

Financial Analysis of Apple Inc., Sony Group, and Samsung

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Abstract. This paper mainly focuses on three companies, one is apple (AAPL), SONY (SONY), Samsung Electronics Co., Ltd. (SSNLF). three company has a very big effect on the world, These three companies are msinly focus in technology and consumer electronics, so these three company are three major players in the technology and consumer electronics sectors, They improve life quality of citizens, like the first verson of iPhone produce by apple in 2007, advance camera technology from sony, high quality screen technology from Samsung. So in the other hand they production increase the out put of work in enterprise. The topic of is the finantial analysis this three companies, and in will analysis many different aspect economic condition of company, background of company, company product, financial data and so on, evaluate the state of the company from different perspective, history of company and country, the impact of the corporation on the state, stock analysis and comparison, how does the company influence consumers, use Yahoo finance to get the finantial data like current assets, total assets, current liabilities inventory,so on,and use Baidu Scholar to get the data, when combined the data, It could predict the future development of the three companies and the risks that might occur.

Keywords: Technology, financial, company.

1. Introduction

In mid 2024, the American have stable labor market and easing inflation, and economy is experiencing moderate growth, Although the job market is robust and consumer spending remains strong, inflation continues to exceed levels seen before the pandemic. This situation is driven by elevated interest rates and ongoing price hikes in certain sectors. The stock market experiences fluctuations, mirroring economic uncertainties and changes in interest rates. Government initiatives are concentrated on infrastructure development and climate-related projects, while global trade dynamics and geopolitical issues also influence the economy. In summary, while the U.S. economy demonstrates a degree of stability, it still confronts persistent challenges and uncertainties.

South Korea's economy is currently experiencing moderate growth, characterized by stable inflation and a strong labor market. While consumer spending remains robust, it is somewhat limited due to high levels of household debt. The stock market experiences fluctuations that are affected by global economic conditions. Government initiatives aim to enhance economic development through investments in technology and renewable energy, while the Bank of Korea implements monetary policies to maintain a balance between stability and inflation rates. Trade relationships with key partners and regional geopolitical dynamics continue to influence overall economic performance [1-2]. In summary, the economy demonstrates stability but encounters persistent challenges and uncertainties.

Japan's economy is marked by moderate growth with stable inflation and a stable labor market. Consumer spending is cautious, and wage growth remains slow. The stock market faces volatility, while government and monetary policies aim to stimulate growth and address deflationary pressures [3-5]. Trade relations and geopolitical factors play significant roles in shaping the economic environment. Overall, Japan's economy shows stability but faces long-term challenges and uncertainties.

The tech industry is currently experiencing a strong and dynamic economic environment, characterized by significant market growth and increased investment on a global scale. This includes areas such as information technology, biotechnology, renewable energy, and advanced materials. Major technological breakthroughs in fields like artificial intelligence, quantum computing, and

biotechnology are fueling economic expansion and drawing considerable investments. Additionally, emerging technologies such as 5G, the Internet of Things (IoT), virtual reality (VR), and augmented reality (AR) are being widely adopted across different sectors, further driving innovation and growth. Governments around the world are emphasizing technological advancement through favorable policies that foster an ideal setting for research and development while encouraging the application of technological innovations [6]. As competition intensifies alongside rising consumer expectations for high-quality services and lifestyles, it is expected that technological innovation will continue its rapid upward trend, contributing fresh energy to both economic progress and social development [7].

Base on this three economic of country, this study aims to conduct a comparative analysis of the financial information from three selected companies, assessing their potential investment value in relation to the overall industry development landscape.

Second chapter: company overview. Third chapter: Financial Analysis. Forth chapter: Strategic Insigh. Fifth chapter: conclusion. Sixth chapter: reference

2. Company overview

2.1. Apple Inc. (AAPL)

Apple Inc., founded in 1976 by Steve Jobs, Steve Wozniak, and Ronald Wayne, has transformed from a small startup in a garage to a multinational technology giant that dominates the global tech landscape. The company's journey has been marked by a series of groundbreaking innovations that have reshaped industries and changed the way people live and work.

