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The Power of Less Downside: The 80:60 Case Study

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Executive Summary

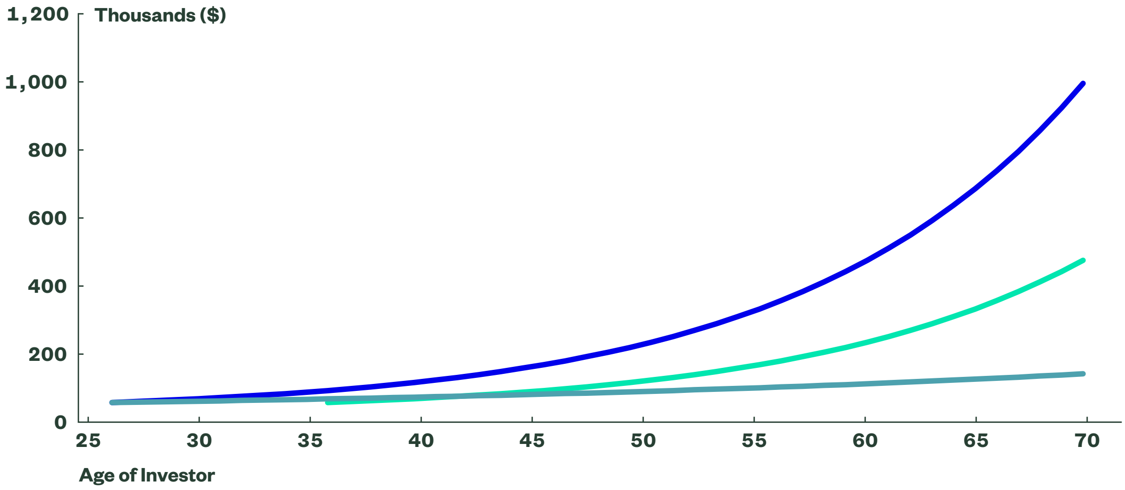
The power of compounding is profound and well understood. What is less understood is the power of managing your downside. Too often we focus on the upside potential without due attention to the downside characteristics of investments. In this white paper we examine the power of reducing the downside even when the upside may also be limited. Specifically we focus on a strategy we call 80:60, a strategy that only participates in 80% of an up month's return and only 60% of a down month's return. Losing less to win doesn't sound very exciting but as we will show it can be very powerful. It has many similarities with a sporting team that has a great defence or back line. Preventing the opposing team scoring can increase your chances of winning.

The Well Understood Mechanics of Compounding

As investment professionals we are well acquainted with compounding and understand the power of accumulating wealth over a long period of time. We know that successful wealth creation requires a long term approach to investing. Those that start early and contribute throughout the period benefit the most. Figure 1 below illustrates the power of compounding. Starting 10 years earlier (scenario 1 vs scenario 2) can have twice the impact to your account balance. It's also important to invest for growth as scenario 3 illustrates being too risk averse can also be costly.

Figure 1
The Power of Compounding, 3 Scenarios

- Scenario 1 — Start at Age 25, with $30,000 and ears 8%p.a. — Find value $957,613
- Scenario 2 — Start at Age 35, with $30,000 and ears 8%p.a. — Find value $443,5603
- Scenario 3 — Start at Age 25, with $30,000 and ears 3%p.a. — Find value $113,448



Source: State Street Global Advisors. As investment professionals were are accustomed to assessing investments through a lens of annualised return, risk (measured by standard deviation), alpha and beta. It is much less common to compare investments from a perspective of upside and downs side capture.

Definition of Upside and Down Side Capture

Upside/downside capture ratio's show the degree to which a strategy has gained relative to an index during a period of market strength or lost relative to an index during a period of market weakness.

In Figure 2 below we provide a worked example of why upside downside capture measures are important. Consider the monthly returns from the S&P 500 index for the last 12 months to the end of April 2019. We then compare to a strategy that participates in 80% of the market rise and 60% of the market fall. The return and risk outcomes are significant.

