

**EDHEC Alternative
Investment Days
2007**

Bringing Academic Insights to
Alternative Investment

**16:00-17:30
Stream 3I:
Long Only Absolute Return Funds**

Chairman:

Philippe Malaise, Professor of Finance, EDHEC Business School

Speaker:

Felix Goltz, Senior Research Engineer, EDHEC Risk and Asset Management
Research Centre

Panellists:

Daniel James, Head of Portable Alpha and Absolute Return, ABN Amro Asset
Management

John Parkhouse, Investment Management and Real Estate Leader, PWC

Erik Valtonen, CIO, AP3 and Advisory Board Member, EDHEC Risk and Asset
Management Research Centre

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Felix Goltz

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l'EDHEC Risk and Asset Management Research Centre*

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Introduction

Convergence

- “Long-only managers [...] are history; yet pretend to be wannabes in the hedge fund world, with gimmicks like 130:30 funds”

(Anonymous hedge fund manager)

- “Our core mission is to stay in the long-only space and use the tools necessary to deliver consistent returns.”

(Anonymous long only manager)

Both citations from KPMG/create (2007) “Convergence and divergence”

Introduction

This presentation

- Can long only funds achieve some of the desirable properties hedge funds claim to have?
- By managing extreme risks and non-linear risk management techniques?
- From the delivery of alpha to the packaging of alpha

Introduction

Outline

- Revisiting Absolute Returns
- Non-Linear Beta Management
- Non-Linear Mixed Alpha and Beta Management
- Portable Alpha and Portable Beta
- Conclusions

Revisiting Absolute Returns

Absolute Returns: Unrealistic Claims?

- Traditionally, absolute returns funds try to generate performance irrespective of market conditions, or “pure alpha”
- With a properly chosen benchmark, the alpha shown may often be reduced
- Generating alpha is an extremely difficult task (‘abnormal returns’)

$$E(R_{i,t}) = \underbrace{r_{f,t} + \beta_i [E(R_{M,t}) - r_{f,t}]}_{\text{normal expected return}} + \underbrace{\alpha_i}_{\text{abnormal expected return}}$$

Revisiting Absolute Returns

Portfolio Management without a benchmark?

- Some types of management claim they do not refer to a benchmark (absolute returns, bottom up)
- Ex post, it is always possible to constitute a benchmark.
- The choice of a benchmark determines the risk-adjusted performance of the portfolio (for the same set of bets)

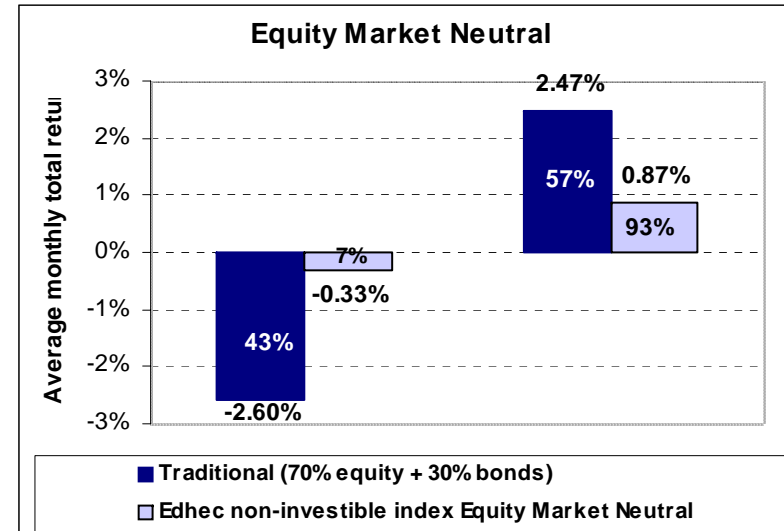
Benchmark	Euribor 1 month		EuroStoxx 50		50%/50% Benchmark	
	Benchmark	TAA Portfolio	Benchmark	TAA Portfolio	Benchmark	TAA Portfolio
Cumulative Return	12.12%	27.52%	-52.65%	-43.43%	-25.12%	-12.38%
Annualised Return	3.82%	8.28%	-21.43%	-16.39%	-8.80%	-3.91%
Annualised Volatility	0.25%	5.55%	25.73%	22.45%	12.84%	10.08%
Sharpe	NA	0.804	-0.981	-0.900	-0.983	-0.766
% Negative Returns	NA	13.89%	61.11%	61.11%	38.89%	47.22%
Worst Monthly Draw down	NA	-3.39%	-15.37%	-13.31%	-7.55%	-6.56%
Annualised Tracking Error	NA	NA	NA	5.61%	NA	5.64%
Information Ratio	NA	NA	NA	0.898	NA	0.869

From Amenc, Malaise, Sfeir, and Martellini (2003): Results for a portfolio that shifts between Eurostoxx50 and cash given predictions from combining econometric models for future excess returns.

