniform earnings power improve steadily to robust levels over the past several years**

- **In line with this strengthening UAFRS-based earnings trend, the firm's stock price has seen a material increase, massively rewarding investors**

- **Meanwhile, GAAP earnings had been negative for much of the same time period, before briefly inverting to robust levels, and subsequently faltering once more. These earnings figures totally misrepresent the economic reality of the firm's powerful performance.**

Since 2016, SQ shares have seen a meaningful stock price appreciation, rising from about $11/share to over $210/share, an increase of almost 20x. And yet, to the market, SQ appears to be a firm that has historically struggled to remain profitable, which would fail to justify the company's stock performance.

That said, using Uniform Accounting, we can identify how distortions, including the mistreatment of both stock option expense and R&D expense under GAAP accounting, are causing SQ's net income to be artificially decreased, substantially understating the firm's profitability metrics. Due to its R&D investments and use of stock options, as-reported metrics make the firm appear to have first achieved profitability in 2019, before seeing a subsequent collapse the year after. Meanwhile, UAFRS-adjusted metrics paint a significantly different picture of SQ, showing a firm that has seen consistently positive and improving profitability, with EPS rising from $0.22 in 2015 to almost $1.20 in 2020, justifying its rapid stock price rise.

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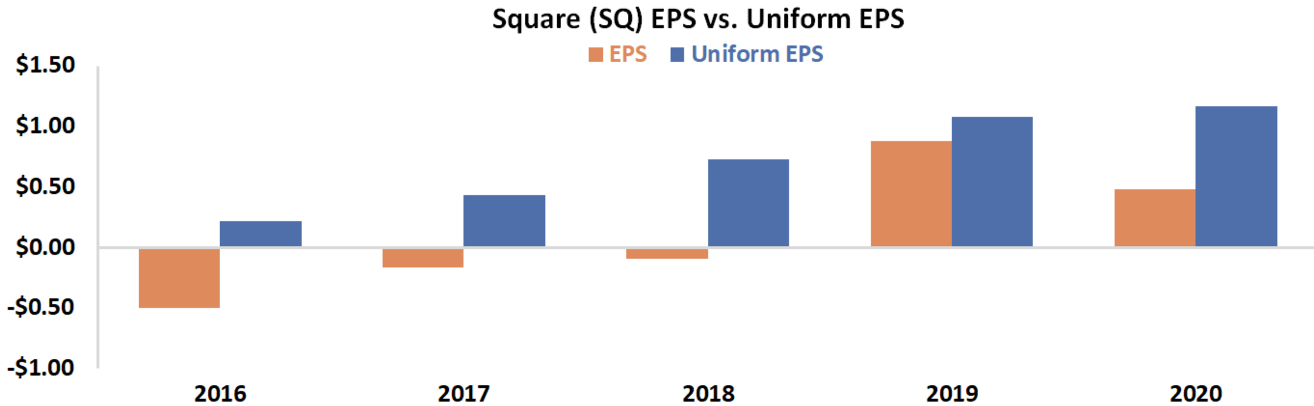

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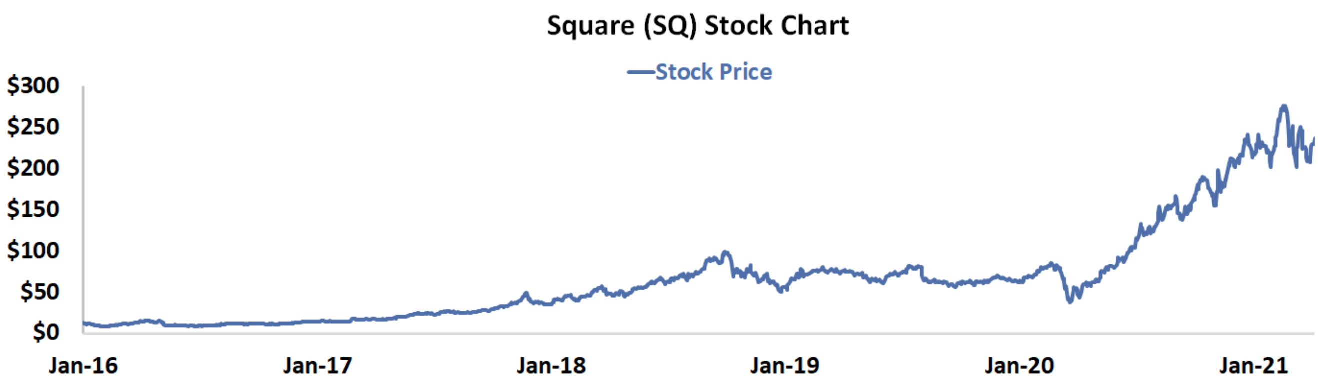

