

In focus

Solving the zero interest rate portfolio construction problem

May 2021

With interest rates at zero and developed market bonds yielding not much more, there are significant implications for returns over the next decade and for portfolio construction in listed assets. Do government bonds still have a place in portfolios?

For investors who require liquidity, we believe the answer is highly dependent on risk appetite – some will have no choice to hold bonds but for others we believe the portfolio can be made to work harder though the use of liquid alternatives, thematic investing and greater use of stock selection. For many investors, a portion of assets with less liquidity will be suitable and we show how these can be part of the solution to the return challenge.

Why is there a portfolio construction problem?

In our paper [‘Can static 60/40 portfolios still deliver?’](#), we discussed the classic asset allocation theory where government bonds are put into a growth-oriented multi-asset portfolio to offset any short term losses in equities, resulting in a smoother path of returns. However, the potential for a zero interest rate environment leads us to reassess the roles that conventional assets play in our multi-asset portfolios, and how we might look elsewhere to meet return objectives.

As can be seen from Figure 1 (on next page), the efficient frontiers for traditional equity/bond portfolios in every decade (or every economic cycle) are different. Over the period following the great financial crisis (2010s), the world went through an atypical economic cycle, in which the US market exhibited exceptional performance and there was a monetary tailwind for bonds. So what’s changed?



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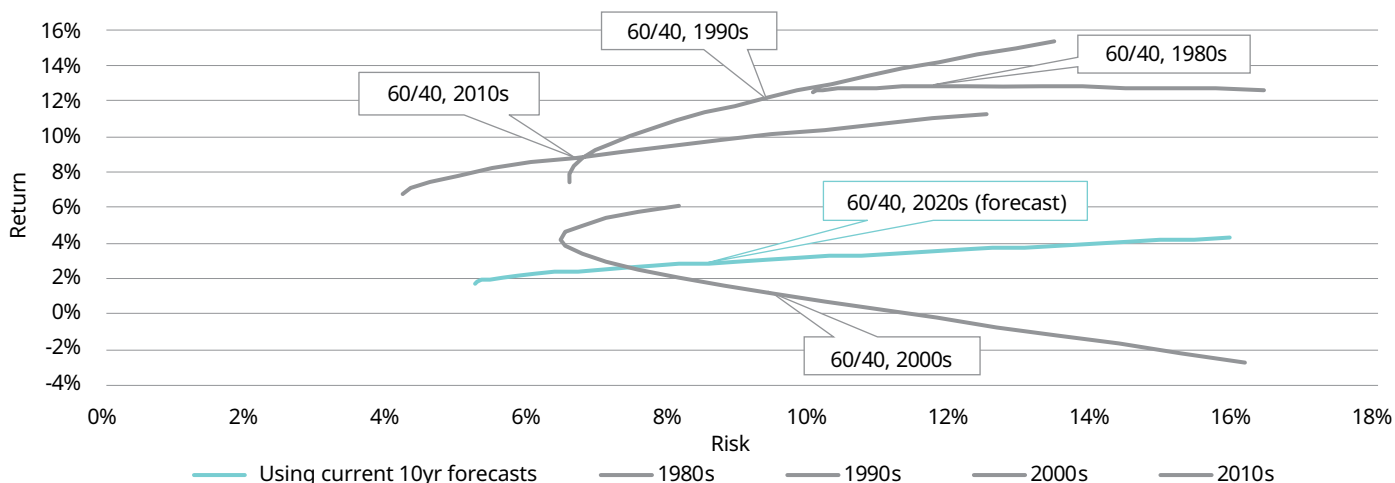
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Short-term US government bonds now yield around zero. Not only does this impact returns but it meaningfully raises the cost of hedging currency risk back to US dollars. We have included in Figure 1, our expectations for the 2020s and as can be seen this is much lower than the 2010s. On a forward-looking basis things don't look as attractive. The main issue is the evaporation of yield from cash and bonds. For some investors targeting a specific return, such as defined benefit plans and endowments and foundations, this expected reduction in returns that affects all liquid asset classes will make achieving their target significantly more difficult, possibly resulting in further contributions from the company or sponsor. For individuals in 401(k) plans, a significant reduction in returns is likely to require additional personal contributions or a delayed retirement date.

