PART I

Introduction to Market Microstructure
CHAPTER 1

Market Microstructure
An Overview

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INTRODUCTION

During the past three decades, a substantial literature on market microstructure has emerged. The interest in market microstructure has grown dramatically, especially since the October 1987 stock market crash. Madhavan (2000) attributes this interest to the rapid structural, technological, and regulatory changes affecting the securities industry worldwide. This literature provides important insights into the operation and behavior of securities markets and into the intraday behavior of asset prices. Madhavan also notes that a major achievement of the microstructure literature is illuminating the black box for determining prices and quantities in financial markets. The current literature also shows how market microstructure affects economic behavior. In short, market microstructure matters.

What is market microstructure? Market microstructure is a branch of financial economics concerned with the details of how exchange occurs in markets. Others offer additional views about market microstructure. According to Harris (2003), market microstructure examines the trading and the organization of markets. O’Hara (1995) views market microstructure as the study of the process and outcomes of exchanging assets under a specific set of rules. According to Madhavan (2000), market microstructure studies the process by which investors’ latent demands are ultimately translated into prices and volumes. Stoll (2003) views market microstructure as dealing with the purest form of financial intermediation because assets are not transformed but are simply transferred from one party to another. Although the theory of market microstructure applies to the exchange of real or financial assets, this book focuses on the microstructure of financial markets and thus involves trading a financial asset: a stock, bond, or other financial instrument.

Although the basic function of a market of bringing buyers and sellers together has changed little over time, how trading occurs has shown remarkable
transformation, especially over the past few decades. For example, Comerton-Forde and Rydge (2004, p. 9) note:

Ten to fifteen years ago, national exchanges operated monopoly businesses. The only option for most companies was to list on their national exchange and the only option for most investors was to invest through the same exchange. Today, technology and globalization have radically changed this scenario. Companies can choose where to list and institutional investors can trade in virtually any market. Retail investors also have much greater access to foreign markets. Exchanges now operate in a highly competitive industry.

Given the importance of market microstructure in the world economy, the fact that many books and seemingly countless journal articles examine various facets of market microstructure is not surprising. For example, notable books in this area include O’Hara’s work (1995), which is mainly theoretical in nature. More specialized texts include Lyons (2001), Harris (2003), and Hasbrouck (2007). More recent books on market microstructure include Vives (2008), de Jong and Rindi (2009), and Schmidt (2011).

Hence, is another market microstructure book really needed? The answer is simple: yes. The rapidly evolving and dynamic nature of market microstructure requires frequent updating. That is, the rapid structural, technological, and regulatory changes affecting the securities industry worldwide have had a major effect on market microstructure. Furthermore, the causes of these changes are complex and thus require a level of depth and breadth that can be provided by a new book.

Purpose of the Book

The purpose of Market Microstructure in Emerging and Developed Markets is to provide a synthesis of the diverse strands of the theoretical, empirical, and experimental literature on market microstructure of financial markets in both emerging and developed markets. In simple terms, the book’s intent is to provide a better understanding of how markets work. The major thrust of market microstructure research examines the ways in which the working processes of a market affect determinants of transaction costs, prices, quotes, volume, and trading behavior. Thus, market microstructure has an important impact on a financial market’s efficiency and integrity.

Why examine both emerging and developed markets? Antoine van Agtmael, a World Bank economist, coined the term emerging markets in the 1980s when the international investment community increasingly recognized the distinctive characteristics and potential benefits of such markets. Despite the frequent usage of the term, no consensus exists on the theoretical or operational definition of what constitutes an emerging market. Definitions run the gamut from including extremely low-income economies to countries that are expected to experience high economic growth and industrialization. Still other definitions include all countries that are not considered developed. Regardless of how broadly or narrowly emerging markets are defined, distinctive differences exist between emerging and developed markets. According to Bruner, Conroy, Estrada, Kritzman, and Li (2002), emerging markets differ from developed markets in areas such as accounting transparency,
liquidity, corruption, volatility, governance, taxes, and transaction costs. These differences are likely to lead to dissimilarities in the market microstructure between emerging and developed markets. Thus, the book examines both types of markets.

