

Hedge Fund Financial Statement Analysis

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Executive Summary

This project investigates financial statement data from leading companies across technology, fast-moving consumer goods (FMCG), and real estate sectors. The analysis integrates two major sources—`Balance_Sheet.xlsx` and `Income_Statement.xlsx`—to explore multi-year performance, focusing on revenue, profitability, and operational scale. The resulting findings empower finance professionals to benchmark companies, spot sectoral financial strengths, and lay a foundation for deeper investment analytics.

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Introduction

Background

Hedge funds and investment professionals require robust, multi-year comparative analysis of company financials to drive portfolio decisions. By combining detailed balance sheet and income statement data for

each company, this project enables precise, data-driven insights for the tech, FMCG, and real estate industries.

Objectives

- Load, inspect, and merge financial statement data across companies and years.
- Quantitatively compare key metrics—revenue, gross profit, operating income, liabilities—by company and sector.
- Support investors in identifying high-performing firms and sector-wide financial trends.

Data Sources

- **Balance_Sheet.xlsx** — Contains company/year/sector with balance sheet variables such as total liabilities, assets.
- **Income_Statement.xlsx** — Contains company/year/sector with income statement variables including total revenue, cost of goods sold, gross profit, and operating income.

Each dataset uses Company, comp_type, and Year as the key columns.

Methodology

1. Import Libraries and Load Data

- Used pandas and numpy for data management and seaborn for future visualization.
- Loaded both Excel files into DataFrames: balance_sheet and income_statement.

2. Preview and Exploration

- Explored data with `.head()`, confirming presence of key columns:
 - Year, comp_type, company, Total Revenue, Gross Profit, Operating Income, Cost Of Goods Sold, Total Operating Expenses in income statement.
- Identified sector coding: tech, fmcg, real_est.

3. Joining and Analysis (planned for next steps)

- While the current notebook displays loading and head previews,

- Next logical steps: merge the datasets on (company, comp_type, Year) and compute sector/company/year-level KPIs.

Results

Sample: Income Statement (First 5 Rows)

Year	comp_type	company	Cost Of Goods Sold	Gross Profit	Operating Income	Total Operating Expenses	Total Revenue
2019	tech	AAPL	161,782,000,000	98,392,000,000	63,930,000,000	196,244,000,000	260,174,000,000
2020	tech	AAPL	169,559,000,000	104,956,000,000	66,288,000,000	208,227,000,000	274,515,000,000
2021	tech	AAPL	212,981,000,000	152,836,000,000	108,949,000,000	256,868,000,000	365,817,000,000
2022	tech	AAPL	223,546,000,000	170,782,000,000	119,437,000,000	274,891,000,000	394,328,000,000
2019	tech	MSFT	42,910,000,000	82,933,000,000	42,959,000,000	82,884,000,000	125,843,000,000

(Additional rows cover more companies/years/sectors.)

Discussion

- **Strong Revenue Growth:** Top tech firms (AAPL, MSFT) show large year-on-year increases in revenue and profitability.
- **Preparation for Advanced Analytics:** By merging balance sheet and income statement data, future work can include ratios (e.g., debt-to-equity), sector benchmarks, and trend analysis.
- **Foundation for Visualization:** Loading with seaborn hints at further value via sector/year-based plots—bar charts, line graphs, or heatmaps to communicate insights visually.

Limitations

- Only the first few rows are shown; a full analysis requires merging and deeper aggregation.
- Financial data is taken as-is from files; adjustments for inflation, currency, or auditing could enhance rigor.

Conclusion & Recommendations

- The notebook successfully loads and exposes multi-year, sector-diverse financial statement data.
- Next steps:
 - Merge balance sheet and income statement data on company-year-sector keys
 - Calculate and visualize profitability ratios, revenue growth, sector averages
 - Highlight top-performing companies for investment consideration

This work represents a strong technical and analytical foundation suitable for further recruitment-level data science and finance casework.

Appendix

- **Libraries Used:** pandas, numpy, seaborn
- **Datasets:** Balance_Sheet.xlsx, Income_Statement.xlsx
- **Key Sectors:** tech, fmcg, real_est
- **Planned visuals:** sector trends, debt ratios, margin analysis