

ISLAMIC FINANCE

Writings of V. Sundararajan

EDITED BY **Jaseem Ahmed** and **Harinder S. Kohli**



Islamic Finance

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Writings of V. Sundararajan

Edited By

JASEEM AHMED
HARINDER S. KOHLI



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First published in 2011 by



SAGE Publications India Pvt Ltd

B1/I-1 Mohan Cooperative Industrial Area
Mathura Road, New Delhi 110 044, India
www.sagepub.in

SAGE Publications Inc

2455 Teller Road
Thousand Oaks, California 91320, USA

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1 Oliver's Yard, 55 City Road
London EC1Y 1SP, United Kingdom

SAGE Publications Asia-Pacific Pte Ltd

33 Pekin Street
#02-01 Far East Square
Singapore 048763

Published by Vivek Mehra for SAGE Publications India Pvt Ltd, typeset in 10/13 Minion by JMD Publisher Services, New Delhi and printed at Chaman Enterprises, New Delhi.

Library of Congress Cataloging-in-Publication Data

Sundararajan, Venkataraman, d. 2010.

Islamic finance: writings of V. Sundararajan; edited by Jaseem Ahmed, Harinder S. Kohli.

p. cm.

Includes bibliographical references and index.

1. Finance—Religious aspects—Islam. 2. Finance—Islamic countries.
3. Banks and banking—Religious aspects—Islam. I. Ahmed, Jaseem.
II. Kohli, Harinder S., 1945— III. Title.

HG187.4.S86 332.10917'67—dc22 2011 2011013130

ISBN: 978-81-321-0706-4 (HB)

The SAGE Team: Rekha Natarajan, Madhula Banerji, and Sanjeev Kumar Sharma
Cover credit: *Mansoorah Hassan (Mixed Media)*

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Mansoorah Hassan, a multimedia artist who lives and works in both the West and the East, is fully at home within traditional Islam and secular societies. Ms. Hassan's art provides a platform for intercultural exchange and thereby promotes a sense of shared humanity.

Contents

<i>List of Figures, Tables, and Boxes</i>	vii
<i>List of Abbreviations</i>	xi
<i>Foreword</i>	xiii
<i>Acknowledgments</i>	xvii
<i>In Memoriam</i>	xix
<i>Introduction</i>	xxiii

PART I

1. Current Developments and Key Issues
in Islamic Finance 3

PART II

2. Monetary Operations and Government
Debt Management Under Islamic Banking 21
3. Islamic Financial Institutions and Products
in the Global Financial System: Key Issues
in Risk Management and Challenges Ahead 52
4. Risk Measurement and Disclosure
in Islamic Finance and the Implications
of Profit Sharing Investment Accounts 85
5. A Note on Strengthening Liquidity Management
of Institutions Offering Islamic Financial Services:
The Development of Islamic Money Markets 121

PART III

6. Issues in Managing Profit Equalization Reserves and Investment Risk Reserves in Islamic Banks	161
7. Towards Developing a Template to Assess Islamic Financial Services Industry (IFSI) in the World Bank-IMF Financial Sector Assessment Program (FSAP)	174
8. Supervisory, Regulatory, and Capital Adequacy Implications of Profit-Sharing Investment Accounts in Islamic Finance	241
<i>Glossary</i>	272
<i>Index</i>	279
<i>About the Editors and Contributors</i>	289

List of Figures, Tables, and Boxes

Figures

Chapter 4

Figure 1: Net Return on Assets ($R_A - S_p$) against Return on Investment Accounts (RIA)	115
Figure 2: Return on Equity (RIE) against Return on Investment Accounts (RIA)	116
Figure 3: Net Return on Assets ($R_A - S_p$) against Return on Equity (R_E)	117
Figure 4: Return on Investment Accounts (RIA) against General Market Deposit Rate (R_d)	118

Chapter 5

Figure 1: <i>Murabahah</i> Transaction: Tripartite Agreement between SAMA, Banks, and Facilitators	139
--	-----

Chapter 6

Figure 1: Feasible Combinations of PER and IRR, when $R_A - S_p > 0$ (as a % of D_1)	170
---	-----

Chapter 8

Figure 1: A Framework to Compute <i>Mudarabah</i> Income and Returns to IAH	254
Figure 2: Determinants of DCR (Displaced Commercial Risk)	265

Tables

Chapter 2

Table 1: Cross-country Comparisons of Bank Liquidity	28
--	----

viii *Islamic Finance*

Table A1: Central Bank (Flow)	44
Table A2: Open Market Operations Fund (Flow)	44
Table A3: Central Bank (Flow)	45
Table A4: Open Market Operations Fund (Stock)	45
Table A5: Commercial Banks (Flow)	45
Chapter 3	
Table A1: A Synoptic Analysis of Islamic Modes of Financing	77
Table A2: A Comparison between Islamic and Conventional Banking	81
Chapter 4	
Table 1: Determinants of Return on Investment Accounts	91
Table 2: Disclosure Practices of Islamic Banks	107
Chapter 5	
Table 1: Average Daily Volume of Interbank Transactions (Unsecured Interbank Financing, REPOs, etc., of Less Than One Year Maturity in USD Millions) and Average Rates of Return on Transactions, 2006	123
Table 2: Excess Reserves as a Percentage of Total Deposits, 2002 and 2006	124
Table 3: End-of-period Value of All Islamic and Conventional Money Market Instruments Outstanding for the Period 2004–06, (USD Millions)	132
Table 4: Selected Money Market Instruments Used by IFSIs	134
Table 5: Market-based Instruments Used by Central Banks and Governments	141
Chapter 6	
Table 1: The Relationship between PER/IRR and DCR	172
Chapter 7	
Table 1: Islamic Finance Developments: A Cross-country Comparison	181

Table 2: Treatment of IFSIs in FSAPs	190
Table 3a: Core Financial Development Indicators (FDIs) for Conventional Finance (World Bank)	195
Table 3b: Core Structural Islamic Finance Indicators (IFSB)	195
Table 3c: Encouraged Structural Islamic Finance Indicators (IFSB)	196
Table 4: Financial Soundness Indicators (IMF) and Prudential Islamic Finance Indicators (IFSB) Core Financial Soundness Indicators (IMF)	206
Table 5: The Encouraged Financial Soundness Indicators (IMF)	220
Table 6: Core Prudential Islamic Finance Indicators (IFSB)	221
Table 7: Core Structural Islamic Finance Indicators (IFSB)	222
Table 8: Gaps in IFSI Assessment Tools	223
Chapter 8	
Table 1: Illustrative Calculation for Capital Adequacy Ratio (CAR) for IIFS	251

Boxes

Chapter 1	
Box 1: Foundations of Islamic Finance	4
Chapter 2	
Box 1: Participation Papers (PP) in the Islamic Republic of Iran (Restricted <i>Mudharaba</i>) Issued since 1993	25
Chapter 5	
Box 1: Central Bank's Standing Facilities for IFSIs in Various Jurisdictions	136
Box 2: Kingdom of Saudi Arabian Monetary Agency <i>Murabahah</i> Program: Structure of <i>Murabahah</i> Transactions	138
Box 3: Payment Settlement Structures	149

x *Islamic Finance*

Chapter 7

Box 1:	Islamic Financial Services Board: Standards, Guidelines, Notes, and Exposure Drafts	183
Box 2:	The Task Force on Islamic Finance and Global Financial Stability	186
Box 3:	Data on Islamic Finance	197

List of Abbreviations

AAOIFI	Accounting and Auditing Organisation for Islamic Financial Institutions
ARCIFI	Arbitration and Reconciliation Centre for Islamic Financial Institutions
BNM	Bank Negara Malaysia
CBB	Central Bank of Bahrain
CBK	Central Bank of Kuwait
CBIC	Central Bank <i>Ijarah</i> Certificate
CBOS	Central Bank of Sudan
CHATS	Clearing House Automated Transfer System
CIBAFI	Council for Islamic Banks and Financial Institutions
CMC	Central Bank <i>Musharakah</i> Certificate
CRR	Cash Reserve Requirements
DVP	Delivery versus Payment
GCIBAFI	General Council for Islamic Banks and Financial Institutions
GIC	Government Investment Certificate
GII	Government Investment Issue
GIIB	Government Islamic Investment Bond
GMC	Government <i>Musharakah</i> Certificate
GOP	Government of Pakistan
IAH	Investment Account Holder
IBI	Islamic Banking Institution
IDB	Islamic Development Bank
IFSB	Islamic Financial Services Board
IFSI	Islamic Financial Services Industry
IIFM	International Islamic Financial Market
IIFS	Institutions Offering Islamic Financial Services, often referred to IFSI

IIRA	International Islamic Rating Agency
IIII	International Islamic Infrastructure Institution
IIMM	Islamic Interbank Money Market
IRR	Investment Reserve Requirement
ITB	Islamic Treasury Bill
LLR or LOLR	Lender of Last Resort
LMC	Liquidity Management Center
MNS	Multi-netting System
MTB	Market Treasury Bill
NBFC	Non-banking Finance Company
OMO	Open Market Operation
OTC	Over the Counter
PER	Profit Equalization Reserve
PIB	Pakistan Investment Bond
PSIA	Profit-sharing Investment Account
REIT	Real Estate Investment Trust
RENTAS	Real Time Electronic Transfer of Funds and Securities
REPO	Repurchase Agreement
RTGS	Real Time Gross Settlement
SAMA	Saudi Arabian Monetary Agency
SARIE	Saudi Arabian Riyal Interbank Express
SLR	Statutory Liquidity Requirement
SPV	Special Purpose Vehicle
SRO	Self-regulatory Organization
SRR	Statutory Reserve Requirement

Foreword

I hope to be forgiven for beginning this note on a personal nature. I knew Dr. Sundararajan as a colleague and friend for most of his professional life. I first came to know him when he joined the International Monetary Fund (IMF) as a budding young economist, saw him evolve into a highly admired world-class professional and then encouraged him to join the Centennial Group International. I was, therefore, greatly shocked and saddened by Sundararajan's sudden and untimely death in April 2010. But now that time is slowly healing the shock, the overwhelming feeling that remains with me is one of gratitude for having known him for over thirty-five years and having benefited from his intellect, knowledge, kindness, and generosity.

Rajan, as he was generally known, was a brilliant man, a man of very sharp and versatile intellect. Having been educated in the economics of free markets, he could advise, with subtle versatility, countries with communist systems; and being a devout Hindu Brahmin, he could help effectively countries working to develop their financial systems consistently with the tenets of Islam.

Rajan was also a simple, honest, and kind man. I can say from personal experience that he gave his time and shared generously his intellect and knowledge with whoever approached him for help. He always smiled and was ever ready to laugh heartily.

After having earned his Master's degree from the Indian Statistical Institute and his Doctorate (Economics) from Harvard, and having taught at New York University for several years, Rajan joined the IMF in 1974. I first met him then as we were both in IMF's Asian Department. From early on, Rajan was most impressive with his analytical skills, his ability to work with data and draw reliable conclusions from them, and his quick and fluent writing skills. While Rajan served at the IMF—and I use the word “served” advisedly—because that is what he really did for the

institution and its member countries, he rose to senior positions. But the positions he occupied did not really matter—certainly not to him. It was the volume and the quality of his work that mattered to IMF’s member countries and, most importantly, to Rajan himself.

After several years in IMF’s Asian Department, where he provided analysis and advice on macroeconomic and financial policy issues in IMF surveillance activity and negotiations for lending to member countries, Rajan moved to the Monetary and Financial side of IMF’s work where he stayed for twenty years. Without at all belittling the former, I would say that it was his work in the latter period that one thinks of when one thinks of Rajan in the IMF.

The quality of Rajan’s work was reflected in the fact that many countries and institutions he worked with called him back again and again for help, even well after he had left the IMF. With regard to the volume, perhaps the following one sentence encapsulates it: In the twenty years following 1983, he worked with over fifty countries in Asia, the Middle East, former Soviet Union, and Central and Eastern Europe. In these countries he provided advice, operational support, and technical assistance to central banks and governments on a wide range of financial markets and systems issues; supervised policy development and research on financial sector restructuring and financial sector stability with particular focus on central banking and regulation. He helped establish and modernize central banks in transition economies of Central and Eastern Europe and former Soviet Union.

Rajan advised a group of central bank governors in the Middle East and Asia on the regulation of the Islamic Financial Services Industry (IFSI) and, in Iran and Sudan, he helped develop Islamic financial instruments for monetary and public debt management. He led the work on establishing the Islamic Financial Services Board (IFSB) to set prudential standards for Islamic banks.

Within the IMF, Rajan helped develop the scope of its technical assistance in monetary, exchange, and financial policies and operations, and in financial sector restructuring and crisis management.

Perhaps the work for which Rajan will be long remembered relates to “financial sector assessment.” This work resulted concretely in the joint World Bank-IMF Financial Sector Assessment Program (FSAP) introduced by the two institutions in 1999 and in the *Handbook of Financial Sector*

Assessment published in 2005, which the Fund and Bank jointly asked him to prepare after he had joined the Centennial Group. The purpose of the World Bank-IMF FSAPs is to systematically and periodically assess the strength and weakness of each national financial system “with the ultimate goal of formulating appropriate policies to foster financial stability and stimulate financial sector development.” Rajan can be credited for designing and implementing the Program in the IMF and the associated assessment methodologies and guidance for the staff.

While doing all of this, Rajan also published extensively. This book, a collection of his writings on Islamic finance, is an example of his intellectual strength, his analytic rigor, flair to put complex professional materials in a language that “non-experts” can readily understand, and his unique ability to give policy advice to both technocrats and top decision makers.

In 2004, having retired from the IMF, Rajan joined the Centennial Group of Consultants as a member of its Board of Directors and Head of its Financial Practices. Through his unique intellectual capabilities, dedication to financial development throughout the world, limitless energy and willingness to travel extensively, strong interpersonal skills, and limitless energy, he was responsible for a prodigious volume of influential policy reports. As a result, he became indispensable to his clients. In the process he made the Centennial Group a globally leading firm in the field.

He has left behind a huge gap, but also very pleasant memories for everyone he came in contact with, professionally and personally.

Prabhakar Narvekar

Vice Chairman, Centennial Group International
and Former Deputy Managing Director, IMF

Acknowledgments

This book has been put together to commemorate the many achievements of Dr. Venkataraman Sundararajan, who died very unexpectedly in April 2010 in Khartoum, Sudan, during an assignment with the Central Bank of Sudan.

His many colleagues and friends swiftly came together and agreed that it would be a fitting tribute to the man and his numerous unique and path-breaking intellectual contributions to the field of Islamic banking and finance to compile these writings as a book.

The editors would like to thank the International Monetary Fund, the Asian Development Bank, the Islamic Financial Services Board, the *Journal for Islamic Accounting and Business Research*, and the *Journal of Islamic Economics, Banking and Finance*, for giving us the permission to include Dr. Sundararajan's papers in this book.

The editors would also like to thank Dr. Tomas Balino, also formerly with the IMF, for his technical and editorial advice. He was instrumental in all stages of the book: compiling the list of Dr. Sundararajan's publications, devising an outline for the book, and re-reading the works to check for accuracy and topicality.

This book would not have come to fruition without tireless efforts, persistence, and professional dedication of Natasha Mukherjee, who researched Dr. Sundararajan's numerous papers, helped select the papers to be included in this volume, compiled the entire manuscript, and painstakingly checked its consistency and accuracy. We are also thankful to Katy Grober, at the Centennial Group, for managing the final production process. Finally, we are very grateful to SAGE Publications for their agreement to publish this book, a labor of love for both us.

Jaseem Ahmed
Harinder S. Kohli



Dr. Venkataraman Sundararajan
(1945–2010)

In Memoriam

For those who see life on this plane of existence as nonrandom and purposeful, Mr. Sundararajan's productive sojourn on earth—based, at least, on his professional service and his scholarly contributions—provides affirmative evidence. For, his was a life lived by an excellent human being who saw himself as part of a greater humanity for whom usual differentiations that divide mankind were not material. This is particularly meaningful in the contemporary age of unreason and its seduction that has dawned on humanity with such intensity in our time.

If a visionary human is defined as one who is able to look beyond external appearances and perceive the world in a more profound way, Mr. Sundararajan personified that ideal. He seemed to be the kind of conscious human Bhagavad-Gita envisions (see, e.g., BG. 2.30; 10.20; 12.3–4; 13.16).

The last time I saw Mr. Sundararajan was less than a year ago in Kuala Lumpur. He had just arrived from a trip to Saudi Arabia a few hours before to attend a conference on Islamic finance. In the few minutes we spent together, he quickly covered an impressive list of activities completed and planned. He was to travel to Sudan the next day. As always, he displayed an unbounded energy of someone in a hurry to get as much done as possible. The wide variety of challenging issues he was tackling was impressive to say the least. This was one of a number of occasions when he and I had attended the same conference. All participants accepted him as their own expert in Islamic finance. It was clear that the feeling of mutual acceptance and, yes, brotherly love and respect permeated his interaction with the participants. This was the Sundararajan I had known for over two decades, a highly respected and dedicated international civil servant, a sublimely conscientious professional, and a fine human being.

Bhagavad-Gita declares: “thou shouldst not grieve for any contingent being” (BG. 2.30). Nevertheless, Mr. Sundararajan's passing was noted by

all who knew him, including a multitude of professionals, practitioners, and policy makers in the Muslim world, as an enormous loss.

To a number of people in and out of the international finance community who knew Mr. Sundararajan, his deep involvement with Islamic finance was an enigma. The usual narrative is that Mr. Sundararajan's interest in Islamic finance began when he was assigned the task of designing an adjustment and reform program for Sudan in 1996–97. Acceptance of the assignment itself provides a glimpse into the nobility of this personality. His involvement with Sudan could be explained as an official duty and an intellectual challenge. However, those familiar with the IMF, know well that given the position of some of the most powerful shareholders of the Fund with respect to Sudan at that time, whatever professional challenge such an assignment represented, acceptance of it was not career enhancing knowing that the powerful shareholders were determined to recommend expulsion of Sudan to the Board of Governors of the IMF. The Sudanese economy was in a serious stage of disequilibrium with triple-digit inflation. The Fund refused to provide either financial or technical assistance. Whatever could be done to stabilize the economy had to be framed within the structure of the Article IV consultation. Enter the courageous Mr. Sundararajan. Fully conscious of the politics involved, he and his other dedicated colleagues in collaboration with the Sudanese Governor of the Central Bank, Dr. Hassan Sabir, designed and implemented a stabilization program that reduced inflation to low double digits. This result was, to a large extent, responsible for blunting the move to deprive Sudan of its voting rights.

Aside from the background political tensions, an adjustment and reform program for Sudan faced a major technical challenge. The country had opted for Islamic finance. This meant that the interest mechanism, a cornerstone of IMF programs, could not be counted on in the design of an adjustment program. Moreover, the financial system in Sudan was not well developed and the central bank lacked any market-based instrument compatible with Islamic requirements that would allow it to conduct macroeconomic policies.

It would have been perhaps understandable if Mr. Sundararajan as the team leader would have thrown up his hands, declared Islamic finance a “hoax,” and forced a traditional IMF program on Sudan. It is a measure of the man that he did neither. Instead he accepted and respected the

constraint. In the event, the challenge to the team and its leader was clear: design an appropriate Islamic instrument suitable for implementation of a negotiated and agreed upon monetary policy as the central pillar of the adjustment program. Mr. Sundararajan had known about the IMF studies on Islamic banking and finance initiated by a study on the subject in 1982 under the guidance of Sir Andrew Crocket, when the latter was Deputy Director of the Middle East Department. Nevertheless, he realized he had to gain a first-hand familiarity with the subject; a task well suited both to his towering intellect and his temperament that welcomed unconventional intellectual challenges. Under the tutelage of his team member, Mr. Ghiath Shabsigh, he started a personal journey to understand Islamic finance. Soon he and his team designed and proposed an equity-based central bank instrument of monetary management. The rapid stabilization of the Sudanese economy is evidence of his and his team's dedication and commitment as a result of which there developed a mutual trust and respect which in turn became the basis of long-term working relations with the authorities.

It is not clear how strongly Mr. Sundararajan viewed Islamic finance as an alternative financial system. What is clear from his writings, lectures, and conference presentations, however, is that he did not question the validity of Islamic finance. This did not mean that he did not recognize the challenges that the growth of Islamic finance would face. He spent considerable effort in articulating these challenges and proposing pragmatic solutions to meet them constantly keeping in view the need for Islamic finance to integrate with the global financial system. He and some of his colleagues at the IMF along with Professor Rifaat Abdel Karim were a driving force behind the implementation of an idea initiated with the active involvement of Governor Zeti Akhtar Aziz of Malaysia and Governor Mohsin Nourbakhsh of Iran to establish a standard setting organization for Islamic finance. Thus, Mr. Sundararajan's innovative ideas, energetic and active participation, and his dedication were crucial in the establishment of the Islamic Financial Services Board (IFSB).

Mr. Sundararajan's efforts, focused on finding practical solutions to challenges facing Islamic finance, continued throughout the first decade of the new century. His writings, some of which are presented in this volume, span the whole spectrum of issues that have arisen as the Islamic Financial Services Industry (IFSI) has expanded. His ideas, solutions he

proposed, and the issues he covered show considerable ingenuity, clarity, and pragmatism. They are sure to continue to attract the attention of generations of finance experts, practitioners, policy makers, and scholars. A verse in the Qur'an declares: "whosoever does an atom's weight of good shall see (its results)." Those who knew, loved, and respected Mr. Sundararajan are certain that his was a life full of contributions that have and will continue to serve the betterment of humanity. On that score, he and his loved ones are sure to "see" the "results" of his "good" works.

Without implicating him, I thank Mr. Ghiath Shabsigh for helpful comments. I wish to thank Mr. Narvekar and Mr. Kohli for giving me the opportunity to pay a debt of gratitude to Mr. Sundararajan.

Abbas Mirakhor

Former Executive Director, IMF

Introduction

Jaseem Ahmed and Harinder S. Kohli

This book has been compiled by us to honor Dr. Venkataraman Sundararajan's numerous contributions to the development and mainstreaming of Islamic finance during the past twelve years.

Rajan—as he was known to most of his friends—was both a friend and colleague. We had the privilege to watch him from very close quarters as he produced some of his best work on Islamic finance, as he interacted with the leading figures in the field, as he advised the senior-most policy makers in their quest to both deepen and expand Islamic finance in individual countries, and as he helped them, as a group, in their quest to make Islamic finance instruments and institutions more compatible with the fast-evolving regulatory and supervisory framework of the overall global financial system.

As Abbas Mirakhor notes in his tribute in this book, Dr. Sundararajan respected, and accepted as legitimate and viable, the premises and objectives that underpin Islamic finance. He recognized that Islamic finance was not simply a *Shari'ah*-compliant version of conventional finance. It is a distinct approach, based on universal values that require special attention to its risk management and infrastructure needs. From this perspective he took great satisfaction in the growth of Islamic finance without ever losing his singular focus—which was on the stability, soundness, and resilience of Islamic Financial Institutions (IFIs) and of Islamic financial systems. His contributions in these areas were seminal and were informed by the deep study of the fundamentals of Islamic finance, by his immense knowledge and experience in monetary policy, and in financial and capital markets issues acquired through a long and distinguished career at the IMF. Only a person of his towering intellect, intimate knowledge of the financial

systems throughout the world, ability to understand the often very different perspectives and constraints of various parties, uncanny ability to find pragmatic solutions to bridge ideological divides, and boundless energy could accomplish this.

Rajan left behind a vast quantity of papers and reports on most key aspects of Islamic finance. Many of the papers are seminal in nature. Hence our decision to compile this book to honor Rajan by bringing together in one volume Rajan's selected writings on key aspects of Islamic finance. We faced a formidable challenge in selecting the writings that would go in this volume. We ultimately settled on eight major papers that, in our view, are the most representative of the breadth and variety of his writings. We had to leave out a number of other papers also worthy of wider publication in order to limit the size of this volume to a reasonable length.

The chapters in this book span twelve years of his work, between 1998 and 2010. They demonstrate not only Dr. Sundararajan's long-standing commitment to help develop Islamic banking, but also how Islamic finance itself has evolved rapidly over this period. During this period, Islamic finance became a global phenomenon on the back of two distinct developments. First, there was a rapid growth of assets. The most recent estimates from the Kuwait Finance House suggest that this was at a rate of about 14 percent per annum on a cumulative or compound basis. The growth rate was even higher in the period 2006–09, reaching about 28 percent per annum. As a result, global Islamic finance assets were estimated to be over USD 1 trillion in 2009 (80 percent is accounted for by the banking sector).¹ Second, Islamic finance has been transformed. From what a few decades ago consisted principally of retail banking, today it is an industry that encompasses commercial banking, *takaful*, fund management, *sukuk*, and much more. Alongside these developments, there is a widening of its geographical coverage as a result of an increased interest in Islamic finance from nontraditional markets—particularly in Europe, but also in Asia. It can no longer be said that Islamic finance is a marginal part of the global financial system, concentrated only in the Middle East and Southeast Asia. On the contrary, Islamic finance has gone global.

¹These figures come from Bank Negara Malaysia (BNM) Governor Zeti's speech on October 26, 2010, "Enhancing the Resilience and Stability of the Islamic Financial System; Global Islamic Finance Forum 2010." See www.bnm.gov.my

The overarching commonality of all Islamic finance issues discussed in this book stem from core principles drawn from Islamic law, or the *Shari'ah*, which govern all Islamic finance transactions and activities. These core principles include ethical principles of justice, fairness, transparency, and the public interest. Second, *riba*, or a predetermined and guaranteed rate of return or interest, is prohibited. Third, gambling is prohibited and preventable, and uncertainty and ambiguity in contracts must be avoided. Fourth, the requirement that finance must be linked to a productive activity—a requirement that essentially stipulates that finance is an instrument, and only an instrument—to the underlying objective of creating lawful, productive economic activities. Fifth, there is an emphasis on the concept of partnership—and on equity-based, profit/risk-sharing transactions, as the ultimate bases for economic activities and investment. These are powerfully appealing and immutable principles for Muslims, but they also resonate with growing numbers of non-Muslims who participate in Islamic finance today.

A major part of Dr. Sundararajan's work addresses the complex range of risks that arise in Islamic finance requiring a strong transparency and disclosure regime, and robust corporate governance systems. These risks span *mudarabah* risk in the banking system accounts—which arises from the participatory element in Islamic finance, credit-risk embodied in sales-based contracts, principally of the *murabahah* or commodity-based type, as well as other distinctive risks faced by Islamic finance. As he stressed, at the aggregate level, the key risk is *mudarabah* risk in the banking system arising from the variability in bank profits and the manner and in which these are shared with Investment Account Holders (IAH). His major contribution in this area was to make more transparent the risks being borne by IAHs—through disclosure and reserving policies that were issued as standards and guidance notes by the Islamic Financial Services Board (IFSB), an institution in the establishment of which he participated. Reflecting on the fact that *murabahah* and other sales-based contracts dominate the asset side of Islamic financial institutions, he was convinced that enhanced transparency and risk management capabilities would inevitably see a greater ability and willingness by the IFIs to engage in the profit- and loss-sharing activities that would drive productive investment. His technical papers were designed to hasten this process along and contributed significantly to enhancing capabilities for integrated risk

management to control different types of risks faced by the IFIs, as well as to improved approaches to disaggregated risk measurement needed to price specific contracts and facilities.

As an early advocate of a multipronged approach to risk management, it can be said that he anticipated some of the lessons from the Global Financial Crisis. Thus, he stressed the importance of careful attention to measurement and disclosure of the unique risks in Islamic finance, supported by enhanced data collection and surveillance capabilities. He was amongst the first to suggest the need for greater regulatory coordination in Islamic finance.

In the last five years of his life he concentrated on helping to develop some of the critical missing pieces needed to strengthen the resilience and stability of Islamic finance, beginning first with his work on liquidity management in 2005 and concluding in 2010 with his participation in the work of two path-breaking Task Forces, both of which were chaired by Governor Zeti Akhtar Aziz of BNM. The IFSB High Level Task Force on Liquidity Management recommended the establishment of an international facility to issue short-term *sukuk* for liquidity management purposes; and the Task Force on Islamic Finance and Global Financial Stability, jointly formed by the Islamic Development Bank (IDB), the Islamic Research and Training Institute at the IDB, and IFSB, produced the first Islamic Finance Global Stability Report in April 2010 and saw the establishment of the Islamic Financial Stability Forum. It is safe to say that the work of each of these Task Forces culminated in landmark developments that are helping shape the global architecture of Islamic finance while spurring greater cross-border cooperation and consultation.

Both endeavors were close to Dr. Sundararajan's heart and to his professional interests. Dr. Sundararajan's work with IFSB in preparing the Technical Note on liquidity management identified key impediments to liquidity management by IFIs resulting from the inadequate supply of short-term Islamic financial instruments. This constituted a critical hindrance to the development of efficient interbank markets and money markets. This work also served to focus attention on the systemic risks to Islamic financial systems from this missing piece of institutional and market infrastructure, a message that resonated powerfully with the onset of the Global Crisis. The Technical Note paved the way for the recommendations of the High

Level Task Force, resulting in the establishment of the International Islamic Liquidity Management Corporation (IILM) in Kuala Lumpur, Malaysia, in October 2010. The IILM, with thirteen founding members, including eleven central banks, and two multilateral development institutions, will issue *Shari'ah*-compliant financial instruments to facilitate more effective liquidity management by IFIs as well as by central banks. The IILM is, thus, poised to enable the Islamic finance industry to strengthen its capacity to respond to a liquidity crisis while also enhancing cross-border linkages between Islamic capital and securities markets. Sadly, Dr. Sundararajan was not alive to see this milestone event to which he had contributed.

The Islamic Finance Global Stability Report, which was issued in Khartoum, Sudan, a few days before Dr. Sundararajan's untimely demise, presents a comprehensive overview of the global financial architecture—and the cooperation and collaboration mechanisms among IFSB members—needed to promote a competitive, resilient, and stable Islamic finance industry. The Islamic Financial Stability Forum that resulted from this Report, and the IILM, provide Islamic finance with a wider range of tools and instruments, as well as a road map leading toward a vision of an integrated and sound global Islamic financial industry.

Intended Audience and Organization of the Book

The chapters in this book are a blend between those of interest to the general public interested in knowing the basics of Islamic finance, policy makers responsible for setting policies and standards at the national or regional/global levels, and experts in Islamic finance working on the more complex issues relating to their stability and compatibility with the conventional financial system.

The book is accordingly structured into three parts. Part I is meant for the general reader as well as casual students of finance and provides an overview of the basic principles and practices of Islamic finance and how they differ from conventional finance. Part II is aimed at the senior policy makers and comprises of four chapters each of which addresses a major policy issue. The chapters appear in the chronological order in which they were written. And Part III, of interest to experts on Islamic finance, consists of three chapters that address complex technical issues

that became of paramount importance as the Islamic finance industry grew in size and complexity and the countries tried to make it more compatible with the conventional global financial system and its governance. Again, the chapters in this part appear in the order in which they were written.

By putting the chapters in the chronological order in which they were written, the book follows the evolution of Islamic banking and finance during its most critical years as well as the resulting changing focus of Rajan's work. As the size and importance of Islamic finance grew, the primary policy focus within the Islamic countries moved from the initial creation of the basic Islamic finance instruments and institutions to the more complex issues such as risk management and compatibility with the mainstream global financial system. This structure also demonstrates that throughout this twelve-year period, Rajan's writings were geared toward providing analytic foundation and pragmatic solutions to the fast-changing policy and institutional issues confronting the regulatory and supervisory authorities at the time.

In these works, Dr. Sundararajan dispassionately identified relevant issues and weaknesses in the field of Islamic banking and finance at various stages, and then developed tools and methodologies to address them so as to allow the industry to develop on a sound and sustained basis. As a consummate international civil servant, Rajan could draw great satisfaction that, as a result of his writings and face-to-face dialog, the responsible organizations and authorities—both national and multilateral—accepted most of his findings and adopted his proposals. Consequently, it is perhaps fair to say that Rajan played an important role in shaping the evolution of Islamic finance during the past decade.

The chapters that follow this introduction are self-contained. We will also like to encourage the readers to learn directly from Rajan's own words, instead of filtering his work through a long introduction by the editors. Accordingly, we will keep the remaining section brief by limiting our introduction to a short description of what each of the three parts and the chapters therein cover.

Part I, as mentioned, consists of the first chapter of the book, "Current Developments and Key Issues in Islamic Finance." It was written in 2007 and provides a very useful overview of Islamic finance. The chapter goes on to describe its basic foundations and core principles and key features. It then goes on to describe the structure, size, and expanding scope of

the Islamic Financial Services Industry's (IFSI) five distinct categories: (i) Islamic banking, (ii) Islamic capital markets, (iii) *takaful* or Islamic insurance, (iv) Islamic nonbank financial institutions (e.g., leasing), and (v) Islamic money markets. It also traces the history of standard setting bodies and the likely challenges in the future development and supervision of IFSIs. This chapter highlights the cross-sectoral nature of Islamic finance which renders the design of any financial instruments, products, and services more complicated (e.g., the combined features of deposits, or loans, and of mutual funds, or equities, requires the close cooperation between banking and securities regulators).

Part II of the book includes four chapters meant for senior policy makers and regulators in countries with Islamic finance. They were written between 1998 and 2008. Islamic finance instruments and institutions are subject to a unique set of risks based on contractual forms that are derived from *Shari'ah* principles. Thus, the type and mix of risks that are embedded in individual Islamic products and financing facilities, and the arrangements to share risks (e.g., with IAHs), pose very unique risk management challenges. In particular, the nature of the specific risks that Islamic banks face, together with the many different ways available to them to provide funds through the use of permissible Islamic modes of financing—both profit-and-loss-sharing (PLS), and non-profit-and-loss-sharing (non-PLS)—raise a host of issues in risk measurement, income recognition, adequacy of collateral, and disclosure standards. Hence, innovative solutions and an appropriate adaption of available risk management frameworks are needed.

Chapter 2 was written in 1998 and addresses one of the most vexing policy challenges faced by the monetary authorities, financial sector regulators and supervisors with budding financial systems as to how to carry out their responsibilities while promoting Islamic finance. The chapter is entitled “Monetary Operations and Government Debt Management under Islamic Banking.” It focuses on three critical issues: (i) issuance of government securities under Islamic finance principles; (ii) recent developments in monetary instruments under Islamic banking; and (iii) issues in institutional arrangements for monetary operations. While several financial instruments suitable for Islamic commercial banking or for funding specific projects have been developed, progress in developing instruments for noninflationary financing of government deficits and for

market-based monetary management has been less satisfactory. There have, however, been significant efforts by both the central banks (money market) and securities commissions (capital market) to strengthen the regulatory foundations to issue diverse *Shari'ah*-compliant financial instruments—ranging from short-term papers to long-term *sukuk*. It should be noted that this chapter was reportedly influential in helping early movers like Sudan to satisfy international institutions while allowing them to follow Islamic finance principles.

Chapter 3, written in 2002, addresses another central policy issue—risk management—faced by both national and international policy makers as Islamic finance grew into an important part of financial systems in many countries in the Middle East, Africa, and parts of Asia. Its title “Islamic Financial Institutions and Products in the Global Financial System: Key Issues in Risk Management and Challenges Ahead” describes very well its coverage. The chapter starts by describing the special risks surrounding Islamic banking and then goes on to suggest ways to manage these risks, including by strengthening the regulatory and disclosure framework. It ends with Rajan’s views on the key challenges that lay ahead at that time (as of 2002).

Chapter 4 was written three years later (in 2005) and comes back to the issues concerning risk measurement and disclosure. Perhaps reflecting the fact that regulators were beginning to focus more on the issue of risk at the individual institutional level, this chapter (“Risk Measurement and Disclosure in Islamic Finance and the Implications of Profit Sharing Investment Accounts”) proposes a specific approach to measure the actual sharing of risks between shareholders and profit-sharing investment account (PSIA) holders, based on the value-at-risk (VAR) methodology. It outlines overall risks of an Islamic bank and possible approaches to risk mitigation, and a possible disclosure regime for Islamic banks. Finally, given its primary audience, the chapter closes with the following key policy conclusions: (i) the appropriate management of PSIAs, with proper measurement, control, and disclosure of the extent of risk sharing with investment accounts holders, can be a powerful risk mitigant in Islamic finance; and (ii) supervisory authorities can provide strong incentives for effective overall risk management and transparent risk-sharing with PSIAs.

The last chapter of Part II is Chapter 5, titled “A Note on Strengthening Liquidity Management of Institutions Offering Islamic Financial Services:

The Development of Islamic Money Markets.” Written in 2008, this chapter demonstrates how the focus of policy makers and of Rajan’s policy advice evolved with the rapid development of Islamic financial institutions. By 2008, he had linked the long-term growth and prosperity of Islamic finance institutions with the development of broader Islamic finance markets, in this case, the need to make money markets consistent with Islamic principle in order to provide adequate liquidity to individual institutions. This chapter discusses the following: the rationale for Islamic money markets development; an overview of factors affecting the money markets including legal and *Shari’ah* issues; structure and instruments of Islamic money markets and the role of monetary operations; and importance of coordinating monetary operations, public debt, and financial management (a topic first visited by him in his 1998 paper). It then goes on to outline possible market microstructure, payment and settlement systems, and foreign exchange markets. As in the case of other chapters in Part II, this chapter ends with a summary of policy issues and strategies for development of Islamic money markets.

The third and last part has three chapters all addressing “technical” issues that came to the fore as Islamic finance took root in more and more countries, and as the Islamic finance community intensified efforts to integrate with the “conventional” global financial system and its governance architecture. To illustrate Rajan’s contributions to the analysis and resolution of these issues, we have selected his papers on reserves in Islamic banks, assessments of IFSIs in World Bank-IMF Financial Sector Assessments (FSAPs), and capital adequacy.

Chapter 6 “Issues in Managing Profit Equalization Reserves and Investment Risk Reserves in Islamic Banks” was written first in 2008. To set the stage, it first describes the relevant accounting definitions and (current) practices. It then lays out the main determinants of profit equalization and investment risk reserves and their relationship to DCR—or Displaced Commercial Risk. Based on this analysis, the chapter draws out the main issues and policy conclusions.

Chapter 7, “Towards Developing a Template to Assess Islamic Financial Services Industry (IFSI) in the World Bank-IMF Financial Sector Assessment Program,” was written in 2009. Rajan was the ideal person to write this chapter. While at the IMF, he was first the key driving force behind the conceptualization and development of the FSAP program,

and then in supervising the program for a number of years. He also led a few FSAPs himself. As the program matured, the IMF and World Bank asked him to lead a large team of experts to prepare the manual for use by the staffs of the two institutions. This chapter combines his intimate knowledge of FSAPs with his deep understanding of IFSI. This template outlined in the chapter should be of practical use for both the Islamic central bank officials and the staff of IMF and World Bank for many years to come. The added value of this chapter is that the discussion is also more broadly applicable to any assessment of microfinancial stability in an Islamic financial sector.

Finally, Chapter 8 discusses the “Supervisory, Regulatory, and Capital Adequacy Implications of Profit-Sharing Investment Accounts in Islamic Finance.” This chapter was jointly written by Simon Archer, Professor Datuk Rifaat Ahmed Abdel Karim, and Rajan. It was first published in 2010 in a journal. It is a seminal piece on the subject. The chapter describes the main types and characteristics of PSiAs under *mudarabah* contracts. In practice, there is considerable ambiguity in the nature and characteristics of PSiAs in Islamic banks. The nature of PSiAs varies among banks and jurisdictions, particularly regarding the division of risk between the IAH and the bank. Depending on the extent of investment risks that are actually borne by the PSiAs, these instruments could, in principle, be positioned anywhere on the continuum from being pure deposits (in the conventional sense) to pure investments. The resulting challenge for IFSIs and their regulators is to assess where on the continuum the PSiAs in a specific bank in a specific jurisdiction lie, and what this implies for the level of risks for shareholders and, hence, for the level of regulatory and economic capital requirements for that bank. The chapter concludes with suggestions for risk-sharing as well as implications of these PSiAs for the supervisory and regulatory authorities—both national and pan-national, such as the IFSB.

We think that this book will serve to highlight how some of the key challenges faced by Islamic finance during the modern phase of its development were addressed through the works of Dr. Sundararajan. Many of these challenges have been addressed in recent years and, as a result, Islamic finance today is a stronger and more resilient industry.

To be sure, many challenges still remain to strengthen Islamic financial systems. In addition, there is the practical issue that Islamic financial

systems exist within the framework of a globalized, highly integrated conventional financial system. As the global financial crisis of 2008 has demonstrated, the global system exhibits a high degree of structural fragility that persists—and may do so for some time to come. Enhancing global financial stability is a common objective of both Islamic and conventional finance. For holistic stability to be achieved, it is important that collaboration and understanding between Islamic and conventional financial industries is strengthened. Dr. Sundararajan fully embodied this spirit of understanding, and we sincerely hope that this book helps keep this spirit strong.

Part I



1

Current Developments and Key Issues in Islamic Finance

Foundations of Islamic Finance

The Islamic Financial Services Industry (IFSI) is a component of a broader financial system in which the design and operation of financial instruments, institutions, markets, and infrastructure are based, where relevant, on contracts and governance arrangements that apply *Shari'ah* rules and principles.

The core *Shari'ah* rules and principles include: (i) the avoidance of *riba* (interest in all forms and intents), (ii) the avoidance of preventable uncertainty and ambiguity in contracts, and (iii) ethical principles of justice, fairness, transparency, and public interest. These and other principles contained in Islamic commercial jurisprudence are derived from the *Qur'an*, *Sunnah* (sayings of the Prophet), and legal reasoning by *Shari'ah* scholars, and, in their entirety, constitute the foundations of Islamic finance (Box 1).

Types of Islamic Finance Contracts

The IFSI provides a range of financial products and services that relate to banking, nonbanking, insurance, and money and capital markets, and are based on contracts that comply with the principles of Islamic commercial jurisprudence (Islamic finance contracts).

Box 1 Foundations of Islamic Finance

1. *Core Shari'ah rules and principles* are derived from the *Qur'an, Sunnah* (spoken advice, acts, and tacit approvals of the prophet Muhammed, as contained in the Hadiths) and *ijtihad* (legal reasoning and analysis by Islamic scholars and jurists). These principles include:

- The prohibition of *riba*.
- The avoidance of *gharar*: the concept applies to preventable ambiguity and uncertainty.
 - (i) "Do not consume one another's wealth unjustly, and be aware that lawful gain should only be through business based on mutual consent among you, and do not destroy one another."
- The engagement in commerce through well-defined written contracts (mutual consent).

2. *Ethical principles* governing Islamic finance are derived from the larger value system embedded in Islam which implies that:

- Forbidden activities, such as gambling and alcohol, cannot be financially supported or financed.
- Any form of concealment, fraud, or attempt at misrepresentation violates the principles of justice and fairness under *Shari'ah* law.
- Transparency and public interest need to be promoted.

3. Principles governing *contracts* are extensive in *Shari'ah*. And cover conditions of contract, the forms of possession, and the rights and freedoms of the contracting parties. Some of these conditions include that:

- the object of the contract should exist,
- the object of the contract should be specific, and free from *gharar*,
- the object of the contract should be permissible under *Shari'ah*, and
- the right to sell is subject to properly assuming possession.

Nominate contracts based on classical models of Islamic practice form the basis for the design of modern Islamic finance contracts by combining and modifying them to meet modern business needs through the *Shari'ah* process of *ijtihad*. The contracts used by the Institutions offering Islamic Financial Services (IIFS) can be classified into five categories:

1. Profit-sharing contracts: *mudarabah*, *musharakah*, and diminishing *musharakah*.
2. Asset- and sales-based contracts: *murabahah*, *salam*, *istisna'a*, *bai bithamen ajil*, *bai al inah*, *bai dayn*, and *tawaruq*.
3. Lease-based contracts: *ijarah* and *ijarah muntiahia bitamleek*.
4. Service-related contracts: *wakala* and *wadiah*.
5. Other contracts: *kafala*, *sarf*, *hiwalah*, *rahnu*, and *mugawala*.

Mudarabah contracts call for profit-sharing between the fund provider and the person/firm, who uses and invests the funds (referred to as *mudarib*), but requires that losses be borne entirely by the provider of the funds, except when there is evidence of negligence and misconduct by the *mudarib*. The *mudarib* (i.e., the fund user or investment manager) is entitled to a preagreed share of the profits. In a *wakala* contract (agency contract) used in some Islamic banks, the fund user/investment manager is entitled to a fixed agency fee, instead of a share of profits. The *mudarabah*, however, is the most commonly used contractual structure governing investment account deposits (also known as profit-sharing investment accounts), which is the major source of funds for Islamic banks.

The *murabahah* contract calls for a bank to acquire the needed real assets on behalf of the user of the funds, and sell the asset to the fund user on a cost plus mark-up basis, often on deferred payment terms. The mark-up serves as the return on the financing provided by the Islamic bank; this is the most commonly used financing instrument for short- to medium-term accommodation. Longer-term financing is typically provided by either (i) the bank acquiring assets and receiving lease payments (*ijarah* contract), or (ii) the bank building an asset to specification and receiving progress payments from the fund user (*istisna'a* contract), or (iii) the bank providing a share of the equity and sharing the profits in proportion to the contribution (*musharakah* or partnership contract).

Islamic fixed income securities, known as *sukuks*, are a combination of several Islamic finance contracts mentioned above. A *sukuk* consists of "... certificates of equal value representing undivided shares in ownership of tangible assets, usufructs, and services, or (in the ownership of) the assets of particular projects or special investment activity ..." (Accounting and Auditing Organisation for Islamic Financial Institutions' [AAOIFI] *Shari'ah* standard No. 17).

6 Islamic Finance

A commonly used form of a *sukuk* is structured by combining an *ijarah* contract and a *mudarabah* contract. A Special Purpose Vehicle (SPV) acquires an asset on behalf of a fund user, and issues securities to investors (based on *mudarabah* contracts), representing a share of ownership in the underlying asset, and a proportionate claim on the underlying lease payment. The SPV enters into an Islamic lease (*ijarah*) agreement with the fund user. The fund user manages and uses the assets, pays a rental, and often guarantees the repayment of an initial amount at maturity. This is the simplest “plain vanilla” Islamic security. Other forms of *sukuks* can be highly complex structured products, depending on the underlying contracts, the number of parties involved in servicing various parts of the underlying real and financial transactions.

Shari’ah Governance Arrangements

In order to ensure compliance with *Shari’ah* in the course of the design as well as execution of contracts, and to help develop new products and services that are *Shari’ah* compatible, IIFS rely on an external or in-house *Shari’ah* committee or board comprising *Shari’ah* scholars who will carry out advisory and consultative functions. Typically, relying on IIFS’s own internal controls, *Shari’ah* advisors certify the *Shari’ah* compatibility of the operations of an IIFS, as part of its published annual report. Some countries such as Malaysia, Pakistan, and Sudan have a central *Shari’ah* Board—associated with the nation’s central bank—to approve the Islamic finance products and contracts developed by the IIFS-level *Shari’ah* Boards. In most countries, however, *Shari’ah* Boards of IIFS make their own independent decisions on *Shari’ah* compliance, and the regulators leave it to the markets to judge the extent of *Shari’ah* compliance and the integrity of the *Shari’ah* governance process.

Components of IFSI

The IFSI has subsectors that are similar to those in the conventional system. These consist of, among others:

- Islamic banking industry
- Islamic capital markets including asset management industry
- Islamic insurance known as *takaful*
- Islamic nonbank financial services such as leasing, microfinance, etc.
- Islamic money market

Specifically:

1. **Islamic banking** consists of mobilizing funds through noninterest bearing deposits, and through investment deposits based on “profit-sharing and loss-bearing” contracts (typically *mudarabah*, and, occasionally, *wakala* contracts), and channeling these funds to finance permissible (under the *Shari’ah*) economic activities, using various forms of Islamic finance contracts (typically, *murabahah*, *ijarah*, and *musharakah* contracts). The use of investment deposits which combines the characteristics of conventional bank deposits (with principal protection) and mutual fund investments (where a loss of principal could occur) poses special challenges in the risk management and supervision of IIFS.
2. **Islamic capital markets** consist of *Shari’ah* compatible long-term securities and the associated markets and market intermediaries. The range of capital market instruments include:
 - (i) *Shari’ah*-compliant shares (conventional equities of companies that meet certain financial and product criteria set by the relevant *Shari’ah* Board).
 - (ii) Islamic indices and related index products (e.g., Dow Jones Islamic Market Index).
 - (iii) Islamic investment funds (equity funds, *murabahah* funds, Islamic Real Estate Investment Trusts [REITs], *mudarabah* certificates etc.).
 - (iv) Islamic fixed income products (various types of *sukuks*, both sovereign and corporate).
 - (v) Islamic structured products (e.g., Exchange Traded Funds [ETF], Project Finance *sukuks*, etc.)

3. **Islamic insurance** (known as *takaful*) is typically a combination of mutual and commercial forms of insurance structures. A group of participants (policy holders) agree to support one another against a defined loss, and for this purpose contribute a sum of money, which is partly a donation, to a common fund. A *takaful* operator enters into a *mudarabah* contract with policy holders to invest the funds, and an agency contract (*wakala*) with them to underwrite the risks.
4. **Islamic nonbank financial institutions** typically provide specialized financing such as *ijarah*, or Islamic microfinance, using funds mobilized on a profit-sharing basis (e.g., *mudarabah* companies in Pakistan).
5. **Islamic money markets** refer to markets in *Shari'ah* compatible, short-term instruments that are suitable for liquidity management by IIFS, and monetary management by central banks. Such markets are underdeveloped or virtually nonexistent, owing to the inadequate availability of suitable *Shari'ah* compatible, short-term instruments, and the weaknesses in the supporting infrastructure. Most available instruments used for short-term transactions among IIFS or between IIFS and conventional banks are either *mudarabah* deposits or *murabahah* transactions in some exchange-traded commodity (e.g., aluminum). These are not tradable instruments, and may carry high levels of market or rate of return risks.

Structure of IFSI

In most countries, the IFSI coexists with the conventional financial system, except in Iran where the entire system is Islamic. Sudan had a fully Islamic system until 2005, but switched to a dual system by allowing conventional banks to be established in Southern Sudan, as part of the Comprehensive Peace Agreement. Most countries with dual systems allow conventional banks to operate an Islamic window—effectively, a branch that provides specified Islamic financial services; while others (e.g., Bahrain and Jordan) allow only fully pledged IIFS subsidiaries of conventional banks, besides allowing standalone IIFS.

Islamic Financial Services, particularly Islamic banking and Islamic capital market activities are gradually gaining ground in many OECD countries, although the industry is concentrated in the Middle East and Southeast Asia. The demand for *Shari'ah*-compatible banking and investment products has risen sharply in recent years with the accumulation of petroleum surpluses in countries with large Muslim population.

As a result, innovations to design various Islamic capital market products, particularly different forms of Islamic fixed income securities (*sukuks*) are gathering momentum, and various categories of *sukuks* are emerging as separate asset classes, with broad appeal among investors—both Islamic and non-Islamic. In particular, financing of infrastructure through *sukuks* is proving to be an attractive area. These developments are recent, and the market for sovereign and corporate *sukuks* is still very small and underdeveloped, despite the rapid growth being recorded. In particular, the design and issuance of Islamic finance instruments that are suitable to finance government expenditures and to conduct monetary operations are still in their early stages in most countries. As a result, the IFSI is still dominated by the conventional banking sector in most countries.

Recent History and Size of IFSI

While the practice of Islamic finance has a long history that dates to a classical period, the contemporary IFSI has more recent origins. The modern era of the IFSI began in the 1960s with small Islamic financial institutions that served specific local needs in Egypt and Malaysia, and in 1975 with the establishment of major institutions such as Dubai Islamic Bank and Islamic Development Bank (IDB), innovations in the design of financial products that met *Shari'ah* principles and that could operate in the contemporary legal and institutional settings began to take-off in the 1960s and early 1970s. These innovations began with banking products, but are now spreading rapidly to nonbank financial products and services, including securities markets, insurance and risk transfer, and specialized financial services such as microfinance. Until the 1980s, developments were driven primarily by market demand in some countries (e.g., Saudi Arabia, Egypt, Bahrain, Malaysia, and Indonesia) and political reforms in

others (Iran and Sudan), where governments decided to transform the entire financial system to conform to Islamic principles.

Given its recent origins, the size of the industry is still small in relation to the broader financial landscape, but the growth of the industry seems sufficiently rapid to raise questions about its impact on national and global financial stability, and on the appropriate strategies to facilitate its integration with the national, and eventually, global financial systems.

Systematic and reliable statistical information on IFSI is generally not available and presents a serious gap that hinders proper understanding and policy formulation of the sector. Based on information scattered in different sources, some observations can be made about the present size of the IFSI.

According to information released by Council for Islamic Banks and Financial Institutions (CIBAFI), the industry includes 284 Islamic financial institutions which operate in thirty-eight countries and manage USD 178.5 billion. This does not include conventional banks' Islamic window operations, which are estimated by CIBAFI at USD 200 billion. Moreover, the above information does not cover nonbanking financial institutions, *takaful*, and capital market activities.

Islamic capital markets: Based on a comprehensive list provided by *The Islamic Banker*, London, it is estimated that more than 250 *Shari'ah*-compliant mutual funds are currently managing about USD 300 billion in assets.

The Liquidity Management Centre (LMC) Bahrain lists seventy-seven corporate and sovereign *sukuk* issues on its website (www.lmc Bahrain.com), as of August 2007. These *sukuks* total USD 24.55 billion. Outstanding *sukuks* by the end of the year will be about USD 40 billion (this figure includes other cases and estimates for the remainder of the year).

The available data about the outstanding Malaysian domestic Islamic debt certificates shows these to be worth USD 17.1 billion and those of Bahrain worth USD 2 billion.

A 2006 study conducted at the Islamic Research and Training Institute (IRTI) suggests that a sizable proportion of existing stocks of companies listed in the markets of IDB member countries are *Shari'ah* compliant. The study suggests that enhanced *Shari'ah*-screening technologies and market microstructures could further support this segment of the capital markets. Applying the Dow Jones Islamic Market Index (DJIMI) criteria to local markets of three IDB member countries, the study suggests that

total annual market capitalization of the stock which meets the DJIMI criteria in three IDB member countries was USD 104 billion in 2004. Assuming that these three countries constitute 30 percent of the stock market capitalization in IDB member countries, the annual stock market capitalization meeting the DJIMI criteria in the member countries may have exceeded USD 300 billion in 2004.

There is no established source of data for the *takaful* segment of the industry. Tentative estimates by IRTI show that by the year 2005, seventy-eight *takaful* companies were operating worldwide. These sources show that by the end of 2000 the total gross premium underwritten by *takaful* companies was worth USD 530 million. The same sources estimated that the annualized average growth for 1995–2000 was 63 percent. Based on this historical information the gross premium underwritten by *takaful* companies is estimated at USD 5 billion which provides insurance coverage to an estimated USD 20 billion of assets.

Nonbanking financial institutions, in particular nonbank real estate financing and housing mortgages, have also grown fast during the last five years. Systematic data provided by the Modaraba Association of Pakistan, estimated the paid-up capital of the Modaraba Companies at USD 145 million and their assets at USD 300 million during 2004. Major providers of Islamic financial services in a number of countries are licensed as nonbank financial institutions. The estimated size of such services for 2005 is around USD 9–12 billion.

