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Stock: Apple

Executive Summary:

Apple Inc. is a multinational technology company that designs, manufactures, and sells consumer electronics, software, and services, including the iPhone, iPad, Mac, Apple Watch, and various software applications and services. As of the last knowledge update, Apple Inc. is considered a large-cap stock with a market capitalization well above \$10 billion. Its stock has exhibited characteristics of both growth and value stocks, with consistent innovation, a strong product lineup, and robust earnings growth. However, its valuation metrics have varied over time, reflecting elements of both growth and value investing.

Deciding whether to buy or sell Apple Inc. involves a comprehensive analysis of factors such as the company's financial health, growth prospects, industry trends, and overall market conditions. Investors may buy a stock based on expectations of future growth, strong financial performance, or positive industry trends, or sell a stock if they believe the company faces challenges, the stock is overvalued, or there are changes in market conditions.

Macro Factors:

Apple Inc. faces various macro factors that have long-term impacts on its operations, including evolving tech regulations, intensifying competition, global economic conditions affecting consumer spending, and shifts in consumer preferences for devices and

services. These factors include global economic trends affecting consumer purchasing power, regulatory environments affecting technology and trade, technological advancements influencing product development, and geopolitical stability affecting supply chains and market access. Additionally, societal shifts in technology preferences and attitudes also shape Apple's macro environment. Apple's annual and quarterly reports provide insights into these macro factors.

Industry level factors

Competitors:

Competitive Landscape: In the dynamic and ever-evolving landscape of technology, the art of strategic planning becomes paramount for companies aiming not only to survive but to thrive during fierce competition. As a tech giant with a substantial customer base, Apple has an array of products, including watches, phones, computers, headphones, etc. The challenge lies not just in creating innovative offerings but in effectively communicating and catering to consumers in each of these distinct markets.

In this multifaceted industry, where trends shift rapidly and consumer expectations evolve, Apple must navigate the delicate balance of anticipating and responding to emerging needs. It's not merely about offering cutting-edge technology but about crafting a complete brand experience that resonates with users across various product categories. This demands a strategic approach that goes beyond product development, marketing, user experience, and ecosystem integration.

As competitors fight for attention and market share, Apple's ability to differentiate itself through thoughtful planning and a deep understanding of consumer dynamics becomes a critical factor. The company's journey involves not just keeping pace with technological advancements but also staying attuned to the subtle shifts in consumer behavior that can spell the difference between success and failure in this technological landscape.

Smartphone Competition: Apple faces formidable competition in the smartphone sector, primarily from industry giant Samsung, which commands the top spot with an impressive 20% market share. Apple is in close pursuit with a substantial 17%, trailing Samsung by a margin that becomes more pronounced when considering competitors like Xiaomi at 12% and OPPO at 10%. While the 3% difference may appear modest on the surface, a closer look at the sheer volume of product sales underscores the substantial challenge Apple must overcome to outpace Samsung. Even as Apple demonstrates profitability, Samsung's dominance in the smartphone market remains firm.

Computers and Market Impact: Examining Apple's performance in the computer market. Apple ranks fourth in the second quarter of 2023 with a market share of 8.6 %, trailing behind Dell Technologies at 16.8 %, HP Inc at 21.8%, and Lenovo at 23.1%. The hierarchy among these industry giants underscores the intense competition and strategic maneuvering within the realm of computer sales. For Apple, this positioning signifies both challenges and opportunities. While it stands as a significant player, the numerical gap between its market share and that of the top contenders emphasizes the need for strategic initiatives to enhance its position. Whether it's through innovation, market insight strategies, or ecosystem integration, Apple faces the task of navigating this competitive landscape with agility and foresight.

Diversified Services and Market Share: Apple actively participates in the flourishing online services sector, that includes Apple Music, Apple Fitness, Apple TV, Apple Arcade, and more. In this fiercely competitive landscape, Apple's services encounter formidable rivals, with Spotify leading the charge and holding a substantial 30.5% share of the music streaming market. In the race for subscribers, Apple Music emerges as a robust contender, boasting a 13.7% subscription rate. The competition intensifies further with notable players in the music streaming domain. Tencent Music follows closely behind with a 13.4% share, while Amazon Music and YouTube Music secure 13.3% and 8.9%, respectively. This intricate web of market shares showcases the dynamic nature of the online services sector and the diverse array of choices available to consumers.

