At the end of 2014, Campbell Harvey, professor of finance at Duke University’s Fuqua School of Business, in the US state of North Carolina, reported that there were 316 supposed factors reported in top journals and working papers, with new ones being discovered at an accelerating pace – about 40 a year.

Harvey was the editor of the Journal of Finance from 2006-12 and in his first year handled 1275 manuscripts. With the advent of the smart beta tsunami, and the possible combination of these reported factors, how can investors possibly make decisions on where, what and how to use factors in their portfolios?

Luckily, most of the so-called factors can be ignored; in fact, Harvey described many of them as trading strategies rather than factors.

“There is confusion because there are hundreds that I would classify more as trading strategies, some are fleeting,” he says.

So how can investors get their head around factors? And is it possible to identify one that can earn a premium over the long term?

What is a factor, really?

According to Andrew Ang, managing director and head of factor investing at BlackRock, a factor is a broad, persistent source of return, seen across many different geographies and asset classes. To be properly called a factor, says Ang – who is a prolific author and academic on the subject, writing 2014’s Asset management: a systematic approach to factor investing – something must have been persistently rewarded for decades, and have been studied by academics and used in practice for decades.

This narrows the 316 factors Harvey discovered down to about four.

Experts agree that value and momentum are persistent and robust factors and, depending on one’s perspective, the other two are carry and defensive.

More importantly, Ang says, a factor needs as its backbone an economically sensible source of return.

“Is there a risk premium and does it come about from a structural impediment or from investor’s behavioural biases,” he asks.
For $187 billion investment manager AQR, there are two main criteria for identifying factors: robust empirical evidence across many different markets and contexts; and a strong economic theory to support why these returns existed in the past and therefore are likely to exist in the future.

“It’s all about persistence,” Ronen Israel, principal at AQR, says. “It’s important to recognise that the factors we talk about have an economic theory to support them, and you’re not just relying on data and empirical evidence, [quantitative details].”

“We don’t focus on that many factors, there are only a few that fit that criteria, we think, and that’s value, momentum, carry and defensive (or low risk),” Israel says.

Research on fundamental indexation, an alternative to market-cap-weighted indices, was first published in 2004 by Rob Arnott, now chair of Research Affiliates. Fundamental indexation, which uses equal weighted stocks, argues that cap weighting stocks systematically overweights overvalued stocks and underweights undervalued stocks. And for Arnott, the notion that a factor will produce positive alpha because it has produced positive alpha in the past is naïve.

“When Campbell published the paper showing there were 316 published factors, how many of them asked if the performance benefits from a tailwind of rising valuation? Did my factor get more expensive? No one asked that question. So the first robust test is whether a factor produces positive alpha net of valuation change. Nobody [checks] that.”

The second question, Arnott says, is does the factor work out of sample, across different time spans and geographies.

“We go through all of this and try to find factors that have legitimacy across many geographies net of valuation change, and there are very few,” he says, citing size, value and momentum as fitting that criteria.

“We don’t think that low volatility and quality have alpha, but they do have attractive attributes that people value.”

**How to put them to good use**

So, given that those with the experience of studying and making money from factors over many years believe that only very few truly exist, the next logical question is how investors should use them. That, Ang says, depends on the outcome the investor wants to achieve.

“What they want to achieve goes into two buckets – to reduce risk (then use minimum volatility or quality), or explicitly enhance your return (use value, momentum or size),” Ang says. “The starting point is a strategic allocation to complement a portfolio, so you add factors you might want to have or hedge factors you may have unintended exposure to. I’d recommend a multi-factor benchmark for this.”
After that, you might consider tilting around a strategic allocation, he says, adding that tilting also means other considerations, such as concentration and turnover, need to be assessed in evaluating the attractiveness of each factor.

Factors are not only difficult to time, AQR’s Israel says, but when timing is added as an objective, it becomes more difficult to be robust.

“Why bet on factors through different economic environments – you’re trying to bet on two things. That is demanding way too much from the data,” he says.

“Instead, take a long-term strategic view and be balanced – investors are generally underexposed to these ideas. The first order is to get the long-term strategic exposures to these ideas and let timing, and tactical shifts, be secondary.”

Arnott also prefers to get factors as robust as possible and not to play too many games seeking to optimise against fast-changing correlations.

“We try to marry factors with the fundamental index and rely on the fundamental index to create the structural alpha, not the factors, which we think are too unreliable as a source of alpha,” he says.

So while these factor experts might agree there is a small group of factors that fit the criteria of being robust and earning a premium over a long period of time, the definition of each one is not clear.

For example, the underlying concept of value is to buy cheap, and price-to-book is the generally accepted way to implement that. However, Israel says there is no one perfect measure.

“You are trying to capture cheap assets outperforming expensive, in the case of value. But there is no theory to support why [price-to-book] is the only metric to support that. Sales to price, or earnings to price, could be tests.

“Using one particular measure that worked well in one particular time period may not be the best [method] going forward. So applying multiple metrics, while staying true to the concept and basic idea, is a more robust way to do it.”

Arnott agrees that using the generally accepted Fama-French price-to-book definition of value is way too simplistic.

“If you combine sales-to-price, cashflow-to-price and dividends-to-price, which are all robust individually, it will be more robust,” he says. “Investors have a tough decision to make when choosing a manager. [It’s] about who has done the most robust [analysis], and determining whether the capacity is correct and the turnover is not excessive. Ultimately, the proof is the result, but you need a decade of results before you can make a decision.”
Technological triumphs

The advancement of technology has allowed implementation and execution techniques to evolve, which Ang says leads to more applications for those general concepts.

“It’s like writing a play using a quill,” he says of using only price-to-book as a measure of value. “Technology is central to everything we do.”

Israel advises, however, that there are good and bad things that come out of technology advancements.

“If technology leads to more data mining and factors that aren’t truly there, that’s a bad thing,” he cautions. “But that’s not what we’re talking about here. Being able to trade more efficiently, risk management and without unintended risks – they are all good things.

“And measures of crowding rely on data analysts and technology to be able to react to things, they are good things. But don’t deviate from the core economic ideas that are driving these ideas, and that’s not technology.”

So where to from here?

BlackRock’s Ang says the “biggest bang for your buck” is looking at factors in illiquid markets.

“Modelling of a total portfolio in liquid and illiquid markets is a data and technology story and that is totally transformative,” he says.

He argues investors should be holding investment opportunities everywhere they can.

“But if you don’t take a factor view, then just holding private equity doesn’t mean you are diversified from public equities. Both have a large exposure to economic growth,” he says. “We see value in private markets, there are lots of value effects in private equity and also in real estate. If we don’t take a factor view of the whole portfolio, then we might go into periods like in 2008-09 and see the effects of unintended drawdowns.”

So factors can be used to hedge unintended tilts or enhance returns across both liquid and illiquid markets. But as these four experts outline, factor investing is harder than it looks and should be approached through a long-term strategic lens.

*The comments from Harvey, Ang, Israel and Arnott quoted in this article are taken from an Institutional Investor Journals webcast, “Factor Perspectives: Separating Factors from Fiction”.*