

A comparative study on
THE FINANCIAL STATEMENT ANALYSIS OF SAMSUNG
ELECTRONICS CO. LTD. AND APPLE INC.

Project Report

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BACHELOR OF COMMERCE



ST. TERESA'S COLLEGE ESTD 1925
ST. TERESA'S COLLEGE (AUTOMOUS), ERNAKULAM
COLLEGE WITH POTENTIAL FOR EXCELLENCE

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CERTIFICATE

This is to certify that the project titled **“A COMPARATIVE STUDY ON THE FINANCIAL STATEMENT ANALYSIS OF SAMSUNG ELECTRONICS CO. LTD. AND APPLE INC.”** submitted to Mahatma Gandhi University in partial fulfillment of the requirement for the award of Degree of Bachelor in Commerce is a record of the original work done by **Ms. Maryam Anjum , Ms. Hanna Parveen , Ms. Neha PH** under my supervision and guidance during the academic year 2023-2024

Project Guide

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CHAPTER – I
INTRODUCTION

INTRODUCTION

In this financial analysis project, we delve into the financial performance of two tech giants, Samsung Electronics Co Ltd. and Apple Inc, for the financial year ending on March 31, 2023. As titans in the consumer electronics and technology sector, understanding the financial complexity of these companies not only offers insights into their individual successes but also provides market positions, and overall financial health. Through meticulous examination of key financial statements, ratios, and market dynamics, we aim to unravel the financial narrative of Samsung Electronics Co Ltd. and Apple Inc, shedding light on their strengths, challenges, and potential future line.

Samsung Electronics Co Ltd is a multinational conglomerate known for electronics, particularly its smartphones and TVs. Founded in 1938 in South Korea, Samsung Electronics Co Ltd. has expanded into various industries like semiconductors, home appliances, and more. Its Galaxy series of smartphones, along with its advancements in display technology and memory chips, have been significant contributions to the tech industry. Samsung Electronics Co Ltd.'s innovation and diverse product range have solidified its position as a global leader in technology.

Apple Inc. is a renowned American tech company, founded in 1976 by Steve Jobs, Steve Wozniak, and Ronald Wayne. It's famous for its line of consumer electronics, software, and services. Apple Inc's iconic products include the iPhone, iPad, Mac computers, Apple Watch, and various software services like iOS, macOS, and the App Store. Renowned for its design aesthetics, user-friendly interfaces, and emphasis on privacy and security, Apple Inc has cultivated a strong brand following globally. Its innovation, customer-focused approach, and ecosystem integration have played pivotal roles in its success.

This comparative analysis will not only provide valuable insights into the financial workings of these companies but also shed light on their strategic decisions, market positioning, and future prospects. The findings of this study could prove beneficial for stakeholders, potential investors, and anyone with an interest in the business strategies of leading tech companies.

We will be analysing key financial indicators such as revenue, net income, operating profit, assets, and liabilities, among others. By comparing these metrics side by side, we can draw meaningful conclusions about the financial practices and stability of Samsung Electronics Co Ltd. and Apple Inc.

In the rapidly evolving technology industry, Samsung Electronics Co Ltd. and Apple Inc. have consistently managed to stay ahead of the curve. Their innovative products and services have not only reshaped the way we interact with technology but also significantly influenced global market trends.

SIGNIFICANCE OF THE STUDY:

This financial analysis holds paramount significance as it unveils crucial insights into the performance of two global technology giants, Samsung Electronics Co Ltd. and Apple Inc, for the fiscal year ending March 31, 2023. The findings of this study are not merely confined to the boardrooms of these corporations but resonate widely in the financial ecosystem. The significance lies in:

- 1. Investor Decision-Making:** Providing investors with the understanding of the financial strengths and weaknesses of Samsung Electronics Co Ltd. and Apple Inc, aiding informed investment decisions.
- 2. Strategic Planning:** Offering corporate strategists valuable insights into the financial strategies, risks, and market positions of these industry leaders for future planning.
- 3. Market Dynamics:** Contributing to a broader comprehension of the technological landscape, influencing industry trends, and competitive dynamics.
- 4. Academic Inquiry:** Serving as a reference for academic research, fostering a deeper understanding of financial analysis methodologies and their application in the technology sector.

In essence, this study's significance extends beyond the field of corporate finance, shaping the perspectives of investors, industry analysts, academics, and the broader market participants.

STATEMENT OF THE PROBLEM:

This study copes with the overarching question of understanding and comparing the financial performances of Samsung Electronics Co Ltd. and Apple Inc for the financial year ending March 31, 2023. In the midst of a rapidly evolving technological landscape, identifying the key financial challenges, disparities, and strategic nuances of these industry leaders becomes imperative. The problem at hand is to elucidate the financial complications that shape the strong matches of Samsung Electronics Co Ltd. and Apple Inc, exploring the implications of their respective financial decisions on shareholder value, market competitiveness, and sustained growth. Through this analysis, we aim to address critical queries surrounding fiscal health, risk factors, and potential areas of improvement for these technology giants.

OBJECTIVES OF THE STUDY:

1. To conduct a comprehensive analysis of the financial statements of Samsung Electronics Co Ltd. and Apple Inc assessing the key indicators such as revenue, profitability and liquidity.
2. To Identify and compare financial strengths and weaknesses of Samsung Electronics Co Ltd. and Apple Inc elucidating the factors contributing to their respective market positions.
3. To value and quantify financial risk associated with the company.
4. To find out the efficiency, effectiveness, profitability and sustainability of the companies

SCOPE OF THE STUDY:

1. Time Frame:

The study focuses on the three years from 2020 to 2022.

2. Companies Analysed:

The primary focus is on two leading technology companies, Samsung Electronics Co Ltd. and Apple Inc.

3. Financial Statements:

The analysis encompasses a thorough examination of income statements, statement of financial position.

4. Financial Ratios:

The study utilizes a range of financial ratios and metrics to assess liquidity, profitability, solvency and efficiency

5. Market Dynamics:

The scope extends to understanding the market dynamics affecting Samsung Electronics Co Ltd. and Apple Inc, including factors such as competition, industry trends, and global economic conditions.

6. Risk Analysis:

The study delves into financial risks associated with both companies, considering debt levels, liquidity positions, and broader market risks.

By outlining these parameters, the scope of the study is defined, ensuring a focused and in-depth analysis of the financial landscapes of Samsung Electronics Co Ltd. and Apple Inc for the specified time frame.

RESEARCH METHODOLOGY:

Research methodology followed is Comparative Analysis. It involves benchmarking a company's financial performance against industry peers, competitors, or historical data to understand its relative standing and identify areas of strength or weakness. We have depended on secondary data as primary data is not available and is not relevant in this case.

Secondary data used are :

Financial Statements like Statement Of Profit And Loss , Statement Of Financial Position.

Online Resources such as Company Websites, Press Releases, Annual Reports, And Economic Data relevant to the analysis.

Publicly Available Data Sources like Industry Reports, Economic Indicators, Trade Publications, And Academic Journals

TOOLS FOR DATA ANALYSIS:

1. PROFITABILITY RATIOS :

- Gross profit margin
- Operating profit margin
- Return on capital employed
- Net asset turnover

2. LIQUIDITY RATIOS:

- Current ratio

3. SOLVENCY RATIOS:

- Debt equity ratio
- Interest cover

4. Trend Analysis

5. Percentage Analysis

6. Tabular and graphical presentation

LIMITATIONS OF THE STUDY:

1. We have only considered the quantitative data like financial statements, ratios, and key performance indicators, and not considered the qualitative elements like client satisfaction, the organization's employee morale, or the reputation.

2. Even after all the analysis we can't accurately depict the actual economic situation because various standards are taken into consideration.

3. Few internal aspects of the companies are not for the public to view, like regulatory changes, competitive dynamics, or technology improvements. These factors may affect the final conclusion obtained.

CHAPTER – II
REVIEW OF LITERATURE

REVIEW OF LITERATURE

1.Kennedy and Muller (1999), has explained that "The analysis and interpretation of financial statements are an attempt to determine the significance and meaning of financial statements data so that the forecast may be made of the prospects for future earnings, ability. to pay interest and debt matureness (both current and long term) and profitability and sound dividend policy."

2.Kakani et al.(2001) examined the determinants of firm performance for 566 Indian firms. They tool ROA, ROCE, cash flow ratio, Sales to asset, gross profit margin, net profit margin, return on Net worth etc., as dependent variable and size, age, leverage, working capital ratio, business group affiliation etc., as determinants of firm performance and found that size, market expenditure and international diversification had a positive relation with market valuation for firms. A firms ownership composition, particularly the level of equity ownership by domestic financial Institutions and Dispersed public shareholders, and the leverage of the firm were important factors affecting its financial performance.

3.Krishna Prasad Upadhyay (2004) used different types of financial ratios to check up the financial performance of the selected finance companies. Basically, in this study he used solvency ratio, liquidity ratio, efficiency ratio, profitability ratio and valuation ratio. Different measures like return on investment, return on equity, return on assets, earning per share, dividend per share, and asset utilization ratio are used to assess the profitability of the companies. He concluded his study stating that the solvency position of both companies is not sound and credit creation capacity is good in both the companies in aggregate.

4.Bala Ramaswamy, Darry long and Mattew C.H. Yeung (2005) has found empirical evidence that firm size and the firm ownership are important determinants of financial performance in the Malaysian palm oil sector-findings lend support to

industry analysts who have highlighted that profitability is higher in privately owned firms.

5.Woo Gon Kim, Baker Ayoun (2005) the study attempts to investigate the technique applied in this industry. Hospitality - related industry segments may comprise hotels, restaurants, airlines, and other amusement and recreational services. The objective of the study is to provide information to a variety of entities that might be interested in comparing major financial characteristics of companies on its different segments. The researcher used financial ratios, time series and Multivariate analysis of variances' test as statistical tools. The study concludes that increased volatility of hospitality industry due to unpredictable external environment for the past four to five years. More volatile trends are depicted for the other three segments over the time period of this study.

6.Radoslav Petrov (2008) conducted a study on financial analysis of Apple Inc. The objective of the study was to thoroughly analyse Apple's financial history and status for the last five years (2003 – 2007) and also to examine Apple's future growth and financial stability for the next two years (forecast for 2008-2009).The financial analysis of Apple Inc was based on evaluating company and industry data from various sources. A trend analysis was performed using data for the last five years, and presented in Excel charts and tables. It was found that Apple Inc is financially healthy and strong. The company's growth has been extraordinary during the five years. It also projected that future for Apple Inc looks great. The company has significant momentum in its favour: massive brand power, innovative product design, and a strong portfolio that leverages individual products to boost demand of other products.

7.Susan Ward (2008), emphasised that financial analysis using ratios between key values help investors cope with the massive amount of numbers in company financial statements. For example, they can compute the percentage of net profit a company is generating on the funds it has deployed. All other things remaining the same, a company that earns a higher percentage of profit compared to other companies is a better investment option.

8. MY Khan & PK Jain (2011), have explained that the financial statements provide a summarized view of the financial position and operations of a firm. Therefore, much can be learnt about a firm from a careful examination of its financial statements as invaluable documents/performance reports. The analysis of financial statements is, thus, an important aid to financial analysis.

9.Shinde Govind P. & Dubey Manisha (2011) the study has been conducted considering the segments such as passenger vehicle, commercial vehicle, utility vehicle, two and three wheeler vehicle of key players performance and also analyse SWOT analysis and key factors influencing growth of automobile industry.

10. Sharma Nishi (2011) studied the financial performance of passenger and commercial vehicle segment of the automobile industry in the terms of four financial parameters namely liquidity, profitability, leverage and managerial efficiency analysis for the period of decade from 2001-02 to 2010-11. The study concludes that profitability and managerial efficiency of Tata motors as well as Mahindra & Mahindra ltd are satisfactory but their liquidity position is not satisfactory. The liquidity position of commercial vehicle is much better than passenger vehicle segment.

11. Singh Amarjit & Gupta Vinod (2012) explored an overview of automobile industry. Indian automobile industry itself as a manufacturing hub and many joint ventures have been setup in India with foreign collaboration. SWOT analysis done there are some challenges by the virtue of witch automobile industry faces lot of problems and some innovative key features are keyless entry, electrically controlled mechanisms enhanced driving control, soft feel interiors and also need to focus in future on like fuel efficiency, emission reduction safety and durability.

