

RISK MANAGEMENT IN EMERGING MARKETS

Issues, Framework, and Modeling

Edited by Sabri Boubaker,
Bonnie Buchanan and Duc Khuong Nguyen



RISK MANAGEMENT IN EMERGING MARKETS

Issues, Framework, and Modeling

RISK MANAGEMENT IN EMERGING MARKETS

Issues, Framework, and Modeling

EDITED BY

SABRI BOUBAKER

Champagne School of Management, France

BONNIE BUCHANAN

Seattle University, USA

DUC KHUONG NGUYEN

IPAG Business School, France



United Kingdom – North America – Japan
India – Malaysia – China

Emerald Group Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2016

Copyright © 2016 Emerald Group Publishing Limited

Reprints and permissions service

Contact: permissions@emeraldinsight.com

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-78635-452-5 (Print)

ISBN: 978-1-78635-451-8 (Online)



ISOQAR certified
Management System,
awarded to Emerald
for adherence to
Environmental
standard
ISO 14001:2004.

Certificate Number 1985
ISO 14001



INVESTOR IN PEOPLE

Contents

About the Editors	<i>ix</i>
About the Authors	<i>xiii</i>
Preface	<i>xxxv</i>
Foreword	<i>xxxvii</i>

PART I FRAMEWORK

1. Realized Volatility of the Spread: An Analysis in the Foreign Exchange Market <i>Emawtee Bissoondoyal-Bheenick, Robert Brooks, Sirimon Treepongkaruna and Marvin Wee</i>	<i>3</i>
2. Global Responsibility and Risks of Compliance Failure in Emerging Markets <i>Daniela M. Salvioni, Francesca Gennari and Luisa Bosetti</i>	<i>37</i>
3. The Dynamics of Value Comovement across Global Equity Markets <i>Jan Novotný and Mayank Gupta</i>	<i>79</i>
4. The Adoption of Political Risk Assessment in Emerging Markets <i>John R. Anchor and Hana Benesova</i>	<i>121</i>

5.	Rethinking Framework of Integrated Interest Rate and Credit Risk Management in Emerging Markets <i>Mariya Gubareva and Maria Rosa Borges</i>	143
6.	Auditing Bank Financial Statements in Emerging Market Countries: The Use of the Benford Distribution <i>Denis Davydov and Steve Swidler</i>	187
7.	Emerging Markets Carry Trades and Financial Crises <i>Ehab Yamani</i>	201
8.	Risk Management in Islamic Banking: An Emerging Market Imperative <i>Mahfod Aldoseri and Andrew C. Worthington</i>	229
9.	Value at Risk Prediction under Illiquid Market Conditions: A Comparison of Alternative Modeling Strategies <i>Mazin A. M. Al Janabi</i>	253

PART II APPLICATIONS AND CASE STUDIES

10.	Enterprise Risk Management and Bank Performance: Evidence from Eastern Europe during the Financial Crisis <i>Francesca Battaglia, Franco Fiordelisi and Ornella Ricci</i>	295
11.	The Informational Content of Issuer Credit Rating Changes in Emerging Stock Markets: Evidence from China <i>Haoshen Hu and Jörg Prokop</i>	335
12.	How Should Banks Support SMEs to Manage Funding Risks in China? The Role of Relationship Banking <i>Yajing Liu, Kenya Fujiwara, Toshiki Jinushi and Nobuyoshi Yamori</i>	365
13.	Risk Management in a Transition Economy: The Chilean Case <i>Franco Parisi, Sherwood Clements and Edinson Cornejo</i>	399

14. Regional Integration and Risk Management of African Stock Markets <i>Takashi Matsuki, Kimiko Sugimoto and Yushi Yoshida</i>	423
15. Foreign Currency Borrowing in Hungary: The Pricing Behavior of Banks <i>Zoltán Schepp and Mónika Mátrai-Pitz</i>	469
16. Intraday Volatility Smiles, Day of the Week Effect, and Risk Management at Borsa Istanbul Stock Exchange <i>A. Can Inci</i>	505
17. Dynamic Linkages between Hedge Funds and Traditional Financial Assets: Evidence from Emerging Markets <i>Roland Füss, Dieter G. Kaiser and Felix Schindler</i>	543
PART III LOOKING AHEAD	
18. How International Standards Apply to Emerging Countries? <i>Jocelyn Grira and Chiraz Labidi</i>	587
19. Market Concentration and Bank Competition in Emerging Asian Countries <i>Hanh Thi My Phan and Kevin Daly</i>	607
20. Possible Unintended Consequences of Basel III on Emerging Markets and Developing Economies: Assessment of Stressed VaR and Effects on Banks' Investment Decisions <i>Alberto Burchi and Duccio Martelli</i>	645
21. Before and after the Crisis: A Look at the SMEs in Emerging Economies <i>Elmas Yıldız Hanedar and Avni Önder Hanedar</i>	683
Index	701

About the Editors

Sabri Boubaker is Associate Professor of Finance at Champagne School of Management (Groupe ESC Troyes en Champagne, France) and Research Fellow at the Institut de Recherche en Gestion (University of Paris Est). He holds a Ph.D. in Finance from University of Paris Est (2006) and a HDR degree (Habilitation for Supervising Doctoral Research) in 2010 from the same university. He has recently published several academic papers in international refereed journals including *Journal of Corporate Finance*, *Journal of Banking and Finance*, *International Review of Financial Analysis*, *European Financial Management Journal*, *Review of Quantitative Accounting and Finance*, *Quarterly Review of Economics and Finance*, *Multinational Finance Journal*, *Global Finance Journal*, and *Journal of International Financial Markets, Institutions and Money*. Dr. Boubaker has also edited many books on corporate finance and financial markets and serves on editorial boards of several peer-reviewed finance journals. He is the co-founder (with Duc Khuong Nguyen) of the Paris Financial Management Conference.

Bonnie Buchanan is the Howard Bosanko Professor of Economics and Finance at the Albers School of Business and Economics, Seattle University. She was formerly the George Albers Professor between 2014 and 2017. She is Associate Professor of Finance and teaches undergraduate and graduate courses in International Finance, Financial Institutions and Markets and History of Financial Crises. Professor Buchanan has also served as Director for the Professional MBA program at Seattle University.

Her doctoral degree is from the Terry College of Business at the University of Georgia. Professor Buchanan has published in top-tiered journals such as *American Business Law Journal*, *Journal of Business Ethics* as well as *Review of Quantitative Finance and Accounting*, *International Review of Financial Analysis*, *Emerging Markets Review*, *Journal of Structured Finance*, *Review of International Business and Finance*, and *Journal of Financial Education*. Professor Buchanan's research interests include securitization, law and finance, emerging markets, and corporate governance. Prior to joining Seattle University, Professor Buchanan taught at the University of Georgia, Georgia State University, and the University of Melbourne. She was awarded the Outstanding Teaching Award, Honors Day, UGA in 2004 and the Dean's Teaching Certificate Award for Excellence at the University of Melbourne in 2006. Professor Buchanan has presented her work at national and international conferences and her co-authored work on shareholder proposals has been used in deliberations at the Securities and Exchange Commission (SEC) and cited in the *Financial Times*. Professor Buchanan has also received numerous grants throughout her career. Professor Buchanan is the Editor in Chief of *Journal of Risk Finance*, Associate Editor of *Research in International Business and Finance* and on the Editorial Advisory Board of Review in Behavioral Finance.

