

Wiley Finance Series

The Moorad  
**Choudhry**  
**Anthology**

*Past, Present and Future  
Principles of  
Banking and Finance*

+ website

MOORAD CHOUDHRY

Forewords by

PAUL FISHER, Executive Director, Bank of England

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RUNDHEERSING BHEENICK, Governor, Bank of Mauritius

Choudhry

WILEY



## Praise for *The Moorad Choudhry Anthology*

A worthy book for professionals and students alike. Whether you want to refer to a product or a technical formula or learn afresh, the easy-to-read style of this book from an author who is very deep rooted in everyday banking business promotes great understanding, as well enjoyment from the activities of both generating profit and minimising risks.

—Dr Martin Czurda  
*CEO, Austrian Anadi Bank, Klagenfurt*

“I wish this book had been around when I did my MBA. It is essential reading for anyone who wants to be both comprehensively and thoughtfully briefed about the banking sector. I particularly appreciated the section on governance, as this is rarely included in such discussions, but is always the dog that doesn’t bark when things go wrong. As such, *The Moorad Choudhry Anthology* should grace the table of every bank boardroom in the world.”

—Dr Eve Poole  
*Asbridge Business School*

“Moorad manages to describe a comprehensive and complex area of banking in a lively and readable language. As a Group Chief Financial & Risk Officer I have had great professional benefit of the description of the role of the Asset & Liability Committee, the risk policy, reporting and stress testing as well as the description of the day-to-day management in the risk and treasury departments. It was also rewarding for me to read the final chapters about best practice in capital and funding management and corporate governance, which we should not forget, when we enter into the next period of bull markets. I can highly recommend this book as a handy reference work for anyone who is involved in banking strategy, ALM and liquidity risk management.”

—Steen Blaafalk  
*Group Chief Financial & Risk Officer,  
Saxo Bank A/S, Copenhagen*

“Not very often does a monograph come along that consolidates a field’s existing body of research and practitioners’ insights into a comprehensive, accessible best-practice framework. *The Moorad Choudhry Anthology* achieves this feat; it builds on his earlier *Principles of Banking*, widely recognised as the bible in the ALM and bank risk management field. More than that though, *Anthology* is a fun, fascinating read, benefiting from Professor Choudhry’s signature witty and straight-to-the-point writing style as well as from his substantial previous academic research and professional experience as banking executive.

*Anthology* is educational without being prescriptive, encouraging practitioners to pick and mix those elements from a rich analytical toolbox that suit their institutional and market contexts. Given the depth and breadth of its coverage and its clear, methodical organisation, the book is suitable for anyone interested in this fascinating field at the core of modern banking, from the graduate preparing for a job interview to the seasoned professional looking for a comprehensive and detailed exposition of current best practice.”

—Thomas Kuehn  
*Director Structured Finance Model Development Team,  
Fitch Ratings, London*

“Moorad, you are a great team player and you have the heart that a South American footballer requires!”

—Juan Carlos Sihuincha  
*Quantitative Analyst, Banco de Crédito BCP, Lima*

*Moorad Choudhry Anthology* is quite simply, the bible of banking. Anyone who is serious about a career in this industry needs a copy. We eagerly await the next book in the series from the author, who is without doubt a guru in his field.

—Julie Ashmore

*Speaker and Leadership Coach, Former Head of SME Lending, HSBC, London*

“The best book I’ve ever read on banking.”

—David Riddell

*Director, Banking Solutions, Earnix, London*

“*The Moorad Choudhry Anthology* is that very rare thing, a textbook that shows the practitioner exactly how to go about achieving business best-practice in the real world, with templates and policy guidelines that can be applied to virtually any commercial bank. The in-depth coverage of capital, liquidity, and governance principles is particularly welcome. A heavyweight benchmark guide that all senior bankers should be thoroughly familiar with.”

—David Wileman

*CEO, King & Shaxson Limited, London*

“Don’t mistake the complexity and detail for a hard read. This book is a thorough anthology, complete in its coverage and with a valuable connection to the real world. It is a timely source of reference, lessons, and understanding and should help ensure that ‘principles’ regain their position at the forefront of banking culture.”

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*Managing Partner, Peel Hunt, London*

“I read it fully and can say it is one of a kind. A super useful tool for bankers and staff in the capital markets.”