In today’s environment, market microstructure emerges as a dynamic area that continues to evolve at a rapid pace. Because the flow of articles and other materials on the subject is voluminous, this book, by necessity, must be selective because it cannot cover every aspect of a field as large as market microstructure. However, the book endeavors to interweave the contributions of both scholars and practitioners into a single review of important but selective topics. Many of the topics involve informational issues because of the importance of information in decision making.

*Market Microstructure in Emerging and Developed Markets* not only takes readers through the core topics and issues of market microstructure but also examines the latest trends and cutting-edge developments. Additionally, discussion of research on market microstructure topics permeates the book. The coverage extends from discussing basic concepts and their application to increasingly complex and real-world situations. Thus, this volume spans the gamut from theoretical to practical, while attempting to offer a useful balance of detailed and user-friendly coverage. Readers should gain a sense of the richness of the literature and an understanding of how financial markets have emerged. Those interested in a broad survey will benefit, as well as those seeking more in-depth presentations of specific areas within this field of study.

In summary, *Market Microstructure in Emerging and Developing Markets* offers a fresh look at this intriguing but complex subject. The book also contributes to the Robert W. Kolb Series in Finance not only because of the relevance and importance of this topic but also because of its complementary nature to other present and future books in the series especially relating to investments and financial markets.

**Distinguishing Features of the Book**

*Market Microstructure in Emerging and Developed Markets* has several distinguishing features.

- The book offers a current perspective on the literature and provides insights on future research. It blends the conceptual world of scholars with the pragmatic view of practitioners. To accomplish this task involves enlisting contributions from distinguished scholars and noted practitioners. The breadth of contributors assures a variety of perspectives and a rich interplay of ideas.
- The book provides a broad overview of important and relevant research studies in a straightforward and pragmatic manner. This synthesis reflects the current state of the field and highlights the broad conclusions that have emerged from this body of research. This has implications for investors, academics, policy makers, and regulators.
- The book takes a global perspective of market microstructure by examining the topic for both emerging and developed markets.
- While retaining the content and perspectives of the many contributors, the book follows an internally consistent approach in format and style. Similar to a choir that contains many voices, this book has many authors with their own separate voices. A goal of both a choir and this book is to have the many
voices sing together harmoniously. Accomplishing this task involved con-
siderable editing to assure a seamless flow from chapter to chapter. There-
fore, the book is much more than simply a collection of chapters from an
array of different contributors.

- Each chapter contains discussion questions that help to reinforce key con-
cepts. Guideline answers are presented at the end of the book. This feature
should be especially useful to faculty and students using the book in classes.

Intended Audience

Given its broad scope, this practical and comprehensive book should be of inter-
est to investors, academics, students, regulators and exchange officials, and oth-
ers interested in market microstructure. For example, investors can use Market
Microstructure in Emerging and Developed Markets to provide guidance in helping
them navigate through the sea of topics constituting market microstructure. Academ-
cans can use this book as a basis of understanding the diverse strands of market
microstructure research or as a stand-alone or supplementary book for advanced
undergraduate or graduate courses in financial markets. They can also use it as a
springboard for future research. Students should find this book to be a valuable
resource in completing course assignments and as the basis for research projects.
Regulators and exchange officials can use the concepts and empirical research dis-
cussed in the book to help design better markets. Finally, libraries should find this
work to be suitable for reference purposes.

ORGANIZATION OF THE BOOK

The remaining 24 chapters are organized into five parts. A brief synopsis of each
chapter by section follows.

Part I: Introduction to Market Microstructure

Chapters 2 through 5 examine the market microstructure of four types of financial
markets: equity markets (Chapter 2), bond markets (Chapter 3), derivatives
markets (Chapter 4), and currency markets (Chapter 5). Chapter 6 examines the
architecture of securities market supervision before and after the recent financial
crisis. Chapter 7 concludes this introductory section by discussing financial market
contagion and its effects on market microstructure.