Duc Khuong Nguyen is Professor of Finance and Deputy Director for Research at IPAG Business School (France). He holds a Ph.D. in Finance from the University of Grenoble II (France) and a HDR (Habilitation for Supervising Scientific Research) degree in Management Science from University of Cergy-Pontoise (France), and completed an executive education program in "Leadership in Development" at Harvard Kennedy School (United States). He is also a Non-Resident Research Fellow at the School of Public and Environmental Affairs, Indiana University, and a Research Associate at the Department of Finance, Centre d'Economie de la Sorbonne, University Paris 1 Panthéon-Sorbonne. His research areas concern emerging markets finance, commodity finance, volatility modeling, and risk management in international capital

markets. He published many articles in various refereed journals such as *Journal of Banking and Finance*, *Journal of International Money and Finance*, *Journal of International Financial Markets*, *Institutions and Money*, *Journal of Macroeconomics*, *Macroeconomic Dynamics*, and *Review of International Economics*. Dr. Nguyen has edited a dozen of books on corporate finance and financial markets issues and currently serves as subject and associate editors of several finance journals including *Emerging Markets Review*, *Finance Research Letters*, *International Review of Financial Analysis*, and *Journal of International Financial Markets*, *Institutions and Money*. He is the co-founder (with Sabri Boubaker) of the Paris Financial Management Conference.

About the Authors

Mahfod Aldoseri is Doctoral Candidate in the Department of Accounting, Finance, and Economics at Griffith University. His thesis, scheduled for completion in 2016 and supervised by his coauthor, Andrew C. Worthington, concerns the risk management practices of Islamic banks in Saudi Arabia. He holds a coursework master's degree in finance and a research master's degree on financial institution risk exposure, both from the University of Newcastle.

Mazin A.M. Al Janabi is Full Professor of Finance at the EGADE Business School, Tecnológico de Monterrey, Santa Fe Campus, Mexico City, Mexico. Before joining EGADE Business School, Prof. Al Janabi worked for 10 years as Full Professor of Finance & Banking at the College of Business and Economics, UAE University. He holds a Ph.D. degree from the University of London, UK, and has several years of real-world experience in financial markets and academic institutions and in many different roles. He has worked for top international financial groups (e.g., ING-Barings and BBVA-Bancomer) where he held several senior management positions, such as Director of Global Market Risk Management, Director of Asset & Liability Management, Head of Trading Risk Management, and Head of Trading of Financial Derivative Products. Professor Al Janabi has strong interest for research, publications, and developments within emerging economies. He has several publications in refereed international journals, books, and chapters in books. Moreover, he has participated

as guest speaker and presenter in several international conferences and symposiums. He has served as consultant in finance & banking and as advisor for the creation of new financial markets within emerging economies. He has written extensively on contemporary topics in trading, market, and credit risk management besides modern portfolio management. His research interests and consulting activities address practitioners and regulatory issues in financial risk management, derivative securities, and portfolio management. Professor Al Janabi has published in top-tiered journals such as *International Review of Financial Analysis*, *Annals of Operations Research*, *Economic Modelling*, *Review of Financial Economics*, *Journal of Asset Management*, *Service Industries Journal*, *Studies in Economics and Finance*, *International Journal of Financial Engineering*, *Journal of Emerging Market Finance*, *Emerging Markets Finance and Trade*, *Review of Middle East Economics and Finance*, *Journal of Economic Research*, *Journal of Risk Finance*, *Journal of Banking Regulation*, *Annals of Nuclear Energy*, among others. He received several awards for excellence in teaching, research, and service and other awards in recognition of outstanding research publications output in A/A* ranked journals. His biography was cited and featured in the latest four editions of Who's Who in the World (2013–2016) and in the recent edition of Who's Who in Science and Engineering (2016–2017).

John R. Anchor is Professor of International Strategy in the University of Huddersfield Business School, UK. He is also Director of the Emerging Markets Research Group (EMERGE) within the School where he also has responsibility for European and Russian affairs. In addition he is Head of the Department of Strategy, Marketing and Economics.

Professor Anchor's research interests include the study of political risk and political risk assessment in emerging markets; strategic thinking, and implementation in emerging markets, especially in Central and Eastern Europe and the Middle East; and human capital theory, as applied to higher education policy, in both developed and emerging markets.

Professor Anchor has published in journals such as *International Business Review*, *Journal of Risk Research*, *Risk Management and International Journal of Project Management*. In addition he sits on the editorial board of Emerald Emerging Market Case Studies, as well as other journals. His Ph.D. is from the University of Manchester, UK, and he has supervised successfully more than 20 doctoral students of his own.

Professor Anchor is Visiting Professor in the Faculty of Economics, Technical University of Ostrava, and in the Faculty of Economics, Technical University of Liberec, both in the Czech Republic. He has received a number of awards (“medals”) in recognition of his role in developing co-operation in research and education between Economics Faculties (“Business Schools”) in Central and Eastern Europe and the University of Huddersfield.

Professor Anchor has been active in the European Union’s Erasmus and Erasmus Mundus programmes and has been responsible for managing the mobility of large numbers of researchers and students within Europe, Central Asia, and Middle East/North Africa.

Francesca Battaglia is Assistant Professor of Banking and Finance at the Department of Management Studies and Quantitative Methods, University of Naples Parthenope (Italy). She holds a Ph.D. in Banking and Finance from the University of Roma Tor Vergata (2007) and a National Scientific Qualification as Associate Professor in Financial Markets and Institutions (2013). She has recently published several academic papers in international refereed journals, including *Applied Financial Economics*, *International Review of Financial Analysis*, *Journal of Business and Economics*, *Emerging Markets Review* and *Journal of Risk Finance*. She is author of several publications on financial institutions, including several chapters in Palgrave book editions (“Asset Pricing, Real estate and Public Finance over the Crisis”; “Advances in risk management”; “New issues in financial and credit markets”; “Governance, Regulation and Bank Stability”; “Bank Performance, Risk and Securitization”).

Hana Benesova is Research Assistant of the Emerging Markets Research Group (EMERGE) at the Huddersfield Business School, University of Huddersfield, United Kingdom. Before joining EMERGE, she was an editorial assistant for the Emerald Emerging Markets Case Studies at Emerald Publishing, United Kingdom, and a lecturer at the University of Huddersfield. Her research interests include emerging markets and transition economies, collaboration of businesses, and corruption and trust.

