An Introduction to Trading in the Financial Markets

Trading, Markets, Instruments, and Processes

R. "Tee" Williams

An In[illegible] to Trading in the Financial Markets

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Preface for the Set

The four books in the set are an exercise in reportage. Throughout my career, I have been primarily a consultant blessed with a wide array of projects for many different kinds of entities in Africa, Asia, Europe, and North America. I have not been a practitioner but rather a close observer synthesizing the views of many practitioners. Although these books describe trading and the technology that supports trading, I have never written an order ticket or line of computer code in anger.

The purpose of these books is to describe *what* individuals and entities in the trading markets do. Bob Simon of *60 Minutes* once famously asked two founders of the dot-com consulting firm Razorfish to describe what they did when they got to work each day and took off their coats. That is the purpose of these books: to examine what participants in the trading markets do each day when they take off their coats. These books do not attempt to prescribe what should occur or proscribe what should not.

The nature of the source material for these books is broad observation. In teaching professional development courses over nearly two decades, I have found that both those new to the markets and even those who have been market participants for years become experts in their specific area of activity; however, they lack the context to understand how their tasks fit into the overall industry. The goal of this set of books is to provide that context.

Most consulting projects in which I have participated have required interviews with people working in all phases of the trading markets about what they do and their views on how the markets work. Those views and opinions helped frame my understanding of the structure of the markets and the roles of its participants. I draw on those views, but I cannot begin to document all the exact sources.

I have isolated fun stories I have heard along the way, which I cannot attribute to a specific source, into boxes within the text. These boxes also include asides that are related to the subjects being discussed but that do not specifically fit into the flow.

The structure of the books presents information in a hierarchical form that puts entities, instruments, functions, technology, and processes into a framework. Categorizing information into hierarchies helps us understand the subject matter better and gives us a framework in which to view and understand new information. The frameworks also help us understand how parts relate to the whole. However, my experience as a consultant convinces me that while well-chosen frameworks can be helpful and appealing to those first coming to understand new subject matter, they also carry the risk that their perspective may mask other important information about the subjects being categorized. So for those who read these books and want to believe that the trading markets fit neatly into the frameworks presented here: "Yes," I said. "Isn't it pretty to think so."[1]

1 Ernest Hemingway. *The Sun Also Rises*, 1926, New York: Charles Scribner's Sons (Scribner).

FEATURES OF THE BOOKS

Figure FM.1 shows the books in this set with tabs on the side for each of the major sections in the book. The graphic is presented at the end of each major part of the books with enlarged tabs for the section just covered, with arrows pointing to the

