BARBELL STRATEGIES: BUILDING BETTER PORTFOLIOS

BetaShares
Exchange Traded Funds

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INTRODUCTION

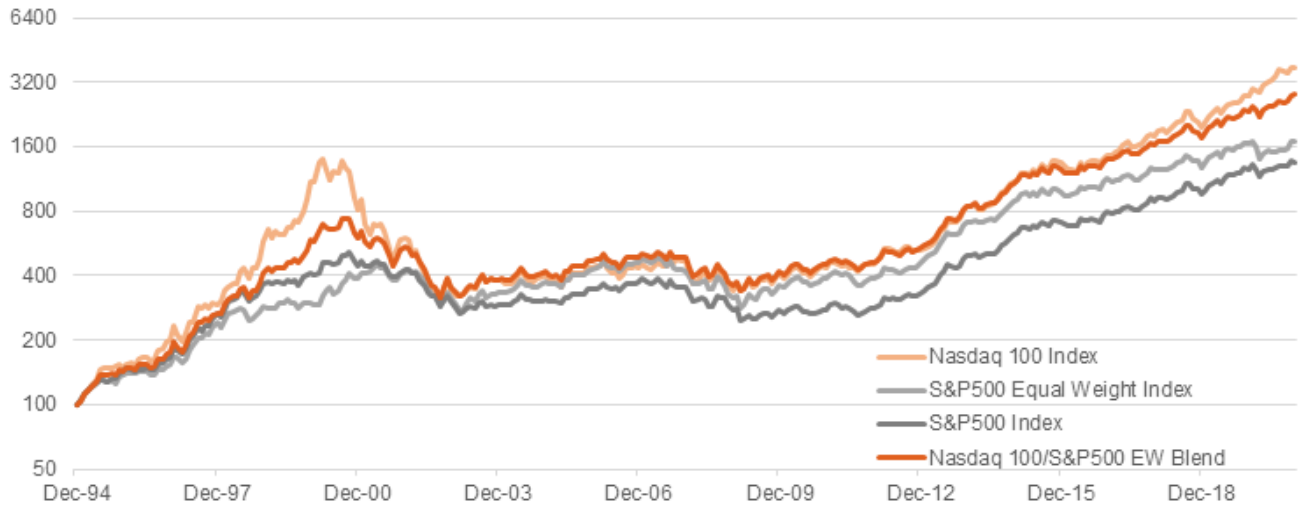
Although moderation is key for many aspects in life, the real world so often rewards the extremes. Technology and globalisation have helped specialists dominate generalists, with the winners being those that do a few things very well at scale. For example, the most successful businesses have generally been those that either lead the competition in price (Amazon, McDonalds, Uniqlo) or quality and desirability (Apple, LVMH, Ferrari), with little room for those that try and take the middle ground.

For portfolio construction, we can employ the power of the extremes and combine it with the benefits of diversification to deliver better risk-adjusted returns. Diversification is often referred to as the last free lunch in finance, but another aspect that is often forgotten is we can do the diversification ourselves and shouldn't value a stock or individual exposure higher because it's already diversified. Historically, combining risky, volatile building blocks that are uncorrelated in the long run has tended to yield better outcomes than combining (less volatile) internally diversified building blocks that attempt to act as a single core allocation that performs in all market conditions. This "barbell" approach of embracing the extremes might be what your portfolio needs right now in a world of change, uncertainty, and potentially much higher volatility. Asset allocators must look beyond short-term drawdowns in a single building block to appreciate the overall portfolio outcomes of combining complementary exposures.

THE U.S. EQUITY BARBELL

Arguably the two most powerful forces in equity returns are momentum and mean reversion. Momentum has been demonstrated to be a very powerful force over the short and medium term, while over the longer term, valuations and relative performance have tended to mean revert to some fundamental anchor. By combining exposures with strong momentum properties, such as the Nasdaq 100, with exposures that benefit from the periodic mean reversion and rotation to mid-cap and smaller large cap stocks, such as the S&P 500 Equal Weight Index, there may be an opportunity to capture the best of both worlds over the long run. Such a combination has outperformed the more vanilla S&P 500 market cap-weighted index, demonstrating the potential long-run power of the barbell in U.S. equities.

Chart 1: Total return of selected U.S. equity index exposures: 31 December 1994 – 31 December 2020



Source: Bloomberg; BetaShares Capital. Total returns for index exposures are for the period 31 December 1994 to 31 December 2020, displayed in a log scale. The Nasdaq 100/S&P 500 Equal Weight Blend returns assume monthly rebalancing to a target 50:50 allocation. All series are rebased to have a starting value of 100. You cannot invest directly in an index. Index performance does not take into account any fund fees and costs. Past performance is not an indicator of future performance of any index or fund.

