
CAPACITY AND SUSTAINABILITY EFFECTS IN THE ALTERNATIVE INDUSTRY

Noël Amenc, PhD

Professor of Finance at EDHEC Graduate School of Business
Director of the EDHEC Risk and Asset Management Research Centre
noel.amenc@edhec-risk.com

Walter Géhin

Research Associate with the EDHEC Risk and Asset Management Research Centre
Business Analyst with Misys Asset Management Systems
walter.gehin@misys-ams.fr

ORIGINS OF THE CAPACITY EFFECT DEBATE

- Lower-than-expected performance since 2004:

EDHEC Indices	Y 2003	Y 2004	Y 2005
Funds of Funds	11.46%	7.07%	6.78%
Long/Short Equity	19.32%	8.62%	11.39%
Event Driven	20.47%	12.44%	7.33%
CTA Global	11.64%	5.18%	0.04%
Global Macro	17.26%	4.59%	8.80%
Distressed Securities	27.35%	17.90%	9.40%
Equity Market Neutral	6.28%	4.71%	6.74%
Fixed Income Arbitrage	8.37%	6.27%	4.74%
Convertible Arbitrage	10.80%	1.10%	-1.87%

THE CAPACITY EFFECT THESIS

- Alphas become rarer for two reasons:
 1. The increase in operational volume is eroding market opportunities:
 - 1st part of the capacity effect, **the market capacity**.
 2. Dilution of the talent available in the industry:
 - 2nd part of the capacity effect, **the manager capacity**.

RE-EXAMINATION OF THE CAPACITY EFFECT

- Implications of the capacity effect:
 - Alpha is the main source of hedge fund performance.
 - Hedge funds are victims of their success.
 - Pessimistic profitability prospects for hedge funds.

- Three questions to re-examine the capacity effect:
 - What are the determinants of hedge fund performance ?
 - What are the evolutions of the return components ?
 - What are the true benefits of hedge funds ?

THE TRADITIONAL APPROACH TO IDENTIFYING DETERMINANTS OF HEDGE FUND PERFORMANCE

- Capital Asset Pricing Model (1964):
 - Fund return = $\alpha + \beta \times$ market return
 - The only exposure is the exposure to the traditional market (basic assets: stocks and bonds).
 - Model dedicated to active long-only equity/bond funds.

THE INADEQUACY OF THE CAPM IN THE HEDGE FUND CONTEXT

- Reasons for the inadequacy:
 - Hedge funds use a wide range of management techniques and investment vehicles.
 - Hedge funds are exposed to a wide range of risks: volatility risk, default risk, liquidity risk.
- Implications of standard CAPM use for hedge funds:
 - Alpha overestimation.
 - Hedge funds are wrongly regarded as 'skill-based strategies' or 'absolute return strategies'.

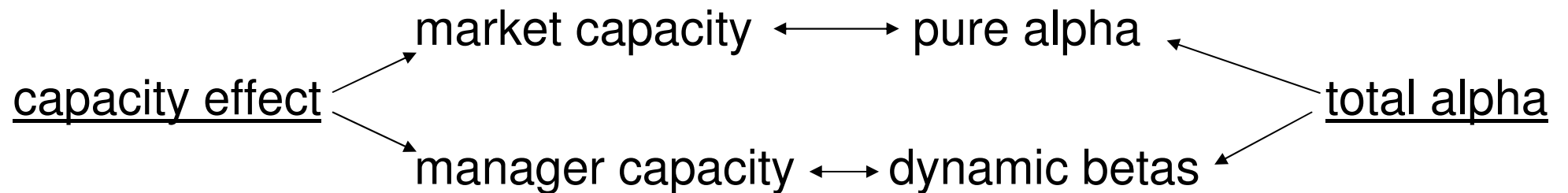
TWO WAYS TO GENERATE ALPHA

- Security selection plus sector rotation:
 - It relates to market opportunities.
 - It relates to market capacity.
 - It is measured by **pure alpha**.

- Timing decision:
 - It relates to active risk exposure.
 - It relates to manager capacity.
 - It is measured by **dynamic betas**.

