Illuminating the World of HEDGE FUNDS

presented by PERTRAC

"The logic of the idea was very clear. It was a hedge against the vagaries of the market. You can buy more good stocks without taking as much risk as someone who merely buys."

Alfred Winslow Jones
The Institutional Investor Journal, August 1968

BRIEF HISTORY of HEDGE FUNDS

- **1933** – Regulation of U.S. securities industry begins with the **Securities Act of 1933. Regulation D exempts companies selling to "accredited investors" from registering.**
- **1934** – Securities Exchange Act of 1934 establishes the **Securities and Exchange Commission (SEC).**
- **1940** – Regulation of U.S. funds begins with passage of the **Investment Company Act of 1940.**
- **1949** – **Alfred Winslow Jones forms first hedge fund** (coining them "hedged funds") and eventually introduces the 20% performance fee.
- **1966** – ***Fortune* magazine** publishes article on Alfred Winslow Jones' hedge fund - number of hedge funds grows in the following years.
- **1969** – Rothschild Family introduces the world's **first fund of hedge funds.**
- **1974** – European Federation of Investment Funds and Companies (FEFSI) established – later renamed **European Fund and Asset Management Association (EFAMA).**
- **1974** – **Commodity Futures Trading Commission (CFTC)** established. Commodity Trading Advisors (CTAs), or commodity pools, are generally required to register with the CFTC.
- **1990** – **Alternative Investment Management Association (AIMA)** formed to represent all practitioners in the alternative investment management industry.
- **1991** – **Managed Funds Association (MFA)** is formed to advocate on behalf of hedge funds and managed futures firms.
- **1996** – PERTRAC founded.
- **1996** – **Hedge Fund Association (HFA)** founded to advocate on behalf of smaller and emerging hedge funds.
- **2001** – **Financial Services Authority (FSA)** established to regulate the UK financial services industry.
- **2001** – **Committee of European Securities Regulators (CESR)** established – later replaced by the European Securities and Markets Authority (ESMA) in 2011.
- **2002** – **"UCITS III" Directives released in Europe** allowing UCITS to employ alternative strategies.
- **2011** – SEC adopted rules requiring **registered advisors with $150 million or more in AUM to report comprehensive fund information.**
- **2012** – **JOBS Act passed.** Allows hedge funds to market themselves to a broader audience.

