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Monkey beats man on stock market picks

By Chris Flood



Researchers used computers to choose a thousand stocks at random

Even a chimpanzee picking stocks at random could easily beat the US stock market, according to academics at the Cass Business School in London. They calculated 10m “monkey” portfolios to analyse how well smart beta indices and a conventional market capitalisation weighted index compared with an approach based solely on luck.

The Cass researchers used computers to choose a thousand stocks at random from the thousand largest US companies to build a monkey portfolio. Each pick was given a weight of 0.1 per cent with no limit on how many times the same stock could be chosen.

This process was repeated 10m times for each year between 1968 and 2011, creating an army of monkey investors.

“The results were quite shocking,” says Andrew Clare, professor of asset management at Cass.

An investment of \$100 in the US stock market at the start of 1968 would have grown to just under \$5,000 by the end of 2011. But half the monkeys generated more than \$8,700, a quarter returned more than \$9,100 and 10 per cent made more than \$9,500.

“Nearly every monkey beats the performance of the market cap weighted index,” says Prof Clare.

However, Cass found that most monkey indices were outperformed by an equally weighted index, as well as by indices based on inverse volatility, equal risk contribution and risk efficient methodologies.

Prof Clare says examining these different approaches highlighted just how badly conventional market cap weighted indices had performed as an investment strategy, particularly since the start of 2000.

A cap weighted index of the top 1,000 US stocks has delivered annualised returns of just 0.4 per cent since the start of 2000, compared with 6.2 per cent for an equally weighted index and 6.9 per cent for a minimum volatility index.

As investors might not be easily persuaded to rely on a chimpanzee to manage their investment strategy, Cass also examined the risk-adjusted returns (Sharpe ratios) of randomly generated portfolios. Again, more than half of the army of 10m monkeys produced better risk adjusted returns than the conventional market cap weighted US stock index.

A greater number of the smart beta indices (maximum diversification, equal risk contribution, inverse volatility and risk efficient) produced better risk adjusted over the 1968 to 2011 period than most of the monkeys.

The standout performance was delivered by a minimum variance portfolio that generated a better Sharpe ratio than that produced by any of the monkey army.

Prof Clare says it is important for investors to remember that there were periods when market cap weighted indices had outperformed smart beta indices.

A conventional cap-weighted index delivered annualised returns of 17.6 per cent in the 1990s, outperforming all of the smart beta indices analysed by Cass.

Cass also found that it was possible to make substantial improvements to the returns and volatility of smart beta indices by applying very simple timing indicators based on recent stock market price trends, a technique widely used by quantitative fund managers to boost performance. Cap weighted indices appeared to gain even larger benefits from the application of timing indicators.

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