BLOG POST

Asset Class Volatility and Correlations

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We've often written about the importance of asset class volatility and correlations, and how the two influence long-term compound rates of return. In the portfolio construction process, we place emphasis on how variable returns are, and how performance across asset classes is related. Changes in volatility and correlations ultimately determine our asset allocation across various models.

Below we provide an overview of current markets and how it relates to our portfolios. Table 1 below summarizes the volatility of various asset classes at different points in time. Based on the data, we can see how meaningfully volatility has come in today compared to the end of last year. For example, US equity volatility has fallen from roughly 25% down to 16%. Noteworthy, however, is that bond volatility has roughly doubled from 2% to 4% for investment grade bonds, while duration (long-term Treasury) volatility has jumped from roughly 9% to 16%. The rise in bond volatility coincides with a substantial decline in yields. Credit conditions have been fairly stable, so high-yield volatility is fairly tame at 5% annualized standard deviation.

Table 1: Asset Class 60-Day Standard Deviation (Source: Peak Capital Management, YCharts)

Asset Class	As of 12/31/2017	As of 12/31/2018	As of 9/25/19
US Equities	5.6%	24.8%	15.6%
Developed Market Equities	6.9%	17.8%	12.2%
Emerging Market Equities	13.1%	25.9%	15.9%
Investment Grade Bond	2.4%	2.3%	4.1%
Long-Term Treasuries	9.6%	8.8%	16.1%
High-Yield Bonds	4.0%	7.5%	5.1%

Table 2 below summarizes the current correlation of returns across various asset classes. Based on the correlation data, investment grade bonds and long-term Treasuries currently are a good diversifier to equity and high-yield bond risk. For example, the 60-day correlation between long-term Treasuries and US equities is -0.56, which is relatively low, based on historical levels. Likewise, investment grade bonds and high-yield bonds are negatively correlated by a factor of -0.10. When asset class returns are negatively correlated, overall portfolio risk, to a degree, can be diversified away.

Table 2: Asset Class 60-Day Return Correlation (as of 9/25/19; Source: Peak Capital Management, YCharts)

Asset Class	(USE)	(DME)	(EME)	(IGB)	(LTT)	(HYB)
US Equities (USE)	1.00	0.88	0.87	-0.37	-0.56	0.82
Developed Market Equities (DME)	0.88	1.00	0.89	-0.23	-0.47	0.75
Emerging Market Equities (EME)	0.87	0.89	1.00	-0.28	-0.48	0.77
Investment Grade Bond (IGB)	-0.37	-0.23	-0.28	1.00	0.93	-0.10
Long-Term Treasuries (LTT)	-0.56	-0.47	-0.48	0.93	1.00	-0.29
High-Yield Bonds (HYB)	0.82	0.75	0.77	-0.10	-0.29	1.00

In general, when volatility is at reasonable levels (as exhibited in Table 1), and correlations across various asset classes are not at extremes (e.g. all positive), the asset allocation in our models tends to be fairly steady. That is to say, turnover may be infrequent. In contrast to last year, when we had several rebalances in light of heightened volatility, the risk profile of our tactical models this year has been more consistent. This is due in part to the decrease in correlation between stocks and bonds. In particular, when equity risk increased in May and August, the correlation between stock and bond returns decreased. The rally in bonds helped mitigate the decline in equities.

We could see heightened volatility going into the end of the year, particularly with uncertainty around tariffs and earnings growth. What will be key from a portfolio allocation standpoint is the correlation factor between stocks and bonds. If we see another leg down in yields and a corresponding jump in equity risk, our models could see a marginal rotation into bonds. Conversely, if equity markets close out the year with muted volatility, our models could call for a shift into stocks.