12. Amanj Mohamed Ahmed (2015), in his study on the impact of Financial Statement Analysis on The Profitability Assessment (Applied Study of Kirkuk Company for Producing Instructional Materials) reveal that there is an insignificant relationship between the profitability and the asset regulated and assets utilization while there seems a relationship between profitability and liquidity.

13. Sheela Christina (2017) carried out the study on Financial Performance of Wheels India Limited-Chennai. The study deals with Analytical type of research design with the help of secondary data collection method. For this purpose the researcher took past five years" data and also checked out for the validity and reliability before conducting the study. The researcher used the following financial tool namely ratio analysis, comparative balance sheet and DuPont analysis and also statistical tools such as trend analysis and correlation. Profitability ratios indicate there is a decrease in the profit level, utilization of fixed assets and working capital in the last financial year. Thus the company can take necessary steps to improve sales and profit. Finally, the study reveals that the financial performance is satisfactory.

14. P. Keerthana (2018): A study on Financial statement analysis of Tamil Nadu Newsprint and paper Ltd company in order to identify the gap between the current (problem) state and desired state of a process or product. This study helps to make recommendation based on analysis of financial statement. Ratio Analysis is the method she used which helps to analyse the profitability, liquidity and solvency of this company. The key elements or the statements which used were income statement, balance sheet, statement of cash flows and a statement of retained earnings. They found the companies profiles are not balanced and are decreasing during the period of study.

15. DY Patil Vidyapeeth 2019: A project Report on Financial statement Analysis on HDFC Bank with a motive of knowing the analysing the profitability and solvency of business and also judging the growth of business. Compared the statement- with previous years, in order to judge the growth - He used income statement and Financial position. statement for the Analysis. He found that the position of HDFC in the market was so much strong and having great goodwill in market because of customer satisfaction and trust.

16. Gagandeep Singh Galogja (2021) conduct a study on financial performance analysis of Tata steel Ltd. This study helps to bring out the result of financial strength and weakness of industry through ratio analysis. It also helps to analyse the liquidity and solvency of company. The study is carried out with 5 year data of Tata Steel (2015-16 to 2019-20) and is confined to Tata steel company only. Graph Analysis and Ratio

Analysis are the methods he used. His major findings are that company has low current ratio and liquidity, and also Tata steel ltd has sound solvency position.

17. Mr Saksham Bhaveja (2021) conducted a comparative financial analysis between Dabur India, Godrej Consumer Products and the FMCG industry as a whole. The objective of the study was to compare the financial performance of the two giants in the FMCG sector against each other, to compare the financial performance of Dabur India Pvt. Ltd. and Godrej Consumer Products with the average performance of other companies in the same industry and to study the relationship between the financial ratios and their impact on the return on capital employed. It was concluded that in a majority of parameters Dabur has outperformed Godrej. But the performance of both the companies when compared to the industry fades out.

18. Neeti Vatsava (2021) conducted a Comparative study on the financial position of TCS and Wipro ltd. The objective of the study was to analyse the short terms fund of companies, the use of ratio in accounting and financial management to know the profitability financial position and operating efficiency of an enterprise and to analyse the liquidity position of both the companies. It was concluded that financial position of TCS can be said as better than that of Wipro ltd.

19. Kikanro Kichu(2021) conducted study on financial analysis of TATA MOTORS to study the various factors which are the root cause for the increasing by market share in A2 segment. Some of the information was confidential, so much information was not revealed based on specific time period. Tata motors are the third largest company and as compared to major competitors this may be due to the better products and services better marketing strategies by competitor. Tata motors should come in luxury segment with new strategies in the domestic market. It should focus on increasing the proportion of market share in passengers vehicle in India.

20. Raja Sambandam (2021) financial statement analysis of national insurance company LTD Chennai to study about overall performance to National Insurance Companies Ltd for 3 months. The study focused on the issues of negative working capital increasing cost in the business by comparing the current performance with the past one. The current ratio of 2021 was low than other 4 comparative year . If a

company's current ratio fall below the company likely won't like enough liquid assets to pay off its liabilities. The fixed assets have increased in the year 2020 as compared to the year 2019. The share holder funds of 2018 have increased at the percentage of 5.02 as compared to 2017 and is an indicator of the growth of the company profits.

21. Dr Mrs Vijayalakshmi, J. Nandhini, P. V. Nivashini and G. Pavithra (2021), this study was done to analyse the financial performance of Ashok Leyland Limited. This study is made to analyse the solvency and liquidity position of the firm through ratio analysis. It is based on secondary data. The researchers conclude that the performance of Ashok Leyland in the study period has been excellent.

22. Surendar V (2022) conducted a financial performance analysis in Bharath Earth Movers Ltd. The objective of the study was to know the financial performance , to study the short term and long term solvency and to find out the various financial ratios related to BEML. It is inferred that the company's financial position is found to be good. The ratios of the company are satisfactory and the profitability of the company is satisfactory but does not show a higher change in the profit when compared with the previous years.

23. Abhishek Agrawal (2022) conducted a comprehensive study on Financial Analysis of APB private Ltd company in order to analysing the performance of accounting divisions in the company and what are the activities done by the department. The key element she used to analyse these were the income statement of company, financial position statement and cash flow statement of the company .This study is based on the last four years. This study also helps to find out how the further changes affected the company results in future which gives an idea about the Future planning and strategies. He found that the profit ratio of the company is balanced and its financial position is also decent enough.

24. Mr S. Ajith Adithya and Ms D. Caroline Rebecca (2022), this paper concentrated on the financial performance of Mahindra finance. The objectives of the paper were to check the financial flow of the firm. They concluded that the company's net profit and sales are not in a good position and if the company concentrates on these things then it will lead to the growth of a healthy organisation in future.

25. Dr. Sivaprakash JS conducted a study on the financial analysis of Samsung Co. Objectives of the study were to use ratio analysis to find the efficiency, effectiveness and profitability, sustainability of SEC. To research the company's financial situation and investigating the company's income statement. Tools used for analysis were correlation and trend analysis

26. T.S. Reddy and Y. Hari Prasad Reddy Without subjecting these to data analysis, many fallacious conclusions might be drawn concerning the financial condition of the enterprise. Financial statement analysis is undertaken by creditors, investors and other financial statement users in order to determine the credit worthiness and earning potential of an entity.

CHAPTER III
THEORETICAL FRAMEWORK

3.1 INTRODUCTION

Simply speaking ratio is numerical relationship between two number. Ratio analysis means the process of determining and presenting the relationship of the items in the financial statement. The ratio calculated by dividing one figure by the other figure. It may be expressed in any of the three ways i.e. times, proportion or percentage.

3.2 RATIO ANALYSIS

An absolute figure does not convey much meaning. Therefore it becomes necessary to study a certain in relation to some other relevant figure to arrive at certain conclusion e.g. if we are given figure of only net profit is heavy reasonable or insufficient for this purpose we must take into consideration the figure of sales to decide, the percentage of net profit to sales. On the basis of this percentage we can conclude, whether net profit earned its reasonable or otherwise. Thus, relationship between two figures expressed mathematically is called ratio. The ratio is calculated by dividing one figure by other figures.

3.3 MEANING OF RATIO

Ratios are simply a means highlighting in arithmetical terms the relationship between figures drawn from various financial statements.

Robert Anthony defines ' a ratio as simply one number expressed in term of another.'

Ratio analysis means the process of computing determining and presenting relationship of items and groups of items in the financial statements.

It involves three steps

1. The financial manager selects from the statement those sets of data which are relevant to his objective of analysis and calculates appropriate ratio for the firm.
2. The seconds sales for the comparison either with the industry standards or with the ratio of the same firm relating to past.
3. After such comparison the conclusion may be drawn and presented in the form of report.

3.4 SIGNIFICANCE OF RATIO

Financial statements provide an absolute figure. These absolute figure does not convey anything unless, it is related with the other relevant figures. The interrelationship that exists among the different items appeared in the financial statement, are revealed by accounting ratios. Thus, they are equally useful to the internal management, prospective investors, creditors and outsiders etc. Besides, ratios are very much significant to increase the efficiency of the management, to reduce the expenditure and to increase the rate of profit.

The importance of ratio analysis are discussed here under.

- a) It helps to analyse the probable causal relation among different items after analysing and scrutinizing the past result.
- b) Ratio analysis helps the management to prepare various budgets, to formulate policy and to prepare the future plan of action and thus helps as a guide. It is used to harmonize amount different items for preparing budgets.
- c) It helps to take time dimension into an account by trend analysis i.e. whether the firm is improving or deteriorating over a number of years, that can easily be studied by the trend analysis so, comparison can be made without difficulty by the analysis and to see whether the said ratio is high or low in comparison with the standard or normal ratio
- d) It throws light on the degree of efficiency of the management and utilization of the assets and that is why it is called survey of efficiency.
- e) It helps to make an interfirm comparison either between the different departments of a firm or between two firms employed in the identical types of business or between the same firm of two different dates. Thus the comparative analysis can be made possible between the industry average ratio and the ratio of each business unit.
- f) Short term liquidity position e.g. to maintain its short term obligations or not that can be easily known and measured by the application of leverage or profitability ratio. Thus the ratio helps as an invaluable aid to the users of financial statement.
- g) Ratio analysis helps the management for comparison of the present ratios with past and expected future ratios.
- h) Ratio analysis helps the management for decision making

3.5 NECESSITY OF RATIO ANALYSIS

The financial statements prepared in absolute manner are not more than a group of accounting figure. These statements are mainly meant for external parties having a financial state in business. The management is not satisfied with only total figures recorded in the financial statement. It wants to know the financial strength of the business the liquidity, profitability and solvency position of the firm. Ratio analysis is the process of identifying the financial strength and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and the profit and loss account. The figures recorded in the financial statements are analysed, interrelated and then they are interpreted i.e. the conclusion are drawn.

Ratio analysis is considered to be a very valuable tool of management control ratio enable data to be summarized and simplified for presentation to management for managerial decisions. By studying various ratios the management can understand the financial facts of the business. Short term as well as long term solvency, capital structure, its ability to earn a fair returns on its investments, the performance and efficiency of various department etc. This enables the management to have effective control over the business operation. The ratio analysis helps the management in discharging its basic functions like forecasting, planning, co-ordination, control etc. Analysis, analytical study of the past performance of the business helps the management in predicting and projecting the future. It conveys the necessary information to the respective personnel and thus assists in the work of communication. It promotes co-ordination among the departments and the staff by a study of performance and efficiency of each department. The knowledge derived through the analysis may be used by the manager in planning business co-operations.

The usefulness of ratio analysis is not confined to the financial manager or executives only but the ratios are also useful to the financial institutions. Credit suppliers and investors for evaluating the financial position of the firm and judge the solvency and profitability of the business.

3.6 ADVANTAGES OF RATIO ANALYSIS

The following are the advantages of the ratio analysis.

1. Ratios simplify the comprehension of financial statements. They tell the whole story as a help of financial data is condensed in them. They indicate the changes in the financial condition of the business.
2. Ratio analysis provides data for interfirm or intrafirm comparison cannot be made with absolute figures. Net profit of the other firm. But percentage of net profits can be compared of evaluate the performance. Similarly, performance and efficiency of different departments in the same firm can be compared with the help of ratio.
3. They act as an index of the efficiency of enterprise. As such they serve as an instrument of management control. It is an instrument for diagnosis of the financial health of an enterprise. The efficiency of the various individual units similarly situated can be judged through inter firm comparison.
4. The ratio analysis can be of invaluable aid to management in the discharge of its basic function of forecasting, planning, co-ordination communicating and control. A study of the trend of strategic ratio may help the management in this respect. Past ratio indicates trends in cost, sales, profit and other relevant facts.
5. Investment decisions can at times be based on the conditions revealed be certain ratios.
6. They make it possible to estimate the other figure when one figure is known. Thus, the ratio analysis points out the financial condition of business. Whether it is very strong, good, questionable or poor and enables the management to take necessary steps.

3.7 LIMITATION OF RATIO ANALYSIS

The ratio analysis is one of the most powerful tool of financial management. Though ratios are simple to calculate and easy to understand they suffer from some limitations.

1. Limited Use of Single Ratio

A single ratio usually does not convey much of a sense. To make a better interpretation a number of ratios have to be calculated which is likely to confuse the analysis than help him in making any meaningful conclusions.

2. Lack of Adequate Standard

There are no well accepted standards or rules of thumb for all ratio. Which can be accepted as norms. It renders interpretation of the ratios difficult.

3. Inherent Limitations of Accounting

Like financial statements, ratios also suffer from the inherent weakness of accounting records such as their historical nature. Ratios of the past are not necessarily true indicators of the nature.