It must be stressed that the above information is only indicative and not an actual estimate of the industry's size. The information suggests that by the end of 2005, more than 300 institutions in over sixty-five jurisdictions were managing assets worth around USD 700–1,000 billion in a *Shari'ah*-compatible manner. A large part of the banking and *takaful* is concentrated in Bahrain, Malaysia, and Sudan. A significant part of mutual funds concentrate in the Saudi Arabian and Malaysian markets, in addition to the more advanced international capital markets.

The Recent Regulatory Focus on IFSI

In the 1980s and 1990s, policy makers began to recognize that a well-functioning IFSI required a transparent legal and regulatory platform that recognized the unique operational and risk characteristics of the industry

so that the industry could grow and meet customer needs efficiently in a sound and stable setting. Several countries began to enact separate Islamic banking acts, or modify existing acts to accommodate Islamic finance and facilitate the operations of institutions that offered Islamic financial services in parallel with conventional financial institutions. In some countries, the prudential regulatory framework was adapted to recognize the special risk characteristics of Islamic finance. In several countries, however, the provision of Islamic financial services was left to market forces without offering any explicit legal or regulatory regime for its recognition and rather relying on the market players to judge whether the services offered were *Shari'ah* compatible.

The Establishment of Standard Setting Bodies

The developments summarized thus highlight the need for harmonization and standardization of industry practices and regulatory approaches in order to bring about a level-playing field. In response to these needs, policy makers began to design institutional arrangements to strengthen and standardize accounting and auditing, financial supervision, and financial infrastructure arrangements through cross-country information sharing, and through the establishment of standards, guidelines, and technical guidance. Several International Islamic Infrastructure Institutions (IIII) were set up, starting with the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI) in the 1990s, and other organizations in the period 2000–20. In particular, the Islamic Financial Services Board (IFSB) was established in 2002 “to promote the development of a prudent and transparent IFSI through introducing new, or adapting existing, international standards consistent with *Shari'ah* principles, and recommend these for adoption,” and “to liaise and cooperate with relevant organizations currently setting standards for the stability and soundness of the international monetary and financial systems....” In addition, other IIII’s such as International Islamic Financial Markets (IIFM), International Islamic Rating Agency (IIRA), General Council for Islamic Banks and Financial Institutions (GCIBAFI), and Arbitration and Reconciliation Centre for Islamic Financial Institutions (ARCIFI) were established. Of particular interest, IFSB has organized an Islamic Financial

Services Forum—The European Challenge, in collaboration with major European central banks, in order to highlight the challenges of fostering Islamic finance in Europe. A meeting of the Forum was cohosted by the Financial Stability Institute and held in Frankfurt in December 5–6, 2007 with the support of Deutsche Bundesbank.

Governments' stronger regulatory and strategic focus on the industry created an opportunity for regulators to provide leadership to encourage and facilitate further developments in the industry. The strategic focus on IFSI has also helped accelerate financial innovations and growth in the industry. These developments have posed new challenges for both market players and regulatory authorities, and highlighted several supervisory and regulatory issues, that are discussed below.

Challenges in the Development and Supervision of IFSI

IFSI's development and its effective supervision face special challenges. Specifically:

- Islamic finance instruments and institutions have special risk characteristics (i.e., the type and mix of risks that are embedded in individual Islamic products and the arrangements to share risks with Investment Account Holders [IAHs]), which pose unique risk management challenges. Many countries do not yet have a suitable legal framework or regulatory infrastructure to address these issues, although the standards to address these are being developed. Most IIFS lack the systems to measure, monitor, and control the unique risk characteristics of Islamic financial products, partly because the recognition of these characteristics and the relevant standards for their measurement and control are fairly new.
- Islamic finance products and services often have a cross-sectoral nature: for instance, the combined features of deposits (or loans) and of mutual funds (or equities) in a single product such as *mudarabah* deposits, i.e., profit-sharing investment account (or *mudarabah* financing) requires the close cooperation between banking and securities regulators. The risk management and supervisory

implications of this cross-sectoral feature of Islamic finance remains as yet unaddressed in most countries.

- The harmonization—within country and across borders—of *Shari'ah* standards, and the systems and controls for *ex-post* reviews of compliance with *Shari'ah* principles continues to pose challenges. Institutional support for systematic training of *Shari'ah* scholars and the development of *Shari'ah* governance standards are relatively recent, and much remains to be done.
- The securitization of Islamic finance contracts and fiduciary trust arrangements play a special role in the issuance of Islamic securities and on-balance-sheet risk management. These issues call for special attention to legal and other infrastructure to support the development of Islamic securities and effective risk management. Legal and institutional arrangements for Islamic asset securitization and risk management are still weak in many countries.
- The insufficient development of *Shari'ah*-compatible government finance instruments (despite the recent successful global issues of *sukuks* by several sovereigns) reflects the insufficient supply of assets that can be securitized based on Islamic finance contracts. This, in turn, is indicative of the lack of a regular *sukuk*-issuance program, and its integration into domestic public debt management programs. In addition, the complexity of many structured Islamic products by both sovereigns and private issuers has also weakened the development of a secondary market. There is a pressing need to innovate, design, and issue—in sufficient volumes and on a regular schedule—a range of simple, easy-to-market Islamic finance instruments that are suitable for government financing and monetary management. The absence of such benchmark instruments is a significant gap in the efficient functioning of the IFSI.
- The inadequate development of tradable Islamic money market securities and the absence of efficient trading and settlement arrangements is a major weakness in Islamic finance. Such “systemic liquidity” arrangements are critical for effective monetary policy implementation by central banks and effective liquidity risk

management by the IIFS, and efforts to address these issues have begun under the auspices of the IFSB and the IIFM.

- The insufficient development of *Shari'ah*-compatible hedging instruments, due to *Shari'ah* restrictions on the design of such instruments, has limited the risk mitigation options for IIFS, and the ability to compete with conventional finance. The alternative of effective risk sharing with IAHs is not yet fully understood nor exploited by the IIFS, although some regulators, supported by the IFSB standards, seek to encourage investment account management as a risk mitigant in Islamic finance.
- Currently available data on IFSI are incomplete in coverage, neither comparable across countries, nor across firms within a country. This is due to differences in accounting standards, and a generally weak accounting and auditing environment. There is a pressing need to systematically monitor developments in the industry so that its contributions to strengthened access and development, and its systemic importance to stability can be properly understood. The lack of comprehensive prudential and structural information on IFSI is a weakness that deters effective financial policy making and proper macro prudential surveillance.

Evolving country supervisory practices, supported by IFSB standards, have already begun to reflect the special risk characteristics of Islamic finance. Standards for corporate governance, risk management, capital adequacy, disclosure and transparency, and supervisory reviews of IIFS have already been developed by the IFSB. These constitute the Basel II equivalent for Islamic finance.

The process of countries adopting these standards has just begun. Further technical guidance on the implementation of the IFSB standards, and further development of new standards and guidelines, have to go hand-in-hand with the design of an appropriate supervisory architecture and financial infrastructure that reflect the cross-sectoral aspects as well as the key role of Islamic asset securitization in the industry.

The effective implementation of financial supervision and the sound development of the industry require a robust financial infrastructure in many aspects—legal, systematic liquidity, and transparency and

governance. In combination, they serve as preconditions for the effective supervision and efficient functioning of the IFSI. The weaknesses in these infrastructure elements affect the design of prudential standards and the scope of risk management. In particular, the weaknesses in systematic liquidity infrastructure calls for renewed efforts to design tradable Islamic money market instruments and strengthen liquidity risk management by IIFS. There is an increasing awareness among country authorities, and international institutions (such as the IMF, World Bank, and IDB) on the need to address these issues to support the development and effective supervision of the industry.

The Opportunities in Islamic Finance for Globally Active Financial Institutions

The cross-sectoral features of Islamic finance and the underdevelopment of key segments of the industry provide a range of opportunities and challenges for financial institutions to contribute to the growth, transformation, and global integration of the IFSI that is underway:

- The design and dissemination of risk management systems that reflect the unique risk characteristics and cross-sectoral aspects of Islamic finance can provide significant opportunities for the competitive delivery of various Islamic financial services by IIFS. This is a relatively new and unexplored area in Islamic finance.
- Participation in designing, structuring, and market-making services in Islamic fixed income products—*sukuks*—to meet the growing needs of both sovereign issuers as well as private sector, including for infrastructure development, at the national and regional levels.
- Related to the above, participation in the development and dissemination of Islamic money market products, based on long-term *sukuks*, as well as those linked to asset- and lease-based contracts, and the related market-making, clearing, and settlement services.
- Designing regionally- and/or globally-oriented Islamic capital and money-market products, e.g., to assist in the regional integration

of markets underway in the Gulf Cooperation Council (GCC) countries, and to tap the globally active investor base for Islamic finance.

Future Research Needs

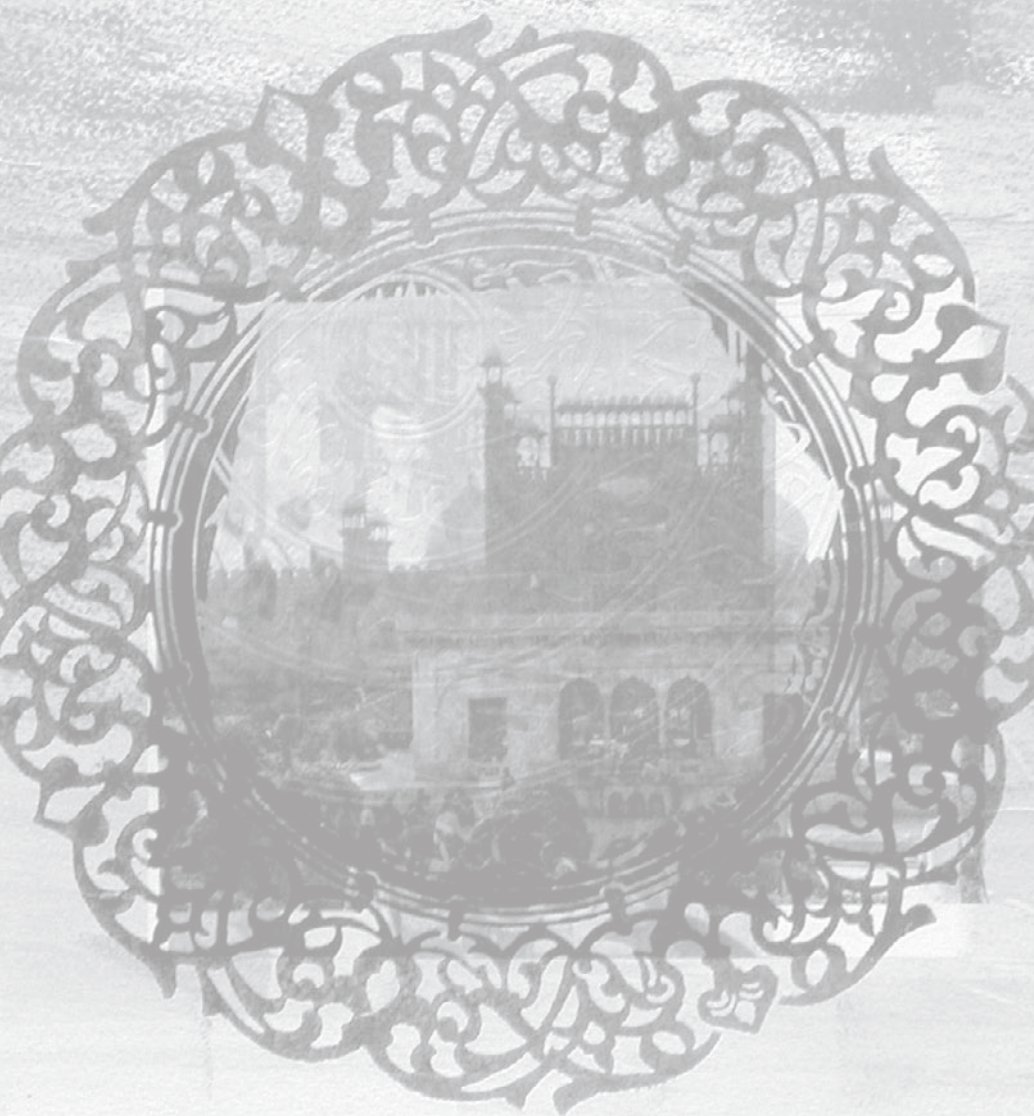
Efforts have been underway to address a range of the aforementioned needs and inadequacies in Islamic finance. Public and private organizations have been involved in a range of technical assistance activities—supported by the ADB, IDB, and IMF. These efforts have mainly been addressed at central banks and governments, and relate to market development, governance, risk management, and prudential supervision of Islamic finance. Some of the recent and ongoing advisory and technical assistance activities include:

1. Development of disclosure, and supervisory review standards for Islamic banks.
2. Survey recent developments in trust laws from an Islamic finance perspective.
3. Survey recent developments and issues in Islamic capital markets.
4. Development of a compilation guide for prudential and structural Islamic finance statistics.
5. A survey of IIIs, primarily as an input into the IRTI/IFSB 10-Year Framework for Industry Development Strategy.
6. Analysis of issues in monetary management under Islamic banking.
7. Analysis of issues in risk measurement and risk management in Islamic finance; measurement of risk sharing (between IAHs and shareholders) in Islamic finance and its capital adequacy implications.
8. Formulation of a strategy for the development of Islamic money markets.
9. An assessment of key issues and gaps in the supervision and development of Islamic finance.
10. Assistance to individual countries to implement strengthened risk management techniques and the supervision of Islamic finance by

helping to implement the new IFSB standards. Since the standards are new, they require that operational details are designed and public awareness is expanded.

Further work is required to assist financial institutions in formulating and implementing strategies—both national and regional levels—to contribute to Islamic capital market and money market development and to the design and dissemination of effective risk management approaches in Islamic finance. In parallel, central banks and regulators need further assistance in building the necessary institutional and operational infrastructure to support the further development and global integration of Islamic finance.

Part II



2

Monetary Operations and Government Debt Management Under Islamic Banking¹

V. Sundararajan with David Marston and Ghiath Shabsigh

I. Introduction

Over the past two decades there has been significant progress in widening the range of financial instruments that are compatible with the principles of Islamic finance. While several financial instruments suitable for Islamic commercial banking or for funding specific projects have been developed, progress in developing instruments for non-inflationary financing of government deficits and for market-based monetary management, has been less satisfactory. Instruments for general government funding and for overall liquidity management that are transparent and operationally feasible have yet to be fully developed.

The challenges to implementing market-based monetary policy in Islamic banking systems are unique and complex. For effective monetary

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control under any system, it is usually assumed that central banks have discretionary control over their balance sheets, and hence over the growth of reserve money. Invariably, this is facilitated through the existence of independent funding markets for the budget and the availability of flexible instruments with which to offset and regulate the flow of liquidity created by autonomous items on the central bank's balance sheet. Moreover, it is assumed that there are responsive money markets and payments systems, through which banks manage their own liquidity positions and through which policy intentions are transmitted. As in many developing countries, the development of these arrangements to facilitate effective monetary policy implementation in countries with full or partial Islamic banking systems is at various stages of evolution.

The unique challenge for Islamic banking systems derives from the complexity in designing market-based instruments for monetary control and government financing which satisfy the Islamic prohibition on *ex-ante* interest payments, and provide for a sharing of profits and losses on underlying transactions. Under the Islamic mode of finance, debt-based instruments cannot earn a positive rate of return (through interest, fixed or variable) and cannot be discounted in a secondary market, i.e., they can only be traded at par and under strict transfer limitations; on the other hand, equity-based securities can be traded in the open market, with trading values reflecting market expectations of economic performance, and hence rates of return. However, designing equity-based instruments linked to government or central banking operations poses significant difficulties because of the complexities associated with computing appropriate profits and rates of return. These constraints have limited the development of efficient mechanisms for money market trading and central bank credit facilities, which are necessary for effective market-based monetary policy and improved bank management of highly liquid portfolios which could arise, in part, from the portfolio structure of Islamic banks.

There is an urgency to resolve these issues. The absence of efficient instruments for monetary operations and general government funding has perpetuated the reliance on direct controls on credit and high unremunerated reserve requirements. The latter contributes to high intermediation margins. The absence of money markets has also led

to large excess reserves (which in turn add to intermediation margins) and a loss of monetary control when central banks continue to provide credit to individual banks even though they lack flexible means to absorb excess reserves. The overall consequence of these inefficiencies has been progressive disintermediation and persistent inflationary pressures in many Islamic banking systems.

The purpose of this paper is to outline the progress that has been achieved thus far in developing money market and government funding instruments and to provide details on the new instruments that are currently being developed, drawing on the experience of the Islamic Republic of Iran and Sudan. The paper touches on issues of institutional arrangements for monetary operations, particularly interbank markets and the design of central bank credit facilities.

The organization of this paper is as follows: Section II discusses the existing approaches to designing government funding and monetary instruments under Islamic banking, and their institutional and operational implications. Section III reviews the most recent developments in country practices in market-based instruments and proposes new approaches. Section IV discusses possible reforms to institutional arrangements for monetary operations and approaches to money market development consistent with Islamic banking. Finally, Section V provides concluding remarks.

II. Issuance of Government Securities Under Islamic Finance Principles

While a range of Islamic financial products are available to finance specific government projects, or for the government procurement of specific goods, a general funding instrument to support the general government function (or to absorb bank liquidity) has been conceptually difficult to design under Islamic finance principles. While returns on a specific project or purchase and resale transactions are easy to define, the definition of an appropriate rate of return on general government services or central bank operations has been difficult to formulate. Nevertheless, some progress has been made recently to overcome these problems.

A. Specific Funding Instruments

Several countries have developed project-specific funding instruments applying the principles of *mudharaba* or *ijara*.² For projects that yield an identifiable rate of return (e.g., factory, trading company, etc.), the government issues a *mudharaba* certificate (restricted *mudharaba*) to investors and invests the proceeds in specific projects and, in return, investors claim a share in the profits (see Box 1). This instrument is equity-based and hence marketable in the secondary market, with the secondary market price determined by the performance prospect of the underlying project.³

For government projects that do not yield a readily identifiable rate of return (e.g., schools), a leasing-based instrument (*ijara*) is sometimes used to raise the needed funds. Under this arrangement, investors become co-owners of the project with the government (or the sole owners if they provide full funding). Once the project is completed, the investors lease their share to the government for a certain period of time at a negotiated lease rate. The lease contract often includes an option-to-buy for the government at the end of the lease contract.

Despite the validity of these approaches to develop government funding instruments, there are inherent limitations in their usefulness for flexible monetary management and efficient domestic debt management. Generally, an efficient system of price discovery is essential to develop markets in securities. To the extent that the process lacks transparency or is insufficiently market-friendly (in terms of issue frequency and price setting), and the availability of information to assess pricing is limited investor participation suffers. In the case of project-specific funding instruments, primary issues may be too infrequent and not widely held to

²*Mudharaba* is a contract where one party provides the funds and the other provides the work. Profits are distributed according to a negotiated percentage (the party that provides the work cannot claim wages, salaries or any compensation other than a share of the profits), while losses are borne by the fund provider. *Ijara* is a leasing-type contract. For more detailed discussions of Islamic financial contracts, see Kazarian (1993) and Iqbal and Mirakhor (1987).

³The scope of this instrument can be widened to cover a pool of projects (i.e., an unrestricted *mudharaba*) instead of specific projects, with the rate of return being determined by the average yield of all the projects. It is also possible to issue and float the two types (the restricted and the unrestricted *mudharaba*) simultaneously.

**Box 1 Participation Papers (PP) in the Islamic Republic of Iran
(Restricted *Mudharaba*) Issued since 1993**

In this framework, commercial banks act as agents to raise funds to finance a specific investment project. The borrower provides market and financial analyses of the project including an expected return which is prepared to share with lenders.¹ The commercial bank undertakes an initial economic review of the proposal and its terms to determine its accuracy and reasonableness. With due diligence completed the commercial bank and the borrower forward the proposal to the Credit Committee within BMI which conducts its own independent review of the proposal. No fee is applied. If approved, the Credit Committee also sets a guaranteed minimum return that will be paid to investors. It is expected that the actual rate is higher than the minimum and that it will be paid as it is realized during the course of the project.² In addition, the principal is also guaranteed by the commercial bank. To ensure payment of the guarantees, the following steps are taken:

- a. The proceeds of the PP are placed with the agent-bank and a monitoring process for their withdrawal as well as use is put in place.
- b. Additional collateral, including a claim on the project's real assets are obtained in addition to cash deposits.
- c. The central bank appoints an auditor and trustee. The trustee protects the interest of the investors by overseeing the implementation of the project and the utilization of the proceeds from PP sales, and by ensuring that all bond holders receive the correct payments of interest and principal.

PP offerings

Iranian governmental bodies, religious foundations and private sector enterprises have issued five PPs between 1995 and 1997. PPs combine features of debt and equity in that they have specific terms that range from 2 ½ to 5 years and set a minimum return, but may provide an actual return higher than the minimum if warranted by the ultimate profitability of the underlying investment.

Pricing and the method of distribution

Individuals and legal entities (incorporated bodies) may purchase participation bonds. Banks are not eligible purchasers at the primary distribution. PPs are sold at face value on a first-come, first-served basis. If an issue is not well received, issuers extend the sales period. They raise the return to investors by non-price means, an approach presumably meant to avoid further regulatory review. For example, the *Hazrat Imam Reza* PP improved the attractiveness of its bonds by offering bond holders on maturity a discount of 10 percent to 15 percent on the price of the homes incorporated into its project.³

(Contd.)

Box 1 (Continued)**Repurchases**

After sale, a purchaser may re-sell a PP to the agent bank at face value plus accrued interest. The bank is expected to re-sell the bond at face value less accrued interest to the public on demand. No fee is charged for these secondary market transactions.

Rates of return

The minimum return so far has been set by the Credit Committee.⁴ As determined by the trustee, a balloon payment is expected to be paid on maturity. To date, PPs have only paid the guaranteed minimum rate.

¹ Presumably the borrower deducts fees and other payments from projected financial flows to reward his own entrepreneurship and management acumen.

² The rationale for the guaranteed minimum rate is that the commercial bank and the BMI due diligence should have screened projects below that minimum rate.

³ Similarly, the Tehran project and the car project are considering tie-in sales.

⁴ It has been kept above bank deposits with similar terms to ensure marketability and to compensate for a 5 percent tax applied to the return from PPs but which is not applied to earnings from bank deposits.

form the basis for market development. The specificity of the project and the maturity of funding required by the project may result in particular niche investors. Therefore, the usefulness of the resulting price as a benchmark/reference rate for other issues is very limited.

Beyond the issue of price discovery, these approaches do not achieve the goal of cost minimization, a core principle of public debt management. This principle is usually applied by ensuring that: (i) market-based methods are used for primary issuance of securities, (ii) markets for securities are liquid and efficient through arrangements like discounting, repurchase agreements, and active secondary markets, and (iii) the distribution of the security is broad-based.

To achieve these attributes, instrument design, selling techniques and arrangements to ensure instrument liquidity are important. Some recently used approaches (the restricted-*Mudharaba Participation Papers* (PP) in the Islamic Republic of Iran, for example) incorporate special non-price features in instrument design in order to raise the rates of return (see

Box 1). But these arrangements also make the instrument relatively illiquid, and inhibit the development of secondary markets. Further, redeeming PPs at face value (as opposed to a negotiated price) imposes risks to the agent bank and may be against the interest of the seller, insofar as he has a right to any accumulated additional payments above the minimum return is eliminated. Nuances such as these in instrument design result in restricted market participation, and the use of such instruments could result in the government budget paying a premium to raise funds, thereby undermining the cost minimization objective.

B. General Funding Instruments

As regards general-purpose funding instruments, the determination of an appropriate method to calculate an overall rate of return on these instruments, which can be used as a proxy for the profits from, or returns on, general government activities, is difficult because of the conceptual problems in measuring the costs, benefits, and risks in the provision of government services. Over the years, various proposals have been made to resolve these difficulties, including calculating project shadow prices and utilizing social rates of return.⁴

At present, general-purpose government funding papers are issued only in Malaysia under the Government Investment Issues (GII) scheme. The purchase of GII by investors is considered a benevolent loan (*qard Hasan*) made by the public to the government to enable it to undertake projects or provide services for the benefit of the nation. The providers of the funds do not expect returns on their loans but expect the principal amount to be returned at maturity. As a sign of goodwill, however, the government can decide to provide some returns in the form of dividends (gifts). The rate of dividends, set by a committee, takes into consideration variables such as inflation, real growth in the economy and existing yields on other financial instruments.⁵ This instrument was designed primarily to allow the Islamic Bank of Malaysia to hold liquid paper in order to comply with

⁴See Choudry and Mirakhor (1996).

⁵The formula to determine the purchase or sales price of the GII at the discount window of BNM is as follows: $\text{Price} = (1 + a*b)/365*100$; where a = number of days after issue date for certificates of one year of original maturity or number of days after last dividend payment date for certificates with more than one year of original maturity; and b = expected dividend rate in percent.

Table 1 Cross-country Comparisons of Bank Liquidity

	<i>Demand/total deposits (percent)</i>		<i>Reserves/total deposits (percent)</i>	
	1993/97	1997	1993/97	1997
Iran ¹	40	40	31	33
Pakistan	38	34	57	59
Sudan	87	87	24	27
Bangladesh ²	18	16	11	8
Egypt	10	10	20	17
Jordan	19	17	14	16

Source: National authorities and International Financial Statistics (IMF).

¹ Iran data is reported based on fiscal years ending in March. Data for 1997/98 are preliminary for 5 months.

² Bangladesh data for 1997 refer to September 1997.

the liquidity requirements of the central bank in Malaysia—Bank Negara Malaysia (BNM)—as well as to invest its excess reserves. The GII, however, is not meant to be used as a monetary tool by BNM; moreover, GII is used in parallel with conventional interest-bearing government securities which are the main instruments of domestic financing of fiscal deficits. This approach of setting the rates of return on the GII by a committee, based on *ex-post* developments of key macroeconomic variables may not be sufficiently transparent to foster wide participation.

The limitations of these instruments for the efficient management of public sector funding requirements have meant that the domestic financing of deficits has come to rely exclusively on central bank credit for countries that operate under fully Islamic banking systems—thereby exacerbating inflationary pressures.

C. Money Market Development

The difficulties in defining rates of return on general funding instruments have limited the development of money and interbank markets and constrained the efficiency of central bank credit facilities, and hence, have limited the scope of monetary management. In addition, the unavailability of high frequency accounting data, based on uniformly applied standards, has limited the development of short-term instruments. While not inherent to the nature of Islamic banking, the liability portfolio of Islamic banks

is substantially liquid in practice, and the absence of money markets for short-term liquidity management can impose significant costs on Islamic commercial banks.

Islamic banks normally operate three broad categories of deposits. The current account, as in conventional banking gives no return to depositors. It is essentially a safekeeping (*wadiah*) arrangement between depositors and banks which allow depositors to withdraw their money at any time, but permits the banks to use depositors' money. The savings account is also operated on a *wadiah* basis, but the bank may—at its own discretion—pay the depositors a positive return periodically, depending on its own profitability. Investment accounts are based on unrestricted *mudharaba* contracts and such accounts are term deposits that cannot be withdrawn without a penalty prior to maturity. In practice, however, investment deposits have relatively short maturities and demand deposits constitute a significant proportion of total deposits. The high proportion of callable deposits predisposes the system to large holdings of very liquid assets. In the absence of money market instruments and efficient central bank credit facilities to manage these short-term positions, banks typically hold a substantial volume of unremunerated excess reserves at the central bank. This tendency towards accumulating large excess reserves is then priced into profit shares through lower deposit yields/higher loan spreads, thereby inhibiting intermediation and financial deepening.

The absence of interbank markets and efficient central bank lending facilities has limited the use of indirect monetary instruments and perpetuated the use of direct controls on credit and rates of returns. Table 1 below reviews liquidity indicators in selected countries. These suggest that there is a tendency in countries that apply Islamic banking principles (in this case, the Islamic Republic of Iran, Pakistan, and Sudan), to have a relatively higher proportions of callable (demand) deposits and bank reserves in relation to total deposits.

III. Recent Developments in Monetary Instruments Under Islamic Banking

Against this background, several new initiatives to develop general funding instruments for budget financing and monetary management have recently

been launched. As noted, the underlying difficulties have been two-fold: (1) how to define the range of assets created by the government, measure the cost and benefits of related government services, and determine a rate of return that compensates investors in assets created by the government; and (2) in the absence of benchmarks, such as a fixed and predetermined interest rates, how can market participants make a decision on the price of government paper, as is the case in a conventional financial system.⁶

In this section three new modalities for monetary and public borrowing instruments are examined: (i) the *National Participation Paper*, (ii) the *Central Bank Musharaka Certificate*, and (iii) the *Government Mudharaba Certificate*. The viability of these approaches to evolve into broad-based markets in securities, which can be flexibly used for general funding of the budget and for monetary management on a sustained basis, is yet to be proven. Nonetheless, they represent a recognition of the need for such instruments and markets, and should be viewed as positive contributions to resolving what has been an intractable problem of Islamic banking systems.

A. National Participation Paper

The National Participation Paper (NPP)⁷ refers to a monetary instrument to finance government operations (infrastructure projects in particular)—but not tied to specific projects—which also can be used to conduct open market operations. The design of the NPP is based on the presumption that because of the characteristics of government infrastructure and development projects, their social rate of return must be greater than or at least equal to the rate of return in the private sector; otherwise, there is no justification for governments to undertake these projects on economic grounds. Based on this reasoning, a non-interest-based government security can be issued and traded in equity markets. It promises to pay a rate of return on maturity that approximates the average rate of return on the underlying government assets, and is set equal to or above an estimate rate of return in the private sector.

A variety of methods have been proposed to approximate the rate of return on private sector activities and hence the rate of return on the NPP. An index based on stock market transactions can be developed to

⁶See Haque and Mirakhor (1997).

⁷See Haque and Mirakhor (1997) for more details.

proxy private sector rate of return.⁸ The efficient implementation of this approach would require: (i) a relatively developed and efficient stock market to capture a sufficiently large segment of private sector activities in the economy, and (ii) the use of a filtering formula to eliminate signals that emanate from expectations of future earnings, speculative fervor, and seasonal variations. It might also be reasonable to construct an index of return on capital based on past movements of nominal GDP and its components, given that GNP growth closely proxies the expected growth of private sector output. Other possibilities to measure the private sector rate of return (particularly where markets are insufficiently developed) include constructing an index based on the ratio of market price of capital to its replacement cost (Tobin's q), or an index using information such as earnings per share and the price-earnings ratio, or a composite general index that uses elements from all of the above. The operational effectiveness of such indices would depend upon the stability and transparency of the estimates.

The proposal for a NPP, with its return linked to an index of stock market and other measures of private sector returns, is being considered at present by the Central Bank of the Islamic Republic of Iran. Technical issues in constructing a sufficiently transparent index to use in determining the rate of return on the NPPs are being examined.⁹

B. Central Bank Musharaka Certificates

Central Bank Musharaka Certificate (CMC)¹⁰ refers to an equity-based instrument that is issued against the government (or central bank) ownership in commercial banks. Such a security was recently introduced in Sudan in order to enable the central bank to regulate domestic liquidity

⁸Haque and Mirakhor (1997) discussed the possibility that international or regional elements could be included in the index.

⁹A decree was issued in early 1997 by Ayatollah Gholamreza Rezwani allowing the authorities in the Islamic Republic of Iran to issue an NPP representing a set value as a proportion of a portfolio of assets (composed of completed development projects) with an expected rate of return. Financial resources thus mobilized are to be used to repay Government debt to the central bank and as a monetary control instrument. The central bank will calculate and guarantee a minimum rate of return.

¹⁰*Musharaka* is a partnership contract (usually in capital) with profits distributed according to contributions or on a negotiated basis.

through open market operations, and thereby facilitate exchange market unification.

In principle, the central bank's profits can constitute a basis for issuing securities that can yield an identifiable rate of return to investors in these securities, and can be used in open market operations to regulate liquidity, since these securities can be traded in a secondary market. The central bank's profits are derived from fees charged on accounts clearance, foreign exchange operations, profit transfers from the commercial banks that are owned by the central bank, profits from credit to banks and non-bank public, and other sources.

Under a *musharaka*-based security (i.e. CMC) the central bank becomes a partner with the investors in its profits. The distribution of profits between the central bank and the investor is negotiable and the contract can be traded in the secondary market (to another bank or to the central bank). The return on CMCs can be derived from the central bank's total profits, or from the profits of a subset of identifiable assets of the central bank, or from a set of government assets (i.e., government's ownership in a commercial bank) administered by (or transferred to) the central bank.

There are two factors, however, that can make the CMCs that are issued against all of the central bank's profits impractical to use. First, it is difficult to make the central bank's operations, and hence profits, transparent for investors to evaluate performance, while keeping the minimum secrecy needed for the central bank's operations. Second, profits are not usually a principal motive for the central bank's operations; the central bank could willingly accrue losses to serve monetary policy purposes.

The problems associated with the use of central bank's profits as a basis for CMC can be avoided by issuing the CMCs against a special fund composed of government (or central bank) ownership in commercial banks. Such a fund has an identifiable value and identifiable rate of return, and provides ideal conditions for issuing a well-structured CMC. (Appendix I outlines some of the issues regarding the operational modalities of designing CMCs.)

The design of CMCs should be based on the following general principles that underlie any instrument of market-based monetary operations: (i) the instrument should have the potential to be widely held so that monetary signals can be transmitted efficiently through the market, (ii) the instrument should be attractive to banks as an instrument of managing

excess reserves so that monetary policy can quickly influence the marginal cost of funds to banks, (iii) the instrument should carry the lowest possible price and investment risk so that it can serve as a benchmark for other more risky securities and financial instruments, and finally (iv) the instrument should be “re-discountable” (i.e., be eligible for repurchase at a price) at the central bank in order to provide liquidity to the instrument, particularly in the initial stages when the secondary markets are in the process of being developed.

In designing the operational modalities of the fund against which the CMCs will be issued, there will be technical issues involving accounting, asset valuation, and calculation of yields, especially for non-listed commercial banks.

Some of the design issues include:

1. Valuing the net worth of non-listed banks and assessing the value of central bank’s holdings.
2. Valuing the CMC fund (given the existence of traded and non-traded stocks in the fund’s portfolio).
3. Determining a transparent measure of returns/dividends for non-traded banks; and
4. establishing transparent periodicity of fund valuation and the information disclosure needed by the market to assess the fund’s performance.

Beyond these technical issues, the central bank will need to develop the techniques for the primary issuance of the CMCs including pre- and post-auction procedures and information, and accounting and settlement procedures for primary and secondary transactions. For further market development and to provide liquidity to the CMCs, the central bank will need to foster an appropriate micro-structure for secondary markets. Liquidity of the instrument will be important, especially in the initial stages when the central bank will be seeking to establish credibility in its operations. The central bank will need to establish a mechanism through which it will be willing to repurchase CMCs owned by investors.¹¹ The setting of the repurchase price should be market related and encourage secondary

¹¹See a detailed description of the issues related to CMC design in Appendix 1.

trading outside the central bank. Finally, the central bank will need to set up its liquidity forecasting and monitoring procedures in the central bank to guide placements and modify existing instruments, including central bank credit facilities, as needed, in order to ensure the effective use of the CMC to influence bank liquidity and exchange market conditions.

The principle underlying the CMC was approved in November 1997 by the High *Shanaa* Supervisory Council (HSSC) of the Bank of Sudan (BOS)-the central bank of Sudan. Subsequently, a financial company (Sudan Financial Services Co.) was established to hold the shares of the government and BOS in banks, and the CMCs were issued against their value (3940 CMCs were issued for a nominal value of LSd 10 million (about US\$5000) for each CMC). A uniform-price type auction¹² was used for the first primary issue of CMCs on June 3, 1998. The auction was successful and a total of 200 CMCs were sold against market demand of 559 CMCs. The cut-off price (i.e., the auction price) cleared at a small premium of LSd 1,000 over the pre-announced nominal value.¹³

Notwithstanding its successful introduction in Sudan, the scope for expanded operations in CMCs and their cross-country applicability may be constrained by the underlying institutional arrangement-of central bank ownership of equity positions-in banks. Moreover, since the fund is finite (without undermining other objectives of privatization) there is a limit on the volume of transactions that may or may not be compatible with the requirements for monetary stability. The fund can be augmented (as it has been in Sudan) by the transfer to the fund of the government's equity positions in banks, but this too is finite.¹⁴ This constraint can be somewhat loosened by expanding the concept of the CMC to a *Government Musharaka Certificate* (GMC) where the equity instrument is issued against public sector ownership of income yielding assets in general. A GMC is then issued by the Government and constitutes an independent funding source for the budget and replaces the CMC as a monetary instrument as markets develop.

¹²See Appendix 1 for definition.

¹³In line with a pre-set timetable subsequent auctions or CMC's have taken place. Moreover, a repurchase auction has also been conducted and the net liquidity effect of these operations (up to July 22, 1998) has been an absorption of LSd 9 billion.

¹⁴In principle, central banks could acquire shares up to any limit in the open market up, and build up a balanced equity portfolio against which CMCs could be issued.

C. Government Mudharaba Certificate

The *Government Mudharaba Certificate* (GMC) refers to an instrument that enables the government to raise funds by issuing securities that promise investors a negotiable return that is linked to the developments in government revenue (a share in government revenue, for example) in return for their investment in the provision of general government services. A proposal for issuing The BOS's HSSC are currently considering GMCs but no decision has yet been made on the suitability of this instrument.

This instrument attempts to accommodate the fact that government activities mostly involve the production of intangible services. It therefore moves beyond the literature's emphasis on designing government funding instruments that are solely based on the government's production of tangibles. Most of these intangible services (e.g. security, foreign relations, legal arbitration, etc.) can, in principle, be produced by the private sector, which in this case collects rents/fees on them. The private sector is allowed to enter into *musharaka/mudharaba* contracts against the production of these services; investors are remunerated from the generated revenue. It is argued, however, that these services are best provided by the government—since it can be viewed as a cooperative entity that represents the public interest rather than being motivated by profits—which would collect taxes in lieu of rents/fees to cover the expenses of providing the services. The GMC would allow the public to assist the government in the creation of these services by providing funds to cover some of the expenses to produce them, and to share, in return, the collected rents/fees, i.e., revenue.

The overall benefits generated by government services facilitate economic growth by raising revenue for the government. Better government services contribute to higher economic growth and higher income for tax payers, and hence higher revenue. Investors, whose funds enabled the government to produce the services that benefit the economy and facilitate the expansion of the revenue base, have a legitimate claim on government revenue. Such revenue can be perceived as a measure of the value or benefits of government services. Hence, investors who fund the provision of such services are entitled to a share of the benefits of these services. It is important to keep in mind that all government funding instruments, under any financial system—Islamic or otherwise—give holders/investors a claim on future government revenue (mostly taxes

in a market economy); the key issue under Islamic banking is how to specify the claims.

One might argue, however, that government revenue depends on the tax structure, and not necessarily on the benefits of government services. However, it cannot be argued that the tax structure is an involuntary contract (*aqed idhaan*) that is imposed on tax payers, since the tax structure and the budget are both subject to the approval of the representatives of the tax payers (i.e. the Parliament or other consultative bodies). Therefore, the tax structure can be viewed as a negotiated formula between the government and the public on the price (cost) of producing government services.

Investors in the provision of government services would need to evaluate the factors that affect revenue performance, like when investing in any other economic activity. These factors could include, *inter alia*, projected economic growth, expected rate of inflation, projected government expenditures, projected revenue performance over the maturity period of the GMC, changes in the tax regime, information on past revenue performance, and other necessary information. In addition, the actual rate of return received by the bidder would vary according to revenue performance. Based on the disclosed information and investors' evaluation of them (including projected revenue and the effectiveness of government services), investors would bid an appropriate rate of return on their investments in the provision of government services, taking into account the rates of returns of alternative investments.¹⁵ Investors would receive, *ex post*, a larger or smaller return depending on actual revenue performance. This is achieved operationally either by allowing bids that are specified as a share of tax revenue, or equivalently by adjusting the actual rate of returns *ex post*, based on actual revenue outcomes in relation to initial revenue targets (see Appendix II).

The GMC is an equity-like instrument in the sense that it can be transformed into assets (services). The GMC can be traded in a secondary market like any *mudharaba* in private assets (commodities or services), with the secondary market value (lower, higher, or at par of the face value) reflecting changing expectations regarding future revenue performance, in a manner not much different from secondary market trading in private *mudharaba* securities. The government neither guarantees the principal

¹⁵The issuance of GMCs would, therefore, require a significant disclosure of budgetary performance and revenue objectives.

nor the return on the investment. Investors make a profit or incur a loss depending on whether the actual revenue performance during the holding period of the GMC is higher or lower than the initial expectations.

The success of the GMC crucially depends on applying proper fairness criteria to protect the interests of investors. These fairness criteria could include: (i) applying general Islamic rules that protect investors in *mudharaba* contracts against moral hazards, and (ii) establishing a proper disclosure criterion to inform the public, inter alia, about actual tax revenue performance, past and present; projections of tax revenue performance over the duration of the GMC period; and changes in the tax regime.

Historical precedence—The qabala system

In its essence, the GMC is a modern, more refined and sophisticated version of a system of public finance that was practiced by various Islamic states for centuries—namely the *qabala* system of raising funds for general government purposes.

In the former *qabala* (acceptance) system, an investor accepted (*taqabul*) to pay the state a fixed sum of money and in return made claim on the tax revenue of a certain tax locality; the investor was often allowed to collect the taxes himself to ensure that the state would not default or as a matter of convenience. The investor paid the state mostly up-front, but sometimes in installments, or at a determined time in the future (usually around tax collection time). Most Islamic scholars disliked this method for two reasons. First, the system was often abused particularly when investors realized that they might incur a loss due to lower than expected revenues. In the absence of government supervision, there were attempts to extract more revenue by over-taxing the tax payer, in many instances using abusive force. Second, scholars feared that the *qabala* contract could degenerate into a *riba* contract (i.e., interest-based contract) when investors or investor funds were not reinvested in the tax base. Both concerns are addressed under the GMC scheme. The government does not delegate tax collection to investors and the funds raised from issuing the GMCs are reinvested in the tax base (i.e., the economy) through the provision of government services.¹⁶

¹⁶For more discussions of the historical Qabala system, see Cizacka (1989) and Morimoto (1981).

IV. Issues in Institutional Arrangements for Monetary Operations

The active use of these instruments (described above) for market-based monetary management can contribute to the development of money markets. The deepening of such markets would, however, require that monetary authorities foster proper institutional arrangements. An active money market through which banks manage their short-term portfolio positions underpins central bank operations to regulate liquidity, and facilitate the efficient transmission of monetary policy signals. The institutional arrangements for interbank and secondary markets need to be supported by efficient payment and settlement systems and an appropriate design of central bank credit facilities/These three elements are crucial to ensure effective monetary control.

A. Fostering Interbank Markets

Market information

The effective operation of interbank markets requires the adequate provision of information to the market, as well as the adoption of proper disclosure standards. Instruments such as interbank lending and deposit placements, which are used to recycle liquidity among participants, are easily affected by the perceived credit risk of the borrower bank and the timeliness of information from the clearing and settlement system for payments. Even if mechanisms existed to facilitate trading, market segmentation would continue. Concerns about credit risks arise if banks have inadequate information on their counterparts. In addition, timely information on bank balances in settlement accounts and on net amounts due following check clearing are crucial elements in facilitating interbank trading.

While market segmentation due to perceived credit risks is normal, market segmentation can be substantially reduced by promoting common accounting standards and adequate reporting and disclosure. Until accounting practices are standardized to the point where meaningful analysis and comparisons can be made, financial reporting, such as it exists, will not be reliable. Certified statements with standard methods for calculating and reporting income recognition, non-performing loans,

interim recognition of rates of return which are subsequently adjusted at the conclusion of the contract, are crucial not only for prudential supervision, but also as a basis to assess counter-party risks. Any strategy towards improved interbank activity must include the timely reporting and publishing of quality information on the state of the financial institutions.¹⁷ A deepening of interbank markets under Islamic banking requires a widening of the range of instruments beyond interbank deposit placements. Interbank transactions in instruments such as bankers acceptances, which are based on self-liquidating third party commercial paper, where the primary source of repayment is the payment by the issuer, and the endorsing bank (borrowing banks) is only the secondary source of repayment; would seem to have significant potential under Islamic banking. Interbank transactions in central bank and government instruments (e.g., CMCs, NPPs, and GMCs) can develop rapidly, since the purchaser (surplus banks) can assess risks, depending more on the issuer of the underlying security (government or central bank) and less on the seller of the security (borrowing bank). Moreover, a further possibility to develop self-liquidating third party papers could be by securitizing *mudharaba* contracts where the underlying asset is the performance of the project funded.

Trading arrangements

Trading arrangements for interbank transactions based on Islamic finance principles have not been addressed sufficiently in the literature. The model designed by Bank Negara Malaysia (BNM) remains, at present, the only working model. In its guidelines on Islamic Interbank Money Market (1993) that became effective on January 1994, the BNM outlined arrangements to facilitate interbank investments under the Skim Perbankan Tanpa Faedah scheme (SPTF)-interest-free banking. The guidelines refer to the system whereby a surplus SPTF bank can invest in another SPTF bank which has a deficit in check clearing or is simply experiencing a short-term need for liquidity, on the basis of *mudharaba* (profit sharing).

¹⁷There has been significant progress in preparing a standardized accounting and reporting methodology by the Bahrain-based accounting and auditing organization for Islamic financial institutions.

Modalities of arrangement

The features of the mechanism are as follows:

- The period of investment can be from overnight to 12 months.
- The minimum amount of investment is RM 50,000 (ringgit million).
- The rate of return shall be based on the rate of gross profit before distribution for investments of one year of the receiving bank.
- The profit sharing ratio is based on the period of investment as follows: (a) for periods of less than or equal to one month, the profit sharing ratio is 70:30 (i.e., 70 percent to the provider of the funds); (b) for periods exceeding one month and less than or equal to three months, the profit sharing ratio is 80:20; and (c) for periods exceeding three months, the profit sharing ratio is 90:10.

The formula for calculating the profit element to be paid to the provider of funds is as follows:

$$X = \frac{P \times R \times T \times K}{365 \times 100}$$

where

X = Amount of profit (in ringgit) to be paid to the provider of funds

P = Principal investment

R = Rate of gross profit (in percent p.a.) before distribution for investments for one year of the receiving bank

T = Number of days invested

K = Profit sharing ratio

While these trading arrangements work well in Malaysia, they presume a scheme with uniform reporting of rates of return and where banks continuously post their gross profits before distribution for investments of one year. Without some reference rate against which a lending bank can calculate its profit shares, lending banks would have difficulty determining the basis of their short-term participation in the borrowing banks' profits.

B. Design of Central Bank Credit Facilities

Central bank lending can be classified into standing and discretionary facilities. Standing facilities are accessed at the initiative of banks and subject to meeting criteria established by the central bank. Discretionary facilities are operated at the discretion of the central bank to achieve its objectives. The issues in designing central bank credit facilities generally—whether these are exclusively focused on supporting payment and settlement arrangements (Lombard-type facilities), or facilities to supply longer-term liquidity needs of banks—revolve around collateral, pricing, and other access rules of these facilities.

Under conventional banking, requiring collateral for central bank lending is vital to insulate the institution from potential losses. An additional benefit of collateralization is that it promotes the use of assets accepted by the central bank. As noted, this helps develop the collateralization of interbank transactions, which in turn help enhance financial discipline in the system, particularly where there is limited reliable information about the solvency of potential interbank counterparts. To be eligible for the central bank operations, underlying assets should fulfill the following criteria: (i) they should be instruments issued or guaranteed by financially sound entities, (ii) they should not be issued by the counterparty of the central bank, and (iii) they should not fall due before the maturity date of the operation they collateralize. To avoid losses due to settlement risks, the assets should be easily accessible, i.e., transferable in book-entry form or pledged to the central bank.

Currently, central banks in Islamic banking systems provide medium-term refinancing to commercial banks on a *mudharaba* basis which, while partly address the issue of price and returns to the central bank, does not constitute collateralized lending. Unless the central bank provides a loan, which in this case cannot earn interest (i.e., *qard Hasan*), under existing facilities in Islamic finance (e.g., *mudharaba*, *musharaka*, etc.) users of central bank funds cannot be asked to post collateral against these funds. This feature gives particular importance to defining the rules that govern access to central bank funds. These rules must be uniform and transparent, and should include compliance with all mandatory prudential ratios, including: foreign exchange exposure limits, compliance with reserve requirements, satisfactory repayment records for previous credits,

compliance with reporting requirements, and satisfactory performance in clearing and settling payments. In addition to access rules, credit limits as a ratio (or multiple) of each bank's capital or deposits could be set.¹⁸

As regards the facilities that support the payments system, the typical arrangement in Islamic banking systems is for the central bank to provide uncollateralized overdraft access to banks. The central bank therefore assumes the risk of default and, where un-penalized, these operations convert the central bank into being the preferred lender in the system. This undermines the development of interbank and secondary markets. When a bank borrows to facilitate clearing and settlement, the assumption should be that the bank is inviting the central bank to participate in its profits in the same way that the central bank participates in profits that are derived from longer-term *mudharaba* lending. The profit share of the central bank should be set above that which would have applied in the interbank market or offered to investors in the bank. Access to central bank credit needs to be priced carefully to ensure that arbitrage opportunities are not created by mis-pricing and to ensure that the central bank retains its last-resort status in the system. If priced below market, the central bank could unwittingly impede the development of interbank and secondary markets. If priced too high above market, the central bank could run the risk of its lending facility becoming irrelevant and its ability to influence market rates of return diminished, as banks find it too prohibitive to borrow and seek to maintain large cushions of excess reserves.

V. Concluding Remarks

Central bank monetary operations play a crucial and catalytic role in stimulating money and interbank markets and measures to foster these markets are essential for the successful adoption of market-based instruments. The weakness of central bank monetary operations in Islamic banking systems has been a major factor in the ensuing financial repression, and overcoming this weakness is crucial for financial deepening. The success in developing market-based instruments to regulate liquidity and

¹⁸For discussion of issues pertaining to prudential regulations and supervision in Islamic Banking, see Errico and Farahbaksh (1998).

meet general government borrowing needs would greatly enhance the discretionary control of central banks over the growth of their balance sheets, and strengthen monetary control.

Appendix I: Designing Central Bank *Musharaka* Certificate (CMC)

Establishing the Open Market Operation Fund

Issuance of CMCs requires the establishment of an Open Market Operations Fund (OMOF) that holds the shares in commercial banks that the government and/or the central bank owns and which form the base for issuing the CMCs.

This section assumes that it is the central bank's share partnership in commercial banks that is included in the OMOF. If these shares are originally owned by the government, they are either transferred to the central bank (probably against outstanding a central bank claim on government), or the ownership remains with the government but the management of the OMOF is delegated to the central bank to pursue the desired monetary policy.

The central bank establishes the OMOF as a separate entity (in the accounting sense) and transfers to it all of its holding of commercial banks' shares. The value of the fund is equal to the sum of all share values. If the central bank has holdings in two types of banks, listed in the stock market and not listed, the fund's value is a composite of market values of the listed stocks and the book values of the non-listed stocks.

In the case of Sudan, a financial company (Sudan Financial Services Co. (SFS)) was established to serve the function of OMOF, the shares of the government and the BOS in banks were transferred to SFS, and CMCs were issued against their values. The SFS is 99 percent owned by the BOS and 1 percent owned by the Ministry of Finance.

Accounting Issues in Establishing the Open Market Operation Fund

The transfer of the central bank's shares to the OMOF can be financed by an advance of an equal value from the central bank. As a result, the capital

account (in “other items, net”) of the central bank would decline by the value of the shares while its claims on the OMOF account (under “net domestic credit”) would increase by the same amount as follow (assume fund value of 1000):

Table A1 Central Bank (Flow)

<i>Assets</i>		<i>Liabilities</i>	
Net domestic assets	+0	Reserve money	+0
Net domestic credit	+1000		
Claims on OMOF	+1000		
Other items, net	-0		
Capital	-0		

Table A2 Open Market Operations Fund (Flow)

<i>Assets</i>		<i>Liabilities</i>	
Shares in commercial banks	+1000	To central bank	+1000

Recording the Open Market Operations in CMCs

The OMOF could be divided into equal-value units (or shares) that could be sold and bought by the OMOF at the instruction of the central bank (in our example, 100 shares with a share value of 10). The shares, or the CMCs, would become a monetary instrument for the central bank since trading in CMCs would directly impact banks’ liquidity positions. To contract liquidity by 200, for example, the central bank would instruct the OMOF to sell 20 CMCs to banks. Banks could finance the purchase from their reserves at the central bank resulting in a decline in the banks’ reserve balance at the central bank by 200 (20 shares times 10, assuming there is no change in market value), and hence a decline in reserve money by 200. The assets of the OMOF would not change, although its ownership composition would change (reducing central bank’s ownership from 100 percent to 80 percent while increasing the banks’ ownership to 20 percent). On the liability side, the OMOF would transfer the sale’s proceeds to the central bank resulting in a decline in the central bank’s claims on the OMOF by 200, while banks’ claims on the OMOF would increase by 200. The asset position of commercial banks would not change, only

its composition; banks' claims on the central bank (i.e., banks' reserve position) would decline by 200 while their claims on the OMOF would increase by 200. The net monetary effect is a decline by 200 in the central bank's net domestic credit (NDC) and reserve money. The following tables illustrate these transactions:

Table A3 Central Bank (Flow)

<i>Assets</i>		<i>Liabilities</i>	
Net domestic assets	-200	Reserve money	-200
Net domestic credit	-200	Banks's reserves	-200
Claims on OMOF	-200		
Other items, net	+0		
Capital	+0		

Table A4 Open Market Operations Fund (Stock)

<i>Assets</i>		<i>Liabilities</i>	
Shares in commercial banks	+1000	To central bank	+800
		To banks	-200

Table A5 Commercial Banks (Flow)

<i>Assets</i>		<i>Liabilities</i>	
Deposits at the central bank (reserves)	-200		
Claims on OMOF	+200		

Valuation of the CMC

The nominal value of the CMC would reflect the fair (accounting) value of the CMC at the time of its inception, and is determined as the sum total of what each bank is paid in capital, its retained earnings, and foreign exchange revaluation reserves (all based on balance sheet data,) multiplied by the percentage of total shares outstanding that are held by the OMOF. Thereafter, the fair value includes the total amount of dividends accumulated in the OMOF since its inception. The calculation of the fair

value of the CMC is intended for information purposes only and to assist in determining market values of the CMC. In the case of Sudan, the fair value is calculated using the banks' monthly balance sheet data.

The market value of the CMC would be based on the auction price for primary issues and secondary market price. The market price would be different from the calculated fair value to the extent that the market valuation of the current and future performance of the underlying assets is different from the net worth position as reflected in the balance sheet which primarily reflects past performance.

Treatment of Dividends Paid to the Fund

The dividend earned by the OMOF could be distributed to holders of CMCs. However, given that the targeted investors in the CMCs are the banks, which would use the CMCs primarily as a tool for managing liquidity, it would be more efficient (in the sense of improving the liquidity of the CMC) if dividends were retained by the OMOF and were not paid to holders of CMCs (as done in the case of Sudan). Instead, income would be earned by CMC holders only through capital gains (increases in CMC market values which in part reflects retained earnings) when CMCs are sold. It is also possible that the retained earnings could be used by the central bank as partial payment of purchases of CMCs made from time to time in the secondary market, allowing, therefore, for the distribution of dividends to CMC holders.

