

# Cluster Funds

## Cluster Funds

BCV's cluster funds are managed using a long-short equity strategy. They make it possible to invest in international equities while hedging market risk.

The underlying assets of BCV's cluster funds are international stocks and futures. Our management approach can bring stability to any alternative portfolio.

Two funds are available:

- Cluster Equity Alpha (CEA)
- Cluster Equity Opportunity (CEO)

The difference between these two funds is the short component: for the Cluster Equity Alpha, the size of the short component is fixed, while for the Cluster Equity Opportunity, it can be varied to adapt hedging needs to the market trend.

## Investment approach

The long-short equity strategy (market neutral) is based on a quantitative management process.

First we take long positions in certain international equities using a clustering method that minimizes concentration risk. Then we create added value (alpha) relative to the market through a multi-factor selection process.

Short positions through futures are used to hedge market risk.

Cluster funds are suitable for investors who wish to stabilize their alternative-investment portfolio.

## Management objective

The management approach used for the cluster funds aims to add value to a market neutral index made up of the following underlying indexes:

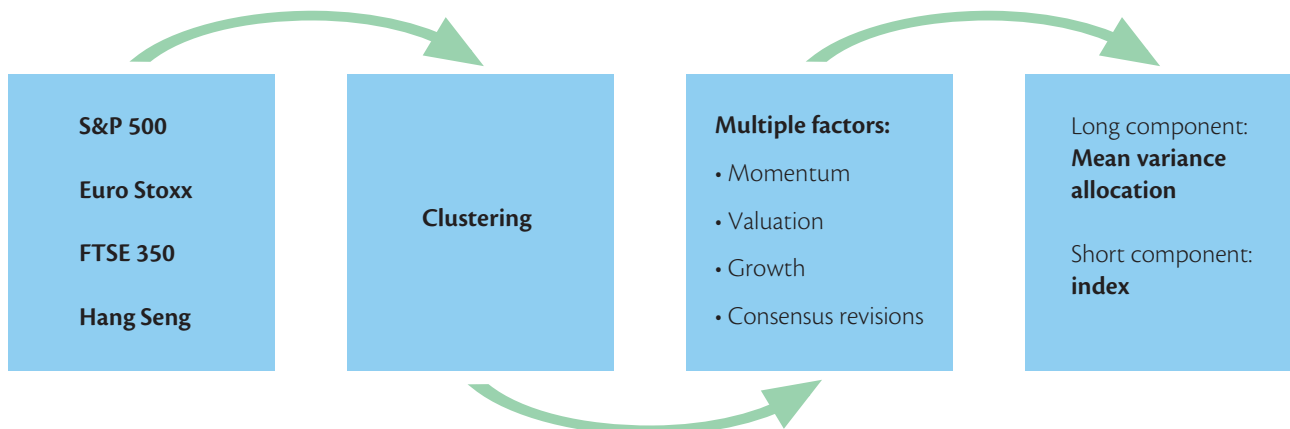
- USA: S&P 500
- Eurozone: Euro Stoxx
- UK: FTSE 350
- Hong Kong: Hang Seng

Comparison basis: **HFRI Equity Market Neutral Index**

## What we offer

- A totally transparent quantitative approach
- A stable performance that is decorrelated from the equity markets
- Alpha generated by diversifying across styles and geographic zones
- Robust risk management thanks to clustering technique
- Liquid strategy with no leverage
- Stable portfolio returns

## Our methodology



The investment strategy is made up of two components: short and long.

### First stage: long

First the benchmark universe is broken down into 25 decorrelated groups (clustering). Securities are grouped by minimizing their Euclidean distance from each other.

This results in:

- Strong correlation within each cluster
- Weak correlation between clusters

#### Euclidean distance

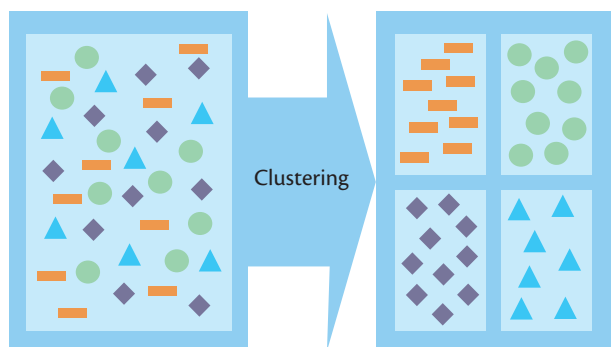
$R_n$  is an n-dimensional Euclidean space. The euclidean distance  $d(M', M'')$  that separates  $M'(x_1, x_2, x_3, \dots, x_n)$  and  $M''(x_1, x_2, x_3, \dots, x_n)$  is calculated using the following formula:

$$\sqrt{\sum_{i=1}^n |x_i - y_i|^2}$$

When  $n = 1$ , the formula gives the distance between two points on a straight line. When  $n = 2$ , the formula gives the distance between two points in a plane.

#### Example of clustering with 35 stocks

Investment universe:



Next, a stock is selected from each cluster on the basis of the following four factors:

#### The momentum effect

The best-performing stocks are determined according to the return generated over a given period.

#### Valuation

The securities are valued using ratios such as P/E and equity/market cap.

#### Growth

The earnings profile of the companies concerned is analyzed.