4. Change of Accounting procedure

Change in accounting procedure by a firm often makes ratio analysis misleading e.g. a change in the valuation of method of inventories, from FIFO to LIFO increases the cost of sales and reduces considerably the value of closing stocks which makes stock turnover ratio to be lucrative and an unfavourable gross profit ratio.

5. Window dressing

Financial statements can easily be window dressed to present a better picture of its financial and profitability position to outsiders. Hence one has to be very difficult for an outsider to know about the window dressing made by a firm.

6. Personal Bias

Ratio are only means of financial analysis and not an end itself ratio have to be interpreted and different people may interpret the same ratio in different ways

7. Uncomparable

Not only industries differ in their nature but also the firms of the similar business widely, differ in their size and accounting procedures etc. It makes comparison of ratios difficult and misleading. Moreover, comparisons are made difficult due to differences in definitions of various financial terms used in the ratio analysis.

8. Absolute figures distortive

Ratio devoid of absolute figures may prove distortive as ratio analysis is primarily a quantitative analysis and not a qualitative analysis.

9. Price Level Changes

Which making ratio analysis no consideration is made to the changes in price levels and this makes the interpretation of ratios invalid.

10. Ratio no Substitutes

Ratio analysis is merely a tool of financial statements. Hence ratios become useless if separated from the statements from which they are computed.

Classification of Ratios



Liquidity Ratios

- A) 1. Current Ratio
2. Liquid (Acid test or Quick Ratio)
3. Absolute Liquid Ratio.
- B) 1. Debtor's turnover ratio.
2. Creditors turnover ratio.
3. Inventory turnover ratio.

Solvency And Leverage Ratios

- Composite / Operating / financial
1. Debt equity ratio
2. Debt to total capital ratio
3. Cash flow debt service ratio
4. Interest coverage ratio
5. Capital gearing ratio



Activity Ratios

1. Inventory to turnover ratio.
2. Debtors turnover ratio.
3. Fixed assets to turnover ratio.
4. Total assets to turnover ratio.
5. Working capital to turnover ratio.
6. Payables to turnover ratio.
7. Capital employed turnover ratio.

Profitability Ratios

- A) In relation to sales
1. Gross profit ratio
 2. Operating profit ratio
 3. Net profit ratio
 4. Expense ratio
- B) In relation to investment
1. Return in investment
 2. Return on capital employed
 3. Earnings per share
 4. Price earning ratio

3.8 TYPES OF RATIO

Financial ratios have been classified in several ways i.e. according to nature of items, which are re-classified into balance sheet ratios on profit and loss A/c and composite ratio.

A) Liquidity Ratios

Liquidity refers to the ability of firm to meet its obligation in short-run, usually period one year. Liquidity values are generally based on relationship between current assets and current liabilities.

1. Current Ratio

Current ratio may be defined as the relationship between current assets and current liabilities. This ratio is also known as working capital ratio. Current

ratio analysis of a short-term financial position or liquidity of a firm. It is calculated by dividing the total of current assets by total of current liability.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The two basic components of this ratio are current assets and current liabilities. Current assets includes cash and those assets which can be easily converted into cash within a short period of time generally one year such as marketable securities, bills receivables, sundry debtors, inventories, pre-paid expenses etc. current liabilities are those obligation which are payable within a short period of generally one year and include outstanding expenses, bills payable, Sundry creditors, accrued expenses, short term advances, income tax payable, dividend payables etc.

Components of Current Ratio

CURRENT ASSETS	CURRENT LIABILITIES
Cash In Hand	Outstanding Expenses/ Accrued Expenses
Cash At Bank	Bills Payable
Marketable Securities	Sundry Creditors
Short Term Investment	Short Term Advances
Bills Receivables	Income Tax Payable
Sundry Debtors	Dividend Payable
Inventories	Bank Overdraft
Work In Progress	
Prepaid Expenses	

It is a ratio of current assets to current liabilities some have suggested that in order to ensure solvency of a concern. Current assets should be at least twice the current liability.

Significance

This ratio indicates the solvency of the business i.e. ability to meet the liability of the business as and when they fall due. 2:1 ratio is satisfactory ratio. A high current ratio is also not desirable. It means less efficient use of funds and therefore this will result in considerably lowering down the profitability of the concern.

It is to be noted that high does not mean that current ratio is quite high does not mean that the bank will be in a position to meet adequate its short-term liabilities. In fact the current ratio should be seen in relation to the component of current assets and current liabilities

2. Quick or Acid test or Liquid Ratio

Quick ratio, also known as Acid test or liquid ratio, is a more rigorous test of liquidity than the current ratio. The term liquidity refers to the ability of a firm to pay its short-term obligations as and when they become due. The two determinants of current ratio, as a measure of liquidity, are current assets and current liabilities. Current asset includes inventories and prepaid expenses which are not easily convertible into cash within a short-period. Quick ratio may be defined as the relationship between quick liquid assets and liquid liabilities. Cash in hand and cash at bank are the most liquid assets. The other assets which can be included in the liquid assets are bills receivables, sundry debtors, marketable securities and short-term or temporary investments prepaid expenses and inventories are excluded from current assets. The quick ratio can be calculated by dividing the total of quick assets by total current liabilities.

$$\text{Quick / Liquid / Acid Test Ratio} = \frac{\text{Quick / Liquid Assets}}{\text{Quick / Liquid Liabilities.}}$$

The current ratio fails to serve as a realistic guide to the solvency of the bank, as the major portion of the converted liabilities in cash i.e. stock to meet the immediate liabilities. Therefore, liquid ratio is used to know the adequacy of funds.

The liquid or quick ratio indicates the relation of quick assets with quick liabilities. Quick or liquid assets includes current assets except stock and prepaid expenses. Quick liabilities include current liability except outstanding expenses and bank overdraft. This ratio 1:1 is satisfactory ratio.

Components of Quick/ Liquidity Ratio

QUICK/ LIQUID ASSETS	QUICK/ LIQUID LIABILITIES
Cash in hand	Outstanding/ accrued expense
Cash at bank	Bills payable
Bills receivables	Sundry creditors
Sundry debtors	Short term advances
Temporary investment	Income tax payable

Significance of Quick Ratio:-

The quick ratio is very useful in measuring the liquidity position of a firm. It measures the firm's capacity to pay off current obligations immediately and is a more rigorous test of liquidity than the current ratio.

Quick ratio is measure of the extent to which liquid resources are immediately available to meet current obligation. This ratio is more rigorous test of liquidity than the current ratio and when used in conjunction with it, given a better picture of the firm's ability to meet, its short-term debts out of short-term assets.

3. Absolute Liquid or Cash Position Ratio

Although receivables, debtors and bills receivable are generally more liquid than inventories yet there may be doubts regarding their realization into cash immediately or in time. Hence, some authorities are of the opinion that the absolute liquid ratio should also be calculated together with current ratio and acid test ratio so as to exclude even receivables from the current assets and find out the absolute liquid assets.

$$\text{Absolute liquid ratio} = \frac{\text{Absolute liquid assets}}{\text{Current liabilities}}$$

Absolute liquid assets include cash in hand and cash at bank and marketable securities or temporarily investment. The acceptable norm for this ratio is 50% or 0.5:1 or 1:2. Rs. 1 worth absolute liquid assets are considered adequate to pay Rs. 2 worth current liabilities in time as all the creditor are not expected to demand cash at the same time and then cash may also be realized from debtors and inventories.

B) Leverage / Safety Ratio

The purpose of calculating these ratios is to ascertain the stake of proprietors, vis a vis the creditors. In an undertaking where the proprietors, fluids from a small part, the maximum risk has to be borne by the creditors. In financial terms a large amount of debt capital related to equity is called high capital gearing, where as a large amount of equity capital, related to debt is called low capital gearing. Some of the important ratios are discussed are as follows.

1. Proprietary or Equity Ratio.

A variant to the debt-equity ratio is the proprietary ratio which is also known as equity ratio or shareholders to total equities ratio or net worth or total assets ratio. This ratio establishes the relationship between shareholder's funds to

total assets of the firm. The ratio of proprietors' funds to total funds is an important ratio for determining long-term solvency of a firm. The components of this ratio are shareholder's funds or proprietor's funds and total assets. The shareholder's funds are equity share capital, preference share capital, undistributed profits, reserves and surpluses. Out of this amount accumulated losses should be deducted. The total assets other hand denotes the total resources of the concern. It is calculated as

$$\text{Proprietary Ratio} = \frac{\text{Share capital} + \text{Reserve} + \text{Surplus}}{\text{Total Assets}} \times 100$$

The ratio establishes the relationship between proprietor's funds and total assets. 100% less percentage of this ratio = ratio of total liabilities total assets. If this ratio is 75%. It means ratio of total liabilities to total assets 25%. Equity ratio represents the relationship of owner's funds to total assets, higher the ratio or the share of the shareholders in the total capital of the company, better is the long-term solvency position of the company. The ratio indicates the extent to which the assets of the company can be lost without affecting the interest of creditors of the company.

Significance :-

Greater is the percentage of proprietors fond, the stronger is financial position of the concern. This ratio is normally a test of strength of credit worthiness of the concern. To the extent percentage of liabilities increase or the percentage of capital windless, the credit strength of the concern deteriorates.

The high proprietary ratio is however, frequently indicative of over capitalization and an excessive investment in fixed assets in relation to actual needs. A ratio nearing 100% often gives low earnings per share and consequently a low rate of dividend to shareholders. A low proprietary ratio on the other hand is a symptom of under capitalization and an excessive. Use of creditors funds to finance the business.

2. Debt to Equity Ratio or Total Liabilities to Proprietors funds Ratio

It is a measure of the relative claims of creditors and owners against the assets of the firm. It is calculated as under

$$\text{Debt to equity ratio} = \frac{\text{Total debt}}{\text{Net worth or owner's equity}}$$

The term total debt includes all debts i.e. long term, short term, mortgages, bills, debentures etc. whereas the term net worth means equity share capital, preference share capital, reserve and surplus i.e. shareholder's funds or equity. 1:1 ratio is desirable.

Significance:-

It is a measure of financial strength of a concern. Lower the ratio greater is the security available to creditors. A satisfactory current ratio and ample working capital may not always be a guarantee against insolvency, if the total liabilities are inordinately large.

The purpose of this ratio is to derive an idea of the amount of capital supplied by the owners and of assets, cushion available to creditors on liquidation. Generally, 1:1 ratio is acceptable. The greater the interest of the owners as compared with that of the creditors, the more satisfactory is the financial structure of the business, because in such a situation. The management is less handicapped by interest charges and debt repayment requirements.

A company having a stable profit can afford to operate on a relatively high debt equity ratio where as in the case of the company having an unstable profit a high debt equity ratio reflects a speculative situation. Too much reliance on external equities may indicate under capitalization, where as too much reliance on internal equities may lead to over capitalization.

3. Fixed assets to net worth ratio

This ratio is also called fixed assets to tangible net worth or capital to fixed assets ratio. This ratio establishes the relationship between fixed assets and shareholder's funds i.e. share capital plus, reserves, surpluses and retained earnings. This ratio can be calculated as follows

$$\text{Fixed assets to net worth ratio} = \frac{\text{Fixed assets - Depreciations}}{\text{Net worth}} \times 100$$

The ratio of fixed assets to net worth indicates the extent to which shareholder's funds are sunk into the fixed assets. Generally, the purchase of fixed assets should be financed by shareholders equity including reserve, surpluses and retained earnings. If the ratio is less than 100% it implies that owner's funds are more than total fixed assets and a part of the working capital is provided by shareholders. When the ratio is more than 100%. It implies that owner's funds are not sufficient to finance the fixed assets and the firm has to depend upon outsiders to finance the fixed assets. There is no rule of thumb to interpret this ratio but 60% to 65% is considered to be satisfactory ratio in case of industrial undertakings.

Significance:-

Normally proprietors should provide all the funds required to purchase fixed assets. If the ratio exceeds 100%. It indicates that the company has used short term funds for acquiring fixed assets. This policy may not be desirable. To the extent the fixed assets exceed the amount of capital and reserve, the working capital is depleted. When the amount of proprietor's fund exceeds the value of fixed assets i.e. when the percentage is less than 100, a part of the net working is supplied by the shareholders providing that there are no other non-current assets. Through, it is not possible to pay down a rigid standard as regards the percentage of capital. Which should be invested in fixed assets in each industry, there always is a maximum. Which should not be exceeded, so that the harmony among the fixed assets, debtors and stock is not disturbed. The ratio should generally be 65%.

