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Local futures traders and behavioural biases: evidence from Australia

Joel Grant
University of Wollongong

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Title Sheet

**LOCAL FUTURES TRADERS AND BEHAVIOURAL BIASES:
EVIDENCE FROM AUSTRALIA**

A thesis submitted in partial fulfilment of the
requirements for the award of the degree

DOCTOR OF PHILOSOPHY

from

UNIVERSITY OF WOLLONGONG

by

JOEL GRANT

**SCHOOL OF ACCOUNTING AND FINANCE
2007**

Thesis Certification

CERTIFICATION

I, Joel Grant, declare that this thesis, submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy, in the School of Accounting and Finance, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Joel Grant

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Preface

Chapter 3 of this thesis entitled, “The House Money Effect and Local Traders at the Sydney Futures Exchange” has been accepted for publication in the Pacific-Basin Finance Journal, special edition on behavioural finance. It will be published in 2008.

Abstract

There is a large growing body of literature in finance highlighting anomalies in the behaviour of individual investors, which violate the axioms of rationality. However, much of the research draws upon the experimental findings of cognitive psychologists for explanations of these anomalies. One of the key motivating issues behind this thesis is to determine whether professional (“local”) traders exhibit psychological biases in their trading behaviour in the context of a real financial market setting. This research uses real-world trading data and includes every trade in share price index (SPI) futures contract placed by a local trader at the Sydney Futures Exchange (SFE) over the sample period 24 July, 1997 – 4 October, 1999. This approach is applied in three separate papers.

“The House Money Effect and Local Traders at the Sydney Futures Exchange”, analyses whether professional traders behave in a manner that is consistent with the house money effect or other behavioural phenomenon, in particular loss aversion. Existing work suggests that professional traders exhibit psychological inconsistencies in their trading behaviour (Coval and Shumway, 2005; Locke and Mann, 2004, 2005; Frino et al., 2004). This paper models afternoon risk on morning profit and morning losses, respectively. The results provide strong evidence of the house money effect. In particular, morning profits encourage local traders to increase their risk-taking attitudes in afternoon trading sessions.

“Trading Horizons and Behavioural Biases: Does Time Matter?”, analyses whether locals exhibit behaviour biases, such as the house money effect or loss aversion, over various trading horizons. Results reported in previous studies are mixed. Coval and Shumway (2005) find no evidence of abnormal trading behaviour across days, amongst proprietary traders at the Chicago Board of Trade (CBOT), while Locke and Mann (2004) provide substantial evidence of loss aversion across days, amongst floor traders at the Chicago Mercantile Exchange (CME). Results from this research report strong evidence of the house money effect. However, this bias is only evident

when locals evaluate their performance at high-frequency time intervals within intraday-trading cycles.

“Professional Futures Traders, Profits and Prices” analyses whether the behavioural biases of local traders affect prices. Work in this particular area is limited. Coval and Shumway (2005) report that proprietary traders at the Chicago Board of Trade (CBOT) behave in a manner that is consistent with loss aversion. Moreover, their results show that this behaviour impacts on short-term prices but has no longer-term impact. This research documents a similar finding, however, morning profits encourage local traders to buy contracts at higher prices and sell contracts at lower prices in the afternoon. This behaviour can be used to explain short-term afternoon price movements of one, two and three units, respectively. Results show that prices revert to earlier levels in the five-minute period following a price-setting trade, negating any permanent price impact.

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Although personally, I have invested many years of dedication and commitment into this thesis so too have many others. First and foremost, to my supervisors, Professor David Johnstone and Professor Andrew Worthington for your invaluable support and words of wisdom throughout this process, I thank you sincerely. Also, to Joshua Coval, who patiently responded to my many e-mails concerning clarification on methodologies, thank you so much and to the Securities Industry Research Centre of Asia-Pacific for providing the data.

To my colleagues and fellow students at the University of Wollongong, thank you for the advice and support you provided during the five years of my candidature – Sandra Chapple, Robert Wixted, Robert Williams and Michael McCrae, in particular. Among my fellow students, I would particularly like to thank Zaffar Subedar and Andrew Lepone, with whom I have had the pleasure of sharing the PhD experience. I have become great friends with you during this time and think that we have all benefited from the friendship and roundtable discussions over many lunches together. Also a special thank you to Lyndon Ang for programming assistance in SAS.

Last but not least, to my family who have been my real backbone throughout this journey I honestly could not have accomplished this without you all. The love, support and encouragement you have provided is second to none and just one of the reasons why I love you all so much. This award is as much yours as it is mine.