Figure 1: Given #TheZero and much lower starting bond yields, the efficient frontier for the 2020s is expected to be lower and flatter

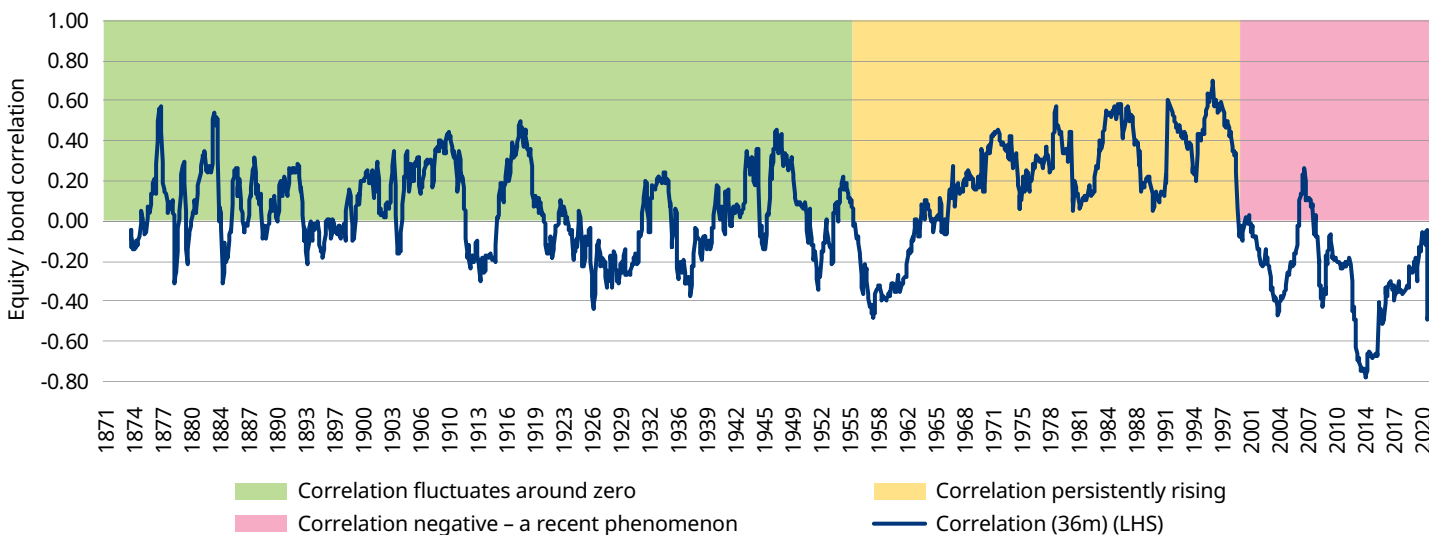


Source: Schroders, Refinitiv, January 2021. There is no guarantee that any forecasts or opinions will be realized. Past performance is no guarantee of future results. Actual results may differ.

Additionally, bonds had a persistently negative correlation with risk assets, as can be seen in Figure 2, meaning that they protected the portfolio (often referred to as a hedge) in the event of a growth shock impacting equities. However, we expect this relationship to be less stable and therefore less reliable as a hedge in a zero interest rate world with the lack of an interest rate cycle. Despite Chairman Jerome Powell's recent comments about being prepared

to run the economy hot, and not moving to a tapering stance (i.e. reducing the Fed's monthly bond purchases), we are not currently concerned about a pick up in inflation to levels that would require a sharp increase of interest rates to keep it under control¹. This means that the lack of an interest rate cycle could have an impact for some while to come.

Figure 2: The correlation between bonds and equities has remained persistently negative, but in a zero rate environment, we expect this relationship to be less stable



Source: Schroders, Refinitiv, December 2020. Past performance is no guarantee of future results. Actual results may differ.

We are currently not overly concerned about inflation at this stage. However, we believe it is important to understand valuation of asset classes in the context of the cycle and to be able to adjust the asset allocation to invest in appropriate asset classes at different times in the cycle.

Government bonds are unlikely to be as useful in portfolios as they were

In a zero interest rate environment across multiple developed markets and with a less stable correlation between equities and bonds, government bonds will no longer provide the cushion in

¹ Wade, Keith. "Is inflation coming back? Three routes to higher prices." Perspective, <https://www.schroders.com/en/us/institutional/insights/economic-views3/is-inflation-coming-back-three-routes-to-higher-prices/>

