Editorial: Measuring and modelling the influence of investor behaviour on investment decision making

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The fundamental theorem of finance, see for example, Dybvig and Ross (2003), says that one smart trader with enough money is sufficient to keep financial markets in line. Yet there is now a mass of evidence to suggest that financial markets do not always behave as though prices are set by rational traders, see the recent surveys by Barberis and Thaler (2003) and Daniel et al. (2002) for examples. Behavioural finance has become the umbrella for studies that seek to explore the role that investors and market structures play in undoing the predictions of finance theories that rely on rational traders.

Specifically, studies in behavioural finance examine whether investors are not processing information correctly, are subject to systematic behavioural biases, or are facing limits to exploiting arbitrage opportunities. Incorrect processing of information can result from, inter alia, over-weighting recent past experience relative to more distant experience, from being over-confident in one's abilities, or being unnecessarily conservative. Behavioural biases include mental accounting, where decisions that ought to be considered collectively are separated and loss aversion where gains and losses are weighed asymmetrically.

This special issue of the *International Journal of Behavioural Accounting and Finance* contains five papers that examine these behavioural phenomena in a variety of contexts. Our first two papers are broadly within the field of behavioural biases,

considering mental accounting, loss aversion and the stability of risk tolerances. The remaining three papers concentrate on information processing issues, with applications to domestic asset allocation decisions and the home-bias phenomenon.

Ian McManus, Owain ap Gwilym and Stephen Thomas extend and enhance the analysis of Benartzi and Thaler (1985), who examined the optimal allocation between stock and bonds in the face of both loss aversion and mental accounting. They compared the prospective utility of the returns to bond and stocks, using a value function that captured loss aversion, across different investment horizons. They found that for horizons of greater than one year, equity yielded a higher prospective utility, while at shorter horizons bonds yielded higher prospective utility. At around one year, investors would optimally allocate half of their portfolio to each asset class, but loss-averse investors would need a substantial inducement to hold equity, providing a potential explanation of the equity premium puzzle, see Mehra and Prescott (1985). McManus et al. observe that the equity premium is far from stable over time and wonder whether the optimal asset allocation between bonds and stock responds to this variation. Using the framework of Benartzi and Thaler (1985), and nearly 200 years of UK data, they show that the relative prospective utilities for bonds and stocks, and optimal asset allocations change dramatically over time. While equities dominate for long periods of time, periods of low inflation tend to favour bonds in the allocation.

Key inputs into asset allocation decisions are measures of investor risk tolerance and a robust measure ought to exhibit relative stability, such that it preserves the relative rankings of individuals across different decision-making scenarios, at least over short time horizons. The approach to examining risk tolerance taken by Michael Roszkowski and David Cordell in our second paper, is to examine how relative, and absolute, risk tolerance changes over long time horizons. Over longer horizons, individuals' characteristics have an opportunity to change in response to factors including changes in wealth, education and experience in financial markets, and physical condition such as personal accidents and illness. Roszkowski and Cordell examine the stability of risk tolerance to financial education, specifically for students experiencing two investments classes. Using ANOVA techniques, they find significant stability in relative risk tolerance and a significant change in absolute risk tolerance, but do not find that risk tolerance increases with the distance through the investment classes. They suggest that perhaps students were exhibiting a self-presentation bias, as they felt that appearing more risk tolerant would be valued by their instructor.

Roszkowski and Cordell also find differences between the risk tolerance of female and male subjects, with the former appearing less risk tolerant. Since the post-test differences were smaller than the pre-test differences, they suggest that there is a basis to expect the difference not to persist. Gender differences are also the focus for our third paper by Amarjit Gill and Nahum Biger that considers the role of perceptions of knowledge in investment decisions. They surveyed around 300 Canadian investors on their perceived knowledge of investing, perceived knowledge of firm-level accounting data, perceived knowledge of general economic conditions, solicitations of investment advice and asset allocation decisions. Using first principal components analysis, to aggregate their survey responses, and then regression analysis, they found that perceived knowledge of general economic conditions and perceived investment expertise could explain around half of the variation in asset allocation decisions, but accounting-data knowledge and investment advice taken had little additional impact. By separating their survey respondents by gender, the authors find that male respondents are likely to

allocate a greater proportion of assets into stocks and, perhaps as a consequence of this, to seek investment advice. The taking of investment advice had no explanatory power for the investment decisions of the female respondents.