Furthermore, due to the complementary effects of mean reversion and momentum on portfolio risk, over this 25 year period:

- The returns of the Nasdaq 100 and S&P 500 Equal Weight indices had a correlation of only 0.65; and
- The blended barbell portfolio had superior risk-adjusted returns compared to either of its individual building blocks as well as the S&P500 Index.

Table 1: Return and risk statistics for selected U.S. equity index exposures: 31 Dec 1994 – 31 Dec 2020

	NASDAQ 100 INDEX	S&P 500 EW INDEX	S&P 500 (MKT CAP) INDEX	NASDAQ 100 / S&P 500 EW BLEND
RETURN (P.A.)	15.0%	11.5%	10.5%	13.7%
VOLATILITY	22.7%	14.6%	13.6%	17.0%
SHARPE RATIO	0.56	0.63	0.61	0.67

Source: Bloomberg; BetaShares Capital. Returns, volatility and Sharpe Ratio are for the period 31 December 1994 to 31 December 2020. The Nasdaq 100/S&P 500 Equal Weight Blend returns assume monthly rebalancing to a 50:50 allocation. For the calculation of the Sharpe Ratios, an average risk-free rate of 2.3% was used. You cannot invest directly in an index. Index performance does not take into account any fund fees and costs. Past performance is not an indicator of future performance of any index or fund.

THE BOND BARBELL

Broad bond indices include bonds of all maturities and tend to be diversified across the yield curve, based on issuance outstanding. However, this may not be the best way of extracting value from the yield curve, both in terms of generating yield, and profiting from a volatile economic environment or to diversify against equity risk. In contrast, a bond barbell involves avoiding the intermediate maturities ('the belly') and seeking out the extremes of the curve (the so-called 'wings'), which typically involves combining cash and very long-term bonds in a way that controls for duration, but provides more convexity. Convexity can be a very desirable property for investors as it provides asymmetric upside exposure to large movements in bond yields relative to a less convex exposure of the same duration. i.e. convex exposures benefit from higher fixed income volatility.

When yield curves are relatively steep at the long-end compared to the front-end, as is the case right now, barbells are particularly attractive as they have the potential to generate higher yields, superior curve rolldown and greater convexity. In a world of high uncertainty and potentially much higher volatility, middle of the road exposures such as broad indices and diversified credit may be found lacking, unable to generate either yield or meaningful capital gains. To illustrate, below is a hypothetical example using two ETF exposures to cash and longer-term Australian government bonds, respectively.

Table 2: Combinations of AAA (Australian cash) and AGVT (7-12yr Australian government bonds)

AAA WEIGHT	AGVT WEIGHT	DURATION (YRS)	YIELD[1]	ROLL[2]	MGMT COST	EXP TOTAL RETURN AFTER COST
100%	0%	0.00	0.59%	0.00%	0.18%	0.41%
90%	10%	0.79	0.66%	0.12%	0.18%	0.60%
80%	20%	1.57	0.73%	0.25%	0.19%	0.79%
70%	30%	2.36	0.80%	0.37%	0.19%	0.98%
60%	40%	3.14	0.87%	0.50%	0.20%	1.18%
50%	50%	3.93	0.95%	0.62%	0.20%	1.37%
40%	60%	4.71	1.02%	0.74%	0.20%	1.56%
30%	70%	5.50	1.09%	0.87%	0.21%	1.75%
25%	75%	5.93	1.13%	0.94%	0.21%	1.85%
20%	80%	6.28	1.16%	0.99%	0.21%	1.94%
10%	90%	7.07	1.23%	1.12%	0.22%	2.13%
0%	100%	7.85	1.30%	1.24%	0.22%	2.32%

Sources: Bloomberg; BetaShares Capital, as at 22 February 2021. AAA is the BetaShares Australian High Interest Cash ETF and AGVT is the BetaShares Australian Government Bond ETF. Management cost column shows the weighted management cost of each combination of AAA and AGVT. Boxed area shows allocations to match duration with Bloomberg Ausbond Composite Index 0+ Yr. The above information is not a recommendation to invest or adopt any investment strategy.

As at 22 February 2021, the broad market Australian fixed interest index, the Bloomberg Ausbond Composite Index 0+Yr, had an average modified duration equal to the AGVT/AAA combination highlighted in table 2 but with much lower yield (only 0.89% p.a.) and roll (only 0.87% p.a.).