—Issa Soormally

*Deputy Governor, Bank of Mauritius, Port Louis*

“While working on my MBA master thesis in Finance (corporate banking), I was always reading Professor Choudhry’s books as they are more valuable and better structured than most of the books in Finance.”

—Piotr Lagodzinski

*VTB, Frankfurt*

“This book is an essential guide to banking in practice. *The Moorad Choudhry Anthology* is a prerequisite to understanding how banking should operate in order to be safe and sound, an imperative in today’s post-crisis environment. A truly insightful and really rather fabulous book.”

—Ruth Wandhöfer

*Global Banking Regulatory and Industry Expert, and author of  
Transaction Banking and the Impact of Regulatory Change (2014)*

“This author never ceases to impress. As with all his books, Professor Choudhry has done an amazing job of concisely and clearly explaining, in a greatly appropriate and complete level of detail, all of the important aspects of banks as institutions, their products, their asset and liability management techniques, liquidity and risk management to name just a few. It is an excellent book and as always with Professor Choudhry’s writing style it is very easy to read and understand. I would recommend this for anyone who wants a good, detailed insightful read about the business of banks, their products, and the regulatory and risk management aspects of the business of banking.”

—Shabnam Mohammad

*Managing Director, Khalij Islamic Limited, Dubai*

“Finance text books generally don’t cover bank asset–liability management, capital and liquidity in detail. I’m very impressed by this book because the author covers all important aspects of these essential disciplines in banking in a way that even a fresher can understand. Highly recommended.”

—Balamurali Radhakrishnan

*FX Strategist, FXWire Pro, Bangalore*

“If you want to see how much banking has progressed in a generation, look no further than *Anthology*. And all for the better!”

—Peter Eisenhardt

*Secretary General, International Council of Securities Associations, London*

“Moorad’s ability to capture the fundamentals of Banking with a particular focus on capital and liquidity risk management is laid bare in black and white for all to understand. Whether new to Banking or with multiple years of exposure, *The Moorad Choudhry Anthology* is a book that needs to be handled regularly to ascertain best practice.”

—Stephen Grainger

*Chairman of the Small Banks Association, and Group Treasurer,  
Aldermore Bank Plc, London*

“*The Moorad Choudhry Anthology* is an extremely thorough and readable book on asset–liability management and bank risk management. It covers such a wide spectrum of topics affecting a treasury and risk function that this is always the first resource I look into if I have to brush up my knowledge or look up something properly in any particular area. I find this book very authentic and relevant as it covers the latest issues in the market and is written by a practitioner who is very well regarded in the industry.”

—Nehal Saghri

*Head of Asset and Liability Management,  
Mizuho Capital Markets (UK) Ltd, London*

“Moorad’s book sets a high standard that balances both academic and real world application. With the knowledge of ALM, capital and liquidity management being more relevant today in the post-crisis era, it is a must read for any serious banker.”

—James Chua Pheng Kyan

*Treasurer, Bank Islam Brunei Berhad, Bandar Seri Begawan*

“This book will actually make one understand how a bank works, about their products, their asset–liability management techniques, their liquidity and risk management, and how to manage the balance sheet in aggregate, strategic terms. Any reader will see that the author covers a wide but sensibly chosen range of topics. This is a book I highly recommend to both practitioners and students.

Prof. Choudhry’s writing style is very easy to read and understand. He has done a really great job in providing concise and clear explanations with a greatly useful and complete level of detail, which makes this the best reference tool for bankers everywhere. But the true beauty of this book is that it is also very readable and easily understood for non-bankers as well.”

—Shahriar Azad Shashi

*Research Associate, EBL Securities Limited, wholly-owned  
Subsidiary of Eastern Bank Limited, Dhaka*

“*The Moorad Choudhry Anthology* combines all of the strategy, capital, liquidity and asset–liability frameworks with analysis on banking practices that makes a bank thrive or fail during a financial crisis. This book serves as an invaluable guide in my work as auditor and enables me to communicate effectively with my front office and risk management colleagues.”

—Chan Chee Cheong Gerard

*Vice President, Non-Credit Audit,  
United Overseas Bank Bhd, Kuala Lumpur*

“This book contains so much about crucial things that you need to know, it gives a practical and conceptual approach to understanding the principles of modern banking. It is an indispensable guide, template and policy manual for all bankers everywhere. A well written book about important topics, I recommend this book highly.”