Chapter 2: Microstructure of Equity Markets (Nazli Sila Alan, Recep Bildik,
and Robert A. Schwartz)
The chapter introduces equity market microstructure and presents an overview of
the evolving microstructure literature. After considering two features of a friction-
less market (perfect liquidity and share prices that follow random walks), attention
is called to the price and quantity discovery functions of a marketplace. The chap-
ter then pays particular attention to intraday price volatility as a measure of market
efficiency in a nonfrictionless environment. Additionally, it focuses on the impor-
tance, for a country’s economic development, of a strong initial public offering
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Chapter 3: Microstructure of the Euro Area Government Bond Market
(Madhucchand Darbha and Alfonso Dufour)
This chapter highlights similarities and differences of equity and fixed-income markets and provides an overview of the characteristics of European government bond market trading and liquidity. Most existing studies focus on the U.S. market. This chapter presents the institutional details of the MTS market, which is the largest European electronic platform for trading government, quasi-government, asset-backed, and corporate fixed-income securities. It reviews the main features of high-frequency fixed-income data and the methods for measuring market liquidity. Finally, the chapter shows how liquidity differs across European countries, how liquidity varies with the structure of the market, and how liquidity has changed during the recent liquidity and sovereign crises.

Chapter 4: Microstructure Developments in Derivative Markets
(James T. Moser)
Derivative markets convey contracts between counterparties. Fundamental valuations for these contracts derive from the prices of commodities or other financial assets. To these valuations, market participants add costs arising from contract features mitigating the risk that a counterparty may fail to perform the terms of the contract and those costs owing to participation in the trading technology. This chapter reviews the literature covering the microstructural aspects of three trading technologies: the tâtonnement, open outcry, and electronic market. Tâtonnement is the theoretical market place of Walras and its implementation at the Tokyo Grain Exchange. Open outcry venues dominated the Chicago markets for over 100 years. Electronic markets have rapidly displaced more traditional venues. The chapter examines the microstructure of these venues to develop insight into order-processing costs, inventory costs, and the costs arising from information asymmetry.

Chapter 5: The Microstructure of Currency Markets
(Carol Osler and Xuhang Wang)
This chapter describes the structure and microeconomics of the foreign exchange market. It begins by outlining the major participants and the instruments they trade, highlighting the vast institutional changes that accompanied emerging electronic trading since the 1990s. The chapter then discusses how and why order flow drives exchange rates, the economics of liquidity provision, the price discovery process, and volatility. It concludes that order flow is a crucial driver of exchange rate returns. The influence of order flow reflects private information and the finite elasticity of currency demand, especially corporate demand. The chapter also concludes that the microstructure of currency markets differs in striking ways from the microstructure of some other well-studied markets, so exchange rate models must be carefully designed. Strategic dealing and market power considerations rather than adverse selection dominate bid-ask spreads for foreign exchange customers.
Exchange rates are driven by the interaction between corporate flows, which are mostly nonspeculative, and financial flows, which are mostly speculative. Any microstructurally rigorous model must include both.

Chapter 6: The Architecture of Securities Market Supervision before and after the Crisis (Donato Masciandaro and Marc Quintyn)
What is the current state of the securities supervision architectures? The recent financial crisis shows the financial services markets are deeply integrated and thus require an integrated supervisory approach. How is securities supervision integrated into the overall regulatory setting? This chapter answers this question by using a novel index of sectoral integration that is applied based on a large and updated database of the national supervisory settings (102 countries for the period 1998−2010). Furthermore, the results are used to evaluate the proposed reforms in the European Union and the United States.

Chapter 7: Financial Market Contagion (Thadavillil Jithendranathan)
Financial markets around the world are getting more integrated. In this integrated market system, any shock to the system in a single market can quickly move to other markets and thus create a contagion. The transmission channels of these shocks are the financial, real, and political linkages between the countries. This chapter examines financial market contagion and its effects on market microstructure. In empirical studies of contagion events, the fundamental linkages among economies alone cannot explain the strength of the shock spillovers from one market to another. Behavioral finance theories offer an alternate explanation for this anomaly. The shock spillovers can be attributed to irrational behavior of investors and herding mentality among them. Several ways are available for studying the transmission of shocks. This chapter provides a discussion of three such methods: the variance ratio model, the dynamic conditional correlation model, and the cointegration model. The chapter concludes with a brief overview of some recent contagion events.

Part II: Market Architecture and Design
This five-chapter section highlights the importance of market design and trading protocols. Chapter 8 provides an overview of market architecture, and Chapters 9 and 10 examine various issues involving market design. Chapter 11 investigates the issue of tick size and how it affects market quality and behavior. Chapter 12 explores dark pools and their effect on market quality.