Customers:

Understanding Apple's marketing strategies requires a closer look at its target audience. The pricing of its products suggests a focus on the middle to upper-class Consumers, acknowledging their capacity to invest more in an enhanced user experience and better product quality. The United States is their biggest market, following Europe and China. Analyzing the demographic breakdown of Apple users from a 2019 survey reveals a relatively balanced gender distribution. Research indicates that 51% of Apple users are women, and 43% are men and 6% are unknown. Over the past decade, there has been a substantial year-on-year increase in the number of Apple users. This upward trend underscores the brand's enduring appeal and market growth, signaling sustained relevance and popularity.

In 2010, Apple boasted a user base of 60 million, a seemingly modest figure at the time. However, the stark contrast with their current standing of 1.56 billion users represents

an astounding surge in user adoption over the years. This exponential growth underscores the remarkable trajectory Apple has navigated in expanding its global reach. Integral to this success is Apple's unparalleled brand loyalty, a factor evidenced by its customers' consistently high repurchase rates, particularly in the realm of iPhones. This loyalty is a standout feature, surpassing that of any other competitor in the market. The enduring commitment of Apple users has translated into a string of successful quarters for the company, solidifying its position as a market leader with a dedicated and expanding customer base.

Suppliers:

Establishing a robust relationship between a company and its suppliers is pivotal for producing top-tier products in the market. Suppliers play a critical role throughout the entire life cycle of products by providing essential goods and services. Their responsibility spans sourcing raw materials, and having a reliable supplier proves instrumental in ensuring the seamless operation of a business. This includes expediting production processes and identifying superior-quality raw materials. The foundation of a strong supplier relationship is indispensable for companies striving to consistently deliver high-quality products at competitive prices.

Apple Inc heavily depends on their network of suppliers for both products and services. In 2022, Apple allocated a significant 98 percent of its direct spending towards materials, manufacturing, and product assembly, engaging with its top 200 suppliers around the world. Given Apple's prominent position in the tech industry, the company demands excellence and imposes stringent terms on its suppliers. This commitment to quality and rigorous standards underscores the symbiotic nature of the relationship, where both the

company and its suppliers play integral roles in delivering products that meet and exceed market expectations.

Apple's essential suppliers are strategically secured in exclusive long-term agreements, often featuring prepayments during negotiations. This strategic approach empowers the tech giant to negotiate favorable pricing terms, secure critical raw materials, or components, and maintain consistent high-volume production. Apple's extensive network includes hundreds of manufacturing partners across regions such as Taiwan, China, Malaysia, Vietnam, and the US. Employing a diversified supply chain strategy, Apple secures multiple suppliers for the same components, providing several advantages. This includes the flexibility to scale production in response to consumer demand, reduced supply costs due to competitive dynamics, and exclusivity preventing competitors from accessing the same manufacturing capacity.

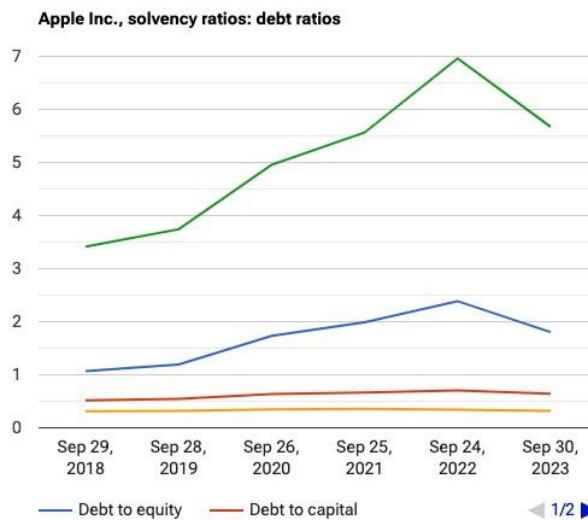
Apple Inc stands as one of the globe's premier technology enterprises, owes a significant portion of its success to an extensive network of reliable suppliers. The symbiotic relationships cultivated through strategic agreements and diversified partnerships have played a pivotal role in ensuring the stellar performance and efficiency of Apple's products.