—Budi Gunawan

*Division Head, Market & Liquidity Risk Management,  
Bank OCBC NISP, Jakarta*

“An invaluable text that should be read by all bankers, whatever their specialism. A very high quality real-world benchmark of business best-practice.”

—John Simon

*Director, Treasury & Capital Markets, CIMB Bank, Jakarta*

“A first-class guidebook that deserves to be on the bookshelf of every banker. This book will become a timeless masterpiece.”

—Ekkapong Rungrojpanichkul

*Vice President, Kasikorn Bank, Bangkok*

“Nestling proudly among the Treasury team’s bookshelves are: one copy of *Bank Asset & Liability Management* and two copies of *The Principles of Banking*. All copies have been suitably underlined, bookmarked, and cross-referenced. Nice testimonials!”

—Graham Laird

*Treasury Risk Manager, Aldermore Bank plc,  
London*

“This book gives an excellent practical overview on markets, derivatives, and risk management. Everybody preparing to take the CISI diploma should take this book as necessary reading. I would strongly recommend this book to people who are starting their career in the banking industry as an appropriate literature. This book is written in a comprehensive manner, and was very easy to understand.”

—Kosta Shorko

*Head of Portfolio Management, National Bank of the  
Republic of Macedonia, Skopje*

“Professor Moorad Choudhry’s *Anthology* is an all-encompassing practitioner’s guide that comprehensively outlines best practice governance, balance sheet management, credit underwriting and risk management structures that all banks should embrace. The book is essential reading for all senior managers, board directors, and regulators, especially in frontier markets, where the importance of adopting international best practice is critical to facilitate the seamless integration into the global financial system, a key requisite for any financial institution in an increasingly globalized world.”

—Njilan Senghore Njie

*General Manager, Finance & Administration,  
Trust Bank Ltd, Banjul*

“I’ve adopted elements from the *Principles of Banking* text book here in Myanmar for capacity building initiatives in the Banking sector. Great book! Thank you for sharing your knowledge Professor Choudhry.”

—Tony Deary

*Head of Component – GIZ Financial Sector Reform,  
Yangon*

“*The Moorad Choudhry Anthology* drives home one key point – the need for the industry to return to fundamentals: manage the balance sheet. How this has been reduced by many to a residual activity should be shocking. This book provides clarity on issues of importance – a key resource and a must for bankers, board members, risk professionals, and regulators to be properly rooted in the principles of banking.”

—Steven Lee

*Chair, The Financial Risk Institute (FinRisk) and Managing Director,  
Global Client Consulting, Washington DC*

“Prof. Choudhry’s latest instalment gives a well balanced approach to finance. It demonstrates a brilliant culmination of his theoretical background and his extensive experience in the Square Mile. An essential read for anyone working in finance and those with a keen interest.”

—Wei Goh

*Group Financial Controller, SRG Limited, Perth*

“To Professor Moorad Choudhry – with friendship from the author.”

—Gyorgy Matolcsy  
*Governor, The Central Bank of Hungary, and author  
of Economic Balance and Growth, Budapest*

“The book helped me a lot to broaden my knowledge and I think both *The Principles of Banking* and Professor Choudhry’s book *Bank Asset and Liability Management* are quite complementary. It is easy to follow, and it is better to have a handbook for people to get the main ideas because these two books cover so many things, so to understand them you need a lot of time. But they are very good.”

—Vu Trong Hieu  
*International Business Administration,  
Foreign Trade University, Ha Noi*

“Your writing was so clear and to the point. Your books actually helped me get a job in structured finance. I’m very grateful.”

—Gulshat Ibliaminova CFA  
*Principal, Independent Consultancy Services, Moscow*

“This book articulates the principles of banking in a way that is easy for the beginner in banking to understand. But it is a must read for all senior executives who wish to challenge their thinking and assumptions about their business model, and provides valuable insights in how to win in the market place.”

—Emmanuel O. Lamptey  
*Group Head Finance & Chief Operating Officer (Group Finance Department),  
Ecobank Transnational Incorporated, Lome*

“Unfortunately, I never had the chance to attend one of your classes. However, your books, articles, and views have helped me a lot during my career in banking. Thank you.”

—Alexander Bell  
*Managing Consultant, Horváth & Partners, Munich*

“When we received Professor Choudhry’s book, we were so impressed we immediately ordered more because we wanted all our senior people in every department to have a copy.”

