

Modern Portfolio Theory Statistics

Below are some Key Statistics which are helpful in order to analyze the performance, and determine whether the performance results are due luck or because of manager's skills.

The analyses below answer the following questions:

- What is the probability of losing a certain percentage, over a specific period of time?
- How much the performance consistency is?
- Is the performance return sufficiently high compared to the risk taken?
- Is the performance Stable or Volatile?
- Is the performance correlated to benchmark, and markets?
- Are we outperforming other money managers and benchmarks' performance?

a) Value at Risk (VaR)

Monthly VaR at 95% Confidence: -16.71%

"Value at Risk" measures the potential loss in the portfolio over a defined period, for a given confidence interval.

Our monthly VaR is -16.71% at 95% confidence level; that means there is only a 5% chance that the portfolio will drop more than -16.71% over any given month.

b) Sharpe Ratio

Sharpe Ratio: 1.69

Sharpe ratio tells us whether a portfolio's returns are due to smart investment decisions or a result of excess risk, it is a risk-adjusted measure of the performance.

The ratio measures how much reward the investment produces for the level of risk taken.

The higher the Sharpe Ratio, the better consistent performance of the portfolio is considered to be.

c) Standard Deviation (SD)

Monthly Standard Deviation: 13.99%

Standard Deviation measures how much the return is deviating and fluctuating around the average return.

Our +6.92% Monthly Average Return with 13.99% Standard Deviation; indicate that the monthly realized return would most probably be somewhere between **-7.07%** and **+20.91%**.

d) Volatility (σ)

Annual Volatility: 0.48

Volatility is a measure of the portfolio stability; it refers to the amount of uncertainty about the size of changes in the performance value. It is calculated as the standard deviation from a certain continuously compounded return over a given period of time.

Our 48% annualized volatility means the potential annual return may increase or decrease up to half its value.

e) Performance measurement and Benchmarking

When evaluating the performance of any investment, it's important to compare it with those that are perceived as the best performers in the class. The below MPT statistics are useful to understanding and quantifying this risk/reward landscape.

Benchmark Index	Alfa (α)	Beta (β)	R-SQUARED (R2)	Correlation
PARKER GLOBAL'S CURRENCY MANAGER'S (CMI)	6.77%	1.82	1.42%	0.12
BARCLAYHEDGE'S BTOP FX	6.56%	-0.71	0.42%	-0.06
MSCI EUROPE FX HEDGE -USD	6.50%	-0.21	0.15%	-0.04

f) R-SQUARED (R2)

R-Squared is a statistical measure that represents the percentage of the portfolio's movements, which can be explained by the percentage of the benchmark index movements.

The R2 generated by our performance in correspondence to the above 3 benchmarks, was less than 2%, which means that only 2% of our performance gains are due to benchmark gains.

g) Correlation

Correlation measures only direction of movement over time which can be explained by the direction of movement of the benchmark.

The correlation generated by our performance in correspondence to the above 3 benchmarks was less than 0.2, which means we have a very weak correlation.

h) Beta (β)

While SD determines the volatility of a fund according to the disparity of its returns over a period of time, Beta determines the volatility of a fund in comparison to its benchmark.

Our performance had a negative and less volatility than "BARCLAYHEDGE'S BTOP FX", and "MSCI EUROPE FX HEDGE –USD" by 29% and 79% respectively.

But we had more volatility than "PARKER GLOBAL'S CURRENCY MANAGER'S (CMI)" by 82%.

i) Alfa (α)

Alfa measure the extra return rewarded to you for taking on risk posed by factors other than market volatility. It measures how much if any of this extra risk helped the fund outperform its corresponding benchmark.

A positive alpha of 1 means the portfolio has outperformed its benchmark index by 1%.

This 1% represents the extra return awarded to the investor for taking additional risk rather than accepting the market return. In contrast, a negative alpha indicates that the portfolio has underperformed its benchmark.

Our performance has outperformed the following benchmarks "PARKER GLOBAL'S CURRENCY MANAGER'S (CMI)", "BARCLAYHEDGE'S BTOP FX" and "MSCI EUROPE FX HEDGE –USD" by generated the following Alphas of 6.77%, 6.56% and 6.5% respectively.



ICA Performance during Crisis

Period	Performance	Event
Jan-08	35.10%	Global stock markets, including London's FTSE 100 index, suffer their biggest falls since 11 September 2001.
Apr-08	-3%	International Monetary Fund (IMF) warns possible losses which equate to \$1 trillion due to the credit crunch.
May-08	32%	UBS AG Swiss bank announces plans to cut 5500 jobs by the middle of 2009
Sep-Oct 2008	N/A	Lehman Brothers file for Chapter 11 bankruptcy protection. Merrill Lynch also gets taken over by the Bank of America. Worst week for the stock market in 75 years.
Feb-09	29.50%	Job losses to reach 7.2 million in Asia
Mar-09	14%	UK government debt hit £750bn in 2008 US budget deficit will reach \$1.8 trillion Norway government pension fund lost \$92bn
Apr-09	1.60%	Swine Flu declared public health emergency WTO predicts global trade to fall 9% The US economy lost 539,000 jobs in April
May-09	11.30%	HSBC seeks \$18 billion in capital and cuts 6,100 jobs Madoff admits \$50bn fraud scheme.
Jun-09	-1.20%	Global oil consumption shrinks for the first time since 1993, the largest drop for 27 years.
Nov-09	18.40%	Dubai World seeks debt standstill
Jan-10	-2.60%	PIGS (Portugal, Italy, Greece & Spain) debt crisis
Apr-May-Jun 2010	N/A	Greece bailout. The U.S. DJIA had its worst May performance since 1940. PIGS debt crisis
Mar-11	9.50%	Powerful earthquake and tsunami devastate Northern Japan.
Sep-11	2.30%	Dow Jones industrials sees biggest two-day decline since December 2008.
Nov-11	N/A	Six Central Banks take joint action to enhance global liquidity. Italy has been forced to pay record interest rates in a 10bn euro (\$13bn; £9bn) auction of treasury bills.
Oct-12	-19.30%	Super storm Sandy slams the Northeast and mid-Atlantic states.
Mar-13	33.50%	Cyprus bailout