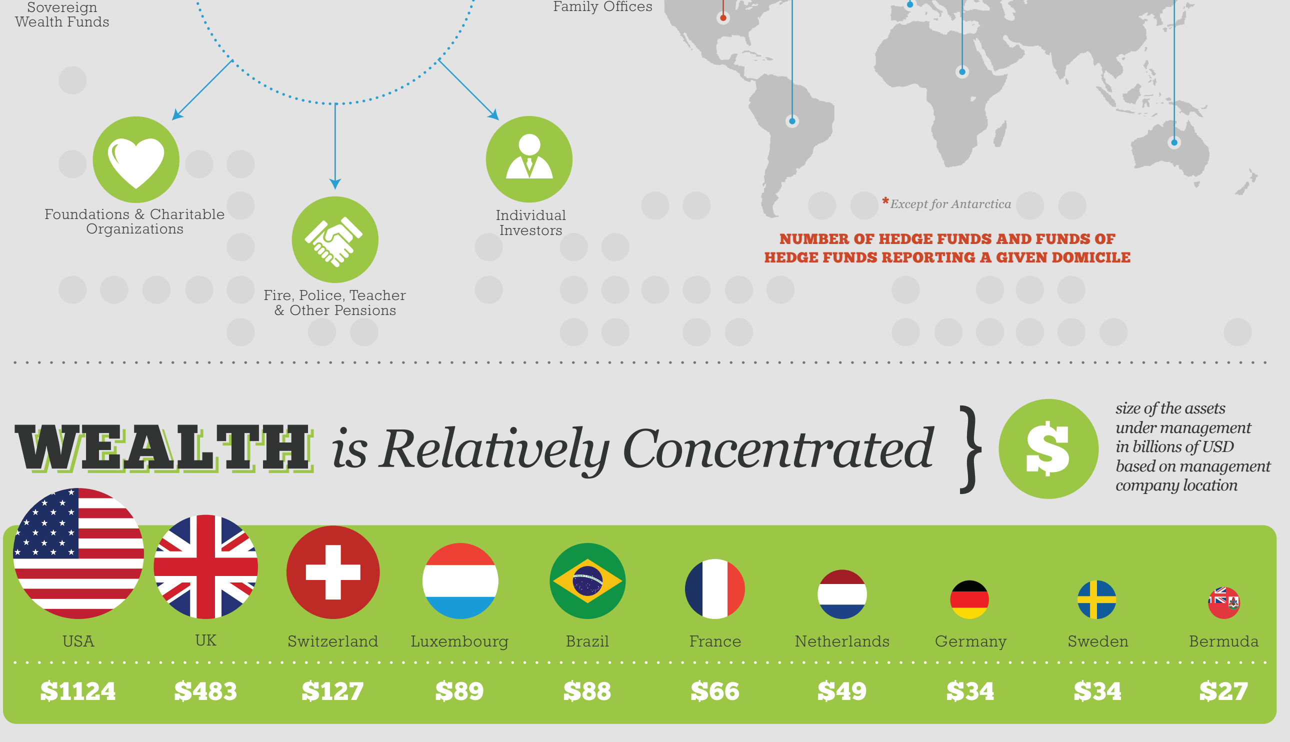
$ 2.317 trillion

Total reported Assets Under Management (AUM) of hedge funds and funds of hedge funds at the end of first half 2012. If broken down into individual U.S. dollar bills and placed side by side, they would circle the equator 9,017 times or go to the moon and back 470 times.

The Most Popular HEDGE FUND STRATEGIES

Share	Strategy
29%	Long/Short Equity
15%	CTA/Managed Futures
12%	Emerging Markets
10%	Global Macro
6%	Fixed Income
6%	Event Driven
6%	Relative Value
4%	Multi Strategy
12%	Other

Hedge Fund Investors are DIVERSE / Hedge Funds are on Every CONTINENT*



NUMBER OF HEDGE FUNDS AND FUNDS OF HEDGE FUNDS REPORTING A GIVEN DOMICILE

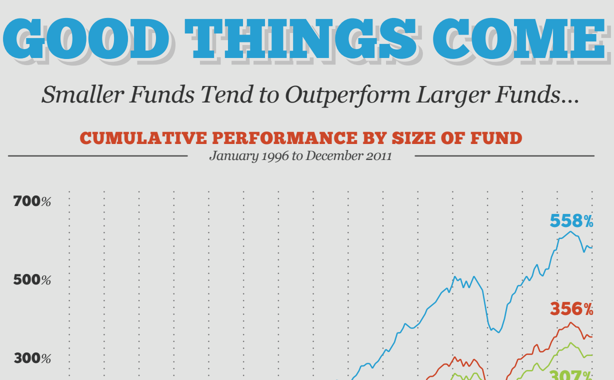
WEALTH is Relatively Concentrated

size of the assets under management in billions of USD based on management company location

USA	UK	Switzerland	Luxembourg	Brazil	France	Netherlands	Germany	Sweden	Bermuda
$1124	$483	$127	$89	$88	$66	$49	$34	$34	$27