Revisiting Absolute Returns

More realistic claims?

- Investors have a preference for **asymmetric return profiles**
- Such products are often described as “absolute returns” because of the downside protection they offer
- Such downside protection may be achieved through dynamic asset allocation
- Rather than generating alpha, one can focus on **packaging alpha and beta** provided by different investment vehicles
- This packaging is the focus of this presentation
- Also, low volatility assets and appropriate allocation techniques may provide **low levels of absolute risk**

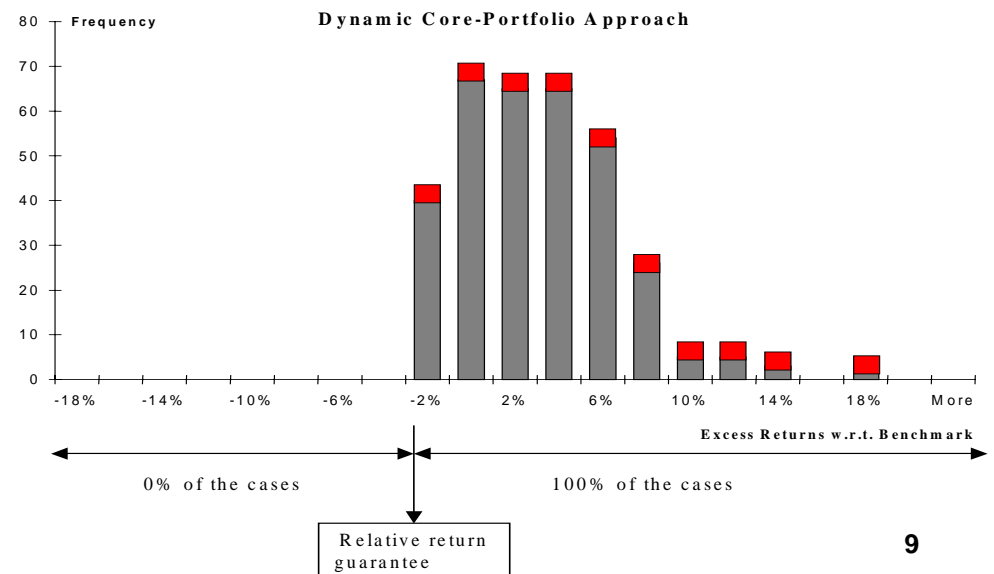
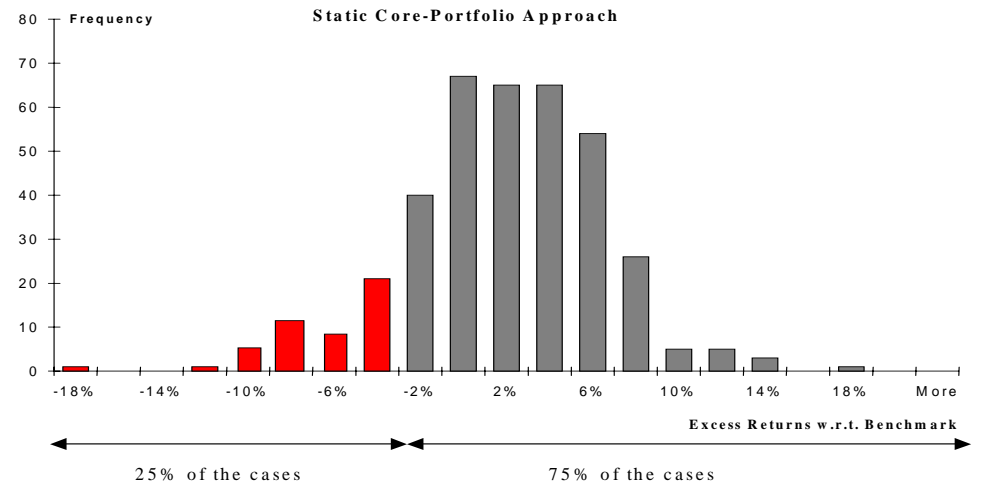


Data from 01/97 to 12/2005. MSCI world index is used as a proxy for equity; Lehman Global Treasury is used as a proxy for bonds; EDHEC HF indices are used as proxies for HFs.

Non-Linear Beta Management

Concept

- The usual approach is to define a benchmark and to respect a tracking error constraint with respect to that benchmark
- Tracking error constraints imply a symmetric approach to risk management
- In what follows, we test a set of techniques allowing a focus on dissymmetric risk management.
- The allocation is between a core made of treasury bonds and max. 10% in hedge funds and a satellite, the Eurostoxx index.



Non-Linear Beta Management

Core Portfolio

The core portfolio is a Minimum VaR portfolio made of the following components:

- Treasury Bonds (Euro MTS Global Bond Index All Maturities)
- A maximum of 10% invested in hedge fund strategy indices
 - Convertible arbitrage
 - Equity market neutral
 - Event driven
 - Long-short equity

The VaR is calculated using a Cornish Fisher Expansion

Non-Linear Beta Management

Dynamic Core Satellite Portfolio

Ingredients:

- Core portfolio: Risk management in an absolute return context
- Satellite portfolio (Eurostoxx index): Provide access to upside potential of stock market index.