—Dr. Nsingu Andre  
*Director, Academia Banco Nacional de Angola, Luanda*

“I have always been a fan of your lucid writing and simplifying complex topics to manageable, bite-size pieces.”

—Vincent Cabanero  
*Director, RBS Greenwich Capital, Greenwich, CT*

“A most valuable and solid practical handbook that addresses all the key issues of bank strategy, capital, liquidity and the balance sheet. The provision of policy templates and explicit recommendations for best-practice mark this work as a standout benchmark reference text for all bankers, central bank policymakers, and finance academics.”

—Martin Barber  
*VP Delivery and Productivity, GTS Europe, IBM, London*

“I think everyone should have a copy of this book!”

—Carla Bester  
*Senior Manager, Financial Risk Management,  
KPMG, Johannesburg*

“I truly believe this book is a must for all people in banking.”

—Nikolai Ivashkovsky  
*Head of Treasury, International Bank for Economic  
Cooperation – IBEC, Moscow*

“Professor Choudhry has written a comprehensive guide to the underlying principles in banking and finance whilst at the same time presenting the reader with practical commentary. In the process he has given us both an overall understanding of the topic and an opportunity of incorporating practical solutions into the workplace. Is it possible to learn from the mistakes of others? Yes, if you take the time to read and ponder upon the contents of this book.”

—Patricia Robertson

*Chartered FCSI, Westport Global Limited, London*

“I just started to read your new book, and if it continues the way it promises this is the book I was looking for. Before banking I studied physics and always appreciated when the lecturer first explained carefully the principles of the phenomenon rather than simply jumping wildly into hours of formulas. Like legendary Feynman lectures of old, but still grasping the student’s attention. I’m wishing you become the Feynman of banking!”

—Jakub Wojtasik

*Head of Capital Management, Bank Pekao, Warsaw*

“I have followed your publications and books and I found it is very useful for practitioners who want an academic base foundation like me. Thank you a lot for your inspiration.”

—Pachaneeya Chongsatja

*Central Treasury Unit, United Overseas Bank Limited (UOB),  
Singapore*

“*Moorad Choudhry Anthology* collects the most interesting parts of Professor Choudhry’s extensive and well known published collection of books on financial products. As always he blends a quantitative and practical approach for readers of all levels of experience. Moorad thoroughly understands the changes in the financial industry and is always worth reading.”

—Andrew Kasapis

*Director, Duff & Phelps Ltd, London, and author of  
Mastering Credit Derivatives*

# **The Moorad Choudhry Anthology**

*“The first principle of banking is to have principles.”*

— Professor Moorad Choudhry

# The Moorad Choudhry Anthology

*Past, Present and Future Principles  
of Banking and Finance*

+ Website

MOORAD CHOUDHRY

WILEY

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**For Lindsay**  
*Ultimate Yummy Mummy*



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# Foreword

**Paul Fisher**

**W**hat is a bank? Few people seem to know. As explained in this book, banks can provide many financial services, but they are defined by regulators in relation to an official authorisation to take deposits: you cannot call yourself a bank unless you are a licensed deposit taker. The meaning of banking is equally vague in the popular consciousness. Among the most notable popular *canards* are the following: you put your money in a bank and they look after it for you; they take savings and lend them to borrowers; they invest in the real economy. None of these statements is true. In fact, retail bank deposits are effectively loans by customers to the bank, so it becomes the bank's money. Banks actually create most of their deposits in the process of lending, enabling them to generate much higher leverage (assets relative to capital) than any other type of financial firm. And banks provide credit services to borrowers for a fixed or floating rate of interest rather than sharing in the risk and actual returns on an investment.<sup>1</sup>

Why do we regulate banks? In short, regulation could be said to reflect concerns matching those three observations. The first concern is that retail depositors are at risk of not being repaid, yet not in a position to judge that risk or get paid for it. Hence deposit insurance schemes. The second is banks' very high leverage, which increases the risk of insolvency when any sizeable loan goes bad. Hence capital requirements. And banks traditionally make long-term loans but raise funding from deposits or other short-term debt instruments – creating the maturity mismatch that generates liquidity risk. Hence liquidity regulations and central banks acting as Lender of Last Resort. Even after the Great Financial Crisis of 2007–2010 these basic facts about banking are understood by few and forgotten by many.

