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## **Lab 1**

I chose to analyze Microsoft and Apple because I am interested in the strength of firms in the technology sector. From a young age, I have been advised to avoid investment in the technology sector as this is Warren Buffet's philosophy. However, I am curious as to if we may analyze the financials and make a safe investment based off of this information. As recommended, I will analyze the trends in sales, net income, long term debt and SGA as a % of sales, cash flow from operations and free cash flow in order to make a conclusion whether an investment in Apple or Microsoft is safe.

### **Sales Growth (%)**

When observing sales growth, there is an obvious winner between Apple and Microsoft. Apple's sales growth since 2007 has maintained positive with 2010 being the best year with an 80% growth. Microsoft, on the other hand, has experienced several years of negative sales growth and a best sales growth of around 17% in 2008. One thing to consider is the strategy of each firm. Apple may be strategizing to maximize sales growth while Microsoft may be attempting to cut costs with less concern of sales growth. However, to conclude with regards to the technological industry as a whole, we notice no clear trend with either company. In fact, the trend is extremely inconsistent suggesting that technological investments are not a safe bet.

### **Net Income Growth (%)**

We notice the trends of net income growth follow sales growth trends very closely. However, Net income has a larger % change amount. It is obvious from our calculations that, once again, Apple is much stronger with regards to net income. However, despite sales growth in 2013, Apple experienced a negative net income growth. To conclude, we notice a strong inconsistency in trends with net income growth in the technological sector.

### **Long-Term Debt Growth (%)**

An interesting outcome came about when looking at long-term debt growth. It seems that both firms have been avoiding investments in long-term debt growth. In fact, since 2007, Apple hasn't accumulated any additional long-term debt. Finally, in 2014 and 2015, long term debt growth grew by over 70% for both years. Microsoft, however, has experienced long-term debt grown since 2010 (when our starting point is 2007). In particular, in 2011, a huge purchase was made that caused long-term debt to grow 140%. It is stated on the Microsoft 10-k report of 2011 that "We issued debt during the periods presented to take advantage of favorable pricing and liquidity in the debt

markets, reflecting our superior credit rating and the low interest rate environment. The proceeds of these issuances were used to partially fund discretionary business acquisitions and share repurchases." To conclude, I once again have little faith in the technological industry because of the inconsistency in long-term debt growth. However, if I had to choose, I suppose I would feel more comfortable with Apple's long-term debt growth because it is unnoticeable until they have more recently gained confidence in 2014 and 2015.

### **SG&A Expense as a % of Sales Growth (%)**

SG&A expense as a percent of sales growth (%) for both firms is fairly inconsistent. However, they do trend with each other and my guess is that this is due to the cost trends of sales, growth and administrative expenses. We do notice that Apple's percent change is much larger than Microsoft on average. This could cause for concern with Apple because it implies a greater inconsistency with SG&A costs and sales than Microsoft. Once again, the trend is inconsistent within the technology industry. However, it is more assuring when we notice equal random trends amongst different companies of the same sector.

### **Operating Cash Flow Growth (%)**

When observing operating cash flow growth, we notice Apple is the winner. With much stronger percentage growths, this indicates that Apple is accumulating a greater amount of cash from year to year. However, it is interesting that we again notice no clear trend in the industry. In fact, it is very concerning that the most recent years have a negative operating cash flow growth.

### **Free Cash Flow Growth (%)**

The trends of free cash flow growth follow the trends of operating cash flow growth for both firms. This is logical as both equations are regarding cash within the firm. Therefore, Apple once again looks strong as on average the growth percent is large and positive until 2015. However, because no clear trend within the industry is seen, I would once again conclude that investing in the technology sector is not wise.

To conclude, we notice some interesting trends amongst growths in Apple and Microsoft allowing us to make a decision about investing in technology. I believe Apple's growth is much larger and more positive, but it does seem to be more inconsistent with much larger jumps of growth from year to year. Microsoft experiences much smaller changes in growth from year to year and a smaller growth in general. With the information we analyzed, I would probably conclude with investing in Microsoft over Apple because I feel better about the smaller deviations in growth from year to year. This implies it is a safer bet in an already unsafe market of technology. Additionally, I have a personal biased

towards Microsoft because I believe their products are better and lower priced. I think the real conclusion I obtained from this analysis is to not invest in technology at all! If an individual is an employee for one of these firms, it may be logical for them to invest in one of these firms because they understand the market and strategies. However, as an outside investor, I conclude that neither company is a safe investment because of the strong inconsistency.