Management Approach:

- Systematic increase in exposure when stocks do well
- Risk control by shifting to core when stocks do poorly.
- Dynamic Core Satellite Approach of Amenc, Malaise, Martellini (JPM, 2005)
 - with parameters $m = 4$ and $k = 95\%$.
 - Resetting k , when margin for action has decreased too much (when satellite weight $< 5\%$ during 3 months, k is lowered by 5%)

Non-Linear Beta Management

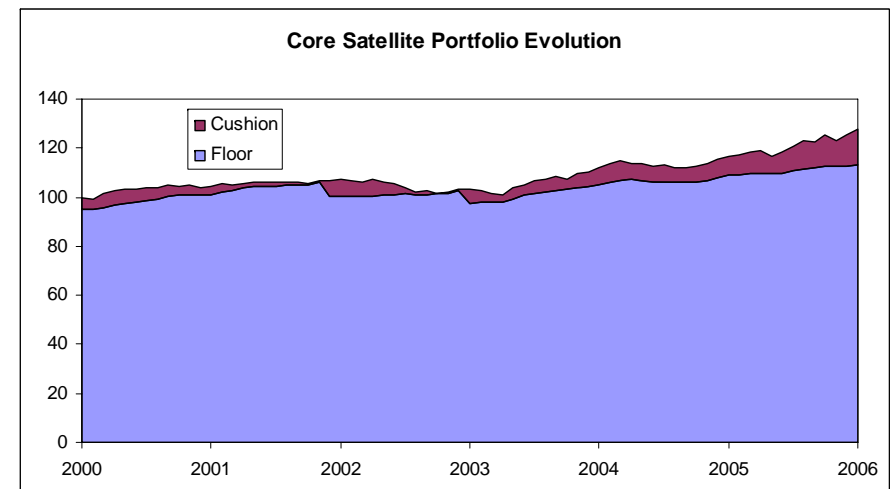
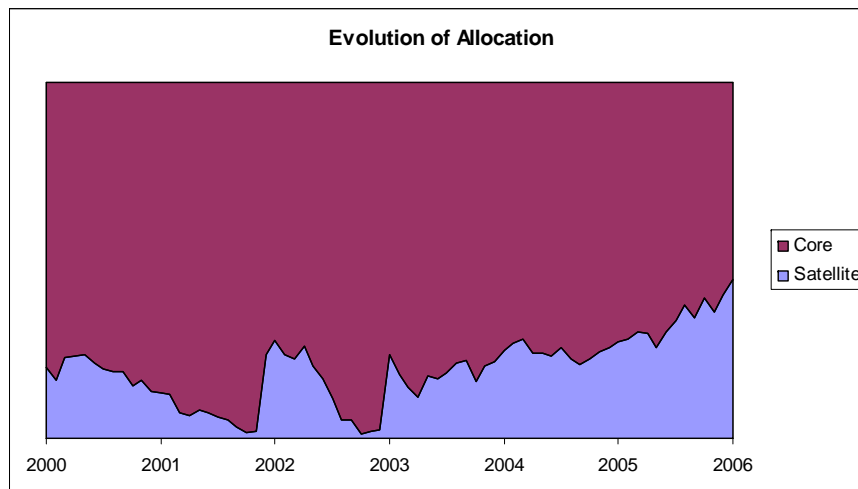
Results

	Average Return*	Maximum Drawdown (in %)	Volatility (in %)*	Downside Risk (in %)*	Modified Value-at-Risk (in %)**	Sharpe-Ratio*/**	Sortino Ratio*/**
Core	4.92%	0.97%	1.52%	0.88%	0.32%	1.92	3.33
Satellite	-3.15%	61.60%	20.11%	14.45%	10.23%	-0.26	-0.36
Static CS	3.26%	10.80%	4.58%	2.98%	1.99%	0.27	0.42
Dynamic CS	4.20%	6.03%	3.58%	1.78%	1.38%	0.61	1.24