Term of CMC

The CMC could be issued as a term paper (in the sense that the *musharaka* contract, as represented by the CMC, would expire at a certain future date) or without maturity date. A CMC without maturity could improve its liquidity, in the sense that banks would not need to factor the term of the paper in their pricing decisions when trading in the secondary market. In the case of Sudan the CMC was issued without a maturity date.

Form of Issue

The CMCs could be issued in fully registered form or as a book entry, with fully transferable ownership. A book entry system has the advantage of

requiring less administrative work and more efficient registration when issuing the CMCs or when they are traded in secondary markets. In the case of Sudan, the CMC is a fully registered form in the name of the owner, and recorded in the CMC register.

Primary Issuance of the CMCs

Primary issues of CMCs could be sold to investors (banks) through a competitive auction process. A differentiated-price auction or a uniform-price auction could also be used. The differentiated-price auction mechanism bids would be classified according to the highest price, and winning bids would be awarded in descending order to the lowest price, to the point where the accumulated winning bids absorb the total amount offered for sale. The lowest price would be the cut-off price. All winning bids would be allocated to bidders on the basis of their offered prices, and the auction price would be the weighted average price of all bids. Under a uniform-price auction mechanism, the cut-off price would be applied to all winning bids, thus representing the auction price. A uniform-price type of auction might have an advantage over the differentiated-price type, particularly in early stages of issuing the CMC, because of the complete lack of market experience in the CMC, and the absence of any representative benchmark prices (as in the case of Sudan). A wide dispersion of prices might occur in the early auctions if a differentiated-price auction is used; some investors may perceive the results as inequitable, thus undermining confidence in the CMC.

Secondary Market Trading and Repurchase Facility

The CMC holders may trade their certificates in the secondary market for a variety of reasons: (i) the non-bank public (particularly non-bank financial institutions) may find the instrument attractive (despite the fact that it was designed for banks) and purchase it from banks in the secondary market, (ii) the CMC can be used by banks to circulate excess funds, in the absences (thus far) of Islamically acceptable short-term interbank lending facility, and (iii) banks may use the CMC as a tool to cover overdraft positions, either by selling them to the central bank or to other investors. To improve the function of the CMC as a liquidity management tool for banks, it is recommended that the central bank establish a

repurchase-on-demand window. However, the repurchase price should be set at a price lower than the secondary market price to encourage the development of secondary market trading. The discount reflected in the repurchase price should, on the other hand, be set at a level lower than the penalty rate on the overdraft to encourage banks to use their CMCs holding to generate the needed funds rather than going the overdraft facility.

Appendix II: Determining the Rate of Return on the Government *Mudharaba* Certificate (GMC)

1. Investors can bid for the GMC in two ways: (i) investors can bid for a share in future government revenue (e.g., 20 percent of revenue) that will generate an expected income commensurate with what they consider an appropriate rate of return on their investment, or (ii) investors can bid what the investors consider as an appropriate rate of return on their investment (e.g., 10 percent rate of return). The two methods are similar. The second method, however, has the advantage of giving investors a clearer way of comparing the expected rate of return on their investment in the government to other investments in the economy.
2. In the first case, the rate of return to investors at maturity is calculated as:

$$r = s \left(\frac{T}{I} \right) - 1 \quad (1)$$

where:

- r = the actual rate of return to investors;
- s = the share in tax revenue that investors bid for;
- T = the actual tax revenue;
- I = the amount invested in the government;

3. In the second case, the return to investors at maturity is calculated as:

$$r = (1 + r^*) \left(1 + \left(\frac{T - T^*}{T^*} \right) \right) - 1 \quad (2)$$

Where:

T^* = is the government's projection at the time of the auction (t) of tax revenue for the relevant period.

r^* = is the rate of return that the investor bids for after the government communicates T^*

4. The following example illustrates how the two methods apply:

At the time of the auction, the government will announce the amount of funds it intends to raise, the maturity period, and the expected tax revenue T^* for the period. This information will be supported by the disclosure of the relevant macroeconomic projections and other information needed for investors to assess the value of the investment (as outlined above).

Assume that: $I = 1,000$, $T^* = 5,000$, and bidders expectations of tax revenues is also 5,000.

Suppose further that investors find it profitable to invest in GMCs if they offer an expected rate of return of at least 10 percent.

In the first case, they would bid for a share in government T revenue, $s = 22$ percent.

In the second, they would directly bid for $r^* = 10$ percent.

Suppose now that tax revenues are $T = 6,000$.

It is easy to check that in both cases the actual rate of return paid to investors is 32 percent.

From formulas (1) and (2) we have:

$$r = 0.22 (6,000/1,000) - 1 = 0.32, \text{ and}$$

$$r = (1 + 0.1) (1 + ((6,000 - 5,000)/5,000)) = 0.32$$

It is also clear from the example that investors could lose some of their principal if the actual revenue collection was below initial expectations (if $T = 4,000$, $r = -12$ percent).

Volatility of Tax Revenue

1. The monthly volatility of tax revenues could be a cause for concern for both the government and investors. High volatility would

increase the uncertainty regarding future returns to investors, resulting in higher risk premiums. In addition, it will be difficult for the government, with high tax revenue volatility, to efficiently manage its budget, while taking into account future payments to investors.

2. Tax revenue volatility could be reduced by introducing a smoothing factor to reduce the spread between the highs and lows of returns to investors, as caused by higher or lower than expected tax revenue.

In this case, equations (1) and (2) above will be modified as follow:

$$r = s \left(\frac{T^* + \alpha(T - T^*)}{I} \right) - 1 \quad (3)$$

$$r = (1 + r^*) \left(1 + \alpha \left(\frac{T - T^*}{T^*} \right) \right) - 1 \quad (4)$$

Where α is the smoothing factor with value $0 < \alpha \leq 1$.¹⁹

3. In the earlier example, $T = 6,000$ or $T = 4,000$ would have generated rates of return of 32 and -12 percent, respectively. If, however, $\alpha = 0.5$, then $r = 21$ percent (instead of 32 percent) if $T = 6,000$ and $r = -1$ percent (instead of -12 percent), if $T = 4,000$.
4. If a smoothing factor is used in determining the return to investors, it is essential that the value of α is announced at the time of the auction, as it would constitute to investors an important piece of information.
5. In order to simplify the management of the GMCs the term $T - T^*/T^* = k$ in equation (4) may be rounded to the closest decimal. In doing so, the rate of return would be, for instance:

$$\begin{aligned} r, & \text{ if } 0.05 > k > -0.05 \\ r + 0.1, & \text{ if } 0.15 > k > 0.05 \\ r - 0.1, & \text{ if } -0.05 > k > 0.15 \end{aligned}$$

¹⁹ α in effect determines the distribution of profit/losses arising from an over- or under-performance of revenues in relation to the initial projections of the government.

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3

Islamic Financial Institutions and Products in the Global Financial System

*Key Issues in Risk Management and Challenges Ahead*¹

V. Sundararajan with Luca Errico

I. Introduction

Islamic banking has grown in size and significance in a large number of countries throughout the world. In the Islamic Republic of Iran and Sudan all financial institutions have fully adopted Islamic banking—that is, the provision and use of financial services and products that conform to Islamic religious principles—outlined in the *Qur'an* and in Islamic *Shari'ah* laws. In Pakistan, the process of a full transformation of the financial system to become compliant with Islamic principles is underway. Other countries, such as Malaysia, Indonesia, Bangladesh, Jordan and

¹This paper was presented at a conference on “Risk Management in an Islamic Financial System” organized by the Iran Banking Institute, Central Bank of the Islamic Republic of Iran, Tehran, September 1, 2002. WP/02/192 by V. Sundararajan and Luca Errico © International Monetary Fund. Reprinted with permission. The views expressed in this paper belong solely to the authors. Nothing contained in this paper should be reported as representing IMF policy or the views of the IMF, its Executive Board, member governments, or any other entity mentioned herein.

Egypt, operate Islamic banking alongside conventional banking. This is done either through the opening of Islamic “windows” in conventional institutions or the establishment of separate banks, branches and subsidiaries that specialize in Islamic financial products. Global financial institutions, such as Citibank, have been offering instruments that conform to Islamic *Shari’ah* in several countries. Islamic banking is an additional facet of the complex cross-border financial activities that are taking place in certain offshore financial centers, such as Bahrain and Labuan, Malaysia.

The Islamic financial services industry comprises an increasingly diverse range of institutions, including commercial and investment banks, mutual insurance (*takaful*), and investment companies. Banks, however, remain the core of the financial services industry in many countries and offshore financial centers since they account for the bulk of financial transactions and their soundness is a key concern for systemic stability.

Effective risk management in Islamic banks deserves priority attention.² However, it entails many complex issues that need to be better understood to be successfully addressed. In particular, the nature of the specific risks that Islamic banks face, together with the virtually unlimited number of ways available to them to provide funds through the use of permissible Islamic modes of financing—both profit-and-loss-sharing (PLS) and non-profit-and-loss-sharing (non-PLS)—raise a host of issues in risk measurement, income recognition, adequacy of collateral, and disclosure standards. Hence, innovative solutions and an appropriate adaptation of available risk-management frameworks are needed to reflect the special characteristics of Islamic financial products and services. The present paper examines this challenging subject.

The paper is organized as follows. Section II underscores the special risks that surround Islamic banking. Section III discusses how the bank-specific and general risk factors of Islamic banking may be addressed through the implementation of a two-pronged strategy, based

²The terms “Islamic banks” and “Islamic financial institutions” are used interchangeably to refer to financial institutions operating in countries where all financial transactions are conducted according to Islamic precepts, as well as specialized institutions and windows of conventional banks that offer Islamic products and instruments in countries where both conventional and Islamic banking coexist.

on an appropriate regulatory framework and adequate institutional development.

Finally, section IV highlights the key challenges that lay ahead to foster further development of Islamic banking in the global financial system, including the role of the Islamic Financial Services Board (IFSB), the recently established standard-setting body for the prudential regulation of the Islamic financial services industry.

II. Special Risks Surrounding Islamic Banking

The features of Islamic banks and the intermediation models that they follow (Annex) entail special risks that need to be recognized to help make risk management in Islamic banking truly effective.³ First, the profit-and-loss-sharing modes of financing (Annex Table 1) raise several important considerations.

Specifically, while PLS modes may shift the direct credit risk of Islamic banks to their investment depositors, they may also increase the overall degree of risk of the asset side of banks' balance sheets. In practice, PLS modes make Islamic banks vulnerable to risks normally borne by equity investors rather than holders of debt. There are a number of reasons for this, including:

1. The administration of PLS modes is more complex than conventional financing. Indeed, these modes imply several activities that are not normally performed by conventional banks, including the determination of profit-and-loss-sharing ratios on investment projects in various sectors of the economy, as well as the ongoing auditing of financed projects to ensure proper governance and appropriate valuation.
2. In principle, there is a virtually unlimited list of activities that Islamic banks can engage in. There is also an unlimited number of ways they can provide funds through the use of combinations of

³For a discussion of special risks in Islamic banking, see also Chapra and Khan (2000) and Hassan (2000).

the permissible PLS (and non-PLS) modes.⁴ In these circumstances, the standardization of some Islamic financial products may become more difficult to achieve.

3. When Islamic banks provide funds through their PLS facilities, there is no recognizable default on the part of the agent-entrepreneur until PLS contracts expire, barring proved negligence or mismanagement on the part of the agent-entrepreneur. In fact, a “default” of PLS contracts means that the investment project failed to deliver what was expected, that is, a lower-than-expected profit, none at all, or a loss. In this case, the lower profit or loss is shared between or among parties according to the stipulated PLS ratios. For example, in the case of a *mudharaba* contract (Annex Table 1), the bank is entitled to receive from the entrepreneur the principal of a loan at the end of the period stipulated in the contract if, and only if, profits have accrued. If, on the contrary, the enterprise’s books showed a loss, the bank would not be able to recover its loan.⁵ Moreover, such a situation would not normally constitute a default on the part of the entrepreneur, whose liability is limited to his time and efforts.
4. Islamic banks have no legal means to control the agent-entrepreneur who manages the business financed through *mudharaba* contracts. This individual has complete freedom to run the enterprise according to his best judgment. Banks are contractually entitled only to share with the entrepreneur the profits (or losses) stemming from the enterprise according to the contractually agreed-upon PLS

⁴In practice, however, Islamic banks mainly use a defined set of modes of financing (Annex Table 1). Moreover, they cannot be involved in certain prohibited activities, notably the production of goods and services which contradict Islamic values, such as alcohol, pork, gambling, and any transaction involving interest. Typically, Islamic banks a *Shari’ah* Board acting as a body approving the *Shari’ah* compliance of banks’ investments, financial instruments, and other transactions and activities.

⁵Of course, in the typical case of a restricted *mudaraba* (i.e., on the banks’ assets side), banks seek to stipulate in the *mudaraba* contract certain conditions that they consider essential for a successful outcome. However, this is done *ex ante* and the contract’s terms and conditions cannot be altered during the life of the contract except with the mutual consent of all parties.

ratio.⁶ In *musharaka* and direct investment contracts, banks have better opportunities to monitor the business they invest in because, in these arrangements, partners may influence the management of the enterprise and exercise voting rights (see Annex Table 1).

5. PLS modes cannot systematically be made dependent on collateral or other guarantees to reduce credit risk.

The above considerations underscore that operational risk is crucial in Islamic banking. Operational risk may arise from various sources, including: (i) the unique activities that Islamic banks must perform internally (first point above). These highlight the internal controls that are key to ensuring that all phases of the investment process are monitored, that they comply with Islamic banks' investment policies, and are properly accounted for; (ii) the non-standardized nature of some Islamic financial products; and (iii) the lack of an efficient and reliable *Shari'ah* litigation system to enforce financial contracts.

While less risky and more closely resembling conventional financing facilities than PLS modes, non-PLS modes of financing (Annex Table 1) also carry special risks that need to be recognized. Specifically, *salam* or *bai' salaf* (purchase with deferred delivery) contracts expose Islamic banks to both credit risk and commodity price risk as banks agree to buy the commodity on a future date against current payment and hold the commodity in question until it can be converted into cash. Similar risks are also involved in *ijara* (leasing) because, unlike conventional leasing contracts, *ijara* contracts do not provide Islamic banks with the ability to transfer substantial risks and rewards of ownership to the lessee as leased assets must be carried on the balance sheet of banks for the term of the lease.

⁶By contrast, Khan and Mirakhor, 1993, argue that banks have direct and indirect control over the agent-entrepreneur through both explicit and implicit contracts. This is the case because banks could refuse further credit or blacklist the agent-entrepreneur and also because the agent-entrepreneur puts at stake his credibility and respectability (an important consideration in the Islamic ethos). This puts in place a strong deterrent to irresponsible behavior. This argument, however, does not change the fact that the bank has no legal means to intervene in the management of the current enterprise while it is being run by the agent-entrepreneur.

Another specific risk inherent in the operation of Islamic banks stems from the special nature of investment deposits, whose capital value and rate of return are not guaranteed. This feature, coupled with information asymmetry that results from the *unrestricted mudharaba* contract (i.e., on the banks' liabilities side) where the banks manage depositors' funds at their own discretion,⁷ significantly increase the potential for moral hazard and create an incentive for risk taking and for operating financial institutions without adequate capital. Indeed, investment depositors in Islamic banks do *not* enjoy the same rights as equity investors in conventional investment companies, but do share the same risks. *A fortiori*, this applies to demand depositors in the *two-tier mudharaba* model (see the Annex for a discussion). Under these circumstances, corporate governance is more difficult to exercise and the potential for undue risk-taking and moral hazard is increased.

In addition to these specific risks, there are other more general factors that make the operation of Islamic banks riskier and/or less profitable than conventional banks.

These factors include:

1. Fewer risk-hedging instruments and techniques. The *Shari'ah's* prohibition against *riba* (interest) and *fighi* (Islamic jurisprudence) *issues in the interpretation of gharar* (excessive risk) mean that many risk-hedging instruments and techniques based on conventional tools, such as options, futures, and forwards, are not yet available to Islamic banks in the current state of development of Islamic finance.
2. Underdeveloped or nonexistent interbank and money markets and government securities (owing to the difficulties in designing short-term general government funding instruments based on profit and loss-sharing). This circumstance complicates Islamic banks' liquidity management and increases their exposure to liquidity shocks. Islamic banks' probability of incurring in

⁷According to the *unrestricted mudharaba* contract, depositors agree that their funds be used by banks at their discretion to finance an open-ended list of (possibly) profitable investments and expect to share with banks the overall profits accruing to banks' business.

asset-liability mismatches is increased by the lack of *Shari'ah*-compliant short-term government securities, such as treasury bills, or high-quality privately issued commercial papers. There has been significant progress toward the development of government securities and short-term instruments in Iran and Sudan, where *Shari'ah*-compatible instruments have been issued (namely, National Participation Certificates, central bank *musharaka* certificates, and government *musharaka* and *mudharaba* certificates). Their potential for effective government debt and monetary management, however, needs to be further developed.⁸

3. The limited availability of, and access to, lender-of-last-resort (LOLR) facilities operated by central banks. Again, the limited availability of *Shari'ah*-compatible LOLR facilities is linked to the prohibition of interest-based transactions. Bank Negara Malaysia has adopted a promising practical approach to help address this issue. Under this arrangement an interbank investment facility is established where Islamic financial institutions can obtain short-term funds from one another on the basis of PLS arrangements. Operations in central bank and government papers, once developed, would greatly facilitate the use of LOLR arrangements.
4. Regulatory and supervisory practices concerning Islamic banking are highly diverse. They range from frameworks that explicitly promote dual banking systems (Malaysia) to frameworks that only recognize Islamic banking (Sudan). The main differences include: (i) the legal recognition granted to Islamic financial institutions; (ii) risk weights for capital adequacy calculations; and (iii) access to any systemic liquidity arrangement operated by central banks.

Islamic banks have historically been forced to hold a comparatively larger proportion of their assets in reserve accounts with central banks or in correspondent accounts than conventional banks. This has significantly

⁸These issues are beyond the scope of this paper. For a discussion, see Sundararajan, Marston, and Shabsigh (1998).

affected their profitability because central bank reserves and correspondent accounts typically yield no or minimal returns. This, in turn, has affected their competitiveness and increased their vulnerability to external shocks, with potential systemic consequences.

III. Risk Management in Islamic Banking

Based on the above considerations, effective and efficient risk management in Islamic banking should consider a two-pronged strategy based on a suitable regulatory and disclosure framework and adequate institutional development.

A. Addressing the Special Risks of Islamic Banks: Strengthening the Regulatory and Disclosure Framework

Adequate capital and loss-offsetting reserves, as well as the appropriate pricing and control of risks are key to ensuring the sound operation of Islamic banks as ongoing concerns.

The reasons for this include the following:

1. To lessen the inherent greater potential for moral hazard in the operation of PLS modes, it is essential for bankers to have adequate amounts of their *own* capital at risk.
2. Owing to the information asymmetry in unrestricted *mudharaba* contracts, adequate capital and reserves provide depositors with the psychological reassurance to help maintain their confidence against possible rumors on the performance of individual banks that may lead to runs and, in turn, reputational damage and a loss of the franchise value.
3. To increase the banks' ability to attract demand deposits, which are never remunerated but may well share the same risks as investment deposits.
4. To avoid an excessive erosion of investment deposits in the event of losses, which may trigger flights to quality (i.e. depositors transferring funds to institutions or assets deemed safer) and lead

to a liquidity crisis against which Islamic banks are perhaps less well equipped than conventional banks.

5. To take into account the fact that financing through PLS and non-PLS modes adds an element of operational complexity and several unique forms of risk that need to be monitored, depending upon the specific structures of the contracts and the overall environment.

Adequate capital and loss-offsetting reserves for Islamic banks could usefully be viewed within a comprehensive risk-management framework that addresses all critical dimensions of bank operations in an Islamic environment and is supported by a suitable disclosure regime for Islamic banks. Such a framework could be designed along the lines of a CAMELS system to assess bank soundness, appropriately adapted to fit the needs and requirements of an Islamic environment.⁹ Suitable information disclosure requirements would need to be an integral part of the regulatory framework for Islamic financial institutions as they, coupled with appropriate accounting standards (below), would help the market overcome the non-transparency inherent in some aspects of Islamic banking, such as related to inventory and collateral issues. This, in turn, would help the market better price the special risks that surround Islamic banking.

The main elements of a suitable CAMELS framework and disclosure requirements for Islamic banks are briefly discussed in the following paragraphs.¹⁰

Capital

In the standard CAMELS framework, capital adequacy is assessed according to: (1) the volume of risk assets; (2) the volume of marginal and inferior assets; (3) bank growth experience, plans, and prospects; and

⁹The acronym CAMELS stands for Capital, Assets, Management, Earnings, Liquidity, and Sensitivity to market risk corresponding to various aspects of financial soundness. The CAMELS model is a measure of the relative soundness of a bank and is often calculated by supervisory authorities on a 1 to 5 scale, with 1 representing the strongest performance.

¹⁰This discussion draws from Errico and Farahbaksh (1998).

(4) the strength of management, in relation to all the above factors. In addition, the bank's capital ratios relative to its peer group may be considered. While most of these factors can usefully be applied in an Islamic framework without major changes from standard practices, the rating factor of the volume of risk assets or (1), warrants closer consideration in an Islamic framework.

In principle, the bulk of the assets of Islamic banks should be made up of PLS modes, that is mostly uncollateralized equity financing. These assets carry far more risk than those made up of non-PLS modes, which are collateralized commercial or retail financing operations. Hence, in principle, the ratio of riskier assets to total assets should typically be higher in an Islamic bank than in a conventional bank. Capital adequacy norms in an Islamic environment should therefore place more emphasis on this factor than is the case in conventional banking. Nonetheless, it should be noted that the potential losses that capital bears in an Islamic bank are lower inasmuch as PLS depositors themselves will absorb part of them. This factor could well offset the special risks in PLS accounts.¹¹ In practice, however, PLS modes are only a small fraction of Islamic banks' total assets. Aggregate data compiled by the International Association of Islamic Banks (IAIB) indicate that *musharaka* and *mudharaba* assets account for some 25 percent of Islamic banks' total assets, the majority of which are made up of non-PLS modes, notably mark-up transactions.¹² Therefore, it may be reasonable to conclude that the assessment of capital adequacy for Islamic banks should not only be based on a thorough evaluation of the degree of risk of each bank's portfolio, but also an assessment of the mix of PLS and non-PLS assets.

This approach would be consistent with the rationale that underpins the first pillar of the proposed New Basel Capital Accord (commonly referred to as the Basel II proposals), notably the proposed changes in the risk-weighting of assets, including through the acceptance of an internal-ratings-based system for banking book credit risk and trading

¹¹See AAOIFI (1999) for concrete proposals for the risk-weighting of assets funded by PLS deposits that take into account the loss absorption by the depositors, as well as special risks in managing PLS accounts.

¹²IAIB, 1997.

book market risk. The second and third pillars of the new Accord relate to the supervisory framework and market discipline, respectively. The latter is especially important in Islamic banking.

Assets

In the standard CAMELS framework, asset quality is assessed according to: (1) the level, distribution, and severity of classified assets; (2) the level and composition of non-accrual and reduced rate assets; (3) the adequacy of valuation reserves; and (4) the demonstrated ability to administer and collect problem credits.

With regard to factor (1), it is important to remember that in an Islamic environment assets represented by *mudharaba* transactions cannot be classified until the underlying contracts expire. Until that moment, there is no recognizable default, with the exception of proved negligence or mismanagement on the part of the agent-entrepreneur. As noted previously, a “default” of PLS contracts means that the investment project failed to deliver what was expected, that is, a lower or no profit, or a loss. Nonetheless, with regard to factor (2), it is advisable to take a pro-active and forward-looking stance and consider PLS assets that are estimated to yield a lower or no profit as reduced-rate assets even before the expiration of the relative contracts. With regard to factor (3), the ability of Islamic banks to reduce the capital value of investment deposits in the case of losses should not be viewed as tantamount to an automatic setting aside of provisions against loan losses. Indeed, this situation should not be allowed to dilute sound loan-loss provisioning practices aimed at preserving the solvency and the viability of an Islamic bank as an ongoing concern. In fact, adequate loan-loss provisioning is required to provide strong incentives against moral hazard.

Hence, the adequacy of loan-loss reserves remains a key factor to ensure banking soundness in an Islamic environment, too. Finally, with regard to factor (4), the ability of an Islamic bank to administer and collect problem credits should be evaluated in those cases where PLS contracts do default before expiration because of negligence or mismanagement on the part of the entrepreneur, as well as in all cases of defaulted non-PLS transactions. Insofar as the legal environment poses obstacles to efficient loan recovery

and enforcement of contracts, the provisioning rules should be tightened correspondingly.

Management

In the standard CAMELS framework, management is evaluated according to: (1) technical competence, leadership, and administrative ability; (2) compliance with banking regulations and statutes; (3) the ability to plan and respond to changing circumstances; (4) adequacy of and compliance with internal policies; (5) tendencies toward self-dealing; and (6) a demonstrated willingness to serve the legitimate needs of the community.

All these factors are applicable in an Islamic banking environment, too. Of course, in this case, the management's specific competence in Islamic banking practices and procedures should be critical in such an evaluation. Given the complexity of many Islamic banks' operations, involving the monitoring of investment projects, managing commodity inventories at times, legal uncertainties relating to *Shari'ah* litigation systems, and similar problems, establishing adequate internal systems and controls to manage risks and to validate transactions play a particularly crucial role in the effective management and containment of operational risks.

Earnings

In the standard CAMELS framework, earnings are assessed according to: (1) the ability to cover losses and provide for adequate capital; (2) earnings trends; (3) peer group comparisons; and (4) the quality and composition of net income. Earnings are considered of high quality if they are sufficient to make full provision for the absorption of losses and the accumulation of capital when due consideration is given to asset quality and bank growth. Banks so assessed typically have earnings well above peer group averages. At the other extreme are banks that are experiencing losses.

The above criteria are generally applicable to Islamic banks as well. Nonetheless, in an Islamic bank, economic losses first result in a depreciation of the value of the depositors' wealth and then affect the bank's equity position in the event that it had also used its own resources

to finance the loss-making investment project (e.g., through a *musharaka* arrangement). Such risks to deposits, if they materialize, might result in reputational damage and loss of the depositor base, which leads to liquidity and, possibly, solvency problems.

Liquidity

In the standard CAMELS framework, liquidity is assessed according to various factors: (i) volatility of deposits; (ii) reliance on interest-sensitive funds; (iii) technical competence relative to structure of liabilities; (iv) availability of assets readily convertible into cash; and (v) access to interbank markets or other sources of cash, including lender-of-last resort (LOLR) facilities at the central bank.

As discussed in section II, compared with conventional banks, Islamic banks have fewer opportunities to obtain funds through LOLR facilities, such as Lombard or overdraft facilities operated by central banks or through access to interbank and money markets, which are typically under-developed or non-existent in an Islamic environment. However, Islamic banks have obligations only toward demand deposit holders, while conventional banks have obligations toward all depositors. Therefore, it may be reasonable to conclude that the adequacy of liquidity in an Islamic environment should be assessed on a bank-by-bank basis, taking into account the state of development of the broader systemic liquidity arrangements.

Sensitivity to market risk

In the standard CAMELS framework, sensitivity to market risk is assessed by the degree to which changes in market prices, notably interest rates, exchange rates, commodity prices, and equity values adversely affect a financial institution. While the same approach is also applicable to Islamic banks, several differences are note-worthy.

Owing to the *Shari'ah's* prohibition against interest-based instruments, interest rate risk (one of the most important market risks) affects Islamic banks only indirectly through the mark-up price of deferred sale and lease-based transactions. As pointed out by Chapra and Khan (2000), an Islamic bank has to share with investment depositors any increase in

new earnings (owing, for example, to an increase in the LIBOR rate¹³ that automatically leads to a rise in the mark-up), but it cannot at the same time re-price its receivables on the assets side at higher rates. This pricing mismatch makes the net *murabaha* (see Annex Table 1) income of the Islamic bank vulnerable to mark-up price risk.

Islamic banks are directly exposed to commodity price risk because, unlike conventional banks, they typically carry inventory items, as noted in section II. They are also directly exposed—perhaps to a greater extent than many conventional banks—to equity price risk as the very nature of Islamic banking is in equity financing through the PLS modes. In principle, Islamic banks are exposed to exchange rate risk in the same way as conventional banks are.

It is important to recognize that Islamic banks can rely on fewer risk-hedging opportunities than conventional banks because *Shari'ah*-compliant substitutes for conventional market risk hedging instruments, such as futures, forwards, options, and swaps contracts, are not yet available to Islamic banks at the current state of development of Islamic finance.

Main elements of suitable information disclosure requirements

Information disclosure is more important in an Islamic environment than it is in a conventional system because the profit-and-loss-sharing principle and the implied lack of protection for investment depositors is at the core of Islamic banking.¹⁴ The more depositors are left unprotected, the more the public disclosure of information about the banks' policy objectives and operational strategies becomes necessary to enable depositors (and other lenders alike) to monitor the banks' performance. In an Islamic banking framework, depositors have more incentives to monitor bank performance than conventional depositors because neither the capital value of, nor the returns on, investment deposits are fixed and guaranteed by the banks, but rather depend on bank performance in investing depositors' funds. Such monitoring should not only seek to protect the capital

¹³Most Islamic banks use LIBOR as the benchmark rate for their financing operations.

¹⁴In principle, a deposit insurance arrangement for investment depositors would be possible in an Islamic banking framework as well.

value of depositors' funds, but also help ensure that the rates of return paid to them reflect a fair application of the PLS principle on banks' net profits.

Therefore, by reducing the information asymmetry inherent in *unrestricted mudharaba* contracts, a clear and concise disclosure of key data and information is likely to allow depositors more flexibility in choosing a specific bank in which they can allocate their funds according to their risk preferences.

Moreover, the disclosure of appropriate information can provide the public, as well as the supervisory authorities, with a better understanding of the banks' strategies and their relevant risks. This places the public and the supervisors in a better position to exercise informed market discipline and effective prudential supervision, respectively, thus helping reduce systemic risks in an Islamic financial environment.

Given the operational similarity between Islamic banks and investment companies (see the Annex for a discussion), it may prove useful to consider the information disclosure requirements established for investment companies in conventional systems (e.g., by the United States Securities and Exchange Commission), and adapt them to the specific needs of an Islamic environment. In this vein, information disclosure requirements for Islamic banks could usefully cover *at least* the following interrelated areas: (i) investment objectives and policies, including concentration; (ii) types of securities; (iii) risk factors; (iv) internal controls; (v) performance data; and (vi) professional qualifications and experience of management and senior staff.

The content of the proposed disclosure requirements is briefly reviewed below.¹⁵

- Investment objectives and policies, including concentration. This section should provide the public with sufficient information to assess the appropriateness of policies with regards to portfolio diversification (see also next bullet point). It should provide an accurate description of the investment objectives, policies and how they relate to concentration. Investment of more than 25 percent

¹⁵See AAOIFI (2001).

of total assets may define concentration in any one industry. In addition, any economic, business or political developments that may affect the industry should be briefly discussed. Such disclosure may include proposed national or regional legislation involving the financing of concerned investment projects; pending civil and/or religious courts' decisions relating to the validity of the projects or the means of financing them; predictable or foreseeable shortages or price increases of materials needed for the projects.

- Types of securities.¹⁶ This section should provide the public with an indication of an Islamic bank's degree of exposure to any type of securities or other assets, particularly those for which there is no established market, that is illiquid assets. This section should also illustrate the "filtration" process followed by the Islamic bank to select securities to invest in.¹⁷
- Disclosure and monitoring of risk factors. This section should provide further information about the main risk factors associated with the investment portfolio. It should describe the internal procedures, organization, and infrastructure for the monitoring and handling of the risk factors. Given the virtually unlimited list of activities that an Islamic bank can engage in, and the number of ways it is possible to provide funds, each Islamic bank should be allowed some degree of freedom in engineering the best way to monitor and handle the risks inherent to its specific activities.
- Good governance and internal controls. An Islamic bank performs several complex activities that are not normally performed by conventional banks, including the determination of profit-and-loss-sharing ratios for the projects it finances and the on-going auditing of these projects to ensure that its profit shares are fairly calculated. These specific activities highlight good governance and internal controls as key to ensuring that all phases of the

¹⁶For Islamic banks the term "securities" defines any note, stock, certificate of interest or participation in any profit-sharing arrangement.

¹⁷The "filtration" process ensures that the operation, and capital structure of each business an Islamic bank invests in is compatible with Islamic law.

investment process are monitored, comply with the Islamic bank's investment policies, and are properly accounted for. Moreover, good governance and adequate internal controls are crucial to the depositors' interests, too, because an Islamic bank's net profits are, in turn, shared with its (investment) depositors. Hence, particularly in an Islamic environment, good governance and adequate internal controls serve two goals: (i) to reduce mismanagement risk (typically the most important factor of weak internal governance); and (ii) to strengthen market confidence by enhancing governance-related disclosures and correspondingly reducing the risks of moral hazard.

- Performance data. Particularly in an Islamic environment, the expected rate of return on investment deposits is an important consideration in the depositors' choice of a particular bank because what it can indicate to prospective investment depositors is the *expected rate* of return only. The actual rate depends on the Islamic bank's ability to finance successful investment projects, thus accruing profits to be shared with its investment depositors. Ill-conceived, unsound institutions might seek to attract depositors by promising unrealistic rates of return, crowding out serious and well-managed institutions. Hence, this section should provide a brief explanation on how an Islamic institution calculates its historical performance in order to advertise these data. This should be done concisely, with a description of the essential features of the data and the manner in which they were computed. A statement should also be included that advertised yields are based on historical earnings and are not intended to indicate future performance.
- Management and senior staff. This section should provide information on the education and professional background of an Islamic bank's management, including the Board of Directors and senior staff (at least down to the level of director of department). Particular attention should be paid to the assessment of staff competence and skills in Islamic banking. This section should also clarify the role of the *Shari'ah boards*, particularly whether their role is limited to approving financial products and services or is extended to the approval of individual credit decisions.

It is worth noting that the growing emergence of institutional investors, such as Islamic mutual funds, will likely make the market-enforced discipline mechanism inherent in the process of information disclosure more effective for the banks' strategies and risk-taking decisions. As in conventional systems, it can be expected that institutional investors in an Islamic environment will play a crucial role in collecting, interpreting, and evaluating the flow of information disclosed by Islamic financial institutions. These investors will act as these institutions' major private monitors while such skills are being developed by smaller private depositors and other investors. Such developments will more than likely help facilitate risk management in an Islamic framework.

B. Addressing Other General Risk Factors in an Islamic Environment: An Institutional Development Approach

In addition to the establishment of a suitable regulatory and disclosure framework, effective risk management in an Islamic environment requires the development of adequate instruments, markets, and a market infrastructure that provides an enabling environment. As discussed in Section II, several factors currently make the operation of Islamic banks riskier and/or less profitable than conventional banks, including: (1) underdeveloped or non-existent interbank and money markets, as well as government funding instruments; (2) limited availability of, and access to lender-of-last-resort (LOLR) facilities; and (3) legal uncertainties and limited market infrastructure, which limit contract enforceability and the availability of hedging instruments and techniques.

There is an urgent need to strengthen systemic liquidity arrangements and to create an enabling infrastructure for Islamic financial institutions by further developing liquid markets in *Shari'ah*-compatible government borrowing instruments and central bank instruments, as well as related central bank operations. In this context, the recent approval of an agreement to establish the International Islamic Financial Market (IIFM) is a welcome development.¹⁸ The IIFM is envisaged to play a facilitating

¹⁸The establishment of the IIFM was discussed and agreed upon during the seventh meeting of the Working Group for the International Islamic Financial Market project held in Bahrain November 7–8, 2001.

role for the design and issuance of Islamic instruments by governments and large corporations based on guidelines approved by a global *Shari'ah* Supervisory Committee to be established by the IIFM's Board for the purpose of ensuring that all instruments traded at the IIFM are compliant with Islamic principles.

The critical importance of a strong disclosure regime in Islamic banking has to be backed by high-quality and internationally acceptable accounting standards for Islamic banks. Adequate transparency requires that financial information disclosed by Islamic banks be reliable, consistent, and comparable across time and similar organizations. To protect public confidence, annual financial statements should be audited by independent, reputable professionals.

These recommendations are exactly the same as those prescribed in the conceptual framework of the International Accounting Standards (IAS). In this regard, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) has made significant progress to develop accounting standards aimed to make the financial statements of Islamic financial institutions more comparable (e.g., with regard to the timeliness of income/loss recognition), and transparent. AAOIFI has issued a range of accounting standards for key Islamic financial instruments and related provisioning and disclosure practices, and standards for auditing and governance of Islamic financial institutions. These standards are gradually gaining wider acceptance: they are currently mandatory in Bahrain, Sudan, and Jordan. They are being implemented as guidelines by the Monetary Agency of Saudi Arabia. Finally, these standards are the ultimate goal of a convergence process initiated by Malaysia. They underpin accounting standards in Indonesia and Qatar.

An inadequate legal framework, which includes inadequate insolvency regimes, and a relatively weak legal infrastructure to support financial transactions, raises operational risk and undermines market development. A strengthened legal framework and the associated reduction in legal uncertainties will help reduce operational risk and enhance risk-management capabilities of Islamic financial institutions. It is especially important to step up efforts aimed at overcoming unresolved *fiqhi* (Islamic jurisprudence) issues that have so far delayed, or even

impeded, adequate institutional development in many countries. The most important unresolved *fiqhi* issues include the following questions of: (i) late settlement of financial obligations; (ii) the nature of a PLS partner's liability, limited or unlimited, with respect to third parties; (iii) the permissibility of different types of lease contracts; (iv) the permissibility of the sale of debt through securitization; and (v) hedging and financial engineering.¹⁹

IV. Key Challenges Ahead

In April 2002, the central bank governors of Bahrain, Indonesia, the Islamic Republic of Iran, Kuwait, Lebanon, Malaysia, Pakistan, Saudi Arabia, Sudan, and the United Arab Emirates and senior officials from the Islamic Development Bank and the AAOIFI agreed to establish a new organization—the Islamic Financial Services Board (IFSB)—to promote good regulatory and supervisory practices and uniform prudential standards for Islamic financial institutions. That decision followed extensive consultations that were coordinated by the IMF with the collaboration of the Islamic Development Bank and the AAOIFI.²⁰ The IFSB will be based in Kuala Lumpur, Malaysia; and will complement the efforts of the AAOIFI while maintaining close ties with other bodies that promote Islamic financial instruments and markets.²¹

¹⁹These issues are beyond the scope of the present paper. For a discussion, see Chapra and Khan (2000).

²⁰“IMF Facilitates Establishment of Islamic Financial Services Board,” IMF News Brief No. 02/41, May 1, 2002. <http://www.imf.org/external/np/sec/nb/2002/nb0241.htm>

²¹Dr. Zeti Akhtar Aziz, Governor, Bank Negara Malaysia was asked by participating governors and senior officials to head a steering committee that would oversee the establishment and inauguration of the IFSB. See also IMF Survey, May 13, 2002. The Malaysian Parliament passed the IFSB Bill on June 27, 2002 in the Lower House and on July 9, 2002 in the Upper House to enable the establishment of the IFSB in Malaysia with certain powers, immunities, and privileges conferred on the Board of the IFSB and its constituent organs and for matters connected to it. The IFSB was inaugurated in Kuala Lumpur on November 3, 2002.

To help strengthen and harmonize prudential standards, it is envisaged that the IFSB will also:

1. Set and disseminate standards and core principles—as well as adapt existing international standards—for regulation and supervision, consistent with *Shari'ah* principles, for voluntary adoption by member countries.
2. Serve as *liaison* for and promote cooperation with other standard-setters in the areas of
3. monetary and financial stability. Promote good practices in risk management in the industry through research, training, and technical assistance.

The establishment of the IFSB is a milestone in the recognition of the growing significance of Islamic financial institutions and products. Achieving its ultimate objectives depends on progress in addressing some of the technical issues outlined in the previous discussion: (i) the harmonization of the legal and regulatory frameworks (in addition to accounting standards) that govern Islamic financial institutions; and (ii) the development of adequate instruments, markets, and market infrastructure to support their operations.

Harmonization should be supportive of global financial stability, conducive to effective prudential supervision of Islamic financial institutions in their home countries, and facilitate sustained international expansion of Islamic banking. The development of adequate instruments, markets, and market infrastructure are factors that are essential to facilitate risk management and enable Islamic banks to successfully compete with conventional banks in the global financial system.

It is crucial for the IFSB to play a strategic role as the catalyst to promote discussion at the international level on a wide array of Islamic banking, financial, and legal matters that encompass technical and regulatory issues, and broader policy and market development issues. The IFSB should become the center of competence for the design of appropriate solutions to the many challenges that global capital markets pose to institutions operating in an Islamic environment. It should promote the wider acceptance of the standards and good practices that are necessary to implement these solutions. In carrying out these tasks, the IFSB

should establish a close partnership with concerned national supervisory authorities and central banks, the AAOIFI, the international financial institutions, and other relevant market participants.

The New Basel Capital Accord is a welcome development for Islamic banking. It offers a timely and important opportunity for the IFSB to play its part in the ongoing efforts to strengthen the international financial architecture because the new Capital Accord is expected, *inter alia*, to:

- Better reflect banks' true risk. The proposed changes to the risk-weighting methodologies, especially the acceptance of the internal rating systems and the focus on operational risk, would go a long way toward making the new Accord more compatible with and meaningful for Islamic banks. As argued in Section II, Islamic banks themselves are best poised to evaluate the degree of risk of their own portfolios and operations on the basis of their thorough knowledge of their business structures, including the mix of PLS and non-PLS assets. They can best ensure the adequacy of their capital and loss-offsetting reserves to cushion against operational risk.
- Adapt the supervisory regime. Supervisory guidance should remain essential, and its scope and content should be influenced by the quality of internal governance and risk management by the banks themselves. Several countries have begun strengthening supervisory regimes for Islamic banking through a separate legal framework in some cases and a special regulatory focus in others. The core element of these efforts should include: (i) the clear identification of risks; (ii) the treatment of similar risks in a similar manner across all institutions and business units; and (iii) the adequate supervisory guidance and oversight to ensure effective internal monitoring and control. These efforts could be further strengthened, and practices harmonized, based on international cooperation through the IFSB.
- Enhance market discipline by encouraging sound disclosure of policies: as argued in Section III, this aspect is crucially important for sustained growth of Islamic banking, especially with regard to the riskier (but more truly Islamic) PLS modes of financing. In addition, the heightened focus on market discipline fits well with

the Islamic approach to sharing financial risks between banks and borrowers on the one hand, and depositors and banks, on the other.

In sum, the IFSB could become a key instrument of financial stability and market development for Islamic banking. In this connection, the IMF, in collaboration with other international financial institutions, could continue to play a facilitating role by helping promote the IFSB's goals through the provision of technical assistance, and the dissemination of standards and good practices in the context of its financial sector surveillance work and other relevant activities.

Annex I: Islamic Banking vis-a-vis Conventional Banking

Disparate interpretations of some Islamic banking principles often result in disparate operations: measures carried out by Islamic financial institutions may be accepted in one country but rejected in another. It may be useful, therefore, to agree on a set of key features that characterize Islamic financial institutions and use it as a benchmark against which they may be compared and contrasted with conventional (interest-based) institutions. This, in turn, may facilitate a better understanding and management of the special risks of Islamic banking.

Key Features of Islamic Banking

Islamic financial institutions are characterized by:

*A prohibition against the payment and receipt of a fixed or pre-determined rate of interest, which is replaced by profit-and-loss-sharing (PLS) arrangements where the rate of return on financial assets held in financial institutions is not known and not fixed prior to the undertaking of the transaction. The actual rate of return can be determined only *ex post*, on the basis of actual profits accrued from real sector activities that are made possible through the productive use of financial assets.*

A requirement to operate through Islamic modes of financing. They affect both the asset and liability sides of bank balance sheets. These modes can

be divided into two groups: those that are based on the PLS principle (which should, in principle, be viewed as core modes), and those that are not (which should, in principle, be viewed as marginal modes).

PLS modes include: *mudharaba* (trustee finance), *musharaka* (equity participation), and direct investment. Non-PLS modes include: *oard al hasanah* (beneficence loans), *bai'mua'jjal* (deferred payments sales), *bai' salam* or *bai' salaf* (purchase with deferred delivery), *ijara* and *ijara wa iqtina'* (leasing and lease purchase), *murabaha* (mark-up), and *jo'alah* (service charge).

A limited ability to require collateral. As a general rule, when financing customers through PLS modes, Islamic financial institutions are *not* expected to require collateral to reduce credit risk. Some authors, however, argue that banks may occasionally require collateral to lessen moral hazard in PLS financing, for instance, to help prevent the entrepreneur (the user of the funds) from excessive risk-taking or fraudulent behavior. Islamic financial institutions, on the other hand, have the ability to request customers to pledge collateral for accessing non-PLS financing.

Investment deposits are not guaranteed in capital value and do not yield any fixed or guaranteed rates of return. In the event banks record losses as a result of bad investment decisions, depositors may lose part or all of their investment deposits. The only contractual agreement between investment depositors and banks is the proportion (ratio) according to which profits or losses are to be distributed between the parties of the deposit contract.

Demand deposits are guaranteed in capital value, but no returns are paid on them. The reason to justify the capital value guarantee is the assumption that demand deposits are placed in banks as *amanat*, that is, for safekeeping.

Consistency with one of the following two intermediation models²²

Two-tier *mudharaba*. According to this model, the asset and liability sides of a bank's balance sheet are fully integrated. On the liabilities side,

²²These two intermediation models are considered to be fully consistent with Islamic banking principles. For a fuller discussion, see Khan and Mirakhor (1993).

depositors enter into an *unrestricted mudharaba* contract (a trustee finance contract, see Annex Table 1) with the bank to share the overall profits that accrue to the bank's business. Thus, depositors act as financiers by providing funds, and the bank acts as an entrepreneur by accepting them. On the assets side, the bank, in turn, enters into *restricted mudharaba* contracts (see Annex Table 1 for details) with agent-entrepreneurs who search for funds to invest and who agree to share profits with the bank according to a certain percentage stipulated in the contract. In addition to investment deposits, banks are allowed to accept demand deposits that yield no returns and may be subject to a service charge. These deposits are repayable on demand at par value. Depositors, however, are aware that banks will use demand deposits to finance risk-bearing projects. Banks may also grant short-term interest-free loans (*qard al-hasanah*, see Annex Table 1) up to a certain fraction of total demand deposits. Although the concept of reserve requirements is a recognized one in Islamic banking, the *two-tier mudharaba* model does not mandate specific reserve requirements on either type of deposits.²³

“Two-windows.” According to this model, bank liabilities are divided into two windows: one for demand deposits and the other for investment deposits. The choice of the window is left to depositors. Demand deposits are assumed to be placed as *amanat* (for safekeeping), thus they are considered to belong to depositors at all times. They cannot, therefore, be used by banks as the basis to create money through fractional reserves. Consequently, banks operating according to this model must apply a 100 percent reserve requirement on demand deposits. By contrast, investment deposits are used to finance risk-bearing investment projects with depositors' full awareness. Therefore, these deposits are not guaranteed by the bank and there is no reserve requirement is applied to them. The bank may charge a service fee for its safekeeping services. Interest-free loans may only be granted from funds specifically deposited for that purpose.

Annex Table 1 provides a synoptic analysis of PLS and non-PLS modes of financing.

²³Traditionally, banks operating according to the two-tier *mudharaba* model have kept substantial reserves against demand deposits (even if they were not considered as *amanat*) and little (sometimes none) on investment deposits.

Table A1 A Synoptic Analysis of Islamic Modes of Financing

<i>Type</i>	<i>Description</i>	<i>Comments</i>
PLS modes	Profit-and-loss-sharing modes	At the core of Islamic banking
<i>mudharaba</i>	<p>Trustee finance contract</p> <p>Under this kind of contract, the bank provides the entire capital needed for financing a project, while the entrepreneur offers his labor and expertise. The profits (or losses) from the project are shared between the bank and the entrepreneur at a certain fixed ratio. Financial losses are borne exclusively by the bank. The liability of the entrepreneur is limited only to his time and efforts. However, if the negligence or mismanagement of the entrepreneur can be proven he may be held responsible for the financial losses incurred.</p> <p><i>Mudharaba</i> is usually employed in investment projects with short gestation periods and in trade and commerce. It affects both assets and liabilities sides of banks balance sheets. On the liabilities side, the contract between the bank and depositors is known as <i>unrestricted mudharaba</i> because depositors agree that their funds be used by the bank, at its discretion, to finance an open-ended list of profitable investment and expect to share with the bank the overall profits accruing to the bank's business. On the assets side, the contract between the bank and the agent-entrepreneur is known as <i>restricted mudharaba</i> because the bank agrees to finance a specific project carried out by a specific agent-entrepreneur and to share the relative profits according to a certain percentage.</p>	<p>Three conditions need to be met:</p> <ol style="list-style-type: none"> 1. The bank should not reduce credit risk by requesting a collateral to this purpose: it bears entirely and exclusively the financial risk. Collateral may be requested to help reduce moral hazard, for example, to prevent the entrepreneur from vanishing. 2. The rate of profit has to be determined strictly as a percentage and not as a lump sum. 3. The entrepreneur has the absolute freedom to manage the business. <p>The bank is entitled to receive from the entrepreneur the principal of the loan at the end of the period stipulated in the contract only if a surplus exists. If the enterprise books show a loss, this will not constitute default on the part of the entrepreneur, except for negligence or mismanagement.</p>

(Contd.)

Table A1 (Continued)

<i>Type</i>	<i>Description</i>	<i>Comments</i>
<i>musharaka</i>	Equity participation contract The bank is not the sole provider of funds to finance a project. Two or more partners contribute to the joint capital of an investment. Profits (and losses) are shared strictly in relation to the respective capital contributions. This kind of contract is usually employed to finance long-term investment projects.	Banks can exercise the voting rights corresponding to their share of the firm's equity capital. Their representatives can sit on the firm's board of directors. All parties invest in varying proportions, and have the right to participate in the management of the enterprise.
<i>muzar'ah</i>	This is the traditional counterpart of the <i>mudharaba</i> contract in farming. The harvest is shared between the bank and the entrepreneur. The bank may provide funds or land.	
<i>musaqat</i>	This is the traditional counterpart of the <i>musharaka</i> contract in orchard keeping. The harvest is shared among the partners based on their respective contributions.	
Direct investment	This represents the same concept as in conventional banking. The bank cannot invest in the production of goods and services which contradict the value pattern of Islam, such as gambling.	Banks can exercise the voting rights corresponding to their share of the firm's equity capital. Their representatives can sit on the firm's board of directors.

Non-PLS modes	Non-profit-and-loss-sharing modes	They are used in cases where PLS modes cannot be implemented, for example, in cases of small-scale borrowers or for consumption loans.
<i>qard al-hasanah</i>	Benevolence loans These are zero-return loans that the Qur'an exhorts Muslims to make to "those who need them." Banks are allowed to charge the borrowers a service fee to cover the administrative expenses of handling the loan, provided that the fee is not related to the amount or maturity of the loan.	
<i>bai'muajjal</i>	Deferred payment sales The seller can sell a product on the basis of a deferred payment in installments or in a lump sum payment. The price of the product is agreed upon between the buyer and the seller at the time of the sale and cannot include any charge for deferring payments.	Contrary to contracts based on the PLS principle, modes such as markup, leasing, and lease purchase have a predetermined and fixed rate of return and are associated with collateral. In fact, banks add a certain percentage to the purchase price and/or additional costs associated with these transactions as a profit margin, and the purchased assets serve as a guarantee. Moreover, banks may require the client to offer a collateral. These instruments can be considered to be more closely associated with risk aversion and they do not substantially differ from those used in a conventional banking system, other than in their terminology and in some legal technicalities.
<i>bai'salam</i> or <i>bai'salaf</i>	Purchase with deferred delivery The buyer pays the seller the full negotiated price of a product that the seller promises to deliver at a future date. This mode only applies to products whose quality and quantity can be fully specified at the time the contract is made. Usually, it applies to agricultural or manufactured products.	

(Contd.)

Table A1 (Continued)

<i>Type</i>	<i>Description</i>	<i>Comments</i>
<i>ijara</i> <i>ijara wa</i> <i>iqatina'</i>	Leasing Lease purchase A party leases a particular product for a specific sum and a specific period of time. In the case of a lease-purchase, each payment includes a portion that goes toward the final purchase and transfer of ownership of the product.	They are considered to conform to Islamic principles because the rate of return is meant to be tied to each transaction, rather than to a time dimension. However, some Muslim scholars advocate a stricter utilization of such a modes.
<i>murabaha</i>	Mark-up The seller informs the buyer of his cost of acquiring or producing a specified product; then the profit margin (or mark-up) is negotiated between the buyer and the seller. The total cost is usually paid in installments.	
<i>jo'alah</i>	Service charge A party undertakes to pay another party a specified amount of money as a fee for rendering a specified service in accordance to the terms of the contract stipulated between the two parties. This mode usually applies to transactions such as consultations and professional services, fund placements, and trust services.	

Sources: Kazarian, 1993; Iqbal and Mirakhor, 1987.

Annex Table 2 summarizes these characteristics and provides a synoptic comparison between Islamic and conventional banks.

Table A2 A Comparison between Islamic and Conventional Banking

<i>Features</i>	<i>Islamic banking</i>	<i>Conventional banking</i>
Guarantee of the capital value of:	Yes	Yes
Demand deposits	No	Yes
Investment deposits		
Rate of return on deposits	Uncertain, not guaranteed for investment deposits. Demand deposits are never remunerated.	Certain and guaranteed.
Mechanism to regulate final returns on deposits	Depending on bank performance/profits from investment.	Irrespective of bank performance/profits from investment.
Profit-and-loss (PLS) principle applies	Yes	No
Use of Islamic modes of financing: PLS and non-PLS modes	Yes	Not applicable.
Use of discretion by banks with regard to collateral	Generally not allowed to reduce credit risk in PLS modes. By way of exception, may be allowed to lessen moral hazard in PLS modes. Allowed in non-PLS modes.	Yes, always

Based on the above, the following points are noteworthy:

- Given the structure of their balance sheets and the use of profit-and-loss-sharing arrangements, Islamic banks are better poised than conventional banks to absorb external shocks. In the event of operational losses, unlike conventional banks, Islamic banks have the ability to reduce the nominal value of investment deposits, that

is, reduce the nominal value of a portion of their liabilities. As a result, solvency risks that may arise from an asset-liability mismatch are typically lower in Islamic banks than in conventional banks.