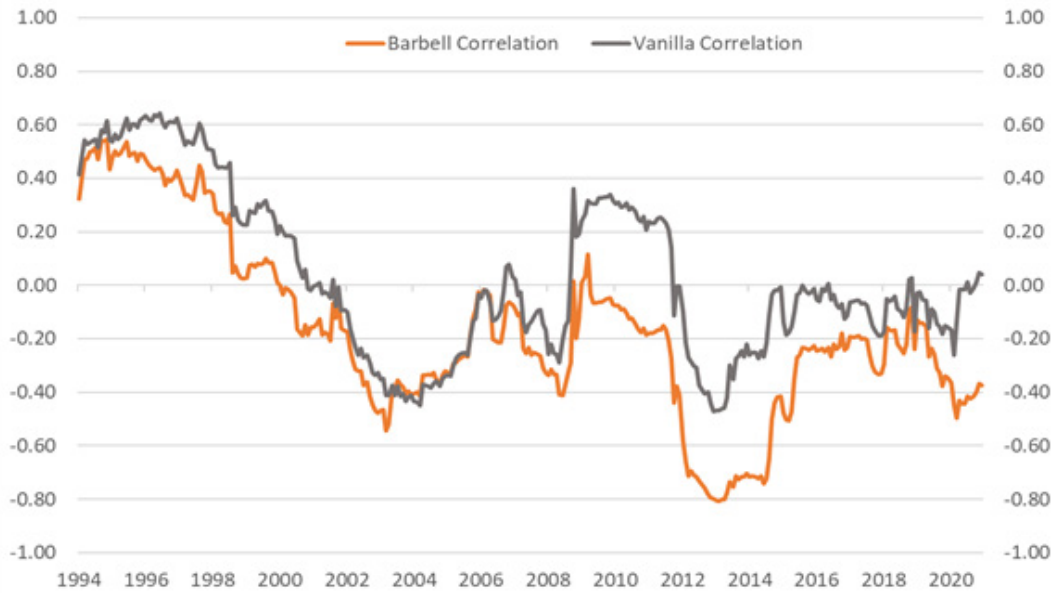
Additionally, the lower convexity of a broad Ausbond Composite approach would mean it would underperform the higher convexity barbell approach on a duration matched basis in BOTH aggressively rising AND aggressively falling parallel shifts in interest rate curves.

1. Weighted average Yield-to-Maturity per annum of each combination of AAA and AGVT.
2. Expected annual portfolio gains in addition to the yield-to-maturity, based on the current yield curve.

THE INFLATION / DEFLATION ASSET ALLOCATION BARBELL

One of the big questions facing asset allocators is whether bonds and equities can still enjoy a negative correlation going forward. When looking at broad equity and bond indices, there is evidence to suggest correlations have been increasing (i.e. more positive/less negative) in recent years. The blame has often been simplistically directed towards the notion "bonds can't provide defence in a low interest rate environment", however, one contributing factor has been the compositional changes in equity indices towards more long duration growth exposures (which have tended to be more 'bond-like' and sensitive to real yields). Another potential driver has been an increase in the weight and duration of corporate bonds in the global index and a deterioration in corporate credit quality, making the index more 'equity-like' at the margin. Today, just over 50% of the U.S. corporate bond market is BBB rated, only one rating category above junk bond status. The data suggests that government bonds have still managed to maintain a negative correlation with stocks overall and a deeply negative correlation with more cyclical and value-oriented equity exposures, such as the S&P 500 Equal Weight Index.

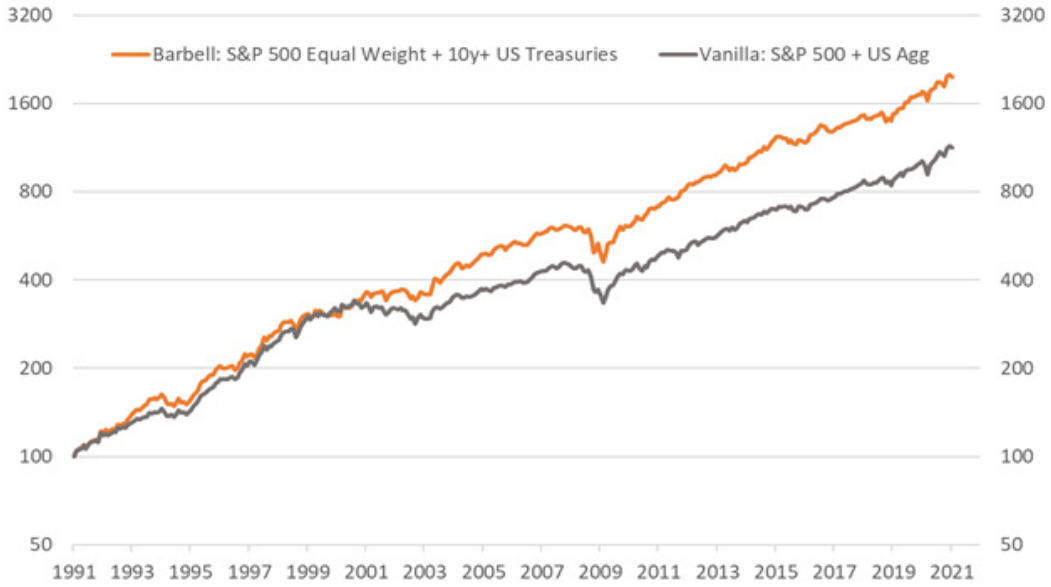
Chart 2: 5-year rolling monthly return correlation; Barbell denotes correlation between S&P 500 Equal Weight Index and 10y+ U.S. Treasury Index; Vanilla denotes correlation between S&P 500 Index and the Bloomberg Barclays U.S. Aggregate Index