* annualised statistics are given

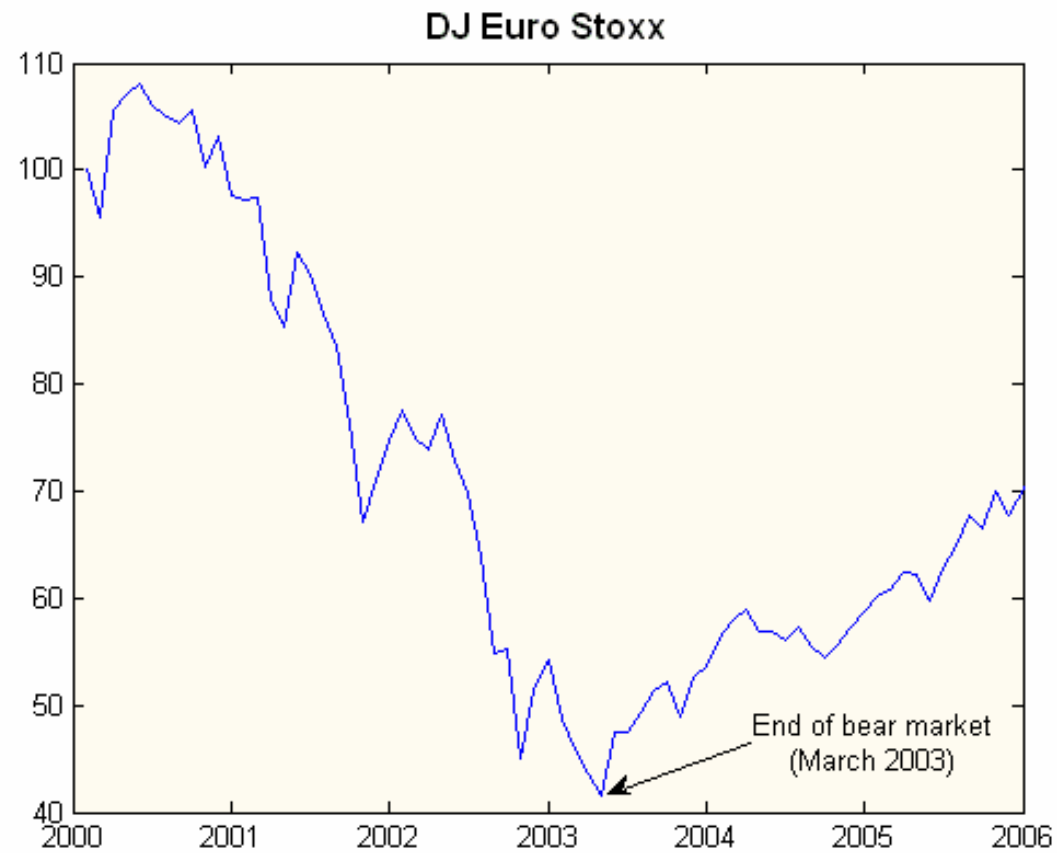
** risk free rate and MAR are fixed at 2%

*** non-annualised 5%-quantiles are estimated



Non-Linear Beta Management

Two distinct periods

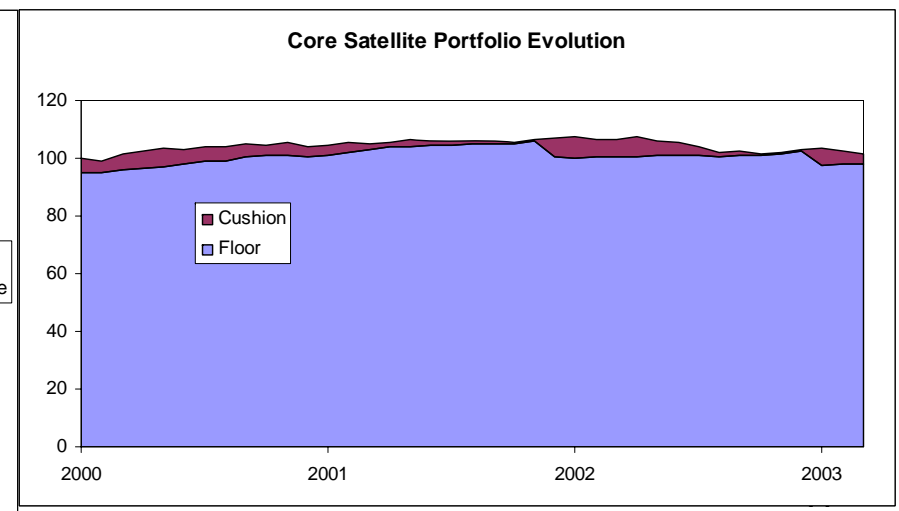
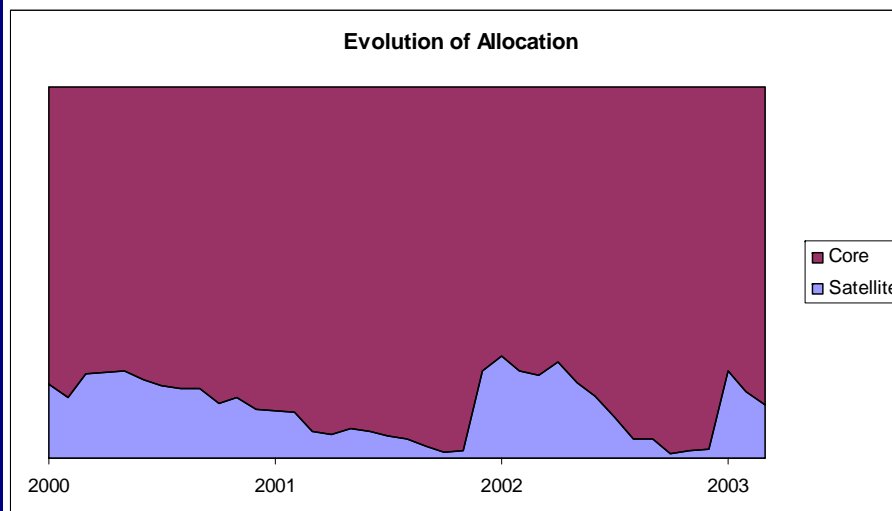