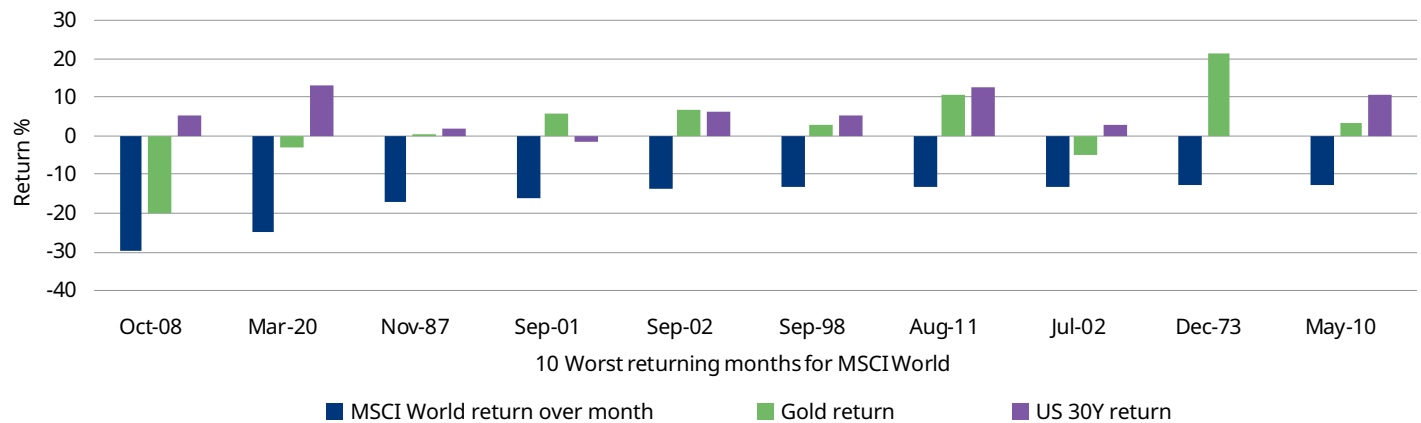
a portfolio that they once did. So what can replace bonds in the portfolio? We do not believe that there is an adequate replacement for bonds and cash in the portfolio. Potential liquid replacements include:

- Cash
- Gold
- Currencies

Cash clearly provides protection in the sense that it is unlikely to fall in value in the environments when equities fall. However, cash rates are currently at historic lows and in periods where inflation is above the cash rate, cash is expected to deliver negative real returns. For the most conservative investors, cash and government bonds may continue to be the only solution.

Gold is a potential hedging asset but it is heavily influenced by real interest rates and is non yielding (see Figure 3). Ever since injections of central bank stimulus became commonplace, which have driven interest rates lower and inflation expectations higher, equities have been negatively correlated with real interest rates. Since gold is also negatively correlated with real interest rates, this explains why it has been positively correlated with equities. This warns us against relying on gold to hedge us against the next equity market drawdown. In periods of extreme crisis, when market order breaks down, such as in 2008, there are many market participants who can be desperate for liquidity, irrespective of whether it is to rebalance, meet budget needs, de-risking or collateral. This was also true in March 2020, when the initial wave of the COVID pandemic hit developed markets. Figure 3 shows that gold is unreliable in protecting against equity drawdowns.

