



The Art of Estimation
November 2015

“It is better to be roughly right than precisely wrong”

John Maynard Keynes

“All models are wrong,” the statistician George Box observed, “but some are useful.”

Philip Tetlock, *Superforecasting: The Art and Science of Prediction*

Introduction

The most commonly asked question about the compilation of the PCI series over the last decade has been “How do you calculate the monthly PCI estimates?” A close second has been the question “What is the asset allocation for each of the ARC Private Client Indices (PCI)?”

Ever mindful that estimation is more art than science and following the advice of John Maynard Keynes that it is better to be roughly right than precisely wrong, it has always been the view of ARC that publishing monthly estimates for the performance of the various PCI series is a useful exercise. As each of the PCI series are compiled based on thousands of underlying portfolio performances, it is just not practical for the contributing discretionary private client managers to collate and provide ARC with this data any faster. Thus, if ARC did not publish monthly estimates investors would be unable to place performance into peer group context until approximately one month after each quarter end.

Estimates for each of the PCI series for the previous month are normally released two business days after each month-end. These are designed to provide private clients and their advisers with guidance as to how the “average” private client portfolio in each of the four volatility-based PCI categories might have behaved in each of the four PCI currencies (Sterling; Euro; Swiss Franc; US Dollar).

How Does ARC Create The Estimates?

As aficionados of PCI will know, the indices are constructed based on investor outcomes not manager inputs. In other words, each of the underlying private client discretionary portfolios is classified according to the volatility characteristics it exhibits over time rather than according to exposure limits to particular asset classes. This ambivalence as regards asset allocation frees private client discretionary managers to use all available tools to maximise returns for their clients for a given risk appetite. However, it also creates an information vacuum that means actual asset allocation data cannot be used in the monthly PCI estimation process.

Would collecting asset allocation data help ARC produce better estimates? Such data could be collected from several sources: a representative sample of private client portfolios; discretionary manager models; a selection of mixed asset class funds; and industry standard composite benchmarks. ARC believes that, whilst such data might be interesting, it is unlikely to be a firm foundation upon which to base the PCI estimates. Given the diversity of investment philosophies, investment strategies and implementation approaches of the discretionary managers contributing data to PCI, the “average” asset allocation is not a statistically useful measure. Indeed, Philip Tetlock, author of *Superforecasting: The Art and Science of Prediction* scoffs at such an approach by suggesting that “statisticians sleep with their feet in an oven and their head in a freezer because the average temperature is comfortable”.

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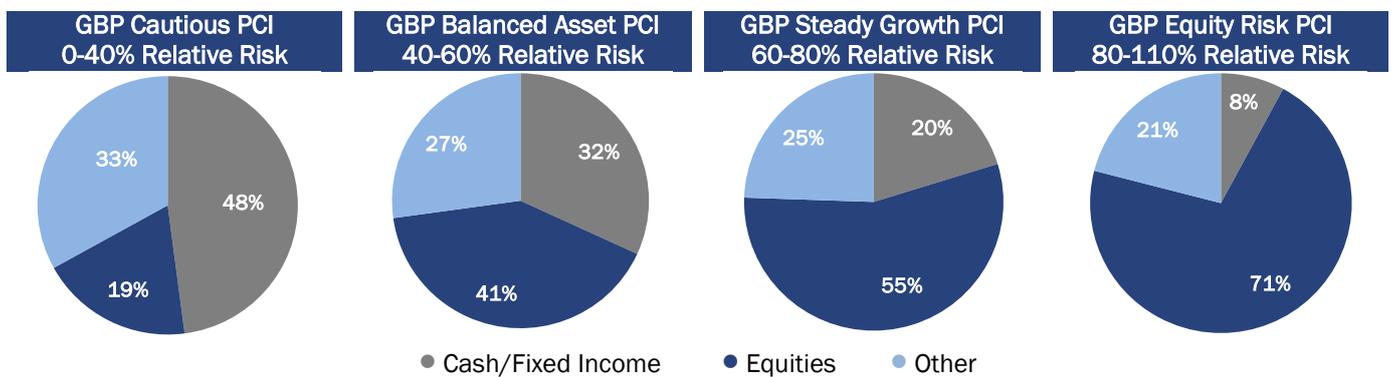
Whilst observed asset allocations do not directly feature in the construction of the PCI series, the basic building blocks from which estimates are calculated are a basket of circa 15 market indices and exchange traded funds (“ETFs”) that cover the major financial market exposures of typical private client portfolios. To these constituents a broad set of constraints are applied to simulate the range of feasible portfolio compositions for each specific PCI currency and risk category.