Firm level factors:

- Risk and Return Analysis: After analyzing Apple's stock, I found various risks and returns that have affected the company's overall growth. One of the risk factors associated with Apple's stock is the competition amongst other stocks within the market. In addition, if there is a decline in the number of iPhones sold, that would drastically

affect Apple's stock, considering that most of their revenue comes from the iPhone. Apple's stock beta is currently 1.31, showing the company is at high systematic risk. Some of the returns that have affected the company's growth are the growth the company produced, given the new iPhone and its sales in China. In addition, Apple's "trailing price to earnings" is 17.1, above average when showing their returns. Apple's current returns are 51.47% yearly. In the last 12 months, Apple returns were 37.96%. Apple's return on assets is 27.5%, and its return on equity is 1.7195.

- Capital Budgeting (asset) Analysis: Given the ratio of capital expenditures over total assets, which is 0.69/1.09 according to the Apple balance sheet. After analyzing the balance sheet and online reports, Apple's capital expenditures are predicted to decrease. This is also a result of Apple's revenue reducing by 1% each year.
- Financing (Liability) Analysis: Apple's debt-to-equity ratio in the past five years ranges between a minimum of 0.9732 in 2018 and increased to 2.370 in 2022. Apple's interest coverage ratio from 2019 until 2023 is 30.4x. Apple's interest coverage ratio went from -18.3% in 2019 to -1.1% in 2023. One increase occurred in the middle of this period from 2020, which was 29.1% to 78.5% in 2021. Apple's current ratio as of September 30, 2023 is 0.99. The chart below shows that Apple's debt-equity has decreased over the past few years while the debt capital has been reduced slightly compared to the industry's norm.



Valuation analysis

1. Value and Value Added

Market Capitalization = (# of shares) x (price per share)

Market Capitalization = 15,943,425,000 x 176.08

Market Capitalization = 2,807,318,000,000

Market Value Added (MVA) = market capitalization - equity Book Value

MVA = 2,807,318 - 50,672

MVA = 2,756,646 million

Market to Book Ratio = market value of equity / book value of equity

Market to Book Ratio = 2,807,318 / 50,672

Market to Book Ratio = 55.40176

2. Measuring Profitability

Economic Value Added (EVA) = Residual Income = net income - [cost of equity x equity]

$$\text{EVA} = 99,803 - (.0955 \times 50,672)$$

$$\text{EVA} = 99,803 - 4,839.176$$

$$\text{EVA} = \$94,963.824 \text{ million} = \$94,963,824$$

Return on Equity (ROE) = net income / equity

$$\text{ROE} = 99,803 / 50,672$$

$$\text{ROE} = 1.9695887$$

Return on Assets (ROA) = (net income + interest) / total assets

$$\text{ROA} = (99,803 + 2,825) / 352,583$$

$$\text{ROA} = 102,628 / 352,583$$

$$\text{ROA} = 0.2910747$$

Return on Capital (ROC) = (net income + interest) / (long term debt + equity)

$$\text{ROC} = (99,803 + 2,825) / (98,959 + 50,672)$$

$$\text{ROC} = 102,628 / 149,631$$

$$\text{ROC} = 0.6858739$$

3. Measuring Efficiency

Asset Turnover Ratio = net sales / average total assets

$$\text{Asset Turnover Ratio} = 383,285 / ((352,583 + 352,755) / 2)$$

$$\text{Asset Turnover Ratio} = 383,285 / (705,338/2)$$

Asset Turnover Ratio = $383,285 / 352,669$

Asset Turnover Ratio = 1.08681228

Inventory Turnover Ratio = cost of goods sold / average inventory

Inventory Turnover Ratio = $214,137 / (6,331 + 4,946) / 2$

Inventory Turnover Ratio = $214,137 / (11,277 / 2)$

Inventory Turnover Ratio = $214,137 / 5,638.5$

Inventory Turnover Ratio = 37.94

Average Days in Inventory = inventory at the start of year / (cost of goods sold/365)