Apple Inc. was established on April 1, 1976, by co-founders Steve Jobs and Steve Wozniak. Initially focused on computer design and sales, the company evolved into a global technology leader involved in creating computers, mobile devices, wearables, and various electronic products while also offering software solutions and online services. Its headquarters is located in Cupertino, California's Silicon Valley [8-9].

In recent years, Apple Inc. (AAPL) has transformed its production and operational strategies through several important initiatives. The company has regularly refreshed its product offerings with innovations such as the iPhone 15 series and enhancements in services like Apple Music and Apple TV+. To mitigate risks, Apple has diversified its global supply chain, relocating some manufacturing operations to countries including India and Vietnam, while also committing to sustainability goals aimed at achieving carbon neutrality by 2030. Additionally, significant investments have been made in research and development, particularly focused on creating proprietary silicon chips and exploring new technologies like augmented reality. Despite encountering challenges related to supply chain disruptions and legal matters, Apple continues to demonstrate robust financial performance while prioritizing the expansion of its services and technological progress.

2.2. Sony Group Corporation (SONY)

Sony was established in 1946 by Daika Ibuka and Akio Morita. Initially known as Tokyo Communications Industry Co., LTD., the company began as a small enterprise with around twenty-four employees and an initial capital of 190,000 yen. In his vision for the company, Mr. Ibuka articulated a desire to create an "ideal factory" that would be free-spirited, open-minded, relaxed, and contribute to Japanese culture through outstanding technology. This aspiration aimed to make Sony a "paradise for engineers." The founding of Sony Corporation symbolized the two founders' commitment to technological advancement and their contributions to Japanese culture.

The origins of Sony Corporation are deeply intertwined with Japan's historical context. Following World War II in 1945, Tokyo was left devastated. In this environment, Ibuka launched the Tokyo Communications Research Institute within a department store warehouse located in Nihonbashi, later joined by Akio Morita as co-manager of the venture [10]. By 1946, they officially founded the company and relocated it to Midamama in Shinagawa Ward while renaming it "Tokyo Communications Industry Co., LTD."

The creation and growth of Sony not only showcase the founders' dedication to technology and innovation but also highlight the significance of science, technology, and culture during Japan's post-war reconstruction era. Through ongoing technological advancements and market expansion efforts, Sony has evolved into a globally recognized multinational corporation engaged in various sectors such as electronics and entertainment—becoming a vital player in both Japan's scientific landscape and worldwide entertainment industry.

In recent years, Sony has concentrated on enhancing its production and operational strategies across various product categories. The company has made significant advancements in its electronics division with innovations in BRAVIA televisions and audio systems, while also expanding the PlayStation gaming ecosystem through new console launches and improved services. Additionally, Sony has bolstered its camera segment by upgrading its Alpha and Cyber-shot series with state-of-the-art technology. To address changing market needs and supply chain issues, Sony has diversified its manufacturing locations and increased efficiency via automation and strategic collaborations. The firm has committed resources to research and development, especially in image sensors and smart technologies, while actively pursuing sustainability efforts to minimize environmental impact. Despite facing competitive challenges and global economic uncertainties, Sony remains adaptable and innovative, ensuring strong performance across its entertainment, electronics, and professional equipment divisions.

2.3. Samsung Electronics Co., Ltd. (SSNLF)

Samsung Electronics was established in 1938 by Lee Byung-chul. It operates as a multinational corporation with interests spanning electronics, finance, machinery, chemistry, and more. Initially, the Samsung Group focused on exporting dried fish, vegetables, and fruits from the Korean Peninsula before diversifying into sugar production, pharmaceuticals, textiles, and other manufacturing sectors. Over time, it evolved into a family-run business where each subsidiary is managed by different family members. Founded in March 1938 in Daegu, South Korea, Samsung Electronics stands as the largest subsidiary of the Samsung Group and is recognized as South Korea's leading electronics manufacturer. The company is currently overseen by its founder Lee Byung-chul along with Chairman Lee Jae-yong and President Choi Ji-sung; key executives include Kwon Oh-hyun, Shin Jong-kyun, and Yoon Bu-keun. The Samsung Group encompasses various businesses such as communications technology and consumer electronics including audio/video products and home appliances. Notably, Samsung ranks as the second-largest mobile phone producer globally and has consistently led the international communications sector. Furthermore, it boasts the world's largest LCD panel manufacturing facility that has gained consumer acclaim for its performance. With strong international market presence across nearly 20 product categories where it holds top positions among global competitors; additionally ranked ninth for patents awarded in the United States.