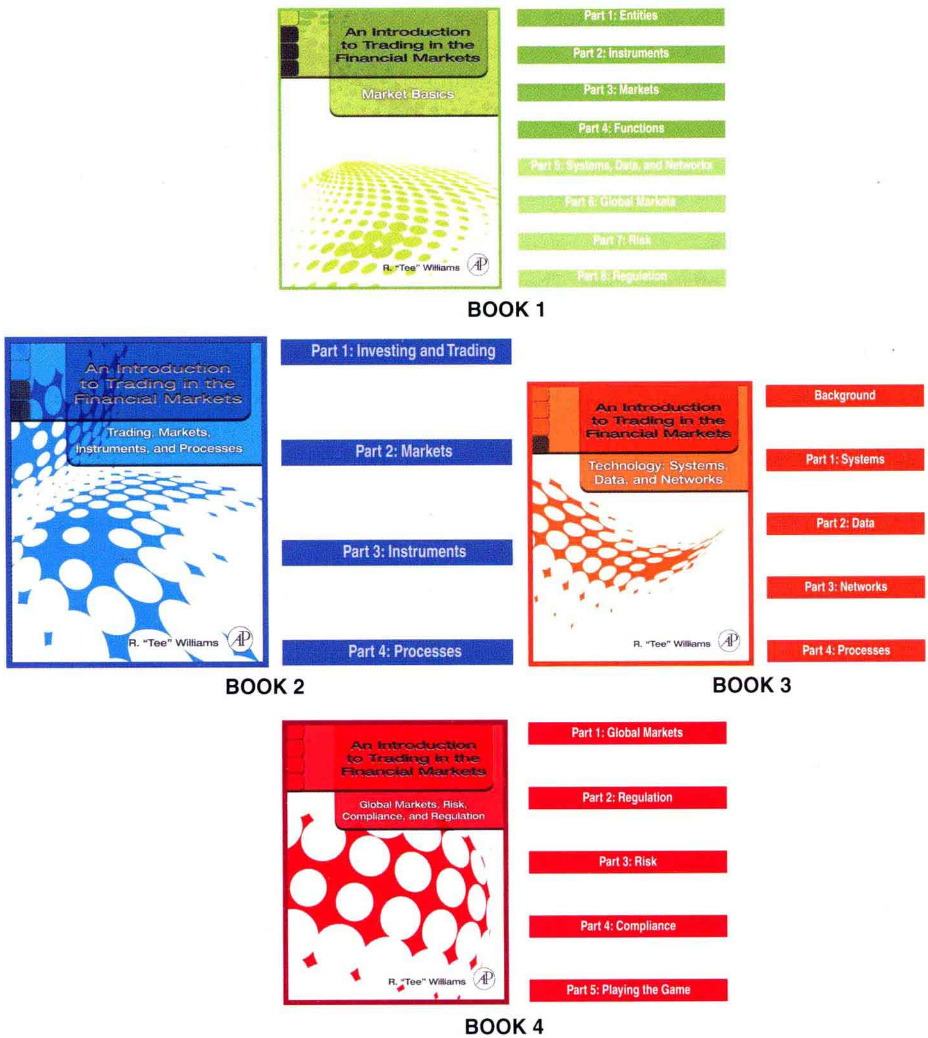

Figure FM.1 The ***books of this set*** are organized as a whole and concepts are distributed so that they build from book to book.

parts of other books and within the same book where other attributes of the same topic are addressed. I call this the "Moses Approach."[2]

In addition to words and graphics, the four books use color to present information, as shown in Figure FM.2. Throughout, the following color scheme represents the entities as well as functions, processes, systems, data, and networks associated with them.

Figure FM.2 ***Color in these books*** identifies entities that are central to the trading markets, and also identifies the functions and processes that are associated with those entities.

A frustration of writing about the trading markets is the wealth of colorful and descriptive terms that permeate the markets. These terms are helpful in describing what happens in markets or where people work, but there is no accepted source that defines terms in everyday usage with precision. Good examples of this problem are the meaning and spellings of the terms "front office," "middle office" and "backoffice."[3] Similarly I use "indices" to mean a collection of individual instances of a single index. (For example closing *indices*—that is, values—of the Dow Jones Industrial Average on January 2, 3, and 4.) I use "indexes" to mean a collection of different copyrighted information products measuring market performance (e.g., the Dow Jones, FTSE, and DAX *indexes*).

I have elected to define the terms, as I understand them, within the books. The first instance of words appear in ***bold italics***, which relate to definitions in the Glossary at the end of each one. The books use more hyphenated adjectives than

2 You may remember from the Bible that God took Moses up on the mountain and, in addition to giving him the Ten Commandments, showed Moses the Promised Land. This seems to be a good approach to organizing information. If you expect people to wander in the wilderness of your prose, you at least owe them a glimpse of where they are going.
3 I separate "front" and "middle" from "office" and combine "backoffice." I believe that "backoffice" is a widely used term throughout the economy, whereas "front office" and more particularly "middle office" are nonce terms that may not migrate into common usage beyond the trading markets.

normal usage would require. I believe it is important to remove all doubt that the term "market-data systems" refers to systems for handling market data, not data systems used by a market.

The books in this set contain a large number of graphics. The goal of them is to provide more than decoration. For many people, graphics help them understand the concepts described in the text. Most of them illustrate process flows, relationships, or characteristics of market behavior. There is neither tabular data nor URLs from websites here. Both are likely to be too dated by the time the books are shipped from the publisher to you to provide any real value.

The graphics (and text) build from book to book. For example, in Part 1 of Book 1 the graphic in Figure FM.3 describing institutional investors appears. It shows