By the mid-1990s, developed economies had largely removed barriers to foreign capital flows see, for example, Chelley-Steeley and Steeley (1999), yet, even sophisticated investors, like mutual funds, continue to over-invest in domestics markets, see recent work by Chan et al. (2005). While, information asymmetries, where domestic investors can access better knowledge about domestic companies, can explain the home bias, as shown by Brennan and Cao (1997), an alternative explanation is that investors simply perceive a greater knowledge because domestic companies are more familiar. Building on earlier experimental work, in Ackert et al. (2005), that found that when investors know a firm's home base, but not its identity, they do not favour domestic securities, the paper by Lucy Ackert and Brian Church seeks answers to why investors take comfort in the familiar. Their experiment involved asking US based subjects to allocate an endowment across seven country index funds and US T-bills, given some highly aggregated data on past performance. This group allocated nearly one half of the endowment to the US fund. By contrast, a separate group of subjects given more information about (and equivalent for) each of the funds' performances, only allocated 11% to the US fund. The differences could not be explained by various demographic factors, such as gender, age, major field of study, income and language skills. The subjects' assessments of risk and returns, political risk and quality of life in each country are also measured and compared across the two groups and are consistent with the view that familiarity is an important determinant of home bias.

Our final paper, by Imitithel Sendi, Chaker Aloui and Makram Bellalah, also considers whether differences in perceptions can explain the equity home bias, exploring the ideas of, for example Huberman (2001) and Kilka and Weber (2000), that familiarity leads to greater optimism that, in turn leads to greater investment allocation. The approach of Sendi et al. is to calibrate the optimal asset allocations in a mean-variance setting, where the domestic and foreign fund elements of the variance-covariance matrix of returns are restricted to have differential relative weights, essentially different coefficients of risk aversion, reflecting more or less confidence in the estimated values in the matrix. Not surprisingly, as the relative aversion to foreign risk increases so the asset allocation reflects a home bias.

Overall, these papers present a number of new insights and a good overview of the influence of investor behaviour on investment decision-making, using a wide variety of data and empirical techniques drawing on econometric and survey methods and experimental economics.

References

Ackert, L.F., Church, B.K., Tompkins, J. and Zhang, P. (2005) 'What's in a name? An experimental examination of investor behavior', *Review of Finance*, Vol. 9, No. 2, pp.281–304.

Barberis, N. and Thaler, R. (2003) 'A survey of behavioral finance', in Constantinides, G., M. Harris and R.M. Stulz (Eds.): *Handbook of the Economics of Finance*, Elsevier.

Benartzi, S. and Thaler, R.H. (1985) 'Myopic loss aversion and the equity premium puzzle', *Quarterly Journal of Economics*, Vol. 110, pp.73–92.

Brennan, M.J. and Cao, H.H. (1997) 'International portfolio investment flows', *Journal of Finance*, Vol. 52, No. 5, pp.1851–1880.

Chan, K., Covrig, V. and Ng, L. (2005) 'What determines the domestic bias and foreign bias? Evidence from mutual fund equity allocations worldwide', *Journal of Finance*, Vol. 60, No. 3, pp.1495–1534.

Chelley-Steeley, P.L. and Steeley, J.M. (1999) 'Exchange controls, macroeconomic integration and the interdependence of European equity markets', *Economic Inquiry*, Vol. 37, No. 3, pp.473–488.

Daniel, K., Hirshleifer, D. and Teoh, S.H. (2002) 'Investor psychology in capital markets: evidence and policy implication', *Journal of Monetary Economics*, Vol. 49, No. 1, pp.139–209.

Dybvig, P.H. and Ross, S.A. (2003) 'Arbitrage, state prices and portfolio theory', G. Constantinides, M. Harris and R.M. Stulz (Eds.): *Handbook of the Economics of Finance*, Elsevier.

Huberman, G. (2001) 'Familiarity breeds investment', *Review of Financial Studies*, Vol. 14, No. 3, pp.659–680.

Kilka, M. and Weber, M. (2000) 'Home bias in international stock return expectations', *Journal of Psychology and Financial Markets*, Vol. 1, No. 3, pp.176–192.

Mehra, R. and Prescott, E. (1985) 'The equity premium puzzle', *Journal of Monetary Economics*, Vol. 15, pp.145–161.