She received a Bachelor in Business Economics and Administration from the Technical University in Liberec, Faculty of Economics, Czech Republic and a Bachelor degree in European Business from University of Huddersfield, Business School, United Kingdom. She was awarded a Master's degree in International Business with Financial Services (with distinction) before starting her Ph.D. titled "Corruption and Trust in Transition Context: the Case of the Czech Republic" at the University of Huddersfield.

She has lectured on international and European business, risk management and research methods in the United Kingdom, the Czech Republic, and Slovakia.

She is a member of several associations of researchers in international business and management such as the Academy of International Business, the British Academy of Management, and the Irish Academy of Management.

Emawtee Bissoondoyal-Bheenick is Senior Lecturer in the Department of Banking and Finance at Monash Business School. She holds a Ph.D. in Finance from RMIT University in December 2004. Banita's research interest is mainly in asset pricing, stock market volatility, stock markets analysis, mostly related to credit ratings — analysing the determinants of credit ratings, stock market impact and rating changes, structured finance products ratings and the Global Financial Crisis, and corporate ratings. Banita has published papers in the *Australian Journal of Management*, *Research in International Business and Finance*, *Emerging Markets Review*, *Global Finance Journal*, *Applied Financial Economics*, *Quantitative Finance and Pacific Basin Finance Journal*.

Maria Rosa Borges holds a Ph.D. in Economics (2001), from ISEG – Lisbon School of Economics and Management of the University of Lisbon. She is an Assistant Professor at ISEG, with tenure, and a member of the UECE – Research Unit on Complexity and Economics. She has authored and co-authored several books and book chapters in the fields of finance and micro-economics, and authored papers published in several academic refereed journals, including *Applied Economics*, *Applied Economics Letters*, *Atlantic Economic Journal*, *the Geneva Papers on Risk and Insurance*, *European Journal of Finance*, and *the Journal of Economic Studies*, among others. She won the NYSE Euronext Lisbon Award for the Best Scientific Research on Portuguese Capital Markets, in 2013. She was member of the Scientific Council of ISEG/ULisboa (2009–2014). She is a member of the Scientific Board of the M.Sc. in Monetary and Financial Economics ISEG/ULisboa, President of Pedagogical Council and Vice Dean of ISEG/ULisboa.

Luisa Bosetti is Assistant Professor of Business Administration in the Department of Economics and Management, University of Brescia (Italy), where she teaches graduate courses in Social reporting and Risk management and external control. She holds a Ph.D. in Corporate accounting and reporting. Her research interests include comparative corporate governance, internal control, risk management, CSR, and external disclosure. She has participated in several research projects; she has presented her works at national and international conferences; and she is author of many scientific papers published in books and journals. She serves as editorial board member and referee for international reviews and she actively cooperates with international institutes of management research.

Robert Brooks is Professor in the Department of Econometrics and Business Statistics and Deputy Dean, Education in Monash Business School. His primary area of research interest is in financial econometrics, with a particular focus on beta risk estimation, volatility modelling and the analysis of the impacts of sovereign credit rating changes on financial markets. Robert has published paper in *Journal of Econometrics*, *Journal of Banking Finance*,

Quantitative Finance, Journal of International Markets, Institutions and Money, International Review of Economics among others.

Alberto Burchi, Ph.D., is Assistant Professor of finance at the University of Perugia (Italy). He teaches undergraduate and graduate courses in Financial Market, Asset Management, Private Banking and Alternative Investments. His doctoral degree is from the Alma Mater Studiorum-University of Bologna (2006). Prior to joining the faculty at University of Perugia, Professor Burchi was assistant professor at SDA Bocconi School of Management (2003–2009). He has recently published several academic papers in international refereed journals including *Journal of Financial Regulation and Compliance, Journal of Financial Perspectives*. Professor Burchi's research interests include hedge funds, financial innovation, emerging markets, asset management, law and finance, risk valuation, and credit risk assessment. From 2015, he is a visiting professor at the University of Warmia and Mazury in Olsztyn (Poland) where he teaches Portfolio Management and Alternative Investments. He was awarded the 2015 Outstanding Reviewer for the *Journal of Risk Finance*.

Sherwood Clements, is Instructor of real estate and the William Carey Hulsey Faculty Fellow in the Economics, Finance and Legal Studies Department at the Culverhouse College of Commerce and Business Administration at the University of Alabama. He has taught undergraduate and graduate classes in real estate appraisal, development, finance, investment, and principles. He is active in scholarly research publishing in real estate journals such as the *Journal of Real Estate Research* and the *Journal of Property Research*. He earned a doctorate of philosophy in real estate from Georgia State University.

Edinson Cornejo was born in Chile. He studied Business at the Universidad Adventista de Chile, Master in Business Administration at the ILADES–Loyola University (Maryland) and is Ph.D. candidate at the Universidad Autónoma de Madrid. He was academic at the Faculty of Economy and Business of the University of Chile and also at the Universidad del Bío-Bío.

He was Academic Director of IEDE Business School (Chile) of the Laureate International Universities. Actually, he is academic of finance and accounting at the Faculty of Economics and Business at the University Santo Tomas in Chile.

Kevin Daly is Associate Professor (Economics and Finance) at Western Sydney University, Australia. Kevin's research passion revolves around applied finance and open economy macroeconomics; researching the effects of financial volatility on real economic activity. Related research publications have investigated the sustainability of foreign direct investment, Australia's portfolio investment, emerging markets financial development, global financial integration, finance and poverty and banking in Emerging Markets. I have consulted to state and local government, public enterprises and private corporations. Since joining UWS in 1997, I have over 80 publications in books, book chapters and refereed professional journal articles and have supervised 20 Ph.D. and DBA students to completion. Examples of collaborative research works cited in Scopus and Research Gate with colleagues from UWS, Chinese Academy of Social Science, Curtin University, Monash University, Sydney University, University of Economics – Hochiminh, Baptist University of Hong Kong, and the University of New South Wales. Current work includes a cross country study of High Net Wealth Individuals, Public Private Infrastructure Financing, Pension Fund Management, and Australia's Financial Deregulation.

Denis Davydov is Assistant Professor of Finance at the University of Vaasa (Finland). He is also a visiting Assistant Professor of Finance at the Stockholm University (Sweden). He teaches graduate and undergraduate courses in Investments, Corporate Finance, and Financial Analysis. His research interests are in corporate finance and financial institutions with the focus on emerging markets and his work includes papers on debt source choices and firm performance published in *Emerging Markets Review*. His Master's and Doctoral degrees are from the University of Vaasa.

Franco Fiordelisi holds Chair in Banking and Finance at the University of Rome III, Italy. He is also senior affiliated Faculty Member at the Bocconi Business School in Milan, Italy. Franco is also the President of the Financial Intermediation Network of European Studies (FINEST). His research revolves around different aspects of bank management and financial risk management. His work has been published in international academic journals such as the *Review of Finance*, *Journal of Corporate Finance*, *Journal of Banking and Finance*, and *Journal of International Money and Finance*. He is currently associate editor of the *European Journal of Finance*, and member of the editorial board of the *International Journal of Banking Accounting and Finance*.

