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W. P. Carey School of Business

Undergraduate Fund

Semi-Annual Meeting

December 3rd, 2010

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Today's Agenda

- Team introduction & fund objectives
- Investment selection
- Fund performance
- Risk and return attribution
- Lessons learned & conclusion

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Team

Fund Manager

Tyler Rives

Quantitative Analysts

Rob Hill

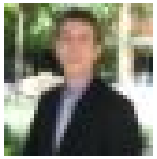
Ryan Detlaff

Steven Kutos

Fundamental Analysts

Tom Bochenko

Michael Cohn



Nate Irwin

Cole Jackson

Jay Joshi

Vincent Mendez

Dan Tram

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Investment Charter

- Long term focus
- Portfolio constraints
  - ≤ 95% Equity (up to 25% in Foreign Equity)
  - ≤ 20% Fixed Income
  - ≤ 10% Cash
  - ≤ 25% in a single sector
  - ≤ 15% in a single non U.S. Gov. issuer

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Defining the Problem

- Charter constraints
- Quantitative and fundamental analysis
- Optimization methods

Our Solution: Asset Allocation

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Quantitative Process

MVO | Black-Litterman

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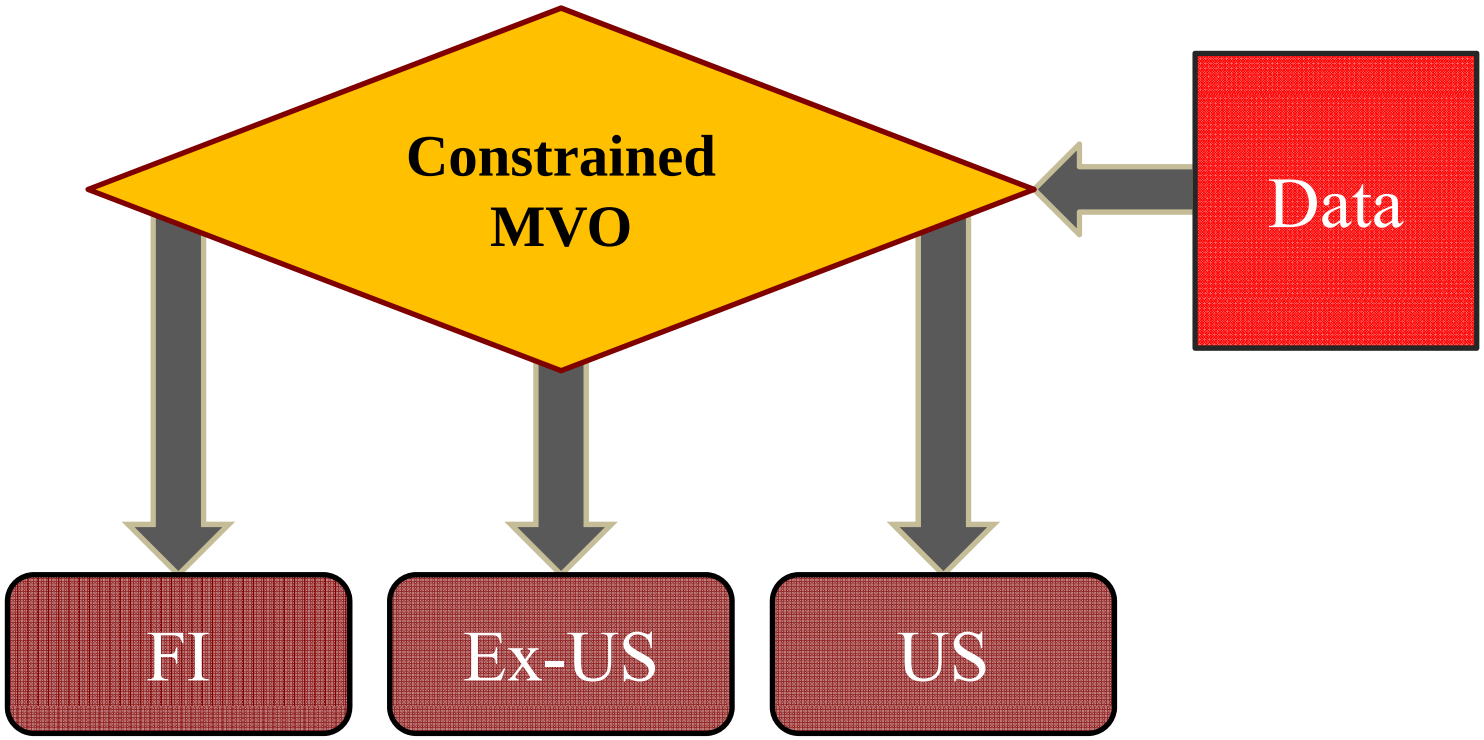

