

PIRAEUS BANK



PIRAEUS MUTUAL FUND SCREENING MODEL



ECONOMIC RESEARCH & INVESTMENT STRATEGY

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AIM OF THE MUTUAL FUND SCREENING MODEL

The aim of the Mutual Fund Screening Model is to track down the best funds in their respective category.

“Best” means to exhibit the optimal combination of **high return and low volatility** consistently.

- Following the screening completion,
 1. We create **the Mutual Fund Short List** which includes the top funds in each category.
 2. We choose from the Mutual Fund Short List the funds that **comply with our Investment Strategy to populate our Portfolios.**
 3. We choose among the best mutual funds **to implement our trade ideas and tactical positioning.**

ROBUSTNESS OF THE MUTUAL FUND SCREENING MODEL



- The process of the Model is specific and specified in advance
- Check points along the process are established
- The model is run periodically
- The Mutual Fund Screening Model of Piraeus Bank **is certified as per ELOT EN ISO 9001:2015, Quality Management Systems-Requirements**

METHODOLOGY

Quantitative Evaluation

- i. Mutual Fund Universe
- ii. Category Classification
- iii. Criteria & Score Calculation
- iv. Output & Example

Qualitative Evaluation

Our universe comprises 1,245 Mutual Funds from 14 of the **most renowned Asset Managers** worldwide.



- Our Mutual Fund Universe **covers all Asset Classes** and subcategories.
- The Universe contains mainly Mutual funds in **EUR and USD, less funds in GBP and AUD.**
- **Hedged products and Distribution products** are also available.

- The first step is to **assign each mutual fund to the appropriate category**. We use the **Morningstar Category Classifications**.

Fixed Income Funds Categories

Government
Global Government
Corporate (IG)
Global Corporate (IG)
Emerging Markets Corporate (IG)
Convertibles
Inflation
High Yield
EM Debt
Short Term
Diversified

Equity Funds Categories

Europe - UK
US
Japan
Global
Global EM
Asia
Latin America
Middle East
Eastern Europe
China
India
Sectors (Environment & Ecology, Consumer Goods & Services, Real Estate, Healthcare, Technology, Financials, Energy)

Other Funds Categories

Commodity
Money Market
Special
Mixed-Allocation

- Once we have set the categories, we download data (Morningstar data via Factset) for each of the following criteria:
 - **Annualized return**
 - **Sharpe Ratio**
 - **Maximum Drawdown**
 - **VaR (1%)**
 - **Mutual Fund AUM now and 6 months ago**
- The above mentioned criteria data (except from the Change in MF AUM) are calculated for **multiple time periods**, i.e. 1 month, 3 months, 6 months, 1 year, 3 years and 5 years.
- Important Notes:
 - 1] **VaR is calculated in-house by the Variance Covariance Method** using daily (for time periods up to 1 year) or monthly (for time periods of 3 & 5 years) returns.
 - 2] We calculate the Change in Mutual Funds AUM over the last 6 months, and we **adjust it for market effect**.

Please refer to Appendix
for list of Definitions

- Having identified the relevant criteria for the Funds' performance evaluation, as well as the appropriate set of evaluation horizons, we proceed as follows:
 - Step 1: Score estimation per criterion and evaluation horizon.
 - For each criterion and evaluation horizon, we rank all funds in each category from the **highest to the lowest for the Annualized Return, Sharpe Ratio and Change in AUM** criteria and from the **lowest to the highest for the Maximum Drawdown and VaR** criteria.
 - Funds are divided into the 5%, 25%, 50%, 75% and 95% percentiles, for each criterion and for each time period.
 - Funds are **assigned a score according to which percentile they fall into**. Scores for each range are the following:

Range	Score
0% - 5%	0
5% - 25%	2
25% - 50%	4
50% - 75%	6
75% - 95%	8
95% - 100%	10

□ Step 2: Score aggregation per criterion.