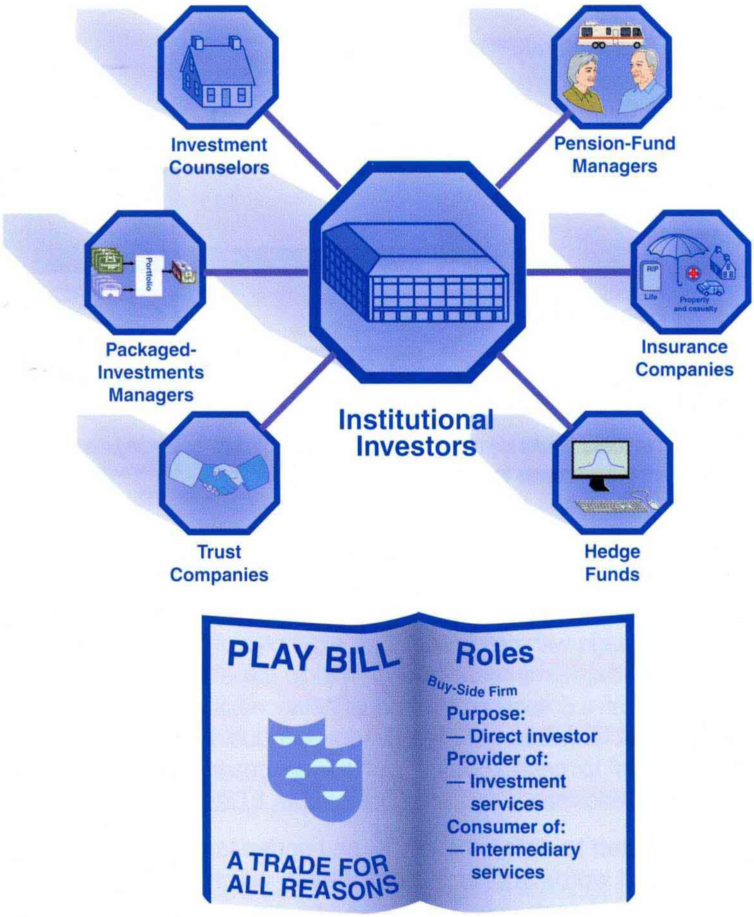

Figure FM.3 ***Institutional investors*** are introduced as important buy-side entities in Figure 1.1.3[4] of Book 1.

4 The figure numbers indicate that this is the third figure of the first category (buy side) of the first part (entities). All figure numbers follow this pattern.

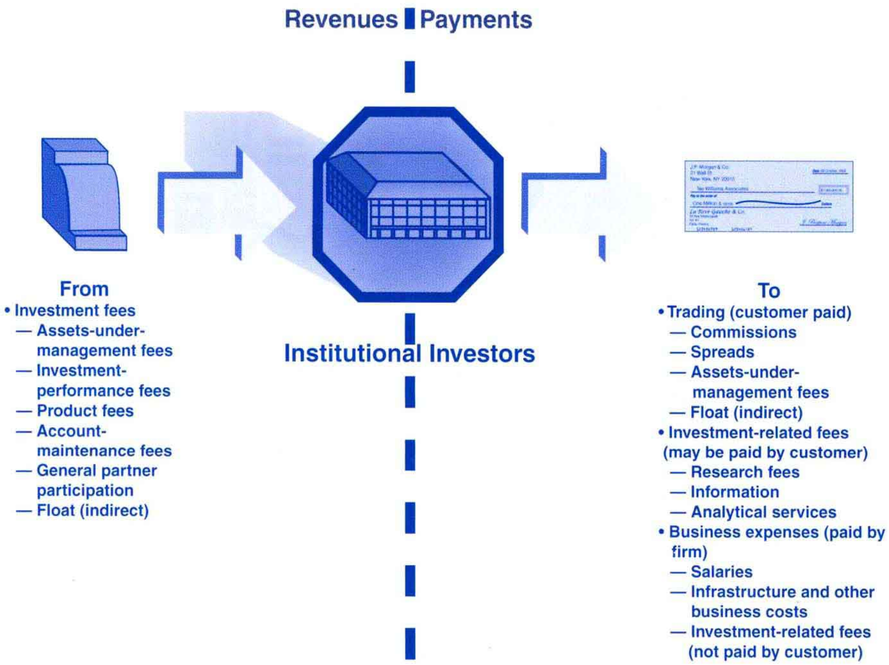

Figure FM.4 ***Institutional investor business models***—revenues and expenses—are illustrated in Book 1, Figure 1.1.3.7.

the customers, the suppliers, and the products and services for institutional investors. (Subsequent sections describe types of institutional investors based on how they are regulated or the service they perform.)

At the end of each entity subsection, the entity's core business model and what services it purchases from vendors and other providers are explained (see Figure FM.4).

Part 4 of Book 1 describes the functions performed by buy-side traders who work in institutional-investor firms (see Figure FM.5). The figure illustrates what tasks the buy-side trader performs (i.e., which other functions), who the buy-side trader serves, which external entities interact with the buy-side trader, and which other functions provide services to the buy-side trader.

Book 2, Part 4, describes the secondary market trading process. The second step in the trading process describes the initial role that the buy-side trader plays in trading.