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Mean Variance Optimization

Constraints/Inputs

Asset Class	Cash	Fixed Income	Ex-US Equity	US Equity
Constraint (1st)	1%	20%	25%	95%

Inputs

Returns
- Historical vs. Expected
- Rolling Betas

Risk
- Volatility
- Correlations – 7 years

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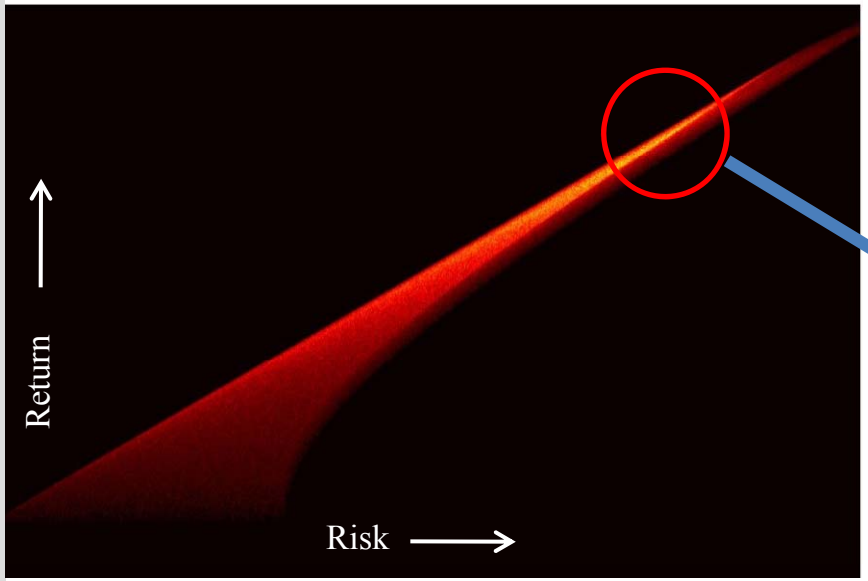
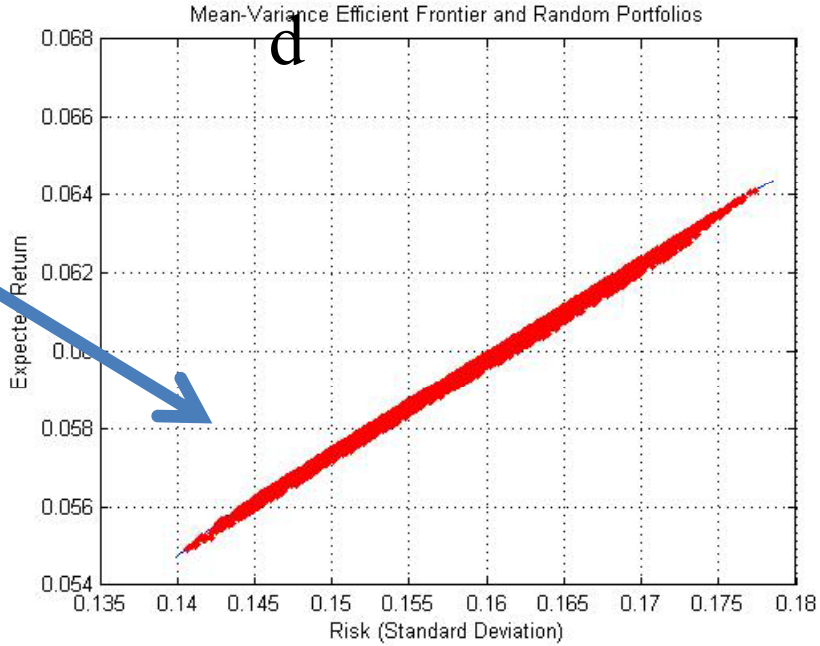
Unconstrained



Constraine d



Asset Allocation Weights			
Cash	Fixed Income	Ex-US Equity	US Equity
1.00%	16.35%	21.06%	61.59%