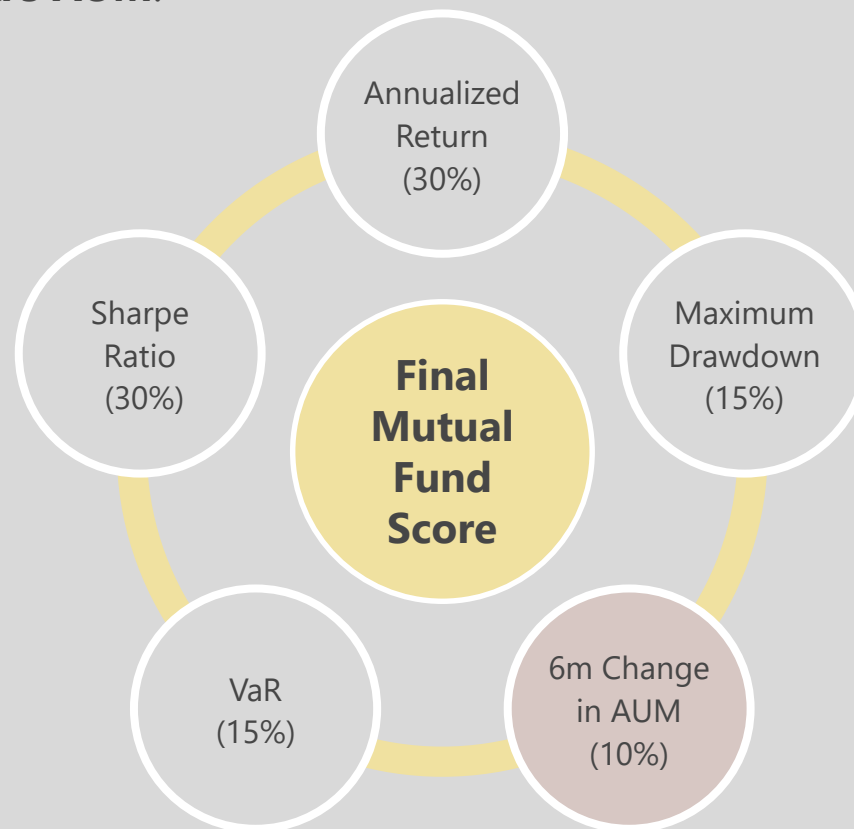
- We **aggregate the scores for each criterion across evaluation horizons** to arrive at a single score per criterion:



<i>1 month</i>	<i>7.0%</i>
<i>3 months</i>	<i>11.0%</i>
<i>6 months</i>	<i>18.0%</i>
<i>1 year</i>	<i>14.0%</i>
<i>3 years</i>	<i>27.5%</i>
<i>5 years</i>	<i>22.5%</i>

The 4 basic parameters of the Model have the same internal breakdown among different time periods

- Step 3: Find Mutual Fund Score estimation.
 - Finally, we calculate the final score per Fund as a weighted average of the aforementioned four criteria plus the **6month Change in the Fund's AUM**:



- Consequently, **the output of the previously described process is the ranking within each category by the Final Score.**
- **The Final Score may range from 0 to 10.**
- *We present below an example of the US Equities (in USD) category ranking. Please note that this is an indicative list.*

N/N	Mutual Fund	ISIN	Score
1	GS US Core Equity – USD (dist)	LU0065004045	8.42
2	GS US Core Equity - USD	LU0234571726	7.88
3	Amundi Index MSCI North America - USD	LU0442407853	7.61
4	GS US Core Equity A – USD	LU0122977423	7.22
5	Pioneer US Fundamental Growth - USD	LU0347184235	7.20
6	M&G – North America Value Fund - USD	GB00B1RXY09	7.20
7	Pictet USD Index R USD	LU0130733172	7.20
8	BGF US Flexible Equity - USD	LU0154236417	7.13
9	JPM US Growth A - USD	LU0210536198	6.91
10	NN(L) US Enhanced Core Concentrated Equity – P Cap USD	LU0082087940	6.85
11	NN (L) US Growth Equity – P Cap USD	LU0272290692	6.85
12	Pioneer US Pioneer – USD	LU0133642578	6.74
13	Pioneer US Research - USD	LU0132182006	6.57
14	M&G – North America Dividend Fund - USD	GB00B1RXYR32	6.57
15	BGF US Growth - USD	LU0097036916	6.50
16	Schroder ISF US Small & Mid Cap Equity A USD	LU0205193047	6.31

