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# When simplicity is a real asset

By Tim Harford

Perhaps the whole ‘don’t put all your eggs in one basket’ school of portfolio allocation is financial wisdom enough



When James Tobin won the Nobel memorial prize in 1981, a journalist asked him to summarise his research in simple language. The great macroeconomist attempted to respond to this challenge, and one wire service dutifully reported that Professor Tobin had won the prize “for his work on the principle of not putting all your eggs in one basket”.

A newspaper cartoon then appeared announcing the award of a Nobel prize for “an apple a day keeps the doctor away”.

But Tobin perhaps anticipated the awkward history of the Nobel memorial prize and financial economics.

Robert Merton and Myron Scholes won in 1997 for their work on option pricing – less than a year before the dramatic bailout of Long-Term Capital Management, a hedge fund in which Merton and Scholes were closely involved.

Harry Markowitz, who shared the prize in 1990, was really the founder of the whole “don’t put all your eggs in one basket” school of portfolio allocation. Markowitz showed how investors could pick an optimal portfolio of assets, minimising risk for any given expected return, or maximising expected return for any given risk. (The basic idea is simple enough to be worthy of Tobin: if you hold shares in a sunblock manufacturer and an umbrella company, your finances will be fine in all weathers.)

In 1952, Markowitz had had the perfect opportunity to put his theory to good use. He joined the Rand corporation and had to decide how to invest his pension. Did he compute the efficient risk mitigating frontier? He did

not. He split his contributions 50/50 between stocks and bonds. So there.

Here's a question, though: are these practical tips from Markowitz and Tobin as useful as their sophisticated academic theories? Could it be that simply dividing your money equally between a bunch of different assets – known as the “1/N” strategy – a perfectly good approach to investment?

It might seem implausible: after all, the “1/N” strategy is arbitrary and ignores useful information about historical risks, returns and correlations across asset classes. We know, thanks to the research of the behavioural economists Shlomo Benartzi and Richard Thaler, that many investors do exactly what Markowitz did. Surely this is an error, or at least clear evidence of our cognitive limitations?

Perhaps. But here's the intriguing thing about the financial theory that Markowitz developed: it's extremely difficult to apply in practice. If you know for certain the distribution of returns for all the assets in which you are investing, you can compute an efficient frontier. But you don't. You can only guess.

One problem is that historical correlations are poor guides to future ones. Imagine the shares of two oil companies, for instance: as the oil price rises and falls, so would the shares, which would seem highly correlated. If one company then ran into some kind of trouble – another Deepwater Horizon, for instance – then the shares might well become negatively correlated as the unaffected company picked up market share from the affected one.

A second problem is that even with lots of historical data, it is hard to estimate the likelihood of rare events. (By definition, there will be few or no historical examples.)

Portfolio theorists have produced a variety of sophisticated methods to try to update Markowitz's ideas for an uncertain world. But in research published in 2009 in the *Journal of Financial Studies*, Victor DeMiguel, Lorenzo Garlappi and Raman Uppal showed that the naive 1/N approach outperforms far more complex calculations until a vast amount of historical data are available with which to calibrate them. How much data? For a 50-asset portfolio, about 500 years. Perhaps “don't put all your eggs in one basket” is financial wisdom enough.

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