Figure 2
S&P 500 Performance vs 80:60 Strategy for the Last 12 Months

Month	Return of S&P500 index (%)	80% 60% Strategy[1]	Ratio of Returns (%)
31/05/2018	2.4	1.93	80
29/06/2018	0.6	0.49	80
31/07/2018	3.7	2.98	80
31/08/2018	3.3	2.61	80
28/09/2018	0.6	0.46	80
31/10/2018	-6.8	-4.10	60
30/11/2018	2.0	1.63	80
31/12/2018	-9.0	-5.42	60
31/01/2019	8.0	6.41	80
28/02/2019	3.2	2.57	80
29/03/2019	1.9	1.55	80
30/04/2019	4.0	3.24	80
Average up month	2.98	2.39	2.39/2.98 = 80
Average down month	-7.93	-4.76	-4.76/7.93 = 60
Total Return p.a.	13.5	14.7	Higher
Standard Deviation p.a.	16.2	11.1	Lower

Source: Thomson Reuters Datastream, State Street Global Advisors as at 30/04/2019.
The information contained above is for illustrative purposes only.
Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

In order to assess the longer term benefits of a strategy that can generate returns which on average capture 80% of an up month and only 60% of a down month we need a long history of returns. We've selected the Dow Jones index as our sample which goes back to 1900. The average characteristics of this distribution are contained in the table in Figure 3. Average upside and downside characteristics of the Dow Jones Index monthly Returns.

Figure 3
Summary Statistics of the Dow Jones Index from 1900 to 2018.

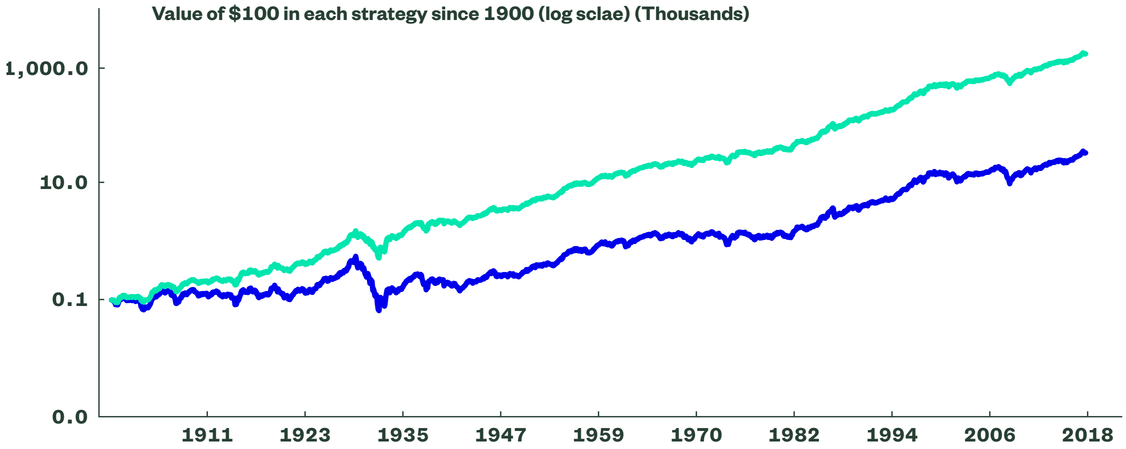
	Number	Proportion	Average Return
Months	1421	100%	0.56%
Up months	822	58	3.74
Down months	594	42	-3.84

Source: Thomson Reuters Datastream 1900 to 2018, as at May 2018.
Index returns are unmanaged and do not reflect the deduction of any fees or expenses.Past performance is not a reliable indicator of future performance.

In this analysis of the Dow Jones Index there are 1421 monthly observations. Of those months, 58% of monthly returns were positive and 42% were negative. The average positive monthly return was +3.74% and the average negative monthly return was -3.84%. The power of the 80:60 is twofold: Firstly the proportion of negative months that a market or index may have and secondly in the asymmetry between average up and average down months.

Applying the 80:60 Strategy to the full history of the Dow Jones index produces outperformance of 3.6% p.a. and annualised volatility is reduced from 18.1% to 12.8%, (-5.3% lower). Obviously both these characteristics are desirable.

