



Reconciling the Top-Down Method with Fund Picking

Usefulness of the Core-Completeness Portfolio Approach

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Reconciling the Top-Down Method with Fund Picking

Foreword

- In principle, investors in hedge funds may find added value both from fund selection decisions and from strategy allocation decisions.
- In practice, it is sometimes hard to reconcile these two aspects, and bottom up manager selection decisions often lead to non-intended sub-optimal choices in terms of strategy allocation decisions.
- Investable hedge fund indices are the natural vehicles for implementing style allocation decisions, while fund of hedge fund managers should be used if the focus is on manager selection.
- In what follows, we will argue that various techniques can be used to reconcile top-down methods with fund selection decisions.

Reconciling the Top-Down Method with Fund Picking

Objective

- For the sake of illustration, let us assume for example that the strategic allocation in terms of hedge fund style has been obtained as a solution to a VaR minimization program (any other target allocation can be used in this illustration); this portfolio of hedge fund strategies can be regarded as the benchmark for the investor.
- In an attempt to achieve this target allocation, an investor may invest his core hedge fund portfolio in investable hedge fund indices with strategy allocations identical to those in the benchmark.
- On the other hand, the investor would typically wish to add the benefits of fund picking by investing a fraction of his wealth in a satellite portfolio composed of one or more funds of hedge funds, as an attempt to benefit from the FoHF manager's expertise for high alpha manager selection.

Reconciling the Top-Down Method with Fund Picking Objective

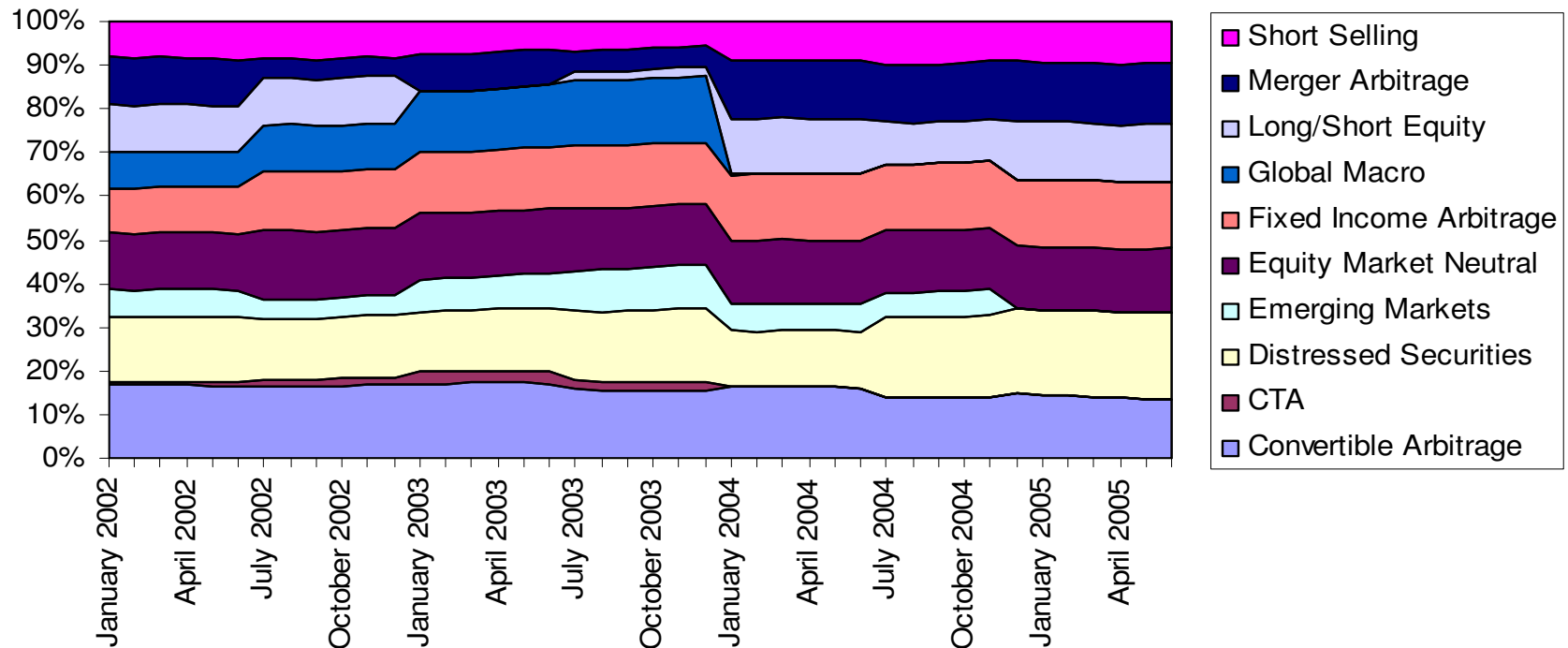
- As this satellite portfolio may generate an investment style bias with respect to the benchmark, the overall portfolio's exposure to each significant style/risk factor may be adjusted using a completeness portfolio.
- ⇒ Overall portfolio made up of 3 components:
- Core Portfolio replicating the strategic benchmark,
 - Satellite Portfolio (selection of top FoHFs) exhibiting a style allocation close to that of the core portfolio,
 - Completeness Portfolio used to try to offset or neutralize the investment style bias generated by the satellite portfolio.