Source: Bloomberg; BetaShares Capital. The chart shows the 5-year rolling correlations of the indices listed for the period 31 December 1994 to 31 December 2020. You cannot invest directly in an index. Past performance is not an indicator of future performance of any index or fund. Provided for illustrative purposes only and not as a recommendation to invest or adopt any investment strategy.

Using this insight and the power of barbells, a preferable alternative to sticking with a broad equity and bond index may be to tilt the equity index towards cyclicals and value (such replacing the standard S&P 500 with an equal weight version) and tilt the bond index towards duration and government bonds with the objective of maximising the diversification benefits without sacrificing long-run total returns. Combining volatile, but uncorrelated exposures that provide long-run excess returns can also provide an opportunity to benefit from periodic rebalancing, extracting value from volatility and return dispersion between asset classes, with the potential for such value to compound significantly over time.

Chart 3: The Asset Allocation Barbell – Combining a cyclical equity tilt with longer duration government bonds



Sources: Bloomberg; BetaShares Capital. Total returns for blended index exposures are for the period January 1991 – January 2021, displayed in a log scale, rebased to have a starting value of 100. Each blended index exposure return series assume monthly rebalancing to a target 50:50 allocation. You cannot invest directly in an index. Past performance is not an indicator of future performance of any index or fund. Provided for illustrative purposes only and not as a recommendation to invest or adopt any investment strategy.

Table 3: Rebalancing benefits from the barbell, 50/50, monthly rebalancing

	BARBELL: 50% S&P 500 EQUAL WEIGHT + 50% 10Y+ U.S. TREASURIES	VANILLA: 50% S&P 500 + 50% U.S. AGGREGATE
30Y BALANCED PORTFOLIO RETURN (% P.A.)	10.42%	8.42%
WEIGHTED AVERAGE ASSET CLASS RETURN (% P.A.)	9.84%	8.14%
REBALANCING BENEFIT (% P.A.)	0.58%	0.27%

Sources: Bloomberg; BetaShares Capital. Total returns for blended index exposures are for the period January 1991 – January 2021. The 30y balanced portfolio return assumes monthly rebalancing to a target 50:50 allocation. You cannot invest directly in an index. Past performance is not an indicator of future performance of any index or fund. Provided for illustrative purposes only and not as a recommendation to invest or adopt any investment strategy.

This rebalancing benefit of holding assets with greater return dispersion in combination is often overlooked or misunderstood. In simple terms, the rebalancing benefit comparison above (0.58% p.a. versus 0.27% p.a.) shows how the Barbell strategy can increase the capacity to sell defensive assets that hold their value or appreciate to buy more growth assets after those growth assets have become cheap.

This barbell also has the potential to provide better deflation and inflation protection compared to a vanilla balanced portfolio. In highly inflationary environments, outperformance of cyclical and commodity-sensitive equities historically has tended to far exceed underperformance on long duration government bonds. Conversely, in deflationary busts, equities and corporate bonds have generally tended to suffer, while long-duration government bonds have tended to be among the standout performers, with the long-ends of the Australian and U.S. government curves still capable of double-digit capital gains.

IN SUMMARY

In portfolio construction, we must look to optimise overall portfolio outcomes. A critical element of this is consideration of the interaction between asset class building blocks and diversification benefits that can be harvested.

The barbell approach of combining risky, volatile building blocks that are uncorrelated, and therefore complementary, has been shown to work both within and across asset classes. Asset allocators must look beyond short-term drawdowns in a single building block to appreciate the overall portfolio return profile of this approach. Nobody can predict future returns, but we can position our portfolios to perform in a range of market conditions while controlling for volatility and risk of drawdown.

We believe there is a strong case for embracing the barbell approach and the differentiated diversification it can provide in an investor's portfolio.