Figure 3: Gold has not always been a reliable hedge against equity risk

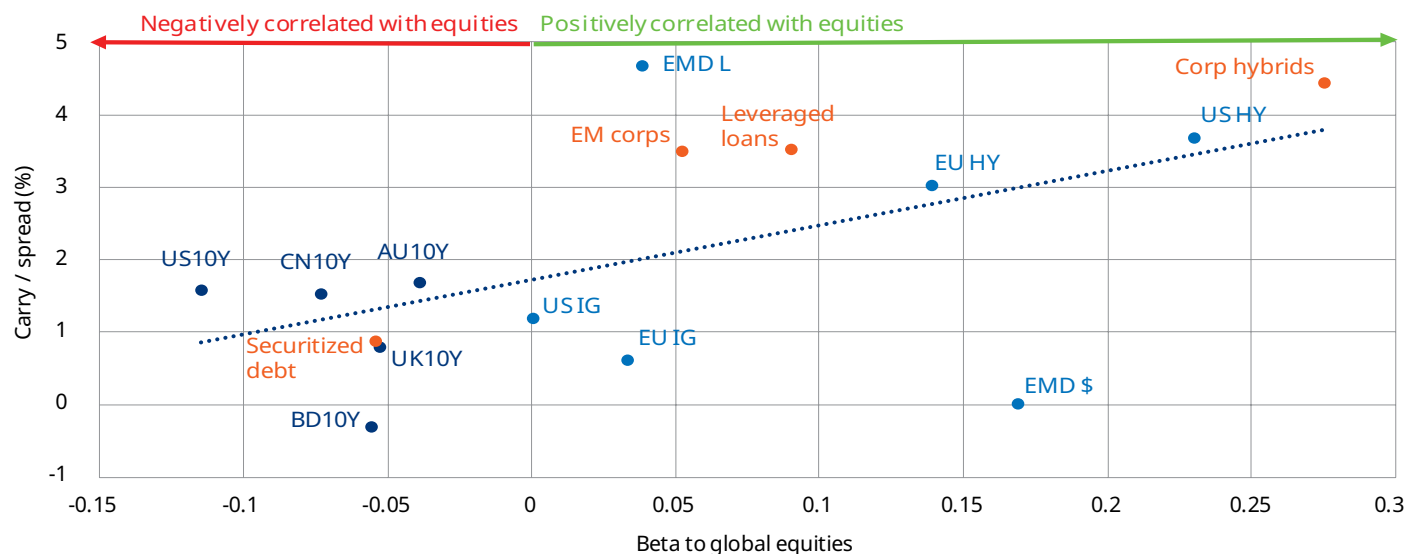


Source: Schroders, Datastream, February 2021. Returns in US dollars. Past performance is no guarantee of future results. Actual results may differ.

Currencies that generally rally when equities fall are few and far between; Yen, Swiss Franc and US Dollar are typically considered but these can be inconsistent in their hedging properties (and the former two are also subject to idiosyncratic risks and government/central bank influence).

Shifting away from the idea of 'hedging' equity risk with defensive assets, we can instead look at 'diversifying' the return-generating part of the portfolio away from equities and towards alternative return-generating assets, such as credit. However, in the context of growth assets, while these assets prove it is possible to earn higher yield and diversify using fixed income, in order to do so you must take on more risk.

Figure 4: Credit and EM debt are attractive from a yield perspective but are correlated with equities



Source: Schroders, Refinitiv, February 2021. Using 20-year correlations. Past performance is no guarantee of future results. Actual results may differ.

In summary, we don't think there is an adequate replacement for bonds and cash as a hedge against equity risk in the portfolio. So, depending on the risk appetite, we either need to accept lower overall returns, or seek to diversify *within* the return-generating and risk-reducing parts of the portfolio separately.

- A broader mix of asset classes that have different characteristics, such as preferred securities, convertibles, asset backed securities and listed infrastructure funds
- Greater reliance on stock selection, including the use of themes that are likely to benefit in the future.

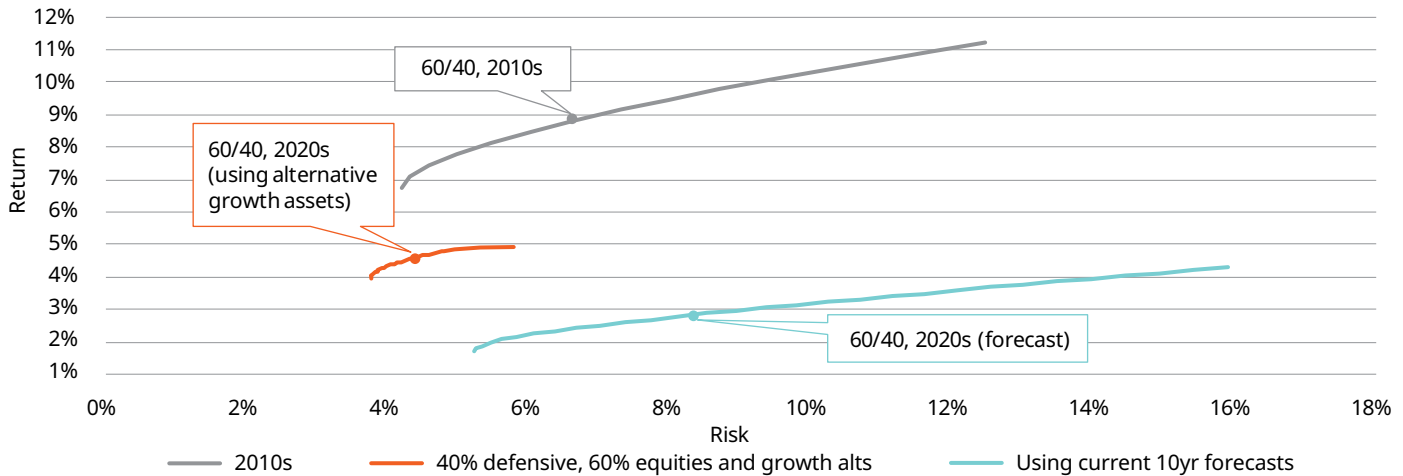
Generating return in the rest of the portfolio is going to take hard work