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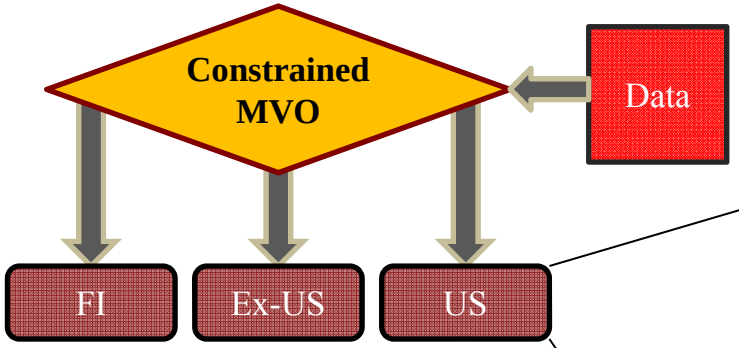
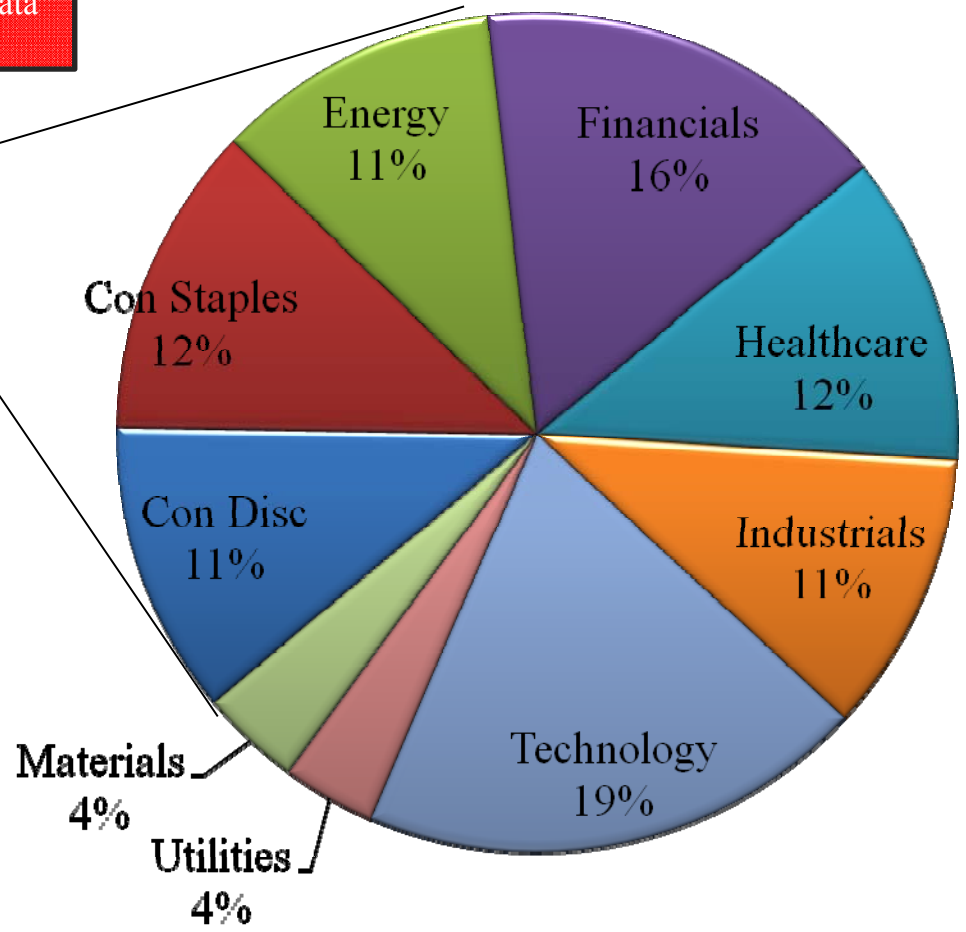