Chapter 8: Market Architecture: A Conceptual Framework and Real-World Systems (Massimiliano Marzo)
This chapter examines the logic behind evolving market architecture in financial markets. It starts by discussing the various types of market structure and the main driver of market architecture: the search for liquidity by dealers and brokers. The chapter shows how the design of market architecture is a result of both the search for liquidity and the need to minimize inventory risk incurred by dealers. A brief description of inventory models is provided. The chapter then presents a discussion about market fragmentation versus concentration with the analysis
Chapter 9: Designing a Trading Market (Massimiliano Marzo)
This chapter provides a discussion of the main issues related to trading activities. It focuses on the evolution of trading methods conditional to the rapid advances in technology. The chapter discusses trading mechanisms and the evolution of markets relative to the increasing role of fragmentation. A brief presentation of the main trading algorithms most widely employed in trading practice complements the discussion about the design of a trading market. The chapter gives special attention to analyzing the pros and cons of high-frequency trading, which represents one of the most important advances characterizing trading markets in recent years, and the role of dark pools in modern market organization.

Chapter 10: Current Issues in Market Design (Carole Comerton-Forde)
Global equity markets have changed fundamentally over the last two decades. Regulatory reforms to promote competition for trading services have led to notable fragmentation of markets. New entrants and new technology have contributed to innovative trading mechanisms and pricing structures. Today, high-frequency trading and dark liquidity dominate the markets. These developments have brought benefits to equity markets through increased liquidity. However, they have also resulted in new challenges, including more fragmented liquidity, smaller trade sizes, and increased technology and supervision costs. This chapter explores these changes and the impact they have had on market quality.

Chapter 11: Decimalization and Discreteness (Brittany Cole and Bonnie Van Ness)
Financial assets are generally priced according to a discrete price set. Many markets set minimum price variations or tick sizes for quoting and trading assets in that market. The prices of equities in U.S. markets were originally quoted in increments of eighths of one dollar. In 1997, the United States lowered the minimum tick size to one sixteenth and then lowered the tick size to pennies or decimals in 2001. Financial markets in other countries have also undergone similar tick size changes. The finance literature shows that these tick size changes can have strong impacts on market quality, trader behavior, and market maker behavior.

Chapter 12: Dark Trading (Hans Degryse, Geoffrey Tombeur, Mark Van Achter, and Gunther Wufyts)
The landscape of financial markets has changed substantially over the last few decades. Next to the traditional financial markets, some venues with very different institutional setups have emerged and gradually increased their market shares.
Among the most prominent new players are so-called *dark pools*, which are alternative trading systems characterized by limited transparency. Introducing dark pools as an additional trading protocol next to the existing trading venues creates positive and negative effects that investors and the regulator need to balance. This chapter provides a review of the theoretical and empirical literature on dark pools, the reasons for employing dark pools, and their impact on market quality. The chapter also presents a discussion of recent regulatory changes in the United States and Europe. It concludes with a brief outlook on the future of dark pools.

**Part III: Price Formation and Price Discovery**

This section contains five chapters that examine the dynamic process for determining the price of an asset. Chapter 13 provides a discussion of the components and the determinants of trading cost. Chapter 14 examines market structures in equities and fixed-income markets and compares and contrasts them. It further surveys the literature about the implications of market structure design. Chapter 15 focuses on the price impact of trading by examining the differences between a static price impact of a single trade and the dynamic price impact of a series of trades. Chapter 16 explores the price discovery process in international and emerging asset markets. It further investigates what makes a market better in facilitating price discovery. Chapter 17 examines security-specific mechanisms implemented in financial markets to protect investors from unusually high volatility levels. These mechanisms include circuit breakers, price limits, and trading halts.

**Chapter 13: Determinants of Trading Costs (Yu-Chuan Huang)**

This chapter discusses the determinants of trading costs. Trading costs include three components: explicit costs, implicit costs, and missed trade opportunity costs. Explicit trading costs are the direct costs of trading, including commissions, fees, and taxes. Implicit costs represent indirect trading costs, including the bid-ask spread, and market impact costs. Missed trade opportunity costs arise when traders fail to fill their orders on time. While explicit costs are observable and easily measured, implicit costs and opportunity costs are unobservable and, thus, are harder to measure. As a result, considerable disagreement exists over how to best measure implicit costs and opportunity costs. Trading costs depend on many factors. The early literature shows trading activity, trade difficulty, price level, and volatility as the major determinants. Recent studies show that a trader’s investment strategy, ability, and reputation may exert an effect on trading costs. Finally, different market mechanisms and legal systems also affect trading costs in a country’s capital markets.

