



Improving the predictability of equity returns

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Investments

IMPROVING THE PREDICTABILITY OF EQUITY RETURNS



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Smart beta strategies had a phenomenal year in 2017 with seven out of the top ten-performing funds, in a universe of 165 general equity unit trust funds, following a systematic strategy. Of even more interest is that, within these seven funds, no fewer than three separate strategies – **Momentum, Quality** and **Value (Dividend Plus)** – were represented. Was this luck, is it likely to be repeated and should you reassess your equity portfolio construction?

1) Don't be lucky, be consistent

One cannot expect excess returns without being different from the market, that is, assuming risk. But the assumption of risk does not, in and of itself, guarantee excess returns.

We have to manage risk through combining multiple strategies, as well as the relationship between these strategies, to maximise the probability of outperformance.

I would argue that the most sensible starting point for building a portfolio

would be from the benchmark outwards. Replication of the benchmark can be done with very high accuracy and at almost no cost. As we move into the arena of demanding additional returns, we should do it from the perspective of the greatest certainty to the least certainty.

In the case of equities, our opportunity set consists of

- Index only (replication)
- Index replication plus portable alpha ⁽¹⁾
- Smart Beta ⁽²⁾
- Active strategies

⁽¹⁾ Refer article "[Using portable alpha to enhance a passive strategy](#)"

⁽²⁾ Refer article "[What's the buzz about Smart Beta?](#)"

In reality, portfolio construction seems to take place in reverse.

We start building portfolios using managers who we convince ourselves will be first quartile performers, without regard for whether we are getting an appropriate level of excess return for the risk we are assuming, or for how these managers interact through the cycle.

Then, once we've been disappointed, we add in a bit of passive management to bring a level of stability.



Let's see if we can bring a little logic to challenge the status quo.

Firstly, let's explore the extent to which each strategy in our opportunity set has been successful (all numbers below are shown net of actual / estimated fees and costs):

Process	Dec-10 to Dec-17		% of 1m periods > index	% of rolling 12m periods > index	% of rolling 36m periods > index	% of rolling 60m periods > index
	Ann. Return	Ann. STDEV				
Benchmark (SWIX)	13.7%	10.4%				
Index only	13.5%	10.5%	-	-	-	-
Index plus portable alpha	14.9%	10.5%	70.2%	96.4%	100%	100%
Smart Beta composite	16.6%	10.7%	57.1%	64.4%	89.8%	100%
Value (Stable Dividend)*	12.3%	13.5%	47.6%	46.6%	28.6%	12%
Momentum	19.8%	10.9%	66.7%	83.6%	100%	100%
Quality	16.1%	11%	50%	41.1%	26.5%	24%
Active Managers (institutional)**						
First quartile	13%	10.9%	76.2%	72.6%	87.8%	86.1%
Median	11.3%	10.7%	35.7%	23.3%	0%	0%
Third quartile	9.9%	10.3%	14.3%	0%	0%	0%
Active Managers (retail - institutional class)***						
First quartile	13.7%	10.8%	75.0%	76.7%	83.7%	92%
Median	11.8%	10.5%	38.1%	12.3%	0%	0%
Third quartile	9.4%	10%	10.7%	0%	0%	0%

*Note: we have used Satrix fund performance and their default 'value' strategy is their proprietary "Stable Dividend" approach.

** Source: Alexander Forbes surveys (includes all benchmark and non-benchmark cognisant managers).

*** Source: Morningstar - ASISA General Equity Unit Trusts.

This analysis was based on data from December 2010 in order to reduce the impact of survivorship bias. One of the broad problems with survivorship bias is that the universe of available information reduces as the term increases. In other words, generally managers will "retire" or merge underperforming funds; hence, the table above is likely to show a best case scenario.

That said, some broad conclusions can be drawn:

a) SWIX has been a tough benchmark to outperform - a large part of this can be attributed to the massive outperformance generated by Naspers over this period - where it has grown 37.3% p.a. since December 2010 and is now the

largest share in the index at 23.2% (and the highest rated thereby undermining any value-based approach).

- b) The median active manager in both the retail and institutional space generally underperforms the SWIX and the probability of outperformance decreases the longer the period.
- c) The first quartile managers generally outperformed across the periods; however, it is not the same managers and neither are they identifiable *ex ante* (before they publish their results).
- d) In contrast, the Smart Beta strategies indicated above

generally have higher success rates than their "active" competitors (none more so than Momentum) and the probability of composite outperformance increases the longer the period.

- e) The strategy with the highest probability of outperformance is Index plus Portable Alpha, although the excess return generated is lower than that of the Smart Beta strategies.
- f) It is worth noting that the Quality and Value strategies are particularly cyclical, with long-term results well above the period reviewed.

