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In focus

Does the 60/40 portfolio still make sense?

May 2022

For over two decades, the 60/40 equity-bond portfolio has served investors well as stock prices have risen and interest rates have fallen. However, the simultaneous sell-off in both asset classes this year has challenged this model. Looking ahead, we believe bonds still provide valuable portfolio benefits because most of the risk reduction in a 60/40 comes from the lower volatility of bonds rather than their negative correlation with equities. In addition, our scenario analysis shows that correlations and/or volatility would need to rise materially in order to make a 60/40 unattractive versus just holding equities.

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The 60/40 approach to portfolio construction has long been a mainstay of investing – allocate 60% to equities for capital appreciation and 40% to bonds for income and potential risk mitigation. It's a simple investment strategy that has performed extremely well over the past two decades, as stock prices have risen in a near-straight line and interest rates have fallen to record lows, pushing up bond prices. But some investors are now losing faith in this model amid the challenging macroeconomic environment.

For example, the S&P 500 Index fell 4.6% in the first quarter of 2022, as bond yields spiked and war broke out in Ukraine. At the same time, soaring inflation and tighter monetary policy knocked the ICE BofA US Treasury Index down by 5.6%, robbing investors of their go-to shelter to cushion market losses. Although equity and bond returns are seldom positively correlated, some fear that this trend could continue (see our previous research).

So does the 60/40 portfolio still make sense? While some tactical asset allocation changes may be warranted in the near term, we believe that investors should not completely shun bonds from their strategic asset allocation. Bonds can still provide valuable risk reduction and diversification, even if correlations turn out to be mostly positive along the way. The 60/40 is probably here to stay.

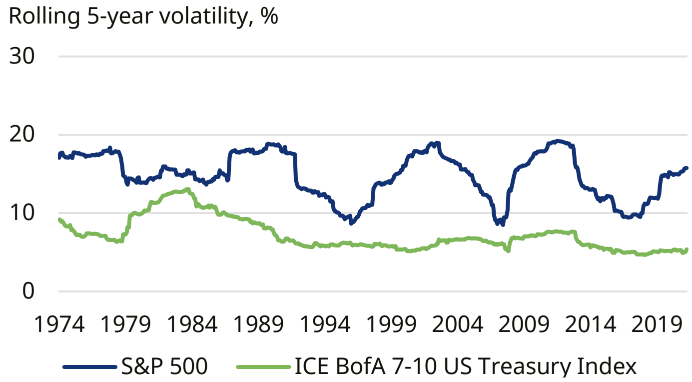
Volatility matters more for risk reduction

Investors spend a lot of time searching for assets that are negatively correlated with equities in order to reduce their portfolio risk. However, the reality is that the vast proportion of risk reduction comes from the lower volatility of those assets. To illustrate this, we can separate an asset's total risk contribution into two main components:

1. **volatility effect:** the effect of adding an asset with lower volatility than equities, even if this asset is perfectly correlated to equities.
2. **correlation effect:** the effect of adding an asset that has a low or negative correlation to equities.

Over the past five decades, a portfolio of bonds has been roughly half as volatile as stocks. For example, US Treasuries have generated a volatility of 7.6% per year compared to 15.2% for the S&P 500 Index. It makes sense that bonds are less risky because they generate a fixedrate of return (if held to maturity) whereas equities offer a variable rate of return. What's more, this has been a consistent phenomenon throughout different time periods in history (Figure 1). Even at the height of the 1970s/80s inflation crisis, bonds were still less volatile than stocks.

Figure 1: Bond returns have been consistently less volatile than equity returns



Past performance is not a guide to future performance and may not be repeated.
Source: CFA Institute, Datastream Refinitiv and Schroders. Data to 29 April 2022.
Notes: bonds proxied using ICE BofA L 7-10 US Treasury Index.