**Chapter 14: Market Makers and Liquidity (Frank J. Sensenbrenner)**

Current trading is characterized by various market structures. This chapter examines market structures predominant in equities and fixed-income markets and compares and contrasts them. It also reviews the academic literature about the implications of market structure design. Market structure influences the availability and price of securities and can affect market participants’ choice of trading in many aspects—the venue in which participants trade, how they parcel the order to achieve their objectives, and the composition of what fees they pay. Additionally,
the chapter shows how regulation and technology, as well as trader preferences, have influenced the development of securities markets.

Chapter 15: Liquidity beyond the Inside Spread: The Price Impact of Trading (Paul J. Irvine)

This chapter discusses the concept of price impact, focusing on the differences between a static price impact of a single trade or an average trade against the dynamic price impact of a series of trades. Although the static price impact is often small, the dynamic price impact can be substantial once the cumulative effect of a series of trades is considered. The chapter also presents techniques for measuring price impact and guidance on when static or dynamic price impact measures are appropriate.

Chapter 16: Price Discovery in International and Emerging Asset Markets (Yiuman Tse and Michael Williams)

A major role of asset markets is to aggregate information from many different sources into a single price. Yet, those responsible for incorporating information into a price may prefer one market to another, thus making one market relatively more efficient in the price discovery process. Also, when more than one market trades an equivalent asset or these markets trade on equivalent information, informed and uninformed traders may prefer one market to another. The preferred market that attracts the greatest proportion of informed to uninformed traders is likely to be the market that dominates contributing mutually shared price discovery. This chapter examines price discovery in international and emerging asset markets by reviewing the existing literature and drawing unifying conclusions on what makes a market better in facilitating price discovery.

Chapter 17: Holding Back Volatility: Circuit Breakers, Price Limits, and Trading Halts (David Abad and Roberto Pascual)

This chapter surveys security-specific mechanisms implemented in financial markets to protect investors from unusually high volatility levels. These so-called circuit breakers alter the normal trading conditions of the disturbed asset by either interrupting its continuous session (trading halts) or limiting the absolute cumulative price change during each session (price limits). Circuit breakers are controversial and have been the subject of heated debate among academics, practitioners, and regulators since the recent financial crisis. This chapter highlights the main arguments of proponents and opponents of circuit breakers and summarizes the empirical evidence on this topic. It also points out some common limits researchers face when analyzing circuit breakers and identifies a few of the most promising areas for future research.

Part IV: Transaction Costs, Timing Costs, and Information Disclosure

This section focuses on transaction costs, timing costs, and the impact of transaction costs on investment returns and execution methods. It also examines market information and pretrade and posttrade transparency (i.e., the ability of market
participants to observe information about the trading process) and the impact of the information on the behavior of the market participants. This section contains three chapters. Chapter 18 investigates trading costs associated with buying and selling securities in organized exchanges, including commission charges and cost components of the bid-ask spread. Chapter 19 focuses on pretrading and post-trading transparency within the context of limit order markets. Chapter 20 concludes the section with a discussion of experimental research on transparency and disclosure.

**Chapter 18: Bid-Ask Spreads, Commissions, and Other Costs (Thanos Verousis)**

This chapter examines trading costs associated with buying and selling securities in organized exchanges such as the New York Stock Exchange. Costs are categorized as commission charges determined by the exchange and as cost components of the bid-ask spread determined by market participants. The bid-ask spread consists of three main components: (1) order-processing costs associated with the cost of providing liquidity, (2) inventory costs due to short-term order imbalances, and (3) adverse selection costs related to the cost of trading with informed traders. Spreads and commission charges are currently at very low levels in developed markets and have led to a great expansion in algorithm trading and trading volume. Trading costs for emerging markets are considerably higher than for the more developed markets. Market capitalization and liquidity differences explain some of the variability in trading costs in exchanges around the world. Besides firm-specific differences, a second element of variability is attributed to differences in market structures.

