Value Investing Research Application

First and foremost we are a financial analysis company targeting retail and burgeoning professional traders, we want to be a Bloomberg terminal for the average man

What to do with all our data? How will we make recommendations?

Scoring System for TVI Recommendation Engine

Liquidity Ratios:

Current Ratio: Current Assets / Current Liabilities.

Quick Ratio: (Current Assets - Inventory) / Current Liabilities.

Score Weight: 20% (Hypothetical weight. Suggests that liquidity is vital but not the only crucial aspect.)

Benchmark for High Score: A current ratio >1.5 and a quick ratio >1.0.

Solvency Ratios:

Debt to Equity Ratio: Total Liabilities / Shareholders' Equity.

Score Weight: 20%

Benchmark for High Score: < 0.5 (indicating low financial leverage).

Efficiency Ratios:

Asset Turnover Ratio: Net Sales / Average Total Assets.

Inventory Turnover: Cost of Goods Sold / Average Inventory.

Score Weight: 15%

Benchmark for High Score: Industry-specific (e.g., high asset turnover ratio relative to industry average).

DuPont Analysis:

ROE: (Net Profit Margin) x (Asset Turnover) x (Equity Multiplier).

Score Weight: 15%

Benchmark for High Score: > 20%.

Free Cash Flow:

FCF: Operating Cash Flow - Capital Expenditures.

Score Weight: 15%

Benchmark for High Score: Positive and growing FCF over consecutive years.

Economic Value Added:

EVA: (Net Operating Profit After Tax) - (Capital x Cost of Capital).

Score Weight: 15%

Benchmark for High Score: Positive EVA, indicating the company is generating value for shareholders.

Calculation of the Score:

For each metric, you would assign a score between 0 and 100 based on the company's performance relative to the benchmarks. Then multiply each score by its respective weight and sum them up.

Total Score = (Liquidity Score x 0.20) + (Solvency Score x 0.20) + (Efficiency Score x 0.15) + (DuPont Score x 0.15) + (FCF Score x 0.15) + (EVA Score x 0.15)

A company with a total score closer to 100 would be considered a top recommendation by TVI, while those with scores closer to 0 would be less favorable.

This scoring system provides a quantitative assessment for investors, simplifying the complex world of financial analysis into a single, understandable figure. Adjustments in weights and benchmarks might be necessary based on backtesting, real-world performance, and industry-specific considerations.

Financial Ratios Analysis: These are fundamental to any financial analysis. They provide quick insights into a company's liquidity, solvency, and efficiency.

Liquidity Ratios: Essential to understand if the company can meet its short-term obligations.

Solvency Ratios: Important for long-term financial health and risk assessment.

Efficiency Ratios: Indicate how well a company is using its assets.

DuPont Analysis: By breaking down ROE, you get a comprehensive view of profitability, efficiency, and leverage. It's a great method to understand how a company is generating its returns.

Free Cash Flow (FCF): Cash flow is often a better metric than earnings for understanding a company's financial health. A company that consistently generates positive FCF might be a safer bet than one that doesn't.

Economic Value Added (EVA): It provides a clear picture of whether a company is truly adding value or simply earning a return that may not compensate for the risk taken.

Weighted Average Cost of Capital (WACC): Essential for understanding the return a company needs to provide to satisfy all its stakeholders.

Valuation Models:

Discounted Cash Flow (DCF): One of the most fundamental valuation models. If a company's stock is trading for less than its DCF valuation, it might be undervalued.

Net Asset Value (NAV): Useful for sectors like real estate or asset-heavy industries.

Comparative Analysis: Especially for a recommendation engine, comparing a company's metrics to its peers can quickly highlight over or undervalued companies.

Trend Analysis: This can provide insights into whether a company's financial health is improving or deteriorating over time.

These methods and models will provide a well-rounded view of a company's financial health and valuation. However, for a recommendation engine, it's also crucial to consider the user's financial goals, risk appetite, and investment horizon. Also, integrating other data like news sentiment, industry trends, and macroeconomic indicators can further refine recommendations.

TODO: Build out data set of publicly traded companies

TODO: Implement user only features such as saving favorite companies

TODO: Run calculations for averages for all of our functions across all companies, display comparison of queried companies with the global average, this can be extrapolated on to perform sector averages as well

TODO: Learn some javascript to make the site dynamic and interactive and add a graph system in order to visualize data

STRETCH: Company pages?

STRETCH: Build out relationship graph between companies?

STRETCH: Research more advanced methods of analyzing company metrics

STRETCH: Model company relationships with the government/s, public contracts, donations, etc

VERY STRETCH: Paper trading

LIGHT YEARS AWAY: Full brokerage services tailored with recommendations algorithms for value investing

Could store 6000 items of 48KB each is approximately 0.275 gigabytes, this is equivalent to 6000 of the data.json

files I’m consuming via API, building my own API to serve these to my project could prove beneficial

Initial Functions:

Total Assets: This indicates the total resources owned by the company. A value investor might be interested in companies with substantial assets that are potentially undervalued.

Total Liabilities: This shows the company's total debts and obligations. Value investors often look for companies with manageable debt levels.

Total Shareholder Equity: This represents the residual value for shareholders after deducting liabilities from assets. Positive equity is generally preferred by value investors.

Book Value per Share: Calculated by dividing total shareholder equity by the number of outstanding shares, this metric gives an idea of the minimum value that

shareholders would receive if the company were liquidated.

Retained Earnings: This indicates the cumulative amount of profits that the company has kept rather than distributed as dividends. Positive retained earnings can suggest a financially stable company.

Price-to-Book (P/B) Ratio: Calculated by dividing the current market price per share by the book value per share, this ratio helps assess whether a company's stock is overvalued or undervalued.

Current Asset:Liability Ratio: This ratio is calculated by dividing total current assets by total current liabilities. It measures the company's ability to cover short-term obligations with its short-term assets.

Debt-to-Equity Ratio: This ratio compares the company's total liabilities to its total shareholder equity. A lower ratio may indicate a healthier balance between debt and equity.

Cash and Cash Equivalents: Having a substantial amount of cash and equivalents can indicate financial stability and the ability to weather economic downturns.

Inventory: Low inventory levels relative to sales can suggest efficient management and reduced risk of obsolete inventory.

Intangible Assets and Goodwill: While not directly quantitative, assessing the value and nature of intangible assets and goodwill is important to understand the company's competitive advantage and potential risks.

Earnings per Share (EPS): Though not included in the provided data, EPS is often a critical metric for investors. Positive and growing EPS can indicate a company's profitability and potential for value appreciation.