Why did we have a financial crisis? Well, the full answer would require another book, or several, but in my view it reflected human nature to a large extent. The 5–10 years before the crisis was one of the most stable periods in the financial history of the developed world – growth was strong,

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<sup>1</sup> Except in Shariah banking, where banks must be co-investors.

unemployment and inflation were low, few risks crystallised. So, humans being human, as risks became less evident, the price of risky assets fell, controls on risk-taking were relaxed and more risk was taken. Banks held less capital and liquidity, in both quantity and quality, and the authorities allowed them to do so given the apparent contribution to economic prosperity. Meanwhile, mistakes were made globally in monetary policy (low interest rates in the US, copied across other countries to prevent exchange rate appreciation) coupled with overly lax fiscal policy. Combined, these policies led to huge short-term capital inflows into the US and UK, helping to swell financial balance sheets. And in the US there was well-intentioned but ultimately disastrous state intervention in the housing market. That probably deserves more attention as being a root cause of the explosion in sub-prime lending and thence structured products, in which the risks to the end-investor were obscured to the point of being invisible. Overall, it was a perfect storm of private and public sector failures generated through a period in which risk seemed to have receded.

After the crisis, the need to have a proper understanding of banking, and for bankers to be appropriately qualified has been recognised but not really acted upon. Moorad Choudhry's text – like his previous volumes – does something to fill the gap. Here is the knowledge that practical bankers, regulators, and financial policy makers need. I wish I had read this book in 2006, rather than learnt the hard way in the years that followed. If formal qualifications for bankers are still somewhat rare, at least we can't complain that the process of banking and the risks that it entails are not well documented, when we have such clear expositions, in detail.

The regulatory reforms of the past 10 years should have made banking much safer and the financial system much more stable. The unfortunate cost of that is a system for calculating regulatory capital and liquidity which is almost impenetrable including, in my experience, to many of those who helped design it. Again, Moorad does a great job in laying out the regulatory regime, starting from the basics. This book will benefit many, but especially those moving into the subject from other quantitative disciplines such as economics, or those practitioners who wish to have a detailed, comprehensive reference on their shelves to dip into for a reminder from time-to-time.

But what of the future? Even if the dragons of the past have been slain – or at least put to sleep for a while – new threats have emerged. One source of threat is from new technology. Without attempting to be comprehensive, we might pick out three aspects. First, the risk of cyber-hacking is one of the most dangerous. It is well-known that there are daily, routine attacks, by known actors, some of them state-sponsored, on many public institutions and private companies in the West, including banks. If the public came to believe that “their” money was not safe, and trust in banks diminished, then

the financial system could be put under huge pressure once again. Second, aspects of new technology – more computing power, the approach to big data, the distributed ledger approach – means that the business models of traditional financial intermediaries are all under threat. In response, many companies, including banks, now look like IT companies with a particular customer service bolted on top! Finally, one might mention crypto-currencies such as Bitcoin. Personally I believe these to be a passing fad, with the multiplicity of such currencies being akin to a price inflation that will eventually cause a failure of trust in all such endeavours. But I have no crystal ball, and if this view is wrong, then it may lead to a significant leeching of deposits out of traditional banks.

A second existential source of threat is climate change and the wider sustainability agenda. Taking climate first, the risks to the financial sector have now been well documented – and by the Bank of England<sup>2</sup> no less. The economy needs to transition to much lower – actually net negative - carbon emissions. That will be driven and encouraged by public policy changes, many of which are as yet uncertain, but are beginning to emerge in China, in the EU,<sup>3</sup> and in the UK. Successful banks will be those who correctly spot the emerging trends and shift financing towards it – as they have done for previous economic paradigm shifts. And those firms that choose to ignore it will lose out, as they have done before. And as with climate change, so with wider social issues. The rise in political populism is likely to be met – one way or another – with radical political and social changes that banks need to follow carefully if they are not to be left behind.

In the face of these high-level threats to the future of banking, the basic principles, as recorded so well in this volume, should not be forgotten.

**Paul Fisher**

*Former Executive Director, Bank of England*

5 February 2018

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<sup>2</sup> Matthew Scott, Julia van Huizen and Carsten Jung, “The Bank’s Response to Climate Change”, *Quarterly Bulletin*, Q2, 2017.

<sup>3</sup> High-Level Expert Group on Sustainable Finance, “Financing a Sustainable European Economy”, Brussels, January 2018.



