



**Cass Business School**  
CITY UNIVERSITY LONDON

### **'Monkeys' beat market cap indices**

*Study of alternative weighted indices highlights poor performance of market cap investment strategies*

Researchers at Cass Business School have found that equity indices constructed randomly by 'monkeys' would have produced higher risk-adjusted returns than an equivalent market capitalisation-weighted index over the last 40 years.

A study based on monthly US share data from 1968 to 2011 found nearly all 10 million indices weighted by chance delivered vastly superior returns to the market cap approach – a discovery likely to come as a blow to investors that have billions of dollars worldwide invested on a market cap-weighted basis.

The finding comes from two papers\* published by Cass Business School's Cass Consulting, and sponsored by Aon Hewitt, which investigated alternative methods of constructing equity indices.

Using 43 years of US equity data, the authors contrasted investor returns for heuristic, optimised and fundamental weighting schemes against a comparable market cap-weighted index. *"All of the 13 alternative indices we studied produced better risk-adjusted returns than a passive exposure to a market-cap weighted index,"* said co-author, Dr Nick Motson of Cass Business School.

However, the authors discovered more striking results when they explored whether the superior performance of alternative indices could be explained by luck rather than design.

Co-author, Professor Clare, explained: *"We programmed a computer to randomly pick and weight each of the 1,000 stocks in the sample; we effectively simulated the stock-picking abilities of a monkey. The process was repeated 10 million times over each of the 43 years of the study."*

*"The results of this experiment showed that many of the monkey fund managers would have generated a superior performance than was produced by some of the alternative indexing techniques. However, perhaps most shockingly we found that nearly every one of the 10 million monkey fund managers beat the performance of the market cap-weighted index."*

Professor Clare added: *"One of the implications of our work is that we should perhaps be benchmarking our fund managers against monkeys rather than against a cap-weighted index!"*

John Belgrove, Senior Partner at Aon Hewitt said: *"There has been a glut of so-called 'smart beta' investment products coming to market in recent years and we are keen to see some consistent academic rigour to help investors better understand some of the opportunities and risks available to them in this space. I believe the work Cass has carried out in association*

*with Aon Hewitt will be of considerable interest both to investors and to the fund management community."*

Belgrove added: *"While market capitalisation weighted benchmarks remain the bedrock to performance assessment and portfolio construction, this work sheds fresh light on the age-old active/passive industry debate.*

*"Inherent weaknesses in cap-weighted investment strategies are well documented, although they have been an enduring and challenging benchmark for active managers to beat. The long run results of the monkeys are therefore likely to cause some surprise and we welcome further debate. The good news for investors is that there is more implementation choice than ever to consider when selecting a preferred long term portfolio construction and fund manager style."*

Out of the alternative indices, the Sales-weighted index performed the best, beating 99 per cent of the monkeys' randomly constructed indices.

\* 'An evaluation of alternative equity indices. Part 1: Heuristic and optimised weighting schemes' and 'An evaluation of alternative equity indices. Part 2: Fundamental weighting schemes' by Professor Andrew Clare, Dr Nick Motson and Professor Steve Thomas of Cass Business School. The study was conducted by [Cass Consulting](#) for Aon Hewitt.

[Download Paper 1](#)

[Download Paper 2](#)

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Cass Business School, which is part of City University London, delivers innovative, relevant and forward-looking education, consultancy and research. Located in the heart of one of the world's leading financial centres, Cass is the business school for the City of London.

Its MBA, specialist Masters and undergraduate degrees have a global reputation for excellence, and the School supports around 100 PhD students.

Cass offers the widest portfolio of specialist Masters programmes in Europe. It also has the largest faculties of Finance and Actuarial Science and Insurance in the region. It is ranked in the top 10 UK business schools for business, management and finance research and 90% of the research output is internationally significant.

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