Average Days in Inventory = $1,484 / (223,546 / 365)$

Average Days in Inventory = $1,484 / 612.454795$

Average Days in Inventory = 2.423036

Receivables Turnover = sales / average receivables

Receivables Turnover = $383,285 / -1,832$

Receivables Turnover = -209.216703

Average collection period = average receivables / average daily sales

Average collection period = $-1,832 / (394,328 / 365)$

Average collection period = $-1,832 / 1,080.35068$

Average collection period = -1.6957457

4. Analyzing the Return on Assets: The Du Pont System

Profit Margin = net income / sales

Profit Margin = 99,803 / 383,285

Profit Margin = 0.2603885

Operating Profit Margin = (net income + interest) / sales

Operating Profit Margin = (99,803 + 2,825) / 383,285

Operating Profit Margin = 102,628 / 383,285

Operating Profit Margin = 0.267759

ROA = (net income + interest) / assets

ROA = (99,803 + 2,825) / 352,583

ROA = 102,628 / 352,583

ROA = 0.2910747

5. Measuring Leverage

Long term debt ratio = long term debt / (long term debt + equity)

Long term debt ratio = 98,959 / (98,959 + 50,672)

Long term debt ratio = 98,959 / 149,631

Long term debt ratio = 0.66135

Debt equity ratio = long term debt / equity

Debt equity ratio = 98,959 / 50,672

Debt equity ratio = 1.95293

Total debt ratio = total liabilities / total assets

Total debt ratio = 302,083 / 352,755

Total debt ratio = 0.85635356

Times interest earned = EBIT / interest payments

Times interest earned = 119,437 / 2,931

Times interest earned = 40.74957

Cash coverage ratio = (EBIT + depreciation) / interest payments

Cash coverage ratio = (119,437 + 11,104) / 2,931

Cash coverage ratio = 130,541 / 2,931

Cash coverage ratio = 44.53804

ROE = net income / equity

ROE = 99,803 / 50,672

ROE = 1.9695887

6. Measuring Liquidity

Net working capital to total assets ratio = net working capital / total assets

Net working capital to total assets ratio = -18,577 / 352,583

Net working capital to total assets ratio = -0.052688

Current Ratio = current assets / current liabilities

Current Ratio = 143,566 / 145,308

$$\text{Current Ratio} = 0.987$$

$$\text{Quick Ratio} = (\text{cash} + \text{marketable securities} + \text{receivables}) / \text{current liabilities}$$

$$\text{Quick Ratio} = (35,929 + -76,923 + -1,823) / 145,308$$

$$\text{Quick Ratio} = -42,817 / 145,308$$

$$\text{Quick Ratio} = -0.29466375$$

$$\text{Cash Ratio} = (\text{cash} + \text{marketable securities}) / \text{current liabilities}$$

$$\text{Cash Ratio} = (35,929 + -76,923) / 145,308$$

$$\text{Cash Ratio} = -40,994 / 145,308$$

$$\text{Cash Ratio} = -0.282118$$

7. Sustainable Growth

$$\text{Payout Ratio} = \text{dividends} / \text{earnings}$$

$$\text{Payout Ratio} = -14,841 / 99,803$$

$$\text{Payout Ratio} = -0.148703$$

$$\text{Plowback Ratio} = (\text{earnings} - \text{dividends}) / \text{earnings} = 1 - \text{payout ratio}$$

$$\text{Plowback Ratio} = 1 - -0.148703$$

$$\text{Plowback Ratio} = 1.148703$$

$$\text{Growth in Equity from Plowback} = (\text{earnings} - \text{dividends}) / \text{earnings}$$

$$\text{Growth in Equity from Plowback} = (99,803 - -14,841) / 99,803$$

Growth in Equity from Plowback = 114,644 / 99,803

Growth in Equity from Plowback = 1.148703

8. Time-Trend Analysis

Ratio	2021	2022	2023
1. Value and Value Added			
Market Capitalization	2.901 trillion	2.807 trillion	3.004 trillion
2. Measuring Profitability			
Economic Value Added (EVA)	[Calculated]	[Calculated]	[Calculated]
Return on Assets (ROA)	28.1%	29.11%	27.5%
Return on Capital (ROC)	56.64%	68.59%	63.85%
Return on Equity (ROE)	150.07 %	196.97 %	156.08 %
3. Measuring Efficiency			
Asset Turnover Ratio	1.08	1.12	2.86
Inventory Turnover Ratio	40.03	37.89	37.94
4. Analyze the Return on Assets			
Profit Margin	0.2588	0.2605	0.2530
Operating Profit Margin	0.2666	0.2678	0.2622
5. Measuring Leverage			
Debt to Equity Ratio	1.98	2.37	1.79
Equity Ratio	0.113	0.107	0.176