A SPECIFIC MODEL TO CAPTURE MARKET AND MANAGER CAPACITY EFFECTS

Hedge fund returns = pure alpha + dynamic betas + static betas



DECOMPOSITION OF RETURN VARIABILITY

from January 1997 to December 2004

	Static betas	Dynamic betas	Pure alpha
Convertible Arbitrage	42.13%	21.15%	36.72%
CTA Global	26.97%	34.60%	38.43%
Distressed Securities	66.76%	8.62%	24.62%
Emerging Markets	60.91%	14.74%	24.35%
Equity Market Neutral	51.53%	27.37%	21.09%
Fixed Income Arbitrage	37.28%	36.32%	26.39%
Global Macro	35.49%	34.52%	29.99%
Long/Short Equity	83.06%	9.25%	7.70%
Merger Arbitrage	59.51%	26.21%	14.29%
<u>Average</u>	<u>51.52%</u>	<u>23.64%</u>	<u>24.84%</u>

DECOMPOSITION OF RETURN LEVEL

from January 1997 to December 2004

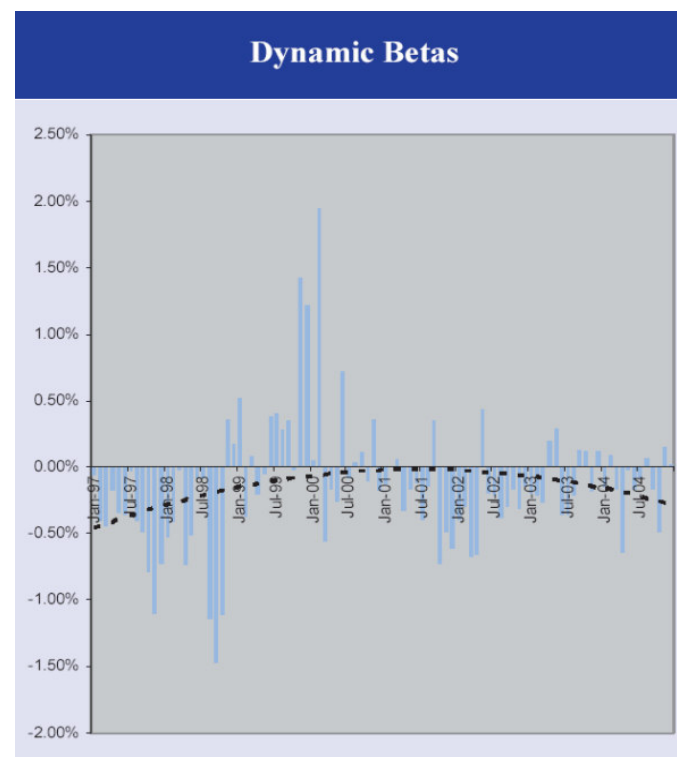
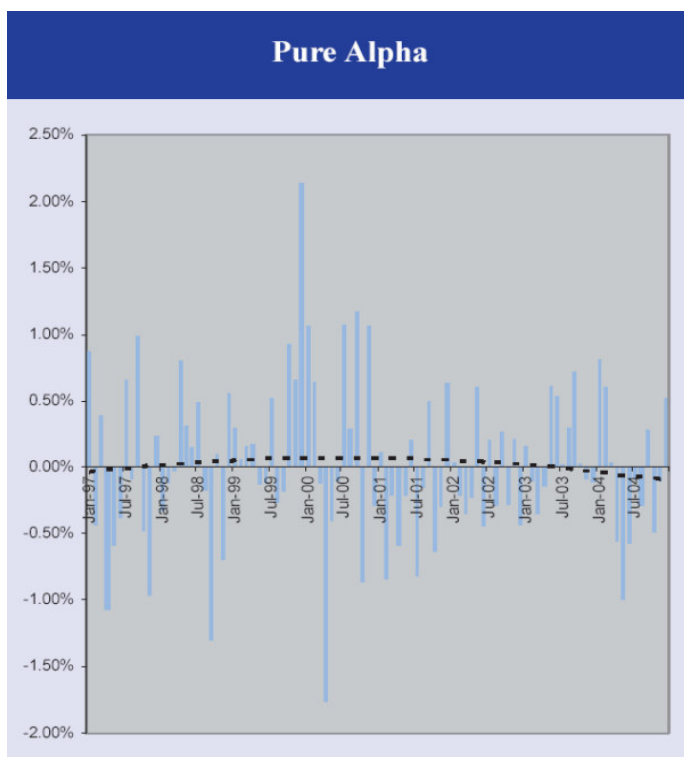
	Static betas	Dynamic betas	Pure alpha
Convertible Arbitrage	103.17%	-1.48%	-1.69%
CTA Global	69.60%	29.37%	1.03%
Distressed Securities	93.48%	-0.26%	6.79%
Emerging Markets	122.46%	-30.22%	7.76%
Equity Market Neutral	97.13%	2.44%	0.42%
Fixed Income Arbitrage	95.81%	-5.42%	9.61%
Global Macro	93.54%	-0.94%	7.39%
Long/Short Equity	114.99%	-17.49%	2.51%
Merger Arbitrage	106.28%	-5.98%	-0.30%
<u>Average</u>	<u>99.61%</u>	<u>-3.33%</u>	<u>3.72%</u>