- Islamic banks which operate according to the two-windows model (a typical case of “narrow bank”, which is very rare in practice) are virtually insolvency-proof. Islamic banks operating according to the *two-tier mudharaba* model (the norm in practice) are still subject to the risk of an asset-liability mismatch because: (1) demand deposits are guaranteed in capital values and are redeemable by depositors at par and on demand; (2) demand deposits can be used to finance longer-term risk-bearing investment projects; and (3) there are no mandated specific reserve requirements on demand and investment deposits (vis-a-vis the 100 percent and zero percent reserve requirements on demand and investment deposits, respectively, mandated in the two-windows model).
- Islamic banks show an *operational similarity* with conventional investment companies, including mutual funds owing to the fact that they do not guarantee either the capital value of or the return on investment deposit. Basically, they pool depositors’ funds to provide depositors with professional investment management. There is, however, a fundamental *conceptual difference* between the two that needs to be recognized: investment companies sell their capital to the public, while Islamic banks accept deposits from the public. This implies that shareholders of an investment company own a proportionate part of the company’s equity capital and are entitled to a number of rights, including receiving a regular flow of information on developments of the company’s business and exerting voting rights corresponding to their shares on important matters, such as changes in investment policy.²⁴ Hence, they are in a position to take informed investment decisions, monitor the company’s performance, and influence strategic decisions. By contrast, (investment) depositors in an Islamic bank are only entitled to share the bank’s net profit (or loss) according to the

²⁴See Sally Buxton and Mark St. Giles, “Governance Issues and the Capital Market,” in *Financial Sector Governance—The Roles of the Public and Private Sectors*, ed. by Robert E. Litan, Michael Pomerleano, and V. Sundararajan (Washington, DC: Brookings, 2002), pp. 303–326.

PLS-ratio stipulated in their contracts. Investment deposits cannot be withdrawn at any time, but only on maturity and, in the best case, at par value.²⁵ Moreover, depositors have no voting rights because they do not own any portion of the bank's equity capital.

Hence, they cannot influence the bank's investment policy. In fact, their relationship with the bank is regulated according to an *unrestricted mudharaba* contract, as noted previously.

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²⁵Although investment deposits cannot, by contract design, be withdrawn before maturity, in many instances banks do not object should depositors ask for them.

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4

Risk Measurement and Disclosure in Islamic Finance and the Implications of Profit Sharing Investment Accounts¹

1. Introduction and Summary

Globalization, changes in the regulatory environment, and the growth in Islamic financial institutions and markets, call for strengthened risk management in Islamic Financial Services Institutions (IFSIs), in order to enable them to compete effectively and remain sound and stable. This is because the IFSIs face a unique mix of risks that arise from the contractual design of instruments based on *Shari'ah* principles, and the overall legal, governance, and liquidity infrastructure that govern Islamic Finance.

Fundamental to effective risk management, however, is a process of appropriate risk measurement that recognizes the specific mix of risk factors in Islamic Financial Contracts. The issues of risk measurement and disclosure are central to adapting the New Basel Capital Accord (Base II) for both conventional and Islamic banks. Risk measurement is crucial for an effective disclosure regime that can harness market forces to reinforce official supervision.

The purpose of this paper is to review selected issues in the measurement of risks in IFSIs, and to consider, in particular, the implications of profit sharing investment accounts (PSIAs or investment accounts, for short) for

¹Dr. Sundararajan was especially thankful to Mr. Abdullah Haron of Islamic Financial Services Board for the very helpful comments, discussions, and information.

risk measurement, risk management, capital adequacy and supervision. The paper examines, using cross section data on a sample of banks, the relationship among the returns on PSIAs, the returns on bank deposits generally in the banking system, the returns on assets and equity, and the level of risks. The analysis shows that in practice there is a considerable smoothing of returns on investment accounts despite wide divergences in risk, and hence very little risk-sharing with investment accounts.

The paper proposes a specific approach to measure the actual sharing of risks between shareholders and investment accounts holders, based on value-at-risk (VAR) methodology. The main conclusions of the paper are as follows: 1) The appropriate management of PSIAs, with proper measurement, control, and disclosure of the extent of risk-sharing with investment accounts holders, can be a powerful risk mitigant in Islamic finance. 2) Supervisory authorities can provide strong incentives for effective overall risk management, and transparent risk sharing with PSIAs.

This could be achieved by (i) linking the size of capital relief on account of PSIAs to a supervisory review of bank policies for risk sharing, and (ii) mandating the disclosure of risks borne by PSIAs and of the displaced commercial risk borne by the shareholders, as part of the requirements for granting capital relief. The evolving standards for capital adequacy, supervisory review, and transparency and market discipline are consistent with these proposals.

Several key conclusions and policy messages can be highlighted at the outset.

- The unique mix of risks in Islamic Finance and the potential role of investment account holders in sharing some of the risks, call for a strong emphasis on proper risk measurement, and disclosure of both risks and risk management processes in IFSIs.
- Effective risk management in IFSIs (and a risk focused supervisory review process) requires that a high priority be given to proper measurement and disclosure of:
 - aggregate banking risks (to reflect the volatility of *mudharaba* profits accruing to investment account holders); specific types of risks (to effectively control the extent of credit, market, operational and liquidity risks);

- facility specific risks (to properly price individual facilities by measuring the full range of risks embedded in each facility).
- Progress in risk measurement, disclosure, and risk management will, however, require a multi-pronged effort:
 - to strengthen accounting standards and harmonize them with prudential standards;
 - to initiate a systematic data compilation process that enables proper risk measurement, including through the development of central credit and equity registries suitable for Islamic finance;
 - to build robust infrastructure for governance and creditor/investor rights to foster Islamic money and capital markets—based on innovative uses of asset securitization—as a foundation for effective on-balance sheet risk management, including through transparent apportioning of risks to investment account holders;
 - to foster this transformation of investment accounts into an effective risk mitigant (in addition to collateral and guarantees) through product innovations that support proper disclosure and reserve policies that make transparent the extent of risk that is borne by the investment accounts, and the risk-return mix offered.
 - to provide supervisory incentives for effective risk sharing with PSIAAs, by linking the capital relief on account of PSIAAs to the extent of actual risks shared with PSIAAs, and by requiring adequate disclosure of these risks as a basis for capital relief.

All this will set the stage for the eventual adoption of more advanced capital measurement approaches envisaged in Basel II and their adaptations for Islamic finance as outlined in the relevant IFSB standards. The paper highlights some of the measurement issues and policy considerations in promoting effective risk sharing between owners and investment accounts holders, and proposes a value-at risk methodology for measuring and monitoring such risk sharing.

2. Background

Recent work on risk issues in Islamic finance has stressed that features of the IFSIs, and the intermediation models that they follow, entail special risks that need to be recognized to help make risk management in Islamic Banking truly effective.²

Hassan (2000) noted that the traditional approach to capital adequacy and supervision based on 1988 Basel Capital Accord—Basel I—did not adequately capture the varied risks in Islamic finance facilities. In a similar vein, recent studies in the Islamic Development Bank discuss the special risks in IFSIs (Chapra and Khan, 2000 and Khan and Ahmed, 2001). These studies survey the risk management practices of IFSIs, and note that the new Basel Capital Accord (Basel II) provides the scope for the proper recognition of risks in Islamic banking products – through a more risk-sensitive system for risk weighting assets and stronger incentives for effective risk management. These studies also highlight a set of issues in Islamic Jurisprudence (“*fiqh*” issues) that need to be resolved to facilitate effective supervision and risk management. A recent World Bank study (El-Hawary et al, 2004) considered the appropriate balance of prudential supervision and market discipline in Islamic finance, and the related implications for the organization of the industry. In parallel, recent studies from the IMF focus on the implications for financial stability of Islamic banks (Sundararajan and Errico, 2002, Marston and Sundararajan, 2003, and V. Sundararajan, 2004). These studies stress the importance of disclosure and market discipline in Islamic finance; they also note that in addition to the unique mix of risks, for a range of risks, Islamic banks may be more vulnerable than conventional counterparts, owing in part to the inadequate financial infrastructure for Islamic banks, including missing instruments and markets, and a weak regime for insolvency and creditor rights—factors that limit effective risk mitigation.

Therefore, the systemic stability in financial systems with Islamic banks requires a multi-pronged strategy to bring about:

²In many documents, the term Institutions Offering Islamic Financial Services (IIFSs) is used rather than Islamic Financial Services Institutions (IFSIs). In this paper, the terms IFSIs, IIFSs, and Islamic Banks will be used interchangeably for convenience.

- Suitable regulation and disclosure framework for IFSIs;
- robust financial system infrastructure and adequate macro-prudential surveillance in order to provide the preconditions for effective supervision and risk management; and
- strengthened internal controls and risk management processes within IFSIs.

Accordingly a comprehensive risk-based supervision is needed for IFSIs, supported by a clear strategy to build up risk management processes at the individual institution level, and robust legal, governance and market infrastructure at the national and global levels. In recognition of this need, the international community has established the Islamic Financial Services Board (IFSB), headquartered in Kuala Lumpur, to foster good regulatory and supervisory practices, help develop uniform prudential standards, and support good practices in risk management. (See “IMF Facilitates Establishment of IFSB”; IMF news brief no. 02/41, May, 2002, <http://www.imf.org/external/mp/sec/nb/2002/nb241.htm>)

IFSB has advanced the work on the capital adequacy framework and risk management in IFSIs, through the issuance of draft consultative papers on these topics in 2005 (see IFSB 2005a and 2005b). In addition, work is underway (in various IFSB working groups and task forces) on corporate governance standards, on disclosure standards to promote transparency and market discipline, and on additional guidelines on prudential and legal framework for Islamic banks. Recent discussions coordinated by the IFSB have again reinforced the importance of building a robust financial infrastructure for Islamic finance—which constitutes the precondition—to support the sound functioning and effective supervision of Islamic Banks.

In particular, the effective supervision of Islamic banks requires that the three - pillar framework of Basel II and the language of risks it introduces be appropriately adapted to its operational characteristics. This would require a medium-term effort that involves: i) Strengthening existing supervisory framework to achieve full compliance with Basel Core Principles of Banking Supervision; (ii) developing appropriate risk measurement and disclosure procedures supported by systematic efforts to build up data bases that are needed for risk measurement; (iii) in parallel, building up the core elements of financial infrastructure and risk management instruments to support the sound development of Islamic finance.

This will set the stage for the adoption of more advanced capital measurement approaches as envisaged in Basel II, but that are tailored to the specific operational characteristics of Islamic finance, including the role of investment accounts. Key issues in the measurement and monitoring of specific risks in Islamic finance are first reviewed before considering disclosure and supervision issues.

3. Measuring Risks in Islamic Finance

3.1 *Mudharaba Risk*

The way risks are shared between investment account holders who invest on a *mudharaba* basis, and the bank as a *mudharib*, plays a crucial role in Islamic finance. The share of unrestricted investment accounts in the total deposits of Islamic banks varies considerably from near zero (holding only demand and savings deposits) to over 80% in some banks (Table 1). The implications of such profit & loss sharing deposits for risk measurement, disclosures, and bank governance generally has been a topic of several studies (see Clode Michael, 2000 and AAOIFI, 1999).

In this section, we will highlight specific risk measurement issues that need to be addressed in monitoring risk-return trade-offs in investment deposits. The focus is on the financial risks faced by the unrestricted investment accounts; for restricted investment accounts, the risks for banks and depositors are those attributable to the specific assets to which the investment account returns are linked, and the risk measurement issues discussed in this paper can be readily applied to the relevant asset portfolio. Both restricted and unrestricted investment account holders also face fiduciary risks—risks of negligence and misconduct—reflected in the quality of internal controls, corporate governance, and risk management processes of the IFSIs acting as *mudharib*.

In its most general form, risk is uncertainty associated with a future outcome or event. To an investment account holder in an Islamic bank the risk is the expected variance in the measure of profits that is shared with the depositor. This variance could arise from a variety of both systemic and idiosyncratic (i.e. bank specific) factors. Actual risk in the investment account is dampened in practice by profit equalization reserves (PER). Such reserves are used to reduce or eliminate the variability of return on

Table 1 Determinants of Return on Investment Accounts
(Standard Error in Parenthesis)

1.	$RIA = 2.67 - 0.13(R_A - S_p) + 0.14 Re + 0.09 C/A$ <div style="display: flex; justify-content: space-around; font-size: small;"> (1.94) (0.52) (0.12) (0.10) </div> <p style="margin-top: 5px;">ADJ. $R^2 = -0.0441$ SEE = 3.88</p>
2.	$RIA = 1.80 - 1.10(R_A - S_p) - 0.05 Re + 0.84 Rd - 0.26 C/A$ <div style="display: flex; justify-content: space-around; font-size: small;"> (1.29) (0.38) (0.08) (0.15) (0.09) </div> <p style="margin-top: 5px;">ADJ. $R^2 = 0.5463$ SEE = 2.55</p>
3.	$RIA = 0.67 - 0.59(R_A - S_p) + 0.05 Re + 0.57 Rd$ <div style="display: flex; justify-content: space-around; font-size: small;"> (1.38) (0.38) (0.09) (0.13) </div> <p style="margin-top: 5px;">ADJ. $R^2 = 0.4177$ SEE = 2.90</p>
4.	$RIA = 1.28 - 1.15(R_A - S_p) + 0.814Rd - 0.24 C/A$ <div style="display: flex; justify-content: space-around; font-size: small;"> (0.86) (0.36) (0.13) (0.08) </div> <p style="margin-top: 5px;">ADJ. $R^2 = 0.5590$ SEE = 2.52</p>
5.	$RIA = 1.21 - 0.48(R_A - S_p) + 0.584 Rd$ <div style="display: flex; justify-content: space-around; font-size: small;"> (0.98) (0.32) (0.12) </div> <p style="margin-top: 5px;">ADJ. $R^2 = 0.4332$ SEE = 2.8592</p>

Note: Ordinary Least Square (OLS) regression based on data for 14 Islamic banks in 8 countries for two time periods, yielding a total of 28 observations. Insofar as RIA and RE are jointly determined, OLS will not yield consistent estimates. Alternative estimation methods using Instrumental Variables will be used when the data set is expanded to include other exogenous variables and additional observations.

investment deposits, and to offer returns that are aligned to market rates of return on conventional deposits or other benchmarks. In addition, banks may use investment risk reserves to redistribute over time the incomes accrued to the investment accounts. Nevertheless, from an investor's point of view, the true risk of *mudharaba* investment in a bank can be measured by a simple profit-at-risk (PAR) measure. For example, the standard deviation of the monthly profit as a percentage of assets, σ_p , provides the basis for the simplest measure of risk on holding an investment account.

From a monthly time series of *mudharaba* profits (as a share of assets), its variance (and the standard deviation σ_p) can be calculated, and assuming normality, profit-at-risk can be calculated as:

$$\text{PAR} = Z_{\alpha} \sigma_p \sqrt{T}$$

where Z_{α} = is the constant that gives the appropriate one-tailed confidence interval with a probability of $1 - \alpha$ for the standard normal distribution (e.g. $Z_{0.01} = 2.33$ for 99% confidence interval); and T = holding period or maturity of investment account as a fraction of month.

Such an aggregate PAR measure for a bank as a whole provides a first cut estimate of the risks in unrestricted *mudharaba* accounts. Such risk calculations could be applied to individual business units within the bank (also for specific portfolios linked to restricted investment deposits). In addition, if specific risk factors that affect the variation in *mudharaba* profits can be identified, this σ_p can be decomposed further in order to estimate the impact of individual risk factors, and this would help refine the PAR calculation. In practice, however, profit equalization reserves (PER) and investment risk reserves are actively used by IFSIs to smooth the return on investment accounts. As a result, risks in investment accounts are absorbed, in part, by banks themselves, insofar as profit equalization reserves are strongly and positively correlated with net returns on assets (gross returns on assets minus the provisions for loan losses),—i.e. the PER is raised or lowered when the return on assets rises or falls, and hence the investment accounts are insulated from both gains and losses. The AAOIFI (1999) calls such risk absorption by bank capital “displaced commercial risk”. The correlation between PER and the asset return could, therefore, be viewed as an indicator of “displaced commercial risk”. Thus, the precise relationship between the risk to investment account holders and the aggregate risk for the bank as a whole (arising from the variability of net returns on assets, gross returns net of specific provisions) depends upon the policies toward profit equalization reserves and investment risk reserves. These policies determine, in effect, the extent of risk sharing between investment accounts and bank capital.

These relationships and an empirical analysis of the determinants of return on investment accounts (RIA) are presented in Appendix 1, and further discussed in Section 4.

Against this background, the true risks borne by investment account holders can be made transparent by disclosing the definition of *mudharaba* profits, the level and variations in these profits and in-profit equalization reserves, as well as policies toward establishing a PER that will determine its variance as well as its correlation with the asset return. At the same time, transparency of internal controls and governance arrangements, including risk management processes, are important to provide assurances of integrity of IFSIs as *mudharib*. The measurement of such fiduciary risks could be subsumed under operational risk measurement. For a discussion of appropriate practices in defining *mudharaba* profits, see AAOIFI, Financial Accounting Standard No. 6, and the Framework Of the Rate of Return (October 2001, and revised 2004) issued by the Bank Negara Malaysia. For examples of estimation of such earnings and profits-at-risk measures for Islamic banks, see Hakim (2003) and Hassan (2003).

3.2 Credit Risks in Sales Based Contract

Mudharaba and other sales based facilities (*istisna'a*, *ijara*, *salam*, etc.) dominate the asset side of Islamic banks, ranging from 80% to 100% of total facilities. Equity type facilities still constitute a negligible proportion of assets in most banks. Thus, credit risk—the losses in the event of a default of the borrower or in the event of a deterioration of a borrower's repayment capacity—is the most dominant source of risk in an Islamic bank - the same as in conventional banks. The method of credit risk measurement in conventional banks apply equally well to Islamic banks, with some allowance required to recognize the specific operational characteristics and risk sharing conventions of Islamic Financial Contracts.

Credit risk can be measured based on both the traditional approach that assigns each counter-party into a rating class (each rating corresponds to a probability of default), as well as more advanced credit value-at-risk (credit VAR) methods discussed later in the section. The basic measurement principle underlying both these approaches is to estimate the expected loss on an exposure (or a portfolio of exposures) owing to specified credit events (default, rating downgrade, non-performance of a specified covenant in the contract etc.) and to calibrate unexpected losses (deviations from the mean) that might occur at some probability level. Expected losses are provisioned and regarded as an expense that is

deducted from income, while unexpected losses (up to a tolerance level) are backed up by capital allocation. The risk weights attached to various exposures on the bank's asset side (in the New Basel Capital Accord, for example) in effect represent the bank's or supervisor's judgement on the unexpected losses on the exposures that should be absorbed by capital. The calculation of loss—both expected and unexpected—in an individual loan will require estimates of:

- Probability of a default (or probabilities of rating downgrades from one rating class to another);
- potential credit exposures at default (or at the time of rating transition);
- losses given a default (or reduction in the value of the asset following a rating transition).

The proper measurement of these three components of credit risk, and calculating unexpected losses are the fundamental requirements of the New Basel Capital Accord (Basel II). The measurement of these components for the case of sales-based contracts—*mudharaba* and *salam*—is discussed below.

The default is defined in the same way as for conventional Banks, based on the financial condition of the borrower and the number of days the contract is overdue.³ The estimation of the probability of default is traditionally based on the *ex-ante* assignment of ratings to counterparty exposures or a portfolio of exposures of a particular variety (such as all commodity *mudharabas* for a class of goods). This can follow any one of the traditional approaches: credit scoring, industry analysis, cash flow/financial statement analysis. A modern approach that can be used for larger listed companies is based on the market information on equity prices. The observed market value of the firm's equity and the estimated volatility of equity prices can be used to estimate the likelihood of a default, using the option pricing approach to bankruptcy prediction.⁴ In practice various methods can be combined during the risk management process in order to arrive at a credit rating and the associated probability of a default based

³Basel II definition (para 452).

⁴For a survey of new approaches to credit risk measurement and an overview of traditional methods see Saunders (2001).

on historical experience. The estimation of probabilities—or correct assignment of ratings—will however require historical data on the loan structure and performance, borrower characteristics and on the broader industry and macroeconomic environment. Ratings will change over time as financial conditions and the environment changes.

In many countries, supervisory authorities have relied on five rating categories—one high quality (performing loans) and four low-quality ratings (watch, sub-standard, doubtful, and loss)—and assigned specified provisioning percentages for each rating to reflect expected losses. Thus, total provisions as a percentage of loans, or the share of loans classified as bad and doubtful (non-performing loans), or non-performing loans net of provisions as a percentage of total loans, etc. are the commonly used *ex-post* measures of credit risk that applies to all banks. Many large internationally active banks have developed their own internal rating systems that allow for more ratings categories. An examination of a sample of Islamic banks suggests that they typically compile and disclose the classification of various Islamic facilities according to asset quality based on categories typically used by supervisors such as, “current”, “sub-standard”, “doubtful”, etc. But only a few Islamic banks disclose internal or external ratings of assets or of details of provisions for different facilities and other more detailed credit risk measures.

Since the ratings assigned to counterparty change over time due to changes in circumstances, credit risk measurement falls into two types—(1) the Default Model and (2) the Mark to Market Model.

Default Model recognizes only two states of the world: a firm is either performing or defaults; in the Mark to Market Model, a firm’s credit rating changes from one rating class to another with some probability over a time horizon. This changes the present value of the loan (i.e., expected cash flows discounted by the risk-adjusted discount rate corresponding to the new rating class will change as the loan migrates from one rating to another). The computation of expected and unexpected losses, the core of risk measurement, depends upon the model chosen, which in turn depends upon data availability.

Losses will clearly depend upon the potential credit exposures at the time of default (exposure at default, EAD). In the case of simple contracts with a specified schedule of repayments, exposures at the time of default will depend mainly on contractual terms that relate to the installments

schedule and the size of deferred payments, net of any initial advance payments or projected pre-payments if allowed. In general, exposure at default would be facility-specific, depending upon the extent of discretion that the borrower can exercise in drawing down lines of credit, pre-paying already drawn accounts, or any specific events that affect the value of contingent claims (e.g., guarantees to third parties). In *mudharaba* and *salam* contracts, exposure at default in most cases would simply be the nominal value of the contract. In long-term *ijara* and *istisna'a* contracts, EAD will depend upon projected environmental factors that are facility-specific.

Losses will ultimately depend upon the rate of recovery following default, or in a Mark to Market model, the reduction in the value of the loan if ratings change. Losses given a default (one minus the recovery rate time's exposure at default) is likely to depend upon the ease of collecting on the collateral, value of the collateral, enforceability of guarantees if any, and most importantly on the legal environment that determines creditors rights and the features of insolvency regime. For example, the juristic rules for *murabahah* imply that "in case of insolvency, creditor should defer collection of the debt until he becomes solvent."⁵ The precise interpretation of such considerations would determine the length of time needed to recover overdue debt. In addition, there could be additional legal risks owing to difficulties in enforcing Islamic Finance contracts in certain legal environments.⁶ Moreover, the inability of Islamic banks to use penalty rates as a deterrent against late payments could create both higher risk of default and longer delays in repayments.⁷

Finally, the limitations on eligible collateral under Islamic Finance—or excessive reliance on commodities and cash collateral—may exacerbate market and interest rates risks generally, and reduce the potential recovery value of the loan if commodity collateral proves too volatile in value. For these reasons, LGD in *murabahah* facilities could be different, probably higher, than in conventional banks, thereby affecting the size of the losses and capital at risk. Given the estimated probability of default, or probabilities of transition from one rating class to another (transition matrix), and the estimated loss given default (or change in the value of a

⁵AAOIFI (2001), Financial Accounting Standard Number 2, Appendix B.

⁶Djojosugito (2003).

⁷Chapra and Khan (2000).

loan for any given transition from one rating class to another), the expected and unexpected losses are readily computed. For example, in the Default Model, expected loss is given by:

$$\text{Expected Loss} = P \times \text{LGD} \times \text{Exposure},$$

where LGD is expressed as a proportion of exposure. The unexpected loss can be calculated based on assumptions on the distribution of defaults and recoveries. Assuming that LGD is fixed, and that borrowers either default or do not default, the default rate is binomially distributed, and the standard deviation of default rate is:

$$\sigma = \sqrt{P(1-P)}$$

Therefore a measure of unexpected loss on the loan is:

$$\text{Unexpected loss} = Z_{\alpha} \sqrt{P(1-P)} \times \text{LGD} \times \text{Exposure}.$$

Z_{α} is a multiple (for example, a normal deviate) that limits the probability of unexpected losses to a specified probability level. This is the value-at-risk for this credit facility, and represents the amount of capital needed to cover the unexpected loss in this exposure. In the case of Mark to Market Model, the calculation of expected loss and unexpected loss takes into account the prospects for both upgrades as well as downgrades of the loan, and considers the change in value of the loan for each possible change in the rating of a facility from its current level, and the corresponding probability of the rating transition.⁸

While similar considerations apply in the case of *salam* contracts to calculate counter-party credit risks, there is an additional commodity price risk embedded in these contracts that should be added to the credit risk. The commodity price risk will arise even when the counter party does not default, and when there is default (e.g. delivery of a sub-standard good, delayed delivery of a good, etc.) the commodity price risk could be included as part of the loss given a default. Thus the potential loss in a *salam* contract is the sum of loss due to credit risk, and the loss due to

⁸Wilson (1998), and Caouette, Altman, and Narayanan (1999) for a detailed illustration.

the commodity price risk when there is no credit risk. In addition there could be a correlation between these two types of risks (for example due to common factors such as a draught that could affect both the commodity price risk and counter-party credit risk), which for the sake of simplicity is ignored for the time. In the absence of liquid commodity markets as well as *Shari'ah*-compatible hedging products to mitigate price risks, the commodity price risk can be measured by calculating the value-at-risk of commodity exposures in different maturity buckets using historic data on prices. While commodity exposures can be treated as part of the market risk measurement for capital allocation purposes, it is important to compute this market risk separately for each *salam* contract or for a portfolio of *salam* contracts and add it to the credit risk so that the full risk in each contract (or portfolio of contracts) can be properly measured and taken into account in the pricing the contract (or the facility). Also, the estimated commodity price risk should be regularly monitored since price volatility can change over time due to shifts in macroeconomic and market-specific conditions.

Finally, credit risk of a portfolio of exposures and facilities is lower or higher depending upon the extent of diversification or concentration in specific credit categories. The credit risk measurement can take into account the benefits of diversification by computing the joint distribution of default events based on correlations between different classes and segments of the portfolio (i.e. correlations between defaults among counterparties and joint probability of default of any pair or group of counterparties can be estimated). This can form the basis to value the loan portfolio and compute the expected loss in the loan portfolio as a whole, based on the joint distribution of components of the portfolio. In some models, default rates and transition probabilities can be made a function of macroeconomic variables. The probability distribution of gains and losses of the loan portfolio, or the loan facility can then be used to compute both expected and unexpected losses (at a given probability level). In the case of loans to a diversified group of individuals and small businesses, with standard installments and commodity leases, supervisors and banks might treat the class of loans as a retail exposure with smaller risk weights (reflecting lower value-at-risk due to diversification effects). At the same time credit concentrations by sectors and rating classes should be monitored as alternative indicators of credit risk.

3.3 Equity Risks in Mudharaba and Musharaka Facilities

These are equity-type facilities, typically comprising a very small share of total assets. This partly reflects the significant investment risks that they carry. In a sample of Islamic banks the share of *mudharaba* and *musharaka* facilities and traded equities varied from 0% to 24%, with a median share of about 3%. A measure of the potential loss in equity exposures that are not traded can be derived from the standard recommended in Basel II (paragraph 350). Given the net equity exposures, the loss can be estimated using the probability of default that corresponds to a debt exposure to the counterparties whose equity is being held, and applying a fairly high loss given default such as 90% to reflect the equity risks. A measure of both expected and unexpected loss (UL) can be computed from these parameters. In addition, the *mudharaba* facility may need to be assigned an additional UL due to operational risk factors, with the extent of the operational risk adjustment depending on the quality of internal control systems to monitor *mudharaba* facilities on the asset side. High quality monitoring is very important in Islamic banks, since the finance provider cannot interfere in the management of the project funded on *mudharaba* basis. In the case of *musharaka*, the need for operational risk adjustments may be less, insofar as the bank exercises some management control. If the banks' equity interest in a counter party is based on regular cash flow and not capital gains, and is based on long-term customer relationship, a different supervisory treatment, and a lower LGD can be used. If, however, the equity interest is relatively short term and relies on capital gains (e.g. traded equity), a VAR approach, subject to a minimum risk weight of 300% should be used to measure capital at risk (as proposed in Basel II).

3.4 Market Risks and Rate of Return Risks

The techniques of market risk measurement in the trading books of Islamic banks should be broadly identical to those in conventional banks. The trading book, in Islamic banks, however, is likely to be limited to traded equities, commodities, foreign exchange positions, and increasingly various forms of *sukuks*. A large share of assets of Islamic banks consist of cash and other liquid assets, with such short-term assets typically exceeding short-term liabilities by a large margin, in part reflecting the limited availability of Shari'ah-compatible money market instruments.

Against this background, exposure to various forms of market risk can be measured by the traditional exposure indicators such as:

- Net open position in foreign exchange.
- Net position in traded equities.
- Net position in commodities.
- Rate-of-return gap measures by currency of denomination.
- Various duration measures of assets and liabilities in the trading book.

Most Islamic banks compute and often disclose the liquidity gap measure—the gap between assets and liabilities at various maturity buckets—and hence the computation of the rate-of-return or repricing gap should be fairly straightforward.

More accurate duration gap measures may also be available in some banks. (For a discussion of gap and duration measures and their availability in banking statistics, see the IMF's *Compilation Guide For Financial Soundness Indicators*, 2004). Duration measures are important indicators of financial soundness, but they are not readily available in many banking systems. The impact on earnings of a change in the exchange rate, equity price, commodity price, or rates of return can be directly obtained by multiplying the appropriate gap (or other exposure indicators) by the corresponding price change. Such a simple approach will not, however, suffice to compute the impact of changes in interest rates on equity type exposures of fixed maturity (such as *mudharaba* and *musharaka*). The impact of changes in the rates of return on the expected rate of profits (i.e. *mudharaba* and *musharaka* income) needs to first be computed, or equivalently the equity exposures should be adjusted by a multiplicative factor (that a supervisor can specify), before computing gaps in each maturity bucket. In the presence of longer maturity assets & liabilities, changes in the present value of assets (in the sense of a discounted value of projected future cash flows) due to shifts in rates of return are a more accurate measure of market risk than the estimated change in earnings in a reference period. This can be calculated using various duration gap measures.⁹

⁹See Baldwin (2002) for a discussion of duration measures in Islamic banking.

Such gap measures may not, however, capture the maximum losses that could occur (at some probability level), particularly in Islamic banks. They do not properly recognize other market-related risks that arise from changes in the spread over benchmark rates, or twists in the yield curve, or shifts in market volatility, which could affect potential losses. For these reasons, market risk is commonly measured by various value-at-risk (VAR) measures. This is particularly important, given the likely importance of equities and commodities in Islamic bank balance sheets, which have the potential to cause large losses.

For example, for both commodities and equities, the VAR based on a 99% confidence level (one-sided confidence interval) can be computed. The VAR can be based on quarterly equity returns (*mudharaba* or *musharaka* profit rate) net of a risk free rate, or quarterly or monthly changes in commodity prices. In most Islamic banks, the rate-of return risk in the banking book is likely to be much more important than the market risk in the trading book. The rate-of-return gap and duration gap applied to the banking book provides measures of exposures to changes in the benchmark rates of return, and the impact of these changes on the present value of bank earnings.

For example, a simple stress test of applying a 1% point increase in the rates of return on both assets and liabilities maturing, or being reprised, at various maturity buckets yields a measure of potential loss (or gain) due to a uniform shift in term structure of the rate of return. Alternatively, the impact on the present value of earnings of shifts in the rate of return can be calculated directly from the duration measures:

$$\text{Impact of change in rate of return} = (D_A - D_L) \Delta i_r$$

where:

D_A = duration of assets

D_L = duration of liabilities

Δi_r = change in rate of return

Another important source of risk is the possible loss due to a change in the margin between domestic rates of return and the benchmark rates of return (such as LIBOR) which may not be closely linked to the domestic return. Many Islamic banks use an external benchmark such as LIBOR to price the mark-up in *murabaha* contracts, which in part reflects the lack

of a reliable domestic benchmark rate of return. If domestic monetary conditions change and require adjustments in the returns on deposits and loans, but the margin between external benchmark and domestic rates of return shift, there could be an impact on asset returns. This is a form of “basis risk” that should be taken into account when computing the rate of return risk in the banking book (and also market risks). The existence of this basis risk highlights the importance of developing a domestic rate of return benchmark so that both deposits and assets can be aligned to similar benchmarks.

3.5 Liquidity Risks

This risk is interpreted in numerous ways such as: extreme liquidity, the availability of liquid assets to meet liabilities, and the ability to raise funds at normal cost. This is a significant risk in Islamic banks, owing to the limited availability of *Shari’ah*-compatible money market instruments and LOLR facilities. The standard measure of liquidity risk is the liquidity gap for each maturity bucket and in each currency. The share of liquid assets to total assets or to liquid liabilities is also a commonly-used measures. While the availability of core deposits which are rolled over, and not volatile, provides a significant cushion for most Islamic banks, the remaining volatile deposits cannot be readily matched with short-term liquid assets, other than cash and other low-yielding assets.

In addition, specific aspects of Islamic contracts can increase the potential for liquidity problems in Islamic Banks. These factors include: cancellation risks in *murabaha*, the *Shari’ah* requirement to sell *murabaha* contracts only at par, thereby limiting the scope for secondary markets for sale based contracts, the illiquidity of commodity markets, and the prohibition of secondary trading of *salam* or *istisna’a* contracts.¹⁰

3.6 Operational Risks

This is defined as “the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This includes legal risk, but excludes strategic and reputation risk”.¹¹ Such risks are likely to

¹⁰See Syed Ali 2004.

¹¹Basel II, paragraph 644.

be significant in Islamic banks due to specific contractual features and the general legal environment. Specific aspects that raise operational risks in Islamic banks include the following: (1) The cancellation risks in non-binding *murabaha* and *istisna'a* contracts, (2) problems in internal control systems to detect and manage potential problems in operational processes and back office functions, (3) technical risks of various sorts, (4) the potential difficulties in enforcing Islamic Finance contracts in a broader legal environment, (5) the risk of non-compliance with *Shari'ah* requirements that may impact on permissible income, (6) the need to maintain and manage commodity inventories often in illiquid markets, and (7) the potential costs and risks in monitoring equity-type contracts and the associated legal risks. In addition, increasing the use of structured finance transactions—specifically, the securitization of loans by banks to manage risks on the asset side—could expose banks to additional legal risks.

The three methods of measuring operational risks proposed in Basel II would need considerable adaptations in Islamic banks owing to the specificities noted earlier. The use of gross income as the basic indicator for operational risk measurement can be misleading in Islamic banks, insofar as a large volume of transactions in commodities, and the use of structured finance raise operational exposures that are not captured by gross income. In contrast, the standardized approach that allows for different business lines is better suited, but still needs adaptation to the needs of Islamic banks. In particular, agency services under *mudaraba*, the associated risks due to potential misconduct and negligence, and the operational risks in commodity inventory management, all need to be explicitly considered for operational risk measurement.

4. Overall Risks of an Islamic Bank and Approaches to Risk Mitigation

Potential losses due to each category of risk can be quantified and aggregated to derive the total impact of the different risks, and to examine the adequacy of capital to absorb these risks. However, it is unlikely that the unexpected losses will exceed their upper bounds at the same time for different types of risk, and the arithmetic total of individual risks will be

an overestimate of the aggregate VAR for the bank as a whole. Such an aggregate VAR is, however, important when informing investment account holders of Islamic banks, who are expected to share in the overall risks. An overall risk measure can be obtained from a historical distribution of earnings, and calculating earnings volatility, as discussed.

A key issue for Islamic banks is to manage the risk-sharing properties of investment accounts- both restricted and unrestricted- in order to mitigate some of the risks to shareholders. Thus, in addition to collateral, guarantees, and other traditional risk-mitigants, the management of risk-return mix, particularly of unrestricted investment account holders, can be used as a key tool of risk management. Appropriate policies toward profit equalization reserves (and possibly investment risk reserves) coupled with appropriate pricing of investment accounts to match the underlying risks, would improve the extent of overall risk sharing by these accounts. Under current practices, reserves are passively adjusted to provide a stable return to investment account holders, effectively not allowing any risk mitigation through investment account management. For example, many banks with sharply divergent risk profiles and returns on assets, seem offer almost identical returns to investment account holders, that are broadly in line with the general rate of return on deposits in conventional banks. These relationships are empirically analyzed using data from a sample of 14 Islamic banks in 8 countries (and for two time periods for each bank). A simple correlation analysis of data on the net return on assets (RA-SP), return on equity (RE), return to investment accounts (RIA), general market return on deposits, and capital to asset ratio, suggests that (see Charts 1, 2, 3, and 4, Appendix 1):

- Returns on investment accounts are uncorrelated with net returns on assets, as well as returns on equity. This is in contrast to a positive & significant relationship that would be expected if the return on assets were shared between investment accounts and bank owners, without adjustments in various reserves.
- Returns on investment accounts are significantly and positively correlated with general market returns on deposits. This suggests a significant reliance on profit equalization reserves (and investment risk reserves) in order to align the returns on investment accounts with market rates.

- Returns on equity are strongly and positively correlated with net returns on assets.
- Multiple regression analysis of return on investment accounts and its determinants (Table 1) shows that returns on investment accounts are significantly and positively related to market return on deposits, even after taking into account any sharing of returns with equity holders. Surprisingly,
- however, higher (or lower) net returns on assets, for any given level of deposit rates and capital asset ratios, seem to reduce (increase) the returns on investment accounts, with the change in the asset returns being absorbed by adjustments in the returns on equity.

Thus the evidence is consistent with a significant amount of return smoothing, and a significant absorption of risks by bank capital (and thus, only a limited sharing of risks with investment accounts). This raises a broader issue of how best to empirically measure the extent of risk sharing between unrestricted investment accounts and bank capital. A specific framework for such measurement, based on Value-at-Risk (VAR) methodology is suggested in the Appendix to this paper.

Effective investment account management would, however, require the disclosure of overall risks that these account holders (and share holders) face, and offering them a range of products with different risk-return combinations. This in turn would require the more active management of assets, with a greater reliance on securitizing loans originated by banks and trading these loans in the market to match the risk and maturity profile of assets with risk and maturity profile of liabilities.

Such on-balance sheet risk management based on securitization would seem a more feasible alternative for Islamic banks than the use of derivatives and other more standard off-balance-sheet risk management tools that are available for conventional banks. This is because, *Shari'ah*-compatible futures, options, and swap markets are not yet available, and could take time to develop. Thus new product innovations, based on innovative uses of Islamic asset securitization, would facilitate the development of products with specific risk return combinations for restricted investment accounts and the better control of the risks in unrestricted investment accounts.

Another challenging issue for Islamic banks is to recognize the specific bundling of risks in individual facilities and the associated correlation

among risks, and price the risks for each facility in a centralized and integrated manner. For example, *murabaha* and *salam* facilities have a mix of operational risks, credit risks, and commodity price risks, and these should be estimated and aggregated at the facility level in order to accurately price the facility. The aggregation of all different risks—by type of risks—is important to ensure the adequacy of capital and the effective control of different types of risks.

5. Disclosure Regime for Islamic Banks

The discussion above suggests that both aggregate measures of value-at-risk for banking organization as a whole, as well as measures of specific types of risks need to be measured and disclosed. For comparison, Table 2 provides a summary of current disclosure practices of a sample of 15 Islamic banks, based on the published annual reports.

The disclosure practices of Islamic banks are highly varied and the supervisor's authority to impose disclosure norms is highly varied. Nevertheless, the AAOIFI Financial Accounting standards (FAS)—in particular FAS No. 1, which establishes the content of financial statements to be published—provide a sound basis to further develop prudential disclosures. Further developments should have two key purposes:

- Develop consumer-friendly disclosures to inform investment account holders of the inherent overall risks they face, and the related reserving policies.
- Develop market-oriented disclosures to inform the public, particularly professional counterparties including regulators who will require details that are not publicly disclosed, of capital, risk exposures and capital adequacy, along the lines of Pillar III of Basel II.

The current AAOIFI standards and the supervisory disclosure rules do not cover the quantitative risk measures of the type discussed in Section 3. The development of new disclosure standards particularly on credit risk and equity risk exposures would, however, require significant developments

Table 2 Disclosure Practices of Islamic Banks

<i>Items of disclosure</i>	<i>Comments</i>
Risk management framework and practices	Disclosures are presented at a very general level. Occasionally the existence of specific committees, such as the ALM committee is mentioned.
Classification of facilities by asset quality and data on NPLs	All banks disclose the classification of facilities by supervisory categories such as current, sub-standard, etc. Only some banks (30%) disclose NPLs. Only one bank mentioned the use of an internal rating system.
Specific provisions	Most banks (94%) disclose this as a total. Provisions as % of assets varied from less than 1% to 6%. Only some banks (30%) disclose the provisions classified by facilities.
Sectoral distribution of credit and connected exposures	Many banks (66%) disclose this.
Large exposures	Very few banks (6%) disclose this.
Capital adequacy	All banks disclose capital asset ratios—ranging from 2.5% to 38.4%; while many (66%) disclose regulatory capital to risk weighted assets
Value-At Risk (VAR)	None disclose this; One bank reported using VAR. Liquidity ratios All banks disclose various liquid asset ratios. Ratio of liquid assets to short term liabilities ranged from 13% to 144%.
Maturity gap	Many banks (64%) disclose gaps at various maturity buckets.
Deposit composition: share of investment deposits to total deposits	Generally disclosed, ranging from 0% to 95%, with some banks (36%) reporting no investment deposits.
Share of equity type assets to total assets	Generally disclosed. Share of equity varied from less than 1% to about 23%, with significant year-to-year changes in some banks.
Return on assets	Generally disclosed; large variation from 0.5% to 4.3%.
Return on equity	Generally disclosed; large variation from 0.7% to 58%.
Return on unrestricted investment deposits	All banks disclose this, with returns that range from 1.45% to 16.35%, depending on the country and bank.
Commodity inventories	Only some (30%) disclose this.
Return on restricted investment deposits	Very few (only one bank in the sample) disclose this.

(Contd.)

Table 2 (Continued)

<i>Items of disclosure</i>	<i>Comments</i>
Profit equalization reserves	Some banks disclose (30%) this.
Net open position in foreign exchange	Many banks (66%) disclose; the ratio as % of capital varied from 0 to 100%.
Foreign currency liabilities to total liabilities	Many (66%) disclose this; the ratio varied from 0 to 100%.
Net position in equities to capital	Generally disclosed, with ratio ranging from 0% to 4%.
Gross income to assets	All disclose, varies from 1% to 8%.
Personnel expenses to total assets	All disclose, varies from 30% to 65%.
Operational expenses to total assets	All disclose, varies from less than 1% to 5%.

Source: Based on the annual reports of 15 sample banks covering the years 2002 and 2003; percentages of sample banks that disclose a particular item are shown in parenthesis.

of the databases to calculate the underlying parameters, such as the PD, LGD and EAD, and VAR measures at both aggregate and disaggregated levels. While the data for market risks can be built by individual banks over time, databases for credit risk measures can benefit from cooperative approaches among Islamic banks. In particular, cooperative approaches, coordinated by supervisory authorities, to build credit registries for Islamic finance facilities, or include Islamic finance data in existing credit registries, could lead to better credit risk measurement, and facilitate the adoption of core elements of Basel II. In some countries with Islamic banks, the central banks operate public credit registries to support their supervision functions, but the extent to which Islamic facilities can be separately identified in the registries is not clear. (For a survey of credit reporting systems around the world see Miller, 2003.)

There is an increasing recognition that the credit registries with appropriate modifications in their data content could facilitate systematic credit risk measurements. Artigas (2004) discusses the type of data that is needed in credit registers to make them useful for strengthened credit risk measurement as envisaged under Basel II.

A work program that emphasizes market discipline (Pillar III) and core elements of supervision (Pillar II), both adapted to facilitate better risk management by Islamic banks, is the first step before planning the

adoption of more advanced capital measurement approaches of Basel II. Giving priority to the phasing of consumer and market disclosures would be an appropriate initial step in such a transition. Strengthening the supervisory review process (Pillar II) would require a strategy to achieve compliance with Basel Core Principles. This is also an essential step to encourage improved risk measurement and disclosure. In many countries with Islamic banks, available information on compliance with Basel Core Principles seems to suggest that the disclosure requirements for banks—relating to risk management processes and detailed risk exposures—need strengthening. Moreover, the introduction of charges for market risks is relatively recent, and the supervision of market and other risks is still under development.

6. Summary and Policy Conclusions

The application of modern approaches to risk measurement, particularly for credit risks and overall banking risks, is important in Islamic finance for at least four reasons:

- To properly recognize the unique mix of risks in Islamic finance contracts.
- To ensure the proper pricing of Islamic finance facilities, including returns offered to investment account holders.
- To manage and control various types of risks.
- To ensure the adequacy of capital and its effective allocation, according to the risk profile of the IFSI.

The preliminary review of current state of financial reporting and disclosure in IFSI's suggests that in the future data compilation would need to be systematic to measure credit and equity risks with some of accuracy. The same applies to many conventional banks, but the need to adapt new measurement approaches is particularly critical for Islamic banks for several reason: (1) the important role of investment account holders, (2) the unique mix of risks in Islamic finance contracts, and (3) the need to more actively use security markets and securitization products for risk management.

For these reasons, it is important to have rapid progress in consumer-friendly disclosures to inform investment account holders of the risk-return mix they face, and market-oriented disclosures to inform markets of capital adequacy, risk exposures and risk management.

In addition, managing the risk-sharing property of investment accounts through proper pricing, reserving, and disclosure policies would greatly enhance risk management in Islamic finance. This requires the measurement and disclosure of aggregate value at risk of *mudaraba* income in the consolidated balance sheet of IFSIs, and the greater use of asset securitization in order to offer assets of specific risk return characteristics to investment account holders. A measure of the extent to which the risks to shareholders are reduced on account of risk-sharing with investment account holders should be the basis of any capital relief or lower risk weights on the assets funded by investment accounts. For example, the proposed capital adequacy standard for Islamic banks (IFSB 2005b) calls for supervisory discretion in determining the share “ α ” of risk-weighted assets funded by PSIA that can be deducted from the total risk-weighted assets for the purpose of assessing capital adequacy. This share “ α ” represents the extent of total risk assumed by the PSIA, with the remainder absorbed by the shareholders on account of displaced commercial risk.

These observations suggest several policy and operational considerations and proposals:

- The appropriate measurement of credit and equity risks in various Islamic finance facilities can benefit from systematic data collection efforts, including by establishing credit (and equity) registries. Such registries for Islamic finance facilities can be developed by including data on Islamic finance contracts in existing credit registries, or by developing registries specifically for Islamic contracts. Such efforts are a useful first step towards the adoption of prudential standards for Islamic finance; the latter, in turn, is based on adaptations of a new Basel capital accord to incorporate the specific features of Islamic finance, and serve as a transitional step toward more advanced capital measurements in due course.
- IFSIs require centralized and integrated risk management that helps control different types of risks, while allowing disaggregated risk

measurements to price specific contracts and facilities, including the risk-return mix offered to investment account holders. This integrated approach to risks needs to be supported by appropriate regulatory coordination and cooperation among banking, securities and insurance supervisors.

- IOSCO Securities Regulatory Principles and Basel Core Principles for Effective Banking Supervision should be adapted to the specifics of Islamic finance, by issuing additional guidelines and guidance on specific issues. Fully implementing these Core Principles in the context of Islamic finance is critical to more advanced risk and capital measurement approaches and associated disclosures.
- Given the special nature of investment accounts, with its links to return on assets, fostering adequate Asset Liability Management—ALM is critical. In the absence of hedging instruments and rate of return benchmarks, effective ALM requires appropriate development of asset securitization, promoting Islamic Money markets through innovative uses of such securitization, and establishing benchmark rates of returns through effective monetary operations.
- The financial system infrastructure needs to be strengthened in order to provide the foundations for market development and to facilitate effective risk management: first, capital markets need to be fostered with an emphasis on asset securitization, by developing the needed preconditions that relate to governance, accounting, and creditor rights. This would facilitate the securitization of bank loans, and the development of investment–account products as claims on securitized asset pools. The risk levels on such securitized asset pools can be closely managed and made transparent. At the same time Islamic money markets and systemic liquidity arrangements should be strengthened, based on innovative uses of asset securitization.
- The disclosure regimes for IFSIs need to become more comprehensive and transparent, with a focus on disclosures of risk profiles, risk-return mixes and internal governance structures. This requires coordination of supervisory disclosure rules and accounting standards, and the proper differentiation between consumer-friendly disclosures to assist investment account holders, and market-oriented disclosures to inform markets.

- The supervisory review process should monitor and recognize the actual extent of risk-sharing by investment account holders in assessing capital adequacy, and thereby encourage more effective and transparent risk-sharing with investment account holders. The disclosure of risks borne by PSiAs and shareholders should be a requirement for granting capital relief on account of PSiAs. The measurement of these risks, and the estimation of appropriate capital relief can be based on the VAR methodology, as discussed in the Appendix.

Appendix

Measurement of Mudharaba Profits and Calibrating Risk-sharing between Investment Account Holders (IAHs) and Bank Owners—A VAR Methodology

Accounting definitions

The relationship between *mudharaba* income and overall returns on bank assets is based on available accounting standards. Drawing on this relationship, a methodology is devised to measure the risks that investment account holders face, and the risk sharing between bank owners and investment account holders.

According to the Financial Accounting Standards Number 6 (FAS 6) of the Accounting and Auditing Organization of Islamic Financial Institutions (AAOIFI), when a bank commingles its own funds ($K = \text{Capital}$) with *mudharaba* funds ($DI = \text{unrestricted investment deposits}$), profits are first allocated between the *mudharib's* funds and the funds of the investment account holders. The share of the Islamic bank as a *mudharib* for its work is deducted from the share of the profits of the investment account holders.

In addition, the FAS 6 states that profits of an investment that is jointly financed by an Islamic bank and unrestricted investment account holders shall be allocated between them according to the contribution of each of the two parties in the jointly financed investment. The allocation of profits based on percentages agreed upon by the two parties is also juristically acceptable, but the standards call for proportionate contribution.

The minimum standard to calculate the rate of return – specified by Bank Negara Malaysia in the “Framework of the Rate of Return” (2001 and 2004) calls for the share of profits to depositors (and to the Bank as *mudharib*) be uniform across banks as specified in the framework documents, and provides a uniform definition of profit and provisions to ensure a level playing field. Profit is defined as income from balance sheet assets plus trading income minus provisions, minus profit equalization reserves, minus the income attributable to capital, specific investments, and due from other institutions. This is the *mudharaba* income (RM) distributable between investment depositors and the bank (as *mudharib*). Provisions are defined as general provisions plus specific provisions and income-in-suspense for non-performing facilities. The framework then distributes *mudharaba* income between depositors and bank as *mudharib* and then by type and structure of deposits.

In addition, both AAOIFI standards and the rate of return framework of BNM recognize profit equalization reserves and investment risk reserves. Profit equalization reserves (R_p) refer to accounts appropriated out of gross incomes in order to maintain a certain level of return for depositors. This is apportioned between investment account holders and shareholders in the proportion that applies to the sharing of profits. Investment risk reserves are reserves attributable entirely to investment account holders, but maintained specifically to equalize rates of return over time.

Measuring Risks in Investment Accounts and Risk Sharing

Measuring risks and risk sharing based on these definitions, *mudharaba* profit (RM) can be written as (ignoring investment risk reserves for simplicity).

$$R_M = A(R_A - S_p) - AR_p - K R_K$$

Where:

R_A = return on assets,

R_p = profit equalization reserves (as a % assets).

S_p = provisions as a % of assets.

R_K = returns on capital assigned for the purpose of computing distributable *mudharaba* income.

The rate of return for investment account holders (RI) can then be calculated by applying the agreed share on *mudharaba* income.

$$R_I = \alpha RM/DI = \alpha [A (R_A - S_p - R_p - K R_K)] / DI \quad (1)$$

The total return on capital can be calculated to ensure that total income accruing to the banks' own funds—equal to the assigned return on capital plus income earned as a *mudharib*—provides, as required, a return on equity of R_E .

$$R_E = (1-\alpha) RM/K + R_K \quad (2)$$

Combining (1) & (2)

$$R_I = \frac{A(R_A - S_p - R_p) - KR_E}{DI} \quad (3)$$

$$R^K = \frac{1}{\alpha} R_E - \frac{(1-\alpha)}{\alpha K} (R_A - S_p - R_p) \quad (4)$$

$$R_E = \frac{A(R_A - S_p - R_p) - DI \times R_I}{K} \quad (5)$$

The risk in investment deposit returns can be calculated based on the variance of RI.

$$\begin{aligned} \text{VAR}(R_I) = & (A/DI)^2 [\text{VAR}(R_A - S_p) + \text{VAR}(R_p) \\ & - 2\text{Cov}(R_A - S_p, R_p)] + (AK/DI)^2 \text{VAR}(R_E) \end{aligned} \quad (6)$$

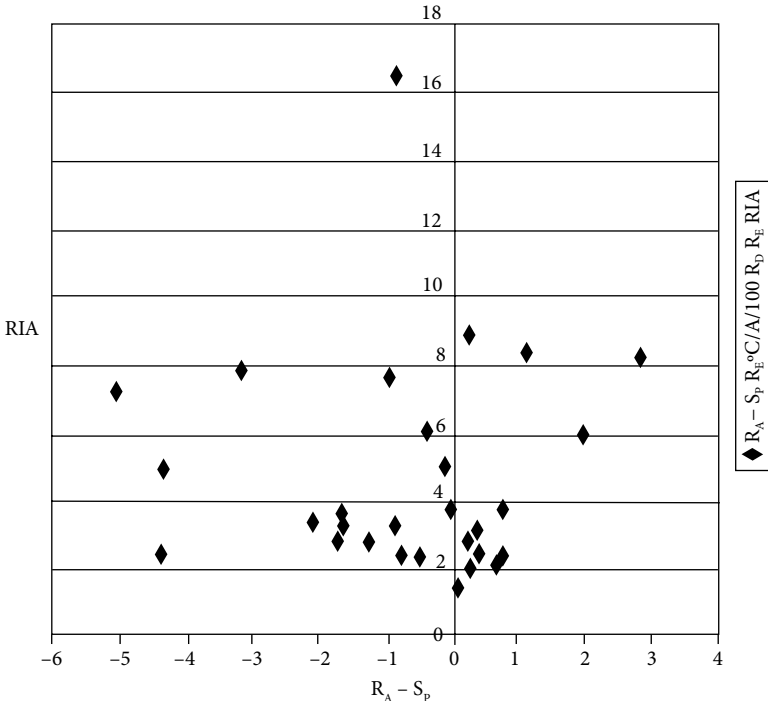
Similarly, the risk in the returns to capital can be computed by calculating the variance of R_E and its components based on equation (4).

Thus, the true risk for investment depositors is given by equation (6), while the actual risk in any one period can be further dampened by setting aside investment risk reserves—treated as equity of investment account holders—to smooth the returns over time. The choice of the level of R_p and the assigned return on capital R_K will redistribute the returns between investment depositors and bank owners; the policy on profit equalization reserves—reflected as the correlation between R_{AS_p} and R_p —will also impact the level and distribution of risk to investment depositors and bank owners. Investment risk reserves will provide an additional mechanism to smooth the returns and redistribute the risks on investment accounts.