Non-Linear Beta Management

Results: first sub period

	Average Return*	Maximum Drawdown (in %)	Volatility (in %)*	Downside Risk (in %)*	Modified Value-at-Risk (in %)**	Sharpe-Ratio*/**	Sortino Ratio*/**
Core	4.53%	0.53%	1.38%	0.82%	0.29%	1.84	3.07
Satellite	-21.62%	61.60%	22.91%	15.69%	12.81%	-1.03	-1.50
Static CS	-1.27%	10.80%	4.99%	3.29%	2.52%	-0.65	-0.99
Dynamic CS	0.38%	6.03%	3.02%	1.78%	1.38%	-0.54	-0.91

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Non-Linear Beta Management

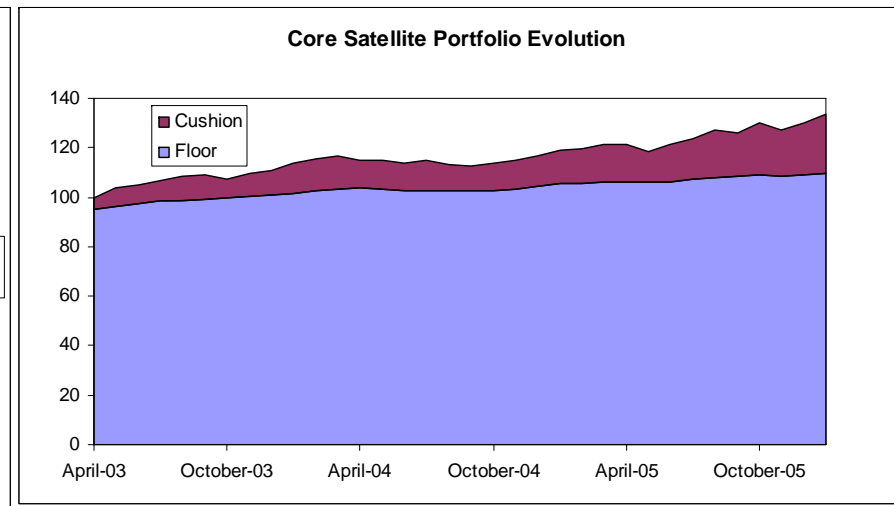
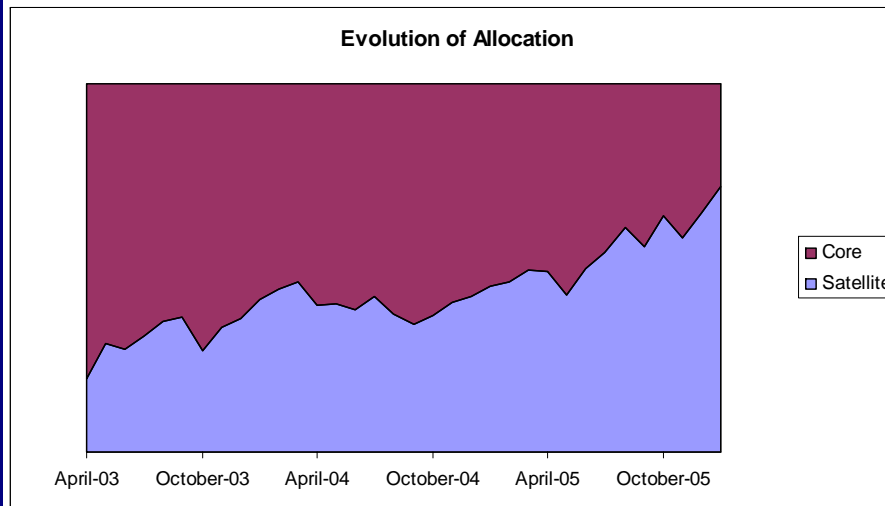
Results: second sub period

	Average Return*	Maximum Drawdown (in %)	Volatility (in %)*	Downside Risk (in %)*	Modified Value-at-Risk (in %)**	Sharpe-Ratio*/**	Sortino Ratio*/**
Core	5.38%	0.97%	1.70%	0.95%	0.38%	2.00	3.57
Satellite	23.76%	7.69%	13.33%	6.68%	3.81%	1.63	3.26
Static CS	8.85%	1.99%	3.54%	1.48%	0.85%	1.93	4.64
Dynamic CS	11.32%	3.72%	5.57%	2.80%	1.97%	1.67	3.32

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Non-Linear Beta and Alpha management

Illustration

- Applying the same approach to a satellite of active managers (i.e., a mixed alpha and beta portfolio)
- We perform the following experiment:
 - The allocation to the managers is performed so as to minimise the probability of extreme under-performance with respect to the core portfolio (Minimum Value-at-Tracking Error Risk).
 - Core: European large cap index.
 - Satellite: Portfolio of 10 top European active managers, selected on the basis of alpha and persistence
 - Parameters: $m=4$, $k=95\%$.