# Foreword

**Professor Alexander Lipton**

It is widely assumed by the general public, and often stated in the press, that the main culprits of the global financial crisis are banks, particularly, global systemically important financial institutions. The reasons for this unflattering conclusion are manifold, but one of the more important ones is the fact that in some cases banks senior and mid-level managers are surprisingly ill equipped with the requisite technical knowledge. This is the main conclusion which Professor Moorad Choudhry arrives at in his book; he also proposes several efficient remedies to rectify this unfortunate situation.

Prof. Choudhry is uniquely equipped to accomplish this challenging task successfully. He has decades of experience in various senior roles at several leading banking institutions in the City of London. In addition, he has been teaching banking and quantitative finance for many years. He has shared his unique practical insights and theoretical findings in several best-selling books and numerous conference presentations.

This book is an anthology of the best and most relevant excerpts from the previous books of Prof. Choudhry published by Wiley. It covers several topics, which are important to anybody who wants to make a career in banking or, if they are bankers already, to stay au courant with the current trends in their chosen field. The book strikes a fine balance of being technical enough to be fit for purpose and yet not overload the reader with unnecessary details.

Specific subjects covered in the book include general principles of banking and finance; discussion of the ever-changing landscape of banking regulations, with an emphasis on regulatory capital and risk management; asset and liability management (ALM) for banks; and finally, a set of predictions on the future of banking and finance.

Personally, I find the part dealing with ALM especially important. Whilst frequently underemphasized, the fact is that banks are dividend-producing machines, which have to perform a fine balancing act by choosing sufficient levels of capital and liquidity to guarantee their survival in perpetuity, while, at the same time, maximizing their profitability to ensure the dividend flow to shareholders and steady rate of credit money creation for the economy as

a whole. The fact that, in many instances, banks' senior management is ill equipped to properly appreciate this highly technical matter, unquestionably contributes to problems of the banking industry at large. Prof. Choudhry's book, which is based on his personal experience and original research, is useful in this regard and proposes several recipes for successfully solving the ALM problem.

In summary, I can wholeheartedly recommend this book to anyone who feels the need to understand how banking operates not only in theory, but in reality, and wants to apply this newly acquired understanding in practice. The accompanying website contains a treasure trove of additional technical information helpful for this purpose.

**Professor Alexander Lipton**

*Founder and CEO, Stronghold Labs*

*Co-Founder, Distilled Analytics*

*Fellow, Massachusetts Institute of Technology Connection*

*Science and Engineering*

*Visiting Professor of Financial Engineering,*

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# Foreword

**Rundheersing Bheenick**

**P**rofessor Moorad Choudhry presented me a copy of his book, *The Principles of Banking* when he visited Mauritius to attend a banking conference which the Bank of Mauritius was hosting.

I was struck by his sound down-to-earth grasp of the banking scene and impressed by his academic and publishing track record. I made it a point to plough my way through his masterly tome and emerged thoroughly convinced that this book deserves a wide readership. It is, therefore, most welcome.

Banking has gone through exceptionally turbulent times over the last few years. The bankers who brought us the spectacular global financial crisis, their regulators who failed equally spectacularly, and the reformers of the banking and finance system tasked with ensuring that we minimise risks of such bust-ups in future, have all been constantly in the news. The arcana of banking are no longer the exclusive preserve of specialists. There is keen and widespread interest to understand better what goes on in the mysterious world of banking.

This book sheds light on the subject. It returns us to basics. It is indeed a delight to have in one packed volume a text that sets out all that you wanted to know about doing the honest job of banking but perhaps did not have the nerve to ask.

As we still struggle to emerge from the 2007–2010 financial crisis in good shape, it is a boon to have such a clearly-written guide on the fundamental principles of good banking practice. *The Principles of Banking* is eminently suited to the needs of banking students, but can also enlighten experienced practitioners and bank Board members. Professor Choudhry brings to this sizeable endeavour a wealth of experience in this field as a seasoned banking practitioner and well-respected teacher.

This volume is the latest in a series he has delivered over the past decade or more covering many separate areas of banking, such as bonds, derivatives, the money market and factors underlying banking crises. With admirable skill in setting out the implications of complex numerical issues, he bridges that yawning gap between theoretical precepts of banking systems

and the everyday life problems that bankers face. It is a text for everyone involved in banking from the professionals in the high-street branches interacting with the public, the decision-makers in the executive suite or the board room, to the supervisors and regulators in central banks and oversight agencies in their role as arbiters of current practice and designers of safer systems for the future.