Using statistical modelling techniques, ARC has constructed a model portfolio for each specific PCI currency and risk category, with dynamically adjusting asset allocation over time, to estimate the performance of each of the PCI series.

Whilst the resultant estimates are of course precisely wrong, the estimates are at the same time roughly right. As such the estimates might be considered as “fit for purpose”, that being to give a rough idea of the performance of the “average” private client portfolio with a particular risk profile and reference currency.

What are The Current ARC Dynamic Model Asset Allocations?

Set out in the pie charts below are the top level asset allocations of the ARC Dynamic Models used for estimating the performance of each of the four Sterling PCI, with the risk relative to world equities for each PCI risk category indicated.



It is important to note that the asset allocation of the various ARC Dynamic Models does not reflect the average asset allocation of the portfolios underlying each of the PCI. Rather it provides insight into the “market-based factor exposures” of each of the PCI. In other words, the asset allocation of the ARC Sterling Steady Growth Dynamic Model mimics the behaviour pattern of the ARC Sterling Steady Growth PCI, not its composition.

Asset Allocation Trends Over Time

Analysis of the changing asset allocations for each of the ARC Dynamic Models provides a degree of insight into how the market factors affecting discretionary portfolios have been evolving over time. Looking back over the last decade a number of interesting changes can be observed. To illustrate a few of these, consider the table below which sets out asset allocation data over four separate dates for the ARC Sterling Steady Growth Dynamic Model, ten years ago; five years ago; two years ago and now.

ARC Sterling Steady Growth Dynamic Model	30/09/2005	30/09/2010	30/09/2013	30/09/2015
UK Equity	38%	35%	23%	25%
World Equity ex UK	7%	6%	24%	28%
Emerging Market Equity	7%	8%	10%	0%
Japan Equity	8%	2%	0%	2%
Total Equities	60%	51%	57%	55%
Govt Bond/Cash	14%	23%	5%	13%
Corporate Bond	0%	4%	13%	7%
Total Bonds	14%	27%	18%	20%
Property	11%	7%	11%	10%
Absolute Return	15%	15%	14%	15%
Total Alternatives	26%	22%	25%	25%

- 1) As might be expected, factor exposure to equities fell in the period immediately after the financial crisis, partly as discretionary managers tended to be relatively cautious in rebuilding equity weightings.
- 2) Sterling portfolios are more internationally oriented now than five or ten years ago. It does not seem to have been the financial crisis that has driven this shift. The destination of choice appears to have been US equities.
- 3) Factor exposure to emerging markets has fallen swiftly in the last couple of years, previously being steady at around 10%. Equally striking is that prior to the financial crisis, Japanese equity factor exposure was around 8% but post financial crisis it appears the average discretionary portfolio has little if any factor exposure to Japan.
- 4) Factor exposure to UK gilts has fluctuated significantly over the last ten years, reaching as high as 23% five years ago and falling to as little as 5% two years ago. Complementing that shift, corporate bond factor exposure looks to have peaked around two years ago and has recently been declining.
- 5) The overall exposure to alternatives has stayed roughly constant. However, it should be noted that manager “alpha” will tend to be attributed to this asset class and so the ARC Dynamic Models tend to have a higher allocation to this asset class than is observed in actual portfolios.

Conclusion

The PCI estimates are designed to provide guidance to investors in advance of the actual PCI numbers being available. Estimates are published monthly and are available at www.suggestus.com free of charge.

The top level asset allocation of the various ARC Dynamic Models over time is available for comparison to an investor’s actual asset allocation in the Performance Reporting section of www.suggestus.com.

ARC accepts that the PCI estimates and the ARC Dynamic Model asset allocations can only provide guidance but as George Box observed, whilst “all models are wrong, some are useful”.

For further information:

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A full list of Data Contributors to PCI is available at www.suggestus.com