Source: CapitalIQ

SQ - Square, Inc.	2016	2017	2018	2019	2020
R&D expense	185.2	230.1	360.0	466.7	603.4
Stock option expense	138.8	155.8	217.8	297.9	397.8
Uniform earnings	76.1	164.0	295.7	501.1	563.2
Net income	-171.6	-62.8	-38.5	375.4	213.1
% Variance	-325.4%	-138.3%	-113.0%	-25.1%	-62.2%
Uniform EPS ($)	0.22	0.43	0.73	1.08	1.17
As-reported EPS ($)	(0.50)	(0.17)	(0.09)	0.88	0.48
Uniform ROA vs ROA - Variance	72.5%	59.8%	82.4%	19.2%	68.7%

in USD millions

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Uniform Accounting Glossary

Asset' – Net Asset' is calculated as Net Working Capital + Long Term Non-Depreciating Operating Assets (including Land and Non-Depreciating Operating Intangible Assets, excluding Goodwill and other acquisition-related Intangible Assets) + Inflation-Adjusted Net PP&E + Net capitalized R&D + Net Capitalized Leases + Net Depreciating Operating Intangible Assets

Earnings Call Forensics™ – Valens Research analysis includes a powerful proprietary process for studying and evaluating representations made by management during quarterly earnings calls and other public events. Valens uses tools and systems that other sell-side firms and credit agencies have been either unwilling or unable to use. Their reluctance to use these technologies often stems from their fear of endangering their relationships with management teams.

iCDS – Valens calculates proprietary, Intrinsic CDS (Credit Default Swap) for thousands of firms as their fundamentals change. Early markers can be invaluable in predicting price movements, particularly when seeing credit quality changes where no CDS are traded, where speculative or illiquid CDS fails to provide reliable information, or where rating agencies are too slow.

Most Compelling Earnings Call Forensics™ Inflections – Companies where Earnings Call Forensics™ (ECF™) has identified large shifts in management sentiment from quarter-to-quarter. The ECF™ Ratio above highlights the rate of incidence of Highly Confident and Excitement markers relative to Highly Questionable markers. The higher on the list a name appears, the larger the recent inflection between their two most recent ECF™.

Most Compelling Long Ideas – The most compelling long ideas based on all five proprietary value drivers: UAFRS-adjusted ROA, Asset' Growth, V/A', V/E', and TSRr. These are companies that Valens maintains a positive outlook on, relative to current market valuations. The higher on the list a name appears, the more positive Valens' opinion of the name is, based on our fundamental factors.

UAFRS-adjusted ROA – UAFRS-adjusted ROA is a cleaned up Return on Asset ratio, used to understand the operating fundamentals of the company. UAFRS-adjusted ROA is Earnings' divided by Asset'. Earnings' is calculated as Net Income + Special Items + Interest Expense + Depreciation and Amortization Expense + R&D Expense + Rental Expense + Minority Interest Expense + Pension Charges + LIFO to FIFO adjustments + Stock Option Expense + Purchase Accounting Cash Flow Adjustments - Non-Operating (Investment) Income - Asset Life Based Charge on Depreciating Assets. Asset' is Net Asset', or Net Working Capital + Long-Term Non-Depreciating Operating Assets (including Land and Non-Depreciating Operating Intangible Assets, excluding Goodwill and other acquisition related Intangible Assets) + Inflation Net PP&E + Net Capitalized R&D + Net Capitalized Leases + Net Depreciating Operating Intangible Assets.

UAFRS-adjusted ROA Momentum – UAFRS-adjusted ROA momentum is Valens' metric to understand the change in projected UAFRS-adjusted ROA and earnings momentum. This metric analyzes what the first forecast year projected UAFRS-adjusted ROA was one month ago, and what the projected UAFRS-adjusted ROA is today. This helps in identifying companies where analyst expectations for fundamentals are improving, and companies where analyst expectations for fundamentals are growing more negative.

TSRr – Total Shareholder Returns (TSR) Relative are traditionally known as the capital gains of the stock, adjusted for any stock splits or similar action, plus dividends, over some period of time. No adjustments are made to the well-known standard calculation. TSRr calculates the TSR relative to the performance of the S&P 500 in the USA, or some other major market index if more relevant when examining companies in other countries.

V/A' – V/A' is a cleaned up Enterprise Value to Net Asset ratio, used to understand the multiple on Net Asset that the debt and equity markets value the company at. Generally, businesses that produce higher UAFRS-adjusted ROA's and have no credit concerns or other reasons to believe they are not "going concern" businesses trade at higher V/A'. V is

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Enterprise Value', defined as Market Cap + Minority Interest + Adjusted Book Debt - Excess Cash. A' is Net Asset', or Net Working Capital + Long-Term Non-Depreciating Operating Assets (including Land and Non-Depreciating Operating Intangible Assets, excluding Goodwill and other acquisition related Intangible Assets) + Inflation Net PP&E + Net Capitalized R&D + Net Capitalized Leases + Net Depreciating Operating Intangible Assets.

V/E' – V/E' is a cleaned up Enterprise Value to Earnings ratio, used to understand the value the debt and equity markets ascribe to the company's cash flows. V is defined as Enterprise Value', which is Market Cap + Minority Interest + Adjusted Book Debt - Excess Cash. E' is defined as Earnings Prime. Earnings Prime is calculated as Net Income + Special Items + Interest Expense + Depreciation and Amortization Expense + R&D Expense + Rental Expense + Minority Interest Expense + Pension Charges + LIFO to FIFO adjustments + Stock Option Expense + Purchase Accounting Cash Flow Adjustments - Non-Operating (Investment) Income - Asset Life Based Charge on Depreciating Assets.

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