Kenya Fujiwara is Professor at School of Business Administration, Kobe University. He received a Ph.D. from Kobe University in 1990. Before becoming a professor at Kobe University, he was a professor at Hiroshima University. Currently, he is a board member of the trustees of Kobe University. His major fields are Japanese banking behavior and the efficiency of the financial market, and restructurings and bankruptcy resolution for over-debt firms. He published academic articles in journals, such as *Pacific-Basin Finance Journal*, *Review of Monetary and Financial Studies*, and *International Journal of Business*.

Roland Füss is Full Professor of Real Estate Finance at the University of St.Gallen and Member of the Board of the Swiss Institute for Banking and Finance s/bf-HSG and of the School of Finance. He is also a Research Associate at the Centre for European Economic Research (ZEW), Mannheim, Germany. He studied economics at the University of Freiburg, Germany, from which he also obtained his doctoral degree and "habilitation." Prof. Füss is a member of the editorial board of several academic journals. His main research topics are in the field of asset pricing, portfolio optimization, real estate finance and economics, risk management, and applied financial econometrics. Prof. Füss has authored numerous articles in economics, finance, and real estate journals such as *Journal of Financial and Quantitative Analysis*,

Review of Finance, Journal of Money, Credit and Banking, Journal of Banking and Finance, Public Choice, and Real Estate Economics.

Francesca Gennari is Associate Professor of Business Administration in the Department of Economics and Management (DEM), University of Brescia (Italy) where she teaches Business Administration and Cost Accounting. She has a Ph.D. in Marketing, Management, and Assessment Statistical Method. Her major research fields concern corporate governance, management control, cost accounting, and corporate disclosure. She became involved in national and international researches and she has published many articles, books, book chapters, and scientific papers, presented at international and national conferences, about governance and management. She serves as referee and member of editorial board for international journals.

Jocelyn Grira is Assistant Professor of finance in the UAE University. He holds a Ph.D. degree in Finance from HEC Montreal (Canada) and a Master degree in Financial Engineering from Laval University (Canada). Before joining the UAE University, he was teaching quantitative finance in University of Sherbrooke in Canada.

Dr. Grira held several senior positions in international corporations based in Canada: KPMG Canada (Risk Consulting & Advisory Services), Desjardins Group (Risk Modeling), Industrial Alliance Group (Risk Analysis & Audit), Financial Markets Authority (Risk Modeling & Regulation), and the Ministry of Finance of Quebec (Financial Engineering & Portfolio Management). His research interests cover Sovereign Wealth Funds, Financial Regulation, Deposit Insurance, Corporate Governance, Portfolio Management, and Risk Management.

Dr. Grira's teaching interests cover Risk Management, Investment & Portfolio Management, Theoretical Finance, International Finance, Corporate Finance, Insurance, and Financial Engineering. Dr. Grira holds the Professional Risk Manager international designation (PRM) from the Professional Risk Manager International Association (PRMIA).

Mariya Gubareva is Assistant Professor at ISEG – Lisbon School of Economics and Management (University of Lisbon) and Adjunct Professor at ISCAL – Lisbon School of Accounting and Administration. She holds a Ph.D. in Economics from ISEG – Lisbon School of Economics and Management of the University of Lisbon (2013). She authored a book *Financial instability through the prism of Flight-to-Quality* and several chapters in books on emerging markets and risk management. She has published several working papers and articles in *Applied Economics*. Dr. Gubareva has presented her work at national and international conferences. She has also received numerous grants throughout her career.

Mayank Gupta is graduating from the joint Ph.D. program in Economics & Finance offered by the University of Venice Ca' Foscari, Padova & Verona in Italy. During his Ph.D. he has been a visiting fellow at Emerging Markets Group (EMG) Cass Business School City University London, UK, and Centre for Research in Econometric Analysis of Financial Time Series (CREATES) at Aarhus University in Denmark. His research is primarily focused on Emerging Markets in particular financial markets and banking crisis. He has previously published in the *Journal of Economics and Political Economy*. He has presented his work in various international conferences. Currently he is working on China's Shadow Banking System.

Haoshen Hu is Doctoral Student in finance and banking at the Carl von Ossietzky University of Oldenburg (Germany). His research interest lies mainly in the area of credit rating, with a focus on the analysis of capital market effects of credit rating announcements.

A. Can Inci is Professor of Finance at the College of Business, Bryant University. He teaches courses in Investments, Innovations in Finance, Financial Management, and International Finance. Professor Inci holds a Ph.D. in Business Administration – Finance from University of Michigan, Ann Arbor. He also has an MBA from Ohio State University, MSc in Control Systems from Imperial College – University of London, and a BSc in Electrical and

Electronics Engineering from Bogazici University. Professor Inci has published numerous research papers in international refereed journals including *Financial Management*, *European Financial Management*, *Corporate Governance: An International Review*, *Journal of Economic Dynamics & Control*, *Emerging Markets Finance and Trade*, *Global Finance Journal*, *Review of Financial Economics*, *Journal of International Financial Markets, Institutions and Money*, *Journal of Economics and Finance*, and *Research in International Business and Finance*. His research interests include Empirical Analysis of Currency Movements, Asset Pricing and Term Structures, Futures Markets, International Investments, Corporate Governance, Insider Trading and Information Asymmetry, Intraday Volatility. Prior to joining Bryant University, Professor Inci taught at Florida State University, and Sabanci University. He serves on editorial boards of several peer-reviewed finance journals. Professor Inci has received several Best Paper awards at academic conferences including Andima Best Paper in Fixed Income, Marie Curie International Reintegration Grant, and European Financial Management Top Download Award.

Toshiki Jinushi is Professor at the Graduate School of Economics, Kobe University. He received an M.A. from Kobe University in 1984 and a Ph.D. from Harvard University in 1989. Currently, he is a board member of the Japanese Association for Monetary Economics and the Japanese Economic Association. He has researched monetary policy, financial systems, and the economic influence of the disaster.

Dieter G. Kaiser is Co-founder and managing director of Robus Capital Management Limited, an alternative investment boutique focusing on mid-market corporate credit investments in Europe. Previously, from 2007 to 2011 he worked as Director at Feri AG and from 2003 to 2007 at Benchmark Capital Management GmbH in Frankfurt, Germany. Dr. Kaiser is the author of various publications on the topic of alternative investments and frequent speaker at industry conferences. Dr. Kaiser is Research Fellow at the Centre for Practical Quantitative Finance at the Frankfurt School of Finance and Management. He holds a degree in business

administration (Diplom), a Master's degree in finance and a Ph.D. in finance.

Chiraz Labidi is currently Assistant Professor of finance at the College of Business and Economics, United Arab Emirates University where she has also served as Chairperson of the Department of Economics and Finance from 2010 to 2014. She has earned her Ph.D. from Dauphine University, France. She held various academic and Research positions at ESSEC Business School, Dauphine University, and Rouen Business School in France, HEC Lausanne in Switzerland, and IHEC Carthage in Tunisia. Before joining the UAEU, Dr. Labidi has visited Dickinson College in U.S. as a Fulbright visiting scholar.