Figure 4
Comparison of Dow Jones Index to the 80:60 Strategy from 1900 to 2018



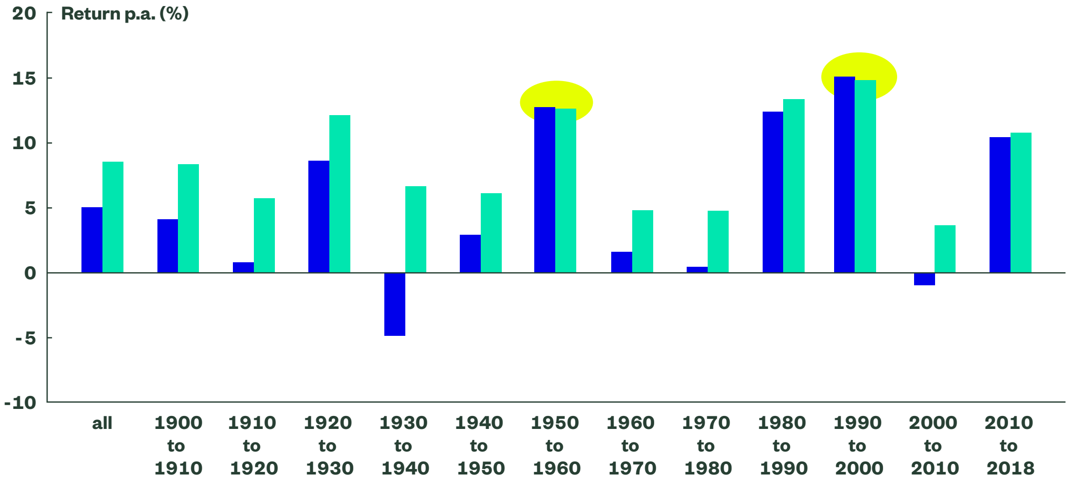
Dow Jones Index Rebased to 100 in 1900

Strategy that Captures 80% of up Months & 60% of down Months

Source: Thomson Reuters Datastream State Street Global Advisors, as at May 2018.

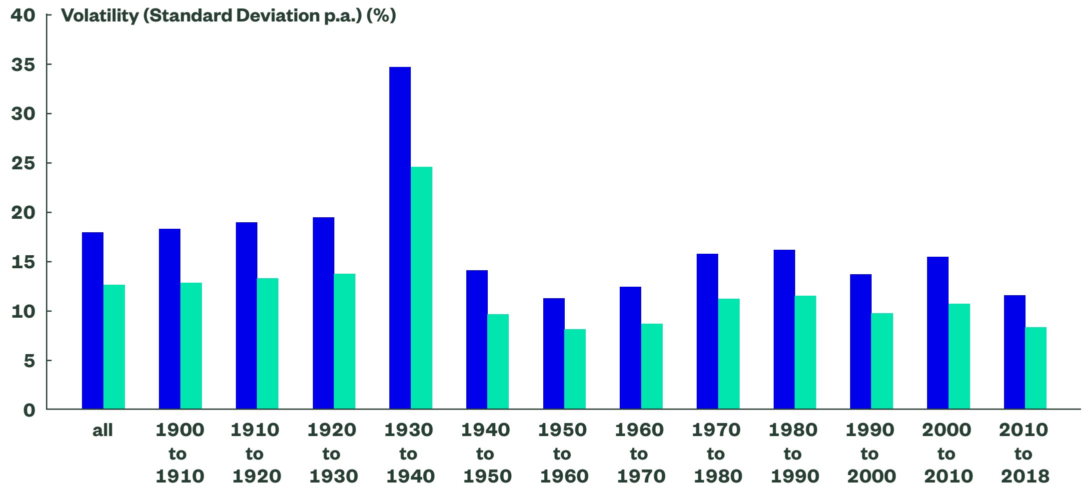
When we break this whole period down by decades we can observe the 80:60 Strategy tends to outperform in almost all decades. The only exception occurred in the 1950's 1990's. In both cases the difference was only minor. Both these decades were characterised by below average levels of volatility as can be seen from Figure 5 and Figure 6.