Reconciling the Top-Down Method with Fund Picking Strategic Benchmark

- Strategic benchmark combining the major HF strategies proxied by the Edhec composite indices:
 - Equity Market Neutral, Fixed Income Arb, Convertible Arb, Distressed Securities, Merger Arb, Long/Short Equity, Global Macro, Emerging Markets, CTA, Short Selling.
- Min-VaR optimization while respecting the following constraints:
 - Min weight per style = 0%
 - Max weight per style = 20%
- Systematic rebalancing performed twice a year.

Reconciling the Top-Down Method with Fund Picking Strategic Benchmark

Core Portfolio
Style Allocation History

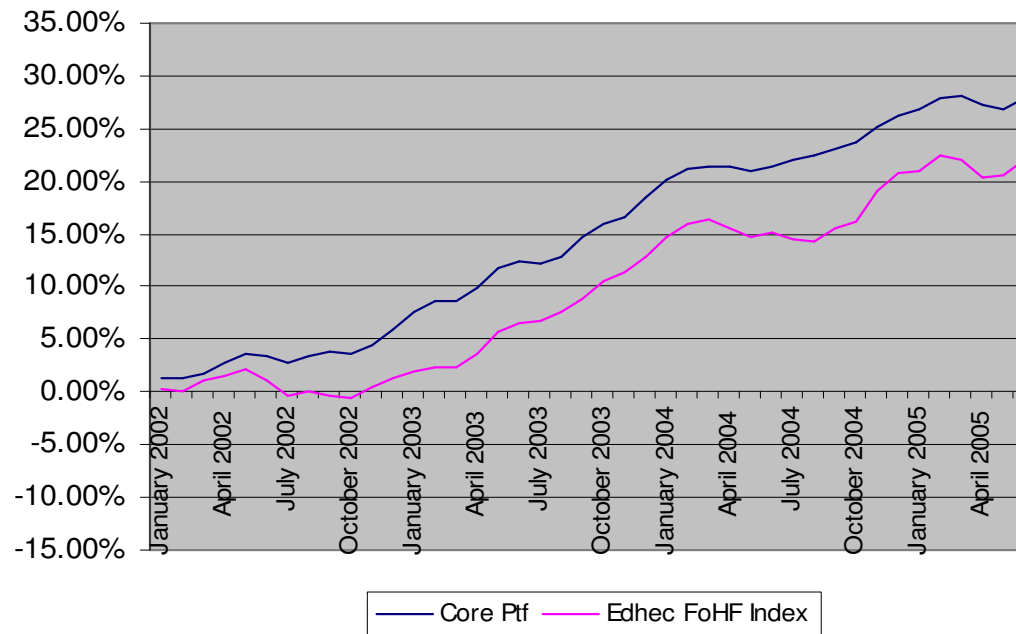


Reconciling the Top-Down Method with Fund Picking Strategic Benchmark

- Results obtained from January 2002 to June 2005:

Annualised Return	7.63%
Annualised Volatility	2.17%
99% Modified VaR (1 month)	0.81%
Return/VaR	0.73
Positive Months	83.33%

Cumulative Returns



Reconciling the Top-Down Method with Fund Picking Satellite Portfolio

- Search for Alpha
 - Selection of a sample of multistrategy FoHFs which:
 - Outperform their customized benchmarks in a persistent manner (sustainable and positive alpha),
 - Have low negative outliers compared with their peers (low modified VaR*),
 - May be combined within the satellite portfolio in order to replicate the core portfolio's allocation as far as possible.

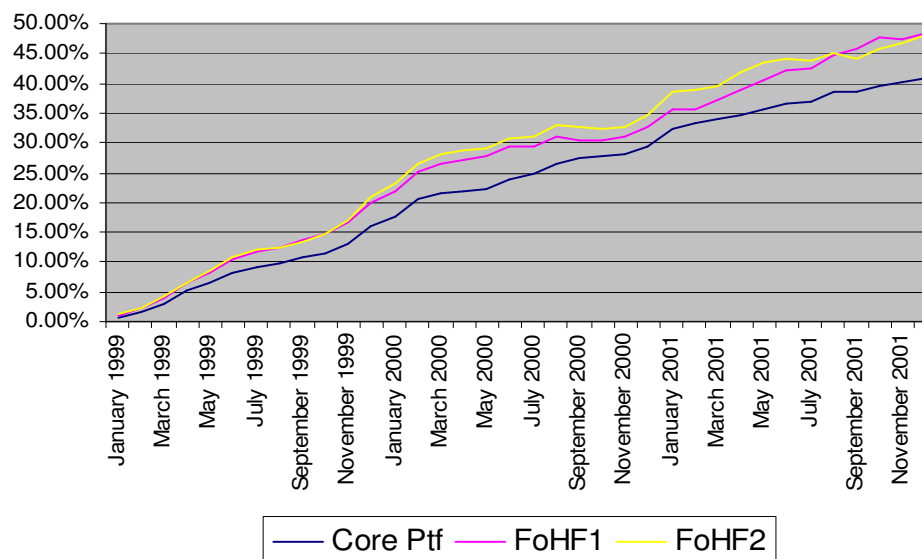
*Taking account of the skewness and excess kurtosis