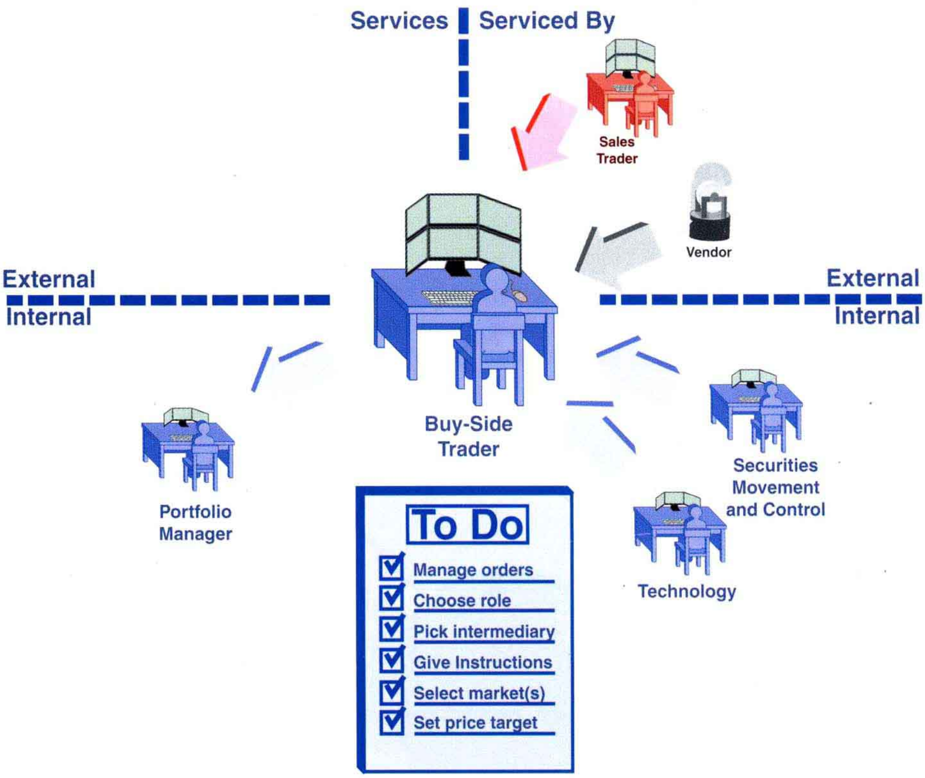

Figure FM.5 ***Buy-side traders*** manage trade execution within institutional investors and their functions are detailed in Figure 4.1.2.1 of Book 1.

Figure FM.6 presents the inputs to and outputs from the buy-side trading process as well as the primary focus of the buy-side trader and the decisions that the person must confront. Subsequent graphics in that section examine some of the decisions and alternatives in more detail.

Book 3 returns to the buy-side trader to understand the role of technology in the process. Part 4 of that book examines the systems, data, and networks that support buy-side trading.

Figure 4.3.2.2 in Book 3 (Figure FM.7, see page xii) shows the systems, data, and networks that support buy-side trading. The text identifies applications supplied by both internal and external sources that support order management. The buy-side trader generates information that is input directly to internal systems and indirectly to external systems. Finally, networks both within the firm and from markets and vendors provide linkages that facilitate the entire process. Subsidiary figures highlight the specific types of systems, data, and networks that are input to and output from buy-side trading.

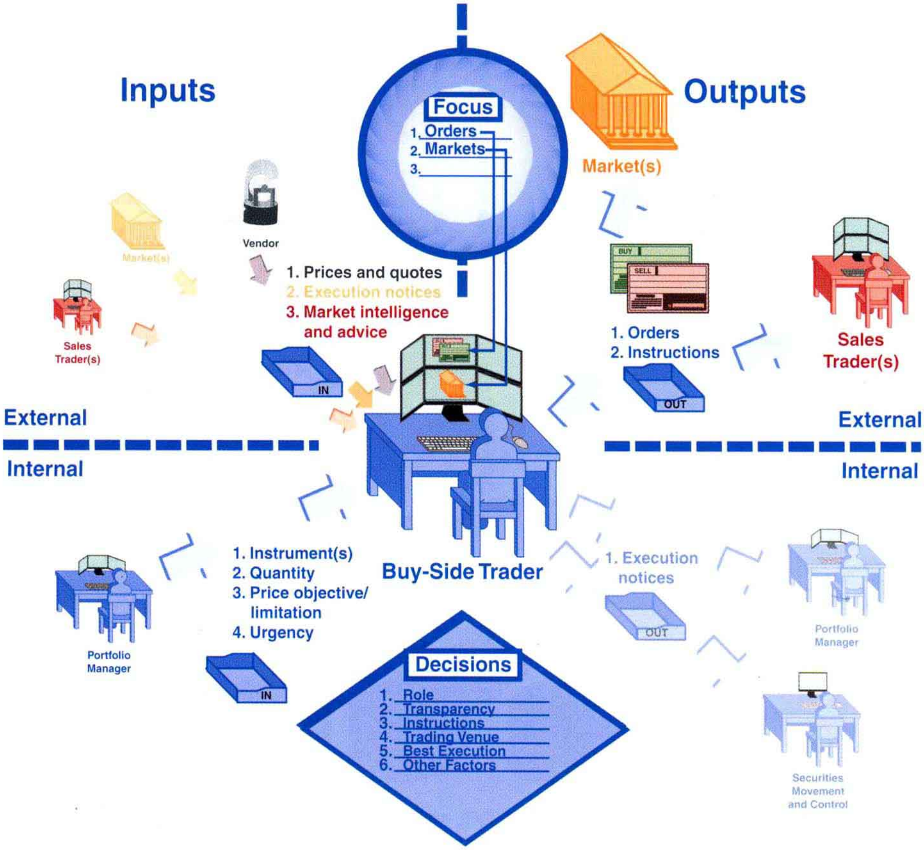

Figure FM.6 ***Buy-side trading*** is defined further as part of the trading process in Figure 4.2.2 of Book 2.

Finally, Book 4, Part 4, presents a hypothetical example that describes how a fictitious British investment management firm with a global presence manages an order across multiple markets with time, customer, and market pressures.

