

Preface

This book addresses a growing interaction between two fields—exchange rate economics and microstructure finance. Historically, these fields have progressed independently. More recently, however, they have begun to interact, and that interaction has stimulated new perspective within both. In exchange rate economics, that new perspective has given rise to a distinct approach—a microstructure approach.

A natural audience for this book includes people with expertise in only one of these two fields who are interested in learning more about the other. In the past this has not been easy—these areas have different intellectual traditions, so bridging them required a large investment of time. This book should facilitate that investment. To that end, I have tried to present material on both fields in an accessible way, so that readers lacking specialization in either one should find the material within reach. Practitioners, too, should find most of the material accessible (the empirical work in chapters 7 through 9 is most relevant to that audience).

A notable feature of this book is its treatment of both theoretical and empirical work (c.f. O'Hara's 1995 theory text). Indeed, the book is organized to highlight their interplay. Chapter 4 is dedicated to the canonical frameworks in microstructure theory. Some of these frameworks were originally developed to address the New York Stock Exchange, a market with a single dealer in each stock. The circumstances under which these frameworks are appropriate for foreign exchange markets (FX) is an important topic addressed in that chapter. Chapter 5 summarizes empirical microstructure frameworks, with emphasis on those employed in FX. These empirical frameworks draw heavily on chapter four's theory. The last four chapters, chapters 7–10, are applications of tools presented in the

first six. They bring the theoretical/empirical interplay into sharp focus.

A second notable feature of this book is its emphasis on information economics rather than institutions. People unfamiliar with microstructure finance typically believe its focus is institutional (e.g., the consequences of different trading mechanisms). This is an important part of the field. But in terms of this book, it is not the most important part. The focus of this book is the economics of financial information and how microstructure tools clarify the types of information relevant to exchange rates. In keeping with this focus, I move immediately in chapter 2 to the economics of financial information, saving detailed institutional material on FX trading until chapter 3.

This book also has some notable features in terms of pedagogy. They are concentrated in chapters 4–6, the three survey chapters: microstructure theory, microstructure empirical frameworks, and exchange rate theory, respectively. In chapter 4, I begin the survey of microstructure models with the “rational expectations” model. The chapter proceeds from that model’s implicit auctioneer to the explicit auctioneer of the Kyle model. Conceptually, I consider this a more natural progression than the typical sequencing in microstructure books. To maintain focus on essentials, chapter 4 also presents the microstructure models in a common format. I close chapter 4 with an appendix that collects several important technical tools for easy reference. On the empirical side, chapter 5 opens with a survey of available data sets and information on accessing them via the Internet (several are available from my web site: www.haas.berkeley.edu/~lyons). Data quality has increased substantially in recent years (in large part due to the shift to electronic trading), and this survey provides an easy reference for familiarizing oneself. Chapter 6 is the transition from the earlier, more micro-oriented chapters, to the later, more macro-oriented chapters. That chapter begins its survey of exchange rate theory with a treatment of “valuation,” which includes traditional definitions of exchange rate “fundamentals.” This should help readers whose perspective on valuation comes primarily from the dividend-discount models used in equity markets. Chapter 6 also highlights the parallels between exchange rate models and microstructure models (such as the conceptual link between portfolio balance models and inventory models).

This book also contains new work. For example, some of the material in chapters 7 and 8 is new to the literature, and most of

the material in chapter 9 is new. Many of the arguments and points made throughout other chapters are new as well (e.g., perspectives on the microstructure approach's potential applications). Much of the material in chapters 7 to 9 comes from work I have done jointly with three co-authors: Martin Evans, Mintao Fan, and Michael Moore.

For teaching, there are three types of courses for which this book would be appropriate. The first is a Ph.D. course in international macroeconomics. Of the ten chapters, the best ones for this type of course are chapters 1, 4, 6, 7, 8, and 9. A second course for which the book would be appropriate is a Ph.D. course in market microstructure. The best chapters for this type of course are 1, 2, 3, 4, 5, and 10. A third course for which the book would be appropriate is a Master's course in international finance. The best chapters for a course at this level include 1, 3, 6, 7, and 9.

Some caveats are in order. Like microstructure theory in general, my treatment of the microstructure approach emphasizes the role of order flow (signed transaction quantities) in price determination. This emphasis aligns closely with my own interests and my own work. Though much of the material I present is not my own, my work plays a more prominent role than it would in a balanced survey. To borrow the words of one reviewer, this book is more of a personal synthesis than a professional consensus. I apologize in advance to those whose work is underrepresented. (For those interested in a survey, let me recommend Sarno and Taylor 2000a.)

A second caveat is my use of the term "microstructure approach." Though there is no consensus definition of what constitutes a microstructure model, it is safe to say that the definition I adopt is rather broad. For me, the microstructure approach is not just a rich set of tools for addressing the issues, but also a way of framing those issues. Indeed, the framing *per se* is an important aspect of the approach's value. If I have done my job, the chapters that follow should make this point increasingly clear.

To these previous caveats I must add another. The tone of parts of this book may to some readers seem a bit missionary. This is particularly true of chapter 1, where I address the book's overarching themes. (Exchange rate economists will find these themes more provocative than will people in microstructure finance.) At the risk of appearing to over-sell, I felt it best to address these themes early. Most of the evidence that supports these themes appears in later chapters.

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