

RISK WEIGHTED RETURN



When selecting an investment portfolio, it is important to consider several factors. Instinctively many look first to past performance, regardless of the fact that historical returns may not be indicative of the future outcomes. Regardless, if this is the first factor one analyzes, it would be prudent to consider the underlying risk taken in order to achieve those returns as a next step. This is often referred to as the “risk weighted return” and is a way of measuring and comparing different investment vehicles based not just on the returns achieved but also within the important context of the risk associated with the investment as well.

The performance of a properly **diversified portfolio** will simply be the weighted average performance of the individual components. In any given year, the **diversified portfolio** will never outperform the best performing asset class or underperform the worst performing asset class; rather performance will be somewhere in between. Furthermore, no one is capable of consistently predicting which investments will outperform/underperform each year. Therefore, utilizing a diversified portfolio strategy attempts to integrate different asset classes and how they interact with one another to increase overall risk weighted returns.

On the next page we will look at how these various asset classes perform on a risk weighted return basis.

PERFORMANCE BY ASSET CLASS (2008–2019)

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
US GOV'T BONDS 18.0%	MID CAP 37.4%	REAL ESTATE 26.9%	US GOV'T BONDS 15.6%	REAL ESTATE 18.9%	SMALL CAP 41.3%	REAL ESTATE 27.2%	REAL ESTATE 2.1%	SMALL CAP 26.6%	FOREIGN STOCKS 25.0%	U.S. GOV'T BONDS 1.5%	LARGE CAP 31.5%
US CORP BONDS 1.0%	FOREIGN STOCKS 31.8%	MID CAP 26.6%	US CORP BONDS 9.2%	MID CAP 17.9%	MID CAP 33.5%	LARGE CAP 13.7%	US GOV'T BONDS 1.8%	MID CAP 20.7%	LARGE CAP 21.8%	U.S. CORP BONDS -3.7%	REAL ESTATE 28.4%
DIVERSIFIED -20.6%	REAL ESTATE 30.8%	SMALL CAP 26.3%	REAL ESTATE 6.1%	FOREIGN STOCKS 17.3%	LARGE CAP 32.4%	MID CAP 9.8%	LARGE CAP 1.4%	LARGE CAP 12.0%	MID CAP 16.2%	REAL ESTATE -4.0%	MID CAP 26.2%
SMALL CAP -31.1%	LARGE CAP 26.5%	DIVERSIFIED 15.7%	DIVERSIFIED 4.2%	SMALL CAP 16.3%	FOREIGN STOCKS 22.8%	US CORP BONDS 8.7%	DIVERSIFIED 0.6%	DIVERSIFIED 9.6%	DIVERSIFIED 13.2%	LARGE CAP -4.4%	SMALL CAP 22.8%
MID CAP -36.2%	SMALL CAP 25.6%	LARGE CAP 15.1%	LARGE CAP 2.1%	LARGE CAP 16.0%	DIVERSIFIED 19.4%	DIVERSIFIED 7.5%	US CORP BONDS -0.7%	REAL ESTATE 7.6%	SMALL CAP 13.2%	DIVERSIFIED -4.8%	FOREIGN STOCKS 22.7%
LARGE CAP -37.0%	DIVERSIFIED 17.8%	US CORP BONDS 9.4%	SMALL CAP 1.0%	DIVERSIFIED 12.4%	REAL ESTATE 1.8%	SMALL CAP 5.8%	FOREIGN STOCKS -0.8%	US CORP BONDS 6.4%	REAL ESTATE 9.8%	SMALL CAP -8.5%	DIVERSIFIED 20.42%
REAL ESTATE -40.1%	US CORP BONDS 12.8%	US GOV'T BONDS 9.4%	MID CAP -1.7%	US CORP BONDS 11.9%	US GOV'T BONDS -1.9%	US GOV'T BONDS 3.2%	SMALL CAP -2.0%	US GOV'T BONDS 1.4%	US CORP BONDS 7.3%	MID CAP -11.1%	U.S. CORP BONDS 17.1%
FOREIGN STOCKS -43.4%	US GOV'T BONDS -6.0%	FOREIGN STOCKS 7.8%	FOREIGN STOCKS -12.1%	US GOV'T BONDS 2.2%	US CORP BONDS -2.4%	FOREIGN STOCKS -4.9%	MID CAP -2.2%	FOREIGN STOCKS 1.0%	US GOV'T BONDS 1.3%	FOREIGN STOCKS -13.8%	US GOV'T BONDS 5.8%

A **Callan chart** conveys a strong case for diversification across asset classes. This table features seven major asset classes plus a 'Diversified' portfolio, comprised of 70% Equities and 30% fixed income.* Investing in a diversified portfolio may help to balance returns across an uncertain, fluctuating landscape.



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Examining each asset class' unique risk weighted return vs. a diversified portfolio's risk weighted return is a key way of measuring how diversification could help to seek maximum returns for a specified unit of risk. The chart below shows the average geometric return and standard deviation (a measure of volatility risk) of each asset class from 2007–2018. Standard deviation is a statistical term that examines the predicted range of investment returns in relationship to a stated average return.

In order to evaluate which portfolio has a higher risk weighted return investment managers often use a statistical measurement known as the Sharpe Ratio. The Sharpe Ratio allows us to compare different investments based on returns achieved in excess of the risk free rate of return divided by the portfolio's standard deviation. The portfolio with the highest Sharpe ratio is said to have the greatest risk weighted return. A generally accepted risk free rate of return is the 90 day Treasury Bill which from 2008–2019 averaged 0.66%.

$$\text{Sharpe} = \frac{\bar{r}_p - r_f}{\sigma_p}$$

Where:
 \bar{r}_p = Average portfolio return
 r_f = Risk free rate
 σ_p = Portfolio standard deviation

	U.S. Gov. Bonds	U.S. Corp Bonds	Mid Cap	Real Estate	Foreign	Small Cap	Large Cap	Diversified 70/30*
Average Return	4.4%	6.4%	11.4%	9.6%	4.5%	11.4%	10.9%	8.0%
Standard Deviation	6.6%	6.2%	20.2%	18.9%	20.5%	18.8%	18.3%	11.3%
Sharpe Ratio	0.56	0.92	0.53	0.47	0.19	0.57	0.56	0.64

*70/30 portfolio comprised of: 25% Large Cap, 20% Small Cap, 15% International, 10% REITS, and 30% U.S. Government Bonds

Source: iShares. Foreign stocks are represented by the MSCI EAFE Index; Large cap stocks are represented by the Standard & Poor's 500® Index; Small cap stocks are represented by the Standard & Poor's SmallCap 600 Index; Real estate is represented by the Dow Jones U.S. Real Estate Index; U.S. corp bonds are represented by the iBoxx \$ Liquid Investment Grade Index; U.S. Gov't Bonds are represented by the Barclays U.S. 3–7 Year Treasury Bond Index; Mid Cap stocks are represented by the Standard & Poor's MidCap 400 | This material has been obtained from sources generally considered reliable. | Diversification cannot assure a profit or guarantee against loss. | No guarantee can be made as to its accuracy. Not intended to represent the performance of any particular investment. Indices are unmanaged and one cannot invest directly in an index. Past performance is not a guarantee of future results.