Here, David Anderson,[5] a London-based buy-side trader for Trafalgar Asset Management Ltd., is tasked with coordinating the sale of a very large order (500,000 shares) of In-the-Ether Networks (ticker symbol: ITEN) B.V., a Dutch network company with equities that are actively traded globally on the exchanges, ECNs, and MTFs in Amsterdam, Frankfurt, Hong Kong, London, New York, and Singapore.

5 All the names in the "Playing the Game" part are fictitious. However, I do know three different David Andersons, all of whom are Brits and work in some portion of the trading markets. These three gentlemen are the inspiration for the name. However, none of the David Andersons that I know are buy-side traders.

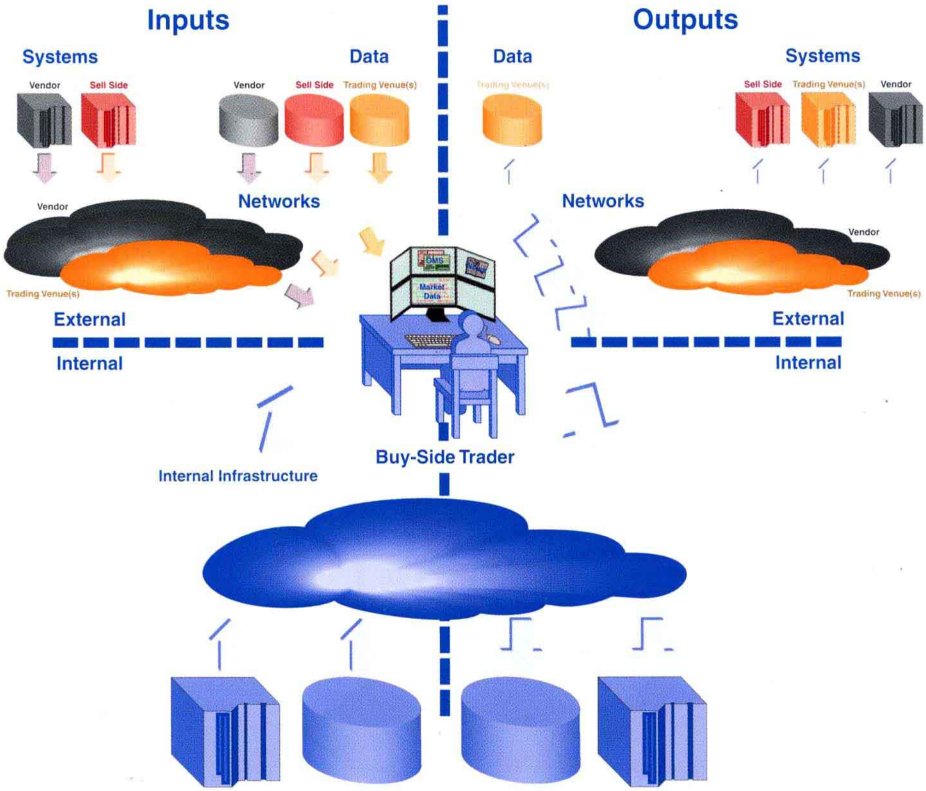

Figure FM.7 ***Buy-side trading*** requires systems, data, and networks and produces data as shown in Book 3, Figure 4.3.2.2.

The graphic in Figure FM.8 shows how the order is received along with instructions for its execution. As the process proceeds, the text describes how the order is then divided among global offices, electronic systems, and intermediaries to be executed through a continuing global process over two elapsed London days. The text also describes the settlement process following the trade. A large trade in multiple markets strains systems data and communications that were created when national markets were insular and did not interact. Subsequent graphics show how the process described in the narrative unfolds.