Current U.S. Equity Market Weights



*as of 9/30/10

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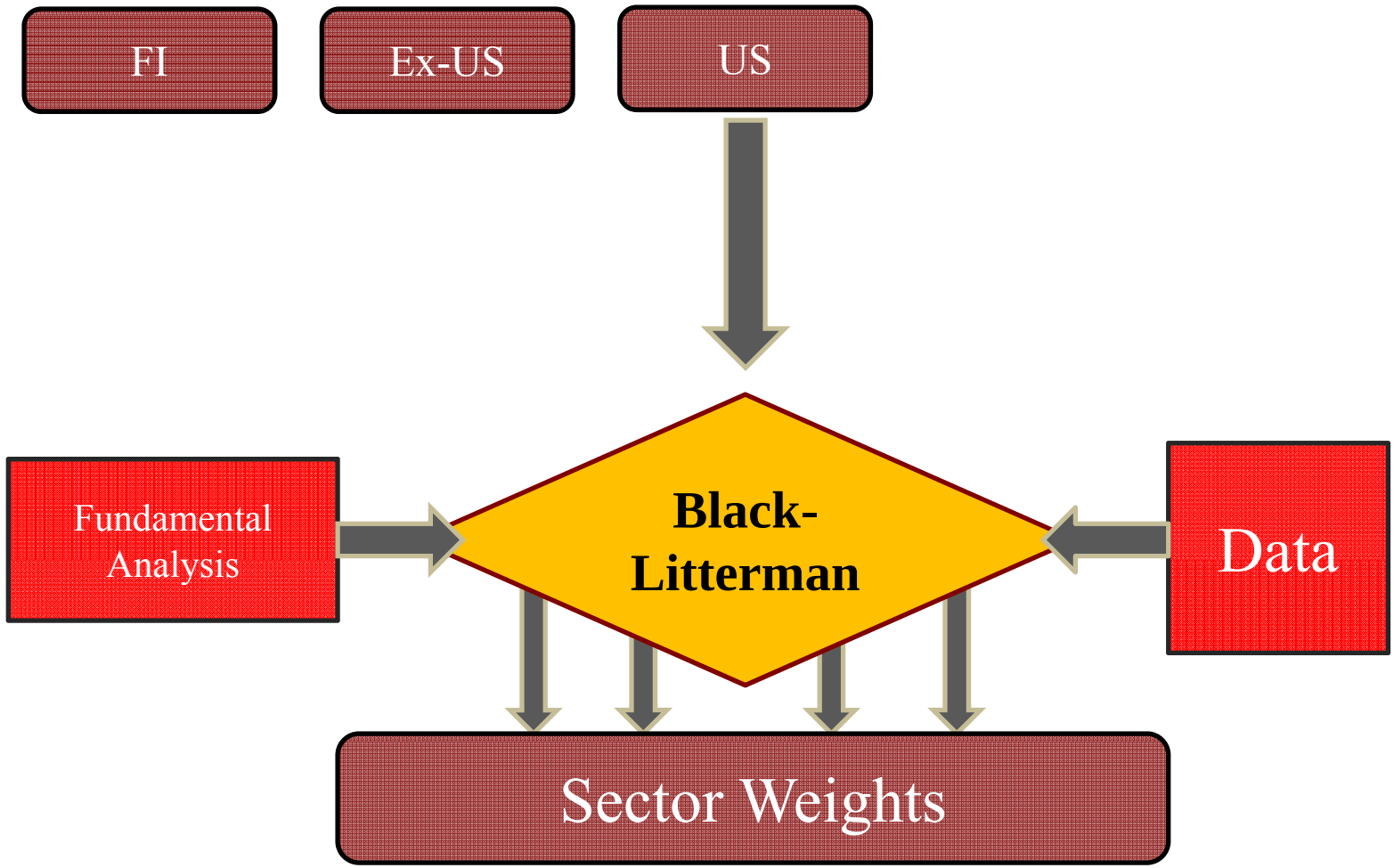