Banking has a long history of crises, from the US banking collapse of 1792, to the latest debacle, rooted in the mismanagement of cheap mortgages and the confection of evidently misleading derivatives. This latest text book is both a survival guide for wayward practitioners and a treatise for students and their academic masters, which hopefully will help to steer this sector out of its shaky immediate past.

Professor Choudhry is a master of his subject but envelopes the mathematical devices he presents so clearly with a sound sense of priorities. He closes this most valuable contribution to the literature on banking with this wise adage, which we forget at our peril:

“The first principle of banking is to have principles. Or as the motto of the London Stock Exchange puts it: *my word is my bond*.”

I wish this book all the success it deserves in these troubled times for the banking profession.

**Rundheersing Bheerick**  
*Governor, Bank of Mauritius*  
5 May 2014

# Preface

**W**hen starting this book, I was reminded of a passage in *A Fire on the Moon*, Norman Mailer's superb work describing the Apollo 11 mission:

*"In the study of literature, much usually depends on direct confrontation with a work. Who would dare to approach A Farewell to Arms by a synopsis? It is only natural to distrust a literary experience if we have been guided too carefully through it, for the act of reading must provide by itself that literary experience upon which our senses will later work. But the study of science is different. Much like the study of history, it begins with legends and oversimplifications."*

— Mailer, N., *A Fire on the Moon*,  
London: Penguin Classics 1970.

If Mr. Mailer had substituted "Finance" for "Science", his point would still be well made. And this is the unfortunate thing about finance and banking. More often than not it is learnt by practitioners using legends and oversimplifications, and the primary source of many of the biggest failures in banking history lie there. It would be better if practitioners approached the practice of finance as Mr. Mailer recommends anyone should approach the study of literature.

A former boss of mine, reviewing my performance at an annual appraisal, used the following words:

"You're good on the technical stuff, but. . ."

I found that an odd remark. We worked in a bank Treasury department, after all. Treasury and ALM are by their very nature technical subjects; surely technical strength in this discipline is a pre-requisite? In other words, it isn't a strength to have technical skills in finance, they are actually essential. To me, that is like telling an airline pilot, "You're good at flying, but. . ." Would one wish to board an aeroplane whose pilot possessed poor flying skills? Equally, those without technical skills shouldn't really occupy senior positions in a bank.

Yet another boss at a different institution, the bank's Chairman no less, once remarked to me, "Why do I need to know how other banks do things? I've been in the business for 30 years, I don't care how other banks do

things.” I found that an astonishing comment. If ever there was a person who should read Matthew Syed’s superb *Black Box Thinking* it was him, a man so suffering from cognitive dissonance that he was unable to detect the fear of failure entrenched throughout the bank, from the Board downwards. The concepts of benchmarking, of open communications and of learning from mistakes, were unknown to him.

Sadly, these gentlemen’s departments contained a fair smattering of individuals who were not technically proficient in the matters of finance (and sadly outnumbering greatly those individuals who were very proficient and whose understanding of banking and risk was as good as anyone I have come across. Unfortunately, very few of these latter individuals were to be found in senior executive positions at the banks in question. This is a not uncommon occurrence). As for not benchmarking with the market and not looking to determine what is best-practice, well one doesn’t need to be a genius to see that such an approach is a guarantee of absolute mediocrity and ultimate decline.

Financial markets, like the world we live in, are characterised by extreme complexity. It is an arrogant conceit to suggest that one could know everything there is to know about them, that one could fashion a model that would cover every eventuality. Mr Syed’s book encapsulates with elegance and accessibility the importance of learning from one’s mistakes, of accepting that failure, in any context and however large or small, is something to build on. But to do that requires intellectual honesty, an acceptance of genuine positive feedback, a willingness to test one’s theories and ideas, and to be ready to adapt them if they are found to be sub-optimal. These traits are rare in banking culture. But they are important and should be adopted.

