NASDAQ Quant Dashboard – Methodology & User Guide

1. Introduction

This guide describes the methodology behind the NASDAQ Quant Dashboard. The dashboard blends quantitative factor modelling, historical performance analytics, and fundamental valuation techniques such as DCF and comparable multiples. It is designed as an educational and analytical tool, not as investment advice.

2. Data Sources

• Yahoo Finance (YF): Historical prices, daily returns, volatility, drawdowns, and Sharpe ratios. All performance and risk metrics are computed using Python from YF data.

• Python Factor Regressions (5-year window): Factor exposures and annualized alpha are extracted using regressions against widely used factors (Market, SMB, HML, RMW, CMA, Momentum).

• FinancialModelingPrep (FMP): Only Free Cash Flow margin, historical FCF series, and FCF-derived CAGRs used in the DCF model are taken from FMP. No raw proprietary data is redistributed — only derived values appear.

3. Comparable Multiples Methodology

Implied valuation prices are based on comparable multiples such as PE, EV/EBITDA, P/S, P/B, and EV/S. Each company is assigned to a classification key composed of Country, Sector, Industry, and MarketCap bucket. Peer groups are built using this key, and the median multiple of each peer group is applied to the company's own fundamentals to derive its implied relative value. This ensures valuation is sector-adjusted and context-appropriate.

4. Dashboard Columns Overview

The dashboard includes several groups of analytical fields:

Identification: Company metadata such as Ticker, Name, Country, Sector, Industry, MarketCap.

Valuation Metrics: Implied prices based on sector median multiples, intrinsic value from DCF modelling, blended Model Price, and Upside/Downside relative to market price.

Risk & Factors: Factor loadings (MKT, SMB, HML, RMW, CMA, MOM) and annualized alpha from 5-year regressions.

Performance Metrics: Daily return and volatility (1Y and 5Y), MaxDrawdown (5Y), and Sharpe ratio (5Y).

Scores: Equity Yield Score, Valuation Score, STARS Score, and final Rating, offering a multi-dimensional framework for screening stocks.

5. DCF Growth Modelling

The DCF model uses historical Free Cash Flow CAGRs over 3-year, 5-year, and 10-year windows. A hierarchical rule selects the most appropriate CAGR depending on data availability and stability. To prevent unrealistic exponential growth, excessively high CAGRs undergo market cap–based scaling. Large-cap companies may sustain higher growth for longer, while small caps receive more conservative scaling.

6. Proprietary Scoring System

The scoring framework converts raw financial signals into interpretable metrics: **Equity Yield Score** reflects shareholder yield characteristics; **Valuation Score** summarizes relative and intrinsic valuation; and **STARS Score** combines valuation with risk-adjusted return to produce a final classification. Ratings translate numerical scores into qualitative labels such as Strong Buy, Buy, Hold, Sell, and Strong Sell.

7. How to Use the Dashboard

The dashboard provides a multidimensional view of each stock. Valuation metrics show relative and absolute fairness of price, factor exposures reveal risk structure, performance metrics quantify past efficiency, and proprietary scores summarize the results. The tool is ideal for initial screening and comparative analysis.

8. Limitations

All valuations are derived from models using simplifying assumptions. Past performance is not predictive. Factor regressions depend on historical data and may not capture future risk. Data accuracy is dependent on third-party providers (YF, FMP).

9. Disclaimer

This dashboard is for informational and educational purposes only. It is not investment advice or a solicitation to buy or sell any security. The author is not responsible for any decisions made based on this content.