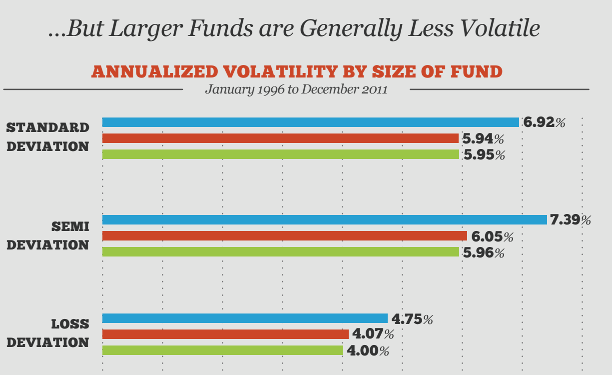
3 out of 4 FUNDS

are denominated in the US Dollar or Euro



Where is All the Money in CTAs & MANAGED FUTURES FUNDS

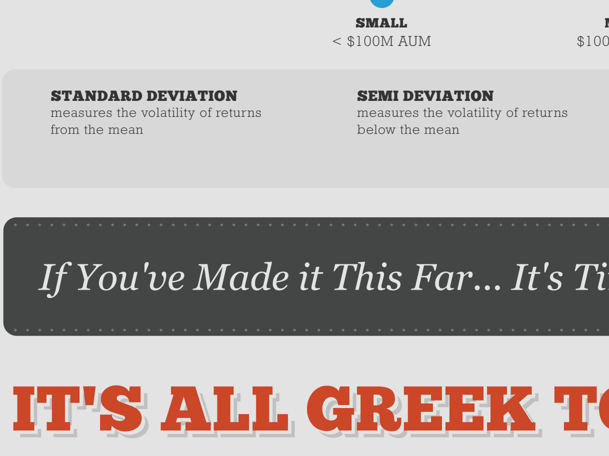
PERCENT OF TOTAL AUM BY FUND SIZE



GOOD THINGS COME IN SMALL PACKAGES

Smaller Funds Tend to Outperform Larger Funds...

CUMULATIVE PERFORMANCE BY SIZE OF FUND
January 1996 to December 2011



...But Larger Funds are Generally Less Volatile

ANNUALIZED VOLATILITY BY SIZE OF FUND
January 1996 to December 2011

SMALL < $100M AUM | **MID-SIZE** $100 - 500M AUM | **LARGE** > $500M AUM

STANDARD DEVIATION measures the volatility of returns from the mean

SEMI DEVIATION measures the volatility of returns below the mean

LOSS DEVIATION measures the volatility of returns from the mean only during periods of a loss

DOWNSIDE DEVIATION (5%) measures the volatility of returns below a Minimum Acceptable Return (MAR), offered here at 5%

If You've Made it This Far... It's Time for Some More Advanced Analysis

IT'S ALL GREEK TO ME

Some Common Investment Statistics

SYMBOL	DEFINITION	WHAT IT ATTEMPTS TO ANSWER	THE FORMULA FOR YOUR INNER MATH GEEK
α Alpha	Measures the fund's value relative to a benchmark.	How much extra did you earn from a fund that you wouldn't have otherwise earned from investing in the broad market?	Where M_R = The mean return of the benchmark Where M_{RD} = The mean return of the fund $\text{Alpha} = M_{RD} - \text{Beta} \times M_R$
β Beta	Measures the fund's sensitivity to movements of the market as a whole	How likely is your fund to track the benchmark?	Where R_I = The return of the benchmark for period I Where RD_I = The return of the fund for period I Where M_R = The mean return of the benchmark Where M_{RD} = The mean return of the fund Where N = Number of periods $\text{Beta} = \left(\sum_{I=1}^{N}(R_I - M_R)(RD_I - M_{RD})\right) \div \left(\sum_{I=1}^{N}(R_I - M_R)^2\right)$
Ω Omega	Uses actual return distribution and divides expected returns into gains and losses to provide a relative measure of the likelihood of the fund achieving a given return.	How do your fund's good returns stack up to its bad returns, and how likely is it that your fund will make more than a given percentage?	Where r is the threshold return, and F is cumulative density function of returns. $\Omega(r) = \frac{\int_r^b (1-F(x))dx}{\int_a^r F(x)dx}$
σ Sigma (Standard Deviation)	Measures the degree of variation of the fund's returns around the fund's mean (average) return for a specified period.	How much should you expect your fund's returns to vary from the norm?	Where R_I = Return for period I Where M_R = Mean of return set R Where N = Number of periods $M_R = \left(\sum_{I=1}^{N} R_I\right) \div N$ $\text{Standard Deviation} = \left(\sum_{I=1}^{N}(R_I - M_R)^2 \div (N-1)\right)^{1/2}$ Annualized Standard Deviation = Monthly Standard Deviation x $(12)^{1/2}$