Non-Linear Beta and Alpha management

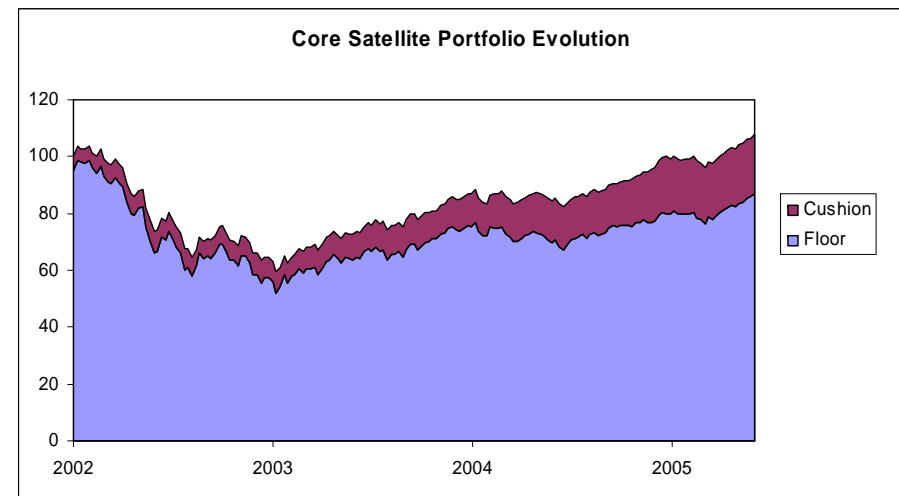
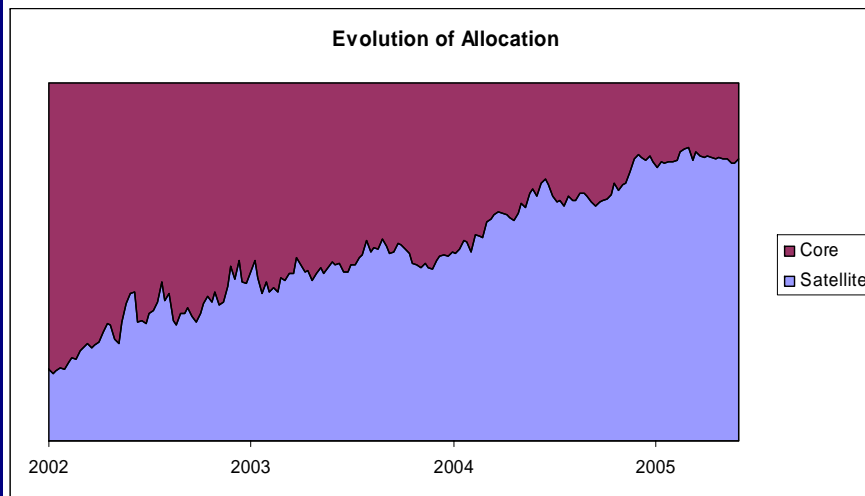
Results

	Average Return*	Maximum Drawdown (in %)	Volatility (in %)*	Downside Risk (in %)*	Modified Value-at-Risk (in %)**	Sharpe-Ratio*/**	Info-Ratio*	Modified VaTER***	Sortino Ratio*/**
Core	-0.53%	47.43%	20.66%	15.05%	4.91%	-0.12	-	-	-0.17
Satellite	11.81%	30.53%	12.23%	8.71%	2.67%	0.80	1.13	2.35%	1.13
Static CS	1.82%	44.05%	18.76%	13.77%	4.44%	-0.01	1.08	0.47%	-0.01
Dynamic CS	3.71%	42.81%	16.81%	12.78%	3.99%	0.10	0.88	1.10%	0.13

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Based on weekly data for the period 09-Mar-02 to 29-Jul-05