In the above framework, the returns to equity owners are assumed to equal a desired target level, which varies depending on the level of risks, and market returns on alternative investment opportunities. Thus, the risks to returns on investment accounts—*mudharaba* risks summarized in equation (6) above—is a function of three components: 1) aggregate banking risks given by the variability of net returns on assets ($R_A - S_p$), 2) bank policies that determine the variability of profit equalization reserves and their correlation with net returns on assets; and 3) the variability of the desired return on equity. This variability is assumed to be exogenous and uncorrelated with specific asset returns (admittedly an unrealistic assumption, used only to simplify the presentation).

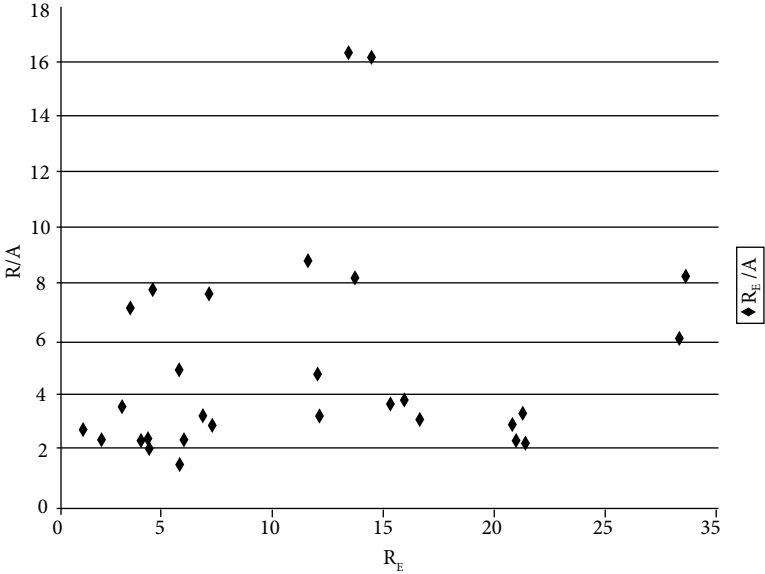
Using this framework, the sharing of risk—‘risk’ defined as unexpected losses (UL), measured by a profit-at-risk measure as illustrated in

Figure 1 Net Return on Assets ($R_A - S_p$) against Return on Investment Accounts (RIA)



Note: Correlation Coefficient = 0.0251, not significantly different from zero.

Figure 2 Return on Equity (RIE) against Return on Investment Accounts (RIA)



Note: Correlation Coefficient = 0.179, significantly different from zero.

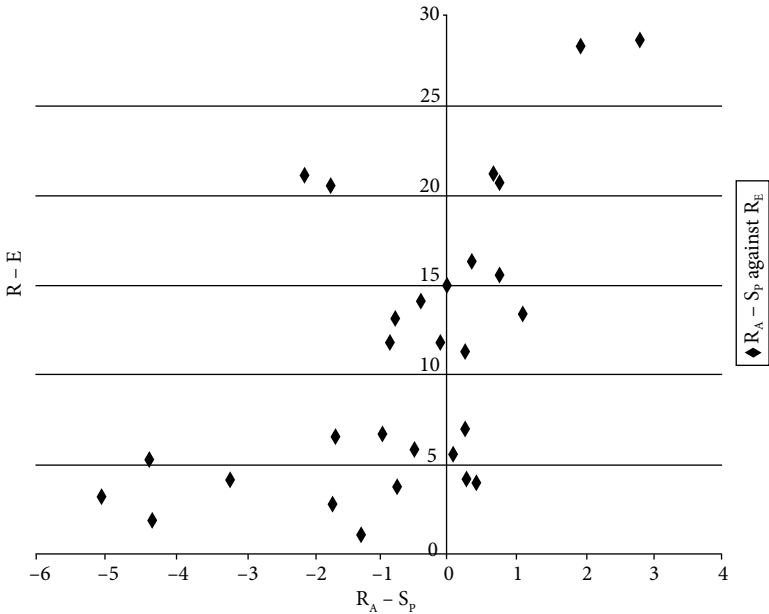
Section III A of the text—between account holders and owners can be calculated as follows:

First, at a given probability level the unexpected losses, UL_0 on the total return to capital (R_E) can be calculated, assuming that the returns on investment accounts R_I is determined based on market returns independent of bank income, as in conventional banks. Then at the same probability level, unexpected losses UL_1 , on the total returns to capital can be computed assuming that R_I is allowed to share in the bank’s profits & losses based on a set of policies that govern profit equalization reserves, assigned return to capital, investment risk reserves, and other market considerations. In practice, both UL_0 and UL_1 can be computed based on historical data that reflect actual policies, the actual return experience of investment accounts and general market rates of return.

Risks transferred to investment account holders (UL_D) can then be measured as:

$$UL_D = UL_0 - UL_1$$

Figure 3 Net Return on Assets ($R_A - S_p$) against Return on Equity (R_E)



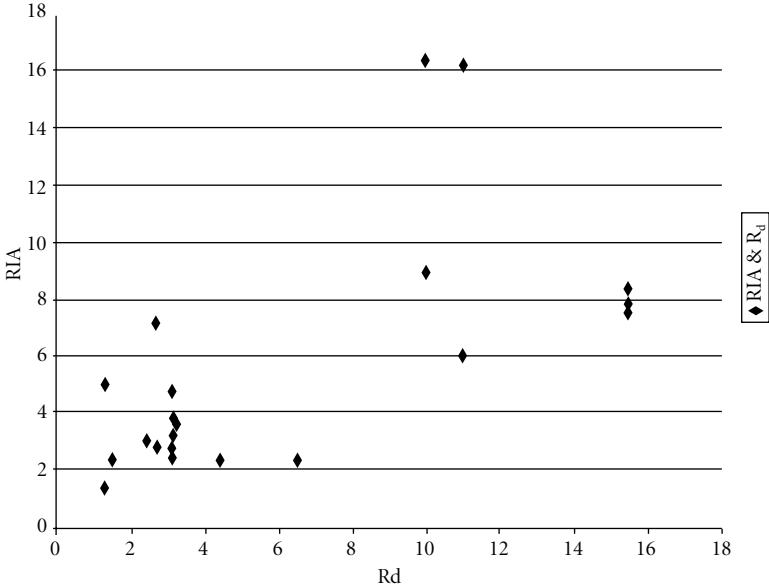
Note: Correlation Coefficient = 0.580, significantly different from zero.

This measure of risk transfer (UL_D) can form the basis to define the risk weight adjustment (the share “ α ” in the IFSB capital adequacy formula, IFSB 2005b) for the assets backed by investment accounts in the capital adequacy calculation for Islamic banks.

**Determinants of Return on Investment Accounts:
Some Evidence**

Data on the returns to investment account holders (RIA), gross returns on assets (R_A), specific provisions as a percentage of assets (S_p), returns on equity (R_E), capital-to- asset ratio (C/A), shares of investment deposits in total deposits (IAD/TD) and profits equalization reserves as a percentage of assets (PER) were collected for 16 Islamic banks in 9 countries for selected time periods. In addition, data was compiled on the market rate on deposits (R_d) including those for conventional banks, and the rate of

Figure 4 Return on Investment Accounts (RIA) against General Market Deposit Rate (R_d)



Note: Correlation Coefficient = 0.654, significantly different from zero. With t-statistics of 4.487; An increase in market deposit rate of 1 percentage point leads to an increase in investment account return of 0.5 percentage points.

inflation (π) in the respective periods in the countries where the Islamic banks are located.

This data is used to examine the relative impact of bank specific and general economic conditions on the determination of returns on investment accounts. The regression analysis noted below is based on data for only 14 banks in 8 countries because of missing data.

Simple correlations among RIA, $R_A - S_p$, R_E , and R_d are presented in Figures 1–4.

The multiple regression analysis of the determinants of RIA, based on equation (3) above is presented in Table 1. The evidence, overall, confirms the hypothesis that returns on investment accounts are mainly driven by general market returns on deposits, and that bank equity generally absorbs the risks due to the variability of net returns on assets, resulting in a significant smoothing of returns or only limited risk sharing with investment accounts.

Therefore, the proposals for capital relief on accounts of risk sharing with investment accounts need to be sharpened by linking actual capital relief to the actual extent of risks shared with investment accounts. Establishing such a link would require a supervisory review process that verifies the extent of risks actually transferred to investment accounts, and a requirement to disclose the risk sharing as qualifying criteria to receive capital relief.

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5

A Note on Strengthening Liquidity Management of Institutions Offering Islamic Financial Services

*The Development of Islamic Money Markets*¹

Rationale for Islamic Money Market Development and an Overview of the Work of the ISDB Task Force

The Rationale for Islamic Money Market Development

The phenomenal growth in Islamic finance, especially in the last decade, has brought Islamic Financial Services Industries (IFSIs) into direct competition with their conventional counterparts in attracting individual savings and institutional funds. The investors, in return, expect their investments to have comparable liquidity and returns that are commensurate with risks. As fiduciary agents, IFSIs are naturally concerned to maintain adequate liquidity of their assets and to optimize profitability.

The success in developing IFSIs has spurred efforts to extend *Shari'ah*-compliant practices in other market segments, namely, *takaful* and

¹This chapter is an excerpt from the “Technical Note on Issues in Strengthening Liquidity Management of Institutions Offering Islamic Financial Services: The Development of Islamic Money Market,” March 2008. This note was prepared by Dr. Sundararajan and the Islamic Money Market Task Force. The Task Force had been asked to conduct a study on the existing practices and infrastructure of Islamic money markets across countries, and to propose a set of recommendations to address the impediments to the development of efficient Islamic money markets.

Islamic capital markets. With the establishment of IFSIs and *takaful*, the management of balance sheet liquidity becomes a major challenge due to the scarcity of both *Shari'ah*-compliant capital and money market instruments. The pressing need to address liquidity management for IFSIs prompted several countries such as Bahrain, Iran, Malaysia, and Sudan to introduce instruments that comply with the *Shari'ah* requirements. There are continuous efforts by both the central banks (money market) and securities commissions (capital market) to focus on the regulatory foundations and issuance of diverse *Shari'ah*-compliant financial instruments, ranging from short-term papers to long-term *sukuk*, to meet the liquidity and investment needs.

The average daily volume of interbank transactions in selected jurisdictions (shown in Table 1) indicates that money market transactions among IFSIs, between IFSIs and conventional banks, and between IFSIs and the central bank are very low compared to the trades in the conventional money market. Except for the Kingdom of Saudi Arabia, the data indicate that IFSIs are more inclined to transact with the central bank for their liquidity needs. The large differences in the rates of return between the Islamic money market and the conventional money market are indicative of the significant segmentation of the two markets in terms of instruments used, their tradability, and liquidity.

In most countries, efficient money and interbank markets for *Shari'ah*-compliant instruments have not yet developed, in part because available instruments are weak, and the number and size of IFSIs is small. These two factors have limited the liquidity in the money markets. Since IFSIs, unlike their counterparts, cannot borrow at interest rates that meet unexpected withdrawals from their depositors, it is more complex for them to manage mismatched asset and liability portfolios. However, the impact of mismatching may be mitigated insofar as the impact is shared with the Investment Account Holders (IAHs) under *mudarabah* arrangements. There have been several initiatives to promote money market transactions among the IFSIs, including the placement or acceptance of funds with their counterparts on a *mudarabah* basis, on a commodity *murabahah* basis, or on the basis of compensating balances.

However, in general, the way IFSIs have most commonly solved this problem is to maintain a larger amount of cash—excess reserve balances with the central bank—than would be the case with their conventional

Table 1 Average Daily Volume of Interbank Transactions (Unsecured Interbank Financing, REPOs, etc., of Less Than One Year Maturity in USD Millions) and Average Rates of Return on Transactions, 2006

	<i>Islamic Financial Services Industries (IFSIs)</i>						<i>Conventional Banks</i>			
	<i>With other IFSIs</i>	<i>Rate of return (%)</i>	<i>With conventional banks</i>	<i>Rate of return (%)</i>	<i>With central bank</i>	<i>Rate of return (%)</i>	<i>Rate of return (%)</i>	<i>With other conventional banks</i>	<i>Rate of return (%)</i>	<i>With central bank</i>
Indonesia	3.5	5.11	3	7.62	25	5.45	925	8.9	2,419	10.73
Malaysia ¹	2.69	3.47	NA	NA	778	3.36	928	3.51	2,443	3.46
Pakistan	0.03	8.75	1	10.22	NA	NA	548	9.28	97	9.02
Qatar	1,087	NA	1,709	NA	NA	NA	11,252	NA	NA	NA
Saudi Arabia	1,464	5.0	18,250	2.97	13	4.50	117,726	4.63	2,264	4.50
Singapore	NA	NA	NA	NA	NA	NA	3,400	3.44	1,600	3.27

Source: Data provided by country authorities.

Note: ¹ Excluding REPOs.

counterparts (see Table 2). This has adversely affected the profitability and competitiveness of IFSIs.

Table 2 shows that, on average, IFSIs maintain more excess reserves at the central banks (reserve deposits in excess of the required statutory amount) than conventional banks. This situation may be driven by the fact that it is more difficult for IFSIs to manage their liquidity positions owing to the limited availability of *Shari'ah*-compliant money market instruments in their jurisdiction. The size of excess reserves (as a percentage of deposits) of IFSIs declined between 2002 and 2006. This reflects the increased availability of *Shari'ah*-compliant instruments to manage liquidity. In the case of Malaysia (although separate data for IFSIs are not available), the development of a range of *Shari'ah*-compliant money market instruments has reportedly allowed IFSIs to effectively manage their excess reserve positions at levels that are similar to their conventional counterparts.

Several *Shari'ah*-compliant money and capital market instruments that can be used for both investment and liquidity management have

**Table 2 Excess Reserves as a Percentage of Total Deposits,¹
2002 and 2006**

	<i>IFSIs 2002</i> average (%)	<i>IFSIs 2006</i> average (%)	<i>Conventional</i> <i>banks 2002</i> average (%)	<i>Conventional</i> <i>banks 2006</i> average (%)
Indonesia	23.65	20.45	2.8	2.07
Iran	6.79	2.81	NA	NA
Malaysia ²	NA	NA	4.0	6.0
Pakistan	3.31	3.81	0.24	0.27
Saudi Arabia	6.95	5.06	2.52	2.38
Singapore	NA	NA	6.59	5.27
Sudan	7.4	7.0	NA	NA
Bangladesh	69.8	57.3	28.2	24.1

Source: Data provided by the country authorities.

Notes: ¹A standard definition of excess reserves is the amount of balances held with central banks (whether in two accounts or one account) area and above the statutory requirements. Excess reserves as defined above can never be zero, regardless of investment opportunities available, as banks will always need some balances to settle interbank payments on the books of the central bank. The more efficient and liquid the money market is, the less the level of working balances needed at the central bank. Banks with access to well-developed lender of last resort, and active money markets will keep less amount of cash in their current account held at the central bank.

²Excess reserves = (total statutory deposits with BNM – statutory reserve requirements) ÷ eligible liabilities.

been developed in recent years. IFSIs, central banks, and governments have been experimenting with asset securitization to develop *Shari'ah*-compatible instruments that can be traded. However, these instruments are relatively small in volume and are not yet suitable for flexible asset–liability management by IFSIs and monetary operations by central banks. The securitized products can then be sold to investors in the form of units or certificates. *Shari'ah*-compliant financial instruments such as funds in stocks, *mudarabah*, *musharakah* certificates, securities based on *murabahah*, and leasing-based financing contracts have been issued in Bahrain, Iran, Malaysia, and Sudan, and by the Islamic Development Bank (IDB). Although these instruments are tradable, the papers are generally bought to hold, rather than trade, because of their attractive yields and the general shortage of papers. Thus, liquidity is a problem; price determination and mark-to-market are difficult. This lack of market liquidity reflects the absence of program issues in sufficient volumes to generate liquidity. This factor is often seen as a major constraint in the development of Islamic financial markets.

While IFSIs could use these instruments for both investment and liquidity management, the central banks also need liquid money market instruments that can be used in monetary operations with IFSIs to control market liquidity. Such operations require *Shari'ah*-compliant money market and government finance instruments that can be used by IFSIs and central banks. This would enable central banks to exercise their responsibility for both monetary and financial stability more flexibly, by managing market liquidity more actively as well as providing emergency liquidity assistance at an appropriate price where necessary. The active use of such instruments by central banks for their monetary operations can then serve as a catalyst for their use by IFSIs, thereby stimulating active interbank money markets. Such operations by central banks are still not well-developed primarily because instruments and supporting infrastructure are inadequate. This has left some central banks with little or no alternative instruments to offer to their IFSIs.

The Role of the Money Market and the Consequences of Its Absence

The fast pace of growth in the Islamic financial services sector has highlighted the need to develop a well-functioning Islamic money

market, which is an essential precondition for the effective supervision, risk management of IFSIs, and the development of well-functioning capital markets. In particular, the existence of Islamic money markets and supporting infrastructure should create a more stable financial system and provide the basis for broad-based market development as follows:

- The pricing of banking and capital market products would be facilitated by establishing benchmark rates of return that are linked to domestic financial conditions. Currently, IFSIs have to rely on interest-based indices such as the London Interbank Offer Rate (LIBOR) to make financing decisions. Although benchmarking based on interest-based indices does not violate the principles of *Shari'ah*, IFSIs should have price investments and facilities based on the rate of return on capital in the national markets where they operate, and not on the opportunity cost of capital in unrelated outside markets. However, the absence or limited development of Islamic money markets and government borrowing instruments has prevented the emergence of benchmark rates of return in the national markets.
- By facilitating more efficient market-based monetary operations and the more effective management of market liquidity, the central bank can help to promote deep and liquid money markets at the national level as the first step toward regional and subsequent international integration of these markets. While the shape of such international money markets will ultimately depend on market forces, the coordinated and harmonized development of the instruments and liquidity infrastructure at the national level would both speed up the development of the markets and facilitate their international integration.

Insufficient progress in the above areas has led to the following consequences:

- *Lack of well-suited interbank instruments:* The most commonly used *Shari'ah*-compliant money market instruments are based on the *mudarabah* principle or links to commodity markets. As such, they are not well-suited for active interbank trading or for monetary and government finance operations. However, recent developments in

the domestic and international issuance of Islamic securities (based on the securitization of *Shari'ah*-compliant contracts) seem to offer a promising avenue for further progress.

- *Insufficient utilization of securitization techniques*: It is increasingly recognized that the situation of excess liquidity has discouraged commercial banks from the more active use of asset securitization techniques to manage the maturity and risk spectrum of assets and liabilities. Hence, the absence of money markets has tended to blunt the incentives to securitize assets and manage risks by trading in such assets to match the maturity and risks on the balance sheets.
- *Nonavailability of risk management instruments*: Alternative tools of risk management, based on hedging instruments, are still not widely available for IFSIs. The development of *Shari'ah*-compliant hedging instruments would require (i) active spot markets in commodities that are efficient, and (ii) the design of hedging contracts that are both *Shari'ah*-compliant and financially feasible. This will require the resolution of various legal, institutional, and accounting issues, and will necessarily take time. By pending the resolution of these issues, commercial banks should be encouraged to use asset securitization and to trade in securitized assets more actively to manage on-balance-sheet risks. Such a development, however, requires that the constraint on risk management posed by the absence of Islamic money markets be eased.
- *Lack of a comprehensive and integrated approach in the development of money and security markets*: Innovative applications of asset securitization have helped to bring about many Islamic capital market products. The same approach has the potential to promote active Islamic money markets and the establishment of benchmark rates of return, based on central bank operations in such markets. The realization of this potential, however, will require a comprehensive approach to develop money and security markets and mitigate the associated risks.

Functions of an IFSB Task Force: Its Work, Program, and Outputs

In the mid-2000s, the Islamic Financial Services Board (IFSB) charged a Special Task Force to focus on two components of the money market, namely, (i) the market for government and/or central bank securities, and

(ii) the interbank transactions of the IFSIs, and between the IFSIs and the central bank based on government and central bank securities.

The Task Force's intention was to encourage and facilitate liquidity management of IFSIs and monetary operations of the central bank using *Shari'ah*-compliant benchmark instruments of low risk. In this regard, the Task Force fully acknowledged the efforts of other international associations in developing product standards, standard documentation, and guidelines for IFSIs to manage their liquidity on the interbank/inter-IFSI market using various complementary instruments.

Systemic Liquidity Architecture and Infrastructure of IFSI: An Overview of Factors Affecting the Money Market, Including Legal and *Shari'ah* Issues

Overview of Factors Affecting the Money Market

Systemic liquidity infrastructure refers to “a set of institutional and operational arrangements—including the key features of central bank operations and of money/securities markets—that have a first-order effect on market liquidity and on the efficiency and effectiveness of liquidity management by financial firms.”²

The components of a systemic liquidity infrastructure can be grouped into the following four categories:

- Payment settlement/securities settlement systems;
- Monetary policy instruments, and monetary and exchange operations (lender of last resort, open market operations, etc.);
- Public financing and foreign exchange reserve management arrangements; and
- The microstructure of money, exchange, and securities markets.

These four infrastructure components are interlinked. The design and features of one component influences the design and features of other components. This necessitates a comprehensive approach to develop

²See Dziobek et al. (2000) and World Bank and International Monetary Fund (2005).

Islamic money markets. For example, the scope and structure of monetary and exchange operations by the central banks (to implement monetary and exchange policy) will affect the structure and liquidity of money and exchange markets, and vice versa. The operational features of monetary policy will depend upon the structure of money markets and the features of the payment system.

The development of market-based monetary operations, in turn, can have a first-order impact on the evolution and liquidity of money markets. These infrastructure elements taken together not only influence the day-to-day conduct of monetary, public financing, and fiscal policy, and the pace of development of money and securities markets, but also affect the profitability and efficient operations of financial institutions. In light of these linkages, strategies for the development of Islamic money markets and of monetary management arrangements with Islamic finance have to be addressed jointly.

The IFSIs and the supervisory authorities believe that the most important money market issues and challenges are the insufficient *Shari'ah*-compliant money market instruments in their jurisdiction. Most of the existing *Shari'ah*-compliant money market instruments are currently dominated by *mudarabah*-type instruments or those with linkages to commodity markets. These types of instruments and arrangements are not well suited for active secondary market trading, and hamper the development of the Islamic money market. A list of instruments and their characteristics are covered in the third section of this chapter.

The inadequate development of market-based monetary operations using *Shari'ah*-compliant tradable instruments, and limitations on the scope of lender of last resort (LLR) privileges with central banks (such as discount windows and Lombard facilities for day-to-day liquidity management of IFSIs), have also been perceived as significant constraints on Islamic money market development. In the case of central banks, the majority of supervisory authorities indicate that the currently available options for central banks to conduct effective open-market or open-market-type operations using *Shari'ah*-compliant tools are limited.

Background Laws, Shari'ah Issues, and Tax Considerations

Modifications to the existing laws to accommodate the specificities of Islamic finance are very crucial in developing Islamic money markets. In

this context, the Task Force found that almost all countries consider that amendments to the laws, particularly banking and securities laws, are important for a well-functioning Islamic financial services industry. In many countries, further development of trust and securities laws (e.g., to facilitate the operation of Special Purpose Vehicles [SPVs], Islamic asset securitization, and public debt laws) were considered essential to support the design and issuance of Islamic money and capital market instruments. The survey revealed that more than three quarters of the respondents had made some level of modification to laws related to central banking, banking, securities, insurance, and antimoney laundering to accommodate the specificities of Islamic finance. However, only a few countries have modified their trust and stamp duty laws to accommodate Islamic finance. In this regard, supplemental guidelines, such as guidance notes, circulars, conduct codes, etc., issued by the central bank or the Ministry of Finance (or jointly prepared with the private sector or through self-regulatory organizations [SROs] and industry associations) are considered important for effective development of the Islamic money markets.

The differing interpretations of *Shari'ah* rulings, or *fatawa*, on financial matters across jurisdictions has led to differing methods of structuring (or packaging) financial instruments and the nonvalidity (or nonrecognition) of some contracts (or terms of practice) in certain jurisdictions. Responses to the survey indicate that the most urgent *Shari'ah* issues are the sales of debt to a third party and securitization of receivables for debt trading (*bay'al-dayn*).

In general, *Shari'ah* permissibility of sale of debt, or *bay'al-dayn*, and purchase undertaking agreements is very limited. However, in most jurisdictions, contracts based on revenue sharing (as opposed to profit sharing), *floating ijarah* and *diminishing musharakah* are accepted as *Shari'ah* permissible. Responses also indicate that *Shari'ah* permissibility of other risk-mitigation instruments (in particular, derivatives) such as the Islamic profit rate swap, foreign exchange swap, forward (using the *salam* principle) swap, foreign exchange (using the *wa'd* principle), options (using the *urbun* principle), futures, and *bay'al-istijrar* is accepted by only half of the jurisdictions in the survey.

In addition to the broader legal framework, taxes and tax incentives can play big roles in supporting the development of the Islamic money market. The survey indicates that only a few countries have provided tax

incentives to help develop the Islamic money market and foreign exchange transactions. The survey also revealed that similar tax treatment is imposed on Islamic and conventional securities in the majority of jurisdictions. This is another disadvantage for Islamic money market development. The cost to issue a new Islamic instrument is higher than that for a conventional instrument, due to the various contracts required in order to fulfill the *Shari'ah* requirement. Nevertheless, only a few countries regard the costs of money market and foreign exchange-related issuance and trading as significant. However, since the decision on legal and tax structures depends on the individual government's policy and is beyond the power of central banks and supervisory authorities, this note does not cover, in detail, these legal, tax, and cost issues.

The Structure and Instruments of the Islamic Money Market and the Role of Monetary Operations

Structure of Islamic Money Markets

While the central banks, banking and near-banking IFSIs, *takaful* operators, and corporate end users are the major participants in the money and foreign exchange markets, the particular focus of this note is on interbank money markets, where liquidity is influenced by central banks through their monetary operations. Typical instruments of such interbank money markets are unsecured interbank placements and transactions in various tradable instruments. Several countries have adapted these instruments to meet the needs of the IFSIs by designing *Shari'ah*-compliant variants such as interbank *mudarabah* deposits, commodity *murabahah* arrangements, short-term *sukuk*, transactions in long-term *sukuk*, and, in a few countries, transaction in short-term *sukuk*.

Nevertheless, Islamic money markets remain thin, and in some countries, interbank markets do not exist for a variety of reasons. As a result, many IFSIs manage their liquidity by maintaining higher levels of excess reserves. Table 3 shows the end-period value of all Islamic and conventional money market instruments outstanding for 2004–06. Although small, compared to the conventional money markets, the growth of Islamic money markets has been encouraging.

Table 3 End-of-period Value of All Islamic and Conventional Money Market Instruments Outstanding for the Period 2004–06, (USD Millions)

	<i>Islamic</i>			<i>Conventional</i>		
	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>
Bahrain	37	168	107	509	577	803
Indonesia	NA	268	260	12,000	15,000	29,000
Kuwait	142	158	854	1,271	813	NA
Malaysia	29,347	36,688	44,866	84,956	89,388	91,872
Pakistan	6	11	143	10,534	92,944	11,775
Qatar ¹	900	936	3,129	4,768	7,840	11,252
Kingdom of Saudi Arabia	19,475	24,655	31,841	33,245	30,802	36,440
Singapore	NA	NA	NA	47,300	47,800	71,600

Source: Data provided by the country authorities.

Note: ¹Interbank transactions between Islamic banks and conventional banks through placements based on commodity *murabahah* contracts include transactions inside and outside Qatar.

Most countries already have the infrastructure components that are needed to support conventional money and foreign exchange markets.

This section highlights the development and issues that relate to monetary operations of central banks as the key infrastructure to support Islamic money markets. The active use of market-based monetary operations plays a key role in influencing the liquidity conditions in the market, and provides the incentives for the market participants to manage their liquidity and liquidity risks actively, which contributes to the development of Islamic money markets. Liquidity management instruments used by IFSIs will be discussed in the following section.

Instruments Used by IFSIs for Interbank Transactions and Liquidity Management

IFSIs' active treasury activities bring greater liquidity to the market. These activities can be carried out within a centralized or decentralized structure,

depending on the size of the IFSIs. In most of the jurisdictions, liquidity and funding management, as well as cash flow and cash position forecasting, are centralized across all business units.

The types of instruments used for managing liquidity vary among jurisdictions and differ among IFSIs. This note does not propose any specific types of instruments, but rather, highlights the use and design of major instruments in different jurisdictions from the perspective of Islamic money market development.

The availability of *Shari'ah*-compliant money market instruments is limited and highly varied among countries. Instruments such as commodity *murabahah*, interbank placement of funds under various profit-sharing arrangements, and Islamic mutual funds are the most commonly used instruments by IFSIs in many jurisdictions. The reliance on central banks for liquidity management is low since most short-term financing from central banks has not been adapted to comply with *Shari'ah* rules and principles. Islamic mutual funds, Islamic Government Investment Certificates, and short-term *sukuk al-ijarah* are most commonly cited money market instruments by central banks.

The reliance of IFSIs—mainly on interbank arrangements with other IFSIs—together with a limited use of special arrangements between IFSIs and conventional banks, confirms that the interbank money market is generally segmented, seen from the rate of return data in Table 1. This segmentation poses a challenge to the implementation of monetary policy and for the further development of a liquid market for Islamic money market instruments. Table 4 provides further explanation of selected instruments used by IFSIs in their interbank transactions with other IFSIs, or conventional banks.

Instruments Used by Central Banks and Governments

Central bank credit facilities

Standing credit facilities are aimed at providing short-term liquidity at the initiative of commercial banks, signaling the general stance of monetary policy and limiting the volatility in overnight market interest rates. The standing credit facilities provided by central banks can be in the form of a discount window (credit provided by discounting short-term paper or using long-term eligible collateral) and Lombard facilities (very

Table 4 Selected Money Market Instruments Used by IFSIs

<i>Instrument</i>	<i>1. Commodity murabahah</i>
Design	Interbank funds are used to execute a <i>murabahah</i> transaction in a commodity, with the proceeds (net of commissions) passed on to the bank that provides the fund. Another variation, used in the Kingdom of Saudi Arabia, is for a bank with surplus funds to buy metals (other than gold and silver) on the London Metals Exchange (or some other international commodity market) and then sell them the same day to a counterparty for a deferred payment at a price equal to the purchase price plus mark-up.
Country	Bahrain, Kingdom of Saudi Arabia, Qatar, Malaysia, Pakistan, Kuwait, and the UAE. Also used by SAMA and the Central Bank of Kuwait to manage liquidity in the market.
Features	Used by the majority of IFSIs. Such <i>murabahah</i> , even if standardized, are not tradable under <i>Shari`ah</i> rules. May carry some market risk in addition to counterparty risks, and are not flexible enough for monetary operations.
<i>Instrument</i>	<i>2. Interbank mudarabah investments</i>
Design	An investment facility where interbank placement of funds for a period ranging from overnight to 12 months produces returns based on an agreed profit ratio, with the formula for profit computation typically being based on that used for <i>mudarabah</i> investments of one year, or <i>mudarabah</i> investments of comparable maturity, in the bank receiving the interbank funds.
Country	Malaysia, Indonesia, and Bangladesh.
Features	Not easily tradable or trading is typically limited. Profit calculation that is based on <i>ex-post</i> does not provide clear rate of return signals for monetary policy. While the same procedure for profit calculation can be used for the provision of financing by the central bank, these investments are not well suited to absorb liquidity (central bank receiving funds from the IFSIs) by the central bank. Indonesia allows interbank <i>mudarabah</i> certificates to be issued by the receiving bank, but restricts their negotiability prior to maturity.
<i>Instrument</i>	<i>3. Compensating mutual balances</i>
Design	Exchange of interest-free deposits with arrangements to ensure that net balances average to zero in a defined period.
Country	Kingdom of Saudi Arabia and Kuwait.
Features	Returns on fund placement or financing not transparent.

short-term advances against collateral or based on REPOs to facilitate payment settlements).

Although most jurisdictions surveyed agree that the central bank's credit facilities, as LLR, are important for the development of the Islamic money market, the structure of these facilities varies across jurisdictions. In certain countries, the credit facility is provided in the form of commodity *murabahah* arrangements, arrangements whereby deposits are exchanged on a mutually offsetting basis, or money is temporarily accommodated on a free-of-charge basis. In others, central banks may provide credit with returns tied to *mudarabah* deposit rates of banks receiving credit, or may provide liquidity through buyback arrangements for specified *sukuk* held by the banks. These arrangements for central bank credit may not provide proper incentives for interbank/inter-IFSI markets to develop either because these arrangements are not sufficiently flexible (and banks still need to keep large excess reserves) or because the arrangement itself is making it more attractive (in terms of yields and transaction costs) to access the central bank credit than to approach the market. For these reasons, it is desirable to develop forms of *Shari'ah*-compliant alternatives to REPO (based on *sukuk*) or other forms of short-maturity transactions using tradable instruments that are more flexible, and that can be priced in relation to market returns at a level to encourage the development of Islamic money markets.

Central bank deposit facilities, required reserves, and excess reserves

Central banks in all jurisdictions impose reserve requirements on IFSI, but only half of the jurisdictions surveyed treat Project-sharing Investment Accounts (PSIAs) as liabilities on which reserve requirements are applied. Thus, in half the countries surveyed, PSIAs are excluded from cash reserve requirements, even though PSIAs are included as part of "broad money" (see Box 1). There are two methods used by the central bank to determine the method of reserve maintenance during the reserve-holding period (the period during which banks are required to hold an agreed level of reserves at central banks).

The first method is based on the period-average maintenance requirement, i.e., the level of required reserves is to be maintained as an average during a specified period (week, month, quarter) and are reset

Box 1 Central Bank's Standing Facilities for IFSIs in Various Jurisdictions**Kingdom of Saudi Arabia**

IFSIs have access to a REPO facility at the Saudi Arabia Monetary Agency (SAMA) based on the deposit collateral linked to a *murabahah* contract on commodities, which is described in Box 2. IFSIs can obtain up to 75 percent of such holdings, subject to offsetting the debit with credit balances in the cash management account of the bank with SAMA on a quarterly basis.

Pakistan

No special deposit facilities are available to banks in Pakistan (conventional or Islamic), other than current accounts to hold required and excess reserves. There are no returns on excess reserves. Conventional banks have access to a range of securities to hold their funds on a short-term or long-term basis, but the options for Islamic banks are limited.

While LLR facilities are available to conventional banks, these have not been adapted to suit the needs of Islamic banks in Pakistan.

Malaysia

No special deposit facilities are available to either conventional or Islamic banks in Malaysia, other than the current account for holding required and excess reserves. No returns are paid on excess reserves. A range of short-term securities—such as Islamic treasury bills, Islamic BNM notes, etc.—are available for IFSIs, similar to the case for conventional banks. BNM provides a deposit placement facility to IFSIs via a commodity *murabahah* transaction.

Several instruments are available to IFSIs that want to obtain financing from the central bank, including placements based on *wadī'ah*, *rahn*, or *mudarabah* principles, and through a sale-and-buyback facility on the underlying *sukuk*.

Bahrain

The special deposit facilities available to conventional banks are not available to IFSIs, since these are not *Shari'ah* compatible. Thus, IFSIs rely only on noninterest-bearing excess reserves held in their current accounts with the Central Bank of Bahrain. However, IFSIs have access to a range of *ijarah* and *sukuk al-salam* for their liquidity management.

Central bank financing through a *Shari'ah*-compliant alternative to REPOs is not yet available to IFSIs, as the approval from the Central Bank of Bahrain (CBB) *Shari'ah* Board is still pending.

(Contd.)

Box 1 (Continued)**Sudan**

No special deposit facilities are available to either conventional or Islamic banks in Sudan, other than the current account facilities to hold the required and excess reserves. No returns are paid on excess reserves. However, IFSIs have access to a range of *sukuks* available through auction in which they can place their surplus funds. Financing from the central banks is now made available through repurchases of *sukuks* and auctions of investment financing. The earlier method (of obtaining zero-cost financing for up to one week and then converting the balances into a *mudarabah* investment with banks) has been phased out with the availability of repurchases of *sukuk*.

Indonesia

IFSIs have an opportunity to place their excess liquidity in a Bank Indonesia *Wadiah* Certificate (SWBI)—an instrument issued by the central bank. The rate of bonus of the SWBI is the lower of the rate of return of the Islamic interbank money market and the rate of return of a *mudarabah* time deposit. The IFSI can obtain financing from the central bank through a short-term *Shari'ah* financing facility (FPJPS) for an Islamic bank based on a *mudarabah* contract. The FPJPS is guaranteed by the receiving bank with a high-quality and liquid collateral, the value of which shall be at least equal to the amount of the accepted financing.

Kuwait

Reverse *murabahah*-type contracts (*tawaruq*) are now routinely used by the Central Bank of Kuwait (CBK) as a means to absorb structural longer-term liquidity from Islamic banks. The provision and withdrawal of liquidity through such contracts are governed by a standardized agreement, preformulated with each counterparty. The short-term liquidity operations are facilitated through the exchange of deposits without any capital gains to either party; while Open Market Operations (OMOs) with conventional banks have been adjusted to take into account the limited supply of government debt through the issuance of bonds issued in the name of CBK, similar market operations with IFSIs are still under development.

Instruments similar to REPOs are not available in Kuwait. Islamic banks in Kuwait normally use an exchange of deposits with other Islamic banks. The CBK is in the process of specifying the creation of an SPV to assimilate the assets currently owned by the government and producer returns linked to the lease-back of such assets to specific government agencies. The SPV will issue *sukuk al-ijarah* (possibly for a three-year term, against which a net return is linked to a benchmark rate, equivalent to treasury bill/bond yields). The issuance of such instruments would facilitate OMOs with Islamic banks.

**Box 2 Kingdom of Saudi Arabian Monetary Agency *Murabahah* Program:
Structure of *Murabahah* Transactions**

The objective of the *murabahah* program is to enable domestic banks¹ to invest surplus liquidity with SAMA through the following mechanisms (see Figure 1):

1. The domestic bank buys aluminum from a commodity broker for, say SAR100 million equivalents for spot payment and spot delivery of the commodity.
2. The domestic bank sells the commodity to another bank (acting as a facilitator) for spot delivery and deferred/forward payment—say, one year.
3. The facilitator sells the commodity to the commodity broker for spot delivery and spot payment.
4. The facilitator pays the cash proceeds (SAR100 million equivalent) to SAMA.
5. SAMA issues confirmation advice to the domestic bank for payment of SAR100 million equivalent plus a premium on the maturity date.
6. Upon receipt of the SAMA confirmation, the domestic bank advises the facilitator accordingly.
7. This notification releases the facilitator from its obligation to the domestic bank under the *murabahah* transaction.

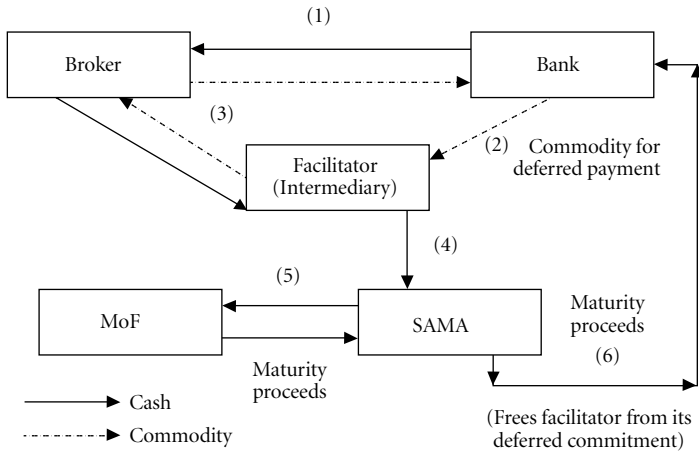
REPO arrangement

Murabahah investments are subject to a REPO facility along lines that are applicable to government securities (up to 75 percent of holdings). The mechanism works on the basis of offsetting debit and credit balances in the cash management accounts of the domestic bank with SAMA on a quarterly basis.

Note: ¹Al-Rajhi Bank, Bank Al-Bilad, and Bank Al-Jazirah.

periodically. The second method is based on the same-level-each-day maintenance requirement, i.e., required reserves have to be held at the same level each day until a new level of required reserves is computed for the subsequent reserve maintenance period. At present, the reserve maintenance method is the same for both conventional banks and IFSIs, and penalties are imposed for any shortfall in reserves below the minimum reserves requirement. The reserve maintenance method that is chosen indirectly influences the demand for excess reserves; the period average requires fewer excess reserves (on average). The majority of central banks reported using the period-average reserve maintenance method.

Figure 1 Murabahah Transaction: Tripartite Agreement between SAMA, Banks, and Facilitators



Almost all the central banks surveyed do not provide returns for the required reserves and the excess reserves. The majority of central banks surveyed also do not provide deposit facilities for IFSIs that are *Shari'ah*-compliant and provide some returns. However, one central bank in the survey offered a deposit facility on a commodity *murabahah* arrangement, which allowed the IFSIs in that jurisdiction to obtain some form of return. Another central bank offered *wadi'ah* certificates as evidence of deposits placed with it, with returns tied to the average of the return on interbank *mudarabah* investments.

Central banks' market-based instruments for open market operations and government financing instruments

The development of open market operations (OMOs), using *Shari'ah*-compliant alternatives to REPOs and outright sales or purchases, is crucial for efficient monetary operations of the central bank. Although most central banks use OMOs and OMO-type operations, only some have adapted these operations to accommodate transactions with IFSIs. For example, 60 percent of the survey respondents practiced buying and selling assets under a repurchase agreement (REPO and reverse REPO operations). However, only 20 percent indicated that these operations have been adapted to accommodate transactions involving IFSIs. It is

important, therefore, that suitable instruments are designed, particularly those that can accommodate *Shari'ah*-compliant alternatives to REPO-like transactions for effective monetary operations with IFSIs and for the development of Islamic money markets.

In most jurisdictions in the survey, central banks or government Islamic securities are generally issued on a regular basis in various maturities. (The domestically issued central bank or government instruments are listed in Table 5.) In most of these jurisdictions, central banks continue to rely on primary issues or outright buyback arrangements to influence monetary policy. Transactions in secondary markets, or through *Shari'ah*-compliant alternatives to REPOs on these instruments, are rare. In some cases, the buyback arrangements do not involve any discounts on market prices or face value. This results in the absence of any incentives for IFSIs to transact in the interbank or other available secondary markets—thereby limiting the development of the secondary market.

A key requirement in developing a liquid market is a program where instruments are issued in sufficient volumes on a predictable schedule. To fulfill the requirement, it is important to issue “plain vanilla” instruments, since it is difficult to develop a liquid secondary market using complex and excessively engineered *sukuk*. These *sukuks* should not be based on fixed, exhaustible resources, such as buildings or land that are sold and leased back. Mortgage-backed securities are a source for the “plain vanilla” instruments that facilitates a liquid market. The sale of primary issues through an auction system (whereby successful bids are allotted in the order of ascending yields, and pricing is based on accepted quotes that take up the full amount on offer) will help provide an efficient pricing mechanism that facilitates secondary market transactions.

Despite the broad array of instruments, tradability is generally limited. Most IFSIs purchase these instruments and tend to hold the securities until maturity, instead of trading them in the secondary market. IFSIs adopt this practice for the following reasons:

- The high yields offered by these instruments make it attractive for IFSIs to hold them until maturity.
- The motivation to trade in a secondary market is hampered by insufficient trading volumes of these instruments. The fact that these instruments are not widely held by diverse types of investors exacerbates this problem.

Table 5 Market-based Instruments Used by Central Banks and Governments

Instrument 1. Central bank musharakah certificates	
Design	An instrument based on a profit- and loss-sharing contract. A CMC is an asset-based security issued against central bank and Ministry of Finance equity participation in a commercial bank's assets. The CMC is sold through auction. The returns on investment of the CMC are determined by the expected return on the underlying asset where a pro-rata share of the income stream is distributed between the partners.
Country	Sudan.
Features	<ul style="list-style-type: none"> • Can be used by a central bank to conduct monetary operations. • Offers banks an investment opportunity for their excess reserves. • It has medium-term maturity, is transferable, and tradable in the stock exchange. However, access to CMCs is limited to commercial banks, government-owned companies' funds, and insurance companies.
Instrument 2. Government musharakah certificates	
Design	An instrument based on a profit- and loss-sharing contract. A GMC is an asset-based security issued against a certain percentage of government ownership in more profitable and joint-venture enterprises. GMC returns are determined by the expected return on the underlying asset where a pro-rata share of the income stream is distributed between the partners.
Country	Sudan.
Features	<ul style="list-style-type: none"> • Fixed short-term maturity (one year). • Listed on and traded in the stock exchange (transferable and fully negotiable). • Accessible to all. • Provides financing for the government's budget deficit through a non-inflationary instrument. • Can be used as a tool for open market operations.
Instrument 3. Government investment certificates (GIC)	
Design	An asset-based security issued against a number of contracts, including <i>ijarah</i> , <i>salam</i> , <i>mudarabah</i> , and <i>istisna'a</i> . The relationship between the holder of a GIC and the issuer is based on a restricted <i>mudarabah</i> contract. The instrument's maturity profile ranges from two to six years. The expected return is determined by the fixed rental income on <i>ijarah</i> plus the income from the sale of <i>murabahah</i> , <i>salam</i> , and <i>istisna'a</i> contracts. Profit is distributed every three or six months. Sales of primary issues are made through an auction system. The GIC is listed on the stock exchange.
Country	Sudan (Pakistan is in the process of developing a similar instrument).
Features	<ul style="list-style-type: none"> • Appears promising in terms of market acceptance, cost to the government, and prospects for secondary markets. • Instrument can be readily tradable so long as the proportion of the underlying <i>ijarah</i> assets exceeds the percentage specified by the relevant <i>Sharia'ah</i> board. • Requires close coordination between the government's expenditure execution and debt-issuance programs.

(Contd.)

Table 5 (Continued)

Instrument 4. Government investment issues	
Design	The specified government assets are sold to investors at an agreed cash price decided on an auction basis, with an agreement to buy back the assets at the nominal value at maturity. The difference between the buying price and the selling price is the profit for the participating financial institutions, through which all interested parties place their orders.
Country	Malaysia.
Features	<ul style="list-style-type: none"> • Actively traded in the Islamic interbank money market in Malaysia. • In principle, the use of this instrument is limited by the availability of assets for sale, may not be accepted by all <i>Shari'ah</i> boards, and is limited to trading among IFSIs primarily, thereby limiting the liquidity of the market for GIIs.
Instrument 5. Central bank participation papers	
Design	Issued on a <i>musharakah</i> basis (i.e., yields in principle linked to central bank's profit, excluding the cost of monetary operations), but with a guarantee on yields and principal.
Country	Iran.
Features	Tradable only at par, and, hence, not suited for more flexible monetary operations. However, this instrument is suitable for Iran in order to absorb the huge amount of liquidity in its economy.
Instrument 6. Government participation papers	
Design	Issued on a <i>musharakah</i> basis (i.e., yields in principle linked to the government's profit from its share in profitable state-owned enterprise or projects under construction) with the aim of financing the government's budget deficit. The instrument provides a guarantee on yields and principal.
Country	Iran.
Features	Limited to the availability of assets held by the government.
Instrument 7. Central bank wadi'ah certificates	
Design	Issued by the central bank as evidence of funds placed with the central bank for varying maturities. The central bank may pay a bonus on the funds at maturity which is tied to the average return on interbank <i>mudarabah</i> investments.
Country	Bahrain, Indonesia, and Malaysia.
Features	<ul style="list-style-type: none"> • Not readily tradable. • The rates of return are tied to market rates, which are, in turn, tied to recent realized profits.
Instrument 8. Central bank (or government) ijarah certificates	
Design	The certificate represents part ownership of the assets that have been leased to the central bank (or government). Typically, this entails its buildings and/or other assets it might acquire and sell to an SPV, which issues the

(Contd.)

Table 5 (Continued)

	<p>securities. The contract between the SPV and the investor is based on restricted <i>mudarabah</i> in Sudan. In the case of Bahrain, the central bank arranges the issuance of <i>sukuk</i> (without an SPV) on behalf of the government, which guarantees the rental payment to <i>sukuk</i> holders and the repurchase of assets at maturity. The expected return is determined by the fixed rental income from the <i>ijarah</i>. In the case of Sudan, the sale of primary issue is made through auction, and the maturity of the CIC may vary from three to ten years. Short-term <i>sukuk al-ijarah</i> is also issued by Brunei and Bahrain.</p>
Country	Sudan, Malaysia, Bahrain, and Brunei.
Features	<ul style="list-style-type: none"> • Used by central banks for open market operations. • Listed on the exchange, but can only be repurchased by the central bank. • Supply is limited to the availability of assets for sales and lease-back.
Instrument	9. Sale and buyback agreements (Shari'ah-compliant alternatives to REPOs)
Design	Involves one contract to sell a security outright at an agreed price, with a second contract for a forward purchase of the security at a specified price and on a specified future date. The undertaking made by both the buyer and the seller to sell and buy back the instrument, respectively, at the maturity date is based on promise.
Country	Malaysia.
Features	Requires an active secondary market for a long-dated security, in which outright spot-and-forward transactions can be executed, or a strong counterparty, or a central bank that can quote firm buy and sell prices. These requirements could limit the potential of <i>Shari'ah</i> -compliant alternatives to REPO as a money market instrument.
Instrument	10. Government Islamic Investment Bond (GIIB)
Design	Governed on the principles of <i>mudarabah</i> , bondholders will get an interim profit on the maturity date of the bond. This interim profit will be adjusted after finalization of the investment accounts. The interim provision of profit is based on the received monthly profit realized on the invested funds in the Islamic banks or financial institutions. The trading of the GIIB will be based on the interim profit rate derived from the investments of those with the Islamic banks. The interim profit rate will be reviewed on a monthly basis.
Country	Bangladesh.
Features	<ul style="list-style-type: none"> • Can be purchased by any individual, private or public companies, Islamic banks, and financial institutions for a minimum investment of Taka 100,000 (one hundred thousand and multiples thereof). • Can be used as collateral for a loan or investment from any financial institution. • Considered as qualified securities to comply with the liquid assets requirement that banks and nonbank financial institutions must maintain. The central bank may provide the discount window facility for banks and financial institutions to buy or sell GIIB.

(Contd.)

Table 5 (Continued)

<i>Instrument</i>	<i>11. Sukuk al-salam</i>
Design	<i>Sukuk al-salam</i> are created and sold by an SPV under which the funds mobilized from investors are paid as an advance to the company SPV in return for a promise to deliver a commodity at a future date. An SPV can also appoint an agent to market the promised quantity at the time of delivery, perhaps at a higher price. The difference between the purchase price and the sale price is the profit to the SPV and hence to the holders of the <i>sukuk</i> .
Country	Bahrain.
Features	In a <i>salam</i> contract the <i>Shari'ah</i> allows the purchased goods to be sold to other parties before actual possession at maturity. This however must be done in a separate sale and purchase contract (also referred to as <i>parallel salam</i>) to avoid sale of receivables (<i>bay'al-dayn</i>) which is not acceptable by <i>Shari'ah</i> . This constraint renders the <i>salam</i> instrument illiquid and hence somewhat less attractive to investors as the investor will only buy a <i>salam</i> certificate if he or she expects prices of the underlying commodity to be higher on the maturity date.

Source: Data provided by the country authorities.

The lack of program issues of tradable *sukuk* on a predictable schedule and in sufficient volumes is a key weakness in many countries. This situation provides no assurance of a continuous future supply of these instruments, and so limits volumes, diversity of ownership, and incentives to invest in dealership—hampering the development of secondary markets. The lack of program issues in sufficient volumes reflects the technical limitations on the availability of assets, and the *Shari'ah*-compliant contracts that are based on them. Overcoming the insufficient availability of assets requires the appropriate design of Islamic government finance instruments based on systematic linkages between government spending and its funding (using *Shari'ah*-compliant contracts). Such linkages are key to raising the volumes of issuance, widening the range of holders, and fostering secondary markets.

The range of *Shari'ah*-compliant instrument holder (used for government financing) should be as broad as possible, and not be limited to banks, as would be the case for instruments that are strictly focused on a central bank's monetary operations. Public offerings allow for greater diversity of the market and for greater liquidity. The objective to widen the range of *Shari'ah*-compliant instrument holders would be best

served if the system for offering and tendering new issues in the primary market (for securities issued by the central bank and/or government) were market-based, so that prices reflect market conditions, and well-designed secondary trading arrangements were put in place. The system to ensure that the instruments are *Shari'ah*-compliant and involve a designated *Shari'ah* board should also be transparent. Finally, a system to disseminate the information must be present in order to provide near or real-time prices or quotes, data on past prices, updates on completed deals/transactions/trades, and other market-related information especially to facilitate the pricing of new issues.

Supervisory incentives for liquidity management

In order for central banks to gauge the short-term ability of IFSIs to match the different maturities of their assets and liabilities, supervisory authorities should make available the explicit liquidity mismatch and liquidity management guidelines for IFSIs. For example, the IFSB “Capital Adequacy Standard” (2005a) details minimum capital adequacy requirements in respect of both credit risk and market risk for different types of *Shari'ah*-compliant financing and investment instruments. The IFSB “Guiding Principles of Risk Management” (2005b) unit highlights (i) the estimation of liquidity flows by types of funding, and (ii) the need to take into account ease of access to *Shari'ah*-compliant funding sources in order to meet liquidity shortfalls.

There are several methods to measure the liquidity mismatch. Most supervisory authorities set it out in the form of prudential limits, regulated by the extent of maturity and/or currency mismatches. For central banks, an appropriate liquidity-forecasting framework provides short-horizon inputs to determine potential variations in bank reserves and the scope of market-based monetary operations needed to implement its monetary policy.

Coordination of Monetary Operations, Public Debt, and Financing Management to Promote the Development of Money and Government Securities Markets

In most jurisdictions, central banks/monetary authorities act as bankers to the governments within a clear legal framework that allows for the issuance of Islamic instruments. Also, in most countries, central bank securities

coexist with government securities. While such central bank instruments have a clear role in supporting monetary policy, the development of active money markets could be facilitated if government financing instruments are used for monetary management.

Government financing instruments can be issued in sufficient volumes to build-up market liquidity and the primary reliance on government finance instruments, instead of splitting the holdings between central bank and government obligations, which will prevent the segmentation of the markets. By concentrating the issue of simple instruments in popular and standard maturities, governments can assist in developing liquidity in these securities and enable markets to use the issues as convenient benchmarks to price a range of other securities.³

The core principles of public debt management apply equally well to public debt and financing management that incorporates *Shari'ah*-compliant financing instruments.⁴ In order to develop an active market for government-sponsored *Shari'ah*-compliant instruments, these instruments should be integrated into primary market arrangements and the risk management framework. The arrangements that facilitate the coordination between central bank operations and public debt and financing management operations should be clear and transparent. The areas of coordination include: primary debt issues, secondary market arrangements, including any buyback or *Shari'ah*-compliant alternatives to REPO facilities offered by central banks, depository facilities, clearing, and settlement arrangements. While such coordination is critical for both conventional and *Shari'ah*-compliant instruments, further considerations arise when Islamic instruments for financing government expenditures are issued, as explained ahead.

A regular issue program for *Shari'ah*-compliant instruments by the government would require a systematic link between funding and spending decisions within the government, unlike debt management with conventional instruments that can be separated from day-to-day expenditure management. Creating a link between funding and spending can support the design and issue of government *sukuk* of different tenures on a regular

³See World Bank and IMF (2001), Chapter 4, on issues in developing benchmark securities.

⁴See IMF and World Bank (2001).

basis. Creating such a link would, however, require adaptations in the institutional arrangements for public debt and financing management.