4. Interest Coverage Ratio

Interest coverage ratio is also called as debt service ratio. Net income to debt service ratio or simply debt service ratio is used to test the debt servicing capacity of a firm. The ratio is also known as interest coverage ratio or coverage ratio or fixed charges cover or times interest earned. This ratio is calculated by dividing the net profit before interest and taxes by fixed interest charges.

Formula is –

$$\text{Interest coverage ratio} = \frac{\text{Net profit before interest \& taxes}}{\text{Fixed interest charges}} \\ = \text{No. of times.}$$

Interest coverage ratio indicates the number of times interest is covered by the profits available to pay the interest charges. Long -term creditors of a firm are interested in knowing the firm's ability to pay interest on their long - term borrowing. Generally, higher the ratio, the more the safe are the long-term creditors because even if earnings of the firm fall, the firm shall be able to meet its commitment of fixed interest charges. But a too high interest coverage ratio may not be good for the firm because it may imply that firm is not using debt as a source of finance so as to increase the earnings per share. The interest coverage ratio does not take into consideration other fixed obligations like payment of preference dividend and repayment of loan instalment.

The standard interest coverage ratio is six-seven times. The weakness of the ratio would indicate difficulty in securing additional funds from outside sources. However too high ratio may mean every conservative use of debt is being made by the firm. A lower ratio indicates excessive use of debt and points out that the firm should improve its operating efficiency or repay the debt to improve the coverage. Normally the standard ratio is taken to be 6 to 7 times.

C) Activity Efficiency Ratio

They are called efficiency or performance ratios or assets management ratio. The purpose of this ratios is to judge how effectively the company is utilizing the facilities at its command. The better the management of assets the larger is the amount of sales and the profits. Activity ratio measure-the efficiency or effectiveness with which a firm manages its resources or assets.

1. Total assets to turnover Ratio

This ratio is arrived at by dividing sales by total assets.

$$\frac{\text{Sales}}{\text{Total assets}} = \text{No. of times.}$$

This ratio indicates the sales generated per rat of investment in total assets. Thus, it aims to point out the efficiency or inefficiency in the use of the total assets or capital employed. Increase in ratio indicates more revenue is generated per rupee of total investment in assets. Some analysis takes only tangible assets and in that case the ratio will be arrived at by dividing assets and in that case the ratio will be arrived at by dividing sales by tangible assets only i.e. goodwill, patents, copyrights and trademarks etc. are not taken into account normally standard ratio is taken 2 times.

2. Fixed Assets to Turnover ratio.

This ratio is arrived as under.

$$\frac{\text{Sales}}{\text{Net fixed assets}} = \text{No. of times}$$

This ratio measures the efficiency in the utilization of fixed assets. This ratio indicates whether the fixed assets are being fully utilized. It is an important measure of the efficient and profit earning capacity of the business. A high ratio is an index of the overtrading while a low ratio suggests idle capacity and

excessive investment in fixed assets. Normally standard ratio is taken as five times.

D) Profitability Ratio

The profitability reflects the final results of business operations. Profitability ratio depicts the capacity of the unit to generate profits and its rate of return. The two popular profit margin ratios are gross profit ratio and net profit ratio.

The rate of return ratios on the other hand reflect the relationship between profit and investment. The important measures in this category are net income to total assets ratio, return on investment and return on equity ratio

1. Net Profit Ratio

Net profit is that portion of net sales, which remains to the owners or the shareholders after all costs, changes and expenses including income tax, have been deducted. Net profit ratio establishes the relationship between net profit (after taxes) and sales, and indicates the efficiency of the management in manufacturing, selling, administrative and other activities of the firm. This ratio is the overall measure of firm's profitability and is calculated as

$$\text{Net profit ratio} = \frac{\text{Net profit}}{\text{Sales}} \times 100.$$

The two basic elements of the ratio are net profits and sales. The net profits are obtained after deducting income tax and generally non-operating incomes and expenses are excluded from the net profits for calculating this ratio. Thus, incomes such as interest on investment outside the business, profit on sale of fixed asset etc. are excluded. The ratio is very useful as if the profit is not sufficient the firm shall not be able to achieve a satisfactory return on its investment. This ratio indicates the firm's capacity to face adverse economic conditions such as price competition, low demand obviously, higher the ratio, the better is the profitability. But while interpreting the ratio, it should be kept in mind that the performance of profits must also be seen in relation to investments or capital of the firm and not only in relation to sales.

The differs from the ratio of operating profits to net sales in as much as it is calculated after adding non-operating incomes like interest, dividends on investments etc. to operating profits and deducting non- operating expenses, such as loss on operating expenses. Such as loss on sale of old assets, provision for legal expenses etc. tram such profits. The ratio is widely used as a measure of overall profitability and is very useful to the proprietor reading it along with the operating ratio gives on idea of the efficiency as well as profitability of the business to a limited extent

2. Return on shareholder's investment ratio

Return on shareholder's investment popularly known as R.O.I. or return on shareholder proprietors funds is the relationship between net profit and the proprietors funds.

$$\text{Return on shareholder's investment} = \frac{\text{Net profit (after tax and interest)}}{\text{Shareholders fund / net work}}$$

The two basic component of this ratio are net profits and shareholder's funds. Shareholder's funds include equity share capital preference share capital free reserves such as share premium, revenue reserve, capital reserve, retained earnings and surplus, less accumulated losses, if any. Net profits are visualized from the viewpoint of owners i.e. shareholders. Thus, net profits are arrived at after deducting interest on long term borrowing and income tax, because those will be the only profits available for shareholders.

This ratio is one of the most important ratios used for measuring the overall efficiency of a firm. As the primary objective of business is to maximize its earnings, this ratio also indicates the extent to which this primary object of business is being achieved.

This ratio is of great importance to the present and prospective shareholder as well as the management of the company. As this ratio reveals how well the resources of a firm are being used, higher the ratio better are the results. The return on shareholders investments should be compared with the return on

other similar firm are attractive or not as the investment would like to invest only, where the return is higher, similarly, trend ratio can also be calculated for a number of years to get on idea of the prosperity, growth or deteriorations which in the company's profitability and efficiency.

3.9 TREND ANALYSIS

Trend analysis is the widespread practice of collecting information and attempting to spot a pattern. In some fields of study, the term has more formally defined meanings. Although trend analysis is often used to predict future events, it could be used to estimate uncertain events in the past, such as how many ancient kings probably ruled between two dates, based on data such as the average years which other known kings reigned. Trend analysis is a quantitative review of what happens over a period of time. It entails the collection of data from multiple time periods and plotting the information on a line graph for further analysis. There are three types of trend analysis: geographic, temporal, and intuitive. Benefits of Trend Analysis in Decision-Making. Trend analysis provides historical context, enabling organizations to make informed decisions based on past patterns and behaviours. This is particularly valuable in strategic planning and resource allocation.

In trend analysis the ratios of different items for various periods are calculated and then a comparison is made. These ratios can be calculated for the company over a definite period of time, say three to five years, and then we can analyse trends highlighted by these ratios. This may be done in three following ways:

(i) Trend percentages : Trend percentages (also known as index numbers) can be used to describe changes that have occurred from one period to the next. They are also used to compare data that cover a number of years. To calculate trend percentages:

1. Select a base year and assign each item on the base year statement a weight of 100%.
2. Express each item from the statements for the other years as a percentage of its base year amount. To determine these percentages, divide the amounts in the non-base years by the amount of the item in the base year.

(ii) Trend ratios: The comparison of the successive values of each ratio for a single firm over a number of years.

(iii) Graphic and diagrammatic representation.

Trend Analysis has the following advantages:

- (i) Simple. It is simple technique. It does not involve tedious calculations nor requires trained experts.
- (ii) Brief. It is a brief method to indicate the future trend.
- (iii) Less Terms. It reduces the chances of errors as it provides the opportunity to compare the percentages with the aid absolute figures.

3.10 TRENDS IN FINANCIAL PATTERNS

In order to obtain a better insight into the stability/change of financial patterns between 1965-66 and 1984-85, a trend analysis was conducted. The following is revealed from the analysis:

1. an increasing dependence on both short- and long-term debt financing;
2. no significant change in the use of internal finance;
3. declining asset efficiency, but not statistically significant;
4. declining profitability in relation to sales, shareholders' equity and total investment, whose impact has been deepened by the increasing interest burden;
5. declining inventory and cash position;
6. Increasing receivables being more than compensated by increasing suppliers' credit resulting into increasing use of net credit.

An analysis was performed to examine the involvement of firms in the stability/change of financial patterns as observed above.

Our results show the following:

1. a consistent downward trend in factors one, two, three and six-return on investment sales efficiency, equity intensiveness and cash position across most of the firms.

2. A consistently stable earnings appropriation (i.e. payout and retention)
3. A consistent upward trend in the use of long-term debt financing across almost all firms; short-term bank borrowing showed a tendency of upward trend but not widespread across all firms.
4. Inventory and receivables exhibited different trends-inventory a declining trend
(but not widespread) while receivables an increasing trend.

In sum, our results indicated that there were multiple dimensions of financial phenomena generally referred to as liquidity, activity and leverage. Research studies in future and financial analysis in practice, using financial ratios as input variables, may take cognizance of this evidence. It was also revealed that financial ratio patterns show some amount of stability over time.

Trend analysis is a strategy used in making future predictions based on historical data. It allows to compare data points over a given period of time and identify uptrends, downtrends, and stagnation.

If a trend is stable and steady over a period of time, it indicates consistency and invokes more certainty than a trend that is drastically changing positions. However, inconsistent trends might be more attractive to some investors who analyse certain external factors contributing to the radical trend changes. High risk usually involves chances of high rewards.

Investors and business managers use this information to make data-driven decisions and improve strategies.

3.11 TYPES OF TREND ANALYSIS

Trend analysis is computed using numerical data. This information is usually historical data, either traditional data in the form of a company's performance taken from its public financial statements or public web data, such as the number of job postings of a competitor in the past five years. When adding numerical data to a chart, you will be able to identify three types of trends.

Upward trend (bull market)

An uptrend or an upward trend means that your data points are increasing. Based on what type of variable you are examining and your purpose, this could have different meanings.

For instance, you are a business owner looking at the price of raw materials required to produce bread, and you notice that the price is increasing. This information could help you make different predictions, such as increased costs for your business or the necessity of raising the prices for the final consumer.

At the same time, an investor looking at the share price of company X who noticed an upward trend might decide to buy the stock since the price is increasing. An upward movement in a stock's price generally indicates a favourable condition, helping you to determine if the stock is a worthwhile investment.

Downward trend (bear market)

On the opposite side, a downward trend indicates the decreasing value of your variable. For example, if a company's profit has a sharp decline, this may require investors to proceed with caution as the stock is risky since the price is going down. This also applies when other economic or financial variables have a downward trend.

When investors research financial assets, trend analysis can be done on the asset's historical data. If this price is decreasing, it indicates the presence of a bearish market. In other words, investment is not recommended because the prices could further decrease, leading to a loss.

Horizontal trend

Finally, the horizontal line indicates stagnation. In other words, the prices, or any other metrics, are not going up or down; rather, they are stagnant.

In practice, a flat trend might go up for one period, then pull a trend reversal, reaching a steady general direction overall. Making investment decisions based on horizontal trends is risky because you do not know what will happen. However, if you decide to

go with it, a sophisticated revenue and cost analysis regarding the sales regions must be implemented to calculate the risks.

3.12 LIMITATIONS OF TREND ANALYSIS

Identifying turning moments is a major issue in trend forecasting. Turning points are obvious in retrospect, but it can be difficult to identify whether they are simply deviations or the start of new trends at the time.

Long-term estimates require additional data, which may not always be available. Especially for a new business or product line. In any event, the further out one anticipates, the higher the risk of mistakes, because time inevitably introduces new variables.

As a result, it's crucial to examine your trend analysis data and take action only if you're confident in your market reading.

Benefits of trend analysis

Apart from being a straightforward investment analysis tool, trend analysis has several other benefits. Some of the main ones include:

It is easy to compare the performance of two or more firms over the same period of time, so you can see how strong or weak a business is compared to another one in the same industry.

Trend analysis can be used with a myriad of numerical data types, including traditional data (i.e., profit or expenses) and public web data (website traffic, customer complaints, POS transactions, and many more).

Data suggests you can use these long-term trends to identify actionable patterns. These patterns can afterward be used to make forecasts.

