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traders

risks, decisions, and management in financial markets

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TRADERS

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Chapter 1

INTRODUCTION

Traders, Markets, and Social Science

I grew up in a small town in Florida and none of this stuff really exists like stocks and bonds and things like that. No one I ever knew growing up did this sort of thing and to me it all seems like a fantasy world sometimes and it's very abstract. You know, I explain to my mother what I do and I can't, you can't put it into words, it just doesn't make any sense. I am so removed from the daily life of the average person that I think at some point this has got to come to an end. Whether I really believe that or not I don't know but in my head I kind of think this is all fantasy land and one day I'm going to wake up and I'm going to say I had the most amazing dream, I've been working on some place called Wall Street, that paid me lots of money and I just sat around and looked at computers all day and put these pieces together and everything worked out and it was all a lot of fun. So in my mind that's kind of what I think.

Derivatives Trader, firm B

We live in a world that is shaped by financial markets and we are all profoundly affected by their operation. Our employment prospects,

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our financial security, our pensions, the stability of political systems and nature of the society we live in are all greatly influenced by the operation of these markets.

The role and importance of international financial markets and the traders who inhabit them has grown dramatically in the past few decades. The level of financial flows in these markets can rise to quite staggering levels. For example, in the day before the setting of entry exchange rates to the Euro, trades in currencies entering the Euro totalled about ten times World gross domestic product (GDP). At any one time, outstanding derivatives contracts have a total value of around four times World GDP.

Professional traders figure prominently in media accounts of the workings of financial markets and the economy. Television news bulletins on the economy or stock market frequently include interviews with senior traders, or footage of a trading floor. Stories about 'rogue' traders are big news. The decisions of individual traders are often seen as having the potential to move markets and affect national economies. Yet, the role of the professional trader is largely absent from mainstream financial economic accounts of markets.

Professional traders, we argue, inhabit a borderland in markets where some of the orthodox assumptions of efficient, instantaneously adjusting prices break-down. They are often well placed to exploit market imperfections, by virtue of lower transaction costs, access to privileged information, critical mass, or proprietary knowledge and models. However, at the same time, they work in a fast-moving landscape of noise, rumour, unreliable information, and uncertainty. Thus, it is often difficult to tell whether an opportunity is real or illusory.

This is a book about professional traders in this noisy borderland: what they do, the kind of people they are, how they perceive the world they inhabit, how they make decisions and take risks. This is also a book about how traders are managed and the institutions they inhabit: firms, markets, cultures, and theories of how the world works. Our approach to writing this book is explicitly interdisciplinary. We draw on psychology, sociology, and economics in order to illuminate the work of traders and their world. Our focus is traders and the firms they work in.

It is not the purpose of this book to mount an extensive critique of the dominant rational-economic account of financial markets, nor

is 'markets' our central focus. We are concerned principally with understanding the world of the professional trader. However, we do believe our work is relevant to an understanding of financial markets.

First, in order to understand the role and work of the trader, it is important to understand that the neoclassical paradigm of efficient markets and rational pricing breaks down at the margins and that professional traders both benefit from and contribute to this departure from orthodox financial economic theory. Second, the efficient markets paradigm rests on the assumption that in the absence of uniformly rational investors, there is a sufficient group of rational investors who are able to drive out pricing anomalies through arbitrage.¹ Professional traders in investment banks seem good candidates to play this role. Hence, the evidence that we present on the ways in which traders can deviate significantly from rational-economic norms of behaviour may be fruitful in helping to explain market phenomena.

1.1 Our Work and How It Informs the Book

This book is based on a study of traders in financial instruments in four large investment banks operating in the City of London. Over the course of 1997 and 1998, we carried out interviews with 118 traders and trader managers in four large City of London investment banks and collected qualitative and quantitative data on their roles, behaviour, performance, and psychological profiles. We carried out follow-up interviews in 2002.² We use detailed quotations from the interviews throughout the book. Where we use these quotes they are presented verbatim. We had three main concerns.

First, we came to the study with a strong interest in decision-making and risk. While all business is concerned to some extent with risk, investment banks and financial traders are almost unique in the extent to which their work is founded on the management of risk and the extent to which they must make decisions about risk.

Second, in the vast literature on financial markets relatively little attention has been paid to the role of finance professionals in these markets and we wanted to redress this.

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Third, we observed that the large literature on markets and the (somewhat slimmer) literature on traders are marked by very different approaches and paradigms in three branches of the social sciences: economics, sociology, and cognitive and social psychology. We wanted to bring together the insights of these different disciplines.

Throughout the book we draw both on the data we gathered in this study and on the insights of prior research and literature in financial economics, psychology, and the sociology of markets. We turn now to those literatures.

