Wharton
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Accounting for the Anomaly Zoo: a Trading Cost Perspective

DISCUSSANT
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ANOMALIES: FACT OR FICTION?

Decades of empirical finance research papers suggest anomalies exist

However,

- Data mining
- Post publication decay
- Implementation considerations

Nothing left?

Anomalies prevalent in investment management

FOCUS OF PAPER: IMPLEMENTATION CONSIDERATIONS

Two intertwined components

1) Implementation costs

2) Portfolio construction

1) IMPLEMENTATION COSTS

Paper's back-of-the-envelope calculation

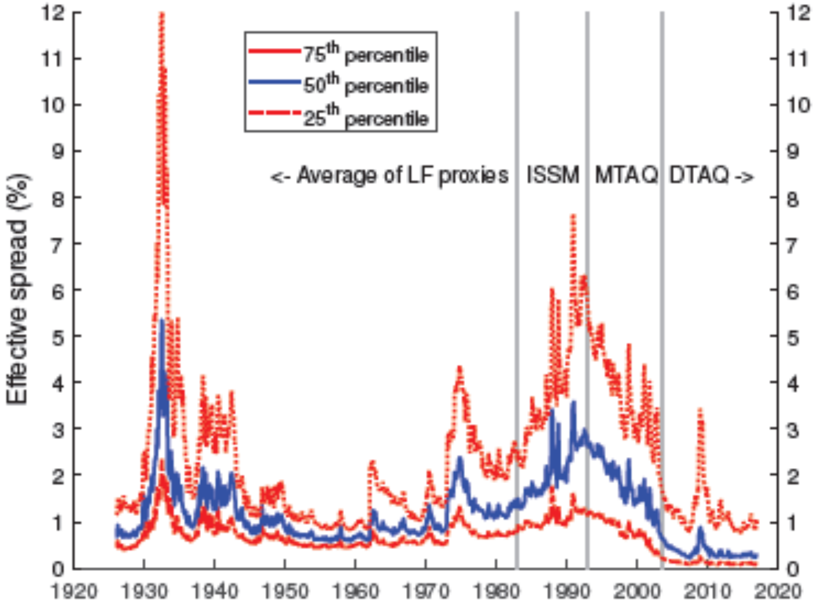
[Net Return] ≈ [Gross Return] - 2 x [Each Leg's Turnover] x [Bid-Ask Spread]