You can use trend analysis to examine preliminary financial statements for inconsistencies and see whether certain adjustments must be implemented before releasing the statements to the public.

Trend analysis allows you to examine the entire stock market to detect signs of potential trend changes for better or worse

CHAPTER - IV
DATA ANALYSIS AND INTERPRETATION

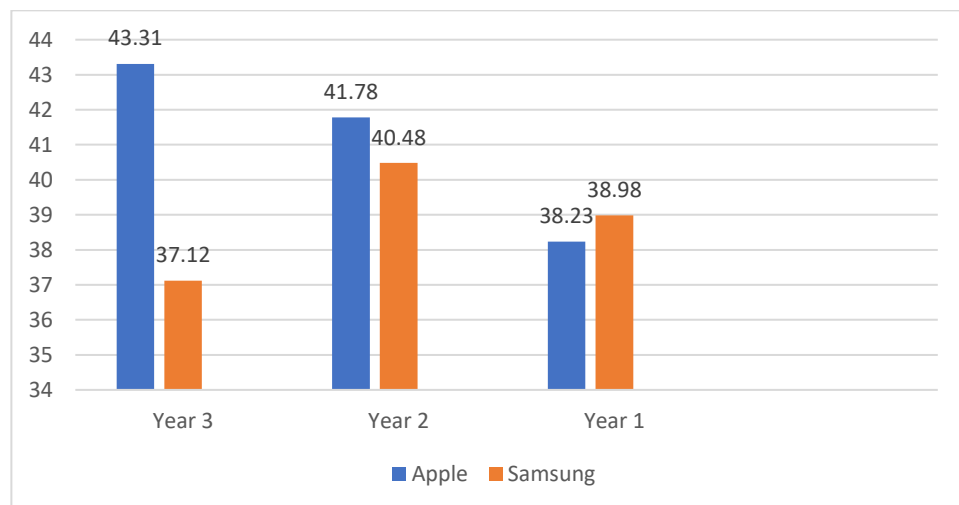
4.1 GROSS PROFIT RATIO

Table 4.1.1

YEAR	APPLE		YEAR	SAMSUNG		GROSS PROFIT RATIO	
	GROSS PROFIT(in millions)	SALES (in millions)		GROSS PROFIT(in thousands)	SALES (in thousands)	APPLE	SAMSUNG
2021-2022	170782	394328	2022	86891315	234079475	43.31%	37.12%
2020-2021	152836	365817	2021	87668814	216555107	41.78%	40.48%
2019-2020	104956	274515	2020	78205885	200606179	38.23%	38.98%

(Source : Primary Data)

Figure 4.1.1



(Source : Primary Data)

INTERPRETATION

Both companies have experienced variations in their gross profit margins. Apple's gross profit margin have increased during the years by 5.08% while Samsung's gross profit margin has increased at first by 1.5% and then decreased by 3.36%.

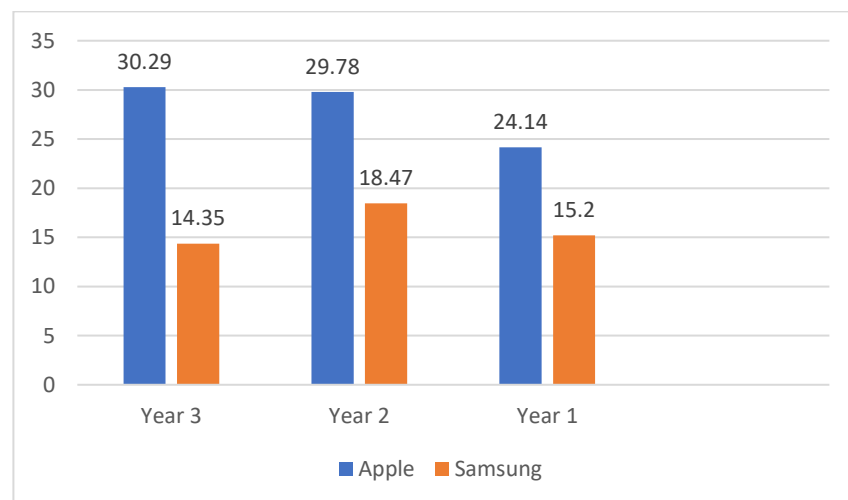
4.2 OPERATING PROFIT RATIO

Table 4.2.1

YEA R	APPLE		YEA R	SAMSUNG		OPERATING PROFIT RATIO	
	OPERATIN G PROFIT (in millions)	SALES (in million s)		OPERATIN G PROFIT (in thousands)	SALES (in thousands)	APPLE	SAMSUN G
2021- 2022	119437	394328	2022	33595385	23407947 5	30.29 %	14.35%
2020- 2021	108949	365817	2021	39990641	21655510 7	29.78 %	18.47%
2019- 2020	66288	274515	2020	30491473	20060617 9	24.14 %	15.20%

(Source : Primary Data)

Figure 4.2.1



(Source : Primary Data)

INTERPRETATION

Apple has consistently improved its operating profit margin by 6.15 % during the three years. On the other hand, Samsung's margin has increased at first by 3.27% and then decreased by 4.12%.

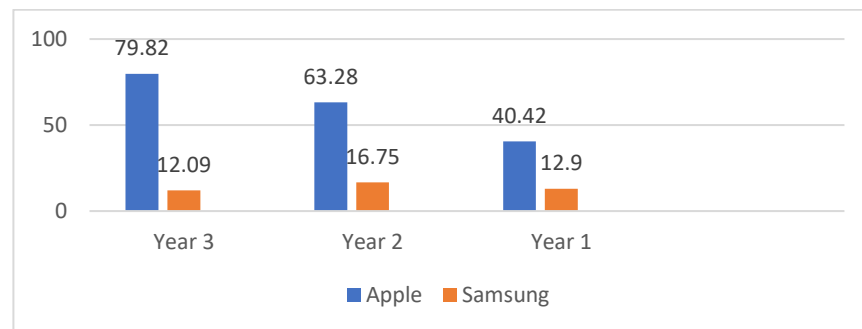
4.3 RETURN ON CAPITAL EMPLOYED

Table 4.3.1

YE A R	APPLE		YE A R	SAMSUNG		RETURN ON CAPITAL EMPLOYED	
	OPERATING PROFIT (in millions)	CAPITAL EMPLOYED (in millions)		OPERATING PROFIT (in thousands)	CAPITAL EMPLOYED (in thousands)	APPL E	SAMSUN G
2021- 2022	119437	149661	2022	33595385	277928040	79.82	12.09%
2020- 2021	108949	172196	2021	39990641	238759772	63.28	16.75%
2019- 2020	66288	164006	2020	30491473	236260911	40.42	12.90%

(Source : Primary Data)

Figure 4.3.1



(Source : Primary Data)

INTERPRETATION

Apple has demonstrated a remarkable improvement in ROCE over the three years by an increase of 39.4%. Samsung's ROCE has decreased by 3.85% and increased by 4.66%. Apple's return on capital employed is very higher when compared to Samsung's return on capital employed.

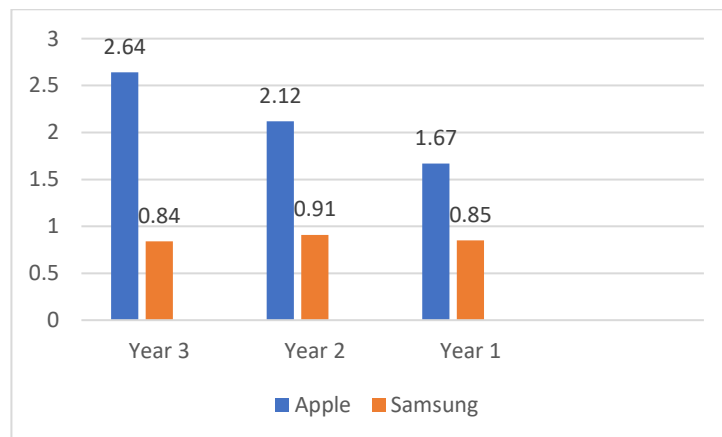
4.4 NET ASSET TURNOVER

Table 4.4.1

YEA R	APPLE		YEA R	SAMSUNG		NET ASSET TURNOVER	
	REVENUE (in millions)	CAPITAL EMPLOYED (in millions)		REVENUE(in thousands)	CAPITAL EMPLOYED (in thousands)	APPL E	SAMSUN G
2021-2022	394328	149661	2022	234079475	277928040	2.64 times	0.84:1
2020-2021	365817	172196	2021	216555107	238759772	2.12 times	0.91:1
2019-2020	274515	164006	2020	200606179	236260911	1.67 times	0.85:1

(Source : Primary Data)

Figure 4.4.1



(Source : Primary Data)

INTERPRETATION

Apple has seen a consistent improvement in net asset turnover while Samsung's ratio has been relatively stable but lower. Apple's net asset turnover has increased by 0.97 times during these years. Samsung's net asset turnover has increased by 0.06 times and then decreased by 0.07 times in the following year.

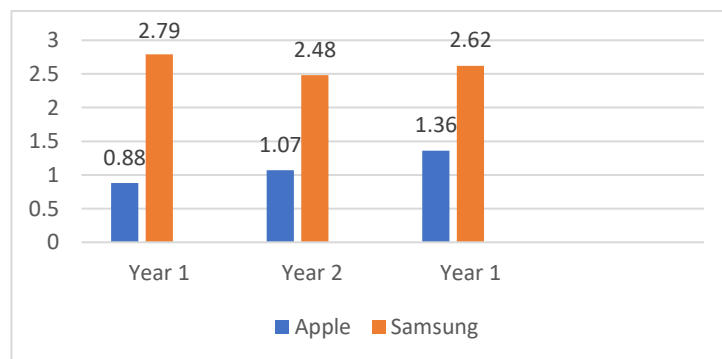
4.5 CURRENT RATIO

Table 4.5.1

YE A R	APPLE		YE A R	SAMSUNG		CURRENT RATIO	
	CURREN T ASSETS (i n millions)	CURRENT LIABILITIE S (in millions)		CURRENT ASSETS (i n thousands)	CURRENT LIABILITIE S (in thousands)	APPL E	SAMSUN G
2021- 2022	135405	153982	2022	169206395	60678421	0.88:1	2.79:1
2020- 2021	134836	125481	2021	168968315	68247094	1.07:1	2.48:1
2019- 2020	143713	105392	2020	167914259	64046674	1.36:1	2.62:1

(Source : Primary Data)

Figure 4.5.1



(Source : Primary Data)

INTERPRETATION

Apple's current ratio has decreased while Samsung has maintained a higher and relatively stable current ratio. Apple's ratio has decreased by 0.48 times during the three years. Samsung's ratio has decreased by 0.14 times and then increased by 0.31 times.

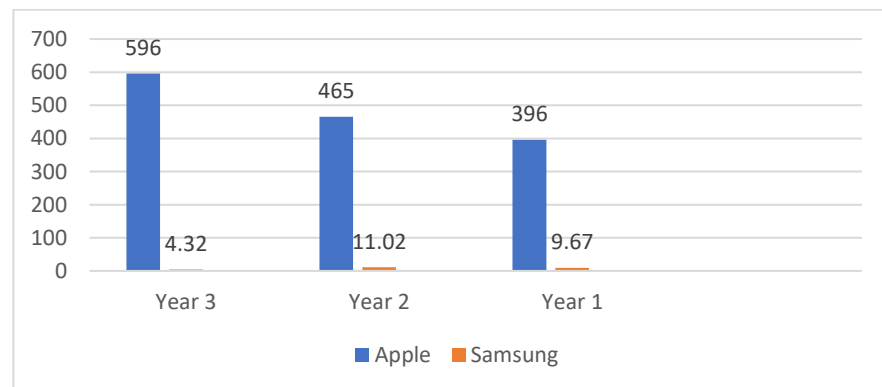
4.6 DEBT-EQUITY RATIO

Table 4.6.1

YEAR	APPLE		YEAR	SAMSUNG		GEARING	
	DEBT (in millions)	EQUITY (in millions)		DEBT (in thousands)	EQUITY (in thousands)	APPLE	SAMSUNG
2021-2022	302083	50672	2022	11873190	274755078	596%	4.32%
2020-2021	287912	63090	2021	26026514	236146294	456%	11.02%
2019-2020	258549	65339	2020	22604252	233763698	396%	9.67%

(Source : Primary Data)

Figure 4.6.1



(Source : Primary Data)

INTERPRETATION

Apple has experienced a significant increase in its gearing ratio, suggesting a higher reliance on debt. Samsung's gearing ratio has remained low, indicating a more conservative approach with a lower proportion of debt in its capital structure.