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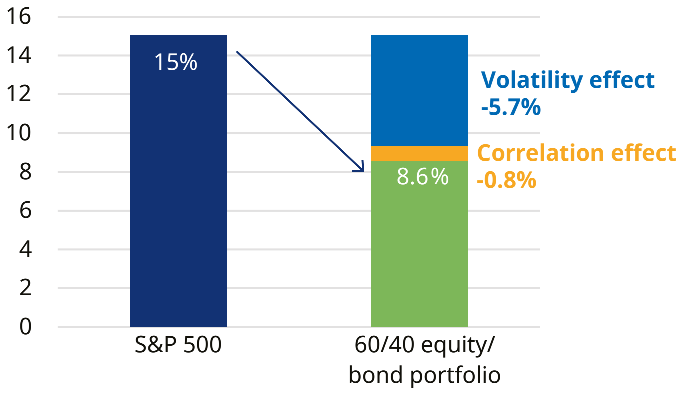
Given this sizable volatility differential, most of the risk reduction in a 60/40 has come from the lower volatility of bonds rather than their negative correlation with equities. Since the year 2000, a 60/40 split has lowered portfolio volatility (versus holding equities only) from 15% to 8.6%. But only a tenth of that reduction came from the negative correlation between equities and bonds while the rest was attributable to lower asset volatility. So as long as bonds remain less volatile than equities going forward, a 60/40 can still look attractive from a risk perspective.

Figure 2: Most of the risk reduction in a 60/40 comes from the lower volatility of bonds

Historical volatility since 2000, %



Past performance is not a guide to future performance and may not be repeated.
Source: Datastream Refinitiv and Schroders. Data to 29 April 2022. Notes: bonds proxied using ICE BofA 7-10 US Treasury Index. Volatility calculated since the year 2000 to capture the impact of a negative equity-bond correlation environment.

Risk/reward is still attractive if correlations spike
If all an investor cared about was reducing their portfolio volatility, one could argue that they should simply increase their allocation to cash. But naturally there's more to efficient portfolio construction than minimising risk as investors also care about returns and whether they are being appropriately compensated for taking risk. For instance, although holding cash will reduce portfolio volatility, returns are likely to suffer too. On the other hand, bonds may offer less of a return sacrifice without increasing portfolio risk too much. So how much do correlations and/or volatility need to increase to make you indifferent between a 60/40 versus just owning equities? The answer is a lot.

Figure 3 shows what the expected return/volatility ratio might be for a 60/40 portfolio over a 10-year horizon using different correlation and volatility assumptions. Based on our economics team's return forecasts (4.1% p.a. for US equities and 2.9% p.a. for US bonds) and assuming the last 20 years of volatility persists, we find that equities offer an expected return/volatility ratio of 0.27 compared to 0.38 for bonds. However, the risk-reward for the 60/40 still beats equities under nearly all assumptions about correlations and bond volatility.. This means correlations and/or volatility would need to rise materially in order to blunt the appeal of the 60/40.

Figure 3: Correlations and/or volatility would need to rise materially in order to make a 60/40 unattractive versus just owning equities

Expected return/volatility ratio for 60/40 portfolio

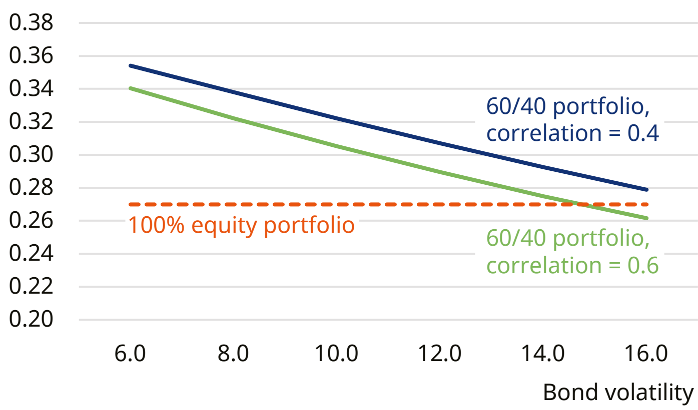
Equity-bond correlation	Bond volatility 6.00	8.00	10.00	12.00	14.00	16.00
-0.40	0.43	0.44	0.44	0.43	0.43	0.41
-0.20	0.41	0.40	0.40	0.39	0.38	0.36
0.00	0.39	0.38	0.37	0.35	0.34	0.33
0.20	0.37	0.36	0.34	0.33	0.31	0.30
0.40	0.35	0.34	0.32	0.31	0.29	0.28
0.60	0.34	0.32	0.31	0.29	0.27	0.26

Forecasts should not be relied upon and are not guaranteed.
Source: Datastream Refinitiv and Schroders. Data to 29 April 2022. Notes: bonds proxied using ICE BofA 7-10 US Treasury Index. Red dotted boxes are where the 60/40 offers a lower risk-reward ratio than equities.