Her main areas of teaching include Financial Management, Investment, Derivatives, International Finance, Portfolio Management, Interest Rates and Fixed Income Products, and Financial theory. She has been actively involved in executive education programs. Her research has concentrated on International Financial Markets and more precisely on conditional dependence, information transmission processes, multivariate modeling and copula functions.

She has publications in reputable international journals such as *Journal of Futures Markets*, *Journal of Economics and Finance*, *International Review of Economics and Finance*, *Applied Financial Economics*, etc.

Yajing Liu is Assistant Professor in the Faculty of Economic Sciences, Hiroshima Shudo University, Hiroshima, Japan. She received a Ph.D. from Kobe University in March 2015. Her research is focused on small and medium enterprise finance in China. She also does comparative research on small and medium enterprise finance between China and other countries, such as Japan. She is a member of the Japan Society of Monetary Economics, and she peer reviews articles with the *Singapore Economic Review*.

Duccio Martelli, Ph.D., is Assistant Professor of finance at University of Perugia (Italy) and adjunct professor of finance at

University of Applied Sciences of Augsburg (Germany). He is also a summer school professor at Harvard University. He holds a Ph.D. in Banking and Finance from University of Rome "Tor Vergata." Dr Martelli has presented his research work at national and international conferences and has recently published several academic papers in international refereed journals, including *Journal of Economics and Business* and *Journal of Financial Management, Markets and Institutions*. He also serves as referee of several peer-reviewed finance journals. He teaches undergraduate and graduate courses in behavioral finance, corporate finance, private banking and financial markets, and his research interests include behavioral finance, financial literacy, asset management, and recently neuro finance.

Mónika Mátrai-Pitz is Assistant Research Fellow at the Faculty of Business and Economics at the University of Pécs, Hungary. After her graduation in Finances at the University of Pécs, and in Operations Research at the University of Hagen, she started her Ph.D. studies in Pécs with the pricing of FX loans of households as main research field. She further investigated the exposure of exchange rate movements, the validity of risk indicators during the crisis, and the effects of foreign direct investment in Hungary.

Takashi Matsuki is Professor of Economics at Osaka Gakuin University in Japan. He obtained his MA and Ph.D. in Economics from Osaka Prefecture University. His research interests are in econometric theory and applied econometrics, especially time series analysis and its applications. His research has been published in *Applied Economics*, *Applied Economics Letters*, *Economics Letters*, *Economic Modelling*, *Emerging Markets Review*, and *Empirical Economics*.

Jan Novotný is Visiting Lecturer and Research Fellow at the Cass Business School, City University London, and a Researcher at CERGE, Charles University. His research interests include financial econometrics, financial engineering, risk, finance, and econophysics. He has published papers in *Journal of Financial Markets*, *Emerging Markets Review*, *Monte Carlo Methods and*

Applications, and *Physica A*, and co-authored two chapters in books. He has co-authored number of papers in physics journals. He has a MSc. in experimental nuclear physics from Czech Technical University and a MA and Ph.D. in economics from Charles University.

Avni Önder Hanedar is a Researcher at Faculty of Business at Dokuz Eylül University (Izmir, Turkey). He holds Ph.D. in Economics at University of Essex. He did post-doctoral research at the Atatürk Institute for Modern Turkish History at Boğaziçi University in 2014. He was lecturer at the Turkish Military Academy in 2014–2015. Dr Hanedar conducted projects on economic and financial history at University of Essex and Dokuz Eylül University. He has recently published an academic paper in well-known economic history journal, that is, *Historical Methods*, on financial history of the Ottoman Empire and İstanbul bourse. Dr. Hanedar has other published papers in *Borsa İstanbul Review*, *Review of Middle East Economics and Finance*, *International Trade Journal*, as there are some forthcoming researches in *Defence and Peace Economics and Research in Economic History*.

Franco Parisi, Ph.D. Visiting Professor at Culverhouse College of Commerce and Business Administration at the University of Alabama. Visiting International Scholar Rawls College of Business Texas Tech University. Parisi was an Independent Presidential Candidate in Chile 2014 elections, obtaining more than 10% of preferences. Previously, I served as Dean at the Business School Universidad Europea de Madrid, Interin Dean and Associate Dean at Universidad de Chile, Business School with several publication in academic journal and books. Visiting Professor at Rice University, University of Alabama at Birmingham, University of Georgia, Universidad de Monterey, Universidad Nacional de Argentina Cordoba, Univerisdad del Bio Bio, among others.

Jörg Prokop is Professor of Finance and Banking at the Carl von Ossietzky University of Oldenburg (Germany). He holds a doctoral degree from University of Bremen (Germany), and he has recently published several papers in refereed journals such as

Journal of Risk Finance, Quarterly Review of Economics and Finance, and Qualitative Research in Financial Markets. His research interests include risk management, financial intermediation, business valuation, and financial market regulation.

Ornella Ricci is Assistant Professor of Banking and Finance at the Department of Business Studies, University of Roma Tre (Italy). She holds a Ph.D. in Banking and Finance from the University of Roma Tor Vergata (2009) and a National Scientific Qualification as Associate Professor in Financial Markets and Institutions (2012). She has recently published several academic papers in international refereed journals including *Journal of Corporate Finance, Journal of Banking and Finance, Journal of Financial Stability, European Journal of Finance, Applied Financial Economics, and Journal of Pension Economics and Finance.* Dr. Ricci has also edited books on bancassurance and corporate governance in the insurance industry, and serves as referee of several peer-reviewed finance journals.

Daniela M. Salvioni is Full Professor of Business Administration in the Department of Economics and Management (DEM) of Brescia University (Italy). She has also taught at Milan University, Bologna University, and L. Bocconi University. She is member of the Scientific Committee of the Ph.D. in “Institutions and firm: value, rules and social responsibility – Business and Law” of Brescia and Bergamo universities. Professor Salvioni is member of many scientific institutions, including: EBEN – European Business Ethics Network, Italian chapter (board of directors); IGS – Corporate Governance Institute; GBS – Study Group on Social Report, a national association for scientific research on social reporting; EBES – Eurasia Business and Economics Society; IMRA – International Management Research Academy; AIDEA – Italian Academy of Business Administration; SISR – Italian Society of Accounting History; SIDREA – Italian Society of Accounting and Business Administration Lectures. Professor Salvioni’s research articles are published in various refereed international journals of governance and management, and she has also edited several books on corporate governance, internal

control, financial communication, cost accounting, and financial control. She has coordinated international and national research projects on corporate communication, web reporting, corporate governance, and school governance. Professor Salvioni's research fields concern all the aspects of corporate governance, from direction and control to responsibility and accountability, with specific emphasis on companies operating in global markets. Due to her internationally recognised scientific reputation and competence, in 2012 she has been appointed by Ca' Foscari Venice University's Chancellor as referee for the local evaluation of scientific publications.