1.2 *Traders in the Social Science Literature*

Neoclassical Financial Economics

Financial economics is a relatively young discipline. The origins of modern (neoclassical) financial economics are often located in the early 1950s in the work by Markowitz (1952) on portfolio theory. During this period, finance moved from a concern with describing the activities of actors in financial markets to the construction of parsimonious models of markets founded on assumptions of rational investor behaviour. The central organizing idea of neoclassical financial economics is the efficient markets hypothesis, which holds that price changes are essentially a random walk. All new information relevant to prices is incorporated into prices instantaneously (Fama, 1970). This central proposition and much of the theory which springs from it is founded on the idea that any asset which is not 'rationally priced' provides opportunities for profit, which will be instantly taken up and cause prices to converge to the 'rational' level (i.e. arbitrage). This assumption is both illustrated and lampooned in the finance joke about two efficient market theorists who pass a \$50 bill lying in the street. They leave it untouched and congratulate each other on realizing that if it presented an opportunity for profit someone else would have picked it up already.

Even the strongest proponents of the efficient markets hypothesis do not claim that it represents a good description of the behaviour of individuals in markets. Rather it is claimed to be a good enough description, which should be judged on its predictions rather than its assumptions.

Fama (1970), who set out an early comprehensive account of the efficient markets paradigm, has more recently suggested that:

Like all models, market efficiency (the hypothesis that prices fully reflect available information) is a faulty description of price formation. Following the standard scientific rule, however, market efficiency can only be replaced by a better specific model of price formation, itself potentially rejectable by empirical tests. (Fama, 1998: 284)

The finance professional is largely absent from orthodox financial economic accounts of markets. The assumption of efficient markets, with no privileged information held by any investor, leaves little room for an account of how professional investors might make better than market returns. However, more recently, there has been an increasing interest within financial economics in explaining empirically observed departures from the predictions of the efficient markets hypothesis and rational-economic pricing theories. Many of these fall in the emerging field of behavioural finance.

What has allowed consideration of the role different types of investor might play in markets is the growing recognition that perfectly efficient markets are not an automatic consequence of the existence of arbitrageurs: an idea that has been captured eloquently by Lee (2001: 284).

I submit that moving from the mechanics of arbitrage to the [efficient markets hypothesis] involves an enormous leap of faith. It is akin to believing that the ocean is flat, simply because we have observed the forces of gravity at work on a glass of water. No one questions the effect of gravity, or the fact that water is always seeking its own level. But it is a stretch to infer from this observation that oceans should look like millponds on a still summer night. If oceans were flat, how do we explain predictable patterns, such as tides and currents? How can we account for the existence of waves, and of surfers? More to the point, if we are in the business of training surfers, does it make sense to begin by assuming that waves, in theory, do not exist?

A more measured, and more descriptive, statement is that the ocean is constantly trying to become flat. In reality, market prices are buffeted by a continuous flow of information, or rumours and innuendos disguised as information. Individuals reacting to these signals, or pseudo-signals, cannot fully calibrate the extent to which their own signal is already

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reflected in price. Prices move as they trade on the basis of their imperfect informational endowments. Eventually, through trial and error, the aggregation process is completed and prices adjust to fully reveal the impact of a particular signal. But by that time, many new signals have arrived, causing new turbulence. As a result, the ocean is in a constant state of restlessness. The market is in a continuous state of adjustment.

Lee argues that the relationship between inefficient pricing and arbitragers may be like predator–prey dynamics. In equilibrium there must be both predator and prey. Similarly, in equilibrium there will be both arbitragers and arbitrage opportunities in the market place.

There is another important way in which financial markets are widely accepted as departing from the efficient markets paradigm. Investors trade much more often than the theory suggests they should. More recent financial economics accounts often distinguish two types of investors: ‘noise traders’ and ‘smart traders’ (a recent example is Daniel, Hirshleifer, and Teoh, 2002). Noise trading is trading on the basis of information that is either irrelevant to price or has already been discounted by the market. ‘Smart’ traders are those who act rationally, trading only on the basis of genuinely new and relevant information. This distinction is sometimes taken to map on to the difference between naïve investors and trained professional investors (e.g. Ross, 1999; Shapira and Venezia, 2001).

Behavioural Finance

There has been increasing interest within the field of financial economics in using what is known about persistent biases in human cognition to explain departures of market behaviour from the predictions of efficient markets theory. Collectively known as behavioural finance, these models and empirical studies generally seek to explain market behaviour that departs from the predictions of orthodox financial economics by reference to systematic cognitive bias among investors or important subgroups of investors.³ Behavioural finance draws heavily on work from behavioural decision-making, a branch of psychology concerned with modelling human decision-making processes. While, in the main, this literature does not distinguish between professional traders and other investors, there have been

some attempts to compare the susceptibility to biases of finance professionals to that of the wider population.