For example, let's assume that equity-bond correlations increase to +0.6 – a level that was only briefly seen in the 1990s. In this scenario, bond volatility would need to increase 2.8x from 5.4% today to 14.5% to make investors indifferent in terms of risk-reward between a 60/40 versus an equity-only portfolio. Alternatively, if we assume that equity-bond correlations increase to +0.4, bond volatility would need to triple to make investors indifferent. These scenarios are illustrated in Figure 4 below.

Figure 4: If correlations rise to +0.6, bond volatility would still need to increase 2.8x to make investors indifferent versus just holding equities

Expected return/vol ratio



Forecasts should not be relied upon and are not guaranteed.
Source: Datastream Refinitiv and Schroders. Data to 29 April 2022. Notes: bonds proxied using ICE BofA 7-10 US Treasury Index. Assumption is that the last 20 years of equity volatility is the same.

Bonds have been a reliable downside risk hedge

Another reason the 60/40 still makes sense is because it can help to diversify returns and minimise losses in times of market crises. To estimate this, we can calculate the downside beta of bonds (i.e. their sensitivity to equity returns in periods when market returns were negative). Whether bonds effectively hedge equity losses will depend on the prevailing correlation environment. For example, whenever equity-bond correlations were negative, the downside beta of bonds was also likely to be negative and vice versa (Figure 5).

Figure 5: The downside beta of bonds tends to reflect the prevailing equity-bond correlation environment

Decade	Equity-bond correlation	Downside bond beta
1930s	0.07	0.1
1940s	0.06	1.4
1950s	-0.16	-0.5
1960s	0.07	0.0
1970s	0.41	0.3
1980s	0.25	-0.3
1990s	0.36	0.0
2000s	-0.24	-0.1
2010s*	-0.33	-0.5

Past performance is not a guide to future performance and may not be repeated.
Source: CFA Institute, Datastream Refinitiv and Schroders. Data to 29 April 2022. Notes: *2010s includes data through 2022. Bonds proxied using ICE BofA 7-10 US Treasury Index from 1973, all data prior is Ibbotson® SBBI® US Intermediate-term (5-Year) Government Bonds.

However, equities are a notoriously volatile asset class, so in practice it makes more sense to pay attention to the downside beta of bonds only when equities are aggressively selling off (i.e. a loss of 10% or more) as that's when investors need the protection the most. Our analysis in Figure 6 shows that, in every market drawdown since the 1930s, a 60/40 portfolio would have reduced total portfolio losses. For instance, US Treasury returns were positive 71% of the time and delivered an average return of 7% across these drawdown episodes. Even when bonds performed poorly, their losses were only a fraction of the pain inflicted upon equity investors.

Figure 6: Since the 1930s, bonds would have hedged equity losses in a 60/40 portfolio

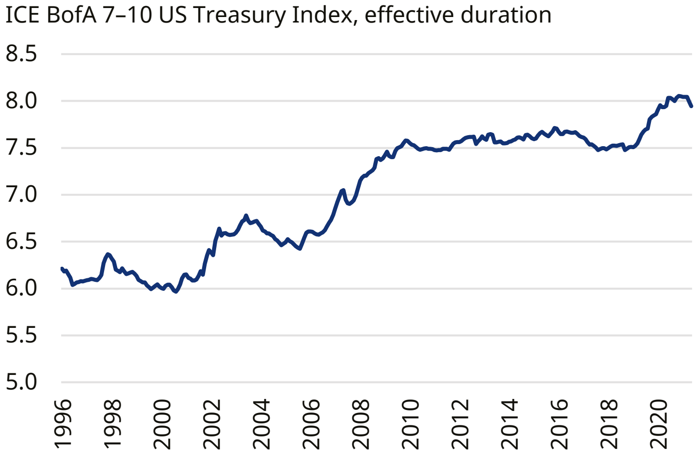
Peak-to-trough	S&P 500	US Treasuries
Aug 1929 – Jun 1932	-83%	14%
Jun 1946 – Feb 1948	-20%	-1%
Aug – Dec 1957	-15%	9%
Dec 1961 – Nov 1962	-22%	3%
Feb – Sep 1966	-16%	0%
Dec 1968 – Jun 1970	-29%	-8%
Jan 1973 – Dec 1974	-37%	3%
Jan 1977 – Feb 1978	-14%	-1%
Sep 1987 – Nov 1987	-30%	2%
Jun 1990 – Oct 1990	-15%	3%
May 1998 – May 2000	-45%	39%
Feb 2007 – Feb 2009	-51%	26%
Oct 2018 – Dec 2018	-14%	5%
Feb 2020 to Mar 2020	-20%	10%
Average	-29%	7%
% of positive returns		71%

Past performance is not a guide to future performance and may not be repeated.
Source: CFA Institute, Datastream Refinitiv and Schroders. Data to March 2020. Notes: Bonds proxied using ICE BofA 7-10 US Treasury Index from 1973, all data prior is Ibbotson® SBBI® US Intermediate-term (5-Year) Government Bonds.