IMPLICATIONS OF DECOMPOSITION RESULTS

- Dominant static betas:
 - Hedge funds are not simply 'absolute return strategies'.
- Low part of pure alpha:
 - Impact of market capacity effect is potentially very low.

EXAMINATION OF ALPHA COMPONENT TRENDS

from January 1997 to December 2004



- Example of the Long-Short Equity strategy:
 - Dynamic beta trend is more pronounced than pure alpha trend.
 - Alpha is more impacted by manager capacity effect than by market capacity effect.

CONCLUSION OF MARKET CAPACITY EFFECT

- No pure alpha decline:
 - Some, but not all, market opportunities are eroded.
 - The market capacity effect does not exist.
 - The level of alpha depends on the manager capacity effect.

EXAMINATION OF MANAGER CAPACITY EFFECT

- Argument supporting the manager capacity effect:
 - Unskilled managers could be attracted by fee structure.
- Results mitigating the manager capacity effect:
 - Howell (2001): funds offering a track record of less than 3 years are the most attractive.
 - Boyson (2003): each additional year of experience affects performance negatively.
 - No clear evidence of a decline in the average quality of hedge fund managers.

EXPLANATIONS FOR THE DISAPPOINTING RETURNS

- Questioning the capacity effect leads to questioning the structural aspect of disappointing performance:
 - Prevailing economic situation rather than structural issues.
 - For example, the Convertible Arbitrage strategy has suffered from low volatility in the equity market, low interest rates and the narrowness of credit spreads.

TRUE HEDGE FUND BENEFITS: BETA BENEFITS

- Measuring hedge fund diversification potential:
 - hedge fund returns are non-Gaussian.
 - necessity to use higher-moment betas.

- Measuring diversification of three risks:
 - normal risk (volatility): $\beta^{(2)}$
 - asymmetry risk (skewness): $\beta^{(3)}$
 - fat tail risk (kurtosis): $\beta^{(4)}$

- Two types of diversification potential:
 - with respect to equity-oriented portfolios.
 - with respect to bond-oriented portfolios.

DIVERSIFICATION POTENTIAL WITH EQUITY-ORIENTED PORTFOLIOS

from January 1997 to December 2004	Normal risk	Asymmetry risk	Fat tail risk
Convertible Arbitrage	0.04	0.11	0.10
CTA Global	-0.11	-0.35	-0.24
Distressed Securities	0.16	0.51	0.28
Emerging Markets	0.50	1.01	0.69
Equity Market Neutral	0.06	0.06	0.07
Fixed Income Arbitrage	-0.01	0.17	0.02
Global Macro	0.16	0.22	0.14
Long/Short Equity	0.33	0.46	0.33
Merger Arbitrage	0.13	0.33	0.20



Strong diversification



Significant diversification



Limited or non-diversification

DIVERSIFICATION POTENTIAL WITH BOND-ORIENTED PORTFOLIOS

from January 1997 to December 2004	Normal risk	Asymmetry risk	Fat tail risk
Convertible Arbitrage	0.06	0.31	0.22
CTA Global	1.03	0.76	0.91
Distressed Securities	-0.10	0.10	0.03
Emerging Markets	-0.39	-0.02	0.06
Equity Market Neutral	0.10	0.29	0.23
Fixed Income Arbitrage	0.10	0.25	0.14
Global Macro	0.45	0.40	0.53
Long/Short Equity	-0.14	0.17	0.15
Merger Arbitrage	-0.08	0.13	0.09



Strong diversification



Significant diversification



Limited or non-diversification

CONCLUSIONS

- What are the determinants of hedge fund performance ?
 - Alpha is not the main source of performance.
 - Pure alpha is low: the potential impact of the market capacity effect is restricted.
- What are the evolutions in the return components ?
 - Trends of alpha and its components do not show a decline.
 - No evidence of market and manager capacity effects.
- What are the true benefits of hedge funds ?
 - True hedge fund benefits are beta benefits.
 - Exploitation of hedge funds' diversification power.