If we accept that it will be more difficult to generate asset class returns in the 2020s than in the 2010s, we will need to try to improve the risk/return trade-off with a more creative approach, using a wider variety of tools than the past including:

Using a broader mix of asset classes

In Figure 5, we show how a 60% allocation of a simple 60/40 portfolio can be improved (shown by the orange line) by investing in a broader selection of liquid assets. This shows that while aggregate returns from the past may be difficult to repeat, diversifying equities into alternative liquid growth assets, and US Treasuries into some alternative liquid defensive assets, can result in an improved risk/return profile.

Figure 5: Alternative liquid growth assets can improve the risk/return profile of a 60/40 portfolios

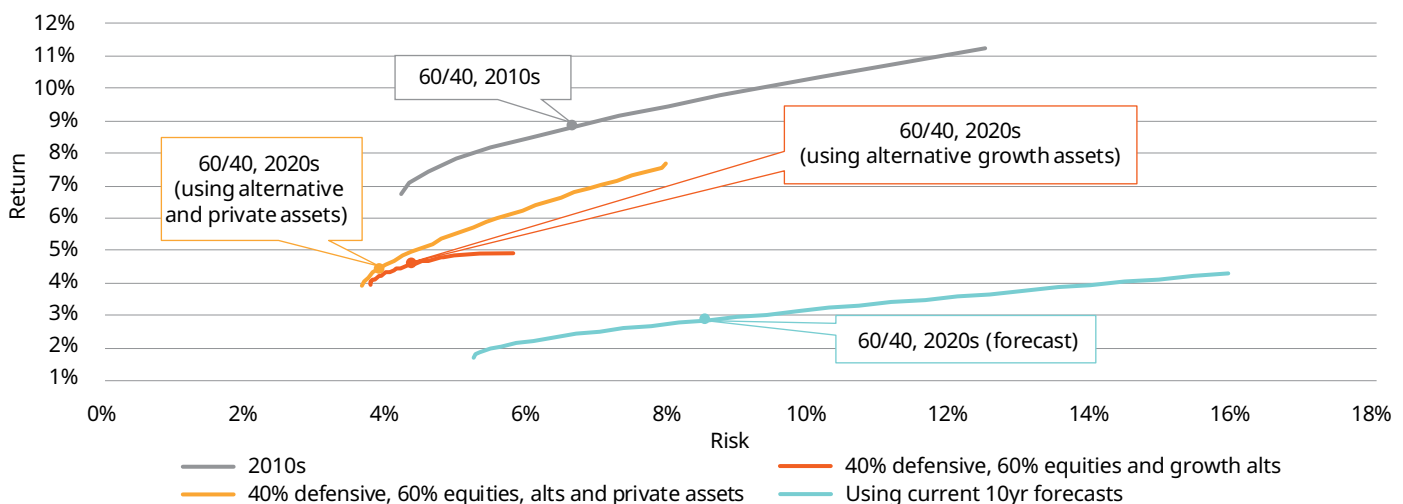


Source: Schroders, March 2021. Traditional 60/40 portfolio is composed of global equities and 10Y US treasuries. Alternative 60/40 is composed of emerging market sovereign and corporate debt, hedge funds, infrastructure, US preferred shares, US Treasuries, US TIPS and US MBS. The alternative 60/40 frontier ranges from 10% emerging market debt, 10% emerging market corporate debt, 8% G4 bond basket, 2% convertibles, 11% infrastructure, 15% preference shares, 10% US MBS, 10% US Treasuries, 11% US Cash & 12% hedge funds on the left hand side of the frontier to 60% hedge funds and 40% US MBS. Past performance is no guarantee of future results. Actual results may differ.

Many investors have looked increasingly to illiquid assets to improve returns given the challenging return forecasts from public markets. We can see in Figure 6, that inclusion of illiquid private assets in the 60% allocation allows the portfolio to get closer to

the 2010s efficient frontier. Yet the need for investors to generate attractive returns without excessive risk remains in the liquid portions of their portfolios.

Figure 6: Private assets can start to move the portfolio towards the efficient frontier of the 2010s



Source: Schroders, Refinitiv, February 2021. Past performance is no guarantee of future results. Actual results may differ.