Apple's debt-equity ratio has increased by 200% while Samsung's has increased by 1.35% and decreased by 6.7%.

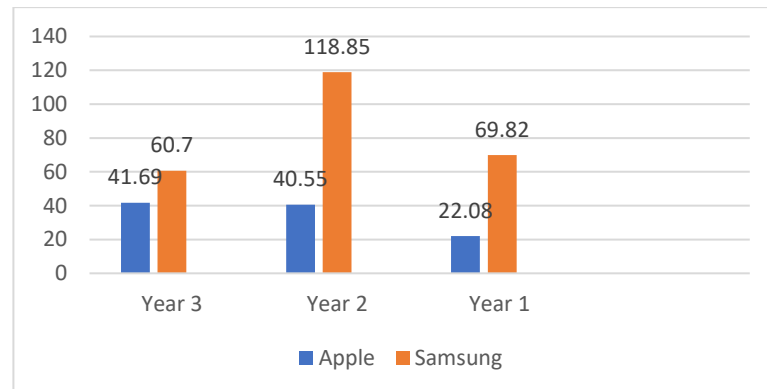
4.7 INTEREST COVER

Table 4.7.1

YE A R	APPLE		YE A R	SAMSUNG		INTEREST COVER	
	OPERATIN G PROFIT (in millions)	INTERES T (in millions)		OPERATIN G PROFIT (in thousands)	INTERES T (in thousands)	APPL E	SAMSUN G
2021- 2022	119437	2865	2022	33595385	553417	41.69 times	60.7 times
2020- 2021	108949	2687	2021	39990641	336476	40.55 times	118.85 times
2019- 2020	66288	3002	2020	30691473	470429	22.08 times	69.82 times

(Source : Primary Data)

Figure 4.7.1



(Source : Primary Data)

INTERPRETATION

Both Apple and Samsung have maintained high interest cover ratios. Apple's interest cover has increased by 19.61% during the three years and Samsung's interest cover has increased by 49.03% and then decreased by 58.15% .

4.8 TREND ANALYSIS - APPLE

Table 4.8.1

	Amount			Percentage		
Years	2022	2021	2020	2022	2021	2020
ASSETS						
Current assets:						
Cash and cash equivalents	23646	34940	38016	100	147.763	160.771
Marketable securities	24658	27699	52927	100	112.333	214.644
Accounts receivables net	28184	26278	16120	100	93.2373	57.1956
Inventories	4946	6580	4061	100	133.037	82.1068
Vendor non trade receivables	32748	25228	21325	100	77.0368	65.1185
Other current assets	21223	14111	11264	100	66.4892	53.0745
Total current assets	135405	134836	143713	100	99.5798	106.136
Non current assets						
Marketable securities	120805	127877	100887	100	105.854	83.5123

Property plant and equipment	42117	39440	36766	100	93.6439	87.2949
Other non current assets	54428	48849	42522	100	89.7498	78.1252
Total non current assets	21735 0	21616 6	18017 5	100	99.4553	82.8963
Total assets	35275 5	35100 2	32388 8	100	99.5031	91.8167
LIABILITIES AND SHAREHOLDERS EQUITY						
Current liabilities						
Accounts payable	64115	54763	42296	100	85.4137	65.969
Other current liabilities	60845	47493	42684	100	78.0557	70.152
Deferred revenue	7912	7612	6643	100	96.2083	83.9611
Commercial paper	9982	86.600 0	4996	100	60.1082	50.0501
Term debt	11128	9613	8773	100	86.3857	78.8372
Total current liabilities	15398 2	12548 1	10539 2	100	81.4907	68.4444

Non current liabilities:						
Term debt	98959	10910 6	98667	100	108.512	110.254
Other non current liabilities	49142	53325	54490	100	109.676	103.414
Total non current liabilities	14810 1	16243 1	15315 7	100	95.3089	85.5887
Total liabilities	30208 3	28791 2	25854 9	100	88.4593	78.3034`
Commitments and contingencies						
Shareholders equity						
Common stock and additional paid-in capital, !0.00001 par value: 50,400,000 shares authorized; 15,943,425 and 16,426,786 shares issued and outstanding, respectively	64,849	57365	50779	100	88.4593	78.3034
Retained earnings/(Accumulated deficit)	(3068)	5562	14966	100	-181.29	-487.81

Accumulated other comprehensive income/(loss)	(11109)	163	(406)	100	-1.4673	3.65469
Total shareholders' equity	50672	63090	65339	100	124.507	128.945
Total liabilities and shareholders' equity	35275 5	35100 2	32388 8	100	99.5031	91.8167

(Source : Primary Data)

INTERPRETATION

Current assets of Apple Co show fluctuating trend while non-current assets show decreasing trend. Current liabilities of Apple Co show increasing trend while non-current liabilities show fluctuating trend.

4.9 TREND ANALYSIS- SAMSUNG

Table 4.9.1

	Amount			Percentage		
Years	2022	2021	2020	2022	2021	2020
ASSETS						
Current Assets						
Cash and cash equivalents	38477921	30229997	24890848	100	79	65
Short term financial instruments	50422462	63283957	78310091	100	125	155
Short term financial asset at amortised cost	321117	2609331	2335630	100	830	727
Short term financial asset at fair value through profit or loss	22523	31566	60528	100	140	269
Trade-receivables	27666503	31532713	26231413	100	114	95
Non Trade Receivables	4762589	3483145	3053511	100	73	64
Prepaid expenses	2221141	1809437	1919680	100	81	86
Inventories	40419724	32052397	27144693	100	79	67
Other current Assets	4892415	3935772	3180515	100	80	65
Assets held for sale	-	-	787350	100	-	-

Total Current assets	169206395	168968315	167914259	100	99.9	99.2
Non-current assets						
Financial assets at fair value through other comprehensive income	8,827,034	10,816,602	10652836	100	123	121
Financial assets at fair value through profit or loss	1,088,541	1,181,385	1019070	100	109	94
Investment in associates and joint ventures	8,437,348	6,918,066	6842078	100	82	81
Property, plant and equipment	130,151,868	116,120,291	109239795	100	89	84
Intangible assets	15,658,737	15,673,057	15645212	100	100.1	99.91
Net defined benefit assets	4,532,377	2,176,039	1148286	100	48	25
Deferred income tax assets	3,950,992	3,300,328	3621478	100	84	92
Other non-current assets	5,453,397	5,265,819	4331610	100	97	79
	178,100,294	161,451,587	152500365	100	91	86
Total assets	347,306,689	330,419,902	320414624	100	95	92

LIABILITIES AND EQUITY						
Current liabilities						
Trade payables	8,244,355	10,419,678	8250382	100	126	100.07
Short-term borrowings	3,986,617	10,601,254	14022898	100	266	352
Other payables	13,625,362	12,070,545	10080012	100	86	74
Advances received	1,018,422	948,622	970322	100	93	95
Withholding taxes	1,005,496	1,002,249	825545	100	99.7	82
Accrued expenses	22,624,421	21,630,379	20610947	100	96	91
Current income tax liabilities	3,291,951	5,227,245	3753014	100	159	114
Current portion of long-term liabilities	843,561	1,030,066	606629	100	122	72
Provisions	4,526,905	4,161,312	3684643	100	92	81
Other current liabilities	1,511,331	1,155,744	955324	100	76	63
Liabilities held for sale			286958	100	-	-
Total current liabilities	60,678,421	68,247,094	64046674	100	112	105
Non-current liabilities						
Debentures	415,206	393,628	803195	100	95	193
Long-term borrowings	2,757,756	2,219,850	1694018	100	90	61

Long-term other payables	2,132,446	2,316,883	1425643	100	109	67
Net defined benefit liabilities	207,854	360,829	393456	100	174	189
Deferred income tax liabilities	3,958,748	17,967,108	15935221	100	454	403
Long-term provisions	1,493,645	1,786,777	890696	100	120	60
Other non-current liabilities	907,535	981,439	1462023	100	108	161
Total liabilities	72,551,611	94,273,608	86650926	100	219	190
Equity attributable to owners of the Company				100	130	119
Preference shares	92,528	92,528	101204			
Ordinary shares	602,601	602,601	659107	100	100	109
Share premium	3,410,834	3,410,834	3730668	100	100	109
Retained earnings	261,740,930	226,979,906	229629870	100	100	109
Other components of equity	1,501,243	(1,648,512)	(7359145)	100	87	87.7
Accumulated other comprehensive income attributable to assets held for sale	-	-	(10277)	100	110	490

Non-controlling interests	7,406,942	6,708,937	7012271	100	-	-
Total equity	274,755,078	236,146,294	233763698	100	91	95
Total liabilities and equity	347,306,689	330,419,902	320414624	100	86	85

(Source : Primary Data)

INTERPRETATION

Samsung shows an increasing trend on its current assets while its non-current assets has been fluctuating.

Current liabilities of Samsung co shows an increasing trend while its non-current liabilities have been increasing significantly

CHAPTER – V
FINDINGS, SUGGESTIONS AND CONCLUSION

FINDINGS

- Profitability ratios of Apple shows an upward trend while Samsung's shows fluctuating trend
- Apple has seen a consistent improvement in net asset turnover while Samsung's ratio has been relatively stable but lower
- Apple has higher debt in its capital structure when compared to Samsung
- Apple's return on capital employed is increasing while Samsung's is fluctuating
- Current assets of Apple shows fluctuating trend while Samsung shows an increasing trend
- Samsung has maintained higher current ratio while Apples current ratio has decreased
- Samsung has been maintaining a higher interest coverage ratio while Apple's has been increasing but lower
- decreasing trend is shown by non-current assets of Apple while a fluctuating trend is shown by Samsung
- Both Apple and Samsung shows an increasing trend in current liabilities.

SUGGESTIONS

1. Apple can develop a strategy to reduce the higher debt levels in its capital structure through refinancing or debt repayment plans.
2. Apple can focus on optimizing working capital management to ensure sufficient liquidity for operational needs.
3. Apple can explore opportunities to diversify revenue streams beyond core products like iPhones and iPads to reduce reliance on specific product lines
4. Samsung can focus on improving asset turnover ratios by optimizing inventory management and capital utilization to generate higher returns on assets.
5. Samsung can maintain wise debt levels and ensure that capital structure remains sustainable by balancing debt and equity
6. Both companies can continue investing in research and development to maintain a competitive edge and drive innovation in existing and emerging markets.

CONCLUSION

In this study, an attempt has been made to compare the financial performance of the Apple Co and Samsung Co. Upon analysing the comparative financial performance of Apple and Samsung, several noteworthy trends and patterns have emerged. These findings help us to understand the strengths and weaknesses of each company. With a focus on key financial ratios and indicators, this analysis aimed at providing an understanding of the financial dynamics at play within these two tech giants

In conclusion Apple demonstrates an improving profitability and return metrics and it also carries higher debt levels and experiences a decrease in certain asset categories. Samsung, conversely, maintains stability in the current ratio and interest coverage ratio but faces challenges in sustaining consistent profitability and asset turnover. Samsung has stronger ability to cover short term liabilities with its current assets while Apple's shows potential need for better management of short-term obligations. The increasing trend in current liabilities for both companies suggests potential liquidity concerns that warrant further analysis and management attention.