Primary dealers play an important role in the development of money and government securities markets, especially in underwriting central bank or government primary securities issues, in distributing securities to ultimate investors, and subsequently in providing market-making services. Most countries have arrangements for primary dealers who trade in money market and government instruments, and have access to central bank credit facilities. Such arrangements could be readily adapted to facilitate secondary trading in *Shari'ah*-compliant instruments.

Market Microstructure, Payment and Settlement Systems, and Foreign Exchange Markets

Market Microstructure

An important requisite to produce market liquidity and improve efficiency through greater competition—especially in the secondary market—is a sizable number of active market participants. For this to happen, it is important to issue instruments that are widely held, and to support this with an efficient dealership and broking system that can (i) provide two-way quotations for trading of papers and (ii) ensure the success in primary issues of Islamic financial instruments.

Practices for secondary trading vary widely among jurisdictions, but there is a need to enhance the use of an exchange-traded system for listed securities. This would further strengthen secondary trading in addition to the activities of over-the-counter (OTC) markets that are based on dealers that provide two-way quotes and immediate execution. However, for an exchange-traded system, it would be appropriate to adapt by incorporating a quote-driven model with primary dealers/lead managers who can provide two-way quotes. For nonlisted securities, most jurisdictions use the OTC markets and already have good information dissemination arrangements. A central depository of securities already exists for Islamic securities.

The trading system in foreign exchange markets requires the use of a direct interdealer or an interbroker system, and most jurisdictions already have such systems in place.

Payment and Settlement System

The key components of a payment mechanism includes: (i) the payment instrument, (ii) the network arrangements that facilitate communication between the participants and the system provider, and (iii) clearing and settlement facilities that are operated by the system provider. Adapting the payment and settlement system to meet the *Shari'ah* requirements of IFSIs becomes problematic in the clearing and settlement process, as it involves the extension of credit and the management of the resulting risks. A delivery versus payment (DVP), and/or Real Time Gross Settlement (RTGS), and/or deferred/designated-time net settlement system is already present in many jurisdictions, although the use of payment versus payment (PVP) for cross-border transactions and hybrid systems (systems combining net and gross settlements) is relatively rare.

The adoption of the RTGS system eliminates systemic risks to IFSIs and credit risk is transferred outside of the system. Through RTGS, all inter-IFSI payments will be final and irrevocable debits or credits are directed to the IFSIs' current accounts at the central bank. However, the system has to be programmed to allow only Islamic securities to be pledged as collateral at the central bank in order for IFSIs to obtain an intra-day credit facility (see Box 3 for an illustration of the adaptations to support clearing and settlement systems for IFSIs).

In order to develop a liquid market, interbank transactions should also include transactions between IFSIs and conventional banks. Few IFSIs have designed special arrangements for interbank transactions with conventional counterparties based on commodity *murabahah*, or special arrangements to hold compensating, noninterest-bearing deposits with each other.

The development of a payment settlement system to support the money market is a strategic concern, as all payment systems—domestic and international—have to address the *Shari'ah* issues relating to credit extensions (implicit or explicit in the payment) and those relating to lags in settlements. However, recommendations on a domestic payment system can be a follow-up project. This note is focused on strategy and not the details of each recommendation. Making recommendations on international payment systems that are more closely related to foreign exchange markets is beyond the immediate concerns of this note.

Box 3 Payment Settlement Structures

Several important aspects of supporting a sound and efficient clearing and settlement system for IFSIs are:

1. An efficient legal system needs to be in place to minimize uncertainty in the financial contract.
2. The services provided shall be practically adequate in facilitating the needs of all market players, including IFSIs, in terms of access to technology and instruments; this includes the LLR, as well as the emergency liquidity facility, particularly in the case of a severe liquidity shortage in the financial system.
3. While half of the jurisdictions surveyed have adopted the RTGS system, most have not adapted it to allow for the collaterals that are permissible for the IFSIs. Therefore, alternative money market and more transparent LLR arrangements are needed to facilitate the operation of the payment system.

Current issues related to the Islamic financial system

As noted, the inadequate availability of *Shari'ah*-compliant financial instruments forces Islamic banks to hold a significant amount of excess reserves in order to manage liquidity; this limits the flexibility of the central bank's monetary operations with IFSIs. Therefore, a key issue is to broaden the range of *Shari'ah*-compliant instruments and build liquid markets. Both objectives require a well-designed clearing and settlement system adapted to the needs of IFSIs. The case study below illustrates some of the issues in adapting the payment system to Islamic finance.

Payment and settlement system: Malaysia

The payment and settlement system in Malaysia is designed to support both conventional and Islamic banking operations. The features of the system include the following:

- Transactions include investment in securities.
- The system allows Islamic banks to hold only Islamic securities.
- Non-Islamic securities are automatically rejected.
- Intra-day credit borrowing is limited to Islamic securities.
- Overnight borrowing is based on Islamic principles.

Sources of liquidity

Islamic banks in Malaysia can obtain liquidity from the following sources:

- Balance in settlement accounts.
- Withdrawals from SRR account maintained with BNM.

(Contd.)

Box 3 (Continued)

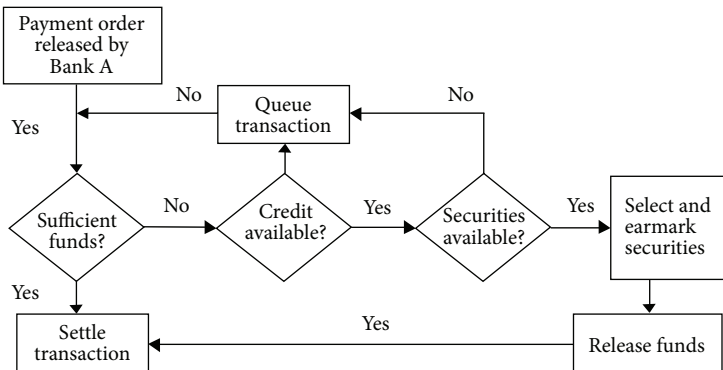
- Members may withdraw from the SRR provided that the SRR does not fall below the minimum limit (3.2 percent daily).
 - Allow for intra-day drawdowns.
- Securities and interbank money market transactions.
- Intra-day credit facility from BNM.
 - Fully collateralized with eligible securities.
 - Limited by the size of members' eligible collaterals.
 - Utilization triggered by the system.
 - Automatic redemption.
 - Provided in tranches of RM5 million.
 - No interest charge is imposed on credit facility, except for an administrative fee.

Collateral management

Diagram 1 shows the use of collateral accounts in Real Time Electronic Transfer of Funds and Securities (RENTAS).

- Participants deposit eligible securities into a collateral account.
- Types of securities accepted as collateral:
 - Government bonds
 - BNM papers
 - Private debt securities with credit rating of "A" and above
- Parameters for selection of collateral are built into the system.
 - Stock types
 - Credit rating
 - Earliest maturity

Diagram 1



(Contd.)

Box 3 (Continued)

- BNM imposes a margin on securities for valuation purposes (currently set at 1–5 percent, depending on the type of security).
- Participants manage their collateral accounts.

Payment and settlement system: Kingdom of Saudi Arabia

The Saudi Arabian Monetary Agency provides an RTGS system, where the central bank provides liquidity, subject to an intra-day overdraft limit. A transaction that breaches the limit is held until that bank has sufficient “available funds” in its account with the central bank.

Considerations used to determine the limit:

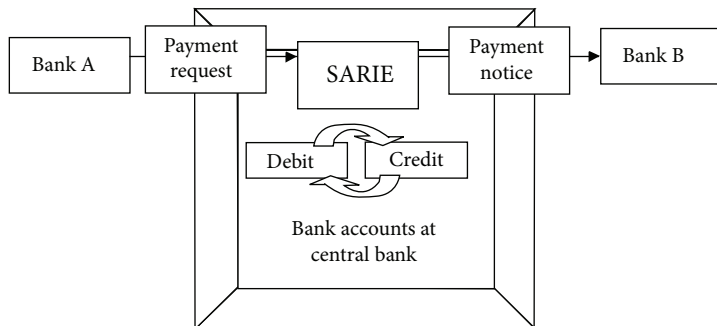
- Bank’s need
- Central bank’s policy
- Value (volume is not a factor)
- Recent experience and future expectations
- Behavior of all participants
- Participants’ internal systems—ability to schedule payment flows

The intra-day limit should also be fully collateralized by instruments accepted by the central bank. In addition, the bank’s account with the central bank must be in credit or zero position at the end of the day.

Collateral management

Only assets that can easily be liquidated and over which the central bank has jurisdiction are accepted as collateral. Government bonds, treasury bills and *murabahah* are the most commonly pledged collateral in the RTGS system. Diagram 2 shows the Saudi Arabian Riyal Interbank Express (SARIE) system.

Diagram 2



Role of Foreign Exchange Markets in the Monetary Operations of Central Banks and IFSIs' Liquidity Management

The development of money market and foreign exchange markets are operationally interlinked and the two can reinforce each other. First, central banks may use operations in foreign exchange markets as a means to influence the level of bank reserves and the liquidity in domestic money markets.⁵ Globally, however, most central banks do not rely on foreign exchange operations for monetary management because of the potential market risks, and the likely conflicts that they could create between interest rate and exchange rate policies. Moreover, well-developed money markets provide a means to price foreign exchange swaps and forward contracts. This helps to deepen the foreign exchange markets. For example, well-developed interbank money markets in two different currencies could readily be used as a functional equivalent of a forward market in foreign exchange. In the same way, well-developed foreign exchange markets can contribute to the depth and liquidity of money markets. In this context, it is important to address the issue of *Shari'ah* compliance in IFSI transactions in the foreign exchange markets as a means to complement an Islamic money market development strategy.

Since only 60 percent of the jurisdictions included in the survey accept spot transactions (with a T+2 settlement delay) as *Shari'ah*-compatible, a speedier system for settlement—e.g., PVP—should be more widely adopted. Many developing and emerging market countries already have faster settlements in their foreign exchange markets than do the advanced economies.⁶ Only a few countries reported having PVP systems for foreign exchange settlements. Most of those surveyed rated such a system as being the most important factor for the efficient functioning of foreign exchange markets.

Only 25 percent of the countries surveyed regarded forward transactions in foreign exchange as *Shari'ah*-compatible. Authorities and IFSIs need to focus on ways to design *Shari'ah*-compliant alternatives to foreign

⁵See Hooyman (1997) for a discussion of the use of foreign exchange markets for domestic monetary management.

⁶See Canales-Kriljenko and Jonse (2004) on the microstructure of foreign exchange markets.

exchange hedging and risk management arrangements. Developing *sukuk* markets in different currencies and swapping them provides an avenue for IFSIs and central banks to manage their foreign currency liquidity requirements as a substitute for foreign exchange forwards and swaps.

Policy Issues and Strategies for Islamic Money Market Development

Broad Strategy and Policy Issues

It is important that countries properly sequence—set priorities, in other words—and coordinate the numerous measures that are needed to develop the Islamic money market in their respective jurisdictions. The plan may include steps to design *Shari'ah*-compliant money market instruments for the central bank's monetary operations and instruments for the government's public debt and financing management.

Apart from the design of these instruments, and their monetary operations, the sequencing should cover: (i) the development of the microstructure of markets, and (ii) adaptations in the payments and settlement systems to support IFSI money market operations. In addition, well-designed prudential norms for liquidity risk management and properly designed payment settlement rules can provide incentives for active liquidity management by IFSIs, setting the stage for active money markets.

Financial innovations to design long-term *sukuk* have gathered momentum. Most issues have obtained broad *Shari'ah* approval. However, the design of *Shari'ah*-compliant short-term instruments that are alternatives to REPOs and based on long-term *sukuks* has been more difficult. This is an issue where a concerted effort that involves central banks and IFSIs can be particularly fruitful.

The different levels of Islamic money market development among IFSB members imply that the policy issues identified by the Task Force do not have the same priority in all countries.

Shari'ah-compliant Money Market Instruments

The current state of Islamic money markets is underdeveloped as is evident from the relatively small number and share of IFSIs in the overall financial

system. Developing *Shari'ah*-compatible money market instruments that are broadly acceptable across institutions (both Islamic and conventional) is very important for the development of Islamic finance. Since IFSIs constitute only a small share of the overall financial system, instruments with limited use only among IFSIs do not have the scale and volume needed to generate a liquid market.

To facilitate their use in monetary and public financing operations, *Shari'ah*-compliant instruments should have the following features:

- They should be relatively low-risk instruments of simple design that can serve as a benchmark for pricing other more risky instruments of varying maturities. They should be able to strongly influence the marginal cost of funds for banks.
- There should be a sufficient and regular supply of the instruments, which are amenable for sale through a program of regular issuance in adequate volumes to meet both the needs of monetary policy and investors.
- They should be widely held by both banks and nonbanks to support a liquid market. This requirement implies that the instrument should be neutral in the sense that it can be readily held by both Islamic and conventional banks, and incorporated into ongoing monetary and public financing management programs.
- They should be supported by a robust and reliable payment settlement system and efficient trading arrangements.

Structuring instruments that meet the above characteristics requires a process of continued financial innovation in order to design *Shari'ah*-compatible government investment issues, their incorporation into monetary operations and in IFSI liquidity management, and integration into the overall public debt and financing management program.

While many innovations have been initiated in the private sector and by governments (including central banks) to design instruments for short-term liquidity management, the instruments have not had the desired characteristics to enable an active interbank money market. Therefore, the central banks and governments have to play a stronger role in creating a systemic liquidity infrastructure that can serve as the foundation to accelerate the development of more efficient private sector innovations.

Monetary Policy Operations and Government Debt and Financing Framework

The central bank should conduct market-based monetary operations using the instruments that are suitable for both Islamic and conventional banks in a unified monetary operations framework. This will require the alignment of other monetary policy instruments, such as Cash Reserve Requirements (CRR), remuneration of excess reserves, and liquidity requirements between conventional and Islamic banks. These alignments can be made in phases to bring about a sound and efficient interbank payment settlement system so that the system can (i) accommodate IFSIs, (ii) be supported by a central bank LLR facility that accommodates both IFSIs and conventional banks, and (iii) consistently and uniformly signal the cost of central bank financing. The relevant short-term instruments—such as *Shari'ah*-compliant alternatives to REPOs for these purposes—must be developed to increase the liquidity and volumes in the secondary market. Within the primary market, the range of holders needs to be broadened and trading arrangements be strengthened through the use of primary dealers who help increase the volume and range of instruments issued into the system.

Development of a Government Debt and Financing Framework in Coordination with Monetary Operations

Shari'ah-compliant money market and government investment instruments that meet the required characteristics need to be developed and be incorporated into the overall public financing management framework. This would require the close coordination between monetary operations and public debt and financing operations, and also close coordination between government financing and expenditure decisions.

A regular issuance program for government financing instruments in key maturities is necessary to help establish a wide investor base, benchmark Islamic securities, and domestic benchmark rates of return. These together constitute the foundation on which to develop the Islamic money market. The promotion of *Shari'ah*-compatible asset-backed money market instruments (denominated in US dollars or another convertible currency) for cross-border interbank transactions should be considered. A review of taxation and transaction costs should

be undertaken, alongside all of these promotional strategies to promote neutrality vis-à-vis the conventional banking system. Insofar as the domestic financial system is too small to support sufficient issue volumes for cross-border trading, alternative approaches to designing such instruments—based on regional and international cooperation—could be explored.

Establishing a benchmark yield curve or benchmark returns for Islamic money market instruments is possible only if these instruments are issued regularly and in sufficient volumes to reflect returns that are in line with changing economic and market conditions. The program should be supported by well-designed secondary trading arrangements.

Creating Incentives for Islamic Money and Foreign Exchange Markets

The supervisory authority needs to foster effective liquidity risk and asset–liability management by commercial banks through reforms in the banking regulation and supervision guidelines to strengthen and facilitate IFSI involvement in the money market as well as the foreign exchange market.

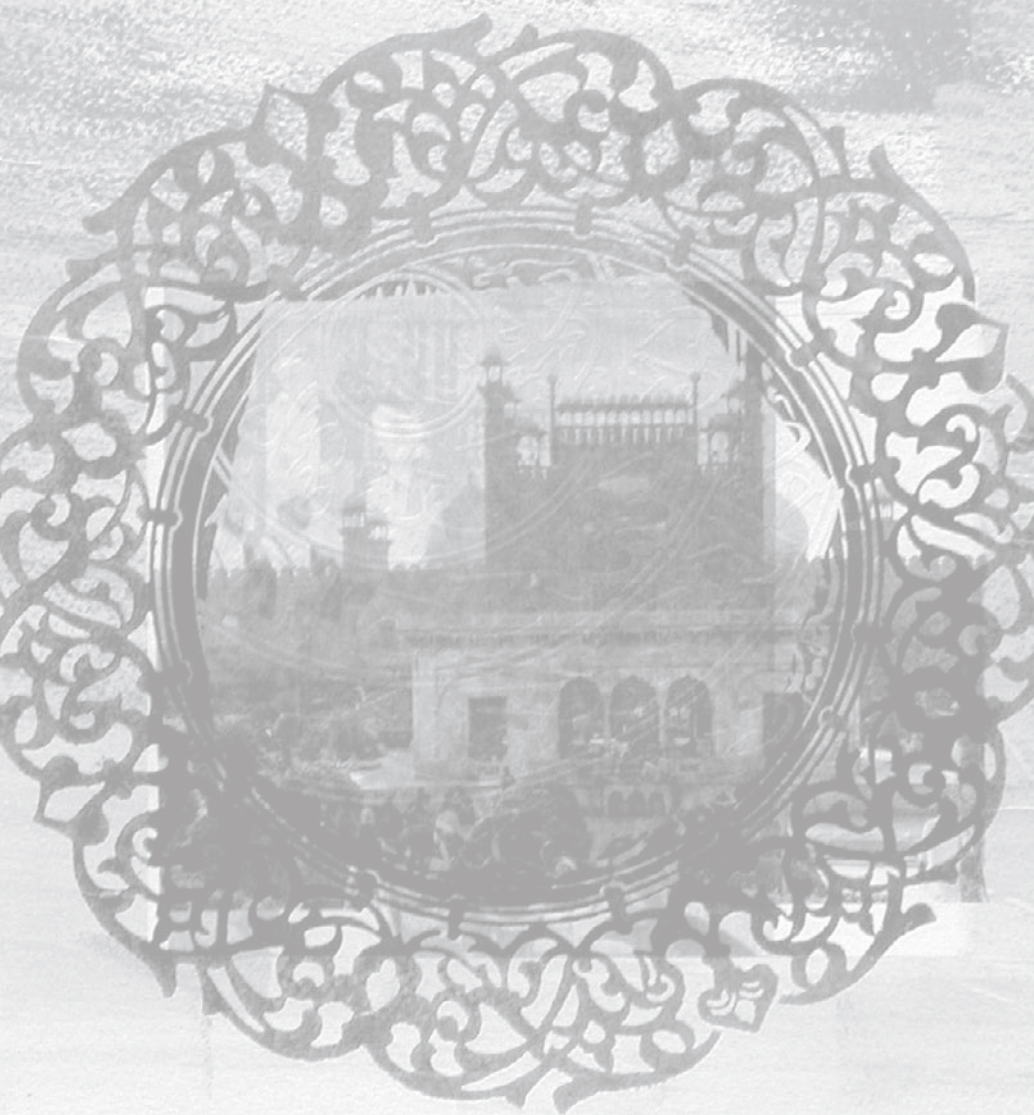
A program to strengthen foreign exchange markets should be developed in parallel with measures to develop money markets. This could provide added incentives for active money markets. A well-developed interbank money market in two different currencies could readily be used as a functional equivalent of a forward market in foreign exchange. In the same way, well-developed foreign exchange markets can contribute to the depth and liquidity of money markets. It is important to address any *Shari'ah*-compliance issues in IFSI transactions in the foreign exchange markets as a means to complement the Islamic money market development strategy.

After basic money markets are established, it will be important to (i) enhance market transparency and a disclosure-based regime, (ii) disseminate market information through newswires (such as Bloomberg, Reuters, Moneyline Telerate, etc.), and (iii) rate assessments by credit-rating agencies and the financial analysis community to further develop market efficiency and depth.

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Part III



6

Issues in Managing Profit Equalization Reserves and Investment Risk Reserves in Islamic Banks¹

1. Introduction

The rapid expansion of Islamic finance in recent years has highlighted the need for policies to help integrate Islamic finance in national and global financial systems. In particular, the design and implementation of Basel II equivalent standards for Islamic banks and the adoption of effective risk management systems for these banks (both reflecting the specific operational features of Islamic finance) have assumed center stage. The Islamic Financial Services Board (IFSB) has issued a range of prudential standards and guidelines that constitute the Basel II equivalent for Islamic finance. The implementation of these standards calls for new risk measurement approaches. In particular, a critically important issue in the risk management of Institutions Offering Islamic Financial Services (IFSIs, or Islamic Banks) is how to measure and manage the risk characteristics of Profit Sharing Investment Accounts (PSIAs), the major source of funding of IFSIs. PSIAs held by Investment Account Holders (IAHs) constitute an average of 62% for a sample of Islamic banks in 12 countries in the Middle East and South East Asia. Given the significance of PSIAs as a funding source, an effective management of the risk-return characteristics of these

¹This chapter appeared in the *Journal of Islamic Economics, Banking and Finance*, Volume 4, Number 1 (January–April 2008).

accounts—referred to as investment account management, defined more rigorously later in the paper—can be used to control the risks borne by shareholders and the associated economic capital requirements of Islamic banks. This type of investment account management, therefore, serves as a powerful risk mitigant in Islamic finance, a unique feature that is not available for conventional banks.

In principle, under the *mudharaba* contract that typically governs the PSIAs, all losses on investments financed by these funds (due to credit and market risks) are to be borne by the IAHs, while the profits on these investments are shared between the IAHs and the IFSIs, as the manager of the investments (*mudharib*) in the proportions specified in the contract. However, any losses due to “misconduct and negligence” (operational risk) should be borne by the IFSIs, according to the *Sharia’ah* principles that apply to *mudharaba* contracts. In practice, however, the management of the IFSI may engage in a range of practices (discussed further below) that cushions the returns paid to the IAH, thus protecting, as required, the cash flows from IAH funds against variations in the IFSIs’ income from assets financed by those funds, in order to pay market-related compensation to the IAHs. In light of such practices, the measurement and management of how to share the returns and risks between shareholders and investment account holders is a fundamental issue in Islamic finance world-wide. It is important to take into account the risk-return preferences of each, and bear in mind that the IAHs will generally be more risk-averse than shareholders. This issue has not yet been adequately addressed.

The IFSIs may set aside, build up, and draw down two types of reserves—the Profit Equalization Reserves (PER), and Investment Risk Reserves (IRR)—in order to smooth the returns that are paid out to the PSIAs and owned by the IAHs. The build up and draw down of these reserves can help cushion the returns paid to IAHs and preserve the value of IAH funds against variations in the IFSI’s income from assets invested with IAH funds, and thereby help pay market related compensation to IAHs. The IFSIs may maintain the payout to IAH at market related levels even though actual asset returns exceed market benchmark rates, by setting aside PER (from the profits before the distribution of shares in those profits to IAH and to the IFSI) and IRR (from the profits available for distribution to the

IAH but after paying the IFSI's share of profits as *mudharib*). Part of the accumulated PER that serves as the equity of IAHs and shareholders can then be drawn down to smooth the payout to IAHs and shareholders, when investment returns decline; the accumulated IRRs, which belong entirely to the IAHs, can be used to cover any losses (negative asset returns) that might arise from time to time. A part of the accumulated PERs belong to shareholders, and they can also be drawn down to smooth the payout to IAHs and shareholders. In addition, when asset returns are low and PERs are insufficient, IFSI owners may transfer some portion of their income or reserves to IAH and offer returns to IAH that are close to market levels despite insufficient asset returns. Such resource transfers from IFSI owners to IAHs could be achieved by reducing the *mudharib*'s share below the contracted share, and/or by otherwise assigning lower profits or larger losses to shareholders temporarily in order to benefit the IAH, thereby cushioning the impact on IAHs of low asset returns.

The combination of these policies—i.e. setting aside and drawing down reserves that serve as equity of IAHs, accepting cuts in a *mudharib*'s share, and transferring current income or other shareholder funds to IAHs if needed and permissible—can alter the time profile of IFSI owners' profits, and thereby the size of risks (unexpected losses) that they bear, compared to the situation where all losses are fully borne by the IAH. Issues in measuring this “displacement” of risk from IAH to IFSI owners' so called “displaced commercial risk”—are among the core concerns of supervisors. The critical role played of PERs and IRRs in smoothing IAH returns and hence ultimately on the level of “displaced commercial risk” calls for appropriate policies to manage PERs and IRRs and proper criteria in assessing whether they are adequate. A key objective of this paper is to consider how best to manage PERs/IRRs and assess whether these reserves are adequate.

Thus, in practice, there is considerable ambiguity in the nature and characteristics of PSIAs in Islamic banks. The nature of PSIAs varies among banks and jurisdictions. They are deposit-like products that carry no risk of loss of principal in some, or investment-like products that bear the risk of losses in the underlying investments in others. Depending upon the extent of investment risks that are actually borne by the PSIAs, these instruments could, in principle, be positioned anywhere on the continuum

from being pure deposits (in the conventional sense) to pure investments. The resulting challenge for IFSI and their regulators is to assess where on the continuum the PSIA's in a specific bank in a specific jurisdiction lie, and what this implies for the level of risks for shareholders and hence for the level of regulatory and economic capital requirements for that bank.

The recently issued Islamic Financial Services Board (IFSB) Capital Adequacy Standard recommends that supervisors should assess the extent of risks borne by PSIA's. The risk assessment should be based on management decisions on the payout to IAHS and should reflect the computation of capital adequacy. This is referred to as the "supervisory discretion formula". More specifically, the IFSB's supervisory discretion formula for the capital adequacy ratio (CAR) specifies that a fraction "alpha" of the assets funded by PSIA's may be included in the denominator of the CAR, where the permissible value for "alpha" is subject to supervisory discretion.

The supervisory assessment of how an IFSI manages the risk-return profile of PSIA's determines "alpha". If "alpha" is near zero it indicates a pure investment-like product, if "alpha" is close to one it captures a pure deposit-like product.

As argued below, bank policies regarding PERs and IRRs play a critical role in determining the size of "alpha", and hence the bank's capital adequacy. If PERs and IRRs are adequate to avoid transfers of income from shareholders to IAHS in order to maintain a targeted return to IAHS, then there is no displaced commercial risk, and PSIA's can be treated as an investment product, with "alpha" equaling zero. If PERs and IRRs are not sufficient to avoid transfers of income from shareholders to IAHS, and if it necessary to transfer some income with the use of PER/IRR to achieve the targeted returns to IAHS, then both the DCR and "alpha" are positive.

The estimation of DCR and "alpha" is developed in Archer, Karim, and Sundararajan (2008). This paper focuses on the relationship between the size of IRRs and PERs and the size of DCR, and highlights the prudential issues raised by these policies. Section 2 briefly mentions the currently used accounting and prudential standards on PERs and IRRs, and presents some data on actual practices. Section 3 presents the analysis to decide on the levels of PERs and IRRs, and their relationship to DCR. Section 4 provides concluding remarks.

2. Accounting Definitions and Current Practices

The accounting definitions of these reserves, and how these are linked to asset returns and returns to IAHs, are discussed below. They are based on standards' issued by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI).

According to Financial Accounting Standard Number 6 (FAS 6) of the AAOIFI, when a bank commingles own funds ($K = \text{Capital}$) with *mudarabah* funds ($D_1 = \text{Unrestricted Investment Deposits}$), profits are first allocated between the *mudharib's* funds and the funds of IAHs. The share of the Islamic bank (as a *mudharib* for its work) is deducted from the share of profits allocated to the investment account holders.

In addition, FAS 6 states that profits of an investment that was jointly financed by the Islamic bank and unrestricted IAHs should be allocated between them according to the contribution of each of the two parties in the jointly financed investment. The allocation of profits, based on percentages agreed upon by the two parties, is juristically acceptable (for example in *musharakha* contracts), but the standards call for proportionate contributions.

The minimum standards to calculate the rate of return-specified by Bank Negara Malaysia in the "Framework of the Rate of Return" (2001 and 2004) call for the share of profits to depositors (and to the bank as a *mudharib*) to be uniform across banks as specified in the framework documents. They provide a uniform definition of profit and provisions to ensure a level playing field. Profit is defined as income from balance sheet assets plus trading income, minus provisions, minus profit equalization reserves, minus the income attributable to capital, specific investments, and other payment that are due from other institutions. This is the *mudarabah* income (RM) distributable between investment depositors and bank (as *mudharib*). Provisions are defined as general provisions plus specific provisions & income-in-suspense for facilities that are non-performing. The framework then distributes *mudarabah* income between depositors and bank as *mudharib*, and then by type and structure of deposits.²

²The income to the bank has two components: the return on bank capital used in calculating the *mudarabha* profits (this is the return to the bank's contribution as co-investor) plus the share of *mudarabha* profits (as the fee for its asset management services).

In addition, both AAOIFI standards and the rate of return Framework of BNM recognize PERs and IRRs. A PER or R_p refers to an account that is appropriated out of gross income in order to maintain a certain level of return for the PSIA. This is apportioned between IAHs and shareholders in the same proportions that apply to profit sharing. IRRs or R_{IR} are reserves attributable entirely to IAHs, but maintained specifically to absorb periodic losses—either in whole or in part, and to smooth the rates of return that are actually paid out over time.

AAOIFI standards—and some national regulations—allow PERs and IRRs to be treated as Tier II capital. In contrast, IFSB capital adequacy standards allow the deduction of PERs and IRRs from the risk-weighted assets funded by PSIA before applying the relevant capital requirements. The IFSB capital adequacy standard allows a share (“alpha”) of risk weighted assets funded by PSIA, net of PER/IRR to be included in the denominator, with the share “alpha” subject to supervisory direction and approval.

Publicly available information on IFSI practices on PERs and IRRs is rather limited. In an analysis of disclosure practices of IFSI (drawing on annual reports of a sample of IFSI for 2001–2003), only about 30% of the banks surveyed disclosed the amount of PER in their balance sheets (Sundararajan (2005)). Most central banks leave the methodology to calculate the rate of return on PSIA—including the calculation and the use of PERs and IRRs—to be decided by the IFSI at their own discretion. There are no specific supervisory disclosure requirements on PER/IRR, other than those arising from the applicable accounting standards.

In a recent IFSB survey of 15 central banks and supervisory authorities on the disclosure regime for their IFSI, only 4 authorities imposed specific guidelines on PER/IRR, 6 required the IFSI to disclose policies to form these reserves and on management limits on such reserves and only 5 authorities required the disclosure of the actual use of PER/IRR. Bank Negara Malaysia (2001, 2004), in its guidance to Islamic banks on the rate of return calculations, proposes some limits on the size of the PER that can be built up, and on the amount that can be deducted from gross income (i.e. prior to calculating the amount distributable to IAHs). There are no guidelines or limits on IRR in the BNM Guidance documents.

3. Determinants of PER/IRR and Their Relationship to DCR

To measure the risks that the IAH faces and the risk-sharing between IAH and IFSI, and to assess the role of PER/IRR in determining these risk characteristics, a basic framework for calculating *mudharaba* profit (RM) needs to be specified.

RM can be written as:

$$\begin{aligned}
 RM &= A(R_A - S_p) - AR_p - KR_K \\
 R_K &= (R_A - S_p) - D_K
 \end{aligned}
 \tag{1}$$

where:

R_A = return on assets,

R_p = profit equalization reserves (as a % assets)

S_p = provisions as a % of assets,

where D_K is any transfer of resources from IFSI owners to IAH expressed as a percentage of capital. Thus, when D_K is zero, the shareholders receive a share of the total asset returns in proportion to their contribution to the commingled pool. If $D_K > 0$, shareholders have transferred some resources to IAH in order to provide a targeted return to IAH (see below for further discussion), in the process reducing shareholder returns.

$$A = K + D_I$$

That is, total assets (A) equal the sum of shareholder funds (K), and PSIA funds (D_I).

The rate of return for Investment Account holders (R_I) can then be calculated by applying the agreed share β on *mudharaba* profit, and subtracting the Investment Risk Reserves (IRR, expressed as a percentage of IAH deposits).

$$\begin{aligned}
 R_I &= \frac{\beta RM}{D_I} - R_{IR} \\
 &= \beta [A(R_A - S_p - R_p) - KR_K] / D_I - R_{IR}
 \end{aligned}
 \tag{2}$$

In practice, there are two ways to categorize how R_K is determined. One approach, practiced in many jurisdictions (the Rate of Return Framework provided by Bank Negara Malaysia, for example), is to treat

R_K as an endogenous decision variable that is determined by management. For example, the Bank management may choose $D_K > 0$, and hence the overall return to shareholder funds—such that the IAHs receive a targeted return that is commensurate with their risk—bearing capacity (see below for clarification of this idea). An alternative approach is to assume that the return to capital in the commingled pool is proportional to its contribution to the pool, and hence the investment return to capital is the same as the return $(R_A - S_p)$ obtained from the assets funded by the commingled funds. The variable D_K thus serves as a “donation” from a shareholder from time to time and is determined to ensure that risk-return expectations of the IAHs are met.

First, assuming R_K is endogenous, the return to equity can be written as the sum of investment income earned by shareholders from the commingled funds (KR_K), income earned as a *mudharib* ($(1 - \beta)RM$, where $(1 - \beta)$ is the *mudharib*'s share) and the share of PER accruing to the shareholders ($(1 - \beta) \times A \times R_p$), all expressed as a proportion of total capital.; other sources of shareholder income, for example from other banking services and other non-PSIA assets, are ignored for simplicity. The return on equity, as defined above, is shown in equation (3) below.

$$R_E = (1 - \beta) \left\{ \frac{R_M}{K} + \frac{AR_p}{K} \right\} + R_K \quad (3)$$

Combining equations (1), (2) and (3), and simplifying the expressions, yields:

$$R_I = \beta(R_A - S_p) - \beta \frac{A}{D_I} R_p + \frac{K}{D_I} \beta D_K - R_{IR} \quad (4)$$

$$R_E = \left(1 + (1 - \beta) \frac{D_I}{K} \right) (R_A - S_p) - \beta D_K \quad (5)$$

The investment risk that IAHs and shareholders face can be computed, based on the variance of R_I and R_E , respectively.

For example,

$$\begin{aligned} \text{VAR}(R_E) = & \left\{ 1 + \frac{(1 - \beta)D_I}{K} \right\}^2 \text{VAR}(R_A - S_p) + \beta^2 \text{VAR}(D_K) \\ & - 2\beta \left\{ 1 + (1 - \beta) \frac{D_I}{K} \right\} \text{COV}((R_A - S_p), D_K) \end{aligned} \quad (6)$$

Similarly, the investment risk to IAHs can be computed by calculating the variance of R_I and its components based on equation (5).

Thus, true risk-facing shareholders—which is the main determinant of the CAR—is given by equation (6). This risk to shareholders is determined primarily by three components: 1) the variability of investment returns; 2) the variability of income transfers from shareholders to IAHs; and 3) the covariance between investment returns and the income transfers.

The larger the asset return, the smaller is the need for income transfers from shareholders. Hence, this covariance is expected to be negative. The larger the covariance, in absolute terms, the larger the risk to shareholders and hence the larger the capital requirements. In addition, IFSI may adjust the *mudharib's* share $1 - \beta$ as an additional mechanism for income smoothing.

Under a *mudharabaha* contract, the investment losses on PSIA funds are to be borne by the IAHs and hence the *mudharib's* share, $(1 - \beta)$, cannot fall below zero in case of losses (i.e. $\beta = 1$), whenever $(R_A - S_p) < 0$. Similarly, in case of losses, shareholders cannot make up for negative returns by transfers from shareholder funds (that is, $D_K = 0$, if $(R_A - S_p) < 0$). In view of these constraints on the behavior of D_K and β , it is assumed that sufficient amounts of accumulated PER and IRR are available to achieve the targeted return to IAHs even when asset returns are negative.

A key implication of equation (6) is that the risk that shareholders face—and hence the risk to capital requirements—is independent of PER and IRR, if D_K and β is fixed. If an IFSI can manage the value and returns on investment accounts entirely through adjustments in PER and IRR, without recourse to any income transfers from shareholders, then the displaced commercial risk is zero, there is no need to hold additional capital requirements for such risk, and hence “alpha” is zero. This observation raises the following questions: what is the desired (or adequate) level of PER/IRR, the use of which will ensure that there is no displaced commercial risk (DCR = 0, or “alpha” in the IFSB supervisory discretion formula is zero) and hence the PSIA can be treated as a pure investment product that requires no additional capital requirements on IFSIs (other than for operational risk)? Alternatively, if there is a specific IFSI policy that relates to DCR, what then should be the desired level of PER/IRR that will help support that policy? In the extreme, if DCR is at its maximum possible value, with alpha equal to one, then the PSIA is similar to deposits. The

ensuing question is what should be the adequate level of PER/IRR that ensures that IAH returns behave like bank deposit returns.

In order to address these questions, the relationship between the use of PER/IRR and the policy on returns to IAHs that determines the extent of DCR should be analyzed.

This relationship can be highlighted by rewriting equation (4):

$$R_{IR} + \frac{\beta(R_p)}{\beta'} - \frac{\beta(1-\beta')}{\beta} D_K = \beta(R_A - S_p) - R_I \tag{7}$$

where $\beta' = D_I/A$. The right hand side of equation (7) can be interpreted as the excess of unsmoothed returns to IAHs (asset returns multiplied by the profit shares of the IAHs) over the actual payout to IAHs. The left-hand side is the sum of IRR plus a proportion β of PER minus the β of transfers from shareholders, all expressed as percentage of PSIA deposits (i.e. D_I).

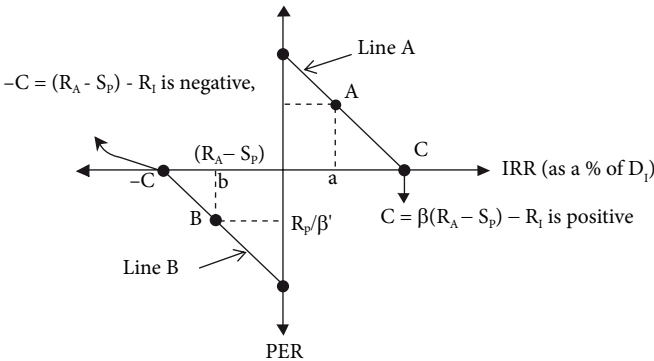
Assuming for simplicity's sake that $D_K = 0$, we get:

$$R_{IR} + \frac{\beta(R_p)}{\beta'} = \beta(R_A - S_p) - R_I \tag{8}$$

Equation (8) states that for each value of excess asset returns, there is a range of combinations of R_{IR} and R_p that would allow the desired payout to IAH for a given realization of asset returns.

This is illustrated in Figure 1.

Figure 1 Feasible Combinations of PER and IRR, when $R_A - S_p > 0$ (as a % of D_I)



The slope of line A is $\frac{1}{\beta}$ and various combinations of building up PER and IRR are consistent with the asset returns and the payouts to IAHs. For $R_A - S_p > 0$, β fixed, a specific combination of IRR and PER buildup will be chosen depending upon the initial levels of PER and IRR, in relation to their derived levels; in principle, any combination of PER/IRR on the line A seems feasible. The chosen combination, such as point A, for instance, is a decision made by the IFSI management and the Board.

In the case of $R_A - S_p > 0$, the *mudharaba* contract requires that all losses be borne by the IAHs, hence the PER cannot be used to cover losses under the typical *mudharaba* and $(1 - \beta)$ has to be set at zero, but only the IRR set aside from previously distributable returns to the IAHs can be used in this manner. It is also possible that the IRR is used to bring the IAH returns to zero and then calculate the appropriate drawdown of the PER, (or income transfers D_K), that would yield a desired IAH return under these constraints. The feasible combinations of IRR and PER drawdowns are denoted by the line A, whose slope equals one (since $\beta = 1$)

The minimum required level of IRR can be defined as the level that will be sufficient to cover the asset losses ($R_A - S_p$) that will not be exceeded with some probability, such as 99%. This level will ensure that 99% of the time, there will be enough IRR to bring the IAH returns to zero. The PER can then be drawn down to provide a positive IAH returns. It is assumed in Figure 1 that asset losses ($R_A - S_p$) will exceed “b” only about 1% of the time. Thus point “b” indicates the minimum required level of IRR. A feasible combination of IRR and PER in the case that $R_A - S_p < 0$ is thus given by point “B” on the line B. An adequate level of PER is one which would allow R_p/β' to equal or exceed R_p , 99% of the time. Thus, the adequate level of PER depends on the volatility of R_i and hence is not independent of DCR. If $DCR = 1$ and $R_i = RM$, the minimum required value of PER is determined by the volatility of market benchmark returns.

If, the level of PER and IRR exceeds the minimum requirements and is very large, then any policy on DCR and IAH returns is feasible. In this case, the size of the DCR is indeterminate, but this outcome implies that a large portion of the IAH income has not been distributed and was built up when asset returns were above market benchmarks, resulting in IAH returns below asset returns for the current holders of investment accounts. Insofar as these reserves are distributed to the IAHs in the future, this might occur at the expense of the current IAHs, and reflects a transfer

from current to future IAHs. Moreover, the amount of the PER/IRR that belongs to the IAH can be deducted from the risk-weighted asset (RWA) funded by the PSIA before applying the share “ α ” and computing the denominator in the supervisory discretion formula. The level of PER/IRR affects IFSI capital adequacy both by influencing “ α ” and by offsetting the base on which “ α ” is applied. This is a situation where, the shareholders benefit at the expense of the IAH due to the excess buildup of the PER and IRR. These considerations warrant placing some limits on the size of the PER and IRR both on prudential and investor protection grounds. These considerations are summarized in Table 1.

Table 1 The Relationship between PER/IRR and DCR

<i>Size of DCR</i>	<i>Size of “alpha”</i>	<i>Adequate level of PER/IRR</i>
<i>0</i>	<i>0</i>	<i>PER = 0, IRR = 0</i>
Maximum possible level = DCR_1	1	Minimum required IRR is the proportional standard deviation of $(R_A - S_p)$ Minimum required PER is proportional to the standard deviation of the market benchmark return R_m
$0 < DCR < DCR_1$	$\alpha = \frac{DCR}{DCR_1}$	Minimum required IRR is the same as above Minimum required PER is proportional to the standard deviation of actual IAH returns R_I
DCR is indeterminate. Any value of DCR chosen by management is achievable.	α is indeterminate	Very large buildup of PER and IRR

Note: The expression of α in Table 1 is derived in Archer et al. (2008).

4. Concluding Remarks

The analysis above shows that the use of IRR is key to covering potential losses on assets invested with IAH funds, and the PERs are needed to smooth the returns, so that desired returns to IAHs can be provided in the face of volatility in asset returns, and thereby help manage the level of DCRs.

The relationship between the PER/IRR and DCR is complex. Certain minimum amounts are needed to ensure that a targeted risk return combination can be provided to the IAH with a high probability, even if on rare occasions asset returns may turn negative and require the use of IRRs to offset the losses, and PERs to ensure a market-related return to the IAHs.

Since a variety of combinations of PER and IRR can yield a specific targeted return, the appropriate combination will have to be decided by IFSI management and based on the expectations of the likely usage of these reserves in the future. It would, however, seem prudent to use the transfers to PER and IRR, and transfers from shareholders (D_k) actively in good times to build up rapidly both PER/IRR to adequate levels. It would be important to establish prudential limits on the size of PERs and IRRs so as to ensure the appropriate sharing of risks and returns between shareholders and the IAHs. Further guidance on these issues would require additional empirical work on bank policies on PER/IRR and DCR.

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7

Towards Developing a Template to Assess Islamic Financial Services Industry (IFSI) in the World Bank-IMF Financial Sector Assessment Program (FSAP)¹

1. Background and Overview of the Paper

The purpose of the study is to review the methodology and procedures used in the Bank-Fund Financial Sector Assessment Program (FSAP) in order to identify the areas where additional guidance and benchmarks would be helpful to FSAP assessors in order to assess the development and stability of the Islamic Financial Services Industry (IFSI). The work program to develop additional guidance depends upon the state of regulatory frameworks, institutional infrastructure, and the availability of information on cross-country experiences. These factors are constrained by the fact that the industry is in its infancy.

¹This chapter is based on a working draft of a paper that was prepared by Dr. Sundararajan for the IDB-World Bank Working Group on Islamic Finance, November 2009.

The IDB-World Bank Working Group on Islamic Finance (WGIF) initiated this study, after its first meeting in Jeddah during January 24–25, 2009. At that time the WGIF held a brainstorming session with other stakeholders of the IFS industry, including the senior representatives from the Islamic Financial Sector Board (IFSB), International Islamic Financial Markets (IIFM), and the IMF, on “financial sector assessments” as a tool to support IFSI development and stability. These discussions led to the question whether it would be appropriate to examine how formal assessments of IFSI development and stability could be conducted in the context of FSAP, with a view to support efforts to identify regulatory gaps, development needs, and set out a country level reform agenda. This study aims to examine the recent developments in the FSAP and in IFSIs to take stock of the current state of methodology, tools, and procedures of the FSAP, and how well they apply to assess IFSIs. The study will identify the issues and gaps that need to be addressed to develop a guidance note that can facilitate assessments of IFSIs in the FSAP.

The FSAP was initiated in the aftermath of the Asian crisis in 1999, and has since evolved to become an important instrument for comprehensive assessments of financial stability and development needs of financial systems around the world. The purpose of the program is to reduce the likelihood and/or severity of financial sector crises and cross-border contagion, and to foster economic growth by promoting financial system soundness, financial sector development and diversity. The program aims to contribute to these objectives through the preparation of comprehensive assessments to national authorities. These assessments use a range of qualitative and quantitative tools in order to:

- identify strengths, vulnerabilities and risks;
- ascertain the sector’s development and technical assistance needs;
- assess observance and implementation of relevant international standards, codes and good practices and whether this observance addresses the key sources of risks and vulnerabilities and provides a robust infrastructure for financial development; and
- help design appropriate policy responses.

The Program is voluntary—i.e. it is conducted only at the request of the Bank–Fund member country for advanced economies, the Fund alone conducts the assessment, while for developing countries both the Fund and the World Bank jointly undertake the assessment.² The program has been reviewed both internally and externally, and the methodology of its assessment has continued to evolve, culminating in the most recent review by the Bank and Fund Boards in September 2009.³ As part of the response to the current international financial crisis, major countries have pledged to participate in the FSAP and have already begun to do so.⁴ Nearly 70% of the countries, represented as members in the IDB and IFSB, have either already completed their participation in FSAP, or have FSAPs that are currently underway.⁵

Previous reviews of the FSAP have confirmed that the FSAP has helped deepen the understanding of countries' financial sectors, their linkages with the rest of the economy, enriched the policy dialogue, added value by effectively addressing areas of financial sector policy where developmental and stability concerns are interlinked and overlap, and ensure consistency of both Bank and Fund advice. In light of these advantages, a question has been raised as to whether the development and soundness of IFSIs, and their contribution to overall financial stability and development can be promoted through enhanced coverage of IFSIs in the FSAP program, thereby strengthening the policy focus on the IFSIs. The question is relevant, because the industry has established itself as a key segment of the overall financial system in many countries, raising stability concerns. It is also seen to have a significant potential to become a key segment, both nationally and internationally, calling for appropriate

²For a discussion of objectives and scope & procedures of FSAP, see The World Bank and the International Monetary Fund, "Financial Sector Assessments & Handbook", (Washington DC, September 2005), Appendix A.

³For a listing of various reviews—both internal and external—of the FSAP program, see Section 3, Appendix 2 and Appendix 3.

⁴In the Declaration of the Summit on Financial Markets and World Economy, the leaders of the Group of Twenty, at their initial meeting in Washington on November 15, 2008, pledged to enhance sound regulation and stated that "To this end, all G-20 members commit to undertake a Financial Sector Assessment program (FSAP) report and support the transparent assessments of countries' national regulatory systems."

⁵See Appendix 1.

IFSI development policies and their impact on overall financial and real economic development.

1.1 FSAP Methodology—Overview

The key components of the FSAP methodology that are necessary for the assessment of the financial sector's stability and development are:

A. Macro-prudential surveillance and financial stability analysis to monitor the impact of potential macroeconomic, macrofinancial, and institutional factors that affect the soundness and stability of the financial system.

Conditions in the non-financial sectors are assessed by analyzing financial soundness indicators, financial structure and access indicators. Macroeconomic, sectoral, and tax-subsidy policies that affect financial stability are assessed by analyzing macro-economic forecasts, early warning indicators of macroeconomic stress, financial market indicators, and tax and tax policy.

Financial system risks and vulnerability are gauged by analyzing financial sector institutions and their determinants, in the aggregate, for peer groups and market segments. Market-based indicators and stress-tests are used to analyze the potential for contagion through common shocks and through inter-connections among sectors, institutions, and markets.

B. Analysis of the structure of the financial sector, its development needs, scope, competitiveness, and access.

Quantitative benchmarking and analyses of the financial structures and development indicators are conducted. This analysis should cover indicators of the level of development, breadth, depth, efficiency, concentration, competitiveness, openness, inclusiveness of the financial system, and the role of the public sector.

The factors that govern access to the financial services of key sectors (e.g. SMEs) and population groups are analyzed.

Factors that characterized missing or underdeveloped markets and their impact are assessed.

C. Analysis of the legal and institutional frameworks, and the operational effectiveness of financial policies.

The supervision, regulation and their effectiveness to help manage the risks and vulnerabilities are assessed to protect market integrity, provide incentives for strong risk management and good governance of financial institutions and markets. (This work assesses whether key international standards for financial supervision are observed.)

The legal infrastructure for finance, the insolvency regime, creditor rights, and financial safety nets are analyzed.

The infrastructure for systemic liquidity, transparency, governance and information are assessed.

The assessment of the stability of the financial system could focus only on banks, but depending on country circumstances also cover the security market, leasing and insurance sectors.

Assessments of macro-prudential surveillance systems and the structure of the financial sector typically involve a range of quantitative tools. These are: the determinants of financial soundness indicators, peer group comparisons, various stress testing exercises, and determinants of financial structure, depth and access indicators (including peer group comparisons). The quantitative tools have continued to evolve over the past decade. The assessment of the legal and institutional frameworks typically involve qualitative methods that draw on existing international standards and assessment criteria, and on best practice guidelines that have been developed. The objective is to ensure that the criteria used for the assessments remain uniform across countries and systems. These standards, assessment criteria and best practice guidelines continue to evolve, posing challenges to the assessment process.

1.2 Objectives of the IFSI Assessment

The assessment methodology outlined above is relevant to assess IFSIs' development and stability. Additional assessment criteria and specific guidance on how to use them are also necessary to assess an IFSI in FSAP. These will reflect the products, governance arrangements, and risk characteristics that are unique to Islamic finance.

Given the objectives and methodology of FSAP, the specific objectives of an IFSI assessment in FSAP are twofold: 1) to assess the extent to which

the IFSI is sound and stable, and whether risks and vulnerabilities in the IFSI can pose a threat to the overall stability of the financial system, 2) to assess the state of development of the IFSI within the overall financial system, and the extent to which the sector has contributed to strengthening economic growth and enhancing access, and 3) to identify financial policy areas that require adaptations and strengthening to support IFSI stability and enhance its development and impact.

This paper will explain the rationale for such an IFSI assessment in FSAP, propose a work program to develop the needed additional assessment criteria, and develop a preliminary assessment methodology for Islamic finance that is used in FSAP.

The rest of the paper is organized as follows:

Section 2 takes stock of the status and recent developments in IFSIs. It revisits developments in selected IDB/IFSB member countries and develops the rationale for IFSI assessment in the FSAP, as a tool to encourage a policy focus on the development and stability of IFSIs. The recent financial crisis has underscored the need to develop the missing infrastructure components for IFSI to enhance its resilience.

Section 3 provides a background on recent methodological and procedural developments of the FSAP, highlighting the outcome of various reviews of FSAP. While the methodology as summarized in Section 1 has withstood the test of time, the need for increased flexibility in the use of the FSAP has led to several methodological innovations. This section reviews the coverage of IFSIs in FSAP reports for selected countries.

Section 4 considers each component of the FSAP methodology and how well they meet the needs of assessing IFSIs. This analysis helps to identify the gaps in the assessment methodology.

Section 5 summarizes an action plan to develop a comprehensive methodology for IFSI assessment in the FSAP.

2. Recent Developments in IFSI, and the Rationale for an Assessment Framework

The rapid growth in Islamic banking, and more recently Islamic capital markets and *takāful* (Islamic insurance) products, has motivated policymakers to address the challenges of fostering the orderly expansion

of the industry and ensuring its stability. While the share of Islamic finance in the global financial system is still small, it constitutes a significant and rising share of the financial sector in many countries and regions. It provides an alternative to conventional finance, but also competes with it. The global expansion of institutions that offer Islamic financial services (IFSI) and their growing significance in several international and regional financial centers, such as Singapore, London, Paris, and Hong Kong, have highlighted the need to facilitate regional and international integration of Islamic financial services industry, and to help develop an internationally competitive industry. The Islamic banking industry's total assets are estimated to reach \$1 trillion by 2010; issues of *sukuk* could reach \$200 billion. The top 500 Islamic Financial Institutions listed by Banker's Magazine recorded *Shari'ah* compliant assets of \$639 billion by end November 2008, which reflects a 27.6% year-to-year increase.

2.1 Divergent IFSI Development

The rapid growth of IFSIs masks the considerable differentials in the size and pace of growth among countries (Table 1). These reflect differences in how the demand for Islamic financial services has evolved, as well as country strategies that have caused divergences in the speed with which financial policy frameworks for Islamic finance have been adapted to foster IFSI development.

2.2 The IDB's Role in the Development of IFSIs

A strategic objective of the Islamic Development Bank Group is to develop the Islamic Financial Services Industry. The IDB has undertaken a range of activities to promote policy dialogue on key IFSI development issues. These issues include Islamic microfinance, technical assistance to support resilient IFSIs, establishing International Islamic Infrastructure Institutions (IIIs), direct equity participation in the IFSI, knowledge development and training on Islamic finance, also through the Islamic Research and Training Institute (IRTI).

IRTI was established by the IDB in 1981 to undertake research on Islamic economics and finance, and to provide training and information

Table 1 Islamic Finance Development: A Cross-country Comparison

<i>Country</i>	<i>Share of Islamic banking in total bank assets (%)</i>	<i>Size of Islamic banking (as % of GDP)</i>	<i>Growth in IFSI bank assets (% per annum)</i>
Saudi Arabia	21 ⁵	20 ⁵	24 ²
Bahrain	23 ⁹	47.5 ⁹	
United Arab Emirates	12.6 ¹⁰		35 ⁴
Oman			
Qatar	31 ¹³		
Kuwait			
Malaysia	16 ¹¹	26 ¹¹	20 ¹²
Indonesia	2 ¹¹	1 ¹¹	44 ⁷
Brunei	35 ¹¹	35 ¹¹	2 ⁸
Pakistan	5.0 ¹³	4.5 ¹³	16 ⁷
Bangladesh	6 ³		18 ¹
Sudan	100 ⁵	17.1 ⁵	33 ⁶
Singapore			
Sri Lanka			
UK			
Jordan			
Lebanon			

Source: FSAP reports, and central bank publications.