= 30 bps - 2 x 0.15 x 100 bps

= 0 bps per month

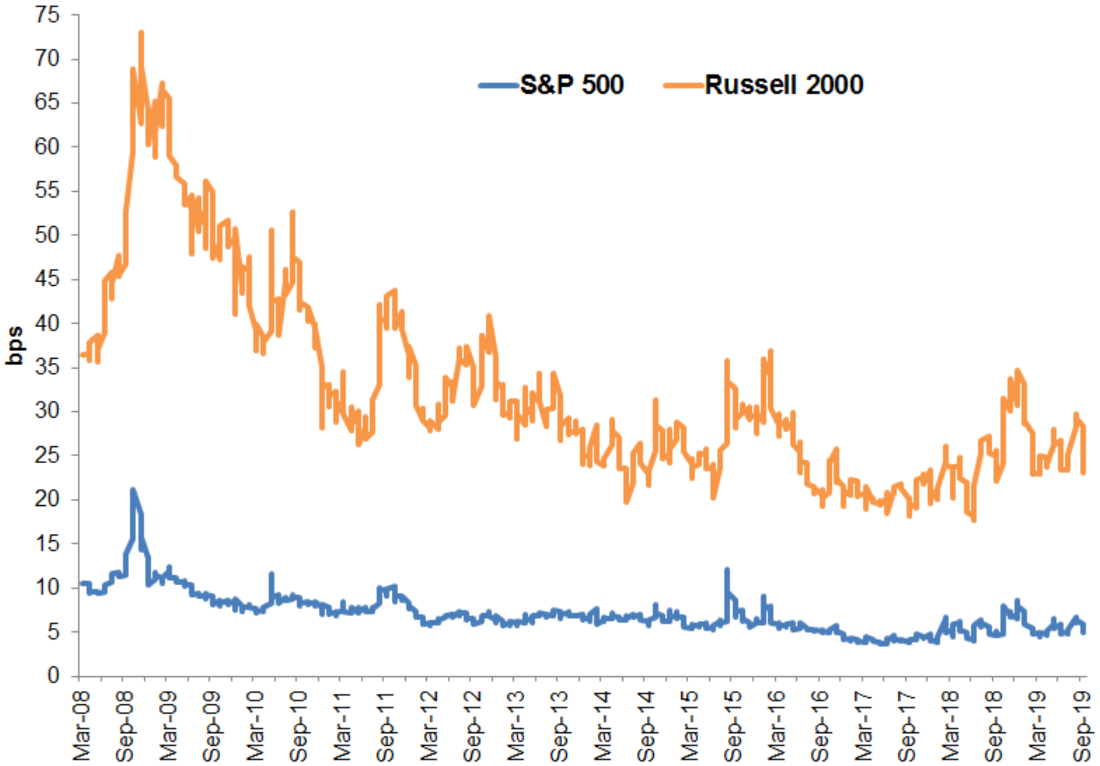
TRADING COSTS THROUGH TIME

Figure 1: Summary Statistics for Effective Spreads Over Time. Spreads use high-frequency data from Daily TAQ (DTAQ), Monthly TAQ (MTAQ), and ISSM when available. When high-frequency data is not available, we use the average of four low frequency (LF) proxies: Gibbs (Hasbrouck 2009), HL (Corwin and Schultz 2012), CHL (Abdi and Ranaldo 2017), and VoV (Kyle and Obizhaeva 2016).



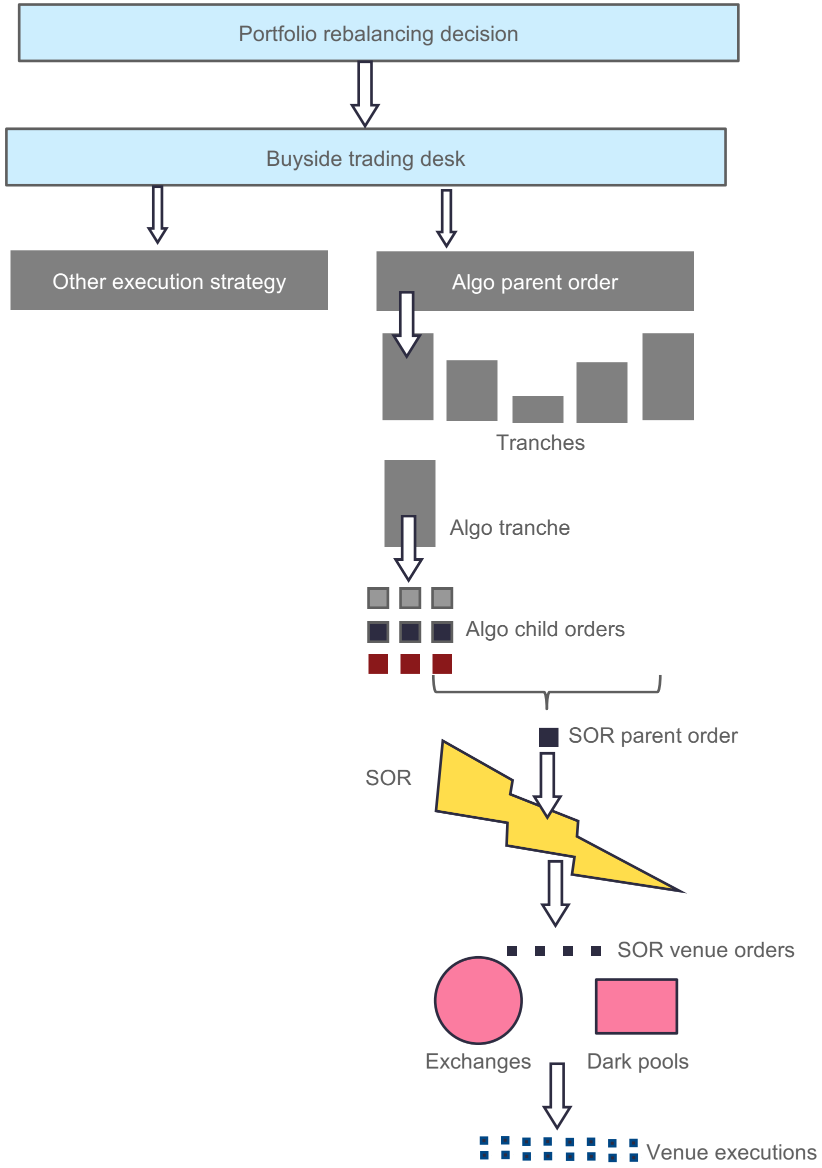
Expected shortfall for Russell 2000 vs. S&P 500

