



NOVA SCHOOL OF
BUSINESS & ECONOMICS

Hedge Funds

Trading II - Fundamentals

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Trading

Fundamental Strategies

- Factors based on **fundamental data**, not only prices
- Usually **accounting data** from companies or **macro economic data** from countries
- Frequently more difficult to work with:
 - Meaningful?
 - Reliable?
 - Comparable?
 - Timely / Available?

Trading

Fundamental Strategies

Equity Factors

- Some of the most commonly used **Equity factors**:
 - **Market (Beta)** (W. Sharpe, CAPM)
 - **Value (HML)** (Fama & French)
 - **Size (SMB)** (Fama & French)
 - **Momentum** (Jegadeesh & Titman)
 - **Volatility** (Black, Haugen & Baker)
 - **Quality** (Several, Frazzini & Penderson)
 - Many others: **Liquidity, Profitability, Investment, Carry, Reversal, Sentiment, etc**
- **Methodology** to create factors: Long-Short of equities with the best /worst characteristics being evaluated (Value, Growth, Size, Momentum, Vol, Quality, etc)

Check https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/f-f_factors.html

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Fundamental Strategies

Equity Indicators

- Most commonly used **indicators for equity** factors:
 - **Value** – PER or E/P (Earnings Yield), FCF/P, Ebitda/EV, P/BV
 - **Momentum** – 12m returns (ex-last 1m, excess returns), EPS 12m revisions
 - **Low vol** – 1m to 3y STDev
 - **Quality** – ROE, FCF/Assets, Accruals/Assets, Average Net Receivables (ANR), Market Share
 - **Size** – market cap

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Fundamental Strategies

Macroeconomic Factors

- Some of the most commonly used **Macroeconomic factors**:
 - GDP
 - CPI
 - Unemployment
 - Current Account
 - Budget Deficit
 - Money Supply
 - Many others: **Industrial Production**, **PMIs**, **Debt-to-GDP**, etc
- But these are frequently **lagging** / already **discounted**
- **Methodology** to use factors: changes in these variables [use lin-lin, log-log relationships, pay attention to stationarity, cointegration, absolute size of the variables]

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Fundamental Strategies

Macroeconomic Indicators

- Some of the most commonly used **leading indicators**:
 - **GDP** – IP, PMI, Leading Index, Home Sales , Durable Goods, Productivity, Capacity Utilization, Vehicle Sales, Construction Spending, NAPM, Mortgage Applications, Capital Goods, Personal Consumption, etc
 - **CPI** – PPI, PCE Deflator, TIPs, Hourly earnings, ULC, Personal Income, etc
 - **Unemployment** – NFP, ADP, Jobless claims, Labor participation, etc
 - **Current Account** – ULC, FX Reserves, Import/ Export Px, etc
 - **Budget Deficit** – Debt O/S, Treasuries O/S, CB B/S, Monthly Budget, etc
 - **Liquidity** – TED Spread, IRS, IRS-TY, Moody's BAA, Equities/Bonds flows, etc
 - **Sentiment** – VIX, Correlation, YC Slope, Skew, Consumption/Wealth, Consumer Expectations, Bloomberg Confidence, etc

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Multifactor Models

Mix factors

- Difficult to combine – **results mixed**
- How to **combine factors**?
 - Add up different baskets
Ex: Good & Cheap = High ROE & Low P/E
Good + Cheap **is not the same as** Good & Cheap
 - Rank + rank
Good and cheap usually not good results
 - Filter + rank
ROE > 15% **afterwards** Rank P/E
 - Multiple regression
 $\beta_1 \times \text{ROE} + \beta_2 \times \text{P/E}$
- Beware of **multi-collinearity** – use few uncorrelated factors

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Multifactor Models

Alternative Mixing Strategies

- Use different factors for **different Industry Groups**, e.g.:
 - Banks Price to Book
 - Tech Price to Sales Growth
 - Industrials Ev-Ebitda
 - Capital Intensive FCF, CFO
- Use **different factors to generate signals** to buy and to sell:
 - PE, PB, ROE, Volatility Smile (skew), Short Interest (SI) = sell
- Use **factor analysis / principal components** to generate your own factors
- Use **machine learning** to **select** the most explicative/relevant **factors** (steady across time)
- Use **surprise factor** (expected vs actual) - ex. Earnings beat, economic data surprises)

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Trading Strategies Pitfall

Common issues to pay attention to and try to avoid:

- **Announcement dates** (forward looking bias)
- Lack of consistent **accounting standards** (US, EU, EM...20y ago)
- **Adjustments for corporate events** (dividends, splits...)
- **Periodicity** of events (ex. Q x Y earnings)
- **Window dressing** (ex. extraordinary gains, dividends)
- **Index changes** (survivorship bias)
- **Tax/ Accounting changes** (dividends x buy-backs)
- **Low frequency data** – no long time series: use cross section analysis

Ex. SX5E PE, SXXE PE