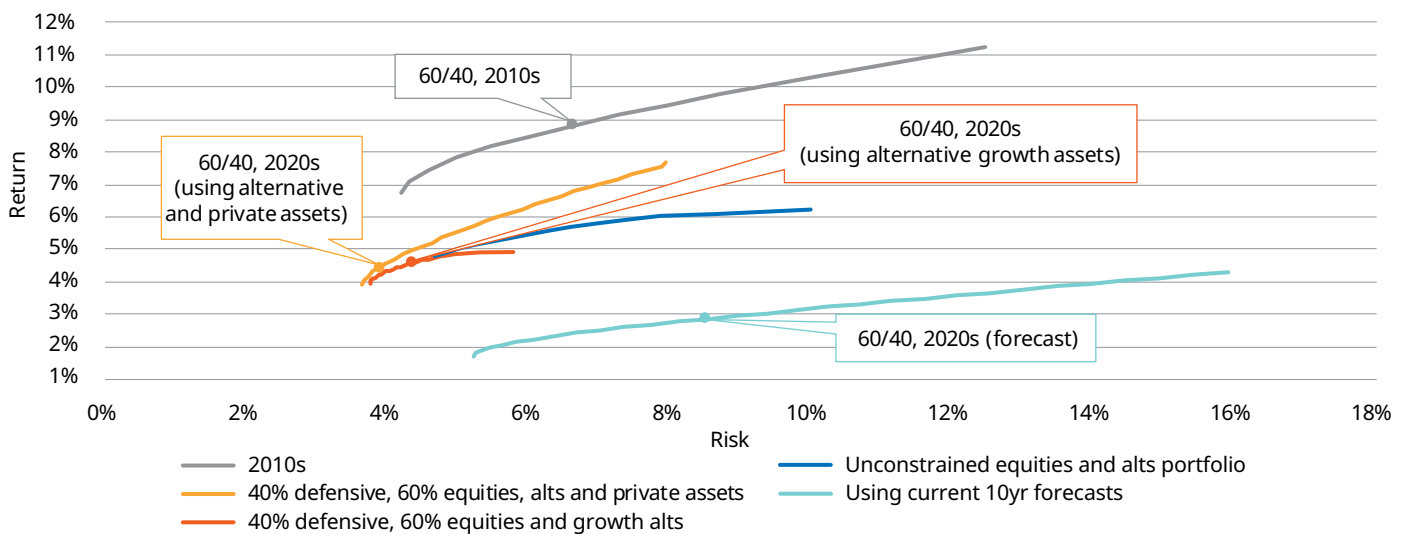
For those institutions that require liquidity in their portfolios, as we do in our liquid multi-asset portfolios, a choice has to be made about whether bonds should feature in the portfolio at all at these levels. If there is sufficient risk budget to be able to move up the risk spectrum and abandon bonds, the efficient frontier is no longer pinned on the left-hand side. Instead there is a blurring between the defensive and growth portions of the portfolio – effectively there is just one growth portfolio. In Figure 7, we show another frontier in blue, which only includes liquid assets but now doesn't fix the return-seeking and defensive weights at 60% and 40% respectively.

Importantly, for those with a higher risk tolerance, returns equal to or higher than those predicted with a portfolio consisting solely

of global equities can instead be achieved with considerably less risk by diversifying the portfolio (in an unconstrained manner) into liquid alternative assets.

Some investors may not have the governance structure to venture into some of the alternative return-seeking and defensive assets that we include in this modelling, in which case they'll be constrained to portions of the orange curve. Furthermore, the inherent unpredictability of alternative assets means that, alongside volatility, there are other risks that are unaccounted for in the efficient frontier. For the most risk-averse investors seeking precise management of risk, it might be the case that neither the orange nor blue frontiers are appropriate.

Figure 7: The blue frontier represents the portfolio choices available to higher risk investors contemplating portfolio construction in a zero yield environment



Source: Schroders, Refinitiv, February 2021. Past performance is no guarantee of future results. Actual results may differ.

In conclusion, while investors are unlikely to see the returns of the 2010 equity / bond frontier in the 2020s, expanding the universe and reducing allocations to nominal bonds appears likely to improve returns without being exposed to excessive risk for many investors.