Zoltán Schepp is Associate Professor of Finance and Economics at the Faculty of Business and Economics of the University of Pécs where he has been the dean since July 2015. Dr. Schepp earned his Ph.D. degree in 2004 and the title Dr. Habil in 2011. His field of interest includes foreign exchange rate theory, international finance, and higher education policy. He teaches in this field on Bachelor, Master, and Ph.D. level, and published articles in Journals like *Applied Economics Letters*, *Hungarian Economic Review*, *Journal of Teaching and Education*, *Public Finance Quarterly* and *Sigma*. Dr. Schepp has dozens of international conference contributions (e.g. *Congresses of the European Economic Association*, *Future of Education Conference*, *INFINITI Conferences*, *Money, Macro and Finance Research Group Annual Conference* and *World Finance Conference*) and led several research groups, among them very recently the team of the University of Pécs in the *RAstaNEWS* project.

Felix Schindler is Professor for Real Estate Finance and Economics at the Center for Real Estate Studies (CRES) at the Steinbeis University Berlin (SHB) and Research Associate at the Centre for European Economic Research (ZEW). He holds a doctoral degree in Economics from the University of Freiburg and received the Habilitation for Business Administration at the University of Regensburg. Professor Schindler has recently published in journals such as *Review of Finance*, *Journal of International Money and Finance*, *Real Estate Economics* as well as *Journal of Real*

Estate Finance and Economics. His research interests include portfolio management, risk management, financial economics, real estate finance, and real estate economics. He has presented his research at several national and international conferences. For his research, he has received several awards such as the BlackRock Research Award, the Aareal Award of Excellence in Real Estate Research and the DTZ Research Institute Award for Academic Innovation. Professor Schindler is a member of the research network “Real Estate Markets and Capital Markets” (ReCapNet) and co-editor of the *German Journal of Real Estate Research*.

Kimiko Sugimoto is Associate Professor in the Hirao School of Management at Konan University in Japan. She lectures on development economics and international finance. She obtained her MA and Ph.D. in Economics from Osaka University. Before joining Konan University, she was an associate professor of Economics at Osaka Gakuin University. Her research interests are in the empirical analysis of monetary integration, financial transmission mechanism, stock market co-movement, and global liquidity, especially the macroeconomic and financial problems of Africa. Her research has been published in *Economics Letters*, *Economic Modelling*, *Emerging Markets Review*, *Histoire Economique Quantitative*, *Journal of African Economies*, and *Review of Development Economics*. She has also published a chapter in Japanese on the financial development and Economic Growth in Africa in the handbook “Contemporary African Economies”.

Steve Swidler is the J. Stanley Mackin Professor of Finance at Auburn University. He has published articles on derivatives, financial engineering, housing, and financial institutions that have appeared in the *Journal of Finance*, *the Journal of Banking and Finance*, *the Journal of Financial and Quantitative Analysis* and other peer-reviewed journals. Prior to joining the faculty at Auburn, Professor Swidler taught at UT-Arlington, Southern Methodist University, UW-Milwaukee, and Rice University. He has also had summer appointments at Victoria University in New Zealand and the Oslo School of Business. Professor Swidler is the recipient of the W. Paul Green Memorial Award for Excellence in Teaching

and was a Fulbright Scholar at Sogang University in Seoul, South Korea. In addition to his academic positions, Dr. Swidler previously worked at the Office of the Comptroller of the Currency and at Lexecon. He received his Bachelor's degree from Oberlin College and his Ph.D. from Brown University.

Hanh Thi My Phan has joined the University of Finance and Marketing (Vietnam) as a lecturer in the faculty of Finance and Banking since 2007. Hanh holds a BA Economics, and MA Economics University of Economics Hochiminh city. Hanh is a DBA student of University of Western Sydney. Examples of her research include an investigation of the relationship between inflation and exchange rate in Vietnam (*Journal of Economic Development*, 2011), an analysis of a vicious circle of inflation and exchange rate in Vietnam (Conference on Fiscal and Monetary Policy and Financial Market Development in Vietnam, 2011), examining bank competition in emerging Asian countries: pre-post the global financial crisis (World Business and Social Science Research Conference, 2013), an analysis of factors affecting performance of Vietnamese commercial banks: testing SCP and ES hypotheses (*Journal of Economic Development*, 2014), investigating competition and concentration of banking in emerging Asian countries (World Finance & Banking Symposium, 2015). Current research interests focuses on banking and stock markets in emerging Asian countries.

Sirimon Treepongkaruna is Professor of Finance at UWA Business School. She holds a Ph.D. in Finance from the University of Queensland in October 2001. She has published a total of 40 refereed publications, a book chapter and a text book, including *Journal of Banking and Finance*, *International Review of Financial Analysis*, *Journal of International Financial Markets, Institutions and Money*, *Journal of Multinational Financial Management*, *Pacific-Basin Finance Journal*, *Australian Journal of Management*, *Review of Behavioral Finance*, *Applied Financial Economic*, *Accounting and Finance*, and *International Review of Finance*. Sirimon also serves on editorial board of *Accounting and Finance* and *Review of Applied Economics*.

Marvin Wee is Associate Professor at the UWA Business School, University of Western Australia. Dr Wee holds a Ph.D. in Finance from the University of Western Australia. He teaches undergraduate and graduate courses in Investments, Trading and Markets, and Research Methods in Accounting and Finance. Dr Wee was awarded the Excellence in Teaching Award by the UWA Business School in 2014. His research interests are in trading behaviour, financial market microstructure, firm disclosure, investor relations and information asymmetry within the stock market. Dr Wee has published academic papers in international journals, a book chapter and presented at leading international conferences. His research has been published in the *Australian Journal of Management, Accounting and Finance*, *European Financial Management*, *Journal of Consumer Affairs and Pacific Basin Finance Journal*. Dr Wee is also an editor at the *Accounting and Finance journal*.

Andrew C. Worthington is Principal Supervisor of his coauthor, Mahfod Aldoseri, and Professor of Finance in the Department of Accounting, Finance, and Economics at Griffith University. He holds master's degrees from the University of New South Wales and the University of New England, and obtained his doctorate from the University of Queensland. His previous career appointments comprise the University of New England, Queensland University of Technology and the University of Wollongong and his teaching interests encompass advanced corporate finance and finance theory. His published research includes financial and commodity markets, alternative investments, and household finance, while his research into Islamic finance covers banking and managed funds. He is the editor of the contributed volume "Contemporary Issues in Islamic Finance: Principles, Progress, and Prospects" published in 2014 and an editorial board member of *Managerial Finance* (Emerald) and the *Journal of Commodity Markets* (Elsevier).

Elmas Yıldız Hanedar is Assistant Professor of Economics at Yeditepe University (Istanbul, Turkey). She holds a Ph.D. in Economics and Management from University of Trento (2013). She has been visiting researcher at Bangor Business School (Bangor, UK)

in 2011. She has published several academic papers in international refereed journals including *Historical Methods*, *Journal of Banking and Finance*, *Journal of Risk Finance*, *Borsa Istanbul Review*, *Financial Theory and Practice*. She has attended and presented papers at international conferences. Dr. Yaldız Hanedar served as referee for *North American Journal of Economics and Finance* and *Emerging Markets Finance and Trade*.