The templates and recommendations in this book are applicable to every bank in the world, but they are not set in stone. In bank operating models there is frequently more than one right answer. The key is having the right operating model *for your firm*. Banks have to be able to respond to changing conditions, whilst always pursuing the primary objectives of long-term sustainability and good customer service. That means modifying procedures and governance models where necessary. In finance, templates and policy guides must be adaptable. Certainly, principles are principles, and in banking some of them have remained good for over 600 years. But that doesn’t mean one should operate in a “closed loop”. For example, bankers, and especially senior bankers, should check the efficacy of their views and ideas by presenting at industry conferences, so they can gauge responses and see where they stand relative to their peers and to the market. There is no stigma, in finance anyway, in being confronted with views different to one’s own: on the contrary, this is a learning opportunity. If a working

environment is open and honest about mistakes, and operates without a blame culture, then the entire organisation will learn. Sadly, actively seeking feedback is not a commonly observed trait amongst senior executives in the finance industry.

Finance, and banking, is art, not science. Finance is not physics; would that it was. If the art of banking required precision and continuously consistent relationships of the kind required to, say, place a robot lander travelling at 34,000 miles per hour on a comet that was over 317 million miles away, and to calculate with unerring accuracy the precise time that the landing will take place, then we could expect to model it reasonably well. But managing a bank does not involve such relationships. The laws of physics do not apply in banking, despite what the “quants” who practise their skills on the trading floors of large banks would like us to believe. Effectiveness in bank risk management comes about first by recognising this, and then by applying oneself first-hand to the literature and practice of banking, and then acquiring over time, through practice, observation, implementation and indeed an element of trial and error, the judgement and experience needed to ensure one becomes reasonably proficient. There is no other way.

By definition then, one should not expect to reach a position of leadership and responsibility at a bank or financial institution until and unless one has acquired the correct and relevant body of knowledge in the same field. Heads of retail banks should have long experience in retail banking. Chairmen of bank boards should have long experience in banking as well as knowledge of the world of finance around them. Heads of Treasury should be good at the technical stuff. Anyone with a pretension to manage a bank should be prepared to benchmark with one’s peers in the outside world and see if they are best in class, rather than just stagnating in their own bubble as the market outside moves on.

Unfortunately, the real world is not like that, thanks to what they call “office politics”, and wider stakeholders have suffered after the banks they were involved with were run into the ground by CEOs, Directors, and Chairmen that at best lacked the requisite experience and knowledge of finance, and at worst were no more than empire-building charlatans. And this despite such people having been signed off by the regulatory authority as “fit and proper” persons to run a bank. We all recognise these persons: those skilled in the art of talking a lot without actually saying anything, and as good at answering questions as any professional politician.

This state of affairs is a pity, because banks play such an important role in society that they need to be managed by those skilled in the art of finance, not politics. But there is hope: not every senior bank senior executive sees

things in the short-term P&L and empire-building manner that some of them have done. Here is a heartening extract from an email I received from Mark Thompson, Chairman of Holmesdale Building Society, when I informed him I was quoting from the firm's annual report:

*“While we’re currently going through our annual business planning cycle, it also takes place in the context of how our next 160 years should shape up – something that’s much harder to do when you have quarterly market expectations to hit!”*

I think this thinking encapsulates perfectly the essence of banking principles, which is the need to focus on sustainability and the genuine long term.

*The Moorad Choudhry Anthology* is two things: first, a collection of extracts from my previous books published by John Wiley & Sons Ltd which have remained pertinent to the banking industry and thus of continued relevance to today's market practitioners; and second, a series of brand new and previously unpublished pieces that I consider to be a best-practice guide to both current practice and the shape of things to come. In other words, this book is part “compilation album” and part “the future of bank strategy and risk management”. And as such I hope the book is of value to anyone who wishes to pursue a career in banking at the senior executive level. It is not aimed at juniors, although they may well benefit from reading it. It's really for senior directors in banks, because they're the ones in a position of influence and they're the ones who can help to ensure that banks regain their position as a trusted part of society that delivers consistent excellent customer service and value. Banks need to remain viable in perpetuity, so all bank executives are really just temporary stewards of the balance sheet. And that's all that senior bank executives should be concentrating on. Because, to quote Baron Manfred Von Richthofen from another context, “Anything else is just rubbish.”

## **ORGANISATION OF THE BOOK**

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As one might expect of a work entitled “Anthology”, this book is partly a collection of extracts from my earlier works. The criteria for selection for this book is that the material, no matter its age, must still be relevant and useful to practitioners today. However, the book isn't just a compilation album, it also features new material that I feel is pertinent not just to today but should remain so in the future.