(Goldman Sachs Shortfall Model estimates for a $500 mn portfolio traded over a full trading day)

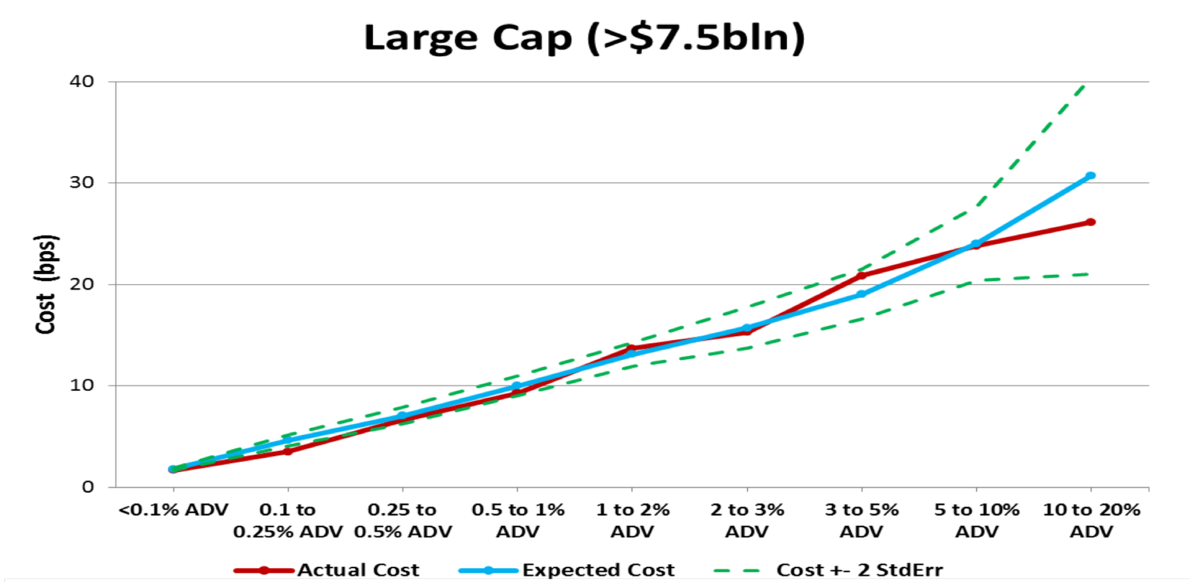


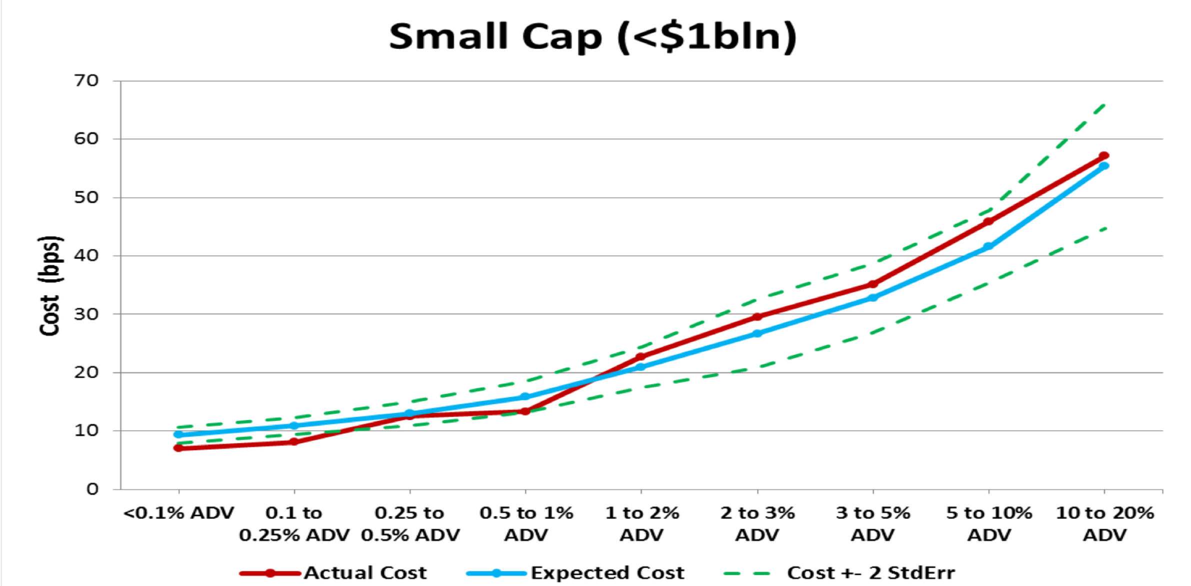
Sources: Russell, Standard & Poor's, Goldman Sachs Securities Division data