Of course, the problem is when an equity sell-off is triggered by the bond market. This can be happen when financial conditions are tightening, inflation is rising or central bank confidence is lacking. Indeed, this is the situation in which investors find themselves today and is precisely the reason why there is less faith in the 60/40 model. Although we recognise that bonds are vulnerable in this environment, yields are unlikely to keep rising indefinitely. At some point, aggressive monetary policy tightening will force markets to rebalance their fears away from high inflation and towards weaker economic growth, which should support bond prices.

In this scenario, yields would only need to fall modestly to mitigate against any subsequent equity sell-off. In fact, bonds offer more downside protection today compared to before. This is because over the last 20 years duration has increased significantly, meaning prices have become more sensitive to changes in interest rates. For example, currently a 1% decline in yields would result in an 8% return for bonds. By comparison, the same figure in 2002 was around 6%.

Figure 7: Bond prices are more sensitive to yield declines compared to before

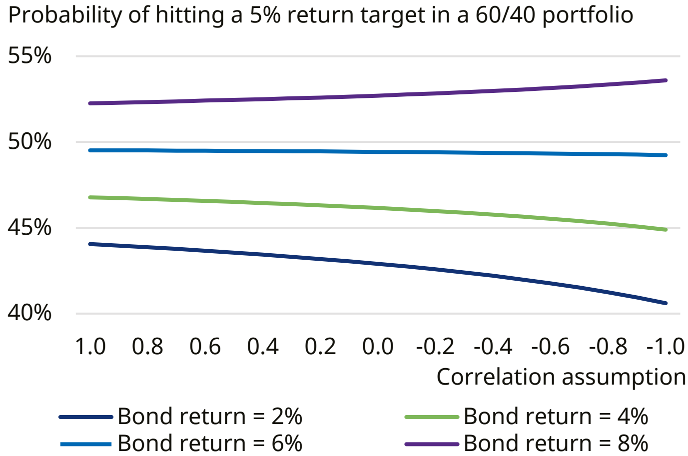


Forecasts should not be relied upon and are not guaranteed.
Source: Datastream Refinitiv and Schroders. Data to 29 April 2022.

The silver lining to positive equity-bond correlations
One of the most interesting consequences of a positive equity-bond correlation environment is that it would raise the likelihood of a portfolio hitting its performance goals. For example, let's suppose you have a target return of 5% in a 60/40 portfolio. What are the odds of achieving this given a range of different expected returns from bonds and a range of different equity-bond correlations?

The results shown in Figure 8 are both surprising and intuitive. The higher the expected return from bonds, the more likely you are to hit the target return. That much is clear. What is surprising however is that at low levels of expected returns from bonds, investors would actually prefer a positive correlation between equities and bonds. This is because a negative correlation would simply result in a portfolio's equity and bond investments offsetting each other, thereby lowering the probability of hitting the target return. On the other hand, as expected returns from bonds increase, investors start to prefer negative correlations as this lowers volatility and therefore increases the probability of hitting the target return.

Figure 8: A more positive correlation increases the chances of hitting a return target when expected returns from bonds are low



For illustrative purposes only. Forecasts should not be relied upon and are not guaranteed. Source: Datastream Refinitiv and Schroders. Data to April 2022. Notes: assuming equity and bond volatility over the last 20 years persists. Probability is based on a normal distribution function.

Conclusion

The recent surge in equity-bond correlations has led many to pronounce the death of the 60/40 portfolio. But our analysis finds that correlations matter less you might think. Here are four key reasons why the 60/40 still makes sense:

- **Most of the risk reduction comes from the lower volatility of bonds rather than their negative correlation with equities. As long as bonds remain less volatile than equities, a 60/40 can still reduce portfolio risk**
- **Correlations and/or volatility would need to rise materially in order to erode the risk-reward ratio of the 60/40 portfolio compared to holding equities only**
- **Bonds have stood the test of time in their ability to hedge major equity sell-offs. In every market drawdown since the 1930s, a 60/40 portfolio would have reduced total portfolio losses**
- **When expected returns from bonds are low and correlations to equities are positive, investors are more likely to hit their portfolio return target**

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