Decision Making in Personal Investment

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Abstract

Personal investors must postpone gratification and manage risk. This thesis examines the effects of delay and risk on personal investment decisions. The delay discounting literature is employed in developing a new parameter “$k_i$” which integrates an investment’s term and interest rate with the hyperbolic delay discounting model. By indicating the extent to which compound interest growth compensates for hyperbolic delay discounting, $k_i$ should strongly predict the subjective appeal of prospective investment returns. Six binary-choice experiments test this hypothesis, especially via a subsidiary hypothesis that exponential growth from compound interest will eventually compensate for delay, given a sufficient term. Analyses include a novel application of signal detection principles, which found $k_i$ a superior predictor of investment appraisals compared to the normative exponential delay discounting model. Subject to boundary conditions of term and investment amount, results support the predictive capacity of $k_i$ for gross returns, implying a hitherto unrecognised degree of predictability for investment decisions. To investigate perceptions of risk with delay, three additional experiments compared preferences among hypothetical investments with varying risk and term. Risk seeking and risk aversion were detected, consistent with individual differences in hyperbolic probability discounting rates. Excessive risk aversion proved the greater problem, encouraging unnecessarily conservative investment decisions. Unexpectedly, no evidence of delay discounted risk was found. Responses consistent with higher probability discounting of larger amounts occurred, but only for a longer rather than a shorter investment term. A survey of postgraduate finance students examined how investment past performance is interpreted. Participants evaluated annual returns from hypothetical 10-year investments that varied in their mean return, volatility, and sequence of high and low returns. Evaluations generally reflected underlying investment properties. Maladaptive appraisal tendencies included unwarranted attention to the order in which high and low returns occurred within a series. Overall for this dissertation, results suggest that delay and probability discounting theory has practical relevance for understanding personal investment decisions. The principles and methodology in this dissertation are applicable to other varieties of financial and consumer behaviour.
Acknowledgements

I would like to thank my supervisor, Professor Beryl Hesketh, for her boundless enthusiasm, generous support, worthy advice, and for suggesting the topic of delay discounting. My family supported the endeavour. Tim Hesketh provided valuable mathematical assistance.
Preface

I declare this thesis to be my own work. To the best of my belief and knowledge, the thesis contains no material previously written or published by another person; nor does it contain material which has been accepted for the award of another degree or diploma at another university or institute of higher learning, except where due acknowledgement is made. All experimental and survey data throughout this thesis were collected with approval from the University of Sydney’s ethics committee for human research.

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