Figure 5
Comparison of Return of the Dow Jones Index to the 80:60 Strategy from 1900 to 2018
Higher Returns in 10 of the last 12 Decades



Source: Thomson Reuters Datastream 1900 to 2018, as at May 2018. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

Figure 6
Comparison of Volatility of the Dow Jones Index to the 80:60 Strategy from 1900 to 2018
Lower Volatility in each Decade Since 1900



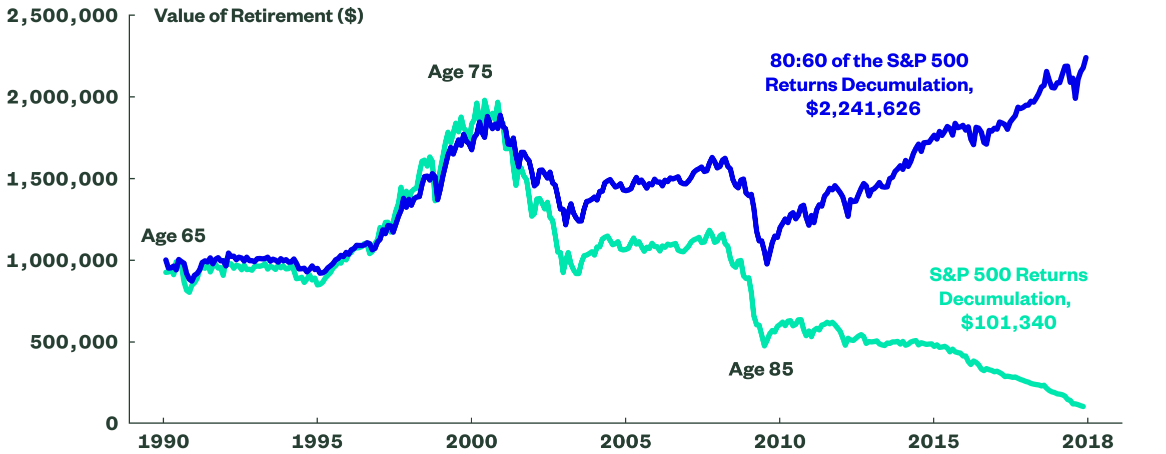
Source: Thomson Reuters Datastream 1900 to 2018, as at May 2018.

As you would expect the volatility of an 80:60 approach is also consistently lower across all decades. Importantly the peak to trough drawdowns are lower and the strategy is able to outperform in most periods of higher volatility by not losing as much and retaining a high base from which to capture positive returns. This aspect is especially relevant for those in retirement taking a monthly withdrawal from their savings.

Risk Aware Strategies are Relevant in Retirement

Strategies that can cushion on the downside can help investors retain their wealth to continue to generate positive returns. Large losses are difficult for retirees to recover from when they have no income to rebuild their capital base. A strategy such as the 80:60 can deliver lower volatility and can be especially valuable for those in de-accumulation phase. As the simple example illustrates both scenarios start with $1,000,000 at the age of 65 in 1990. Both withdraw $9,000 per month. After 30 years and two significant market corrections (in 2000 and then again in the 2008) the 80:60 Strategy helps protect wealth and allowing the retiree to keep growing assets while the S&P 500 scenario erodes their wealth. It highlights that retirees who are drawing down in a falling market can benefit significantly from this strategy.

Figure 7
The Value of an 80:60 Strategy that can help Retain Wealth in more Volatile Environments
Lower Volatility is Especially Important in Retirement



Source: State Street Global Advisors. The information contained above is for illustrative purposes only.

The 80:60 Strategy in Different Market Environments

Not all equity market environments are suited to the 80:60 Strategy. How consistent is the 80:60 Strategy and when should we expect a strategy with these characteristics to perform better or worse? In Figure 6 we drill down into each decade since 1900. Not surprisingly the most volatile decades coincided with the greatest outperformance. Indeed the decades that had the greatest proportion of down months also coincided with the 80:60 strategy greatest outperformance.[2] Conversely the decades with the lowest volatility and lowest proportion of down months are the decades when the 80:60 Strategy is the least effective in delivering excess returns.

