



#### Giant Funds & Market Mispricing

Professor Paul Woolley, Senior Fellow, London School Of Economics Professor Dimitri Vayanos, Professor of Finance, London School Of Economics

Wednesday, 10 May 2023



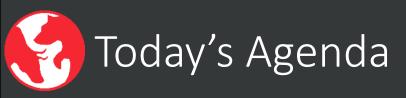
#### A Word From Today's Chairman

#### **Professor Michael Mainelli**

Chairman Z/Yen Group









- 11:00 11:05 Chairman's Introduction
- 11:05 11:25 Keynote Presentation Professor Paul Woolley & Professor Dimitri Vayanos
- 11:25 11:45 Question & Answer





#### Are markets basically efficient?













#### Professor Paul Woolley Senior Fellow

London School Of Economics

Professor Dimitri Vayanos Professor of Finance London School Of Economics

### GIANT FUNDS AND ASSET MISPRICING

FS Club

10 MAY 2023

Dimitri Vayanos and Paul Woolley

London School of Economics and Political Science

## 1. Background and Objectives

Centre for the Study of Capital Market Dysfunctionality established at LSE in 2007.

- Paul Woolley had spent his entire career as an academic, asset manager and policymaker puzzling how asset prices are formed.
- Dimitri Vayanos as a finance professor at LSE, and before that at MIT and Stanford, had questioned the efficiency of markets.
- Together with other colleagues at LSE we have been building a theory of mispricing based on agency frictions in asset management.
  - □ Momentum, "the premier unexplained anomaly".
  - □ Value, how a large component of stocks can become cheap.
  - □ Inversion of the relationship between risk and return.

## 2. Momentum and Value

- Vayanos-Woolley, "An Institutional Theory of Momentum and Reversal", *Review of Financial Studies* 2013.
- □ Suppose that a negative shock hits an sector's fundamentals.
  - → Funds overweighting the sector realize poor returns.
  - → Funds experience outflows.
  - → Funds sell stocks in the sector.
  - → If outflows are gradual, stocks' price declines gradually → Momentum.
  - $\rightarrow$  Stocks' price is below fundamental value  $\rightarrow$  Value.
- □ Flow-based procyclical trading.

## The Bird-in-the Hand Effect

- Question: Why do investors absorb outflows, buying stocks whose price is expected to drop?
  - Why isn't the effect of gradual flows fully anticipated into current prices?
- □ Answer: Investors prefer one bird in the hand.
  - Expectation of outflows renders stocks undervalued.
  - Buy now: Lock in attractive long-run return. (One bird in the hand)
  - Buy after outflows occur: Earn higher return on average, but risk that undervaluation disappears. (Two birds in the bush)

## Supporting Evidence

- Lou, "A Flow-Based Explanation for Return Predictability", *Review of Financial Studies* 2012.
  - Predict fund flows based on past returns.
  - Impute flows in or out of individual stocks.
  - Use stock-level flows to predict returns.
  - Fund flows explain a good part of stock-level momentum, especially for large stocks and recent data.

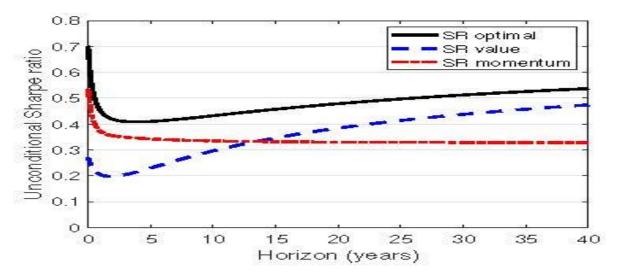
# 3. Optimal Strategy Mix

- How should long-horizon investors invest in mispriced markets?
- Polk-Vayanos-Woolley, "Long-Horizon Investing in a Non-CAPM World", LSE working paper 2022.
- □ Approach:
  - Calibrate VW RFS 2013.
  - Corroborate theoretical results with VAR analysis of US stock returns.

## Main Results

- Performance of value and momentum depends on investment horizon.
  - Value's Sharpe ratio decreases with horizon for short horizons, then increases.
  - Momentum's Sharpe ratio decreases for short horizons, then is flat.
  - → Optimal portfolio tilts from momentum to value as horizon increases.
- Performance of V&M can be forecast based on fund flows.
  - Correlation between value and momentum forecasts short-horizon Sharpe ratios. New predictor, which works in the data (VAR).
  - Value spread becomes a better predictor for long-horizon Sharpe ratios.

## Sharpe Ratios and Investment Horizon



- Over short horizons, value and momentum returns are positively autocorrelated.
  - Stock-level momentum.
- Over long horizons, value returns are negatively autocorrelated.
  - Value underperforms → Expected returns and value weights of undervalued stocks rise.

## 4. Problems Caused by Benchmarking

- Asset managers are constrained, explicitly or implicitly, not to deviate much from benchmark indices.
- Constrained-based procyclical trading.
  - Example: Sector with 10% weight in index and 5% weight by managers.
  - Sector rises to 20% weight in index.
  - $\square \rightarrow$  Weight by managers rises to (approximately) 10%.
  - $\rightarrow$  Managers must buy asset to raise weight to 15%.
- Buffa-Vayanos-Woolley, "Asset Management Contracts and Equilibrium Prices", Journal of Political Economy, 2022.

## **Overvaluation and Market Anomalies**

- Constrained-based procyclical trading is more pronounced for overvalued stocks.
  - $\square \rightarrow$  Overvalued stocks have higher volatility.
    - Inversion of the relationship between risk and return.
    - Volatility anomaly derives primarily from overvalued stocks.
  - $\square \rightarrow$  Momentum is more pronounced within overvalued stocks.
    - → Benchmarkers are generating the momentum (procyclical flows) and are exploited by momentum traders.
  - $\square \rightarrow$  Overvaluation bias for aggregate market.

# 5. Implications of New Theory

- Unified body of theory, not piecemeal explanations.
- Investing comprises two basic strategies:
  - Momentum targets short-term share prices and valuations.
  - Value targets long-term cash flows.
  - Share prices are a battleground between these two strategies.
- □ Systematic mispricing of shares, sectors and markets.
  - Bias to overvaluation, with bubbles and crashes.
  - Inversion of risk and return.
    - Indicates scale of distortion.
  - False signals to corporate sector.
  - Overturns every strategy and policy based on market efficiency.
    - Mark-to market, passive investing, rewards to CEO.

# 6. Making Markets More Efficient

- Standard theory of Efficient Markets is a special and limiting case and cannot explain imperfection or how to deal with it.
- Theory of dysfunctional markets shows cause of mispricing and suggests remedies.
- Solution depends on Giant Funds revising the way they contract with and monitor asset managers.
  - □ Confers private, early-bird advantage as well as social benefit.
- Sustainability goals and market efficiency depend on investors and corporates acting for long term.
- Non-technical summary: "Asset Management as Creator of inefficient markets", Atlantic Economic Journal, 2023.
- Bizarre that in 2023 we can do amazing science but cannot deliver efficient capitalism.

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### Comments, Questions & Answers













#### Thank You For Participating

# FS Club

#### **Forthcoming Events**

- Thu, 11 May (08:00-09:30) Developing Emissions Trading Schemes BizTech Huihuà Chat
- Thu, 11 May (17:00-18:30) A Walk Round The Financial Centre Of The City Exploring Its

History, Dark Secrets & Challenges – Post Brexit, Post Covid

 Tue, 16 May (16:00-16:45) Transforming Retail Banking For Streamlined International Transactions

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