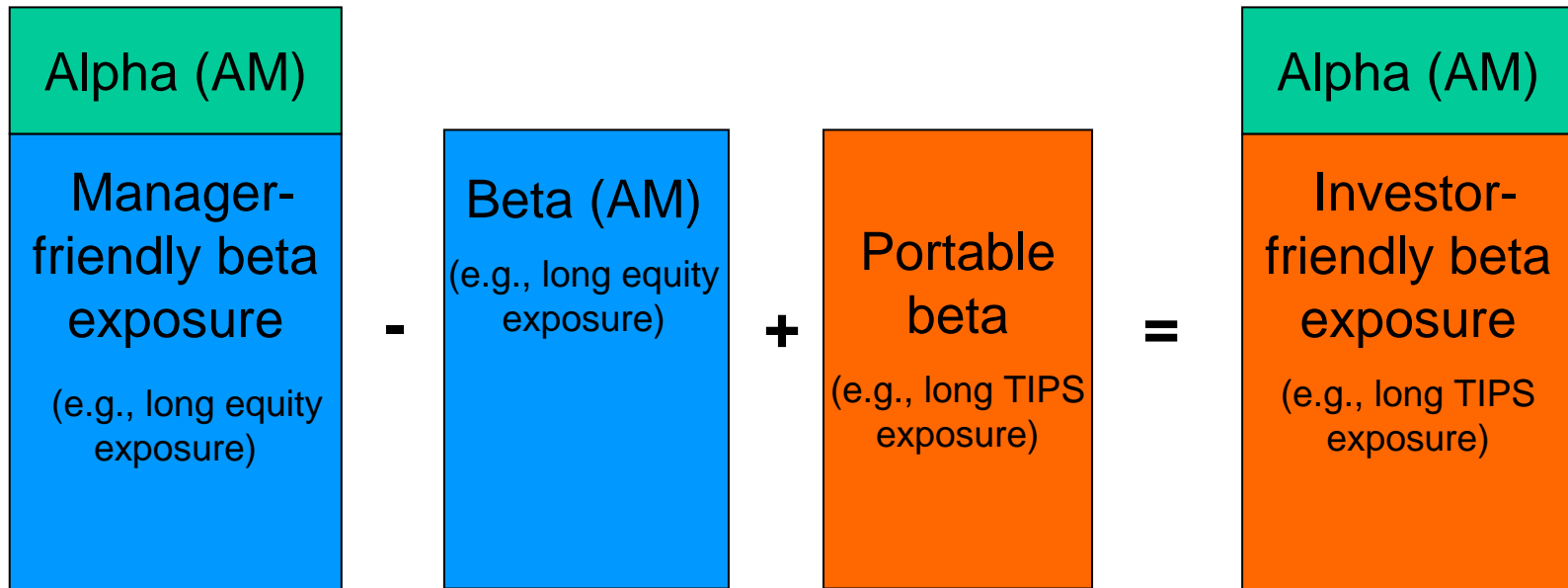
Portable Alpha and Portable Beta

From the Delivery to the Packaging of Alpha

- It is neither desirable nor necessary to tie together the generation of alpha and beta sources
- The focus is increasingly shifting from the pure delivery to the packaging of alpha
- As in any maturing industry, this is a shift from production to marketing
 - Not only should active funds bring alpha; the alpha must also fit investors' needs
 - Investors active strategies for their alpha; they also need the betas to fit their needs
- The aim is to obtain investor friendly beta exposure + portable alpha

Portable Alpha and Portable Beta

The Mechanics of Alpha and Beta Transport



- Alpha + Beta from an active manager (AM) can be separated.
- ETFs can be used to neutralise manager-friendly betas and replace them with investor-friendly betas (in particular since they can be sold short).

Portable Alpha and Portable Beta

A simple example

- A pure alpha strategy is a dollar-neutral position long the managers from above and short the Eurostoxx
- This pure alpha can then be added to betas chosen by the investor, such as Euro Stocks, Emerging Markets Stocks, Real Estate, Bonds

	Average Return*	Risk Dimension				Risk-Adjusted Performance	
		Maximum Drawdown (in %)	Volatility (in %)*	Downside Risk (in %)*	Modified Value-at-Risk (in %)**	Sharpe-Ratio*/**	Sortino Ratio*/**
Active Managers	11.81%	30.53%	12.23%	8.71%	2.67%	0.80	1.13
Pure Alpha	12.41%	8.03%	10.96%	7.94%	2.35%	0.95	1.31
Eurostoxx	-0.53%	47.43%	20.66%	15.05%	4.91%	-0.12	-0.17
Emerging Markets	18.26%	26.03%	15.16%	10.61%	3.38%	1.07	1.53
Real Estate Comp.	20.83%	23.28%	10.50%	6.51%	2.11%	1.79	2.89
Euro Govt. Bonds	7.49%	3.48%	3.47%	2.49%	0.72%	1.58	2.21
Eurostoxx + Alpha	11.81%	30.53%	12.23%	8.71%	2.67%	0.80	1.13
Emerging Markets + Alpha	32.88%	19.87%	15.73%	13.65%	3.51%	1.96	2.26
Real Estate Comp. + Alpha	35.76%	12.44%	13.06%	11.61%	2.79%	2.58	2.91
Euro Govt. Bonds + Alpha	20.80%	8.86%	12.80%	8.82%	2.63%	1.47	2.13