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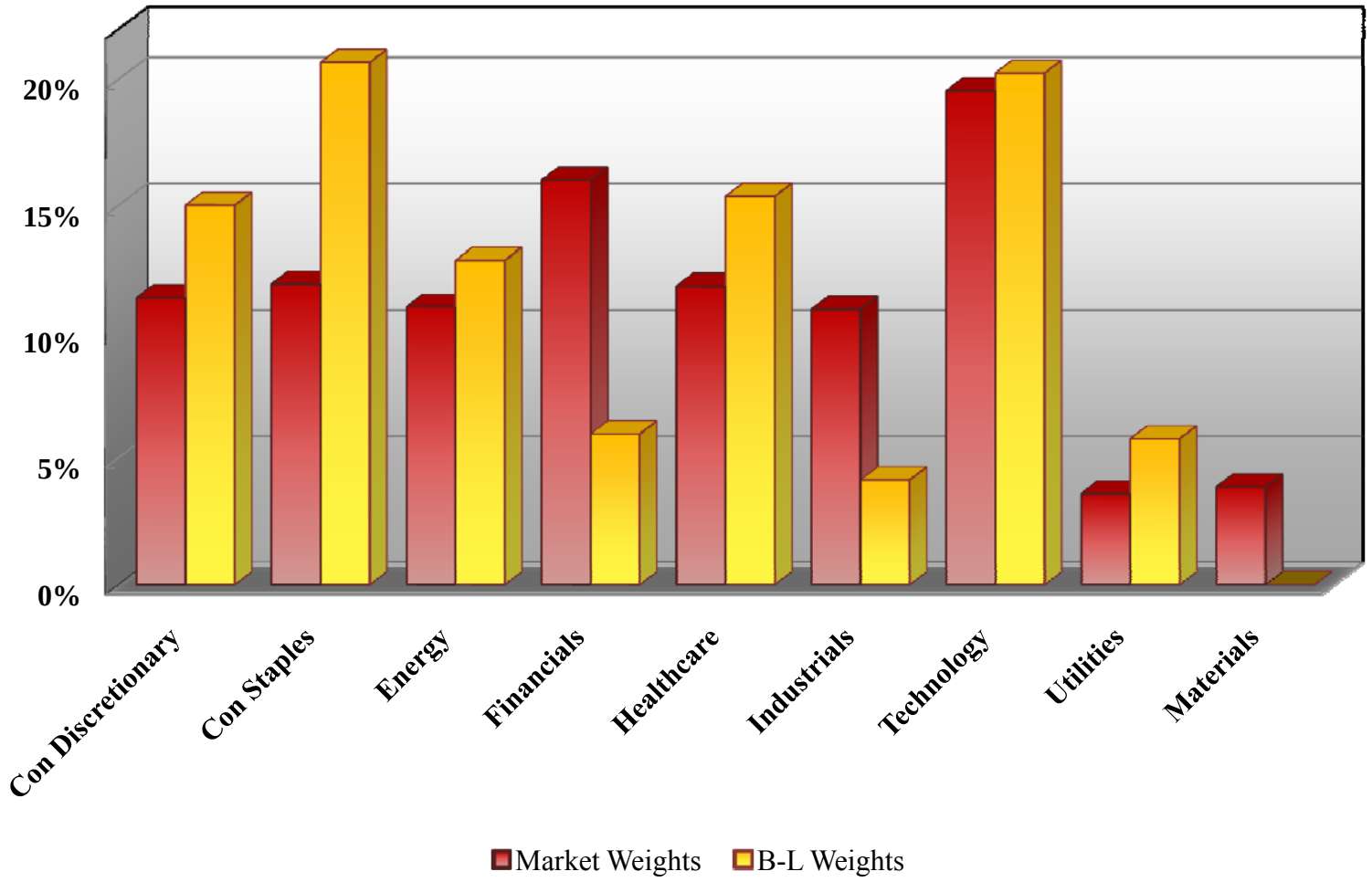
Black-Litterman Results



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Fundamental Process

Industry Analysis

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Industry Analysis

Industry overview

- Current position of each sector
- Composition

Fundamental analysis

- Historical returns and volatility
- Macroeconomic events
- *Sector drivers*

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Fundamental Example – Financials

- Macro events: regulation, banking restrictions
- Drivers: rate of recovery, unemployment, real estate prices, vacancies and supply
- Decision: underweight relative to market
  - 9/30/10 Market holds 16.00%
  - SIMF target weight 5.96%

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Investment Selection

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ETF Selection

General Considerations

- Holdings overlap
- Expense ratio
- Tracking error
- Composition
- Liquidity

Sector	Ticker
Consumer Discretionary	XLY
Con Staples	VDC
Energy	VDE
Financials	XLF
Healthcare	VHT
Industrials	VIS
Technology	XLK
Utilities	XLU
Ex-Us	VFWIX
Fixed Income	IPE

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Fixed Income

- Charter restrictions
- Breakeven inflation from TIPS
- Long-term inflation → TIPS
- TIPS negative yield
- IPE in lieu of TIP

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Fund Performance

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Holdings

Sector	Ticker	Weight
Consumer Discretionary	XLY	9.77%
Con Staples	VDC	12.64%
Energy	VDE	8.00%
Financials	XLF	3.52%
Healthcare	VHT	9.57%
Industrials	VIS	2.57%
Technology	XLK	12.63%
Utilities	XLU	3.35%
Ex-Us	VFWIX	21.27%
TIPS (Fixed Income)	IPE	15.72%