Reconciling the Top-Down Method with Fund Picking Satellite Portfolio

- Search for Alpha
 - Compared performance over the 1999-2001 period:

January 1999 - December 2001	Benchmark	FoHF1	FoHF2	FoHF Index
Annualised Return	12.07%	14.06%	13.98%	12.78%
Annualised Volatility	2.22%	2.74%	3.21%	7.27%
Max Drawdown	-0.19%	-0.50%	-0.52%	-1.56%
Positive Months	97.22%	91.67%	88.89%	69.44%

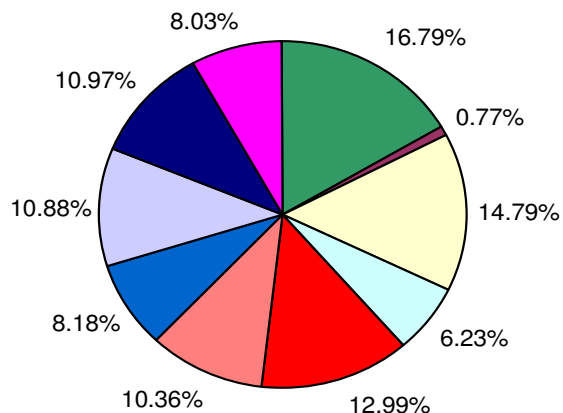
Cumulative Returns



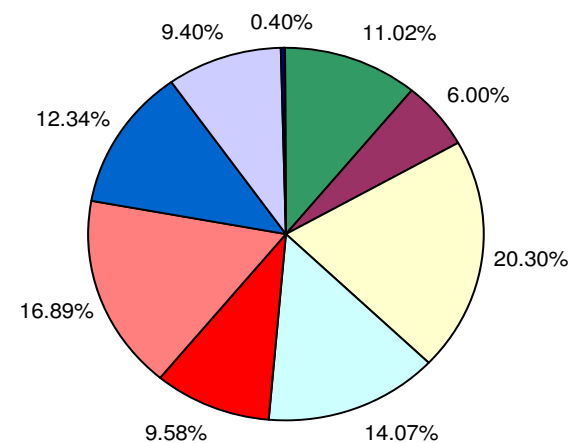
Reconciling the Top-Down Method with Fund Picking Satellite Portfolio

- Search for Alpha
 - Initial FoHF picking based on a regression analysis performed in January 2002 over a 3-year period.
 - Satellite construction: optimal combination* of FoHF 1 and FoHF 2 (45%-55%) so as to obtain the style allocation that comes closest to the core's.
- *minimizing the standard deviation of exposure differentials