**Chapter 19: Pretrade and Posttrade Transparency (Stephen G. Sapp and Ingrid Lo)**

Trading occurs in financial markets because of differences both in the information possessed by market participants and in their liquidity needs. Thus, information plays a crucial role in the functioning and quality of financial markets. This chapter provides a synthesis of some existing literature about the costs and benefits of various levels and types of pretrade and posttrade transparency within the context of limit order markets. Specifically, the chapter discusses the pros and cons of making different types of information (e.g., type of orders, size of orders, timing of orders, and the identity of the trader) available about the orders submitted by other traders before and after trades are executed, which increases pretrade and posttrade transparency, respectively.

**Chapter 20: Empirical and Experimental Research on Transparency and Disclosure (Arie E. Gozluklu)**

Market transparency is an integral part of market design. The literature offers opposing views on the benefits and detriments of providing more transparency with far-reaching implications for market participants and regulators. Market microstructure theory provides important and often conflicting insights to policymakers. Both empirical and experimental tests should guide transparency policy. This chapter provides a survey and synthesis of empirical and experimental research on market transparency and disclosure. Different aspects of transparency and trade disclosure within the context of market quality are discussed. The sole
focus on empirical and experimental research aims to complement the theory covered in previous chapters.

**Part V: Microstructure Issues in Emerging Markets**

This final section focuses on market microstructure-related issues in emerging markets and has five chapters. Chapter 21 offers a survey of market efficiency in emerging markets and how it is tied to market microstructure. Chapter 22 provides a synthesis of the discussion of stock market liquidity and its relation to financial crises. It also investigates and provides evidence on liquidity during both the 1997–1998 Asian financial crisis and the recent 2007–2008 global financial crisis. Chapter 23 discusses the high trading costs that can arise in emerging markets due to various factors and considers ways to improve those costs. Chapter 24 focuses on the price behavior in new European Union emerging markets in Central and Eastern Europe. It further shows how macroeconomic news announcements and price jumps influence price behavior. Chapter 25 focuses on the market microstructure issues in fast-growing African markets. The issues include price formation and discovery, market structure and design, and information and disclosure.

**Chapter 21: Stock Market Efficiency and Market Microstructure in Emerging Markets (Parvez Ahmed)**

This chapter examines the theory and practice of market efficiency in emerging markets. Market efficiency is one of the bedrock principles in financial economics. The absence of any arbitrage profit opportunity is one of the fundamental characteristics of efficient markets. This market efficiency depends on the market microstructure. Transaction costs and transmitting information with low costs are among the structural factors affecting market efficiency. The chapter summarizes empirical evidence on the efficiency in emerging equity markets. Unbiased equity prices help to improve corporate governance. High volatility of the stock market can be a deterrent to investors while increasing the cost of capital. Liquidity in capital markets is also important because it allows savers to buy and sell assets rapidly without affecting stock prices.

**Chapter 22: Liquidity and Crises in Asian Markets (Charlie Charoenwong, David K. Ding, and Yung Chiang Yang)**

This chapter presents a discussion of stock market liquidity and its relation to financial crises. It begins by defining liquidity and explaining possible measures of liquidity and then explores factors influencing liquidity. The chapter also analyzes the liquidity among 11 Asian countries. The empirical findings based on time-series analysis show a sharp decline in stock liquidity during both the 1997–1998 Asian financial crisis and the 2007–2008 global financial crisis. The multivariate regression results show that both stock liquidity and trading activity decrease after large market declines. Stock liquidity responds significantly to large market declines in South Korea and Taiwan but it is least sensitive in Singapore. The findings show that stock trading, measured by turnover, slows after a large market decline. In turn, this affects trading activity in all markets examined, especially those of South Korea and China, but has the least effect in Singapore and Japan.
Chapter 23: Trading Costs and Execution Strategies in Emerging Markets (Mark Humphery-Jenner and Eliza Wu)

This chapter discusses the high trading costs that can arise in emerging markets and considers ways to ameliorate those transaction costs. Transaction costs might be high in emerging markets due to factors including thin trading, poor regulation, and limits to direct market access or algorithmic trading. A portfolio manager or trader must consider these costs when constructing and rebalancing a portfolio or when executing a trade. The chapter considers several ways that traders can ameliorate transaction costs when executing a larger order. It also discusses how a portfolio manager could take an approach to rebalancing that recognizes the potentially large costs involved in rebalancing.