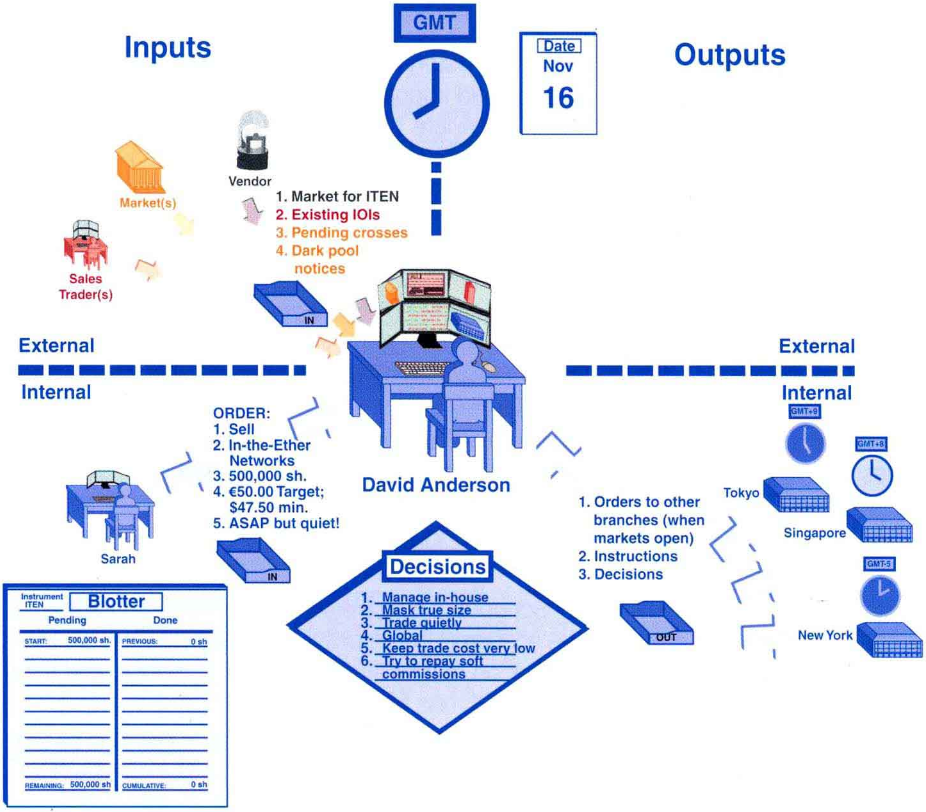

Figure FM.8 ***Buy-side trading*** is finally illustrated through a hypothetical example bringing together the decision process, technology, and interactions in Figure 4.2 of Book 4.

Similar linkages among the graphics in this set of books occur in describing instruments and markets.

As noted previously, a Glossary is included at the end of each book in the set. For convenience, there is a Visual Glossary of the graphical metaphors and elements used in the images for each of the books.

- Brian McElligott, Kendall Vroman, and Brian's staff, CME Group. (The people at the CME took me to interview important constituencies in the futures markets to understand how they trade and use information.)
- Peter Moss, Thomson Reuters, and John White, State Street Global Advisors. (Peter and John were forceful advocates for these books. They have also been sources of understanding about the issues facing vendors and market-data users.)
- Leonard Mayer, Mayer & Schweitzer. (Lenny attended one of the classes Craig Shumate and I taught on new trading systems. [He should have been teaching me.] He cofounded one of the premier Nasdaq wholesale firms and was gracious enough to help me understand the business of being a dealer.)
- Lance Riley, SRI Consulting. (Lance was my first boss at SRI Consulting, and together we worked on many projects and interviewed countless people over 20 years. I miss Lance greatly.)
- Richard Rosenblatt and Joe Gawronski, Rosenblatt Securities. (Dick and Joe have been kind enough to take me along as they were trading on the floor of the NYSE. They have also shared their insights on the workings of the markets that they write in an ongoing series of white papers for their customers.)
- Craig Shumate, The Morris Group. (I met and worked with Craig at my first job at R. Shriver Associates, and we have worked together constantly since. He brought me into the business of professional training. It is Craig who pioneered the concept of the eight steps in the trading process and "Playing the Game" as a way to draw together all the aspects of trading in a single process description.)
- Herbie Skeete, Mondovisione and Thomson Reuters. (I met Herbie in London at least 20 years ago, and I try to see him every time I am in London or when he comes to the States. He is a wealth of information on market data and knows a huge number of people. Herbie introduced me to Elsevier and is responsible for my writing these books.)
- Al Thomson, Instinet; Lynch, Jones and Ryan; and AutEx. (Al and I have been collaborators and friends from my earliest work in the trading markets. He set up a great many of the interviews and provided insights that underlie the knowledge presented in these books.)
- Wayne Wagner, The Plexus Group (JPMorgan). (Wayne invited me into a project for the Department of Labor on the meaning of "best execution" in the early 1990s. He patiently explained how many different buy-side motivations resulted in very different expectations from trades.)

I am not able to remember and therefore thank all those that I have interviewed and the many others who worked at the firms for which I consulted for more than 35 years. (By my best estimate, I have averaged several hundred interviews each year since 1974. Therefore, the total number of interviews and thus people to whom I am indebted numbers in the thousands.) Rather than name a few and forget many, I would simply like to thank them all. This book is dedicated to them and most particularly to Joseph Gawronski, Richard Rosenblatt, and Wayne Wagner.

Preface

This book is the second in a set of books that address the trading markets. We use the term "trading markets" because that is the most general term we can find for the portion of the financial markets sometimes imprecisely referred to as the "securities markets." (We explain these distinctions later when we describe instruments in Part 3.) The focus here is on the activities of investing, trading, market mechanisms, the instruments traded, and the processes required to make the markets work.

We begin our investigation by examining how differences in investment strategy and style create different types of trading decisions, orders, and market choices. With this as a background, we explore trading first by defining some common concepts used to describe and evaluate trading and then by addressing the activities surrounding the decision to send an order to buy or to sell to some marketplace where it can be executed, resulting in a trade. Trading is the signature feature that underlies all the books in this set.