Greater use of stock selection

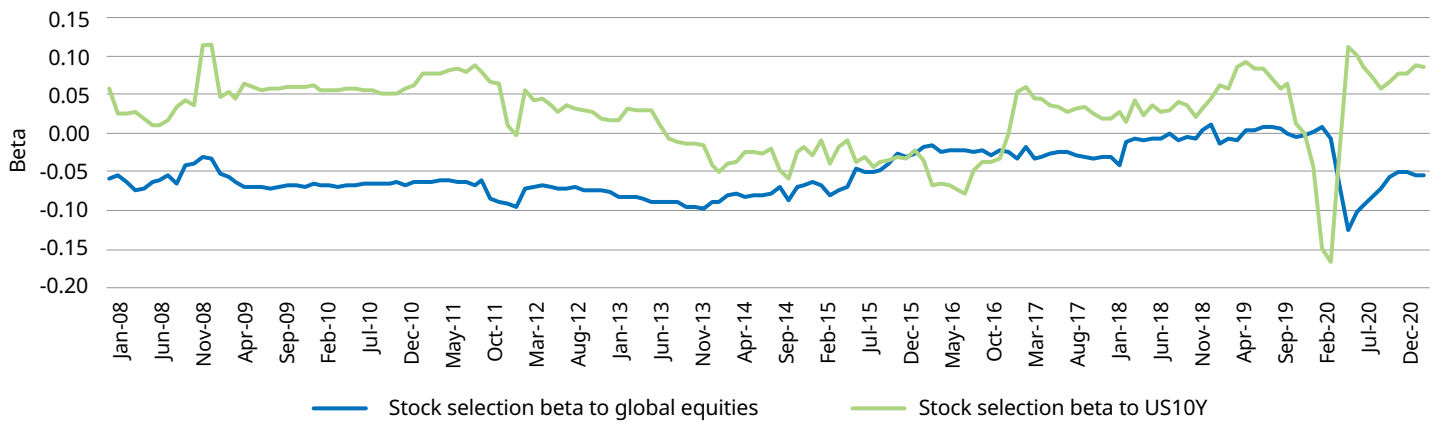
As investors increasingly made use of passive strategies, they favored lower costs and reliable beta versus expensive and uncertain alpha. Yet alpha may once again become useful to investors as returns purely from beta decline and fees for active

management become more competitive. Stock selection is an important source of returns when betas are significantly reduced. This has also recently been highlighted by Willis Towers Watson who stated that 'Going forward, we expect a better environment for skilled stock pickers to generate alpha².

Additionally since bonds have now become less reliable as a diversifier, investors can make greater use of stock selection. Figure 8 shows that stock selection is relatively independent to market direction so will add diversifying qualities to a portfolio.

² Towers Watson Limited (trading as Willis Towers Watson) "Why we believe NOW is the time for active equities." Investments Quarterly ideas Exchange, <https://www.willistowerswatson.com/en-GB/Insights/2020/03/why-we-believe-now-is-the-time-for-active-equities>.

Figure 8: Stock selection alpha is generally uncorrelated with asset class returns

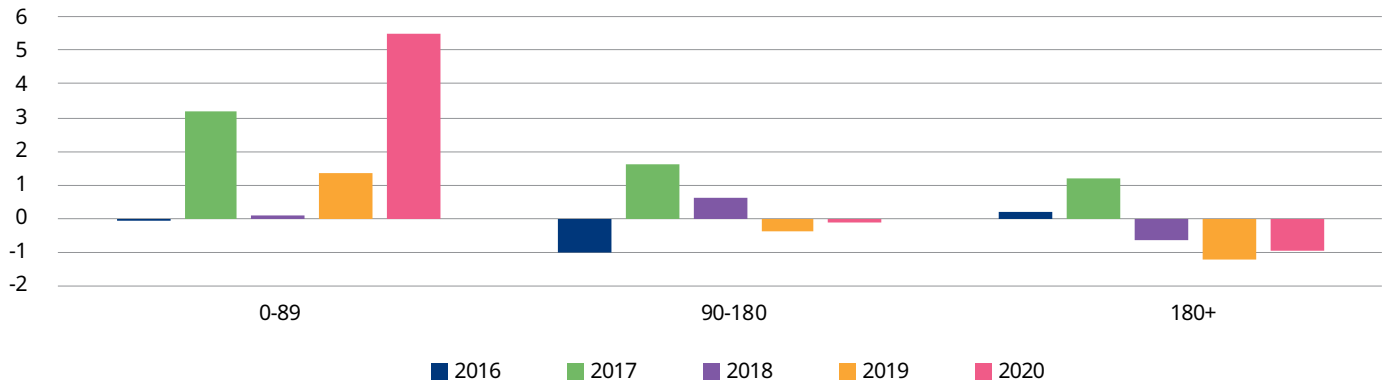


Source: Schroders, eVestment, January 2021. Stock selection beta calculated using returns from the five largest active global equity funds still in operation. Past performance is no guarantee of future results. Actual results may differ.