#### Revisions

The consensus forecasts for the companies concerned are taken into account, as are any revisions to these forecasts.

These four criteria are incorporated into one single indicator that is used to select individual stocks from each cluster.

#### Implementation

In order to optimize the timing of the selection process, the long component is made up of 3 sub-portfolios of 25 stocks that are selected using the above methodology. The composition of the three sub-portfolios is fixed separately at monthly intervals.

Each sub-portfolio is then rebalanced every three months, and the weightings of all three are equalized on the first business day of the year.

## Second stage: short positions

### Cluster Equity Alpha (CEA)

In order to hedge the market risk and neutralize the beta, the CEA fund takes short positions of an equivalent size on the entire investment universe.

### Cluster Equity Opportunity (CEO)

This fund can vary the size of the part invested in short positions in order to reduce market hedging during bull markets, as identified by our decision-making models. We have created models adapted to each market phase in order to allocate the short component appropriately. These models are based on fundamentals, including economic data such as interest-rate differentials and inflation.

Based on the indications provided by these models, the component that is hedged against market risk (i.e., the short component) can fluctuate.

For both funds, the futures used are liquid and available to the public.

## Investment universe

The above methodology is applied separately to the following four geographic areas:

- USA
- Eurozone
- UK
- Hong Kong

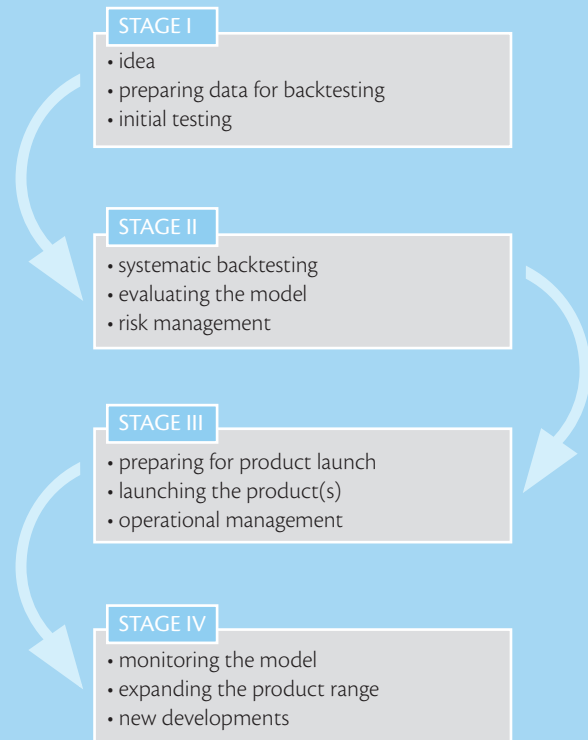
The main geographic zones are the USA and Europe.

The fund reports provide financial ratios combining all four regions.

We systematically hedge against currency risk for each geographical zone. Both funds are denominated in Swiss francs; the CEA fund is also denominated in euro.

## Creating the model

New products such as the cluster funds are developed using a well established process made up of the following stages:



## Our top-quality service

Your advisor will regularly inform you about the performance of your portfolio and the financial markets.

We will also provide you with the following fund reports:

- A monthly factsheet
- A quarterly report with portfolio and/or risk analyses
- An annual fund report

## Fund features

Name of fund	Cluster Equity Alpha Cluster Equity Opportunity	Management objective	HFRI Equity Market Neutral Index (CEA)
Legal status	Luxembourg-registered fund	Security number	Cluster Equity Alpha (CHF): Class A: 10340390 Class I: 10340397
Fund manager	BCV Asset Management		Cluster Equity Alpha (EUR): Class A: 10340384 Class I: 10340388
Fund management company	Gérifonds (Luxembourg) SA		Cluster Equity Opportunity (CHF): Class A: 10340351 Class I: 10340363
Custodian bank	BCEE (Banque et Caisse d'Épargne de l'État, Luxembourg)	ISIN number	Cluster Equity Alpha (CHF): Class A: LU0440307725 Class I: LU0440307998
Launch date	Cluster Equity Alpha (CHF and EUR) Classes A and I: 19 August 2009		Cluster Equity Alpha (EUR): Class A: LU0440307568 Class I: LU0440307642
	Cluster Equity Opportunity Classes A and I: 19 August 2009		Cluster Equity Opportunity (CHF): Class A: LU0440307303 Class I: LU0440307485
Base currency	Cluster Equity Alpha CHF and EUR (with currency hedging)	Publication of prices	Le Temps, Finanz und Wirtschaft Reuters: 0#GERI1= Bloomberg: GERI1
	Cluster Equity Opportunity CHF (with currency hedging)	Activity reports	Monthly factsheet Quarterly fund report Annual fund report
Close of financial year	31 December		
Issue/redemption	Weekly		
All-in commission	Cluster Equity Alpha (CHF and EUR) Class A: 1.50% Class I: 0.80%		
	Cluster Equity Opportunity Class A: 1.60% Class I: 0.90%		
Issue and redemption commissions	See your advisor		

### Contact

For advice and the latest updates, please:  
 - call one of our advisors on +41 (0)21 212 20 51  
 - visit [www.bcv.ch/am](http://www.bcv.ch/am)



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