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ANNEXURE

Apple Inc.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)
(In millions, except number of shares which are reflected in thousands and per share amounts)

	Three Months Ended		Twelve Months Ended	
	September 26, 2020	September 28, 2019	September 26, 2020	September 28, 2019
Net sales:				
Products	\$ 50,149	\$ 51,529	\$ 220,747	\$ 213,883
Services	14,549	12,511	53,768	46,291
Total net sales ⁽¹⁾	64,698	64,040	274,515	260,174
Cost of sales:				
Products	35,197	35,238	151,286	144,996
Services	4,812	4,489	18,273	16,786
Total cost of sales	40,009	39,727	169,559	161,782
Gross margin	24,689	24,313	104,956	98,392
Operating expenses:				
Research and development	4,978	4,110	18,752	16,217
Selling, general and administrative	4,936	4,578	19,916	18,245
Total operating expenses	9,914	8,688	38,668	34,462
Operating income	14,775	15,625	66,288	63,930
Other income/(expense), net	126	502	803	1,807
Income before provision for income taxes	14,901	16,127	67,091	65,737
Provision for income taxes	2,228	2,441	9,680	10,481
Net income	\$ 12,673	\$ 13,686	\$ 57,411	\$ 55,256
Earnings per share:				
Basic	\$ 0.74	\$ 0.76	\$ 3.31	\$ 2.99
Diluted	\$ 0.73	\$ 0.76	\$ 3.28	\$ 2.97
Shares used in computing earnings per share:				
Basic	17,057,622	17,963,249	17,352,119	18,471,336
Diluted	17,256,521	18,081,493	17,528,214	18,595,651
⁽¹⁾ Net sales by reportable segment:				
Americas	\$ 30,698	\$ 29,322	\$ 124,556	\$ 116,914
Europe	16,900	14,946	68,640	60,288
Greater China	7,946	11,134	40,308	43,678
Japan	5,023	4,982	21,418	21,506
Rest of Asia Pacific	4,131	3,656	19,593	17,788
Total net sales	\$ 64,698	\$ 64,040	\$ 274,515	\$ 260,174
⁽¹⁾ Net sales by category:				
iPhone	\$ 26,444	\$ 33,362	\$ 137,781	\$ 142,381
Mac	9,032	6,991	28,622	25,740
iPad	6,797	4,656	23,724	21,280
Wearables, Home and Accessories	7,876	6,520	30,620	24,482
Services	14,549	12,511	53,768	46,291
Total net sales	\$ 64,698	\$ 64,040	\$ 274,515	\$ 260,174

Apple Inc.

CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)

(In millions, except number of shares which are reflected in thousands and par value)

	September 26, 2020	September 28, 2019
ASSETS:		
Current assets:		
Cash and cash equivalents	\$ 38,016	\$ 48,844
Marketable securities	52,927	51,713
Accounts receivable, net	16,120	22,926
Inventories	4,061	4,106
Vendor non-trade receivables	21,325	22,878
Other current assets	11,264	12,352
Total current assets	143,713	162,819
Non-current assets:		
Marketable securities	100,887	105,341
Property, plant and equipment, net	36,766	37,378
Other non-current assets	42,522	32,978
Total non-current assets	180,175	175,697
Total assets	\$ 323,888	\$ 338,516
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	\$ 42,296	\$ 46,236
Other current liabilities	42,684	37,720
Deferred revenue	6,643	5,522
Commercial paper	4,996	5,980
Term debt	8,773	10,260
Total current liabilities	105,392	105,718
Non-current liabilities:		
Term debt	98,667	91,807
Other non-current liabilities	54,490	50,503
Total non-current liabilities	153,157	142,310
Total liabilities	258,549	248,028
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, \$0.00001 par value: 50,400,000 shares authorized; 16,976,763 and 17,772,945 shares issued and outstanding, respectively	50,779	45,174
Retained earnings	14,966	45,898
Accumulated other comprehensive income/(loss)	(406)	(584)
Total shareholders' equity	65,339	90,488
Total liabilities and shareholders' equity	\$ 323,888	\$ 338,516

Apple Inc.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

(In millions, except number of shares which are reflected in thousands and per share amounts)

	Three Months Ended		Six Months Ended	
	March 27, 2021	March 28, 2020	March 27, 2021	March 28, 2020
Net sales:				
Products	\$ 72,683	\$ 44,965	\$ 168,361	\$ 124,069
Services	16,901	13,348	32,662	26,063
Total net sales ⁽¹⁾	89,584	58,313	201,023	150,132
Cost of sales:				
Products	46,447	31,321	108,577	83,396
Services	5,058	4,622	10,039	9,149
Total cost of sales	51,505	35,943	118,616	92,545
Gross margin	38,079	22,370	82,407	57,587
Operating expenses:				
Research and development	5,262	4,565	10,425	9,016
Selling, general and administrative	5,314	4,952	10,945	10,149
Total operating expenses	10,576	9,517	21,370	19,165
Operating income	27,503	12,853	61,037	38,422
Other income/(expense), net	508	282	553	631
Income before provision for income taxes	28,011	13,135	61,590	39,053
Provision for income taxes	4,381	1,886	9,205	5,568
Net income	\$ 23,630	\$ 11,249	\$ 52,385	\$ 33,485
Earnings per share:				
Basic	\$ 1.41	\$ 0.64	\$ 3.11	\$ 1.91
Diluted	\$ 1.40	\$ 0.64	\$ 3.08	\$ 1.89
Shares used in computing earnings per share:				
Basic	16,753,476	17,440,402	16,844,298	17,550,281
Diluted	16,929,157	17,618,765	17,021,423	17,718,591
⁽¹⁾ Net sales by reportable segment:				
Americas	\$ 34,306	\$ 25,473	\$ 80,616	\$ 66,840
Europe	22,264	14,294	49,570	37,567
Greater China	17,728	9,455	39,041	23,033
Japan	7,742	5,206	16,027	11,429
Rest of Asia Pacific	7,544	3,885	15,769	11,263
Total net sales	\$ 89,584	\$ 58,313	\$ 201,023	\$ 150,132
⁽¹⁾ Net sales by category:				
iPhone	\$ 47,938	\$ 28,962	\$ 113,535	\$ 84,919
Mac	9,102	5,351	17,777	12,511
iPad	7,807	4,368	16,242	10,345
Wearables, Home and Accessories	7,836	6,284	20,807	16,294
Services	16,901	13,348	32,662	26,063
Total net sales	\$ 89,584	\$ 58,313	\$ 201,023	\$ 150,132

Apple Inc.

CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)

(In millions, except number of shares which are reflected in thousands and par value)

	March 27, 2021	September 26, 2020
ASSETS:		
Current assets:		
Cash and cash equivalents	\$ 38,466	\$ 38,016
Marketable securities	31,368	52,927
Accounts receivable, net	18,503	16,120
Inventories	5,219	4,061
Vendor non-trade receivables	14,533	21,325
Other current assets	13,376	11,264
Total current assets	121,465	143,713
Non-current assets:		
Marketable securities	134,539	100,887
Property, plant and equipment, net	37,815	36,766
Other non-current assets	43,339	42,522
Total non-current assets	215,693	180,175
Total assets	<u>\$ 337,158</u>	<u>\$ 323,888</u>
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	\$ 40,127	\$ 42,296
Other current liabilities	45,660	42,684
Deferred revenue	7,595	6,643
Commercial paper	5,000	4,996
Term debt	8,003	8,773
Total current liabilities	106,385	105,392
Non-current liabilities:		
Term debt	108,642	98,667
Other non-current liabilities	52,953	54,490
Total non-current liabilities	161,595	153,157
Total liabilities	267,980	258,549
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, \$0.00001 par value: 50,400,000 shares authorized; 16,686,305 and 16,976,763 shares issued and outstanding, respectively	54,203	50,779
Retained earnings	15,261	14,966
Accumulated other comprehensive income/(loss)	(286)	(406)
Total shareholders' equity	69,178	65,339
Total liabilities and shareholders' equity	<u>\$ 337,158</u>	<u>\$ 323,888</u>

Apple Inc.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)
(In millions, except number of shares which are reflected in thousands and per share amounts)

	Three Months Ended		Twelve Months Ended	
	September 26, 2020	September 28, 2019	September 26, 2020	September 28, 2019
Net sales:				
Products	\$ 50,149	\$ 51,529	\$ 220,747	\$ 213,883
Services	14,549	12,511	53,768	46,291
Total net sales ⁽¹⁾	64,698	64,040	274,515	260,174
Cost of sales:				
Products	35,197	35,238	151,286	144,996
Services	4,812	4,489	18,273	16,786
Total cost of sales	40,009	39,727	169,559	161,782
Gross margin	24,689	24,313	104,956	98,392
Operating expenses:				
Research and development	4,978	4,110	18,752	16,217
Selling, general and administrative	4,936	4,578	19,916	18,245
Total operating expenses	9,914	8,688	38,668	34,462
Operating income	14,775	15,625	66,288	63,930
Other income/(expense), net	126	502	803	1,807
Income before provision for income taxes	14,901	16,127	67,091	65,737
Provision for income taxes	2,228	2,441	9,680	10,481
Net income	\$ 12,673	\$ 13,686	\$ 57,411	\$ 55,256
Earnings per share:				
Basic	\$ 0.74	\$ 0.76	\$ 3.31	\$ 2.99
Diluted	\$ 0.73	\$ 0.76	\$ 3.28	\$ 2.97
Shares used in computing earnings per share:				
Basic	17,057,622	17,963,249	17,352,119	18,471,336
Diluted	17,256,521	18,081,493	17,528,214	18,595,651
⁽¹⁾ Net sales by reportable segment:				
Americas	\$ 30,698	\$ 29,322	\$ 124,556	\$ 116,914
Europe	16,900	14,946	68,640	60,288
Greater China	7,946	11,134	40,308	43,678
Japan	5,023	4,982	21,418	21,506
Rest of Asia Pacific	4,131	3,656	19,593	17,788
Total net sales	\$ 64,698	\$ 64,040	\$ 274,515	\$ 260,174
⁽¹⁾ Net sales by category:				
iPhone	\$ 26,444	\$ 33,362	\$ 137,781	\$ 142,381
Mac	9,032	6,991	28,622	25,740
iPad	6,797	4,656	23,724	21,280
Wearables, Home and Accessories	7,876	6,520	30,620	24,482
Services	14,549	12,511	53,768	46,291
Total net sales	\$ 64,698	\$ 64,040	\$ 274,515	\$ 260,174

Apple Inc.

CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)
(In millions, except number of shares which are reflected in thousands and par value)

	September 26, 2020	September 28, 2019
ASSETS:		
Current assets:		
Cash and cash equivalents	\$ 38,016	\$ 48,844
Marketable securities	52,927	51,713
Accounts receivable, net	16,120	22,926
Inventories	4,061	4,106
Vendor non-trade receivables	21,325	22,878
Other current assets	11,264	12,352
Total current assets	143,713	162,819
Non-current assets:		
Marketable securities	100,887	105,341
Property, plant and equipment, net	36,766	37,378
Other non-current assets	42,522	32,978
Total non-current assets	180,175	175,697
Total assets	<u>\$ 323,888</u>	<u>\$ 338,516</u>
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	\$ 42,296	\$ 46,236
Other current liabilities	42,684	37,720
Deferred revenue	6,643	5,522
Commercial paper	4,996	5,980
Term debt	8,773	10,260
Total current liabilities	105,392	105,718
Non-current liabilities:		
Term debt	98,667	91,807
Other non-current liabilities	54,490	50,503
Total non-current liabilities	153,157	142,310
Total liabilities	258,549	248,028
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, \$0.00001 par value: 50,400,000 shares authorized; 16,976,763 and 17,772,945 shares issued and outstanding, respectively	50,779	45,174
Retained earnings	14,966	45,898
Accumulated other comprehensive income/(loss)	(406)	(584)
Total shareholders' equity	65,339	90,488
Total liabilities and shareholders' equity	<u>\$ 323,888</u>	<u>\$ 338,516</u>

Samsung Electronics Co., Ltd. and its subsidiaries

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(In millions of Korean won, in thousands of US dollars (Note 2.29))

		December 31,	December 31,	December 31,	December 31,
	Notes	2022	2021	2022	2021
		KRW	KRW	USD	USD
Assets					
Current assets					
Cash and cash equivalents	4, 28	49,680,710	39,031,415	38,477,921	30,229,997
Short-term financial instruments	4, 28	65,102,886	81,708,986	50,422,462	63,283,957
Short-term financial assets at amortized cost	4, 28	414,610	3,369,034	321,117	2,609,331
Short-term financial assets at fair value through profit or loss	4, 6, 28	29,080	40,757	22,523	31,566
Trade receivables	4, 5, 7, 28	35,721,563	40,713,415	27,666,503	31,532,713
Non-trade receivables	4, 7, 28	6,149,209	4,497,257	4,762,589	3,483,145
Prepaid expenses		2,867,823	2,336,252	2,221,141	1,809,437
Inventories	8	52,187,866	41,384,404	40,419,724	32,052,397
Other current assets	4, 28	6,316,834	5,081,665	4,892,415	3,935,772
		218,470,581	218,163,185	169,206,395	168,968,315
Non-current assets					
Financial assets at fair value through other comprehensive income	4, 6, 28	11,397,012	13,965,839	8,827,034	10,816,602
Financial assets at fair value through profit or loss	4, 6, 28	1,405,468	1,525,344	1,088,541	1,181,385
Investment in associates and joint ventures	9	10,893,869	8,932,251	8,437,348	6,918,066
Property, plant and equipment	10	168,045,388	149,928,539	130,151,868	116,120,291
Intangible assets	11	20,217,754	20,236,244	15,658,737	15,673,057
Net defined benefit assets	14	5,851,972	2,809,590	4,532,377	2,176,039
Deferred income tax assets	25	5,101,318	4,261,214	3,950,992	3,300,328
Other non-current assets	4, 7, 28	7,041,145	6,798,952	5,453,397	5,265,819
		229,953,926	208,457,973	178,100,294	161,451,587
Total assets		448,424,507	426,621,158	347,306,689	330,419,902