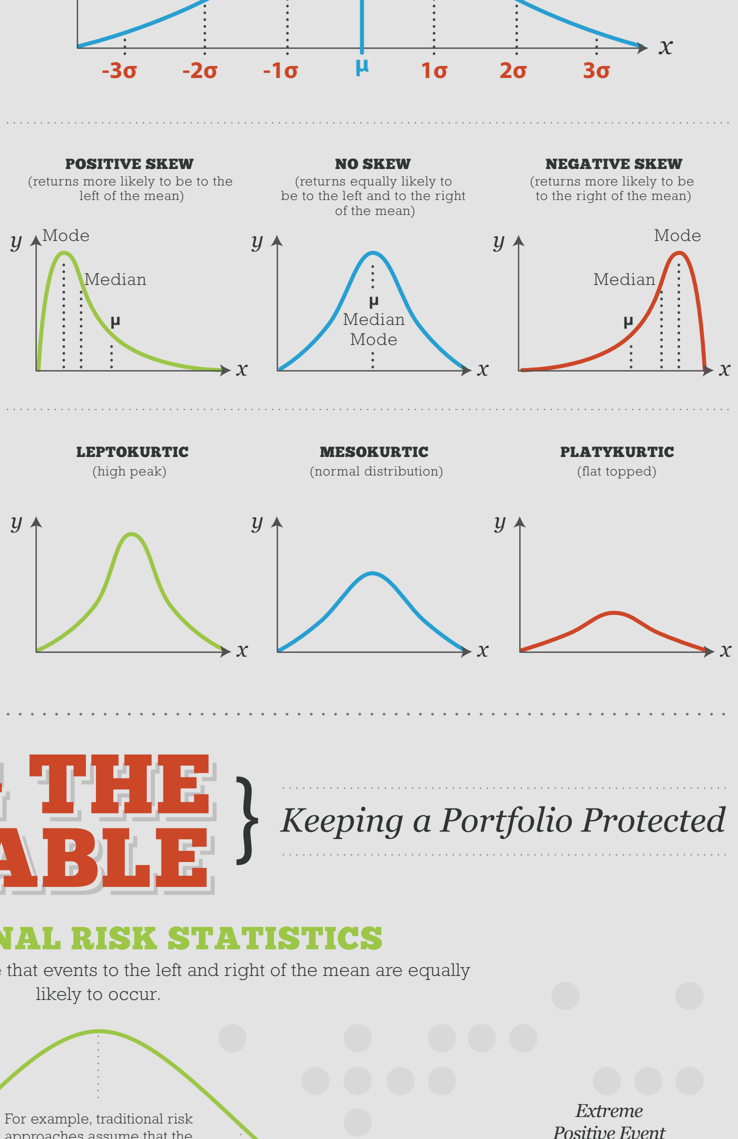
UNDERSTANDING the MOMENTS of a DISTRIBUTION

1st Moment – MEAN
The average of returns. In other words, it's the average.

2nd Moment – VARIANCE
Measures the distance of returns from the mean. In other words, variance shows how frequently possible returns occur.

3rd Moment – SKEWNESS
Characterizes the degree of asymmetry of a distribution around its mean. In other words, by using skewness investors should be able to better predict whether a return is more likely to occur to the left or to the right of the mean.

4th Moment – KURTOSIS
Characterizes the relative peakedness or flatness of a distribution. In other words, kurtosis helps investors better predict the likelihood of a given return (or loss).