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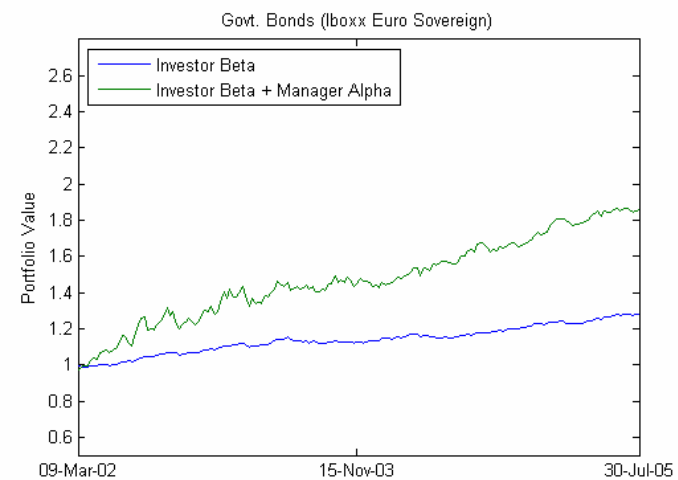
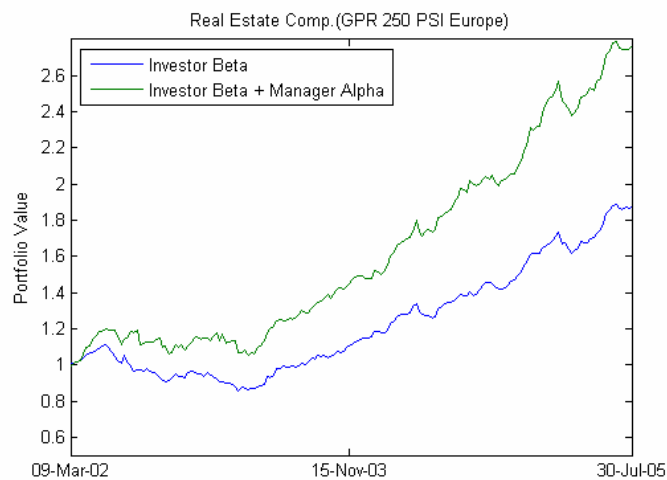
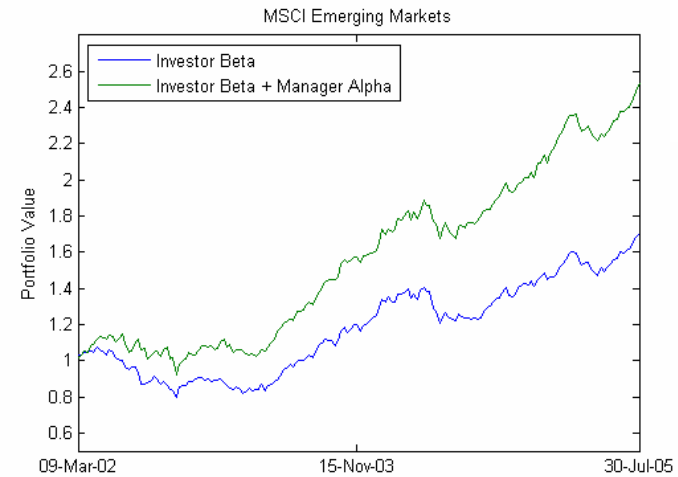
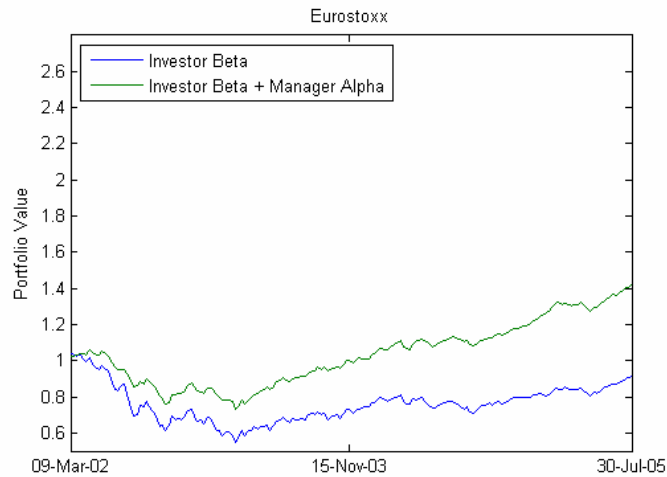
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Portable Alpha and Portable Beta

The Mechanics of Alpha and Beta Transport



Conclusion

- Asymmetric risk management techniques provide possibilities to package access to alpha and beta while limiting the downside
- Packaging of alpha allows for investor-friendly betas of the final portfolio
- These new techniques constitute a feasible alternative to more traditional approaches claiming to provide “pure alpha”.

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