Core Portfolio Style Allocation January 2002

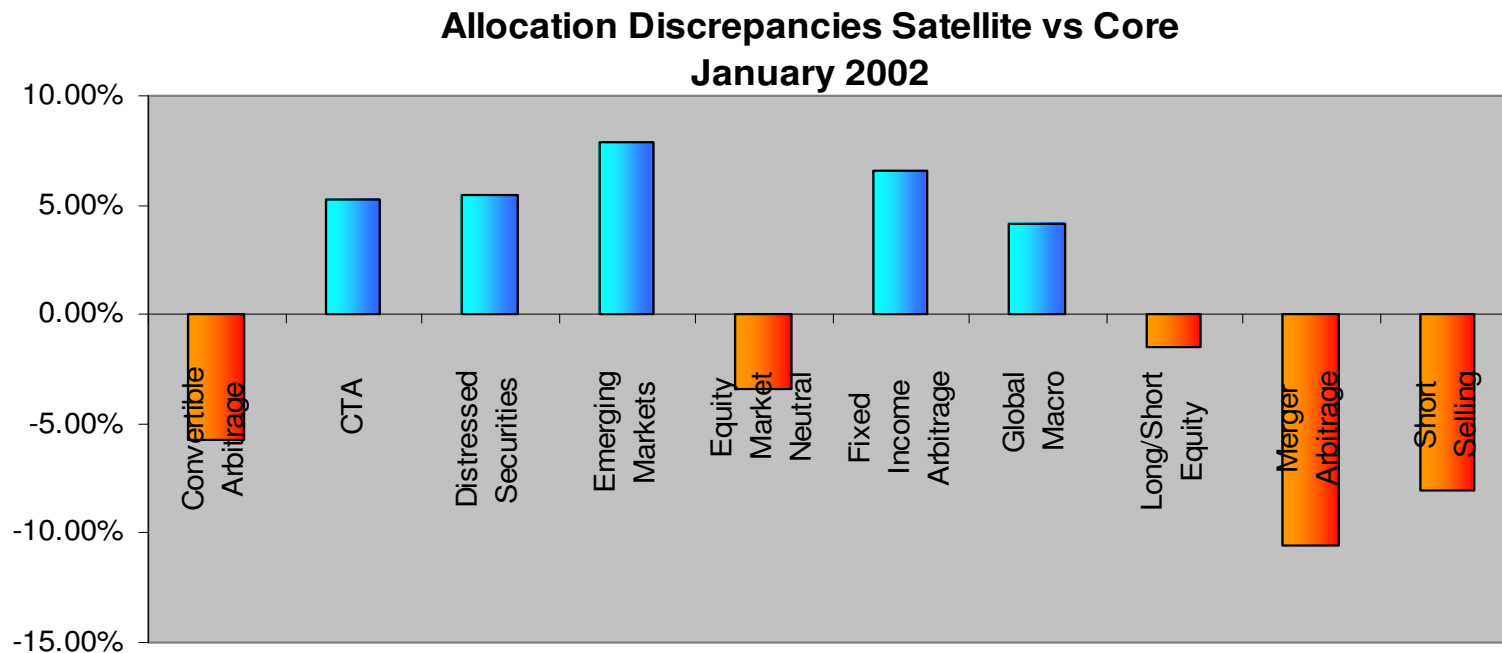


Satellite Portfolio Style Allocation January 2002



Reconciling the Top-Down Method with Fund Picking Satellite Portfolio

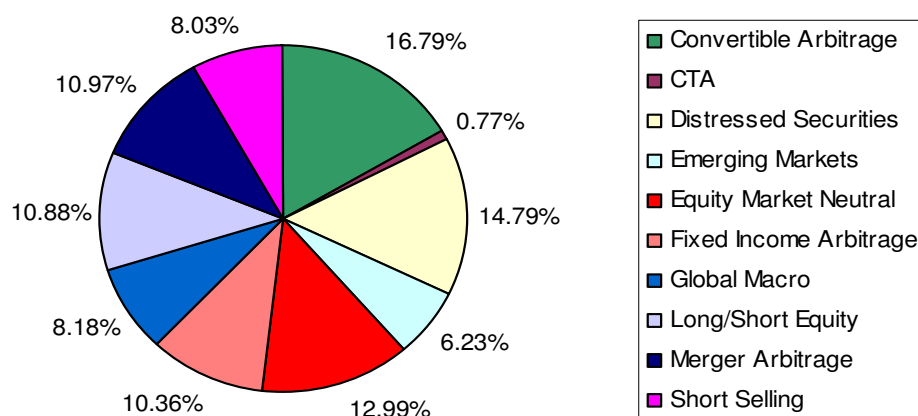
- Search for Alpha
 - Resulting discrepancies in style allocation (satellite vs core).



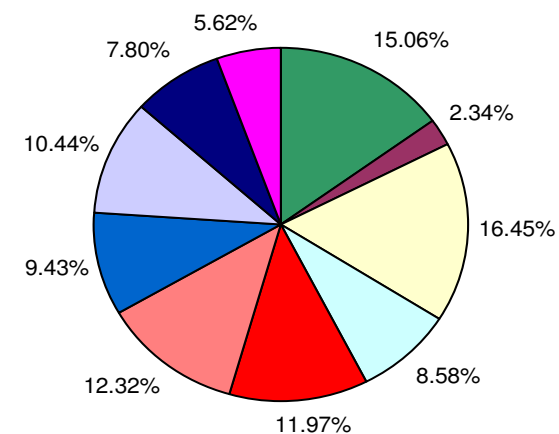
Reconciling the Top-Down Method with Fund Picking Satellite Portfolio

- Search for Alpha
 - Resulting discrepancies in style allocation (core vs ‘core + satellite’) with 30% of AUM invested in the satellite portfolio:

Core Portfolio Style Allocation January 2002

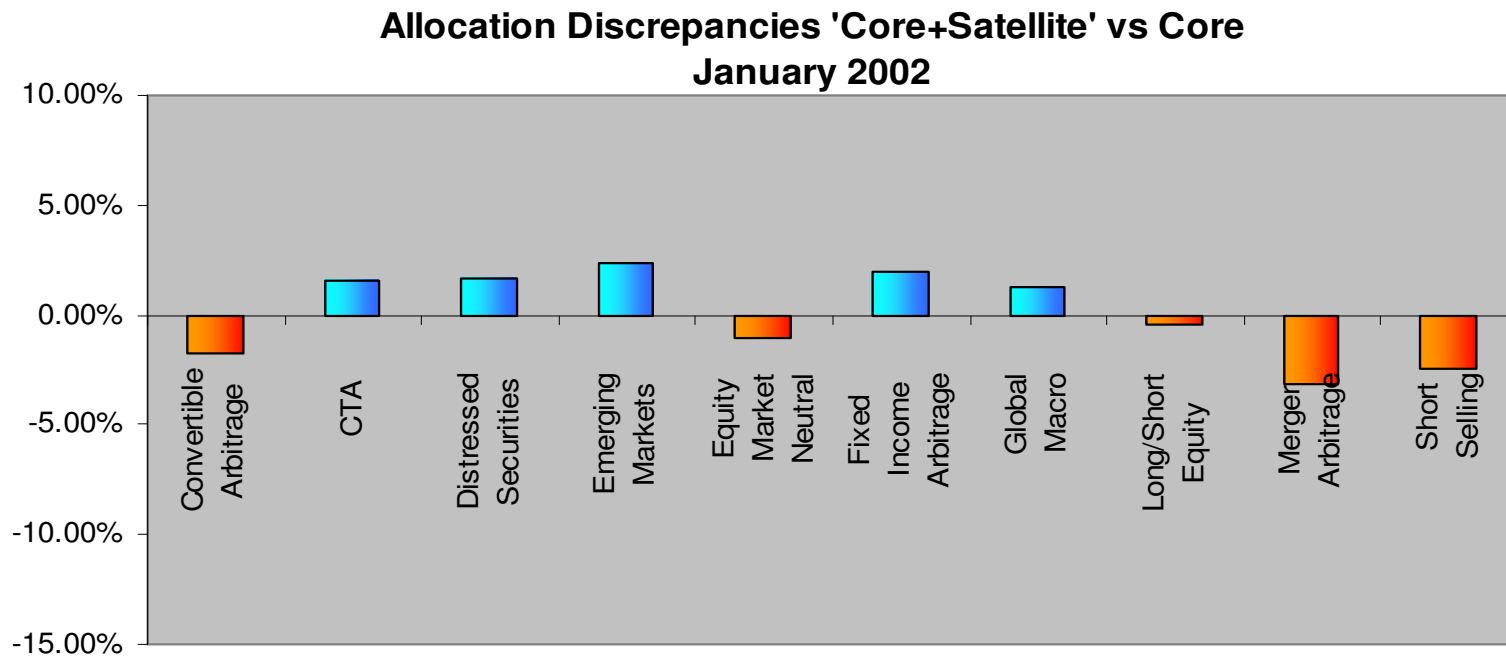


Core+Satellite Portfolio Style Allocation January 2002



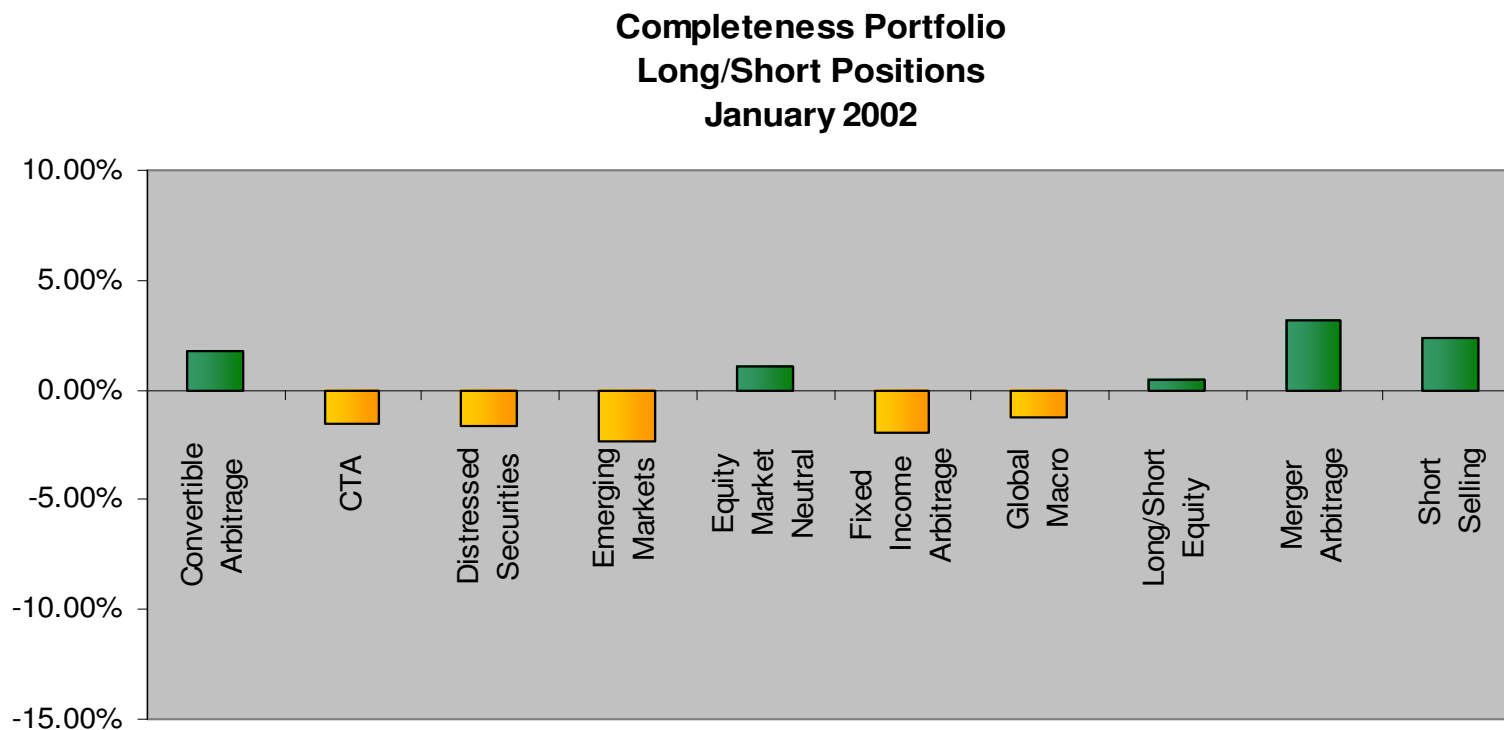
Reconciling the Top-Down Method with Fund Picking Satellite Portfolio