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Benchmarks

- MSCI World Equity Index
- S&P 500 US Index
- Composite Index
  - 60% US Equity
  - 25% Ex-US Equity
  - 14% US Investment Grade Debt
  - 1% Cash

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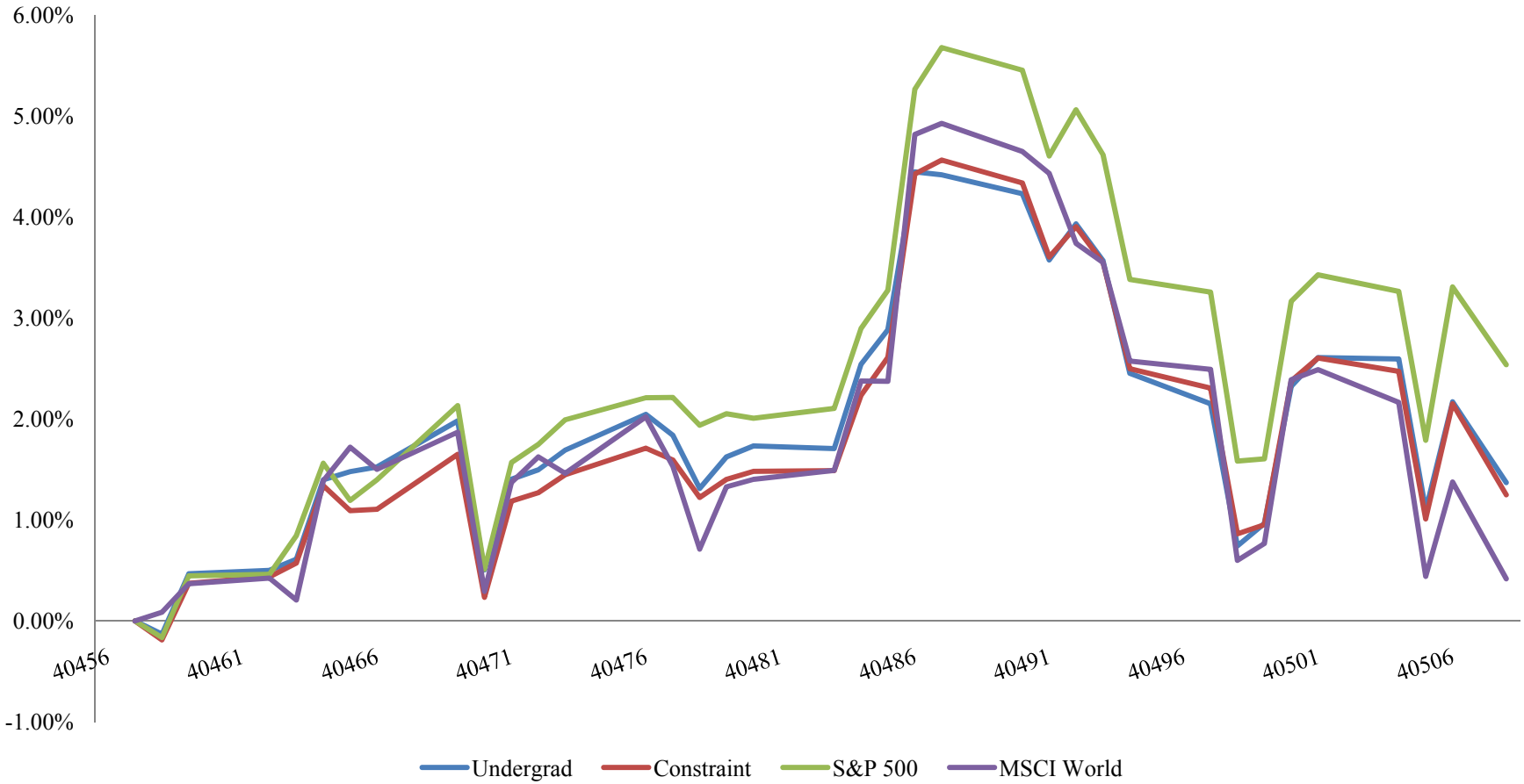