Once the quantitative screening is over, we **proceed with the qualitative evaluation.**

- **First, in order to create the Mutual Fund Short List**, the qualitative evaluation takes into consideration the following criteria:
 - Investment process: bottom up, top down, algorithmic
 - Management team experience and turnover
 - Holdings: long/short, derivatives
 - Transparency of the fund operations and investments
 - Piraeus Bank Investment Strategy
 - Variety of offering/Diversification
 - Preference for Accumulation over Distribution share classes
 - Mutual funds with less than \$100m/€100m AUM are omitted from screening process
- Secondly, in order **to select the Mutual Funds for inclusion in our Portfolios**, the following additional criterion is considered:
 - Consistency with our Asset Allocation and Tactical Positioning

Continuing with **our previous example of US Equities (in USD) category**, we present below which funds would be included in our Mutual Fund Short List and Portfolios and the rationale of the selection.

N/N	Mutual Fund	ISIN	Score
1	GS US Core Equity – USD (dist)	LU0065004045	8.42
2	GS US Core Equity - USD	LU0234571726	7.88
3	Amundi Index MSCI North America - USD	LU0442407853	7.61
4	GS US Core Equity A – USD	LU0122977423	7.22
5	Pioneer US Fundamental Growth - USD	LU0347184235	7.20
6	M&G – North America Value Fund - USD	GB00B1RXY09	7.20
7	Pictet USD Index R USD	LU0130733172	7.20
8	BGF US Flexible Equity - USD	LU0154236417	7.13
9	JPM US Growth A - USD	LU0210536198	6.91
10	NN(L) US Enhanced Core Concentrated Equity – P Cap USD	LU0082087940	6.85
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- For our Mutual Fund Short List, we would choose the 2nd best fund in the category, which is the same as the 1st, but not a distribution share class. **We prefer accumulation share classes.**
- We would choose the 16th fund as it is the 1st best ranking mid-cap US equity fund, as **we would like to have an offering for all market cap range of the US equity market** (Variety of offering).
- **Both funds would be included in our Portfolios** if they were compatible with our Investment Strategy, Asset Allocation and Tactical Positioning.

KEY TAKEAWAYS

- The aim of the screening is to track down the best funds in their category. "Best" means to have the optimal combination of **high return and low volatility**.
- We use a **combination of quantitative and qualitative** evaluation.
- The product derived from this process is the **Mutual Fund Short List**. Mutual funds from the Short List are **included in Portfolios and used to implement our trade ideas and tactical positioning**.

- The Mutual Fund Screening Model of Piraeus Bank **is certified as per ELOT EN ISO 9001:2015, Quality Management Systems-Requirements**



APPENDIX

Annualized return	Daily returns average annualized (Morningstar data via Factset)
Sharpe Ratio	Measure of return adjusted for risk (average excess return divided by standard deviation) – (Morningstar data via Factset)
Maximum Drawdown	Peak-to trough decline of an investment during a specific period and is usually quoted as a percentage of the peak value (Morningstar data via Factset)
VaR	Measure of investments' risk. It estimates how much a set of investments might lose, given normal market conditions, in a set time period such as a day, month, etc. (calculated in-house from Morningstar data via Factset)
Change in Assets	Change in Mutual Fund AUM over a 6-month period (calculated in house from Morningstar data via Factset)

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