Ehab Yamani is Visiting Assistant Professor of Finance at Jackson State University (Jackson, Mississippi, USA) and Assistant Professor at Tanta University (Tanta, Egypt). He holds a Ph.D. in Finance from University of Texas at Arlington (2012). He has recently published several academic papers in international refereed journals including *Journal of International Financial Markets, Institutions and Money*, *Journal of International Finance and Economics*, *Journal of Applied Financial Research*, and *Academy of Business Journal*.

Nobuyoshi Yamori is Professor at the Research Institute for Economics & Business Administration, Kobe University. He received an M.A. from Kobe University in 1988 and a Ph.D. from Nagoya University in 1996. Before becoming a professor at Kobe University in 2014, he was a professor at Nagoya University. Currently, he is a member of Japan's FSA Financial System Council. He has published many academic articles in international journals, such as *Applied Financial Economics*, *Economics Letters*, *International Journal of Business*, *Journal of Banking and Finance*, *Journal of Financial Intermediation*, *Journal of Financial Research*, *Journal of Financial Services Research*, *Journal of International Financial Management and Accounting*, *Journal of International Financial Markets, Institutions and Money*, and *Journal of Risk and Insurance*.

Yushi Yoshida is Professor of Economics at Shiga University in Japan. Before joining Shiga University, he was a professor of Economics at Kyushu Sangyo University. He obtained his MA and Ph.D. in Economics from Osaka University. His research is in international finance, especially exchange rate pass-through, foreign exchange intervention, and international financial transmission.

He has also written on empirical international trade, including intra-industry trade and extensive margin of exports. His recent research has been published in the *Asia Pacific Business Review*, *Emerging Markets Review*, *IMF Staff Papers*, *International Review of Economics and Finance*, *North American Journal of Economics and Finance*, and *World Economy*. He is a researcher in the Pass-through Research Group at the Research Institute of Economics, Trade, and Industry (RIETI).

Preface

Academic finance research has shown that emerging markets still suffer from a myriad of risks such as credit, operational, market, legal, and exchange rate risks. The onset of the recent global financial crisis of 2007–2008 as well as the public debt crisis in the Eurozone has brought to the light a number of emerging markets facing tumbling currencies, rising inflation, slowing growth, heavy dependence on foreign capital, and high levels of vulnerability to external shocks due to increased market integration. The long swings in crude oil markets since June 2014 — which particularly arises from the complex geopolitical situations in the Middle East, low demand, and weak growth expectations — have been discouraging corporate investments, reducing corporate earnings, and consequently causing the plunge of stock markets around the world.

This context thus calls for not only a reconsideration of recent risk assessment models and risk management practices but also the improvement and innovation of these models and practices. Factors such as liquidity, tail dependence, comovement, contagion, and timescale interactions would definitively have to be part of an integrated risk assessment and management framework.

This book, composed of 21 high-quality exclusive chapters, provides insights into three main dimensions of risk management in emerging markets: (i) the state of the art and the effectiveness of risk management practices; (ii) current issues and challenges in risk assessment and modeling in emerging market countries;

(iii) the responses of emerging markets to the recent financial crises and the design of risk management models. Chapters are grouped into three parts. Part I proposes the general and integrated framework for risk management. Part II suggests suitable risk management applications for concrete cases. Part III discusses and sheds light on some future challenges, in terms of risk assessment and regulatory frameworks, facing risk managers, regulators, and policymakers.

Sabri Boubaker
Bonnie Buchanan
Duc Khuong Nguyen
Editors

Foreword

In the period immediately following the Global Financial Crisis (GFC) of 2007–2008, capital flows into emerging markets surged, as stock market investors chased returns of a staggering 79.02% in 2009 and 19.20% subsequently in 2010. Developed stock market returns during the same period, while certainly attractive at 30.78% and 12.34% respectively, seemed simply inadequate in comparison. The “risk-on” appetite of investors appeared insatiable in both equity and bond markets, with the latter seeing a significant narrowing in credit spreads. Since, then it has been quite a different story: emerging equity markets have declined approximately 18.23% in US dollar terms and much the same in local terms, while developed markets have risen more than 44.07%.¹

The apparent weakness and subsequent underperformance of emerging versus developed stock and bond markets has become a common/frequent discussion point in the popular press. The obvious culprit was the withdrawal of excessive post-GFC stimulus and weaker demand internationally. Deflationary pressures persist now with the equally significant fall in the price of oil. Increased levels of financial market volatility appear to characterize all markets, with particular concern expressed over the worldwide impact of declines in the economic performance of China.

1. Based on analysis of MSCI indices returns. Please see: https://www.msci.com/resources/factsheets/index_fact_sheet/msci-world-index.pdf

It is in this broad context that the timely volume “Risk Management in Emerging Markets: Issues, Framework, and Modeling,” edited by Sabri Boubaker, Bonnie Buchanan, and Duc Khuong Nguyen must be considered. The volume is broadly divided into three main parts with many excellent and carefully selected essays (chapters) contained within each that reflect the recent interest in managing risk — broadly defined — associated with investment in emerging markets. The first part consists of nine chapters that provide a framework for analyzing emerging market risk; the second consists of eleven chapters that address applications and case studies; while the third and final part contains four chapters that provide insights into mostly regulatory developments that are necessary to address the risk concerns addressed in earlier chapters, but with a particular focus on developments in banking markets. The contents of these chapters will now be briefly explained.

The first part begins with the analysis by Emawtee Bissoondoyal-Bheenick, Robert Brooks, Sirimon Treepongkaruna and Marvin Wee on realized exchange rate volatility and finds that increases in currency risks are associated with the variability of liquidity. Daniela M. Salvioni, Francesca Gennari and Luisa Bosetti then investigate the relationship between ethics, risks of compliance and find that a shared background of ethical principles is required to prevent the risk of compliance failure and limit the global risk exposure of a company. The chapter by Jan Novotný and Mayank Gupta then investigates the cross-sectional aspects of the dynamics of the valuation metrics across global stock markets including both developed and emerging markets, with their model providing early warning signs for asset mispricing in real time on a global scale and formation of asset bubbles.

This theme is then continued with a chapter by John R. Anchor and Hana Benešová that provides a new approach to political risk assessment in emerging markets, while Mariya Gubareva and Maria Rosa Borges reassess the economics of interest rate risk management in light of the global financial crisis by developing a derivative-based integrated treatment of interest rate and credit risk interrelation. Denis Davydov and Steve Swidler then

undertake a forensic approach to audit the quality of accounting information reported by banks in emerging market countries, since the lack of financial standards and reporting transparency can ultimately lead to bank failures in many emerging nations. The chapter by Ehab Yamani identifies three crisis warning indicators driven from trading in emerging markets' carry trades, and determines if this allows the prediction of two major financial crises: The 1997–1998 Asian Crisis and the 2007–2008 GFC. The chapter by Mahfod Aldoseri and Andrew C. Worthington reviews the risks that Islamic financial institutions face in an emerging market context, including risk sharing in Islamic financing and Shari'ah (Islamic law) compliance. The final chapter in this part by Mazin A. M. Al Janabi then examines asset liquidity risk and obtains a Liquidity-Adjusted Value at Risk estimation for various equity portfolios.

