

Cass Consulting undertook research to test a new portfolio construction methodology developed by FE.

Cass Consulting case study



Asset management



Using research to validate an innovative portfolio construction methodology for the financial services industry

Synopsis

Cass Consulting undertook research to test a new portfolio construction methodology developed by Financial Express (FE). Using a review of the literature to confirm that the methodology was theoretically sound, the team then provided a simulation, which confirmed that it could lead to improved investment performance.

Background

FE provides investment data, software tools and performance analysis to the financial services industry. They had developed an innovative portfolio construction technique, which they believed overcame some of the severe shortcomings of methods that were currently being used in the industry.

They approached Cass to undertake research that was aimed at answering two key questions:

1. Was their proposed approach theoretically sound?
2. Would their approach have led to an improvement in performance over more traditional methods?



Consultancy

The project was led by Dr Nick Motson who worked together with Professor Andrew Clare.

FE was proposing a portfolio construction methodology that was substantially different from mean-variance optimisation in that instead of using expected returns it used the asset variance. Under their framework the optimal portfolio was the one with the greatest “diversification ratio”, which was defined as the ratio of the weighted average of the volatilities of assets to the volatility of the portfolio of the same assets.

A comprehensive review of the academic literature was presented to FE, which showed that the issues they had identified with mean variance analysis were valid and that others had proposed an approach that was similar but not identical to theirs. The team was also able to identify the assumptions that were inherent in using the diversification ratio and hence ascertain where its use was valid.

Empirically, the Cass consultants provided a simulation using 600 years of randomly generated data, which illustrated both the limitations of the traditional approach and how the new approach would be an improvement. They went on to test the performance of various optimisation techniques using long run data on equities as well as other asset classes. The results showed that the methodology proposed by FE could indeed lead to substantial improvements in performance with lower portfolio turnover in many cases.

Cass consultants



Dr Nicholas Motson

Lecturer in Finance, Cass Business School

Awarded the Foundation for Management Education Fellowship at Cass Business School in 2008, Nick Motson specialises in asset management, particularly hedge funds, alternative assets and structured products. Before returning to Cass as a PhD student in 2005 he spent 13 years working as a proprietary trader of interest rate derivatives in the City of London for various banks including First National Bank of Chicago, Industrial Bank of Japan and Wachovia Bank. In 2009 he was awarded the Sciens Capital Award for Best Academic Article, in conjunction with *The Journal for Alternative Investments*, for his paper ‘Locking in the Profits or Putting It All on Black? An Empirical Investigation into the Risk-Taking Behavior of Hedge Fund Managers’. Nick has provided research and training for a numerous banks and hedge funds including Barclays Wealth, Societe Generale, BNP Paribas, ABN Amro, NewEdge, Rosbank and FM Capital Partners.



Andrew Clare

Professor of Asset Management, Cass Business School

Andrew Clare was a Senior Research Manager in the Monetary Analysis wing of the Bank of England which supported the work of the Monetary Policy Committee. While at the Bank he was responsible for equity market and derivatives research. Clare also spent three years working as the Financial Economist for Legal and General Investment Management (LGIM), where he was responsible for the group’s investment process and where he began the development of LGIM’s initial Liability Driven Investment offering. He has published extensively in both academic and practitioner journals on a wide range of economic and financial market issues. Andrew Clare serves on the investment committee of the GEC Marconi pension plan, which oversees the investments and investment strategy of this £3.2 billion scheme and has recently been appointed as a trustee to the Magnox Electric Group Pension scheme.

To find out how Cass Consulting can help your business, contact Dr Christina Makris, Cass Consulting Client Director.

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