- Search for Alpha
 - Resulting discrepancies in style allocation (core + satellite) with 30% of AUM invested in the satellite portfolio:



Reconciling the Top-Down Method with Fund Picking Completeness Portfolio

- How to reduce the resulting allocation discrepancies? (though already minimized through the core-satellite approach)
 - Long/Short positions on HF indices: costly (at best), impossible to implement (at worst);




Reconciling the Top-Down Method with Fund Picking Completeness Portfolio

- How to reduce the resulting allocation discrepancies? (cont')
 - Risk factor approach:
 - Determining benchmark's exposure to risk factors:
 - Univariate regression analysis with each factor,
 - Multivariate regression analysis with all the factors which are statistically significant ($t\text{-stats} > 2$) through the previous regression analysis
 - Same analysis with the core-satellite portfolio,
 - Comparing benchmark's exposure to core-satellite's exposure,
 - Adjustment using liquid financial instruments that can be easily sold short (e.g. preferably futures contracts so as to avoid tying up a substantial portion of capital.)

Reconciling the Top-Down Method with Fund Picking Completeness Portfolio

- How to reduce the resulting allocation discrepancies? (cont')
 - Risk factor approach:
 - In our example, the core portfolio is exposed to 2 statistically significant risk factors:
 - Large cap stock returns (proxied by the S&P500 index → LC)
 - Return differential between small cap and large cap stocks (proxied by the Russell2000 and S&P500 indices → SC-LC)
 - β differential = 'Core + Satellite' β – Core portfolio β

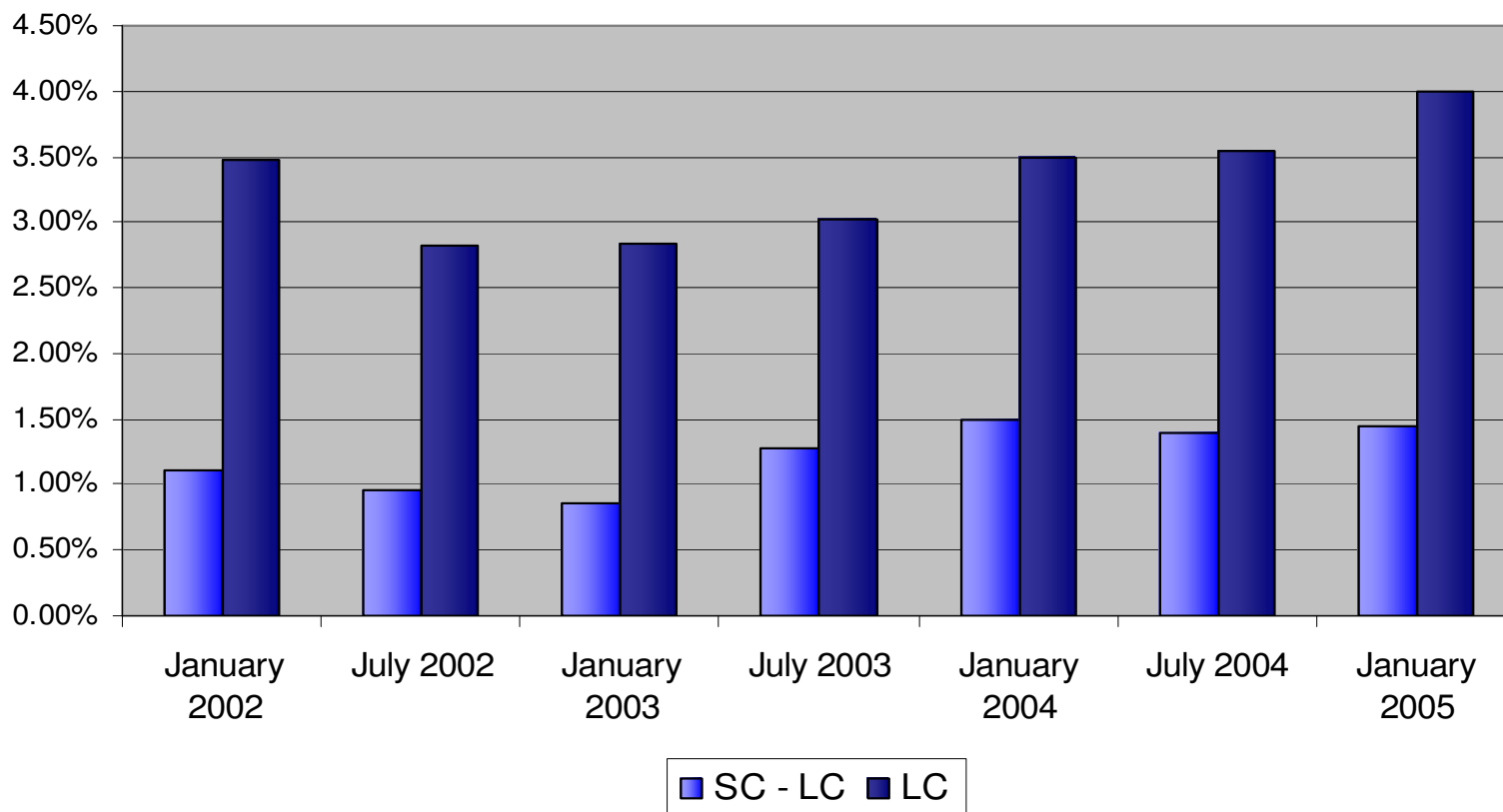
Relevant Risk Factors	SC - LC	LC
Core (<i>t</i> -stats)	4.81	2.90
Core+Satellite (<i>t</i> -stats)	4.46	4.16
β Differential	1.10%	3.46%