The second part focuses on applications and provides insights from a series of case studies. The first chapter in this part is the work by Francesca Battaglia, Franco Fiordelisi and Ornella Ricci, who investigate enterprise risk management and bank performance in the context of Eastern Europe during the financial crisis. The next chapter by Haoshen Hu and Jörg Prokop assesses the market impact of credit rating changes in emerging stock markets by a group of six Chinese credit rating agencies and show that market reactions to rating signals are largely in line with observed behavior in Western stock markets.

The case study theme continues with Yajing Liu, Kenya Fujiwara, Toshiki Jinushi and Nobuyoshi Yamori investigating how relationship banking facilitates the management of funding risks in China, while Franco Parisi, Sherwood Clements and Edinson Cornejo assess risk management practice in the transitional economy of Chile. The study by Takashi Matsuki, Kimiko Sugimoto and Yushi Yoshida then considers the changing nature of regional integration and the implications for risk management of various African stock markets, while Zoltán Schepp and Mónika Mátrai-Pitz explore the interesting case of foreign currency borrowing in Hungary, which was used to fund housing loans. A. Can Inci then uses 5-minute (and 15-minute) intervals

Borsa Istanbul Stock Exchange data to undertake a microstructure analysis, while the final chapter in this part by Roland Füss, Dieter G. Kaiser and Felix Schindler determines whether diversification benefits accrue from adding emerging market hedge funds (EMHFs) to an emerging market bond/equity portfolio.

The final part in the volume “Looking Ahead” to expected developments, particularly with respect to banking markets. The first chapter in this part by Jocelyn Grira and Chiraz Labidi discusses the regulatory challenges that are faced by financial institutions in emerging countries, highlighting their idiosyncratic features compared with those in developed countries. The next chapter by Hanh Thi My Phan and Kevin Daly considers market concentration and bank competition in several emerging Asian countries and finds that there is generally a negative association between market concentration and bank competition. This is consistent with banks in concentrated markets colluding to generate higher profits. Alberto Burchi and Duccio Martelli then consider the possible unintended consequences of Basel III on emerging and developing economies and employ a Stressed Value at Risk (SVaR) to measure these effects. The final chapter in this volume is by Elmas Yaldöz Hanedar and Avni Önder Hanedar, who assess the financial constraints that small and medium size enterprises have experienced in emerging economies following the GFC demonstrating these effects are most significant on small- and medium-sized firms.

Overall, this excellent collection of essays provides key insights into the behavior of emerging financial markets and the risk associated with them.

Jonathan A. Batten

Part I

Framework



Realized Volatility of the Spread: An Analysis in the Foreign Exchange Market

**Emawtee Bissoondoyal-Bheenick,
Robert Brooks, Sirimon Treepongkaruna
and Marvin Wee**

Abstract

This chapter investigates the determinants of the volatility of spread in the over-the-counter foreign exchange market and examines whether the relationships differ in the crisis periods. We compute the measures for the volatility of liquidity by using bid-ask spread data sampled at a high frequency of five minutes. By examining 11 currencies over a 13-year sample period, we utilize a balanced dynamic panel regression to investigate whether the risk associated with the currencies quoted or trading activity affects the variability of liquidity provision in the FX market and examine whether the crisis periods have any effect. We find that both the level of spread

and volatility of spread increases during the crisis periods for the currencies of emerging countries. In addition, we find increases in risks associated with the currencies proxied by realized volatility during the crisis periods. We also show risks associated with the currency are the major determinants of the variability of liquidity and that these relationships strengthen during periods of uncertainty. First, we develop measures to capture the variability of liquidity. Our measures to capture the variability of liquidity are non-parametric and model-free variable. Second, we contribute to the debate of whether variability of liquidity is adverse to market participants by examining what drives the variability of liquidity. Finally, we analyze seven crisis periods, allowing us to document the effect of the crises on determinants of variability of liquidity over time.

Keywords: Foreign exchange market; liquidity; realized volatility; realized skewness; bid-ask spreads; financial crisis

Introduction

The liquidity squeeze following the collapse of Lehman Brothers during the 2007–2008 Global Financial Crisis (GFC) adversely affected the global financial markets (Brunnermeier, 2009). The GFC highlighted the importance of liquidity and brought to our attention the risks associated with illiquidity in the financial markets. The foreign exchange (FX) market is the world's most liquid market where average daily turnover has grown from US\$1.7 trillion in 1998 to US\$3.98 trillion in April 2010 (Bank of International Settlements, 2010). As the FX market trades continuously and is connected globally, research has shown that contagion and spillover effects are of significant concerns to FX market participants (Fratzcher, 1998; Horen, Jager, & Klaassen, 2006). Given the concerns with the lack of liquidity during the recent crises such as the GFC and the size of the FX market, it is pertinent to examine

the extent to which liquidity provision fluctuates and better understand the determinants of these fluctuations in the FX market. In this chapter, we investigate whether the risk associated with the currencies quoted (i.e., information) or trading activity affects the variability of liquidity provision in the FX market and examine whether the crisis periods have any effect on the relationships we document in the non-crisis periods.

In our analysis, the quoted bid-ask spread is used as a proxy for liquidity. The bid-ask spreads in the FX market determine the transaction and hedging costs and are important as they affect trade, the effectiveness of macroeconomic policy and represents real costs to the economy (Becker & Sy, 2006). Many prior studies (Bollerslev & Melvin, 1994; Glassman, 1987; Huang & Masulis, 1999; Koutmos & Martin, 2011) have examined the determinants of the bid-ask spread in the FX market. Most have found that spreads are related to their past values as well as the risk associated with the currencies that are quoted. The risk of a currency is often proxied, in prior studies, by the variance of the spot rate (Glassman, 1987) or the estimated conditional variance (Bollerslev & Melvin, 1994). While the bid-ask spread, itself, is an important cost to participants on the currency market, the variability of the bid-ask spread represents the availability of liquidity to the participants. For example, a sufficiently liquid currency pair with a modest spread on average may allow traders to more easily take or unwind their positions in that currency. However, the average spread does not indicate whether liquidity is consistently available to the traders. The proliferation of high frequency trading in recent years has drawn attention to the variability of liquidity where market participants have complained that liquidity seemingly vanishes when they place a large order against the quote. We argue that when the bid-ask spread is more variable, the participants encounters more risk when completing a round-trip transaction.

Although the variability of liquidity represents an aspect of risk that is important to market participants, only very few studies (Bollerslev & Melvin, 1994; Koutmos & Martin, 2011) have examined the volatility of liquidity (i.e., variability of the bid-ask spread). Koutmos and Martin (2011), a study closely related to