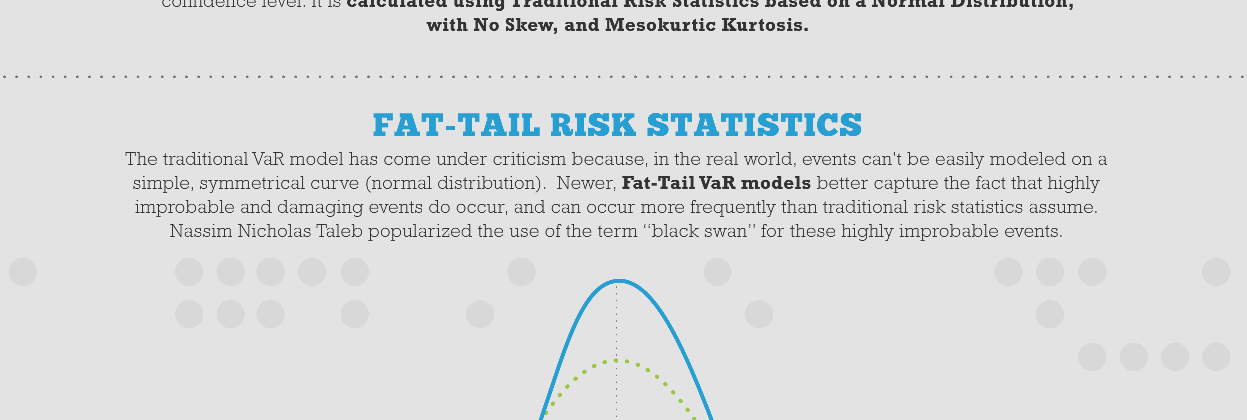


IMAGINING THE UNIMAGINABLE

Keeping a Portfolio Protected

TRADITIONAL RISK STATISTICS

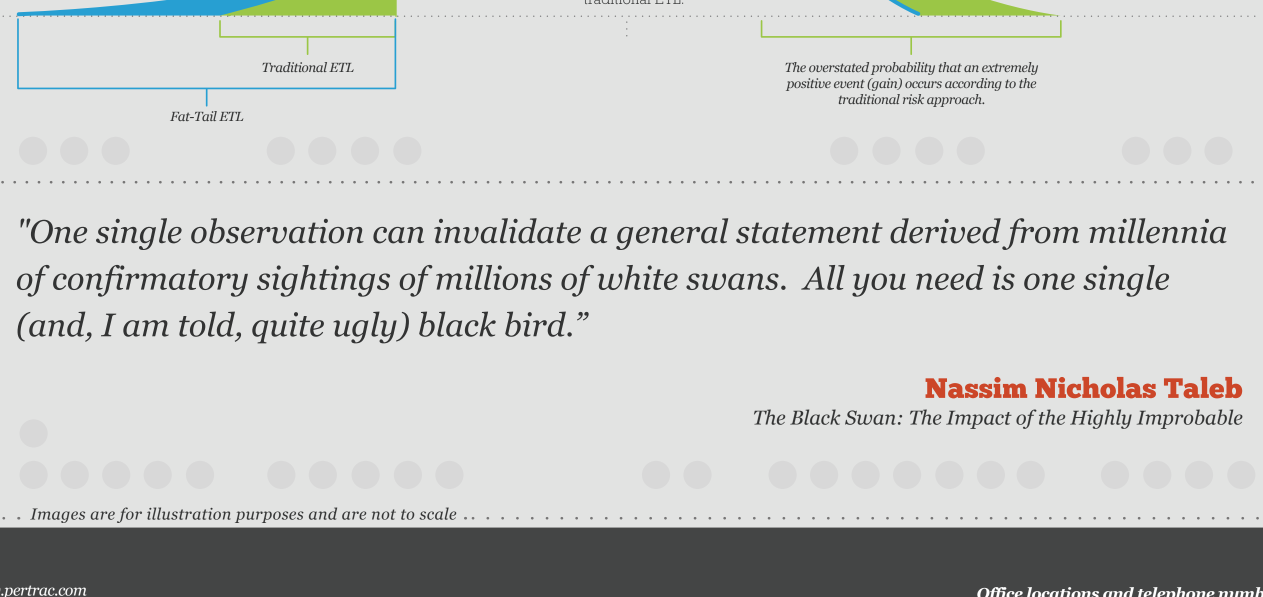
Traditional risk statistics assume that events to the left and right of the mean are equally likely to occur.



Value at Risk (VaR) is the maximum loss a fund can expect within a specified holding period using a specified confidence level. It is **calculated using Traditional Risk Statistics based on a Normal Distribution, with No Skew, and Mesokurtic Kurtosis.**

FAT-TAIL RISK STATISTICS

The traditional VaR model has come under criticism because, in the real world, events can't be easily modeled on a simple, symmetrical curve (normal distribution). Newer, **Fat-Tail VaR models** better capture the fact that highly improbable and damaging events do occur, and can occur more frequently than traditional risk statistics assume. Nassim Nicholas Taleb popularized the use of the term "black swan" for these highly improbable events.



"One single observation can invalidate a general statement derived from millennia of confirmatory sightings of millions of white swans. All you need is one single (and, I am told, quite ugly) black bird."

Nassim Nicholas Taleb
The Black Swan: The Impact of the Highly Improbable

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