Samsung's revenue streams are varied and substantial. A significant portion of its income comes from the semiconductor sector, which encompasses memory chips and processors. The company also sees considerable earnings from display technology, especially advanced OLED panels utilized in smartphones and televisions. Consumer electronics—including smartphones, TVs, and household appliances—serve as key contributors to revenue, alongside telecommunications equipment and infrastructure. Furthermore, Samsung generates income through IT and mobile communications services that cover smartphones and tablets, as well as a variety of digital appliances like refrigerators and washing machines.

3. Financial Analysis

3.1. Revenue and Profitability

Table 1: Revenue and Profitability

NAME	Revenue	Net Income	Profit Margin
Apple Inc.	\$381.6 billion	\$100.4 billion	26.44%
Sony Group	\$13.07 billion	\$984.7 million	7.55%
Samsung Electronics	\$267.1 billion	\$19.7 billion	7.37%

3.1.1 Revenue

The revenue of a company represents the overall income it generates from its business operations during a defined timeframe, like a quarter or an annual period. This income is usually derived from selling products or services to clients and is reflected as revenue in the company's financial reports (Table 1).

(Apple Inc. bigger than Samsung Electronics bigger than Sony Group)

High revenue indicates a robust demand in the market, along with effective sales and marketing approaches. Conversely, low revenue reflects inadequate sales performance, market saturation, operational inefficiencies, or poor management practices.

Apple Inc. stands out with a remarkable revenue of \$381.6 billion, establishing itself as a key player in the technology and consumer electronics industry.

In comparison, Samsung Electronics is also an important contender, generating approximately 70% of Apple's revenue. Samsung's operations span various sectors, including consumer electronics, semiconductors, and display technologies.

On the other hand, Sony Group reports significantly lower revenues than both Apple and Samsung. Nevertheless, Sony still achieves considerable earnings due to its diverse business interests in electronics, gaming, entertainment, and financial services.

3.1.2 Net Income

A high net income for a company usually reflects robust financial stability, efficient cost control, and effective business practices, which can draw in investors and boost stock prices. In contrast, a low net income might indicate financial difficulties, diminished profitability, or operational shortcomings, which could result in decreased investor confidence and a drop in stock value (Table 1).

(Sony Group bigger than Apple Inc. bigger than Samsung Electronics).

A high net income for a company usually reflects robust financial stability, efficient cost control, and effective business practices, which can draw in investors and boost stock prices. In contrast, a low net income might indicate financial difficulties, diminished profitability, or operational shortcomings, which could result in decreased investor confidence and a drop in stock value.

Apple Inc:

Exceptional Profitability: With a net income of \$100.4 billion, Apple showcases remarkable profitability and operational effectiveness, even with its substantial revenue figures.

Strong Market Presence: The high net income illustrates Apple's capability to earn significant profits from its offerings, underscoring its robust market presence and premium pricing approach.

Samsung Electronics:

Robust Profitability: Samsung reported a net income of \$19.7 billion, which, while less than Apple's, still reflects solid profitability given the company's wide array of products and markets.

Operational Effectiveness: This considerable net income signifies Samsung's ability to sustain profitability across multiple sectors such as consumer electronics and semiconductors.

Sony Group:

Moderate Profitability: Sony achieved a net income of \$984.7 million; although this is positive, it remains relatively small in relation to its revenue, suggesting lower profit margins or elevated operational expenses.

Varied Business Model: The reported net income highlights both challenges and opportunities within Sony's diverse industries including electronics, gaming, and entertainment (Table 1).

