EUREKA report

The right long/short bond mix

By Jim Stening
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PORTFOLIO POINT: Particularly in volatile times, bonds are an essential part of a balanced portfolio. But what type of bonds?

Many retail investors have a limited understanding of asset allocation and generally view the argument through a prism of equities, cash or a mixture of both. Recent events, however, have reiterated the importance of including government bonds in a balanced portfolio because of the hedge it offers against equity market volatility.

Although cash reduces equity market volatility, it does not offer exposure to interest rate risk, which is the inherent risk in locking your money away at a fixed rate for a long period of time.

This is exactly what long-dated bonds offer and while the returns can be outpaced by rising interest rates, in circumstances of extreme market volatility long-dated bonds deliver an inversely correlated improvement in face value. Allow me to explain.

Since the typical allocation in most small funds is between equities and cash, many funds do not have the interest rate exposure that is typically associated with fixed-rate bonds. As the time to maturity of the fixed-rate bond increases, the sensitivity to changes in the pricing of the security increases, as measured by what we refer to as the modified duration of a bond.

Pricing is typically expressed in terms of yield to maturity in the Australian market, so a fixed-rate bond can be traded in the secondary market at a specified yield to maturity. For example, a bond, trading around $100 in price, might have a modified duration of eight years, and it might yield 5%.

If perceptions of economic growth were to fall then the bond price would increase and the yield to maturity might equal 4% in the secondary market. All things being equal, the settlement price of the bond would increase by about 8%, given the modified direction of the bond is about eight years. Equally, if the yield went up to 6%, the settlement price would fall by about 8%.

It is this relationship, between perceptions of economic growth as expressed in the secondary market price of the bond, that helps to diversify equity portfolio returns. Typically, equities rise in price when perceptions of growth increases, while the opposite is also true.

When perceptions of growth fall, bond prices typically rise. The exposure to interest rate risk, therefore, helps investors cushion themselves against variations in equity market returns, through inclusion in a portfolio.

If the exposure to interest rate risk is very short, as in the case of cash, the investor will not incur the benefit of long-dated bonds. If we wanted to compare portfolio performance to riding in a car, then having cash in the portfolio is like having very stiff shock absorbers, where the passenger would feel every bump in the road.

In contrast, if the portfolio replaces cash with long bonds, a much more effective shock absorber is created; the investor is insulated from the bumps and potholes that variations in perceptions of growth can bring.

Short bonds vs long bonds

While bonds with a short duration reduce the possibility of being rapidly outpaced by rising interest rates, the interest rate risk inherent with long duration bonds helps diversify the portfolio. By adding more interest rate risk – replacing shorter bonds with longer bonds – the benefits of exposure to interest rate risk are even more pronounced, especially in stress periods.

Equity bear markets in 2000, 2002 and 2008 all saw the use of long bonds generating better portfolio return outcomes than shorter bonds, as the graph below indicates on the right axis. For example, in late 2008, the portfolio with long bonds outperformed the shorter bond portfolio performance by around 4.5%.

While the longer bond portfolio underperforms in periods when equities do well, the equity element of the portfolio will deliver gains that should lead to higher overall returns (for more, see ***Would it kill you to own fewer shares?***). In other words, investors will still reap the benefits of equity investment even when they have long bonds in the portfolio, as the left axis in Figure 1 indicates. Yet investors will more effectively cushion themselves when equity markets fall, if they allocate to long bonds, as the right hand axis in Figure 1 indicates.