6. Measuring Liquidity			
Current Ratio	1.04	0.94	0.987
Quick Ratio	1.02	0.85	0.95
7. Calculating Sustainable Growth			
Payout Ratio	-0.1528	-0.1487	-0.1549
Growth in Equity from Plowback	1.1528	1.1487	1.1549

9. Peer Group Analysis:

Comparing Apple (AAPL) with Dell (DELL) and Hewlett Packard Enterprise (HPE)

Comparing Apple (AAPL) has a higher P/E ratio of 31.93 compared to Dell (DELL) with a P/E ratio of 19.03, and Hewlett Packard Enterprise (HPE) with a P/E ratio of 10.53, indicating a somewhat higher valuation. This illustrates that investors are willing to pay a higher price for Apple's earnings compared to the earnings of the other two companies. In addition, Dell has a substantially lower Price/Sales ratio of 0.54, suggesting a potential undervaluation in comparison to both Apple (8.04) and HPE (0.72). Moreover, when considering the EV/EBITDA metric, HPE exhibits the most favorable ratio of 5.68, suggesting a significantly lower valuation based on EBITDA compared to Apple (23.89) and Dell (8.83). These valuation metrics provide insight into the market's assessment of a company's value and potential investment opportunities.

Growth

Apple (AAPL) exhibits resilience in terms of expansion, with a marginal decline in revenue of -2.80% compared to the previous year. Dell (DELL) and Hewlett Packard Enterprise (HPE) have both had substantial decreases in revenue, with Dell seeing a negative year-over-year increase of -13.40% and Hewlett Packard Enterprise experiencing a negative growth of

2.24%. Dell exhibits an impressive year-over-year EPS growth rate of 54.67%, but Apple and HPE demonstrate more moderate growth rates of 0.33% and 133.33% respectively. In addition, when examining the Levered Free Cash Flow (FCF) 3-year Compound Annual Growth Rate (CAGR), Apple demonstrates constant and positive growth of 10.82%. Conversely, Dell exhibits a significant decline of -48.69%, while HPE displays robust growth of 75.20%. These growth indicators provide insights into the businesses' performance trends and their capacity to adjust to evolving market conditions.

Profitability

Apple (AAPL) outperforms Dell (DELL) and Hewlett Packard Enterprise (HPE) in terms of profitability across various criteria. Apple exhibits a robust gross profit margin of 44.13%, indicating adept management of costs and good pricing capabilities. Conversely, Dell's gross profit margin is 23.38%, indicating the possibility of elevated production expenses or pricing issues. Similarly, HPE, with a gross profit margin of 35.10%, is positioned between the two. Apple continues to outperform in terms of return on assets (ROA), boasting a robust 28.59% figure that demonstrates effective usage of assets to create earnings. Dell and HPE exhibited lower Return on Assets (ROA) figures of 4.40% and 3.86% correspondingly, indicating significantly reduced profitability in relation to their total assets. Apple possesses a robust net income margin, denoting the proportion of revenue transformed into profit, standing at a margin of 25.31%. Dell has a net income margin of 2.92%, whilst HPE has a greater net income margin of 6.95%. Our analysis indicates that Apple exhibits superior profitability relative to its competitors, as evidenced by these indicators.

Conclusion

Apple distinguishes itself from the other three corporations by demonstrating exceptional performance in terms of value, growth, profitability, and balance sheet strength. Apple showcases its market dominance through a superior P/E ratio and robust financial indicators. Dell, despite its seemingly low price-to-sales ratio, is facing significant challenges with declining revenue and little growth in Levered FCF. Hewlett Packard Enterprise (HPE) has significant growth in revenue when compared to Apple, while its profitability measures lag behind. It is crucial to bear in mind that this research offers a limited view of the companies' financial well-being, and a comprehensive analysis should consider industry trends, market conditions, and the strategic future of each organization.

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