 Core + Satellite portfolio's overexposure to these risk factors in January 2002

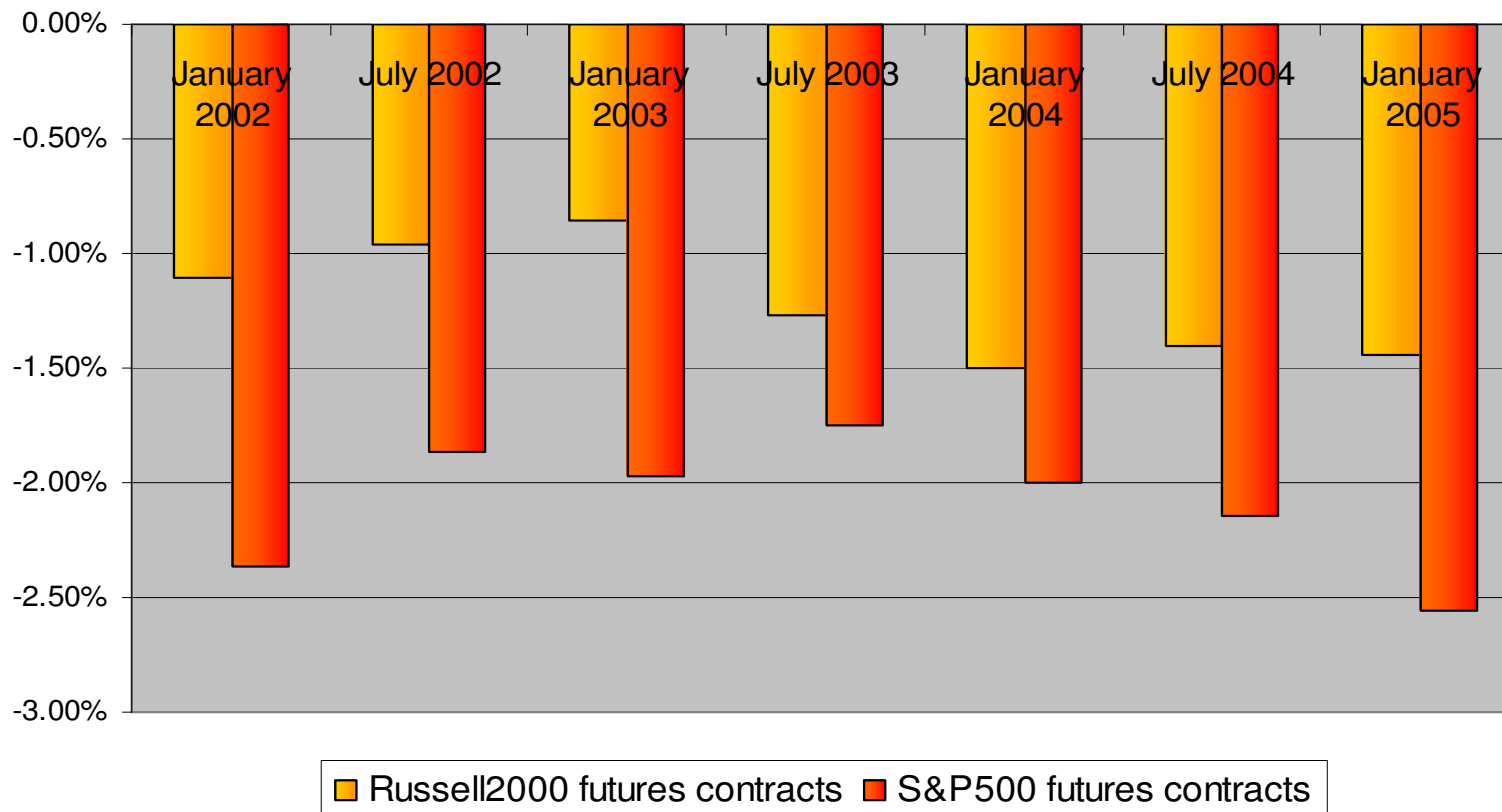
Reconciling the Top-Down Method with Fund Picking Completeness Portfolio

- How to reduce the resulting allocation discrepancies? (cont')
 - Risk factor approach:
 - History of β differential



Reconciling the Top-Down Method with Fund Picking Completeness Portfolio

- How to reduce the resulting allocation discrepancies? (cont')
 - Risk factor approach:
 - Adjustment with futures contracts



Reconciling the Top-Down Method with Fund Picking Completeness Portfolio

- Results obtained from January 2002 to June 2005
 - Overall portfolio return in excess of 89bps to the benchmark,
 - Without increasing average risk and extreme risk.