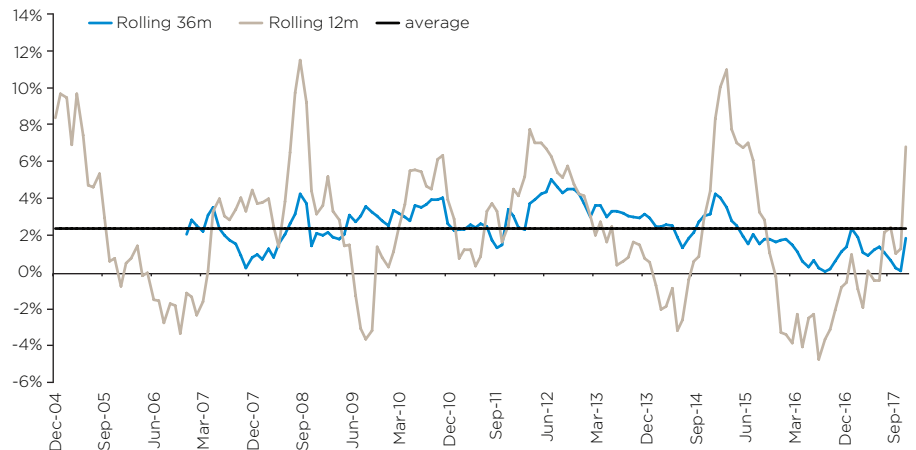


So, was this period unusual for Smart Beta strategies?

The chart alongside indicates rolling 12-month and 3-year performances of the composite (SmartCore™) relative to SWIX.

Note that these numbers alongside are broadly representative of the industry as far back as 1995 on a back-tested basis. Also note that neither SWIX nor Smart Beta strategies existed back then.

Rolling relative performance: SmartCore™ vs SWIX (after costs)



Source: Sanlam Investments, 2018

Performance for the last 12 months is above-average (7% vs 2.4%), although not near to the approximate 12% extremes seen in 2008 and 2014. In fact, the current 3-year rolling number of 2% remains well below the long-term average of 2.6%, and below the average since December 2010 of 2.2%.

What about valuations? Are these Smart Beta strategies now expensive?

By way of explanation, each strategy is subject to rebalancing on a systematic

and periodic basis in order to remain true to the underlying principles that support each strategy. In the case of Satrix, the strategies are generally rebalanced every six months, with that period being a trade-off between allowing outperformance to “run”, and the need to stay true to the fundamental factors (the exception being Momentum which is rebalanced every six weeks). As such, the rebalancing process continually rejuvenates the strategy and thus they

do not generally become expensive on a relative basis.

However, Smart Beta strategies are still dipping in the same stock universe and, if the overall market moves strongly ahead of its fundamentals, then these strategies can similarly become expensive in absolute terms.

2) Building a portfolio of strategies to maximise the probability of outperformance

How should we go about this? Firstly, let’s create a representation of the opportunity set in relation to the benchmark, with risk (tracking error)

represented on the horizontal axis and alpha (excess returns) on the vertical axis.

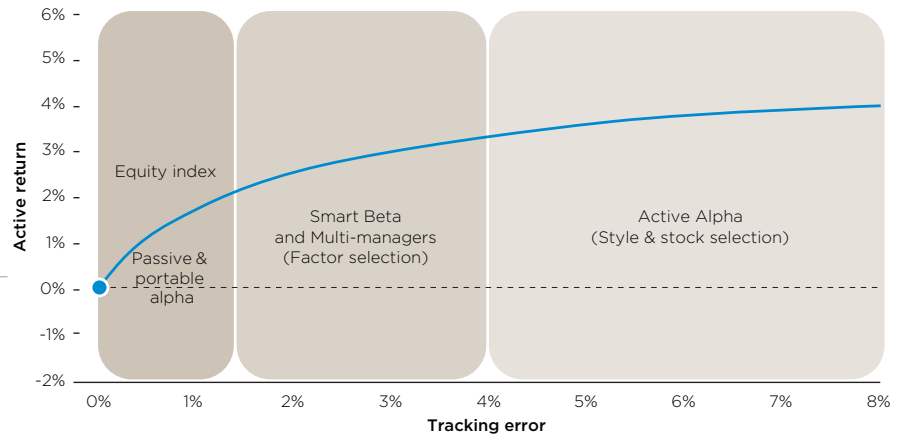
Broadly speaking, we categorise the passive index management world (including portable alpha) to be strategies with tracking errors of less than 1.5%, systematic and composite strategies (including Smart Beta and multi-management) to be between 1.5% and 4% tracking error, while traditional active managers are usually in the 4%-plus tracking error range.

The efficient frontier shown on the following page is a “perfect” representation of the goals of investing, i.e. you should achieve higher returns as you incur higher risk (here represented by tracking error).

It also demonstrates the law of diminishing marginal returns, i.e. each additional unit of risk delivers a reduced additional level of return.



Efficient frontier - Active return space



It should also be obvious that strategies are not completely independent of each other, so building a portfolio needs to take into account the way the strategies interact. This is reflected by the covariance matrix. However, one must appreciate that this matrix is not stable over time and we need to, as best as possible, estimate what the future relationships are.

What is interesting is that relative to benchmarks, firstly, *index plus portable alpha strategies* and, secondly, *Smart Beta strategies* behave far more predictably than traditional individual active strategies.