Figure 1: Annual return – Cash vs short bonds

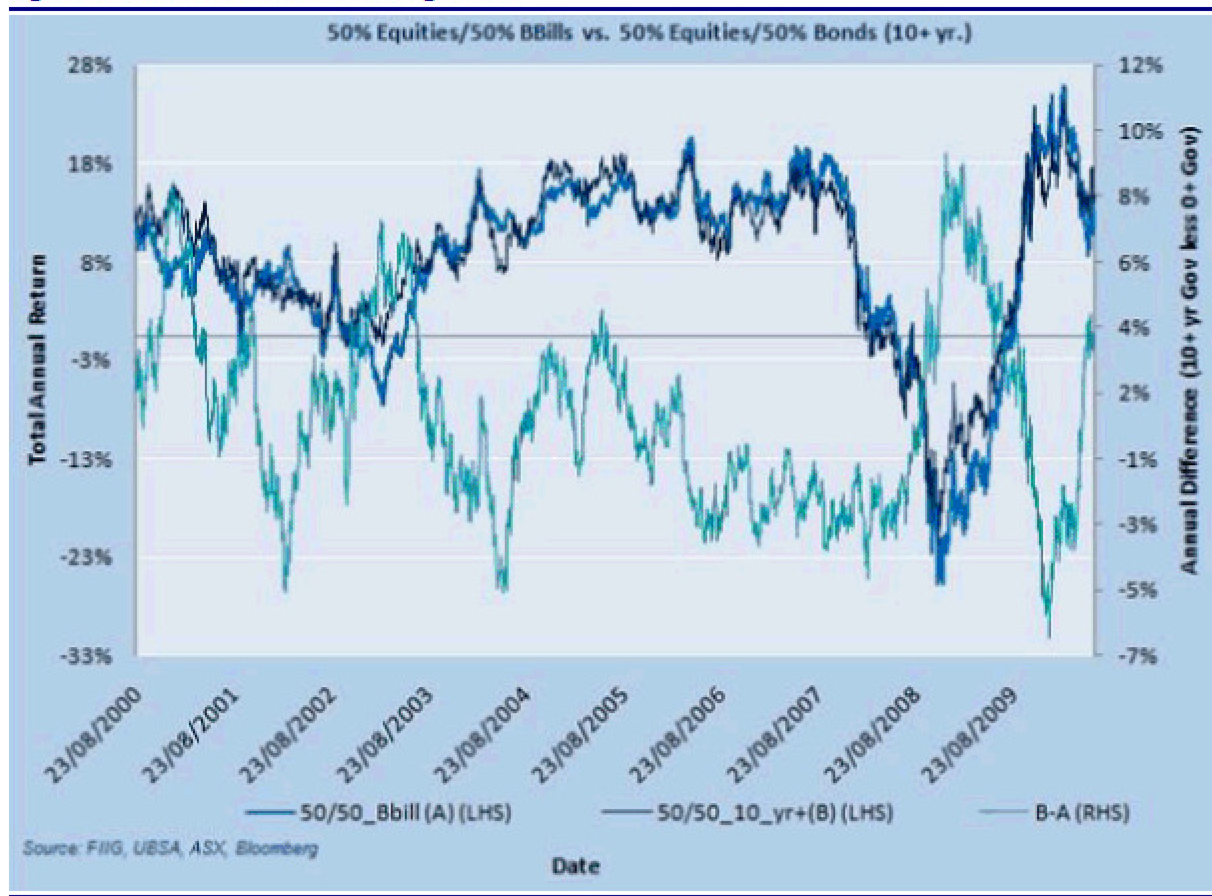
Note: The All Ordinaries ASX Accumulation Index is used to assess the characteristics of equity market risk and return, while the UBS Bank Bill Index is used to assess the performance of cash. Long bond performance is modelled by referring to the UBS 10yr+ Government bond index.