Following the discussion of trading, we examine how markets work. Book 1, *An Introduction to Trading in the Financial Markets: Market Basics,* examines definitions of markets, the ways trading venues are organized, and some of the functions required to operate in a market. In Part 2 of this book, we look at market structure and the interactions of principals, agents, and market venues. Markets operate using two primary formats—physical and electronic—as well as combinations of the two. We describe the mechanics that produce executions and tools that support them. We conclude by examining the factors that affect liquidity in markets.

We move on to explore the general characteristics of the instruments traded in the markets. In Book 1, we provided a brief introduction to instruments, including a description of the cash flows each broad instrument type generates over its life. For each instrument described in Part 3 of this book, we look at the elements present in the instrument, the common measures used to describe and evaluate each instrument, the categories of instruments, the investors and traders that participate in the market or markets for each instrument, and the characteristics of the markets in which the instruments are traded.

Up to now, we have described markets as if all instruments trade in markets that operate the same. This is not true. Very different market structures exist for various instruments. Even similar instruments, such as a number of types of fixed-income (fixed interest) instruments, trade in markets with different attributes. Part 3 looks at the types, format, mechanics, and structure of important instrument markets.

Finally, we explore the processes of the trading markets. Many hundreds or even thousands of different processes are employed within the trading markets. It is not possible to cover them all, particularly because many may be unique to individual companies or special circumstances. We describe the most important processes involved in trading and also focus on some important supporting processes.

Before investigating trading, instruments, and processes, we begin with a high-level overview of the concepts presented throughout this set. The goal of it is to provide someone new to the trading markets, and those who have not read the other books in the set, enough background to follow the discussion in the remainder of this book. If you are familiar with the basics of the markets, you might want to skip to Part 1.

This book presents the primary explanation of investing and trading, markets, instruments, and processes. Nevertheless, what is here relates to discussions in the others in the set. Figure FM.9 shows this book's content as it relates to information in the other three books.

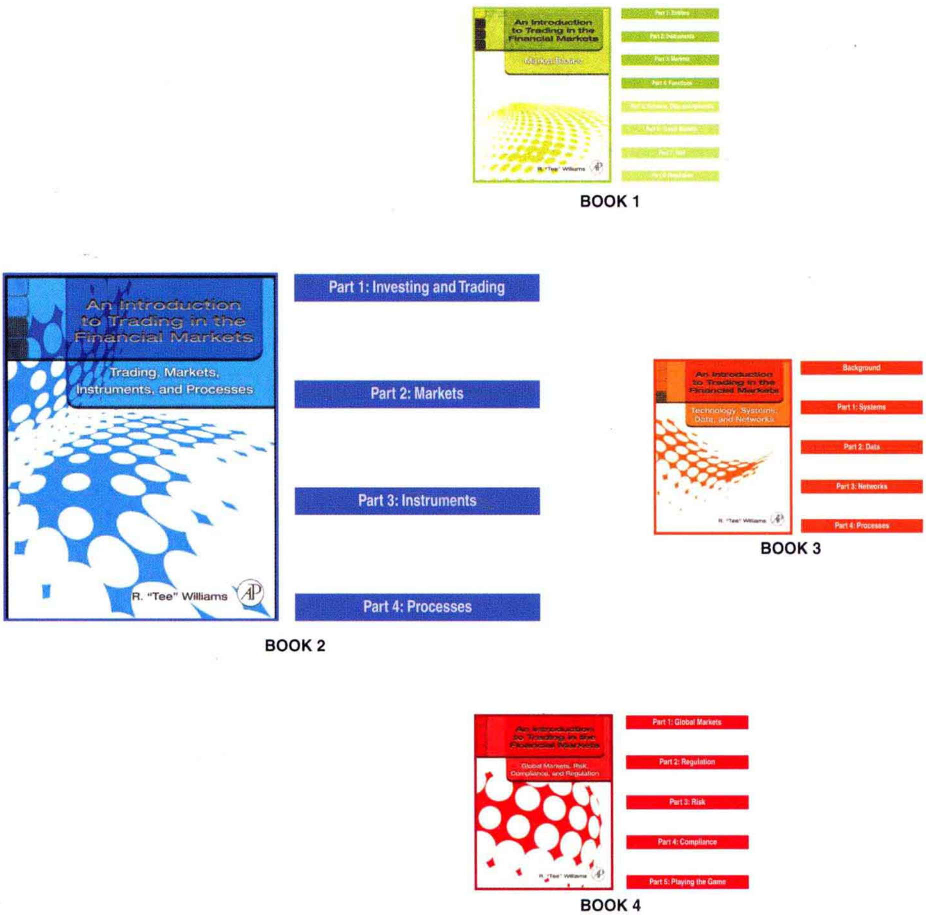

Figure FM.9 The topics in this book and other books in the set.