We can thus use this to build more predictable outcomes commensurate with the risk we are willing to accept.

Before we build our equity portfolio, let's look at the traditional active management spectrum a little more closely during the designated seven year time frame:

- a) First quartile manager rolling 12-month excess returns over the benchmark: **3.5%** (average of all managers within the first quartile)

- b) Range of (a) above: **0% to 12.5%**

- c) Average threshold to get into the first quartile: **1.1%** (average performance of lowest-ranked manager in first quartile)

- d) Range of (c) above: **-2.1% to 4%**

- e) The probability of first quartile managers over three years staying there over next 12 months: **23.1%**

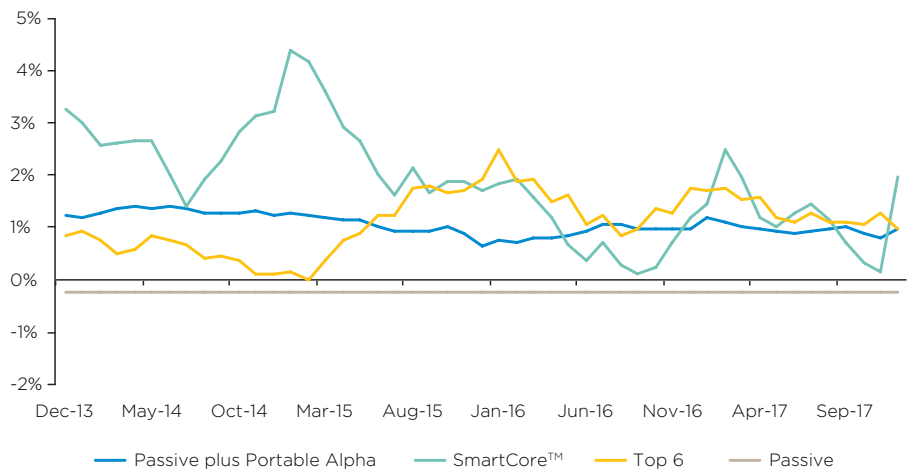
Effectively what this means, is that not only is persistence for traditional active managers poor (less predictable), but the average excess 12-month return for the **best** group of managers (**3.5%**) is

just over **1%** above that for the composite of the Smart Beta strategies (**2.4%**).

And, due to the constant changes within this group, the likelihood of rebalancing correctly every time would be like shooting for the moon.

Let's give this a little more perspective and assume that we were able to identify the top six institutional managers in advance over that period. Assume also that we started them equally weighted and kept their weights constant (typical fund preferences).

Rolling 3-year Alpha



Source: Sanlam Investments, 2018

So how would we have done investing in this group of top six active managers, looking at the rolling 3-year alpha chart above? It would appear that we would not even have performed as well as the low-risk portable alpha strategy! And on a rolling 3-year basis, we would have been in the first quartile only around 50% of the time.

Let's build a portfolio using the above representation as inputs - for a range of targeted alpha (excess over the benchmark) - optimising by risk (tracking error):

Target excess return	1%	1.25%	1.5%	1.75%	2%
Expected tracking error	1%	1.1%	1.3%	1.7%	2.2%
Index plus portable alpha	50%	50%	50%	50%	50%
SmartCore™	4%	15%	26%	38%	50%
Traditional Active managers	46%	35%	24%	12%	-

Note that each element is limited to a 50% weight in the portfolio for practical purposes.

The results show that there is a clear preference for the inclusion of portable alpha, with SmartCore™ preferred at the higher target alphas.

Analysing the results in greater detail, it is worth noting that the traditional active managers' inclusion is largely a function of its low tracking error, benefitting from the composite of its chosen managers. To bring further realism to this exercise, we increased the top managers' expected alpha by 0.5% and doubled its tracking error.

Since the chart shown earlier would seem to indicate that SmartCore™ experienced halcyon times during the last seven years, we also reduced its expected return by 0.5% p.a.

Target excess return	1.4%	1.5%	1.6%	1.7%	1.8%
Expected tracking error	1.50%	1.52%	1.70%	1.96%	2.33%
Index plus portable alpha	50%	50%	50%	44%	21%
SmartCore™	21%	28%	36%	44%	50%
Traditional Active managers	29%	22%	14%	12%	29%

The results confirm a preference for the stability of the portable alpha solution, coupled with the diversification through SmartCore™ particularly when targeting higher excess return levels.

Conclusion

A sound approach to equity portfolio construction must include as many independent elements as possible in order to maximize the benefits of diversification. Inevitably - and persuaded by the promise of outperformance - professional advisers hold a strong bias towards traditional active managers. As such, they promote the blending of these active managers to deliver sufficient diversification.

However, we are firmly of the belief that, not only is persistence far more likely within the portable alpha and Smart Beta frameworks but that identifying future first quartile managers (the minimum necessary for outperformance) is an almost insurmountable task. Therefore, structuring portfolios to take advantage of these systematic processes is more likely to yield more consistent results.



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