Cash vs long bonds

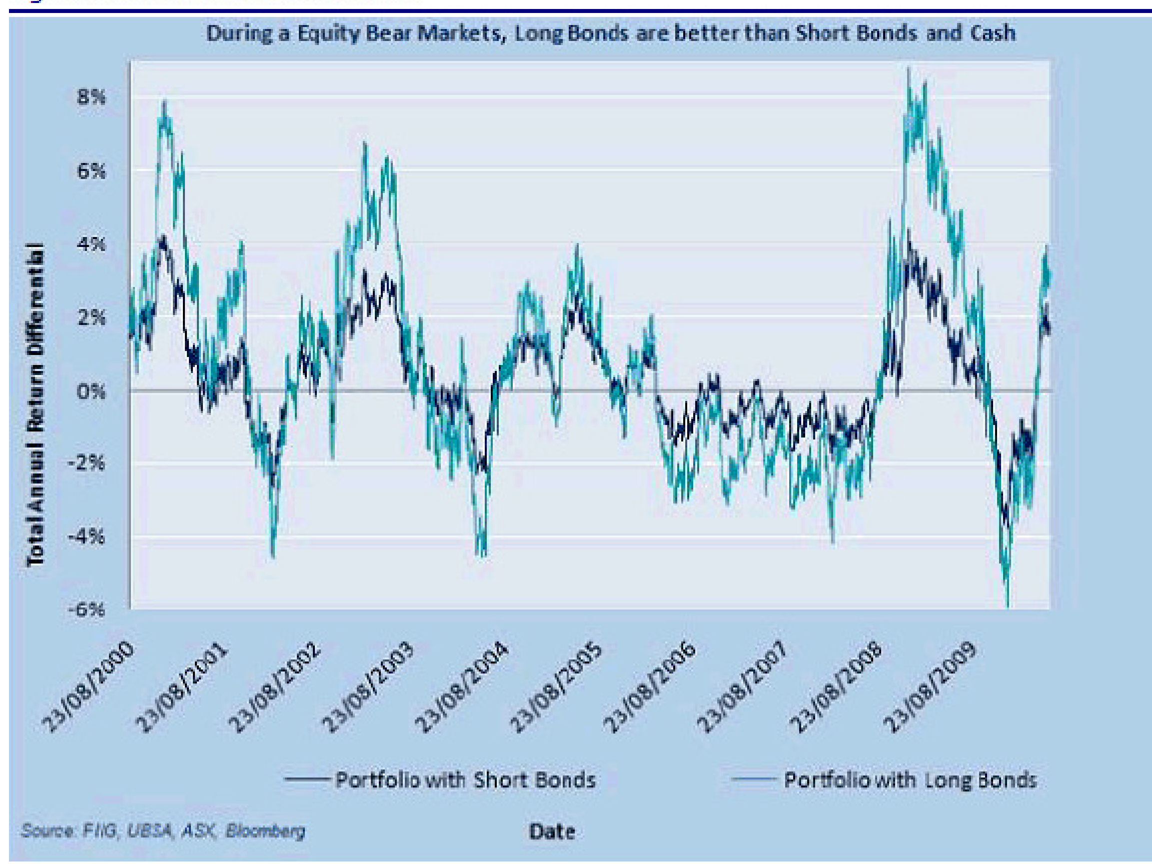
If the above analysis is replicated, yet the comparison is drawn between cash and long bonds, the results are even more pronounced than when short bonds are used, as the chart below shows. Long bonds (50% equities; 50% long bonds) outperform cash (50% equities; 50% cash), in a 50:50 allocation in stress periods by up to 9%.

When equity performance declines, long bonds come to the fore, while cash fails to cushion total portfolio return as much.

Figure 2: Annual return – Cash vs long bonds



If we compare the two light blue lines in the above charts, then the comparison between long bonds and cash is made even clearer. Long bonds help investors protect themselves in equity bear markets but more importantly they are a better form of insulation than either short bonds or cash.



Including interest rate risk through long-dated bonds is a good way to cushion overall returns when equity markets fall. If bonds diversify an equity portfolio because of interest rate risk, then it would be logical to expect that longer bonds offer even more diversity again.

But instead of being concerned about the length of the bond component of their portfolio, investors should realise what length of investment they have in their equity portfolio.

Specifically, equity investors provide perpetual capital to companies so that the company never expects to repay the investor. By adding long bonds to the portfolio, they effectively hedge this perpetual exposure in equities when compared to using short bonds (or hybrids).

Interest rate risk, especially in the form of government debt is therefore a good thing for equity investors as it provides a liquid hedge against volatility in equity returns. While cash reduces equity market volatility, it does not provide the necessary exposure to interest rate risk, which offsets falls in equity markets by providing a corresponding improvement in returns.

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