For example, Shapira and Venezia (2001) found professional brokers less susceptible than independent investors to one common bias, the disposition effect (a bias towards selling stocks more readily to realize gains than to realize losses), although they were not immune to the bias. In an experimental study Anderson and Sunder (1995) compared the behaviour of laboratory markets populated by experienced commodity and stock traders with the behaviour of markets populated by MBA student traders. They found the amount of trading experience to be an important determinant of how well market outcomes approximated (efficient market) equilibrium predictions. Student traders' markets exhibited departures from rational prices founded in common cognitive biases while bias levels in markets with experienced traders were substantially lower. However, as we explore in Chapter 5, our own research offers evidence that professional traders are just as susceptible as other groups to some forms of bias, with important consequences for their behaviour and performance.

Sociology of Markets

Sociologists interested in markets have paid rather more attention to the role of professionals than have financial economists. Unlike financial economists who take markets to be naturally occurring, sociologists tend to stress the 'social embeddedness' of markets and the ways in which they are sustained as social institutions through active intervention and regulation. One important strand of work is concerned with the social networks that operate within markets and in particular the ways in which professionals within markets act through these social networks and exercise informal sanctions over participants departing from accepted norms of behaviour (e.g. Baker, 1984a; Abolafia, 1996). Research by financial economists also demonstrates the significant effect the detailed structure and organisation of markets⁴ can have on the flow of information, liquidity, and prices (e.g. Amihud, Mendelson, and Lauterback, 1997; Lipson, 2003).

Others have been concerned with the nature and consequences of financial economic theory. Traders, from this perspective, do not simply inhabit markets; they enact them. That is, the beliefs they hold

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about the nature of markets affect those markets in non-trivial ways. MacKenzie (2002), for example, describes how the adoption of the Black–Scholes equation for option pricing by traders did not simply enable more effective pricing of options, but helped to bring about conditions that better fitted the assumptions on which it was based. The close empirical fit between the predictions of the equation and options prices was bought about, at least in part, by the use of the equation to identify arbitrage opportunities. The empirical fit has deteriorated subsequently as beliefs have changed to incorporate, *inter alia*, changed beliefs about the likelihood of market crashes. We pick up this theme of the reflexive relationship between beliefs and markets in Chapter 4.

1.3 Overview of Book

Chapters 2 and 3 set the context for our study and exploration of the role of traders. Chapter 2, ‘The Growth of Financial Markets and The Role of Traders’, considers the growth of international financial markets in a historical context and outlines the role investment banks and professional traders have come to play. In Chapter 3, ‘Economic, Psychological, and Social Explanations of Market Behaviour’, we take a more detailed look at differing economic, psychological, and social explanations of market behaviour.

Chapter 4, ‘Traders and Their Theories’, considers the nature of traders’ knowledge and the interplay between their subscriptions to theories of the ‘way the world works’ founded in neoclassical financial economics and their more particularist and idiosyncratic theories of ‘how to work the world’.

Chapter 5, ‘A Framework for Understanding Trader Psychology’, starts by outlining a psychological model of the trader founded in a self-regulation framework. It draws on the qualitative and quantitative evidence that we have about trader decision-making and bias. It challenges the financial economics dichotomy between rational and non-rational and explains the different rationalities that arise as a consequence of internal goal states. We also present evidence on the vulnerability of traders to control illusions and the consequences for their performance.

Chapter 6, 'Risk Takers: Profiling Traders' presents a new model of risk taking that shows how trader behaviour emerges from a web of circumstantial and individual causes. The remainder of the chapter explores these individual differences in greater depth, especially how personality impacts different kinds of risk taking and decision-making. The chapter explores what kinds of people traders are, focusing particularly on personality and risk propensity, but also drawing on what we know about their demographics and background.

Chapter 7, 'Becoming a Trader', uses a career transitions framework and a model of social learning to frame trader development and entry into a community of trading practice. We examine the ways in which they both learn and construct knowledge about the process of trading.

In Chapter 8, 'Managing Traders', we explore the ways in which traders are monitored and managed within investment banks. We highlight the fact that traders are often not 'managed' at all, so much as monitored.

Our concluding chapter (Chapter 9) draws together the implications of our findings for traders, their management and regulation, and for further research.

Notes

1. Arbitrage: purchasing currencies, securities, or commodities in one market for resale in others in order to profit from price differences. The effect of arbitrage is to act as a mechanism to bring about convergence of prices in different locations and markets or between equivalent securities.
2. A more detailed account of the sample and methods is given in the appendix.
3. We give a more detailed treatment of behavioural finance arguments in Chapter 3.
4. Often referred to as the institutional microstructure.