Chapter 24: Intraday Price Behavior during Information Arrival in Emerging Markets (Jan Hanousek, Evžen Kocenda, and Jan Novotný)

This chapter examines how the price behavior in new European Union (EU) emerging markets in Central and Eastern Europe relates to macroeconomic news announcements and price jumps. Although the existing literature extensively discusses the relationship between returns and news announcements, the question of whether the news announcements are causing sharp movements in prices in emerging markets remains unanswered. New empirical evidence presented in this chapter shows that emerging EU markets react to news announcements with a delay and that foreign macroeconomic news is mostly responsible for price jumps. A significant transfer of price jumps from EU and U.S. markets is also noted. Despite the fact that the emerging markets studied are an integral part of the EU, a much stronger influence results from U.S. markets, especially when controlling for spillover effects. The presence of U.S.-based investors in these markets can explain this result.

Chapter 25: Market Microstructure in African Equity Markets (Sabur Mollah and Abul Hassan)

Market microstructure continues to be an area of interest in finance. This chapter surveys the key microstructure issues in African markets, including price formation and discovery, market structure and design, and information and disclosure. Inefficiencies in the price discovery process of financial assets are noticeable in Africa, where the low liquidity of these markets undermines this process. The quality of disclosure in African markets is low, and certain companies avoid disclosing obligatory information. The quality of regulatory and legal institutions adversely affects the depth and efficiency of African stock markets. Such markets highlight the need for technological and regulatory actions to improve the adequacy of the flow of information, trading mechanisms, and regulatory frameworks.

SUMMARY AND CONCLUSIONS

Financial markets have undergone both fundamental and dramatic changes during the past several decades. Even casual observers note the shifting landscape of financial markets as new trading markets are established and others are merged or transformed. Not surprisingly, the processes of transferring a financial asset from
one investor to another have changed. Market microstructure is constantly evolving to keep pace with advances in technology, new regulation, competition, globalization, and changing investor preferences. For example, new trading strategies emerge to take advantage of faster processing speeds of computers. Regulatory reforms attempt to promote competition for trading services and to control the growth and impact of high-frequency trading. Exchanges around the globe merge as competition tightens. Global contagions of financial crises force exchanges to take necessary measures to limit their impact. Such changes offer benefits but also present challenges to investors. Changes in market microstructure have many consequences, including affecting the cost of trading securities and the short-run behavior of securities prices.

As different institutional setups have emerged, the subject of market microstructure has become more complicated. The processes by which orders to buy or to sell financial assets are submitted to a marketplace and turned into trades and transaction prices are neither uniform nor simple. This is especially true, considering that the microstructures of equity, bond, derivative, and currency markets differ in striking ways. Such differences imply that one-size-fits-all approaches in designing or regulating markets are unlikely to be successful. This book tries to navigate through this morass and to provide a better understanding of how markets work. Despite the many advances that help us understand trading and financial markets, puzzles remain that still need to be resolved. For example, the rationale for the wide diversity in trading mechanisms across financial assets is unclear.

Harris’s (2003) observation that markets are fascinating continues to be true today. Enjoy your journey when reading *Market Microstructure in Emerging and Developed Markets*. As you do, be aware of the Japanese proverb “When you have completed 95 percent of your journey, you are only halfway there.” Because of the evolving nature of market microstructure, the final destination keeps changing. Nonetheless, this should not deter you from moving forward. The longest journey starts with a single step. Let’s begin.

**REFERENCES**


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ABOUT THE AUTHORS

H. Kent Baker is a University Professor of Finance in the Kogod School of Business at American University. Professor Baker has authored or edited 19 books. Among his most recent books with Oxford University Press are Portfolio Theory and Management (2013), International Finance: A Survey (2013), and Survey Research in Corporate Finance (2011). His most current books with John Wiley & Sons, Inc. are Alternative Investments—Instruments, Performance, Benchmarks, and Strategies (2013) and Socially Responsible Finance and Investing—Financial Institutions, Corporations, Investors, and Activists (2012). As one of the most prolific finance academics, he has published more than 150 refereed articles in such journals as the Journal of Finance, Journal of Financial and Quantitative Analysis, Financial Management, Financial Analysts Journal, Journal of Portfolio Management, and Harvard Business Review. He has consulting and training experience with more than 100 organizations and serves on seven editorial boards. Professor Baker holds a BSBA from Georgetown University; MEd, MBA, and DBA degrees from the University of Maryland; and an MA, an MS, and two PhDs from American University. He also holds CFA and CMA designations.

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