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Fund Performance

	Over Holding Period	Annualized	Volatility	Sharpe Ratio
Undergraduates	1.37%	9.44%	13.46%	.252
Constrained BM	1.25%	8.58%	13.76%	.231
S&P 500	2.54%	18.08%	15.28%	.462
World Equity	0.42%	2.8%	16.37%	.069

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Attribution Analysis

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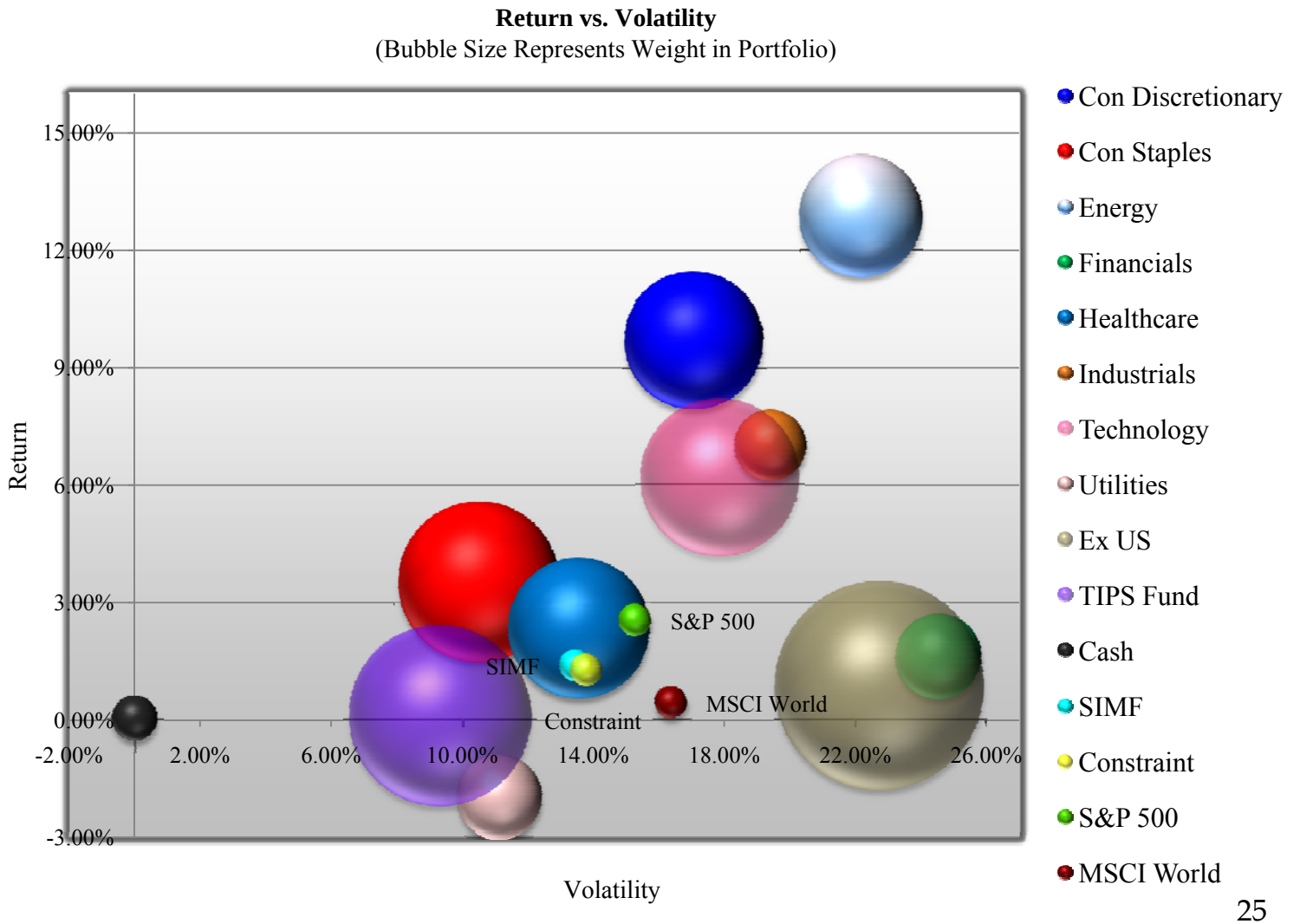
Risk Analysis



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Going Forward

- Continual monitoring of risk
- Monthly attribution framework
- Rebalance as necessary to match opinions
- Improve
  - IPE and liquidity