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Financial analysis

Abstract

This performance appraisal is aimed to demonstrate my understanding of Microsoft’s financial statements and their performance based on the financial model I have created. I will be discussing basic financial metrics like profitability and efficiency ratios in this document.

**Revenue Analysis:**

One of the first key metrics to observe when undertaking a performance appraisal of financial metrics is revenue growth. The raw data presented in the 10K filing conveys an average growth in revenue of 16% from 2019 to 2021. A closer inspection of each contributing sector[[1]](#endnote-1) illustrates the key drivers of year-on-year growth for MSFT, starting with Office products and Cloud Services accounting for nearly 30% of revenue in this period. This was caused by growth in sales from Azure and Office 365 Commercial by 51% and 25% respectively. Although Gaming has contributed heavily[[2]](#footnote-1), Xbox content and services revenue has decreased by around 4% in the last quarter, despite large growth in previous quarters stemming from the success of the Flight Simulator release. However, it can be expected that gaming will increase again with the release of Halo Infinite and other games such as: Call of Duty: Vanguard, Battlefield 2042, and Back 4 Blood. The increase in Xbox live users will offset earlier losses in the year and the increased demand for consoles (Hardware Revenue) will continue into the holiday season.[[3]](#footnote-2) Another major driver of revenue growth was LinkedIn, accounting for nearly 10% of total Revenue on its’ own[[4]](#endnote-2). The acquisition of LinkedIn is turning into a profitable investment as it generated over $10 billion in annual revenue for the first time, contrasting its poor returns prior to its’ acquisition in 2015.

Based on the forecasts provided in the corresponding financial model, Revenue can be expected to grow by a moving average of 17%-20% from 2022 to 2024, in a best-case scenario. A worst-case scenario would see revenue grow by only 13% in that same period. Sectors like Windows have displayed subpar relative growth and sectors like Surface appear to be struggling with the global chip shortage, which may instigate a worst-case scenario. However, it can be expected that revenue growth will be closer to a base case given the large gains made by Cloud Services in recent quarters, should these other sectors continue to underperform. It should be noted that Microsoft Cloud’s expansion into Asian markets indicate exponential growth given the budding scale of cloud infrastructure and investments being established.

**Margins and Operating Profitability:**

Moving on from the analysis of raw data, the next set of financial metrics to be inspected are: Gross Margins, Operating Margins, Cost-Income Ratio, Asset Turnover, and ROCE. These metrics will help paint a better picture of the operating profitability and efficiency of MSFT.

Timeline

Description automatically generated **Gross Margin:** The average gross margin from 2019-2021 was 68%, indicating a highly effective conversion of revenue to Gross Profit. Additionally, this margin grew roughly 2.3%, from 2019, which suggests that gross profit margins are widening. In comparison to competitors such as Apple (43%) or even Amazon (40%), Microsoft is well ahead in relative performance. This was driven strictly by the increase in revenue from factors previously discussed. While revenue grew by 17.5% from the previous year, the cost of goods sold has also increased by roughly 13.5%, seemingly from sectors that suffered as a result of inflation or the current chip shortage. Additionally, increasing the scale of operations in white space markets may account for a large portion of this proliferation. Although, the chip shortage is expected to ameliorate by early to mid 2022, it can be anticipated that COGS will continue to increase for most hardware-based revenue streams utilizing semiconductors, resulting in narrower gross margins from these sectors.

**Cost-Income Ratio:** From 2019 to 2021, the Cost-Income Ratio has decreased significantly (by nearly 5.3%), which indicates that the company’s operating expenses are absorbing less of its’ profits and generating higher gross margins. This is despite considerable increases in Opex, stemming from larger expenditures in R&D as well as sales & marketing. This is a positive indicator as general and administrative costs decreased from 2020, suggesting higher efficiency in operations and more effective allocation of budgets towards growth and innovation.

**Operating Margin:** The operating margin confirms the general trend of Microsoft’s other profitability ratios, in that they have improved management of Opex while simultaneously increasing Asset Turnover. What can be expected is a general increase in ROCE which will be discussed further. The operating margin increased at a higher rate than the gross margin as the CIR decreased significantly, which is another positive indicator cost-efficiency. This can be further observed in the financial model through the calculations of DSO, DPO, and DIO. As per relative valuations, Microsoft has a significantly higher Operating Margin than the industry average reported by Reuters. Microsoft is currently generating an operating margin of 44% while the industry average was reported to be around 17%, and the average of tech stocks within the S&P500 are currently only generating around 24%.

**Asset Turnover:** Asset Turnover grew exponentially from 2020 to 2021 and appears to have greatly impacted the growth of ROCE within that period. The growth in Asset Turnover appears to have had a larger influence on ROCE growth than the change in Operating Margins, particularly Non-Current Asset Turnover. The tension between Asset Turnover and Operating Margins within the context of Microsoft’s ROCE appears to be due to their steady pricing model which has not changed for over a decade until the recent announcement taking effect in March of next year. This ‘tension’ is due to elastic changes in demand as sales is not a constant figure, indicating that pricing must also change in order for operating margins to increase at a similar rate.