Notes: ¹1988–97 ⁴2002–06 ⁷2003–09 ¹⁰2006
²2000–03 ⁵2003 ⁸2004–08 ¹¹2008
³2002 ⁶2003–07 ⁹2005 ¹²2008–09
¹³2009

services, primarily to IDB member countries. In addition to IRTI, the IDB has helped establish other IIIIs, such as the Islamic Financial Services Board (IFSB), the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), and the International Islamic Financial Market (IIFM) (their functions are noted in sections below). The IDB has formulated a thematic strategy paper for IFSI development for the

medium term, and plans to undertake an annual report on the state of IFSI development.

2.3 Prudential and Accounting Standards to Support the Development of IFSIs

In order to provide a sound regulatory framework for the IFSIs, and support their development, the Islamic Financial Services Board (IFSB)—an international organization—was set up in 2002.⁶ The main purpose of the IFSB is to develop standards and guidelines for the prudential supervision of the IFSIs. Over the past five years, the IFSB has issued a wide spectrum of standards, guidance papers and technical notes in pursuit of its objectives. The standards address a wide range of prudential and governance issues in Islamic financial services that cover banking, capital market and *takāful* components. For banking, in particular, the IFSB issued standards address risk management (2005); capital adequacy (2005); corporate governance (2006); disclosures to promote transparency and market discipline (2007); and the supervisory review process (2007).

Together, these standards constitute the BASEL II equivalent framework for Islamic Finance. In addition, standards and guidelines have been adopted, or issued for public consultations. These are: capital adequacy requirements for *sukuk* securitizations and real estate investments; governance of Islamic Collective Investment Schemes; *Shari'ah* governance; governance of *takāful* operators, conduct of business of IFSI and recognition criteria for ratings in Islamic Finance (Box 1 lists the standards, guidance notes, and exposure drafts issued by IFSB).

The IFSB is also engaged in a variety of activities to facilitate the implementation of IFSB standards in member countries (through workshops, seminars, and training initiatives), and the process of adoption of IFSB regulatory, supervisory and governance standards is still in its early stages.

In order to provide accounting, auditing, and reporting standards for the IFSI, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) was established in 1991. The AAOIFI has not only

⁶The establishment of the IFSB was facilitated by technical coordination by the IMF and supported by the IDB and several founding central banks.

Box 1 Islamic Financial Services Board: Standards, Guidelines, Notes, and Exposure Drafts

Standards:

- IFSB-1: Guiding Principles of Risk Management for Institutions (other than Insurance Institutions) offering only Islamic Financial Services
- IFSB-2: Capital Adequacy Standard for Institutions (other than Insurance Institutions) offering only Islamic Financial Services (IFSI)
- IFSB-3: Guiding Principles on Corporate Governance for Institutions Offering Only Islamic Financial Services (Excluding Islamic Insurance (*takaful*) Institutions and Islamic Mutual Funds)
- IFSB-4: Disclosures to Promote Transparency and Market Discipline for Institutions offering Islamic Financial Services (excluding Islamic Insurance (*takaful*) Institutions and Islamic Mutual Funds)
- IFSB-5: Guidance on Key Elements in the Supervisory Review Process of Institutions offering Islamic Financial Services (excluding Islamic Insurance (*takaful*) Institutions and Islamic Mutual Funds)
- IFSB-6: Guiding Principles on Governance for Islamic Collective Investment Schemes
- IFSB-7: Capital Adequacy Requirements for *Sukuk*, Securitisations and Real Estate Investment

Exposure Drafts:

- ED8: Guiding Principles on Governance for Islamic Insurance (*takaful*) Operations
- Conduct of Business for Institutions offering Islamic Financial Services (IFSI)
- Guiding Principles on *Sharia'ah* Governance System

Guidance, Strategy and Technical Documents:

- GN-1: Guidance Note in Connection with the Capital Adequacy Standard: Recognition of Ratings by External Credit Assessment Institutions (ECAIs) on *Sharia'ah*-Compliant Financial Instruments
- Issues in Regulation and Supervision of *Takaful* (Islamic Insurance) by IFSB and International Association of Insurance Supervisors) (August 2006)
- Islamic Financial Services Industry Development: Ten-Year Framework and Strategies (May 2007)
- Compilation Guide on Prudential and Structural Islamic Finance Indicators: Guidance on the Compilation and Dissemination of Prudential and structural Islamic Finance Indicators for Banking and Near-Banking Institutions Offering Islamic Financial Services (November 2007)
- TN-1: Technical Note on Issues in Strengthening Liquidity Management of Institutions Offering Islamic Financial Services: The Development of Islamic Money Markets (March 2008)

played a pioneering role in designing accounting and auditing standards for Islamic finance instruments and institutions, but also complemented these with *Shari'ah* standards for contracts and governance, and built awareness of major risk and prudential issues in Islamic finance. However, the adoption of these standards is slow. There remain many challenges to upgrade the standards, and develop new ones, in order to support the rapid innovations in the industry, and to align the accounting and auditing standards more closely with the regulatory standards (for example, IFSB 4 on disclosures to promote transparency and market discipline, which is the Basel II—Pillar 3 equivalent for IFSI).

The International Islamic Financial Market (IIFM), set up in 2002 in Bahrain, currently serves as a coordinator of industry initiatives to develop contract standards for Islamic money and capital market products. For example, it has developed master agreements to facilitate interbank commodity *murabaha* transactions, which IFSIs commonly use instruments for the short-term placement of surplus funds.

The IFSB has collaborated with the Islamic Development Bank and others to focus on key developmental challenges that are critical for the effective supervision and stability of IFSIs. These challenges include the need to develop the infrastructure of liquidity management for Islamic finance, including the development of Islamic money and capital markets, particularly sovereign *sukuk* markets; the need to design an effective legal framework for Islamic finance; the need for comprehensive policy strategies at the domestic level, and the supporting international infrastructure institutions, in order to promote the sound development of IFSIs. In particular, the IDB/Islamic Research and Training Institute (IRTI), and IFSB have developed broad strategies for the development of an efficient, competitive, sound, sustainable IFSI, as outlined in “Islamic Financial Services Industry development-Ten-Year framework and strategies” (Ten-Year Framework for short, published in 2007 www.ifsb.org/docs/10_yr_framework.pdf).

As of 2005, the size and structure of the industry, and the challenges it faces were described in the Ten-Year Framework. These formed the basis for a range of strategic initiatives proposed in the document. While the size of the industry has grown rapidly over the past five years, the challenges facing the industry still remain. In particular, the

challenge of building an enabling environment for Islamic finance and providing a strategic policy focus for the industry remain a challenge in many countries. The impact of the recent crisis has focused renewed attention on how best to encourage countries to adopt effective policy frameworks that foster an enabling environment and regulatory incentives. It is in this context that this study explores how best to use the assessment tools of FSAP to support the development and stability of the IFSIs.

2.4 Assessment under FSAP to Foster Policy Focus on IFSI Development and Stability

One of the key challenges going forward is to encourage countries to adopt effective development strategies to promote IFSI development, fill the key infrastructure gaps, and implement the IFSB standards in order to support IFSI development and stability. Countries are at different stages in the development of their IFSIs, and the implementation of an effective IFSI development strategy for IFSI stability requires a comprehensive framework to assess the gaps in infrastructure and baseline supervision of Islamic finance. It is appropriate to ask whether the Bank-Fund FSAP is useful to identify the gaps in financial policy that support IFSIs, and encourage countries to adopt a stability framework.

Assessing the gaps in infrastructure and the supervision of Islamic finance has become more urgent in light of the current global financial crisis. While the industry has withstood the impact of the global financial crisis rather well, given its limited exposure to the sorts of structured products that undermined conventional finance, the impact of the slowdown in the real economy and in the real estate markets has affected IFSI expansion, and postponed many planned *sukuk* issues. The experience of the liquidity crunch in conventional finance, and the macro prudential linkages that underlie the current crisis have raised the question as to whether the infrastructure for Islamic finance—including the legal, liquidity, and supervisory infrastructure—is sufficient to cope with future crises. Box 2 provides a brief summary of a recent initiative to address the implications of the global financial crisis for Islamic finance.

Box 2 The Task Force on Islamic Finance and Global Financial Stability

The Task Force on Islamic Finance and Global Financial Stability was formed in response to the recommendations of the Forum on the Global Financial Crisis and its Impact on Islamic Financial Industry, which was organized by the Islamic Development Bank (IDB) Group on 29 October, 2008. The Task Force was headed by H.E. Dr. Zeti Akhtar Aziz, Governor of Bank Negara Malaysia, and included international scholars and experts in Islamic finance. The Task Force reviewed the on-going responses to the global financial crisis including the impact on the IFSIs, the current status of Islamic finance infrastructure and its readiness to cope with crises, and the inherent features of the IFSI that could contribute to stability. The Task Force concluded that the inherent features of the IFSI that derived from *Sharia'ah* principles, if properly realized, could contribute to global financial stability. They stressed, however, that before that happens significant internal reforms of the industry are needed. The regulatory architecture of the industry should reinforce effective risk management, and genuine risk sharing. Existing models of financial intermediation need to be improved to better represent the spirit and objectives of Islamic finance. The key institutional infrastructure for IFSIs, notably their systemic liquidity infrastructure, and legal infrastructure for crisis management (including emergency lending, safety nets, and insolvency and creditor rights arrangements) need strengthening. Better integration of Islamic social institutions—e.g. *awqaf*, *qard*, *zakat*, forbearance—into Islamic finance and Islamic micro finance would increase inclusion. The Task Force proposed the formation of the Islamic Finance Stability Forum, under the auspices of IFSB to improve the coordination among the stakeholders. *Inter-alia*, the Forum is a platform for IDB and IFSB members to address the following primary objectives:

- a) to build cross-border consensus and collaboration on the strategic direction for the IFSIs to be better aligned to the objective of financial stability;
- b) to support the implementation of strategic and synergistic policies that scale-up the role of IFSIs from being profit-based institutions to cover social institutions such as *zakat*, *awqaf* and private philanthropy; and
- c) to encourage functional and operational relationships between Islamic standard-setting bodies and the relevant national authorities to facilitate the adoption of relevant prudential and best practice standards. The IFSB General Council resolved to hold periodic Forums to discuss stability issues in Islamic finance (November 23rd, 2009 meeting).

3. FSAP and On-going Refinements to Its Methodology

In May 1999, the Financial Sector Assessment Program (FSAP) was launched as a pilot program by the management of the World Bank and the International Monetary Fund. The program came in response to calls from the international community to increase international cooperation, reduce the likelihood and/or severity of financial sector crises and cross-border contagion, and foster growth through financial sector soundness and diversity.

The joint Bank-Fund program was seen as a tool to bring together the linkages between financial sector soundness and performance on the one hand, and macroeconomic and real sector developments on the other. It was expected to optimize the use of scarce expert resources, avoid the duplication of efforts, and promote the consistency of advice on financial sector issues through the integrated analysis of development and stability issues. While country participation in the FSAP is voluntary, the program has been structured from the outset as a means to strengthen the monitoring of financial systems in the IMF's bilateral surveillance through Article IV consultations—which is mandatory.

Intensive discussions by the Bank and Fund Boards on the lessons from the pilot program resulted in making the program a regular feature of Bank and Fund operations in December 2000/January 2001. The program was further streamlined and improved through a series of internal and external reviews, which culminated in a review of the program by both Boards in September 2009. (Appendix 2 gives a brief history and the range of internal reviews and external evaluations that have guided the FSAP. Appendix 3 provides a listing of the reviews of analytical tools used in the FSAP. These reviews of methodology have also shaped the evolution of the FSAP program.)

3.1 Overview of Recent FSAP Reviews

The internal reviews of the FSAP, of its methodology and processes through 2005, and subsequent external evaluations in 2007 and 2008 (see Appendices 2 and 3) resulted in several stances. Specifically, they have:

- affirmed the value of the program in enriching dialogue with the authorities, and encouraging institutional and policy changes;
- provided guidance on setting priorities for country participation in the FSAP, and on streamlining and focusing the assessments;
- encouraged strengthened assessment tools of the FSAP, particularly as they capture cross-border contagion, and analyze missing and underdeveloped markets and access issues;
- stressed the need for closer links with the Fund's surveillance, the World Bank's development work, and the technical assistance (TA) programs of both institutions; and
- called for assessments that allow for more flexibility (particularly when they are updates), and that reflect special country circumstances.

Over the past decade, the methodology and assessment tools of FSAP have continued to be refined and strengthened. There has been progress in compiling Financial Soundness Indicators, strengthening stress testing methodologies, and enhancing the design of standards and their associated assessment methodologies. However, the links between FSAP and the coverage of financial sector issues in Fund surveillance, and between the FSAP and the World Bank's Country Assistance Strategy have remained weak. This is an issue that needs to be urgently addressed in light of the current global financial crisis.

The expected streamlining and focusing of FSAPs did not occur. The FSAP updates generally remained comprehensive, instead of being focused on key issues and themes, and the average interval between FSAPs for a country increased from five to six years. With the increasing complexity of international standards and their assessment methodology—which in turn reflects the growing sophistication of financial systems, and the implementation of Basel II—the resource needs for comprehensive assessments of standards under FSAP have risen. This has reduced the number of standards that are assessed in each FSAP.

The review of the FSAP in 2009 is an attempt to address these issues, and to respond to the calls (from G20, and the International Monetary and Financial Committee) for better tools, and for closer links with the Fund's

surveillance and the World Bank's development work, in the aftermath of the global financial crisis.

3.2 Status of the FSAP Methodology—Impact of the Global Crisis and the Latest FSAP Review

The recent financial crisis has created major new challenges for the FSAP that require that the assessment tools be significantly strengthened, and the scope of assessments be better aligned with country needs and circumstances. The key innovations include:

- The option of using a Fund-led financial stability module or a World Bank-led development module to undertake FSAP updates (depending on country circumstances) with a clear definition of stability and development assessments.
- Improved analytical tools for stability assessments in the FSAPs. These include improvements in new areas such as macro prudential risk analysis (which was highlighted by the crisis), and development assessments (e.g. in the areas of insolvency regime, access to finance, credit reporting systems, pension systems, etc.). A core set of financial sector indicators were to be developed and bench-marked.
- The option of re-assessment of selected principles of a financial policy standard. Initial assessments of standards are comprehensive, with clear criteria (to be developed) for determining the principles to be reassessed.

These ongoing developments in the FSAP process underscore the challenges that lie ahead when developing a comparable methodology to assess IFSIs in the FSAP.

3.3 Scope of IFSI Assessments in Selected FSAPs and the Need for Guidance for IFSI Assessments

FSAP reports and Basel Core Principles (BCP) assessments, for a sample of nine countries with Islamic financial institutions and markets, were reviewed to analyze the way IFSIs are treated in FSAP reviews. The results are summarized in Table 2, and are further discussed in Appendix 5.

Table 2 Treatment of IFSIs in FSAPs

<i>Coverage of IFSI in FSAP</i>	<i>Saudi Arabia</i>	<i>Qatar</i>	<i>Bahrain</i>	<i>United Arab Emirates</i>	<i>Bangladesh</i>	<i>Pakistan</i>	<i>Sudan</i> ⁶	<i>Iran</i> ⁶	<i>Kuwait</i>
Data of FSIs for IFSI is presented separately	No	No	Yes	No	No	No	N/A	N/A	No
State of development of IFSI is described	Yes	Yes	Yes	Yes	No ⁴	No ⁴	N/A	N/A	Yes
Indicators of IFSI development presented separately	Yes	No	No	No	No	No	Yes	Yes	No
Unique characteristics and risks in IFSI is noted in BCP Assessment or in FSSA	No ¹	No ¹	Yes	Yes	No	No ⁵	Some-what	Yes	In a limited way ¹⁰
Impact of PSIA on Bank Capital discussed	No	No	Yes	No	No	No	No	No	No
IFSI development issues reviewed	In a limited way ⁸	No	In a limited way ³	In a limited way ⁹	No	No ⁷	Yes	Yes	No

Separate stress testing of IFSI in FSSA's	No	In a limited way ²	Yes	Yes	No	No	N/A	N/A	No
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¹ The Basel Core Principles (BCP) assessment states that the country does not differentiate between conventional and Islamic Banks in the implementation of Basel Core Principles, with some exceptions.

² The stress test for Qatar did not take into account the role of investment accounts in sharing risks due to data availability, although the results of the stress tests were shown separately for Islamic Banks.

³ The importance of Islamic finance for the overall financial and economic development is noted, but not discussed.

⁴ For Pakistan, the share of Islamic finance—0.5% of total bank assets—is noted, the number of IFSIs is stated, but not updated in the 2008 FSAP update; for Bangladesh the 2003 FSAP mentions the presence of IFSIs and their share (0% of bank assets in mid-2002).

⁵ The BCP assessment mentions the existence of a separate Islamic Banking Department—to supervise Islamic Banks—in the State Bank of Pakistan, but there is no further analysis of its function.

⁶ All Islamic financial systems. Iran's FSSA report has an Appendix on Islamic financial contracts and a text section on risks in and supervision of Islamic Banks. The direct administrative controls—notably centrally specified rates of return—limits the application of Islamic principles. No BCP assessment was undertaken.

⁷ The FSSA notes that new investments, including *sukuks*, are being introduced without consideration of longer term consequences for debt management and market development, underscoring the absence of a “medium term debt management strategy”.

⁸ Constraints on *Shari'ah* compliant mortgage market are stressed. See Appendix 5 for details.

⁹ The importance of building sovereign *sukuk* markets to provide systemic liquidity infrastructure for IFSIs is emphasized.

¹⁰ For Kuwait, the need to include Islamic banks in the monetary operations framework is mentioned. A brief box on Islamic finance supervision is presented. See Appendix 5 for details of coverage of IFSIs in the FSAP reports.

The coverage of IFSIs in FSAP ranges from minimal in most cases, to fairly extensive in one case, but with significant gaps in the scope of assessments in all cases. None of the FSAPs reviewed deal with development issues in Islamic finance in any significant way. A few FSAP reports acknowledge the presence of Islamic financial institutions and their share in total banking assets, but contain no analysis of development issues. In one FSAP, the difficulty in repossessing collateral was based on a *Shari'ah* court ruling that denied the repossession on compassionate grounds. The development of a *Shari'ah*-compliant mortgage market for owner occupied housing was equally affected by these compassionate considerations. In another instance, the need to bring Islamic banks into the monetary policy framework was mentioned. With the exception of Bahrain, none of the FSAP reports contained separate data for Financial Soundness Indicators for Islamic Finance. Again, with the exception of Bahrain, none of the FSAP reports allowed for specificities of Islamic finance in stress-testing exercises. The results of the stress tests were presented separately for Islamic banks in one FSAP, but the specific characteristics of Islamic finance (nature of financing contracts and risk sharing with Investment Account Holders) were ignored in the stress tests due to data constraints.

In several cases, BCP assessments or FSSAs specifically noted that the authorities did not differentiate between Islamic and conventional banks in the implementation of BCP. In a few of these FSAPs, the specific areas where Islamic banks are treated differently are noted (e.g. allowing commodity price risks, holding real estate, and applying separate accounting standards—in some cases AAOIFI standards—for Islamic banks). In one FSAP, the need for a further review of regulations to capture the specific risks in Islamic banking was mentioned as was the need to strengthen the supervisory assessments of liquidity, transparency and disclosure, and Islamic legal underpinnings of financial transactions. There was no awareness of IFSB prudential standards in the BCP assessments, even though the AAOIFI capital adequacy standards were mentioned in some FSAPs.

These findings suggest the following actions:

- To build greater awareness of the risk management and development issues in Islamic finance,
- to build adequate databases to support the effective compilation and monitoring of prudential and development (including access) indicators for IFSIs,

- to create adequate assessment tools—such as guidance notes, methodologies, etc.—on Islamic finance supervision, soundness, and infrastructure issues, and
- to encourage authorities to volunteer for systematic assessments of IFSIs which focus on development issues in some countries, and stability and development issues in others.

The next section reviews the feasibility of undertaking IFSI assessments. It attempts to identify the key gaps that should be filled to facilitate systematic assessments and policy dialogue through the FSAP process.

4. Filling the Gaps in the Framework to Assess IFSIs

4.1 IFSI Development and Access Indicators: Analysis and Benchmarking

The key objective when assessing the state of IFSI development, and its contribution to enhanced access to finance, is to identify the policies that are needed to foster sound and socially inclusive IFSI development. This objective requires the compilation of core Islamic finance development indicators (IFDI), also referred to as Structural Islamic Finance Indicators (SIFI) that measure the size, structure, efficiency (or liquidity), and inclusiveness of the system for a country and its comparators. The analysis and benchmarking of such cross-country data is the first step to assess if policy gaps exist. Such analysis should lead to the systematic examination of the enabling environment—the institutional architecture and infrastructure—for Islamic finance, and the broader macroeconomic and sectoral policies, in order to identify policies needed to foster IFSI development and remove any barriers to access.

The World Bank has developed a set of core financial development indicators as part of the FSAP Stock Taking Project.⁷ A background paper

⁷World Bank staff has recently completed the Financial Sector Assessment Program Stock Taking Project, co-financed by the World Bank and Swiss State Secretariat for Economic Affairs (SECO) to take stock of developmental lessons learned from the FSAP and make recommendations for suitable adaptations of the FSAP going forward. Two overview papers have been issued: 1) Augusto De La Torre and Alain Ize.

under this project identifies—based on Principal Component analysis—a parsimonious set of 10 “core” financial development indicators and proposes a methodology to benchmark the policy component. As part of this project, detailed guidance notes on measuring and assessing access to finance, pension systems, credit reporting systems, and insolvency and creditor rights regimes have been prepared.

A comparable exercise to identify and compile a core set of Islamic Finance Development Indicators (IFDI, or SIFI, often used interchangeably) is needed. The lack of such data and related benchmarking exercises is a significant gap in IFSI assessments. Many of the core FDIs for conventional finance have a ready counterpart in Islamic finance. In addition, as part of the Islamic Finance Database Project that has been initiated by the Islamic Financial Services Board,⁸ a set of core SIFIs has been identified. Tables 3a–3c provide a listing of these indicators. The systematic compilation of such indicators and their analysis is still in its early stages. While data can be compiled at a country-specific level from supervisory and published annual reports, their benchmarking and analysis is based constrained by the lack of comparable and comprehensive cross country data. The Islamic Finance Database Project of the IFSB, and the IDB/IRTI’s Islamic Banks Information System (IBIS) are efforts that are designed to address these data gaps. In addition to these official efforts to improved data, several data vendors, industry organizations, and advisory firms are providing information on the size and structure of different segments of the IFSIs. Currently, year-to-year and cross-sectoral comparability of many data sources remains a problem (see Box 3 for a brief overview of data sources on IFSI).

The fundamental rationale for IFSI development is to ensure “social inclusiveness” by enhancing access to finance for those segments of the Muslim population, who require the financial services they use to be

“Developmental Issues in the FSAP: Taking Stock and Looking Forward”; and 2) Alain Ize, Rafael Paro, and Sarah Zekri, “The FSAP Program; A Statistical Analysis”; In parallel, a number of guidance notes, and a background paper on core development indicators were prepared.

⁸See IFSB “Compilation Guide on Prudential and Structural Islamic Finance Indicators: Guidance on the Compilation and Dissemination of Prudential and structural Islamic Finance Indicators for Banking and Near-Banking Institutions Offering Islamic Financial Services” (November 2007).

Table 3a Core Financial Development Indicators (FDIs) for Conventional Finance (World Bank)

1. Private credit/GDP
2. Bank deposits/GDP
3. Net interest margins
4. Stock market caps/GDP
5. Number of listed firms
6. Turnover (value traded to market cap ratio)
7. Private bonds/GDP
8. Public bonds/GDP
9. Assets of institutional investors/GDP
10. No. of ATMs per 10,000 population.

Table 3b Core Structural Islamic Finance Indicators (IFSB)

FINANCING AND FUNDING	1.	Percentage of financing (by type of <i>Shari'ah</i> -compliant contract) to total <i>Shari'ah</i> -compliant financing.
	2.	Ratio of total <i>Shari'ah</i> compliant financing to overall financing.
	3.	Sectoral distribution (by economic activities) of <i>Shari'ah</i> -compliant financing to total <i>Shari'ah</i> compliant financing.
	4.	Ratio of total <i>Shari'ah</i> compliant funding to overall funding and liabilities.
	5.	Ratio of PSIA to total <i>Shari'ah</i> compliant financing.
INFRASTRUCTURE	1.	Number of total banking and near-banking IFSIs.
	2.	Ratio of resident branches per thousand inhabitants.
	3.	Ratio of resident foreign-owned branches and/or banking subsidiaries per thousand inhabitants.
	4.	Ratio of overseas branches and/or banking subsidiaries per 1,000 inhabitants in host countries.

compliant with *Shari'ah* rules and principles. Therefore, the question whether the development of IFSIs has enhanced access to finance is a key aspect of the IFSI development assessment. Insofar as IFSI development expands the availability of financial services to all communities—both Muslim and non-Muslim—by offering competitive alternatives to

Table 3c Encouraged Structural Islamic Finance Indicators (IFSB)

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- 1(a). Resident employees-to-branches ratio (of domestically incorporated IFSIs and/or foreign-controlled IFSIs)
 - 1(b). Overseas employees-to-branches ratio (of domestically incorporated IFSIs)
 - 2(a). Ratio of executive employees to total employees
 - 2(b). Ratio of non-executive employees to total employees
 - 3(a). Size of the Islamic banking segment vis-à-vis the financial system (in asset terms)
 - 3(b). Financing-to-GDP ratio
 - 4. Size of the Islamic non-banking segment vis-à-vis the financial system (in asset terms)
 - 5(a). Size of the *takaful* segment vis-à-vis the financial system (in asset terms)
 - 5(b). Gross contributions-to-GDP ratio
 - 6(a). Size of the Islamic capital market vis-à-vis the financial system (in asset terms)
 - 6(b). Market capitalization *Shari'ah* compliant stocks-to-GDP ratio
-

Source: Thorsten Beck, Erik Feyen, Alain Ize and Florencia (2008), “Core Financial Development Indicator”. Background paper prepared for the World Bank’s FSAP Stock-Taking Project. IFSB (2007).

conventional financial equivalents, it also promotes overall financial sector development and access to finance for all communities. The checklist of questions on access issues in FSAPs, presented in the World Bank Guidance Note on Assessing Access to Finance⁹ is a valuable tool that the IFSI assessors can use for a first look at the access problem in the country concerned. More specific information on the usage of Islamic finance—for example, the proportion of households who do not use available financial services due to religious reasons—requires a more dedicated data collection effort.

The measurement of access to Islamic finance, and the development of indicators that show the levels and barriers to access to Islamic finance, are still in their formative stages. Some of the aggregate indicators (such as the number of deposit accounts in all banks, the number of branches, and ATMs per 1,000 people, the average size of loan or deposit accounts,

⁹See Asli Demirguc-Kunt, “Assessing Access to Finance”, Guidance Note prepared under the FSAP Stock Taking Project, May 2008.

Box 3 Data on Islamic Finance

Data from National Authorities

Data compiled from country level official sources—e.g. aggregate data on IFSIs provided by central banks and regulatory agencies—are unreliable and uneven for cross-country analysis. Some countries publish aggregate data on prudential and structural indicators for IFSIs and for conventional banks separately, but many do not, and aggregate both Islamic and conventional bank statistics into one aggregate. In other words, using all IFSIs as a peer group is not yet a common practice. Moreover, differences in the aggregation, consolidation, and accounting standards make cross-country comparisons difficult. An IFSB project has tried to overcome these problems by developing a uniform “Compilation Guide for PSIFIs”, and is encouraging countries to start compiling data that are based on the compilation and dissemination standards specified in the Guide. These efforts are ongoing.

Data from International Islamic Infrastructure Institutions

- i. The Islamic Banks and Financial Institutions Information System (IBIS), which was established by the Islamic Research and Training Institute, provides bank-by-bank data for IDB member countries.
- ii. The General Council for Islamic Banks and Financial Institution (CIBAFI) is a trade association, which provides extensive information on IFSI developments, including occasional IFSI statistics.
- iii. Data from private sector information services such as Bankscope provides extensive bank-by-bank data and allows for their aggregation in various dimensions, including for country-specific Islamic banks.
- iv. The Islamic Finance Information Service provides data on Islamic capital markets, notably on *sukuks* and *Shari’ah* compatible stocks.
- v. *Failaka* advisors specialize in data on *Shari’ah*-compliant collective investment schemes.

the number and capitalization of listed firms) can be compiled for conventional and Islamic finance segments—separately, from bank level and supervisory data, and from information on firms that are screened as *Shari’ah* compliant. However, survey-based data on the access to Islamic finance are not readily available for many countries, even if they are available for conventional finance.

Many of the indicators of access are typically obtained from survey data. These include: the percentage of households with a bank account (the percentage using Islamic bank accounts), the percentage of firms

using external finance from all sources (and the percentage using IFSIs), information on eligibility barriers (documentation requirements, time to process loan applications) and information on affordability barriers (minimum balances, the minimum size of loans, etc.). Information for all banks and for IFSIs—separately—will require coordination between the IDB and the various agencies (e.g. World Bank and the IFC) that are already undertaking surveys for conventional finance. The insertion of relevant additional questions in the household and enterprise surveys would help fill the data gaps.

According to a study issued by CGAP (The Consultative Group to Assist the Poor), “Islamic microfinance has the potential to expand access to finance to unprecedented levels throughout the Muslim world”. An estimated 72% of people living in Muslim majority countries do not use formal financial services (Honohan [2007] mentioned in the CGAP study). Policies to develop Islamic microfinance are important for poverty alleviation through enhanced access to finance. A number of IFC-commissioned market studies suggest that there is strong demand for Islamic microfinance products. Nevertheless, the survey by CGAP shows that the outreach of Islamic microfinance is fairly low, and the expansion of Islamic microfinance faces many challenges.¹⁰

The IDB/IRTI has conducted extensive research on good practices in the provision of Islamic microfinance services, has highlighted the issues and challenges in developing Islamic microfinance, and formulated recommendations to strengthen the regulatory and policy framework for microfinance. Integrating Islamic social institutions, such as *zakat*, *awqaf*, and *qard Hassan* with microfinance initiatives is emphasized to reach out to the poor. The ultimate objective is to uplift the very poor to become productive members of the society through comprehensive microfinancial services.¹¹

¹⁰Nimrah Karim, Michael Tarazi, and Xavier Reille, “Islamic Microfinance: An Emerging Market Niche”, CGAP Focus Note, No. 49, August 2008.

¹¹IRTI, “Islamic Microfinance Development: Challenges and Initiatives”, Dialogue Paper No. 2 (2008), gives an overview of experiences and policy recommendations; Mohammed Obaidullah, “Islamic Microfinance in Poverty Alleviation—Lessons from Experiences in selected IDB Member Countries”, IRTI/IDB (2008), for an analysis of case studies in Islamic micro-finance.

4.2 Islamic Social Institutions and Access to Finance

The “Ten-Year Framework and Strategies” document identifies the potential role of traditional Islamic social institutions like *zakah*, *awqaf*, and *qard Hassan* in mitigating poverty and increasing social welfare, and proposes that if these institutions are integrated into the contemporary financial sector, they have a large potential for economic development. While attempts to use *zakah* as a means to foster micro finance has had only a mixed success (see CGAP study noted above), the scope for using other social institutions—such as *awqaf*—needs further exploration. Additional information and guidance from IDB experience in *awqaf* property development, and from other national experiences may provide a basis for further guidance on best practices that can be used to assess national efforts in these areas. During a financial crisis when the poorer segments of the society may often be significantly affected, *zakat* and *awqaf* can be used by both public and private organisations for, *inter alia*, distribution of *qard* (benevolent loan) for education and healthcare needs of the poor, offering small and medium enterprises (SMEs) financing and micro-financing. Such assistance to the low income groups or small enterprises, if done carefully and effectively, would help shift them from the “non-bankable” to “bankable” segment, thereby benefiting the poor and the financial system, and enhancing access and financial inclusion.¹² Some questions and issues to consider in assessing the potential for using the social institutions for enhancing access to Islamic finance, and IFSI development and inclusiveness include:

- Are there legal restrictions on the use of *awqaf* properties as collateral, or as a basis for securitization, in formal financial channels? Such use, if feasible, could help enhance economic and IFSI development.
- Are there current practices or cases in the jurisdiction being assessed on the use of formal financial channels to develop *awqaf* resources? What has been the experience?

¹²For a discussion of the role of *zakat* and *awqaf*, including some discussion of their interface with financial system, see P. Habib Ahmed, “Role of *zakat* and *awqaf* in poverty alleviation”, IRTI Occasional Paper no. 8 (2004, Jeddah); See also Annual Reports of the *Awqaf* properties Investment Fund (IDB), for examples of how formal financial system and *sukuk* issue processes can be used to enhance *awqaf* resources for its intended social purposes.

- What percentage of *zakat* and *awqaf* resources use a financial institution for distribution or property enhancement and maintenance?
- What indicators can be sought to monitor the potential for using *awqaf* properties, and other philanthropic acts, as a means to cushion the poor against the impact of economic downturns, and enhance access to finance and financial market development?

4.3 Analysis of Missing and Underdeveloped Markets

Available studies point to a significant absence of an effective systemic liquidity infrastructure for Islamic finance. In particular Islamic money markets based on high quality tradable instruments are missing; the extent to which IFSI are included in the monetary operations framework of national central banks varies; available instruments for liquidity management carry high transaction costs, low yields, and are not tradable. Public debt and financing programs are often not well integrated with *sukuk* issue arrangements, limiting the scope for *sukuk* market development. Countries could be assessed against the broad based strategies for building systemic liquidity infrastructure and developing Islamic money markets contained in an IFSB Technical Note (March 2008). The five core recommendations that constitute the forward-looking Islamic money market development strategy at the national level are as follows:

1. Design Islamic money market and Islamic Government financing instruments with the desirable characteristics i.e. relatively low risk, simply designed, regularly issued, widely held, and supported by a robust payment and settlement system.
2. Incorporate Islamic government finance instruments as an integral part of the overall public debt and financing program, and foster the development of an Islamic government securities market. This requires a systematic approach to linking government expenditures, asset acquisition, and asset generation with a sovereign *sukuk* issuance program.
3. Actively use Islamic government finance instruments in market-based monetary operations of the central bank to manage liquidity in the Islamic money market. This would facilitate a uniform approach to dealing with both Islamic and conventional banks in the conduct of monetary operations.

4. Develop efficient trading arrangements and the associated market microstructure for Islamic money and government finance instruments, and develop in parallel the foreign exchange markets.
5. Provide supervisory guidance and incentives for effective liquidity risk and asset liability management by IFSI, and in parallel foster privately issued Islamic money market securities.

Progress of countries in implementing this strategy can be assessed as part of development assessment.

The state of development of Islamic capital markets, and the broad strategies going forward is contained in the “Ten-Year Strategies and Framework”, which rightly emphasizes the development legal, regulatory, and institutional framework to support Islamic capital market products and markets. Facilitating Islamic asset securitization, and ownership based financing, further clarity on the enforceability of Islamic finance contracts in different jurisdictions, including the applicability of available Insolvency and creditor rights regime, would all be important for the further development of corporate *sukuk* markets. In addition a concerted effort to develop sovereign *sukuk* markets as a means to provide risk free bench marks to anchor corporate *sukuk* development, and as a means to enable efficient liquidity management and monetary operations, needs to be stressed as a key developmental issue in IFSI development.

Further work is needed on analyzing and identifying good practices in Islamic capital market development, and on forming a comparative view of regulatory arrangements to support effective primary issues and secondary trading of Islamic capital market products and to promote good governance of Islamic capital market intermediaries. Based on such analysis, additional guidance can be developed on strategies for Islamic capital market development, as part of the FSAP tool kit for assessing such market development. Issues in assessing Islamic capital market regulatory framework in the context of assessments of IOSCO Objectives and principles in FSAP/ROSC programs are discussed in Section 4.6 below.

A significant body of work is already available from IDB/IRTI, IFSB, and IMF/World Bank sources on issues in Islamic capital market development, which can be drawn on to develop a guidance note for assessing ICM

development issues.¹³ *Shari'ah*-compliant equities, which are identified by applying to conventional equities appropriate screening criteria specified by the relevant *Shari'ah* boards of regulators or of index providers, are still the dominant form of Islamic securities. Over the past five years, the market has seen a significant expansion in various innovative capital market products, including *sukuks* and *Shari'ah*-compliant funds, although the global financial crisis seems to have slowed down the pace, with several *sukuk* issues facing default.

4.4 Financial Innovation and New Product Development in Islamic Finance

Development of new Islamic finance products through financial engineering is an essential aspect of IFSI development. Application of various nominate contracts accepted by *Shari'ah* to design products that meet diverse user needs is an on-going process driven by private sector initiatives to meet market demand, and the regulatory environment to facilitate and complement Islamic product innovation.

In particular, the *Shari'ah* governance framework to approve or vet new products plays a crucial role. The need for various Islamic hedging products to match the equivalent derivative products available in conventional finance has led to development of profit rate swaps, and currency swaps based on *Shari'ah* principles.¹⁴

Various structured products have been developed to bring about *Shari'ah* compatible money and securities market instruments and support public–private partnerships in project finance. For a discussion of recent

¹³For a discussion of different screening criteria, see Ali Salman Syed (2005), *Islamic Capital Market Products: Development and Challenges*: IRTI, Islamic Development Bank. For a discussion of a range of innovative Islamic capital market products and regulatory challenges, see Ali Salman Syed (2008), edited, *Islamic Capital Markets Products, Regulation and Development*, Proceedings of International Conference, IRTI, Islamic Development Bank and Muamalat Institute. For an overview of *sukuk* market development and its implications for sovereign debt managers and an Islamic capital market development strategy, see Andreas Jobst, Peter Kunzel, Paul Mills, and Amadov Sy (2008), “Islamic Bond Issuance—What Sovereign Debt Managers Need to Know”, IMF Policy Discussion Paper PDB/08/3, IMF.

¹⁴See Sami Al-Suwailam, “Hedging in Islamic Finance”, IRTI Occasional Paper no. 10 (IDB 2006) discusses issues in designing risk management instruments based on Islamic principles.

capital market products, see Salman Syed Ali (2005). In many cases, the sovereign issuers, and multinational institutions such as IDB have played a pioneering role in new product design and issuance, setting the stage for further development of privately issued securities. However, the process has been constrained by the near absence of program issues in sufficient volumes to develop sovereign benchmark issues, differences in *Shari'ah* interpretations, and the still-unresolved *Shari'ah* issues in some areas. For example, *Shari'ah* compatible alternatives for repurchase agreements, securities borrowing and lending and short-term monetary operations are not yet available widely due to differences in *Shari'ah* interpretation.

As part of development assessment, it would be useful to take stock of the regulatory and *Shari'ah* governance environment for new product development, of recent developments in new Islamic finance products, and of any constraints that have hampered the further development of instruments or markets in some areas. This could provide a broad overview of the availability of *Shari'ah* compatible alternatives to meet the evolving needs in risk management, collective investment schemes, Micro-finance, and securitization. A challenging area is to promote genuine risk sharing with profit sharing and loss bearing investment accounts through regulatory incentives as envisaged in the IFSB capital adequacy norms for IFSI. A fundamental question in this regard is the extent to which IFSIs should emulate and replicate conventional products through *Shari'ah* compatible structures in form without genuine linkages to real economic activity. This merely results in the same risk profile as conventional financial institutions and does not benefit from the core *Shari'ah* principles. To what extent financial innovations should support genuine adherence to core *Shari'ah* principles, with an emphasis on risk-sharing and close and economically relevant linkages with the real economy. This underscores the need to explore the balance between on-balance sheet risk management and the use of off-balance sheet hedging products in Islamic finance.

4.5 Macro-prudential Surveillance, including Stress Testing of IFSI, and Its Relevance

The key first step is to compile a core set of financial soundness indicators, and some market based indicators where available, for conventional and

Islamic finance separately, including any additional Prudential Islamic Finance Indicators (PIFI) for IFSI. Their analysis and benchmarking based on both time series and cross-country data on these indicators would help to identify potential vulnerabilities. Availability of data on FSIs for non-financial sectors-such as households, non-financial firms generally, and in specified sectors, etc. can strengthen the analysis of the FSIs for the financial sectors. For some countries with developed financial markets, market based indicators of soundness of individual banks may be derived based on movements in stock prices, spreads from benchmark rates, option prices, and correlation among prices. Monitoring the evolution of and relationships among various IFSIs and some peer group comparisons provide the first cut assessment of key indicators of risks-credit, liquidity, market and interest rate and rate of return risks.

4.5.1 Macro-prudential analysis

Macro-prudential analysis is the traditionally used approach in FSAP for early detection of vulnerabilities due to possible macroeconomic and macro financial shocks. The analysis consists of estimating econometric relationships that link various FSIs to their macroeconomic and structural determinants. Depending upon data availability, FSIs for financial sector (e.g. NPL ratios, or provisions) can be linked to FSIs for the non-financial sector (e.g. debt to equity ratios of firms or households), and with macroeconomic (e.g. real GDP growth, inflation, fiscal deficit, etc.) and macro financial variables (credit to GDP ratio, credit growth in excess of mean, etc.) including asset price developments.

Movements in real estate prices, stock price indices, real interest movements, both at home and abroad could be relevant depending upon the nature of exposures in the financial system. These relationships can be estimated using either time series data on FSIs for the system as a whole and for peer groups, or using panel data involving time series information for individual banks. Then the equations can be used to project the impact on FSIs of various macroeconomic and asset price stress scenarios (a top-down approach to assessing vulnerabilities). Such analysis can be performed also separately for IFSI as a peer group, or with panel data involving IFSIs only.

4.5.2 *System level stress testing*

Potential future developments in key FSIs and PIFIs (these terms will be used interchangeably) can be assessed based on system-wide stress testing approaches. First, macroeconomic and macrofinancial stress scenarios are developed, and these stress scenarios are applied to individual banks. The results are then added up to get the aggregate impact (bottom-up approach). Such stress testing of individual banks to common macro stress scenarios helps to assess the distribution of the impact among banks, which is important for contagion analysis. The likelihood of inter-bank contagion can be assessed based on additional data on a matrix of exposures in the domestic interbank money market. The above approach contrasts with the top down approach that applies stress scenarios to a model that links FSIs to macro variables (as discussed). Stress scenarios can vary from single factor stress events to multi-factor stress scenarios, and are usually derived from examining historical variations in the data series, or by simulating a macro economic model that links various variables that define the stress scenario, thereby designing an internally consistent stress scenario.

A brief survey of system level stress testing in FSAPs, the lessons and good practices that can be drawn from this experience, and the possible future steps in light of the lessons of current crisis are discussed in the background paper prepared for the latest Bank-Fund review of the FSAP Program. This review of stress testing in FSAP notes the significant refinements in the methodology of FSAP stress testing over the years, and the new techniques for contagion analysis and for linking credit risks to macroeconomic conditions are noted. Although the size of shocks used in FSAP stress tests were broadly in line with the variations observed in the current crisis, the costs of instability—in terms of loan losses—observed in the stress tests were lower than what actually transpired, in part reflecting the strength of contagion channels and second round effects that were not captured, the data limitation that did not allow comprehensive stress testing (including off-balance sheet exposures), and insufficient attention to stress testing of liquidity risk. Proposed further steps attempt to address these issues.

The use of stress testing as a tool for monitoring system wide vulnerabilities should be distinguished from its use in the supervisory

review process. In response to the recent global financial crisis, the Basel Committee on Banking Supervision has reviewed the practices of commercial banks in using stress-testing exercises as part of their risk management tool, and has issued in May 2009 “Principles for sound stress testing practices and supervision”. A review of these principles for banks as well as supervisors shows that these principles are broadly applicable to IFSIs, but some additional guidance from supervisors may be needed on the choice of stress testing scenarios, and on the treatment of displaced commercial risk, fiduciary risks, and other risks unique to IFSI operations.

Several issues still remain to be further developed before such exercises can be undertaken to assess the stability of IFSI. Systematic availability of data on FSIs for conventional and IFSI separately is still a problem in many countries. The effort to compile PIFIs on a comparable basis across countries has only recently been initiated, supported by a compilation guide and IDB/ADB technical assistance. (See Table 4 below for list of conventional Financial Soundness Indicators, and the proposed list of PIFIs.) The analysis of differences, if any, in the behavior of conventional and Islamic FSIs, and the estimation of the extent of displaced commercial

Table 4 Financial Soundness Indicators (IMF) and Prudential Islamic Finance Indicators (IFSB) Core Financial Soundness Indicators (IMF)

Deposit takers	Regulatory capital to risk-weighted assets
Capital adequacy	Regulatory Tier 1 capital to risk-weighted assets Nonperforming loans net of provisions to capital
Asset quality	Nonperforming loans to total gross loans Sectoral distribution of loans to total loans
Earnings and profitability	Return on assets Return on equity Interest margin to gross income Non-interest expenses to gross income
Liquidity	Liquid assets to total assets (Liquid asset ratio) Liquid assets to short term liabilities
Sensitivity to market risk	Net open position in foreign exchange to capital

risk that is revealed by the PIFIs are both new areas that remain unexplored. Additional work in these areas would be needed to assist FSAP assessors.

In particular, the specific ways in which the system-wide stress testing under FSAP should be adapted to reflect the specificities of Islamic finance is a subject for further work, drawing on the recent FSAP experience, when data become more readily available. First, stress testing, whether bottom-up or top-down, could be separately presented (or separately conducted) for IFSIs as a peer group. Stress testing of IFSIs should consider the impact of stress scenarios under alternative assumptions regarding the size of displaced commercial risk (DCR). In particular, consideration of interest rate risk (due to maturity mismatches) should take into account possible absorption of the impact of shifts in asset returns (due to shifts in benchmark rates and the market yield curve) by investment account holders. This would require some refinements in the stress testing methodology to estimate the size of DCR and its possible variation over the business cycle. Fiduciary risks in managing PSiAs, risks in non-traded equity (e.g. in *musharaka* financing), and commodity price risks are additional dimensions of risk that may require modeling. Finally, consideration could be given to specify any distinct stress scenarios to reflect any systematic differences between conventional and Islamic banks on their sectoral and asset price exposures. In addition, any balance sheet and off-balance sheet inter-bank linkages—among IFSI and conventional banks, should be monitored to check for possible channels for contagion.

4.6 Assessment Tools for Islamic Finance Supervision

Tools for the assessment of IFSI Supervision need to be developed based on a review of IFSB standards, and country practices. Such tools should help identify gaps in baseline supervision and in the implementation of IFSB standards. There may be a need to develop additional core principles to reflect the specificities of IFSI, and more importantly, there is a need to formulate the implementation criteria for Islamic finance supervision for each of the relevant key principles that are already available as part of the existing international standards for supervision. These core principles are broad and apply equally to both conventional and Islamic finance.

What is needed is more specific implementation criteria drawing on the IFSB standards and on country practices so far in applying these and related standards. The availability of such additional criteria would greatly facilitate the assessment of IFSI supervision as part of the standard assessment process under FSAP. The IFSB's work program already anticipates the need for developing such a core principles methodology for Islamic finance.

In the area of assessments of securities regulatory framework based on IOSCO objectives and principles, IOSCO set out to examine the applicability of these core principles to the development and regulation of Islamic capital market products and issued a report in September 2008.¹⁵ The report took stock of recent developments in Islamic capital markets, examined each of the IOSCO principles against the requirements and practices of Islamic securities regulation, and concluded that IOSCO core principles are fully compatible with the needs of Islamic securities market, but the implementation of the principles may benefit from further consideration in some specific areas. These conclusions are reproduced in Appendix 6. A similar analysis but at a less detailed level was undertaken by the IFSB and IAIS in the area of insurance regulation.¹⁶ Similar and more detailed examination of the Basel Core Principles of banking supervision and its assessment methodology is needed to identify additional implementation criteria for Islamic banking supervision.

4.7 Assessing the Effectiveness of Legal and Institutional Infrastructure for Islamic Finance as the Enabling Environment for IFSI Development and Its Effective Supervision

In developing guidance for assessors of IFSI in the area of assessing the infrastructure that provides the enabling environment for finance,

¹⁵IOSCO(2008), "Analysis of the application of IOSCO's objectives and principles of securities regulation for Islamic securities products", IOSCO public document 280. (www.iosco.org/library/pubdocs/pdf/ioscopp280.pdf).

¹⁶See IFSB and IAIS (2006) "Issues in Regulation and Supervision of Takaful (Islamic Insurance)", mentioned in Box 1.

the following questions need to be addressed. What are the gaps in legal, liquidity, and governance/transparency infrastructure for Islamic finance? More specifically, what adaptations are needed in the existing infrastructure for conventional finance—or what new infrastructure arrangements are needed—in order to facilitate IFSI development? Are there special issues in the treatment of Islamic finance contracts in the context of designing or enforcing an insolvency and creditor rights regime? What adaptations may be needed in the currently available guidance from the World Bank for assessing ICR regimes for conventional finance in order to consider the impact of insolvencies in Islamic finance? What additional dimensions should be considered in the corporate governance of IFSIs compared to conventional counterparts? In particular what is the legal and regulatory basis for *Shari'ah* governance in a jurisdiction, and what are its systemic implications? In light of such analysis, what additional guidance can be given to assessors in evaluating the legal and institutional infrastructure for Islamic finance? Many of these questions cannot be resolved without further experience in developing and regulating Islamic finance, given that many of the developments in Islamic finance infrastructure have been fairly recent. Nevertheless available country examples and relevant recent experiences can be put together to provide some initial guidance to address the many questions that were listed above. The rationale and issues in developing liquidity infrastructure for Islamic finance was already covered in section 4.3. Issues relating to safety nets—deposit insurance, emergency lending—are discussed in section 4.8 as elements of a crisis management framework. Issues in assessing other infrastructure elements for IFSIs—legal, governance, and transparency, including information systems—are taken up in greater detail below.

4.7.1 *Legal and safety-net infrastructure for Islamic finance*

A review and assessment of the overall legal framework for finance—including Islamic finance—encompasses both the laws empowering and governing the regulator and the rules for the regulation of various sectors (such as central Bank laws, banking, insurance, government debt management, and capital market laws), as well as the broader legal

framework underpinning the payments system, corporate governance, and other infrastructure elements (such as insolvency regime, creditor rights, financial safety nets, contracts, contract enforcement, formation of trusts and assets securitization, consumer protection, etc.).¹⁷ Arrangements for transparency and disclosure, including an accounting and auditing framework, credit reporting systems, disclosures of IFSIs to promote market discipline, and transparency practices of regulators themselves, are also key elements of the enabling environment for finance, and these are covered in sections 4.7.6. Systemic liquidity infrastructure for Islamic finance, and other key elements of an enabling environment were discussed in section 4.3.

The key components of the effective legal framework for the regulation and supervision of the financial system are laid out in various international standards for financial sector supervision—and their adaptations to incorporate the specificities of Islamic finance. These are discussed in section 4.6. The broader legal framework is often referred to as the “pre-conditions” for effective financial supervision, or considered as part of the “enabling environment” for financial sector development and stability. These are discussed in this section.

The transparency of policy environment for Islamic finance—in line with IMF code of good practices in the transparency of monetary and financial policies—is a critical component of an effective legal framework for Islamic finance. Are there clear laws for licensing and supervision of IFSIs and for the approval and regulations of Islamic finance instruments and markets? Are the objectives and instruments for Islamic finance regulation and supervision clear, transparent and readily accessible to the market players? Is the aggregate information on the supervised Islamic finance institutions and markets transparent? Is the public availability of information on the scope of Islamic finance supervision adequate? Are there clear strategic directions from policymakers for the development of IFSIs? Other critical components that contribute to an effective legal framework are tax laws that make *Shari’ah*-compliant products at par and competitive with conventional ones, *Shari’ah* governance systems,

¹⁷Dato Dr. Nik Nurzul Thani Nik Hassan and Dr. Aida Othman, “The effectiveness of legal framework for Islamic Financial services” in IFSB (2008), “Islamic Finance Surveys on Global Legal Issues and Challenges”.

arrangements to enforce *Shari'ah*-based contracts, both in conventional and *Shari'ah* incorporated jurisdictions.

4.7.2 *Commercial laws, contract enforcement, and Shari'ah governance*

The typical components of company laws, corporate governance arrangements of both financial and on-financial sectors, and consumer protection laws apply to both conventional and Islamic finance, with a few exceptions.

First, there are still some differences among *Shari'ah* experts on the permissibility of limited liability entities, although most jurisdictions have allowed modern corporations, and limited liability companies without significant challenge. This residual uncertainty is still an unresolved issue in Islamic commercial jurisprudence that might cause an element of legal uncertainty.

Second, *Shari'ah* governance arrangements in the financial system are critical for investor confidence, Islamic finance development and its stability. Certain aspects of *Shari'ah* governance in IFSIs are discussed more fully in Section 4.7.5, as part of the corporate governance arrangements for Islamic finance. Some broader questions to consider are: what is the legal basis of *Shari'ah* opinions that affect the design of Islamic finance contracts and their acceptance by investors or fund providers? Can differences in *Shari'ah* opinions have an impact on market confidence in key markets or affect the market value of some tradable products, or impact on the enforceability of contracts?

Third, the institutional arrangements for the resolution of disputes involving Islamic finance contracts could differ in some respects from those available for conventional contracts? Are the disputes primarily resolved by civil courts (as would happen in secular jurisdictions) or are there specialized *Shari'ah* courts (as would be the case in *Shari'ah*-incorporated Jurisdictions)? Will the contracts based on *Shari'ah* principles be consistently enforced by the civil courts or by other available enforcement mechanisms? What is the range of experience in terms of consistency and speed in the enforcement of Islamic finance contracts in various jurisdictions? Even if there are separate *Shari'ah* courts, are they well versed in commercial and financial issues and have authority over civil courts?

Fourth, what are the alternative dispute resolution mechanisms—outside of the courts—for Islamic finance contracts?

Some clarity on these issues provides a starting point for the assessment of the enabling legal environment for Islamic finance in greater depth as discussed further below.

4.7.3 *Creditor rights and insolvency regimes*

Legal systems that effectively regulate debtor–creditor rights, and investor–investee relationships, contribute to cost effective and competitive provision of financial services, and help contain losses given defaults, and thereby promote both financial development and financial stability. The assessment of an insolvency and creditor rights regime (ICR) for conventional finance involves assessing the effectiveness of the legal framework for insolvency as well as the institutional framework to implement the legal provisions. Good principles, and best practices in these areas are contained in the unified World Bank-UNCITRAL standard encompassing “*Principles for Effective Insolvency and Creditor Rights Systems (World Bank) and the Legislative Guide on Insolvency law (United Nations Commission on International Trade Law or UNCITRAL)*” (See www.worldbank.org/GILD; and www.uncitral.org/uncitral/en/uncitral_texts/insolvency/2004Guide.html).

The aspects to be covered in the ICR assessment include:

- Creation of security interests and the related notice and registration rules;
- Rules of priority for different creditors;
- Collections and enforcement systems;
- Insolvency proceedings to carry out reorganization, liquidation, allowing informal workouts where appropriate;
- Institutional framework that encompasses efficient registries, judicial institutions, and insolvency representatives.

For an overview of these standards and assessment criteria, and for guidance in using these standards, including a questionnaire to facilitate the assessment of how well the standards are being implemented, see “FSAP Guidance Note on Assessing ICR Systems” prepared by the FSAP Stock Taking Project of the World Bank (2008).