TRADING COST MODELING



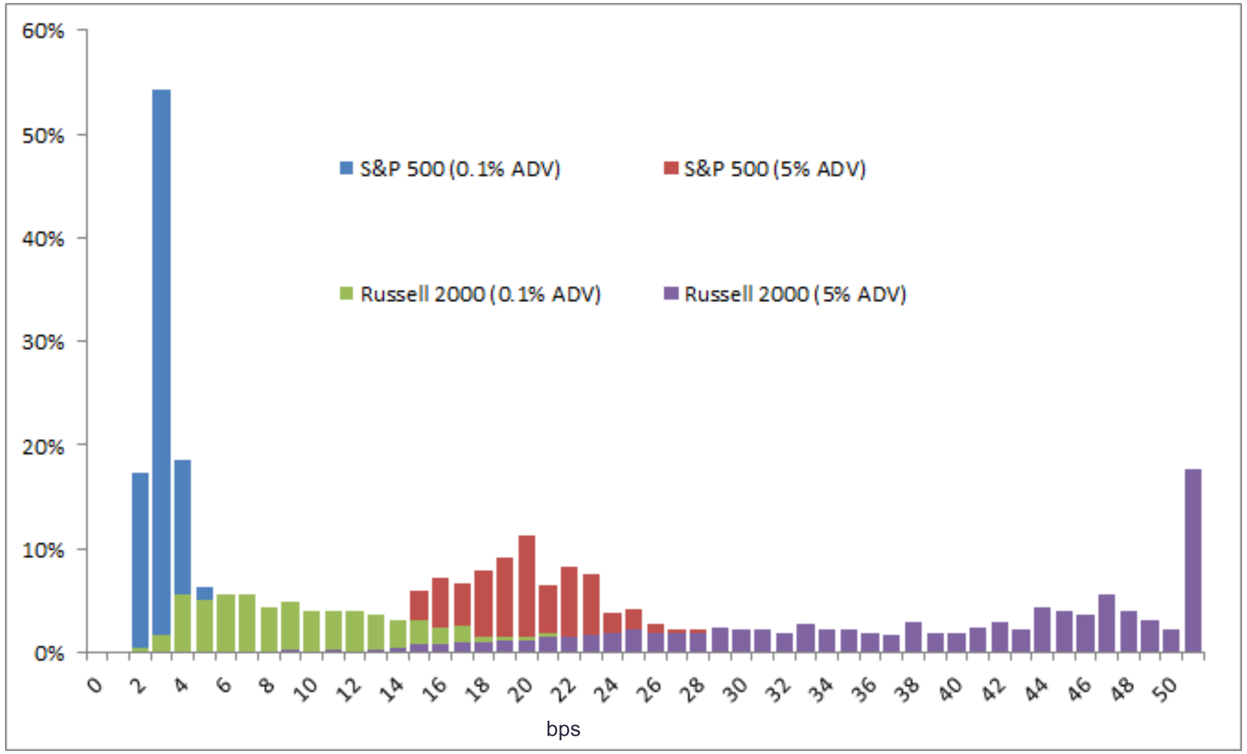
TRADING COSTS BY ORDER SIZE





Source: Goldman Sachs Securities Division, based on aggregated and non-attributed US orders from March 2013 to November 2013

Distribution of expected shortfall for S&P 500 and Russell 2000 constituents



Sources: Russell, Standard & Poor's, Goldman Sachs Securities Division data as of September 25, 2019

2) PORTFOLIO CONSTRUCTION

Equal-weighted long-short quintile portfolios

However,

- Weights of expensive-to-trade names?
- Turnover?