**ROCE:** Microsoft has increased their Capital Employed by roughly 13% from 2019 to 2021, and correspondingly their ROCE has also increased by around 9% in that same time frame. This is a positive indication about the profit generating capability of the company to its’ shareholders, which has been reflected its’ share price[[5]](#footnote-3). It can be interpreted that Microsoft is increasing their scale of operations and that they will continue to increase their Net-Working Capital, and as a result of their effective ROCE-greater revenue can be expected. In relation to other similar tech stocks, Microsoft has a lower ROCE than Apple (44%) but much higher than Amazon (12%)- and is outperforming the industry average of roughly 10%.

**Returns to Owners:**

After examining multiple profitability ratios, the next step is to examine operating performance regarding the company’s financial leveraging and what investors can expect based on their performance.

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**Net Profit Margin:** The Net Profit Margin has increased from 2019 to 2021 by roughly 5% while Net Income increased by 56% in the same period of time. Given the 27% pay-out ratio in the current fiscal year, this is highly encouraging for potential and current shareholders. These profits are being reinvested in capital expenditures in the form of PP&E- namely through global expansion for data centres in Asia. This should boost its highest earning sector (Cloud servers) exponentially in coming years. In relative terms, Microsoft is outperforming the industry average of 11.15% TTM.[[6]](#footnote-4)

**Financial Leverage Multiplier:** The Financial Leverage Ratio indicates that MSFT has increased the weightage of Equity in Capital Employed while simultaneously decreasing the weightage of non-current liabilities. This indicates lower risk and is on par with the increase in the interest coverage ratio. The current gearing structure would suggest a lower Weighted Average Cost of Capital and would be highly useful in discounting cash flows for capital budgeting purposes.

**Interest Cover:**  Although the interest coverage ratio has increased significantly from 2019-2021, this is before capital expenditures have been deducted from EBIT calculations as it is a real expense that is incurred. After adjustment, the interest coverage ratio would indicate that it is roughly 79% rather than the 126% before adjustment. However, this is still a high level of coverage which is a positive indicator to lenders and shareholders about the liquidity and the efficacy of their debt utilization. The reinvestment of profits into growth sectors while maintaining high interest coverage is ideal for investors.

**ROE:** Finally, the decomposition of ROE using the DuPont method- substituting Total Assets for Capital Employed[[7]](#endnote-3)- will help depict the company’s efficiency in generating profit from equity capital. ROE has increased by roughly 12.5% while capital employed increased by 12.9% indicating that the efficient use of Shareholder capital has increased on a yearly basis. In the same time frame, Financial Leverage has decreased indicating that the increase in ROE was not a result of higher gearing. Based on the work of Frank K. Reilly, it has been established that the aggregate driver of ROE during inflationary periods is the profit margin achieved by the company. Typically, Asset Turnover and Profit Margins will decrease but losses are offset by increases in Financial Leverage. When the Fed announced Quantitative Easing and Expansionary policies being implemented, the monetary shock effect[[8]](#footnote-5) would have accounted for a large part of Microsoft’s exponential revenue growth and increase in share price- which can be seen through the increase in Equity from the previous year. However, as the US economy has surpassed every inflation target set by the Fed, with CPI estimates indicating that Tech sector prices have inflated by nearly 4 points[[9]](#endnote-4), it can be expected that margins will begin to decrease as COGS will increase. Moreover, the elastic pricing relation between Asset Turnover and Operating Margin will suffer unless prices are adjusted accordingly, suggesting that prices could be dynamically adjusted with inflation rather than the basic increase set for early 2022. This would offset the inflationary effects suggested by Frank Reilly, but with the Microsoft’s current ROE, it isn’t necessary. That being said, ROE may fall slightly as a result of poorly adjusted prices but will remain far ahead of the industry TTM average of 15%.

**Forecast:** In the financial model attached, there are three forecast scenarios that can be selected from to provide a more accurate forecast depending upon how the coming fiscal quarter goes. It is likely that due to the aforementioned factors, the most plausible scenario falls between a base case and best case up until mid 2022. While the Fed has no intentions of tapering, Microsoft’s Equity Capital will continue to increase and due to its’ efficiency in generating net profit from equity- Net profit will continue to increase. The margin at which Net Profits are generated may decrease given the increasing CapEx and COGS that will be incurred in the coming year [[10]](#footnote-6).

Appendix

1. [↑](#endnote-ref-1)
2. Gaming has accounted for an average of 15% of total revenue and grew roughly 4% from last year [↑](#footnote-ref-1)
3. An important point to note is the upcoming cloud gaming service (XCloud is currently in beta stages) that will allow users to stream and play console games on PCs. This should reduce the COGS associated with hardware revenues for Xbox and address the current chip shortage. [↑](#footnote-ref-2)
4. [↑](#endnote-ref-2)
5. The share price opened at $99.55 in January of 2019 and is currently opening at 282.12 [↑](#footnote-ref-3)
6. All industry averages used for relative valuations have been taken from Reuters [↑](#footnote-ref-4)
7. Diagram

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8. Based on the Theoretical framework of Willem Thorbecke’s VAR Model (1997) [↑](#footnote-ref-5)
9. Chart, line chart

   Description automatically generated [↑](#endnote-ref-4)
10. (inflationary increases in COGS, chip shortage, and expanding data centres) [↑](#footnote-ref-6)