3.1.3 Profit Margin

Profit margin is a financial indicator that quantifies the portion of revenue remaining after deducting the costs and expenses incurred in generating that revenue. It indicates how effectively a company converts its sales into real profit.

A substantial profit margin signifies robust profitability and efficient operations, indicating effective cost control and a strong market presence. This can draw in investors and enhance financial stability. In contrast, a narrow profit margin points to elevated costs or competitive challenges, which may indicate possible financial troubles and operational shortcomings. Such conditions could discourage potential investors and restrict the company's capacity to invest in growth or navigate economic downturns (Table 1).

Apple Inc. boasts a remarkable profit margin of 26.44%, highlighting its outstanding profitability and effective cost control. This suggests that Apple successfully transforms its revenue into significant profits, securing a robust competitive edge in the marketplace.

Sony Group's profit margin stands at 7.55%, indicating moderate profitability. This implies that while Sony is indeed profitable, it encounters higher expenses or competitive challenges that restrict its earnings relative to Apple.

Samsung Electronics reports a profit margin of 7.37%. This reflects comparable profitability to Sony, showcasing efficient cost management across its various divisions; however, it still experiences lower profit margins when compared to Apple.

3.2. Valuation Ratios

Table 2: Valuation Ratios

Name	P/E Ratio	P/B Ratio	PEG Ratio
Apple Inc.	32.91	50.59	1.94
Sony Group	16.59	2.22	2.22
Samsung Electronics	8.51	1.06	-

3.2.1 P/E Ratio

The Price-to-Earnings (P/E) Ratio is a financial indicator that assesses the relationship between a company's current stock price and its earnings per share (EPS) by calculating the ratio of the stock price to EPS. A high P/E ratio may imply that the stock is overpriced or that investors foresee substantial growth in the future, whereas a low P/E ratio might suggest it is undervalued or facing possible financial difficulties. This metric assists investors in determining whether a stock's valuation aligns with its earnings, offering insights into market expectations and investment opportunities (Table 2).

Apple Inc. bigger than Sony Group bigger than Samsung Electronics

A high price-to-earnings (P/E) ratio typically implies that investors are anticipating substantial growth in the future, which can result in an increased stock price and potentially boost market confidence regarding the company's outlook. However, if these growth expectations fail to materialize, it may also suggest that the stock is overpriced. On the other hand, a low P/E ratio might indicate that a stock is undervalued or that investors have diminished expectations for growth. This situation could attract value-oriented investors seeking good deals but may also point to existing business difficulties or reduced market confidence.

Apple Inc.: With a high price-to-earnings (P/E) ratio of 32.91, this stock is perceived as highly valued, reflecting strong investor optimism regarding future growth and confidence in Apple's ongoing performance and profitability.

Sony Group: The P/E ratio of 16.59 indicates a more moderate perspective on the company's growth potential, suggesting expectations for steady but less aggressive growth when compared to Apple.

Samsung Electronics: A low P/E ratio of 8.51 points to diminished growth expectations or possible undervaluation, indicating that the market may see Samsung as having lower growth prospects relative to both Apple and Sony or potentially undervalued.

3.2.2 P/B Ratio

The Price-to-Book (P/B) Ratio evaluates a company's share price in relation to its book value per share. It is determined by dividing the current share price by the book value per share. A P/B ratio exceeding 1 indicates that the stock is valued higher than its book value, reflecting strong investor confidence or considerable intangible assets. Conversely, a ratio below 1 may suggest that the stock is undervalued or facing financial challenges, as it trades for less than its net asset value. This metric assists investors in understanding how much they are investing relative to a company's net assets and evaluating its market worth against its tangible values.

Apple Inc. bigger than Sony Group bigger than Samsung Electronics

A high P/B Ratio often signifies that a stock is priced above its book value, which can reflect optimistic growth forecasts, considerable intangible assets, or strong investor faith in the company's future. However, it may also indicate overvaluation if the elevated price lacks backing from solid financial results. On the other hand, a low P/B Ratio suggests that a stock is valued below its book value, potentially pointing to undervaluation, possible financial troubles, or limited growth potential. This situation might present an opportunity for value investors or highlight underlying concerns regarding the company's financial stability.