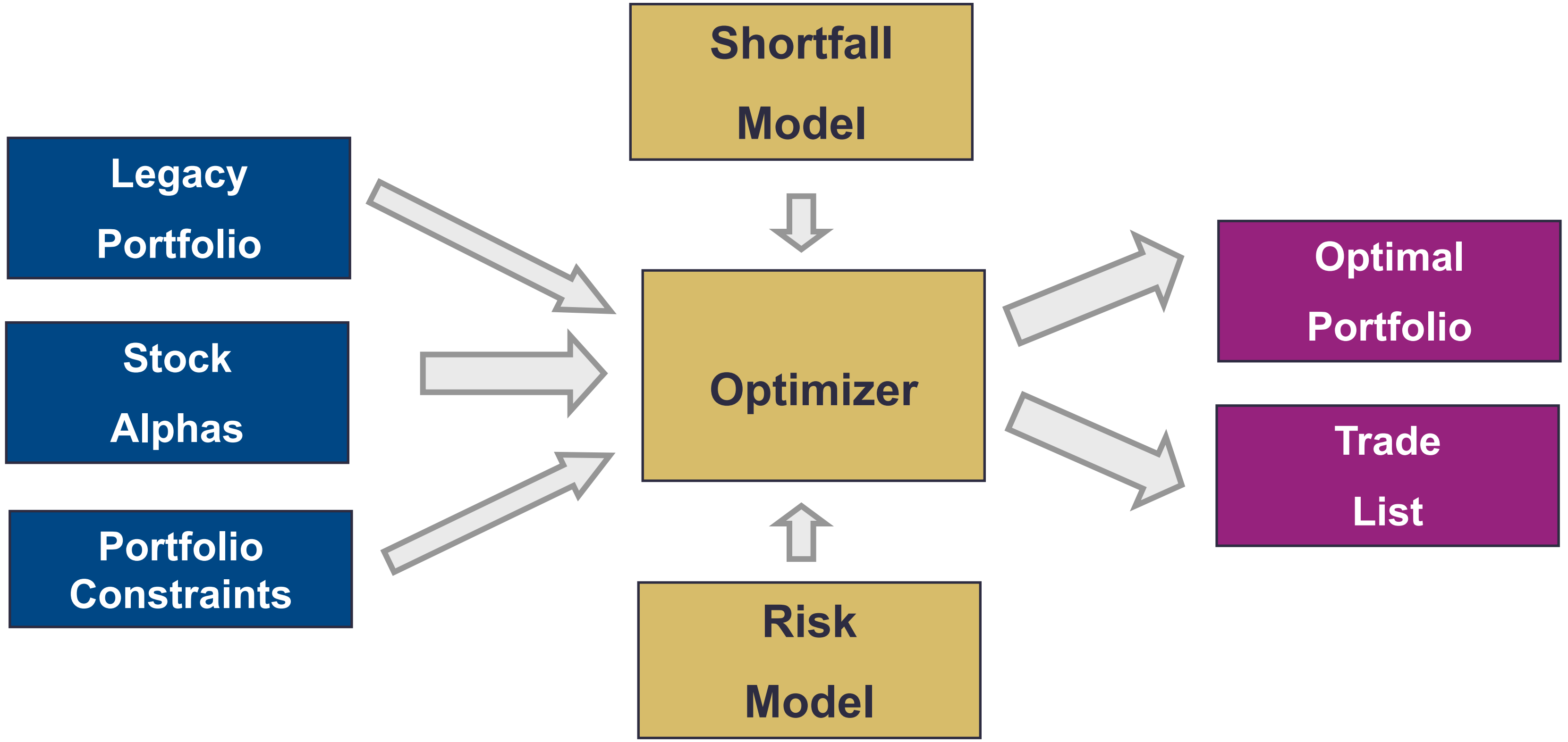
[Net Return] ≈ [Gross Return] - 2 x [Each Leg's Turnover] x [Bid-Ask Spread]

ALTERNATIVE PORTFOLIO CONSTRUCTION APPROACHES

[Net Return] ≈ [Gross Return] - 2 x [Each Leg's Turnover] x [Bid-Ask Spread]

- Value-weighted instead of equal-weighted
- Buy/hold spread thresholds
- Fully integrating implementation costs into portfolio construction

FULLY INTEGRATED PORTFOLIO CONSTRUCTION



User Input

3rd Party or Proprietary Data / Tools

User Output

REAL WORLD EVIDENCE

Using proprietary trading data, e.g.

- "*Trading Costs of Asset Pricing Anomalies*", Andrea Frazzini, Ronen Israel, and Tobias J. Moskowitz, 2015
- "*Capacity of Smart Beta Strategies from a Transaction Cost Perspective*", Ronald Ratcliffe, Paolo Miranda and Andrew Ang, The Journal of Index Investing, Winter 2017

But other considerations to keep in mind

SUGGESTIONS FOR FURTHER RESEARCH

- Investability considerations
- Shorting considerations
- Capacity considerations

May lead to additional insight into:

- What is driving anomalies?
- Which anomalies can survive?