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Samsung Electronics Co., Ltd. and its subsidiaries

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(In millions of Korean won, in thousands of US dollars (Note 2.29))

		December 31,	December 31,	December 31,	December 31,
	Notes	2022	2021	2022	2021
		KRW	KRW	USD	USD
Liabilities and Equity					
Current liabilities					
Trade payables	4, 28	10,644,686	13,453,351	8,244,355	10,419,678
Short-term borrowings	4, 5, 12, 28	5,147,315	13,687,793	3,986,617	10,601,254
Other payables	4, 28	17,592,366	15,584,866	13,625,362	12,070,545
Advances received	17	1,314,934	1,224,812	1,018,422	948,622
Withholdings	4, 28	1,298,244	1,294,052	1,005,496	1,002,249
Accrued expenses	4, 17, 28	29,211,487	27,928,031	22,624,421	21,630,379
Current income tax liabilities		4,250,397	6,749,149	3,291,951	5,227,245
Current portion of long-term liabilities	4, 12, 13, 28	1,089,162	1,329,968	843,561	1,030,066
Provisions	15	5,844,907	5,372,872	4,526,905	4,161,312
Other current liabilities	4, 17, 28	1,951,354	1,492,239	1,511,331	1,155,744
		78,344,852	88,117,133	60,678,421	68,247,094
Non-current liabilities					
Debentures	4, 13, 28	536,093	508,232	415,206	393,628
Long-term borrowings	4, 12, 28	3,560,672	2,866,156	2,757,756	2,219,850
Long-term other payables	4, 28	2,753,305	2,991,440	2,132,446	2,316,883
Net defined benefit liabilities	14	268,370	465,884	207,854	360,829
Deferred income tax liabilities	25	5,111,332	23,198,205	3,958,748	17,967,108
Long-term provisions	15	1,928,518	2,306,994	1,493,645	1,786,777
Other non-current liabilities	4, 17, 28	1,171,761	1,267,183	907,535	981,439
		15,330,051	33,604,094	11,873,190	26,026,514
Total liabilities		93,674,903	121,721,227	72,551,611	94,273,608

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Samsung Electronics Co., Ltd. and its subsidiaries

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(In millions of Korean won, in thousands of US dollars (Note 2.29))

		December 31,	December 31,	December 31,	December 31,
	Notes	2022	2021	2022	2021
		KRW	KRW	USD	USD
Equity attributable to owners of the Company					
Preference shares	18	119,467	119,467	92,528	92,528
Ordinary shares	18	778,047	778,047	602,601	602,601
Share premium		4,403,893	4,403,893	3,410,834	3,410,834
Retained earnings	19	337,946,407	293,064,763	261,740,930	226,979,906
Other components of equity	20	1,938,328	(2,128,473)	1,501,243	(1,648,512)
		345,186,142	296,237,697	267,348,136	229,437,357
Non-controlling interests	31	9,563,462	8,662,234	7,406,942	6,708,937
Total equity		354,749,604	304,899,931	274,755,078	236,146,294
Total liabilities and equity		448,424,507	426,621,158	347,306,689	330,419,902

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Samsung Electronics Co., Ltd. and its subsidiaries
CONSOLIDATED STATEMENTS OF PROFIT OR LOSS

(In millions of Korean won, in thousands of US dollars (Note 2.29))

	Notes	For the years ended December 31,			
		2022	2021	2022	2021
		KRW	KRW	USD	USD
Revenue	29	302,231,360	279,604,799	234,079,475	216,555,107
Cost of sales	21	190,041,770	166,411,342	147,188,160	128,886,293
Gross profit		112,189,590	113,193,457	86,891,315	87,668,814
Selling and administrative expenses	21, 22	68,812,960	61,559,601	53,295,930	47,678,173
Operating profit	29	43,376,630	51,633,856	33,595,385	39,990,641
Other non-operating income	23	1,962,071	2,205,695	1,519,632	1,708,320
Other non-operating expense	23	1,790,176	2,055,971	1,386,499	1,592,358
Share of net profit of associates and joint ventures	9	1,090,643	729,614	844,708	565,089
Financial income	24	20,828,995	8,543,187	16,132,145	6,616,735
Financial expense	24	19,027,689	7,704,554	14,737,026	5,967,210
Profit before income tax		46,440,474	53,351,827	35,968,345	41,321,217
Income tax expense	25	(9,213,603)	13,444,377	(7,135,975)	10,412,727
Profit for the year		55,654,077	39,907,450	43,104,320	30,908,490
Profit attributable to					
Owners of the Company		54,730,018	39,243,791	42,388,632	30,394,483
Non-controlling interests		924,059	663,659	715,688	514,007
Earnings per share (in Korean won, in US dollars)	26				
- Basic		8,057	5,777	6.24	4.47
- Diluted		8,057	5,777	6.24	4.47

The above consolidated statements of profit or loss should be read in conjunction with the accompanying notes.

Samsung Electronics Co., Ltd. and its subsidiaries

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(In millions of Korean won, in thousands of US dollars (Note 2.29))

		December 31,	December 31,	December 31,	December 31,
	Notes	2021	2020	2021	2020
		KRW	KRW	USD	USD
Assets					
Current assets					
Cash and cash equivalents	4, 28	39,031,415	29,382,578	34,115,412	25,681,845
Short-term financial instruments	4, 28	81,708,986	92,441,703	71,417,748	80,798,680
Short-term financial assets at amortized cost	4, 28	3,369,034	2,757,111	2,944,705	2,409,853
Short-term financial assets at fair value through profit or loss	4, 6, 28	40,757	71,451	35,624	62,452
Trade receivables	4, 5, 7, 28	40,713,415	30,965,058	35,585,565	27,065,012
Non-trade receivables	4, 7, 28	4,497,257	3,604,539	3,930,828	3,150,548
Prepaid expenses		2,336,252	2,266,100	2,042,001	1,980,685
Inventories	8	41,384,404	32,043,145	36,172,043	28,007,314
Other current assets	4, 28	5,081,665	3,754,462	4,441,629	3,281,589
Assets held-for-sale	32	-	929,432	-	812,370
		218,163,185	198,215,579	190,685,555	173,250,348
Non-current assets					
Financial assets at fair value through other comprehensive income	4, 6, 28	13,965,839	12,575,216	12,206,843	10,991,369
Financial assets at fair value through profit or loss	4, 6, 28	1,525,344	1,202,969	1,333,227	1,051,455
Investment in associates and joint ventures	9	8,932,251	8,076,779	7,807,235	7,059,510
Property, plant and equipment	10	149,928,539	128,952,892	131,045,055	112,711,289
Intangible assets	11	20,236,244	18,468,502	17,687,491	16,142,396
Net defined benefit assets	14	2,809,590	1,355,502	2,455,722	1,184,777
Deferred income tax assets	25	4,261,214	4,275,000	3,724,515	3,736,564
Other non-current assets	4, 7, 28	6,798,952	5,113,279	5,942,625	4,469,261
		208,457,973	180,020,139	182,202,713	157,346,621
Total assets		426,621,158	378,235,718	372,888,268	330,596,969

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Samsung Electronics Co., Ltd. and its subsidiaries

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(In millions of Korean won, in thousands of US dollars (Note 2.29))

		December 31,	December 31,	December 31,	December 31,
	Notes	2021	2020	2021	2020
		KRW	KRW	USD	USD
Liabilities and Equity					
Current liabilities					
Trade payables	4, 28	13,453,351	9,739,222	11,758,903	8,512,568
Short-term borrowings	4, 5, 12, 28	13,687,793	16,553,429	11,963,817	14,468,526
Other payables	4, 28	15,584,866	11,899,022	13,621,954	10,400,341
Advances received	17	1,224,812	1,145,423	1,070,547	1,001,157
Withholdings	4, 28	1,294,052	974,521	1,131,066	851,780
Accrued expenses	4, 17, 28	27,928,031	24,330,339	24,410,498	21,265,935
Current income tax liabilities		6,749,149	4,430,272	5,899,094	3,872,280
Current portion of long-term liabilities	4, 12, 13, 28	1,329,968	716,099	1,162,459	625,906
Provisions	15	5,372,872	4,349,563	4,696,159	3,801,736
Other current liabilities	4, 17, 28	1,492,239	1,127,719	1,304,292	985,685
Liabilities held-for-sale	32	-	338,742	-	296,077
		88,117,133	75,604,351	77,018,789	66,081,991
Non-current liabilities					
Debentures	4, 13, 28	508,232	948,137	444,220	828,719
Long-term borrowings	4, 12, 28	2,866,156	1,999,716	2,505,164	1,747,852
Long-term other payables	4, 28	2,991,440	1,682,910	2,614,668	1,470,948
Net defined benefit liabilities	14	465,884	464,458	407,206	405,960
Deferred income tax liabilities	25	23,198,205	18,810,845	20,276,394	16,441,621
Long-term provisions	15	2,306,994	1,051,428	2,016,428	919,001
Other non-current liabilities	4, 17, 28	1,267,183	1,725,857	1,107,582	1,508,485
		33,604,094	26,683,351	29,371,662	23,322,586
Total liabilities		121,721,227	102,287,702	106,390,451	89,404,577

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Samsung Electronics Co., Ltd. and its subsidiaries

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(In millions of Korean won, in thousands of US dollars (Note 2.29))

		December 31,	December 31,	December 31,	December 31,
	Notes	2021	2020	2021	2020
		KRW	KRW	USD	USD
Equity attributable to owners of the Company					
Preference shares	18	119,467	119,467	104,420	104,420
Ordinary shares	18	778,047	778,047	680,052	680,052
Share premium		4,403,893	4,403,893	3,849,223	3,849,223
Retained earnings	19	293,064,763	271,068,211	256,153,287	236,927,198
Other components of equity	20	(2,128,473)	(8,687,155)	(1,860,392)	(7,593,008)
Accumulated other comprehensive income attributable to assets held-for-sale	32	-	(12,132)	-	(10,604)
		296,237,697	267,670,331	258,926,590	233,957,281
Non-controlling interests	31	8,662,234	8,277,685	7,571,227	7,235,111
Total equity		304,899,931	275,948,016	266,497,817	241,192,392
Total liabilities and equity		426,621,158	378,235,718	372,888,268	330,596,969

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Samsung Electronics Co., Ltd. and its subsidiaries

CONSOLIDATED STATEMENTS OF PROFIT OR LOSS

(In millions of Korean won, in thousands of US dollars (Note 2.29))

	Notes	For the years ended December 31,			
		2021	2020	2021	2020
		KRW	KRW	USD	USD
Revenue	29	279,604,799	236,806,988	244,388,604	206,981,172
Cost of sales	21	166,411,342	144,488,296	145,451,851	126,290,010
Gross profit		113,193,457	92,318,692	98,936,753	80,691,162
Selling and administrative expenses	21, 22	61,559,601	56,324,816	53,806,176	49,230,711
Operating profit	29	51,633,856	35,993,876	45,130,577	31,460,451
Other non-operating income	23	2,205,695	1,384,068	1,927,888	1,209,745
Other non-operating expense	23	2,055,971	2,488,902	1,797,022	2,175,425
Share of net profit of associates and joint ventures	9	729,614	506,530	637,719	442,733
Financial income	24	8,543,187	12,267,600	7,467,173	10,722,497
Financial expense	24	7,704,554	11,318,055	6,734,165	9,892,548
Profit before income tax		53,351,827	36,345,117	46,632,170	31,767,453
Income tax expense	25	13,444,377	9,937,285	11,751,059	8,685,685
Profit for the year		39,907,450	26,407,832	34,881,111	23,081,768
Profit attributable to					
Owners of the Company		39,243,791	26,090,846	34,301,040	22,804,707
Non-controlling interests		663,659	316,986	580,071	277,061
Earnings per share (in Korean won, in US dollars)	26				
- Basic		5,777	3,841	5.05	3.36
- Diluted		5,777	3,841	5.05	3.36

The above consolidated statements of profit or loss should be read in conjunction with the accompanying notes.