However, as we know, stock selection is a negative sum game after fees so superior selection of the manager and/or the theme is paramount. There are a number of ways in which an asset owner can stack the odds in their favor: academic evidence³ points to concentrated portfolios being the most reliable source

of positive alpha, so active equity exposure should be focused on concentrated strategies. This is evidenced in Figure 9, where we look at the average excess return of active global equity funds over their benchmark and group them by number of equity holdings.

Figure 9: Investors considering adding to active equity exposure should consider a focus on concentrated strategies



Source: Schroders, eVestment, February 2021. Excess returns from active global equities funds currently in operation with an AUM greater than \$100m. Past performance is no guarantee of future results. Actual results may differ.

Themes could also be a way in which to generate improved returns in the future, although it is difficult to model the likely impact of these on the portfolio, particularly in relation to diversification and risk. Using themes that have worked in the past is unlikely to be helpful to understand the themes that might be influential in the future. Future themes might include 'disruption' i.e. disturbance or problems which interrupt an event, activity or process. In the context of the global economy, disruption can be the result of:

- Technological innovations (for example, the internet, mobile phones or artificial intelligence)
- Changing consumer habits (such as the switch to internet shopping)
- New regulations or government policy (such as the switch towards renewable energy sources or tougher regulations on the sale of products such as tobacco or alcohol).

Other themes could be carbon neutrality (through equities and bonds) or global city real estate in locations with strong infrastructure and a skilled labor force.

These themes often do not have a long track record that we can integrate into our efficient frontier analysis. We also recognize that some future successful themes may overlap and more than likely result in a growth bias to a portfolio. It may be appropriate to accept this style risk in order to benefit from these type of themes.

The skill in managing themes in a portfolio is to be able to identify the themes of the future that are distinct, investable and structural and to avoid those that have reached the hype stage. In addition, suitable resources are required to understand and manage these often concentrated portfolios and we will need to size these positions appropriately in diversified multi-asset portfolios.

Another area where active stock selection should be able to differentiate from a passive approach in the coming years is investing by integrating a sustainable approach into the investment process.

The data used to construct passive indices is backward looking and sustainability data is often only released annually, therefore the index allocation does not reflect what companies are doing to

3 Conviction in Equity Investing, Journal of Portfolio Management, Summer 2014, M Sebastian and S Attaluri.

improve for the future. One important example is the move towards a low/no carbon economy globally. Significant and disruptive changes are needed to limit rises to the 1.5- 2°C commitment global leaders made in Paris⁴. Companies that are likely to impact this transition may not register as scoring highly on their passive 'environment' score today but what matters is investing in companies that are improving or have plans to improve.

How we have adapted to take advantage of the changing opportunity set

Our flagship multi-asset strategy launched in 2006 exemplifies our approach to taking advantage of opportunities and adapting as the

environment changes. We use a wide variety of liquid asset classes, and both the amount allocated and the types used have changed over this period.

In addition, we use a combination of passive, active and active 'custom' solutions to implement our views. Custom solutions typically account for a third of the portfolio, and current examples include insurance-linked securities, securitized loans or segregated global equities specifically managed for this strategy. Just over six years ago the allocation to active security selection strategies was at around 57% and now this allocation is around 80%, reflecting the alpha we believe that skilled stock selectors can add to the portfolio.

⁴ The Paris Accords have been ratified by 175 parties (174 states and the European Union) and aims to respond to the global climate change threat by keeping a global temperature rise this century well below 2 degrees celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees.

Conclusion

Returns for the next decade are likely to be considerably lower than for the 2010s given that short term bond yields are now around zero. Additionally, hedging equity risk using bonds is expected to be less reliable than in the last 20 years, but we don't think there is an adequate replacement for bonds and cash as the defensive asset. As a result, cash and government bonds will continue to be the only solution for the most conservative investors.

For those who are not constrained to holding government bonds and/or have a higher risk budget, we believe that portfolio construction needs to be reconsidered in a zero world. This means diversifying into other assets, investing in the themes that will play out over the next 10-20 years (or longer in the case of those saving for retirement) and leaning on stock selection as an additional source of return.

The 2010s might have been about passive investing and riding the wave of equities and bonds but in our view the 2020s are likely to need much more effort to even approach the returns of the 2010s. In short, it's going to require some radical rethinking about portfolio construction and using a wider set of tools.

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