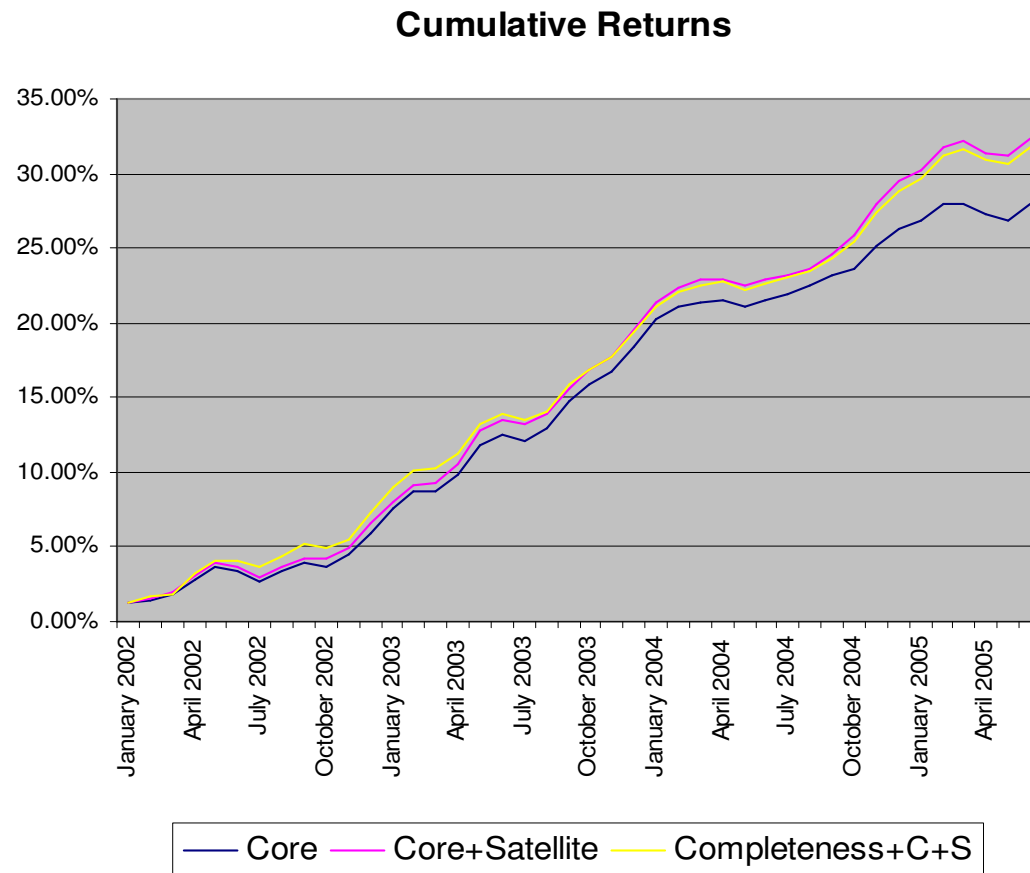
	Core	Core+Satellite	Completeness+C+S	FoHF Index
Annualised Return	7.30%	8.35%	8.19%	5.87%
Annualised Volatility	2.17%	2.26%	2.16%	3.02%
99% Modified VaR (1 month)	0.81%	0.85%	0.75%	1.64%
Positive Months	83.33%	83.33%	83.33%	71.43%
Max Drawdown	-0.92%	-0.92%	-0.79%	-2.60%
Return/VaR	0.73	0.79	0.88	0.29
Monthly Average in Down Market*	0.54%	0.55%	0.68%	-0.06%
Monthly Average in Up Market**	0.63%	0.75%	0.65%	0.85%

* S&P500 returns < 0%

** S&P500 returns > 0%

Reconciling the Top-Down Method with Fund Picking Completeness Portfolio

- Results obtained from January 2002 to June 2005



Reconciling the Top-Down Method with Fund Picking Completeness Portfolio

- Intuitively, the completeness portfolio should result in a better resistance of the overall portfolio to market shocks.
 - Stress Tests: assessing the impact on the portfolios' NAVs of a sudden and sharp, but plausible change in stock prices and return differential between small cap stocks and large cap stocks as evidenced in July 2002 (historical scenario):

July 2002 (SC-LC=-7.28%; LC=-7.90%)		
Core	Core+Satellite	Completeness+C+S
-0.63%	-0.78%	-0.44%

- Another more severe scenario highlights the benefit of the core-completeness approach.

LC = -10%, SC-LC = -16%		
Core	Core+Satellite	Completeness+C+S
-1.29%	-1.56%	-0.96%