Figure 8
Comparison of Dow Jones Index to the 80:60 Strategy from 1900 to 2018

	Return Dow Jones (%)	Return 80%:60%	Excess Return (%)	Annualised Standard Deviation on Dow Jones (%)	Proportion of up Months (%)	Proportion of Down Months (%)
all	5.1	8.7	3.6	18	58	42
1900 to 1910	4.2	8.5	4.3	18	54	45
1910 to 1920	0.8	5.8	5.0	19	55	42
1920 to 1930	8.8	12.3	3.6	20	55	45
1930 to 1940	-4.9	6.8	11.7	35	56	44
1940 to 1950	2.9	6.2	3.3	14	58	42
1950 to 1960	13.0	12.9	-0.1	11	64	36
1960 to 1970	1.7	4.9	3.2	13	57	43
1970 to 1980	0.5	4.8	4.4	16	51	49
1980 to 1990	12.6	13.6	1.0	16	56	44
1990 to 2000	15.4	15.1	-0.2	14	68	32
2000 to 2010	-1.0	3.7	4.7	16	53	47
2010 to 2018	10.6	11.0	0.4	12	68	32

Source: State Street Global Advisors & Thomson Reuters Datastream 1900 to 2018, as at May 2018.

It is noteworthy that the current decade since 2010 has been the second least volatile decade since 1900. You have to go back to the 1950's to find annualised volatility below 12% p. a. Central bank policy has been a significant contributing factor providing liquidity and shaping the low volatility high return environment over the last decade. As central banks withdraw stimulus what will market volatility look like in the coming 10 years?

Downside participation and Portfolio Construction

Different investment strategies have different characteristics when it comes to upside downside capture ratios. Utilising the databases available from the Ken French library we have been able to examine the upside downside capture ratios of many well-known investment styles. Figure 9 highlights a number of relationships and are likely consistent with prior expectations.

Figure 9
Investment Style and Upside and Downside Characteristics[3]

	Return Dow Jones (%)	Return 80%:60%
Based case strategy under discussion 80:60	80	60
High dividend yield (cheap)	86	76
Large capitalisation (large)	82	80
Low share issues (better quality)	93	81
High earnings to price (cheap)	106	90
Defensive sectors ^	97	94
High cash flow to price (cheap)	109	94
High momentum (last year's best performers)	114	98
Small capitalisation (small)	108	102
Cyclical sectors ^	104	108
low dividend yield (expensive)	111	125
Low cash flow to price (expensive)	103	130
low earnings to price (expensive)	107	130
High shares issue (lower quality)	103	133
Low momentum (last year's worst-performers)	108	141

Source: Ken French library and State Street Global Advisors see footnote below. Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

When thinking about stocks and the characteristics for lower downside participation the blue section shows that high dividend yield, larger capitalisation, low share issuance and defensive sectors provide the greatest benefits. On the other side of the ledger the company characteristics which offer the least downside protection include lower quality, expensive, cyclical and smaller companies.

When constructing portfolios to maximise long term outcomes, managing downside participation should be front of mind for both accumulators and retirees. Understanding an investment manager's style can provide insights into the expected participation rates. So ask your managers what their upside/downside capture ratios are, review the skew in their returns and historical performance in volatile periods. These should all be key indicators of their future performance. In our view a strategy that focuses on value, quality, sentiment and lower volatility would be expected to provide lower downside participation, more consistent returns and a smoother investment journey for clients.

Endnotes

1 The 80:60 Strategy is defined as a strategy that generates 80% of all positive month returns and 60% of all negative returns. In this example it is using the S&P 500 index as the reference benchmark.

2 Not losing as much helps when the market turns upward and you can earn more money on a higher base. The power of compounding combined with the power of limiting your downside.

3 Data is from 1963 to 2018 from the Ken French data base. The factor returns are based on the top quintile or bottom quintile for each factor using the equally weighted return for the given month. To reduce a potential bias associated with different universes an equally weighted market return was calculated for each month using the average of Q1 to Q5 equally weighted returns for each factor. ^Sector definitions are based on the classifications from the Ken French dataset. Defensive sectors returns are based on the average of the monthly returns of Healthcare, Utilities, Telecom and Durables. The Cyclicals return is the average of the monthly returns of Energy, Info Tech, Manufacturing, Non-Durables and Shops.

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