The unique feature of the subject matter in this book, as well as the other books in this set, is that we describe the activities related to and in support of trading in ***instruments: stocks***, ***bonds***, ***options***, ***futures***, ***currencies***, and ***commodities***. We divide instruments in additional ways. ***Securities*** (stocks and bonds) are instruments used to raise money for entities. We categorize securities as an important subdivision of a larger category of ***cash markets***. In addition to securities, cash markets include trading in currencies and commodities. In effect, we mean by cash market that we are actually buying a thing—a stock, a bond, and so on. We contrast cash markets with ***derivatives***.[1] Derivatives are instruments that *derive* their value from other instruments or things. Derivatives are primarily used for managing ***risk*** or to make a limited gamble on expected future market activity without expending the full investment commitment required in the cash market. Derivatives represent a ***contingent claim*** created by a contract in which one party agrees to perform a service or deliver an instrument in the future if certain conditions are met as defined in the agreement. The traded instruments described in these books are exact or near substitutes for each other. The term ***fungible*** is a characteristic of instruments that are "exact or near substitutes" for one another. For example, one share of Siemens is identical to any other, or one futures contract on a U.S. Treasury bond is indistinguishable from another contract on the same instrument. Trading fungible instruments separates the markets we are considering from markets that are not fungible, such as real estate. Although both types of markets share some similarity, real estate is not fungible because no two pieces of real estate are exactly similar, and this dissimilarity affects the value of the land, house, or building.

In the remainder of this section, we provide a brief overview of the elements of trading markets covered in the other books in this set before we explore the business of trading, markets, instruments, and processes in more detail (see Figure OV.1). If you want more information about the topics covered briefly here, we invite you to explore the other books in the set. The topics in this section follow in general sequence the major sections of the other books in the set.

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1 In the United States, the concept of a "security" has become somewhat muddled. Options, which we do not classify as securities, are treated as securities because the Securities and Exchange Commission governs them. You will find this kind of confusion or lack of precision common in the trading markets.

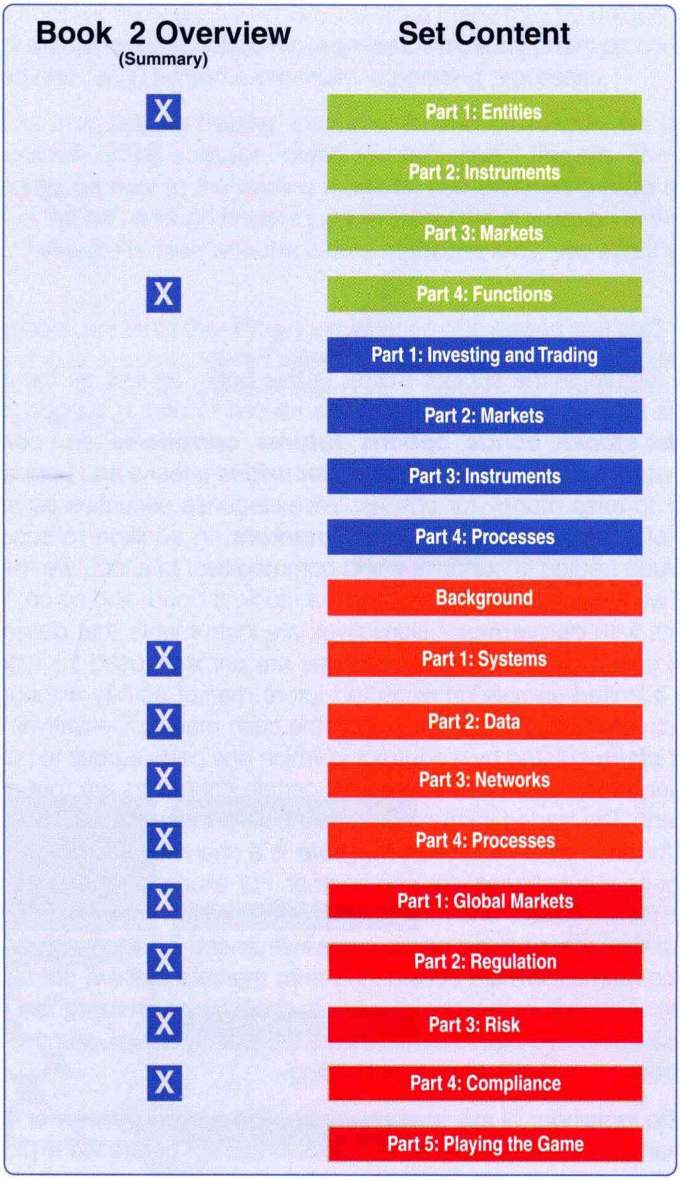

Figure OV.1 Major topics in the overview.

TAXONOMY OF MARKETS

We want to make an important distinction between markets and marketplaces. As we use the term, ***market*** means all the activities related to buying and selling a specific type of financial asset or instrument such as a stock or bond. A ***marketplace*** is a physical location, such as the New York Stock Exchange building in lower New York City, or a logical location, such as the Xetra computerized trading system of Deutsche