Apple Inc.: With a notably high price-to-book (P/B) ratio of 50.59, Apple's shares are trading well above their book value. This suggests that investors have strong expectations and confidence in the market, as well as significant intangible assets such as brand equity and intellectual property.

Sony Group: A P/B ratio of 2.22 indicates that Sony's stock is valued at a reasonable premium over its book value. This reflects investor optimism regarding its future performance and worth, although it is not as pronounced as that of Apple.

Samsung Electronics: The relatively low P/B ratio of 1.06 reveals that Samsung's stock is trading near its book value, suggesting a modest valuation which could imply it is undervalued or has lower growth prospects compared to both Apple and Sony.

3.2.3 PEG Ratio

The Price/Earnings to Growth (PEG) Ratio evaluates a stock's worth by taking its P/E ratio and dividing it by the projected earnings growth rate. This provides a more detailed perspective than relying solely on the P/E ratio. A PEG ratio under 1 indicates that the stock might be undervalued in relation to its growth potential, suggesting it could be an appealing investment if growth forecasts are realized. A PEG around 1 signifies that the stock is fairly valued, with its price accurately reflecting expected growth. In contrast, a PEG above 1 suggests that the stock may be overvalued when compared to its growth rate, indicating that investors are paying extra for anticipated future earnings. Sony Group bigger than Apple Inc.

A high PEG Ratio typically suggests that a stock might be overpriced in relation to its growth potential, as investors are willing to pay extra for anticipated future expansion. This situation could pose risks if the expected growth fails to occur. On the other hand, a low PEG Ratio may indicate that a stock is undervalued compared to its growth rate, presenting a potentially attractive investment opportunity if the company's growth targets are met. In both scenarios, the PEG Ratio serves as a tool for investors to assess whether the current price of a stock accurately reflects its projected earnings growth in an appropriate way.

Apple Inc.: With a PEG ratio of 1.94, Apple's shares are trading at nearly double their expected growth rate, implying that although the company is projected to expand, its stock might be considered relatively pricey in relation to its growth potential.

Sony Group: A PEG ratio of 2.22 suggests that Sony's shares are priced at a higher multiple compared to their earnings growth rate, indicating a similar scenario where the stock could be somewhat overvalued based on anticipated growth.

Samsung Electronics: PEG ratio data is not available.

4. Strategic Insights

In Baidu academic there is a reference made by Li Jiao, the reference said Apple have excellent innovation ability, Apple change the market and open a new market to change every peoples life habit, they reference certificate success of Apple.

Apple Inc. prioritizes high-profit hardware and services, utilizing strong brand loyalty and a cohesive ecosystem to foster growth. Its strategy of premium pricing combined with cutting-edge product design sets it apart from its rivals.

Sony Group adopts a varied approach across its electronics, gaming, and entertainment sectors, striving for balanced growth in multiple areas. This includes capitalizing on content creation and gaming to strengthen its market presence.

Samsung Electronics focuses on technological advancements and a wide range of products. Its strategy features vertical integration in semiconductors and display technologies, which supports its extensive portfolio in electronics.

5. Conclusion

Apple Inc. is seen as an attractive choice for investors seeking both growth and stability, thanks to its significant profitability and dominant market position, which support a higher valuation. However, prospective investors should be cautious about this elevated valuation and keep an eye out for any indications of market saturation or potential regulatory issues.

On the other hand, Sony Group may appeal to those focused on value investing due to its relatively lower valuation ratios. The company's strategy of diversification along with growth opportunities in the media and gaming sectors offers appealing investment prospects; however, investors need to consider its lower profitability levels and liquidity challenges.

Samsung Electronics provides a chance for individuals interested in undervalued stocks that have strong financial fundamentals. With robust liquidity and revenue generation capabilities alongside low valuation metrics, there is potential for price appreciation if the company can improve profitability while effectively managing competitive pressures.

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