This Guidance Note, including the questionnaire, which applies to conventional finance, needs to be supplemented with additional questions and assessment criteria to capture the specificities of Islamic finance, including the consequences of enforcing Islamic finance contracts in both secular and *Shari'ah*-incorporated jurisdictions. This would require a further study of country experiences, and a detailed review of ICR standards, in order to identify and highlight specific additional considerations and best practices in adapting and applying the available ICR regime to support Islamic finance. However, given that the growth in Islamic finance is fairly recent, this effort at identifying best practices will be constrained by the insufficient or limited availability of precedents and information in relation to insolvency cases, and enforcement experience. The lack of consensus on interpretations and applications of *Shari'ah* principles, particularly in the design of innovative financial products, and the lack of standardization in the documentation of Islamic finance transactions also constrain progress in designing effective adaptations in the ICR regime to support Islamic finance.

On the basis of available information on insolvency cases involving enforcement of Islamic finance contracts in conventional jurisdictions, several issues may be highlighted.¹⁸ Some examples of issues bearing on the effectiveness of enforcement of Islamic finance contracts are listed below:

1. Will a *Shari'ah*-compliant lease-based transaction with the retention of title by lessor (financier) be considered superior in terms of claims in an insolvency situation of the debtor, or be treated as a “security interest” subject to notice and registration rules and stay of enforcement of security interests of the conventional ICR laws? In some jurisdictions, there are explicit legal mechanisms of “title finance”, that provide stronger enforcement rights to the creditor. It is relevant to ask whether Islamic finance—which has similarities to title finance—can work harmoniously with the conventional title finance in terms of priority and other titleholders’ rights.

¹⁸For an analysis of some of the key issues, see Hamid Yunis, and Rabel Akhund, “An analysis of Insolvency Laws as They Impact on Islamic Finance Transactions”, in IFSB (2008): *Islamic Finance: Global Legal Issues and Challenges*.

2. When a lender has a legal charge over the asset sold on an installment payment basis (e.g. a *murabaha*/or lease contract with deferred payment in installments), can a debtor facing insolvency be liable for the full amount due during the tenor of the contract, including the unpaid portion of lease/installment payments or can the debtor disclaim unpaid installments and let the possession revert to the lender?
3. Can a bank providing *mudarabha* or especially *musharakha* financing to a firm, face liabilities as a “director” or “shadow director” of the debtor firm under the insolvency laws?
4. Can the application of insolvency laws impact on the distribution of payments to *sukuk* holders? Are the contractual features that provide for insolvency remoteness adequate in a given jurisdiction? With the increase in the number of defaults on *sukuk* issues in the past year, in part reflecting the aftermath of the global financial crisis, the issue of how well the collateral and guarantees behind *sukuk* issues are accessible to *sukuk* holders is emerging as a key concern among market players.
5. What is the priority for unrestricted Profit Sharing Investment Accounts (PSIA) (and of the PER and IRR belonging to PSIA) in the event of bankruptcy of the bank? What are the institutional arrangements to determine “negligence and misconduct” of the bank, which would void the loss sharing feature, and make PSIA a liability for the bank?
6. Will the *Shari’ah* objections to imposing penalties for late payments in a default situation influence debtor behavior, encourage willful default, and affect the loss given default of the Islamic finance contracts?
7. Insolvency laws balance the rights and interests of creditors with needs of debtors and society at large, by reapportioning the risks of insolvency in a way that suits the country’s economic, social and political goals. There is an inevitable balancing of a strong recognition and enforcement of creditor rights on the one hand, and a tilt toward rehabilitation and reorganization of the debtor on the other (in order to protect employment and support political objectives). How will *Shari’ah*-based contracts with an emphasis on forbearance toward debtor interface with the available arrangements

to balance the debtor and creditor interests in the existing ICR framework?

8. The adequacy and efficiency of the judiciary is important for both conventional and Islamic finance. Should there be special institutional arrangements to ensure the efficient and consistent resolution of disputes in Islamic finance contracts, such as separate *Shari'ah* courts, or a national level *Shari'ah* Board with arbitration and judicial powers, or a *Shari'ah* bench on the national high courts? Arrangements that are effective in *Shari'ah*-incorporated jurisdictions may not be feasible in secular jurisdictions, requiring greater reliance on detailed contracts that can be appropriately interpreted in conventional courts.

4.7.4 Tax and stamp duty laws

An appropriate taxation framework for Islamic finance that ensures tax-neutrality—i.e., Islamic finance contracts incur the same level of taxation as the equivalent conventional counterparts—plays a critical role in IFSI development. The structuring of Islamic finance contracts, which often involve multiple transactions and additional parties compared to conventional instruments, are likely to attract higher taxation in many tax systems, and hence impose higher costs on Islamic finance. For example, in some countries, Islamic asset-based financing contracts are treated as purchase and resale of assets, and hence such financing is taxed twice. In some countries such as UK and Singapore, the double stamp duty on some Islamic modes of finance has been abolished, so as to provide tax neutrality. Malaysia has also issued legislation providing stamp duty exemptions for additional instruments in *Shari'ah* compliant financing schemes, deductions for expenditure incurred on them, and in issuing Islamic securities, and tax exemptions on the resulting assets and profits similar to the treatment of interest cost or earnings from conventional securities.

In 2007, the UK Treasury introduced legislation to enable banks to sell *sukuks*, allow *sukuk* issuers to offset the payments as tax deductible expenditures (as is the case for conventional interest expenditures), harmonize and clarify the tax treatment of SPVs used to issue *sukuks*, (which do not fit into the current tax rules), and clarify the tax treatment of diminishing *musharaka* transactions for capital gains purposes. Thus,

the taxation regime for Islamic finance contracts is a key component of the enabling environment.

4.7.5 *Corporate governance and Shari'ah governance*

The OECD Principles of Corporate Governance, which have been framed primarily for non-financial corporations, apply equally well for both conventional and Islamic financial corporations. However, additional considerations that apply to financial institutions' governance are reflected in various financial supervisory standards. The key issues in financial sector governance, as highlighted in Annex-10C of the FSA-Handbook, also apply to both conventional and Islamic finance.

In addition, the IFSB standard Guiding Principles for Corporate Governance of IFSI (IFSB-3) highlights the governance issues that are specific to IFSIs, including compliance with *Shari'ah* rules and principles both in the financial transactions and in the standards used for financial reporting; the rights of Investment account holders; and transparency in financial reporting on investment accounts. The guiding principles of *Shari'ah* governance systems for IFSIs (issued by the IFSB) provides detailed guidance on the best practices in setting up *Shari'ah* compliance arrangements. In addition to the *Shari'ah* standards on the scope of various Islamic finance contracts, the AAOIFI has issued governance standards for Islamic financial institutions. These cover the appointment, composition and reporting of the *Shari'ah* supervisory board, *Shari'ah* review procedures, internal *Shari'ah* reviews, audit and governance committees of IFSIs, codes of ethics for accountants and auditors, and for employees of IFSIs. These principles and standards on *Shari'ah* governance, and the approaches taken by regulators to ensure adherence to these principles, should be distilled into an assessment methodology (i.e. a guidance note) that is suitable for use in formal assessments in an FSAP. Some regulators who assess the corporate governance of banks as part of their supervision procedures specify additional dimensions of governance (such as *Shari'ah* governance arrangements, the treatment of IAHs, etc.) as inputs into assessing the quality of corporate governance of IFSIs.¹⁹

¹⁹The International Islamic Rating Agency was established in 2005 and offers *Shari'ah* quality rating, corporate governance ratings and other rating services to IFSIs.

4.7.6 *Transparency, disclosure, credit information systems, and financial information services*

The ‘Code of Good Practices in Transparency of Monetary and Financial Policies’, a key standard that is often assessed in the context of an FSAP, applies to both Islamic and conventional bank regulations—both for monetary and prudential purposes. As noted, ensuring that the objectives, instruments, and operating procedures of monetary and prudential regulations of Islamic finance are clear, transparent, and publicly available is a key factor that improves the effectiveness of monetary and financial policies.

The financial reporting and prudential disclosure standards for IFSIs, issued by the AAOIFI and IFSB respectively, provide a sound basis to strengthen market discipline and reinforce financial supervision. The AAOIFI has issued standards for reporting financial statements by IFSIs, and for the accounting treatment of various Islamic finance transactions, in order to supplement the ‘International Accounting Standards’ for conventional banks, where the treatment of specific forms of funding (particularly investment accounts) and financing modes are not covered. Some countries (e.g. Bahrain, Qatar, and Sudan) have adopted AAOIFI standards, requiring their Islamic banks to report using these standards, while applying the IFRS for conventional banks. In some countries (e.g. Malaysia, Pakistan), AAOIFI standards are used as an input to specify national standards for Islamic banks. Most countries apply IFRS or national equivalents to both conventional and Islamic banks. The IFSB has issued disclosure standards for IFSIs to serve as the equivalent for Pillar 3 of Basel II. These standards focus on risk and governance disclosures, designed to complement the IFSB standards for capital adequacy, risk management, and corporate governance standards.

While the principles and practices relating to ‘Credit Reporting Systems’ apply to both conventional and Islamic finance, additional adaptations are needed to adjust the existing credit reporting arrangements to include the specific financing modalities of Islamic finance. The FSAP Guidance Note on Assessing Credit Reporting Systems covers both private credit bureaus and public credit registries, and provides a structured framework for analyzing and assessing credit reporting. While the assessment criteria are applicable to both conventional and Islamic finance, some

adaptations for Islamic finance are required. Drawing on the experiences of countries that have adapted credit reporting systems to include also Islamic financing modes (e.g. Sudan, Qatar), additional guidance should be developed for assessing the effectiveness of such systems for Islamic finance.

Given the importance of credit rating agencies—‘External Credit Assessment Institutions’ (ECAI), as referred to in Basel II documents—for the application of IFSB capital adequacy rules, and for the development of Islamic capital markets, the issue of appropriate recognition criteria for such agencies—for rating Islamic finance contracts and institutions—has to be addressed. Several international rating agencies have disclosed their approach to rating IFSIs, and *sukuks*. The IFSB has issued some guidance on adaptations of recognition criteria for ECAI to rate IFSI exposures for capital adequacy purposes. However, the overall approach to regulatory recognition of rating agencies is undergoing change, in light of the recent global crisis; the role of rating agencies in Islamic finance, particularly for Islamic capital market products which involve Islamic asset securitization, would need to be further developed and take into account the evolving developments in the context of conventional finance.

4.7.7 *Crisis management framework*

This framework includes the concepts of ‘lender of last resort’ (LOLR), deposit insurance, insolvency regimes, and contingency planning for insolvency of financial institutions. A key issue is to assess how these have been adapted to support the soundness and stability of Islamic finance. Some issues in adapting ICR regimes for Islamic finance were discussed in Section 4.7.3. In many jurisdictions the arrangements for LOLR in normal times for IFSIs—and procedures for emergency lending to them in times of stress—remain unclear, since the central banks lack flexible instruments to manage the liquidity of IFSIs. Many IFSIs may not participate in the available monetary operations since they are not based on *Shari’ah* compliant instruments. In some cases, the available instruments are non-transparent in terms of availability, volumes, and prices. Therefore, the extent to which IFSI are included in the monetary operations framework of central banks needs to be assessed, and if excluded, the availability and effectiveness of special arrangements for

IFSIs to help them manage liquidity both in normal times and in times stress should be considered. This is an area where good practices are still emerging as high quality instruments for effective liquidity management by IFSI are still in short supply.

Work on the developing good practices in the design of deposit insurance schemes for IFSIs is well advanced under the auspices of the International Association of Deposit Insurers (IADI). Several countries (notably Malaysia, Sudan and Bahrain) are already offering Islamic deposit insurance schemes that deal with specific risk-sharing characteristics of PSiAs, with the separate management of deposit insurance funds based on *Shari'ah* principles. While the Sudan model relies on *takaful* arrangements, the Malaysian model relies on guarantee arrangements. The IADI has research in progress in the areas of “Deposit insurance from the *Shari'ah* perspective”, and “Approaches in designing Islamic deposit insurance schemes”. An Islamic Deposit Insurance Group has been formed by IADI to conduct research in order to develop guidance and core principles, and enhance the effectiveness of deposit insurance for IFSIs.²⁰

4.8 Overview of an Assessment Methodology (Guidance Note) for IFSIs

From the discussions in Section 4, it is clear that the methodological framework of the FSAP remains broadly applicable to assess Islamic finance development and stability as part of FSAP assessments, but some adaptations are needed. More specifically, in order to apply the framework effectively, additional guidance is needed on key issues relating to appropriate adaptations of the conventional framework to reflect the specificities of Islamic finance. For example, additional implementation criteria to assess Islamic finance supervision should be developed in order to enhance the conventional assessment of supervisory standards. In order to develop such additional guidance, a comprehensive guidance note on IFSI assessment may be developed. This will require additional work to fill the gaps in the assessment tools and methodologies identified in Section 4. These gaps are summarized in Table 5.

²⁰IADI, “Update On Islamic Deposit Insurance Issues”, Research Letter, Vol I, Issue 3, 18, July 2006.

Table 5 The Encouraged Financial Soundness Indicators (IMF)

Deposit takers	Capital to asset
	Large exposures to capital
	Geographical distribution of loans to total loans
	Gross asset position in financial derivatives to capital
	Gross liability position in financial derivatives to capital
	Trading income to total income
	Personnel expenses to non-interest expenses
	Spread between reference lending and deposit rates
	Spread between highest and lowest interbank rate
	Customer deposits to total (non-interbank) loans
	Foreign-currency denominated loans to total loans
	Foreign-currency denominated liabilities to total liabilities
	Net open position in equities to capital
Other financial corporations	Assets to total financial system assets
	Assets to gross domestic product
Non-financial corporations	Total debt to equity
	Return on equity
	Earnings to interest and principal expenses
	Net foreign exchange exposure to equity
	Number of applications for protection from creditors
Households	Household debt to GDP
	Household debt service and principal payments to income
Financial markets	Average bid-ask spread in the securities market
	Average daily turnover ratio in the securities market
Real estate markets	Residential real estate prices
	Commercial real estate prices
	Residential real estate loans to total loans
	Commercial real estate loans to total loans

4.9 Assessment Procedures and Scope of Assessments

The scope of IFSI assessments in an FSAP should be determined based on certain objective criteria relating to its systemic importance and within the context of the modular approach to FSAP that will be used by the

Table 6 Core Prudential Islamic Finance Indicators (IFSB)

<i>Core set PIFIs</i>	
Capital Adequacy	1(a). Capital adequacy ratio (Standard formula) 1(b). Capital adequacy ratio (Supervisory Discretion formula) 2. Ratio of regulatory Tier 1 capital to total risk-weighted assets 3. Ratio of credit risk-weighted assets to total risk-weighted assets 4. Ratio of market risk-weighted assets to total risk-weighted assets
Asset Quality	1. Gross non-performing financing (NPF) ratio 2. Net NPF-to-capital ratio
Management Policy on Prudential Reserves	1(a). PER and IRR-to-PSIA ratio for restricted IAH 1(b). PER and IRR-to-PSIA ratio for unrestricted IAH
Earnings & Profitability	General 1. Financing income ratio 2. Fee-based income ratio 3. Ratio of <i>Shari'ah</i> non-compliant income (if any) 4. Return on financing 5. Cost-to-income ratio Shareholders' Perspective 1. Return on assets (ROA) 2. Return on equity (ROE) Iah's Perspective 1(a). Average actual rate of return or profit rate to restricted IAH 1(b). Average actual rate of return or profit rate to unrestricted IAH
Liquidity	1. Liquid asset ratio 2. Ratio of liquid assets to short-term liabilities
Sensitivity to Market Risk	1. Ratio of foreign exchange net open positions to capital 2. Ratio of commodity net open positions to capital 3. Ratio of equity net open positions to capital 4. Ratio of real assets held for sales financing to capital

Bank and the Fund in the future. The IFSI assessment is voluntary and the willingness of the authorities to participate in the assessment is critical. As an example, for countries where the share of Islamic finance is small (say less than 6%), the focus of the assessment is mainly on IFSI development

Table 7 Core Structural Islamic Finance Indicators (IFSB)

<i>Encouraged set PIFIs</i>
1. Ratio of operational risk-weighted assets to total risk-weighted assets
2. Percentage of financing (by categories of counterparty/institutional sectors) to total financing
3. Geographical distribution of financing to total <i>Shari'ah</i> -compliant financing (for exposure to country or regional risk)
4. Ratio of specific provisions (SP) to total financing by type of <i>Shari'ah</i> compliant contracts
5. Percentage of gross NPF by type of <i>Shari'ah</i> compliant contracts
6. Percentage of gross NPF by economic activities
7. Coverage ratio
8. Investment income ratio
9. Asset utilization ratio
10. Earnings multiplier
11. Percentage of income distributed to IAH out of total gross income of IFSI
12. Ratio of total off-balance sheet items to total assets
13. Spread between benchmark or reference market rates (country specific) and rate of return or profit rate to IAH of comparable maturities
14. Spread between average return on financing for all types of <i>Shari'ah</i> compliant contracts and (average rate of return or profit rate to IAH as well as to <i>Shari'ah</i> compliant savings account holders)
15. Funding-to-financing ratio in aggregate
16. Ratio of foreign currency-denominated financing to total <i>Shari'ah</i> compliant financing
17. Ratio of foreign currency-denominated funding (ex-shareholders' equity) to total <i>Shari'ah</i> compliant funding (ex-shareholders' equity)
18. Ratio of <i>sukuk</i> holding to capital

Source: IMF (2005) "Financial Soundness Indicators: Compilation Guide", and IFSB (2007) "Compilation Guide on Prudential and Structural Islamic Finance Indicators".

issues, with a basic coverage of stability policies, while for those with a larger share, the focus could include an assessment of IFSI stability. In any case, it will be helpful if selected development and soundness indicators for Islamic finance are routinely compiled and monitored by governments and made available to FSAP teams for inclusion in FSAP reports.

The scope of coverage of IFSIs in FSAP will depend upon whether the country is undertaking a development module, a stability module, or a comprehensive assessment covering both development and stability. In

Table 8 Gaps in IFSI Assessment Tools

<i>Action/Topic</i>	<i>Stakeholders</i>
1. Develop database on SIFI and PIFO, including market based indicators	Regulators, central banks IFSB/IDB ¹
2. Conduct benchmarking exercises using cross country data on SIFI	IDB/World Bank
3. Test basic models for macroprudential analysis of IFSIs, tailored to specific of Islamic finance	IFSB/IMF/IDB Islamic Financial Stability Forum
4. Develop guidelines on stress testing of IFSI and analysis of inter-bank linkages and possible contagion from and to IFSI	IFSB/IMF Islamic Financial Stability Forum
5. Develop assessment methodology—additional implementation criteria—for Islamic finance supervision	IFSB ³ /BCBS/IOSCO/IAIS IMF/World Bank
6. Supplementary guidance and questions on Islamic micro finance and access issues	IDB/World Bank ²
7. Guidance and issues with examples of best practices for assessing Islamic social institutions and their potential to enhance access to finance	
8. Guidance to analyze Islamic money and capital markets scope of development strategies and constraints in implementation	IFSB ⁴ /IDB ⁴ /IMF/World Bank
9. Guidance on assessing <i>Shari'ah</i> governance and governance issues arising from IAHs	IFSB/IDB/World Bank
10. Develop guidance on assessing effectiveness of legal framework for Islamic finance and including ICR regime applied to Islamic finance contracts and institutions	World Bank ⁵ /IFSB/IDB
11. Develop guidance on Islamic deposit insurance, Emergency lending other safe nets, including contingency planning in IFSI	Regulators, Central Banks IADI/IFSB ⁶
12. Develop additional guidance on the assessment and implementation issues in systemic liquidity infrastructure for IFSIs	IFSB ⁷ /IMF/Central Banks
13. Develop guidance on financial policy framework and <i>Shari'ah</i> governance arrangements for Islamic product development and financial engineering	IDB ⁸ Islamic Financial Stability Forum

(Contd.)

Table 8 (Continued)

<i>Action/Topic</i>	<i>Stakeholders</i>
14. Develop guidance and best practice examples on tax laws affecting Islamic finance	Ministries of Finance and IDB
15. Develop guidance note on accounting and disclosure practices in IFSIs	Central Banks/IFSB AAOIFI ⁹
16. Develop supplementary guidance on credit reporting system	World Bank ¹⁰ /IDB

¹Work on the Islamic finance database based on a compilation guide for country authorities is underway in the IFSB, with ADB/IDB technical assistance.

²This will supplement World Bank guidance on access to finance by drawing on work on Islamic microfinance at the IRTI/IDB.

³IOSCO completed a review of the applicability of IOSCO principles to Islamic capital markets.

⁴Work on this topic is underway drawing on an IFSB technical note on Islamic money markets.

⁵This will supplement World Bank guidance by focusing on how the existing framework applies to Islamic finance.

⁶IADI is developing best practice guidance and core principles for Islamic deposit insurance.

⁷Focus of this guidance will be on lender of last resort, monetary operations, and effectiveness of monetary policy as applied to IFSIs.

⁸Some work is already underway at the IDB.

⁹There is already a considerable body of work by the AAOIFI and IFSB. This work needs country examples of best practices to provide further guidance that draw on existing standards.

¹⁰Need additional questions to supplement World Bank guidance note on the topic.

all cases, certain basic information gathering and factual presentation will be expected from the assessor. But additional analysis and assessments will be taken up depending upon the scope and context of work agreed with the country authorities. Four basic cases can be distinguished, depending upon the size of the IFSI sector and the type of FSAP module being undertaken.

4.9.1 Stability module in countries with a small IFSI sector

- Provide basic data on prudential and structural Islamic finance indicator
- Provide basic description of legal, regulatory, and supervisory approach and practices applying to IFSI

- Bottom-up stress tests may include significantly-sized Islamic banks, if any

The information and observations on IFSIs will be part of the overall stability assessment, covered in different sections of the FSSA report, including ROSCs. There will be no formal coverage of IFSIs in standards assessments.

4.9.2 Development module in countries with a small IFSI sector

In this case, a fully-fledged IFSI development assessment is undertaken, if requested by the authorities, and presented in a separate Technical Note, referred to as the IFSI development module. The IFSI development module includes the following elements:

- Basic information on the state of development of Islamic banking, non-bank financial institutions capital markets, and the insurance sector.
- Analysis and benchmarking of core Islamic finance development indicators using cross-country comparisons, as well as time series (depending upon data availability).
- Basic prudential Islamic finance indicators and macroeconomic and macrofinancial developments as a contextual background.
- Tax regime assessment.
- Basic information on the legal framework for Islamic finance supervision on the regulatory and supervisory practices.
- Analysis and assessment of the legal framework for Islamic finance including the authorization regime for IFSIs and Islamic securities; and the ICR regime and their adaptations to support Islamic finance.
- Assessment of the corporate governance arrangements for IFSIs, with an emphasis on *Shari'ah* governance.
- Assessment of access to finance.
- Assessment of the scope of using Islamic social institutions to enhance access.
- Assessment of accounting and disclosure regimes for Islamic finance.
- Assessment of the availability of credit information on Islamic finance contracts.

- Assessment of the state of development of Islamic money markets and systemic liquidity infrastructure.
- Assessment of the state of development of Islamic banking and capital markets.
- Formulation of core components of IFSI development strategy in light of the above.

4.9.3 *Stability module in countries with a large share of IFSI*

A fully-fledged IFSI stability assessment is undertaken as part of the FSSA. A separate section or technical note on IFSI stability issues is optional depending upon country circumstances. Key components of the IFSI stability assessment module include:

- Analysis and benchmarking of a range of prudential Islamic finance indicators, alongside such analysis of FSIs for conventional finance.
- Analysis of selected Islamic finance development indicators, and indicators for non-financial sectors as a background.
- Macroprudential analysis applied to IFSIs as a peer group.
- Examination of price volatility and liquidity developments in key markets where IFSIs operate (alongside a similar analysis for conventional).
- Bottom-up and top-down stress testing of IFSIs, taking into account specific risk and product characteristics of IFSIs. Assessment of potential for contagion for (and to) IFSIs.
- Assessment of additional criteria for IFSI supervision as part of BCP/IOSCO/IAIS assessments. Even if full assessments of standards are not undertaken, IFSI supervision can be assessed alongside selected core principles for conventional finance.
- Basic information on the legal framework for finance including the ICR regime, and the analysis of whether the crisis management regime is adequate, including safety nets, emergency lending, and contingency arrangements.
- Basic information on accounting auditing/corporate governance including on the *Shari'ah* governance framework as it applies

to IFSIs. Basic information on transparency of financial policies applying to IFSIs.

- Assessment of the systemic liquidity infrastructure for IIDS, including its adequacy and the effectiveness of the monetary operations framework, as it applies to IFSIs.
- Formulate an action plan to reinforce stability of IFSI and its contribution to overall financial stability.

4.9.4 Development module in countries with a large share of IFSIs

In this case (as described in 4.9.1), the IFSI development module will be undertaken as in countries with a small share of IFSI, but with an increased focus on the specific subsectors of IFSIs as agreed with the authorities.

4.9.5 The case of a comprehensive assessment module in FSAP

In countries where a comprehensive assessment is undertaken, the type of assessment (described in 4.9.1 and 4.9.2) applies if the IFSI sector is small, and 4.9.3 and 4.9.4 applies if it is large.

5. Next Steps-Key Actions Going Forward

- Develop data bases for both core financial development and financial soundness indicators.
- Develop strategies for Islamic capital market development and highlight implementation issues in the development of Islamic money markets as a background for IFSI development assessments within the FSAP.
- Develop a core principles methodology for IFSI supervision, and identify additional criteria for IFSI supervision to be embedded in the existing supervisory standards, with more specific guidelines and standards on issues specific to Islamic finance.
- Develop guidance and/or best-practice illustrations on legal, liquidity and transparency/governance frameworks for IFSIs, including a crisis management framework for Islamic finance.

- Develop a preliminary guidance note to assess Islamic finance development and stability, drawing on the discussion contained in Section 4. This will serve as a preliminary methodology.
- Get the concurrence of the Financial Sector Liaison Committee for Islamic finance assessments as part of development assessments for some countries, or as part of stability assessments in others, or as a comprehensive assessment where both development and stability issues are covered. In all cases, a separate focus (a section within the FSSA or a stand-alone technical note) on Islamic finance will be provided. Additional criteria for Islamic finance will be assessed in the relevant standards assessments, and summarized in the ROSC, in the relevant section of the FSSA/FSA/technical note.
- An outreach with the concerned country authorities of IDB/IFSB member countries on the availability of such FSAP-linked assessments and their scope.
- Pilot testing of the preliminary methodology in some FSAPs.
- Design TA programs to develop country level IFSI development blueprints/master plans and facilitate their implementation.
- Facilitate IFSB standards implementation through training and TA programs.

Appendices

Appendix 1: FSAP Participation in IDB and IFSB Member Countries

Appendix 2: Evolution of FSAP Methodology and Procedures—
A Chronology

Appendix 3: Bank-Fund Reviews of Analytical Tools of FSAP

Appendix 4: Refinements in FSAP in Light of the Crisis—Evolving Status
of FSAP Methodology

Appendix 5: Applicability of IOSCO Principles to Islamic Securities
Market Regulation

Appendix 1: FSAP Participation in IDB and IFSB Member Countries

Overview of Country Participation in the FSAP (As of end-July, 2009)

<i>Completed</i>	<i>Underway</i>	<i>Future participation confirmed</i>	<i>Not yet</i>
Albania (2005) ¹	Cote d'Ivoire (2009/10)	Benin (2005)	Afghanistan (2005)
Algeria (2004)		Chad (2005)	Brunei (2005)
Azerbaijan (2004)	Indonesia (2009/10)	Guinea (2005)	Comoros (2005)
Bahrain (2006)			Gambia (2005)
Bangladesh (2003)			Guinea Bissau (2005)
Burkina Faso (2003)			Iraq (2005)
Cameroon (2008)			Libya (2005)
Djibouti (2008)			Malaysia (2005)
Egypt (2002, 07)			Maldives (2005)
Gabon (2002, 06)			Palestine (2005)
Iran (2000)			Somalia (2005)
Jordan (2004)			Suriname (2005)
Kazakhstan (2002, 06)			Togo (2005)
Kuwait (2004)			Turkmenistan (2005)
Kyrgyz (2003, 06)			Uzbekistan (2005)
Lebanon (2000, 01)			
Mali (2007)			
Mauritius (2003)			
Mauritania (2006)			
Morocco (2002, 08)			
Mozambique (2004)			
Niger (2007)			
Nigeria (2002)			
Oman (2003)			
Pakistan (2004, 09)			
Qatar (2007)			

(Contd.)

(Continued)

<i>Completed</i>	<i>Underway</i>	<i>Future participation confirmed</i>	<i>Not yet</i>
Saudi Arabia (2004)			
Senegal (2001, 04)			
Sierra Leone (2006)			
Singapore (2004)			
Sudan (2005)			
Syria (2008)			
Tajikistan (2001, 06)			
Tunisia (2007)			
Turkey (2003)			
Uganda (2005)			
United Arab Emirates (2001, 07)			
Yemen (2001)			

¹Years represent date of issue of FSSA.

Appendix 2: Evolution of FSAP Methodology and Procedures—A Chronology

FSAP: Internal Reviews and External Evaluations

1. Pilot Program launched on May 1999 by Bank-Fund Management, with 12 countries participating in the pilot.
2. Interim review of the Pilot Program in September 1999 to receive guidance from Bank and Fund Boards; International Monetary and Financial Committee and Development Committee express their support in their Fall 1999 communiqués.
3. Comprehensive Board Review of the pilot in March 2000. Both Boards agree to continue and expand the program and provide preliminary guidance on the scope and pace of the program and links to IMF surveillance and TA.
4. Joint Technical Briefing on FSAP to both Boards, December 2000.

5. First Review of FSAP (December 2000 (Fund) and Jan 2001 (Bank)). Both Boards established guidelines for the continuation of the FSAP and sought priority for systemically important countries in one year, while maintaining broad country coverage.
6. Second Review of FSAP, March-April 2003. Both Boards provide guidance on streamlining the program, broadening the range of tools for financial sector surveillance, increasing the focus on structural issues in low income countries, and including AML/CFT assessments in all FSAPS.
7. Third Review of FSAP, February-March 2005. Both Board acknowledged the value of the program and looked forward to independent reviews of the FSAP by Fund's Independent Evaluation Office, and the Bank's Operations Evaluation Department.
8. "Financial Sector Assessments—A Handbook" is published by Bank and Fund in 2005, distilling the methodologies used in FSAP reviews.
9. "Report on the Evaluation of the Financial Sector Assessment Program" issued by Fund's Independent Evaluation Office (2006).
10. "Report on FSAP: Independent Evaluation Group Review of the Joint Work Bank and IMF Initiative" issued by Bank's Independent Evaluation Group (2006).
11. "Final Report of the External Review Committee on Bank-Fund Collaboration" (chaired by Pedro Malan) issued on February 2007; The report highlighted Bank-Fund collaboration through FSAP and recommended a strengthening of the Bank-Fund Financial Sector Liaison Committee (FSLC) which helps manage FSAP.
12. "Fund's Financial Sector Task Force report", issued in 2007, proposes a framework to integrate financial sector issues—including those highlighted in FSAP assessments—in Fund surveillance.
13. Offshore Financial Center Assessments are integrated into the FSAP following the review of OFC assessments conducted by the Fund Board in May 2008. The Fund has conducted OFC assessments since 2001 as a separate program—focusing in most cases on the assessments of compliance with regulatory standards.
14. Bank's Financial Sector Strategy Review in 2007 and subsequent briefings to the Bank Board considered strategies to strengthen the

Bank's financial sector development work, and ensure closer links of the FSAP to other operations of the Bank. The review called for stronger financial sector development benchmarks and indicators for monitoring and evaluating progress.

15. "FSAP Stock Taking Project" undertaken by Bank staff, with results presented for internal Bank discussions in mid-2008. Some results reported in "Process of Financial Development—A Statistical View from the FSAP Program" by Ize, Pardo, and Zekri, Policy Research Working Paper 4626, May 2008.
16. IMFC in October 2008 called for work toward a reshaped FSAP that is better integrated with the Fund's surveillance.
17. Informal IMF Board Seminar on how to reshape FSAP, in February 2009.
18. Review of the FSAP program after ten years—the latest available review by Bank and Fund Boards in September 2009 draws on the recommendations of the independent evaluations, internal reviews listed under 9-12 and 14-16 above, and on a range of staff studies and Board reviews of FSAP tools. Under this review, a new flexible approach to FSAP assessments has been developed in order to sharpen the focus on key macrofinancial risks. The International Monetary and Financial Committee, in its October 2009 meeting in Istanbul, endorsed the FSAP review findings and asked for the rapid implementation of the new flexible approach.

Appendix 3: Bank-Fund Reviews of Analytical Tools of FSAP

Standards and Codes

Periodic reviews and several staff studies of various FSAP analytical tools have particularly examined the experience with assessing country observance of various international standards under the FSAP (and under OFC assessments), and the experience with system-wide stress testing. These have helped inform standard setters and have provided guidance to FSAP assessors. Some of these reviews and Fund staff studies are listed below. World Bank staff undertook a major review of the

tools for development assessment as part of the “FSAP Stock Taking Project”.

1. Board Reviews of experience with BCP assessments under FSAP were undertaken in 2000, 2002 and 2004. The latest review—“Implementation of the Basel Core Principles for Effective Banking Supervision: Experience with Assessments and Implications for Future Work”—was undertaken by the IMF in September 2008. The main conclusion was that while assessments have encouraged countries to strengthen their supervisory systems, recent revisions to the core principles and implementation of Basel II place a significantly greater demand on countries, on assessments and on TA resources.
2. “Experience with assessments of the IOSCO objectives and principles of securities regulation”, IMF and World Bank, April 18, 2002.
3. “Experience with the insurance core principles assessments under the financial sector assessment program”, IMF and World Bank, August 2001.
4. “Financial Sector Regulation: Issues and Gaps”, IMF (August 2004) reviews the state of implementation of financial regulation (banking, securities and insurance) and draws lessons for the design of the regulatory standards.
5. “Financial sector assessment program—experience with the assessment of systemically important payment systems”, IMF (April 19, 2002)
6. “Analytical Tools of the FSAP”, IMF and World Bank, February 2003, reviews stress testing and the experience of standards assessment.
7. “Assessments of the IMF Code of Good Practices in Monetary and Financial Policies— Review of Experience” IMF, December 2003.

Stress-testing, Financial Soundness and Development Analyses

1. “Stress testing of Financial System: An overview of Issues, Methodologies, and FSAP Experiences.” IMF, June 1, 2001.

2. “Stress Testing at the IMF”; Marina Moretti, Stephanie Stolz and Mark Swinburne; IMF WP 08/206 September 1, 2008.
3. “Introduction to Applied Stress Testing”. Martin Cihak; IMF WP 07/59 March 1, 2007.
4. The experience with system-level stress testing was further reviewed, as part of the Bank-Fund Board review in September 2009. See “The FSAP after 10 years: Background Materials, Chapter II on “system-level stress testing in FSAPs—Issues, Lessons from the crisis, and Further steps”, IMF policy paper, August 28, 2009.

Analytical Tools for Development Assessments

As part of the “FSAP Stock Taking Exercise” conducted by World Bank, a set of methodological guidance notes have been prepared for use by FSAP teams, including:

- Compiling core development indicators
- Methodology for benchmarking development indicators
- Assessing pension systems
- Assessing insolvency and creditor rights regimes
- Assessing credit reporting systems
- Assessing access to finance

Appendix 4: Refinements in FSAP in Light of the Crisis—Evolving Status of FSAP Methodology

The FSAP will remain a joint Bank-Fund program in developing and emerging markets (FSAPs for advanced economies will remain the sole responsibility of the Fund). Participation in the program will continue to remain voluntary. The documents produced under the FSAP-Aide memoire left in the field, FSSA for the Fund Board as an input into the IMF’s Article IV surveillance, and FSA for the Bank Board remains the same. Technical notes on selected development and stability issues and detailed assessments of standards and ROSCs are summary assessments of standards (as part of the FSSA) that would continue to be produced. The publication policy would remain unchanged, but could be reconsidered in the future for FSSA in connection with future reviews of the Fund’s

transparency policy. However the scope of FSAP updates, the frequency ROSCs, the scope of standard reassessments, range of analytical tools for stability analysis, and the guidance and indicators for development assessments, all will be streamlined and strengthened as follows:

1. Flexibility of assessments in FSAP updates will be enhanced, by introducing the option of undertaking either Fund-led stability assessment module, or a Bank-led development assessment module, in order to enable a better tailoring of updates to country circumstances. Comprehensive FSAP updates (covering both development and stability issues) would be undertaken from time to time, but not as a normal practice as in the past.
2. The scope of the stability module in the FSAP has been clearly defined to include: (i) Macro-prudential surveillance, with a greater focus on systemic risks. (ii) Assessing the financial stability policy framework, including the quality of financial supervision, the financial stability analysis framework, and the effectiveness of monetary policy. (iii) Assessing the capacity to manage and resolve the financial crisis. While FSAPs have always covered insolvency regimes, creditor rights, and safety nets, etc. as part of the legal infrastructure and as a precondition for effective financial supervision, future stability assessments will look more closely at the crisis management resolution framework.
3. A stronger set of quantitative tools is expected to be deployed in stability assessments: building up and expanding FSIs, including additional market based indicators (CDS spreads, yield spreads, distance to default measures from market data, measures of market volatility and liquidity, the size of ABS markets, etc.). Refinements on macro-stress testing to capture multiple shocks and scenario analyses; risk modeling; higher frequency monitoring using market based indicators; contingent claims based approaches using option pricing frameworks; strengthening balance sheet analysis; measures of systemic risk; assessing macroprudential risks due to common shocks, large exposures; regulatory gaps; interbank contagion; mainstreaming the risk assessment matrix (RAM) as a new tool to organize stability assessments. A RAM specifies sources of risks, triggers that could set off the realization of risks, probability of triggers; the quality of supervisory and crisis management

frameworks; and the potential impact of financial stability on the broader economy.

4. The scope of development assessment has been defined to include: assessing financial sector infrastructure, including property rights and corporate governance; financial sector oversight and its impact on competition, efficiency, consumer protection, and market integrity; public policy, including financial promotion policies; impact of underdeveloped and missing markets on financial stability and effectiveness of economic policies in low income countries.
5. Stronger set of quantitative and qualitative assessment tools for development assessment, including: developing and benchmarking core development indicators; designing best practices and guidance notes for assessing access, pensions, Insolvency regime and creditor rights; credit reporting system; good practices in consumer protection and financial literacy.
6. Risk focused standard assessments focusing on selected principles of a given standard.

Appendix 5: Applicability of IOSCO Principles to Islamic Securities Market Regulation

Key Findings of the Report

As stated in Section 2.2, one key finding of this report is that the IOSCO core principles do not need to be adapted and there are no concerns with respect to their compatibility with the Islamic securities market. However, there are certain aspects pertaining to implementation in which further work would be beneficial. These were detailed in the recommendations and summarized as follows:

Recommendations for the Executive Committee

1. Co-operation, information sharing and thematic work:

The differences in the approaches to Islamic capital markets regulations are not in themselves problematic, since the regulation

of conventional financial markets also differs between jurisdictions. There are some initiatives in this area (see Section 1.3) but in general there is a lack of information exchange and awareness of the products/practices of Islamic finance. In general, IOSCO could facilitate the understanding of accounting and risk management standards by encouraging an information exchange and co-operation between regulators. There may be specific areas in which IOSCO could encourage this, such as, for example:

- Thematic work on relevant disclosures for *Shari'ah*-compliant securities products: Guidance to the core principles notes that “full disclosure of information material to investors’ decisions is the most important means of ensuring investor protection”. Securities products designed to adhere to a specific set or religious principles may require the communication of a wider set of material information to investors (see section 2.3).

It would be beneficial for thematic work to be conducted on relevant disclosures for *Shari'ah*-compliant funds and *sukuk* (see discussion on Principles 14 & 17). The thematic work should review current practices, identify areas of best practice and highlight issues for consideration by securities regulators. In addition, this review should also consider disclosures for similar *Shari'ah*-compliant products with different underlying economic and risk characteristics (such as *sukuk*).

- Interaction with other bodies: IOSCO could undertake the thematic work on disclosures alone or in conjunction with other suitable bodies, such as the IFSB. It is imperative that any recommended standards or best practices reflect the different approaches to the regulation of Islamic securities markets and does not seek to define one particular approach.

2. Other recommendations

- Accounting Standards: IOSCO and its members should encourage the convergence between IFRS and Islamic financial

reporting standards. Given the frequency of substantive changes made to international accounting standards such as IFRS, individual regulators should ensure that the standards applicable to Islamic securities, where they differ from conventional securities standards, are updated as required. IOSCO may wish to consider the convergence of Islamic and conventional securities accounting practices in its discussion with the IASB.

- ‘Profit Sharing Investment Accounts’ (PSIAs): Though often utilized to replicate conventional banking deposits accounts, PSIAs can also resemble investment accounts (see Section 2.9). Should the Joint Forum decide to undertake any work on Islamic finance, the subject of PSIAs would be an appropriate topic.
- Wider circulation of the report: It is recommended that a revised version of this report be made available to the public as it will benefit financial regulators and others.

Recommendations for Others

1. Securities regulators

- General recommendations for securities regulators: The general recommendation is that securities regulators should consider the regulatory classification of Islamic securities products and ensure they are treated in a fair, transparent and consistent manner.
- Defining an approach to *Shari’ah*-compliance: whilst no judgment is made on the various possible approaches to *Shari’ah* compliance (ranging from deliberate non-regulation to direct and centralized regulation), regulators may consider defining their position on the issue.

2. IMF & World Bank

- Financial Sector Assessment Program (FSAP): The IMF and World Bank periodically carry out joint reviews as part

of the Financial Sector Assessment Program (FSAP)²¹. The IOSCO principles form a key part of this review and the aforementioned institutions may find it useful to consider the issues detailed in this report. This is especially true in jurisdictions where the Islamic securities market is a material or significant component of the financial services sector.

Issues in the Implementation of the Core Principles

The report has identified some issues in the implementation of the core principles. These are summarized below:

Principle 1: For the avoidance of ambiguity it would be beneficial for securities regulators to have a stated position on their regulatory responsibilities with respect to Islamic securities.

Principle 3: Where regulators have responsibility for *Shari'ah* compliance, it is important to ensure that they possess the necessary powers and resources to regulate this in accordance with their remit.

Principle 4: Regulators should ensure that processes are applied in a consistent, transparent and fair manner. In particular, where the regulator is directly involved in giving rulings on *Shari'ah* issues, it should consider disclosing key decisions, and the reasoning behind them.

Principle 16: IOSCO and its members should encourage the convergence between IFRS and Islamic financial reporting standards.

Principle 21: Where regulators have responsibility for regulating *Shari'ah* compliance, they may wish to consider establishing criteria to ensure the intermediary has the relevant competencies

Principle 22: Regulators should define their regulatory approach to determining the capital adequacy and prudential requirements for Islamic securities.

²¹The IOSCO principles are identified by the Financial Stability Forum as 12 key international standards and became part of the report on observance of standards and codes and the FSAP during the pilot program in 1999. See page 11 <http://www.imf.org/external/np/mae/IOSCO/2002/eng/041802.pdf>

Principle 23: regulators should clearly state their requirements for firms using *Shari'ah* compliant risk management techniques.

Principle 27: exchanges which regulate the *Shari'ah* compliance of a security could consider tagging them with a recognized marker.

Principle 30: regulators may wish to consider developing alternative mechanisms to securities borrowing and lending which are consistent with *Shari'ah* principles.

8

Supervisory, Regulatory, and Capital Adequacy Implications of Profit-Sharing Investment Accounts in Islamic Finance*

Simon Archer and Rifaat Ahmed Abdel Karim
with V. Sundararajan

1. Introduction

The rapid expansion of Islamic finance in recent years has highlighted the need for policies to help integrate Islamic finance in the national and global financial systems. In particular, the design and implementation of Basel II equivalent standards for Islamic banks, and the adoption of effective risk management systems for these banks, both reflecting the specific operational features of Islamic finance, have assumed center stage. The Islamic Financial Services Board (IFSB) has issued a range of prudential standards and guidelines that together constitute the Basel II equivalent for Islamic finance. However, the implementation of these standards calls for new risk measurement approaches. An issue of critical importance in the risk management of Institutions Offering Islamic Financial Services (IFSI or Islamic banks) globally is how to measure and manage the risk characteristics of profit-sharing investment accounts (PSIA) the major source of funding of IFSI. PSIA held by investment account holders (IAH)

*This chapter was published in the *Journal of Islamic Accounting and Business Research*, Volume 1, Number 1 (2010), pp. 10–31.

constitute about 62 percent of assets on average for a sample of Islamic banks in 12 countries in the Middle East and South East Asia. Given the significance of PSIA as a funding source, an effective management of the risk-return characteristics of these accounts (referred to as investment account management, defined more rigorously later in the paper) can be used to control the risks borne by shareholders and the associated economic capital requirements of Islamic banks. Such investment account management, therefore, serves as a powerful risk mitigant in Islamic finance, a unique feature not available for conventional banks.

In principle, under the *mudharaba* contract that typically governs the PSIA, all losses on investments financed by these funds (due to credit and market risks) are to be borne by IAH, while the profits on these investments are shared between the IAH and the IFSI as manager of the investments (*mudharib*) in the proportions specified in the contract. However, any loss due to “misconduct and negligence” (operational risk) should be borne by the IFSI, under the *Sharia’ah* principles applying to *mudharaba* contracts. In reality, however, the managements of IFSI may engage in a range of practices (as discussed further below) that smooth or cushion the cash returns paid to IAH, thus protecting the cash returns on IAH funds against variations in the income from assets financed by those funds. A major aim of these practices is to pay market-related returns to IAH for competitive reasons and to mitigate “withdrawal risk,” namely the risk that IAH will withdraw their funds in search of better returns. In light of such practices, the measurement and management of the sharing of returns and risks between shareholders and IAH, is a fundamental issue in Islamic finance worldwide. Consideration of this issue is, we believe, an urgent matter, which needs to be addressed, given the possible conflicts of interest between shareholders and IAHs. Such conflicts of interest may arise as a result of the potentially differing risk-return preferences of each IAH (especially unrestricted IAH) being in general significantly more risk-averse than shareholders.

Actual investment account management practices which are designed to provide an adequate level of compensation for the IAH while protecting them from volatility in the investment returns, may be a response either to regulatory pressures on IFSI to avoid withdrawals by IAH that could result in systemic risk, or to competitive pressures on IFSI to maintain their market share of IFSI funds and to manage their liquidity. For example, an

IFSI may maintain the profit payout to its IAH at market-related levels, even though asset returns are higher, by setting aside amounts to a profit equalization reserve (PER) from profits before the allocation of those profits between IAH and the IFSI and/or to an investment risk reserve (IRR) from the profits available for distribution to the IAH after allocating the IFSI's share of profits as *mudharib*. The part of the accumulated PER that constitutes equity of IAH and shareholders can then be drawn down to smooth the payouts to IAH and shareholders, when investment returns decline. The accumulated IRR, which belongs entirely to IAH, can be used to cover any losses (negative asset returns) attributable to IAH that might arise from time to time.

In addition, when asset returns are low and the PER is insufficient, IFSI management may transfer some portion of their income or reserves to IAH, thereby offering returns to IAH that are close to market levels despite insufficient asset returns. Such transfers of resources from IFSI owners to IAH could be achieved by reducing the *mudharib*'s share below the contractually agreed percentage and/or by otherwise allocating a lower profit share to shareholders temporarily in order to benefit the IAH, thereby cushioning the impact on IAH of low-asset returns. The combination of these policies, i.e. by setting aside and drawing down reserves that serve as equity of IAH, accepting cuts in the *mudharib*'s share, and transferring current income or other shareholder funds to IAH if needed and permissible, can alter the time profile of IFSI shareholders' profits, and hence the magnitude of risks (unexpected losses (UL)) to which they are exposed compared to the situation where all losses on IAH investments are fully borne by the IAH. Issues in measuring this "displacement" of risk from IAH to IFSI shareholders, so-called "displaced commercial risk" (DCR), are among the core concerns of this paper.

Thus, in practice, there is considerable ambiguity in the nature and characteristics of PSIA in Islamic banks. The nature of PSIA could vary among banks and jurisdictions, from being deposit-like products (that carry no risk of loss of principal) in some, to being investment-like products (that bear the risk of losses in the underlying investments) in others. Depending upon the extent of investment risks actually borne by the PSIA, these instruments could, in principle, be positioned anywhere in the continuum from being pure deposits (in the conventional sense) to pure investments.

The resulting challenge for IFSI and their regulators is to assess where in the continuum the PSIA in a specific bank in a specific jurisdiction lie, and what this implies for the level of risks for shareholders and hence for the level of regulatory and economic capital requirements for that bank.

The recently issued IFSB Capital Adequacy Standard recommends that supervisors should assess the extent of risks borne by PSIA based on management decisions on the payout to IAH, and should reflect these assessments in the computation of capital adequacy. This is referred to as “supervisory discretion formula.” More specifically, the IFSB supervisory discretion formula for the capital adequacy ratio (CAR) specifies that a fraction “alpha” of the assets funded by PSIA may be included in the denominator of the CAR, where the permissible value for “alpha” is subject to supervisory discretion. The supervisory assessment of how an IFSI manages the risk-return profile of PSIA would determine “alpha,” with “alpha near zero” reflecting a pure investment-like product and “alpha close to one” capturing a pure deposit-like product.

The main purpose of this paper is to provide a methodology to estimate “alpha” so that there is a clear rationale and a quantitative basis for the exercise of supervisory discretion on “alpha,” while spelling out the consequent supervisory implications. The proposed methodology also has significant implications for asset-liability management, product pricing, and optimal capital structure for Islamic banks, but these issues are beyond the scope of the present paper, as these are being developed in other companion papers.

The paper is organized as follows: the next section presents the history and characteristics of PSIA, with Section 3 highlighting the capital adequacy implications as well as the supervisory implications of these characteristics. Drawing on this background, Section 4 presents an analytical and quantitative framework for the estimation of DCR and sets out the basis for a systematic application of supervisory discretion in assessing the capital adequacy of IFSI. Section 5 presents some concluding remarks.

2. PSIA and the *Mudharaba* Contract

The characteristics of PSIA and their major implications from the capital adequacy and corporate governance perspectives have been analysed in

the literature, notably by Al-Deehani et al. (1999), Archer et al. (1998) and Archer and Karim (2006). This section summarises the relevant points made in these and various other publications.

2.1 Types and Characteristics of PSIA

As noted above, the PSIA of Islamic banks are typically based on the *mudharaba* contract, with the bank acting as *mudharib* (entrepreneur or asset manager) and the IAH as *rab-al-mal* (investor). Historically, the *mudharaba* contract was used for financing one-off trading ventures like the commenda contract employed by medieval Italian merchants. The trading venture typically involved one or more ships or a caravan. As such, the contract was a financial instrument for spreading the risk of such a venture among a set of equity backers who acted as sleeping partners. The equity backers could spread their risks by investing in a number of different ventures—an early example of both the socialization of capital (numerous backers) and portfolio management (risk diversification) (Steinherr, 2000; Bryer, 1993). The classical *mudharaba* may therefore be seen as a form of the *commenda* contract developed within the *fiqh al muamalat* (Islamic Commercial Jurisprudence). In order to be valid in *fiqh*, a *mudharaba* contract had (and still has) to meet certain conditions (Udovitch, 1970), two of which are that the *rab-al-mal* must take no part in the management of the venture and that the *mudharib* is entitled to a pre-agreed share of any profit as a management fee but (in the absence of misconduct or negligence on his part) has no financial liability for a loss made by the venture except to the extent that he has invested his own funds as a co-investor in a so-called bilateral *mudharaba*.

In the last quarter of the twentieth century, Islamic banks developed two main forms of the *mudharaba* as a response to the need to mobilize funds from the public on a non-interest-bearing basis. However, whereas the classical *mudharaba* was originally employed to finance one-off trading ventures ending with a final reckoning up (when all the venture's assets had been realized, the profit or loss of the venture was established and the investors' funds were returned plus the profit or minus the loss), the modern forms employed by late twentieth century Islamic banks differ from the classical form in some crucial respects. The extent of these differences depends on the precise form of the modern *mudharaba* as

used by Islamic banks; the two main forms being the restricted and the unrestricted investment account with the differences being greater in the case of the latter.

2.1.1 *Restricted investment accounts*

Restricted investment accounts are a type of managed funds, that is to say, a form of collective investment scheme in which a *mudharaba* contract is used as the vehicle in place of a separate entity such as a trust or investment company. The asset allocation and the term of the investment are specified by the *mudharaba* contract, as is the percentage of profit to which the bank as *mudharib* is entitled by way of a management fee. The contract is normally for a specified term and the assets of the *mudharaba* fund do not usually have maturities that exceed that term. However, the contract typically spans several financial periods of the bank and requires interim profit calculations. An IAH may be able to make withdrawals of his/her funds before the end of term of the contract, subject to giving advance notice and foregoing any accrued but undistributed profit.

One reason for the use of the *mudharaba* as a vehicle for managed funds is that in a number of countries the legal forms commonly used in the investment industry, such as trusts or variable capital limited companies, are not available. The *mudharaba* contract offers Islamic banks a *Sharia'*ah-compliant means of mobilising funds under a banking "umbrella." The use of the *mudharabah* under a banking umbrella has also permitted a lower level of transparency than would have been possible had a separate legal entity been employed.

The standard financial reporting treatment of restricted investment accounts is to report them off-balance sheet, with a limited amount of disclosure relating to movements of the funds (Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), 1993).

2.1.2 *Unrestricted investment accounts*

Unrestricted investment accounts are, from a *Shari'ah* point of view, another type of managed funds in which a *mudharaba* contract is used as the vehicle. Again, the contract is normally for a specified term and typically spans several financial periods requiring interim profit calculations, but the asset allocation is at the discretion of the bank and the IAH funds may be invested ("commingled") in an asset pool in which shareholders'

and current account holders' funds are also invested. An IAH may be able to make withdrawals of his/her funds before the end of the term of the contract, subject to giving advance notice and foregoing some part of his/her profit share. The amount of profit foregone is typically related to the length of the advance notice period by means of the following mechanism: the shorter the notice period, the larger the proportion of the invested funds to be treated as an unremunerated current account and thus denied a share of profits. The proportion of invested funds to be so treated may be as great as 40 percent. The rationale for this is that in order to be able to honor its obligation to meet withdrawals of funds at short notice, the bank must hold liquid assets (cash and cash equivalents), which yield either no return or a very low return.

In practice, unrestricted investment accounts are used as a *Shari'ah*-compliant substitute for conventional (interest-bearing) deposit accounts. For this reason, banks go to great lengths to avoid exposing such accounts to impairment of capital and even to fluctuations in profit distributions. For these purposes, as mentioned in Section 1, two kinds of reserve accounts are employed: the PER and the IRR (Archer and Karim, 2006). These reserves are discussed in more detail in Sub-section 2.2.¹ In some jurisdictions, the banking supervisor expects banks to avoid passing impairment losses on to unrestricted IAH, and to minimise fluctuations in the profit payout to such accounts, on the grounds that the product is marketed as a type of deposit account in competition with conventional deposit accounts. One cause of profit fluctuations is due to "rate of return risk," which is analogous to a form of "interest rate risk in the banking book" in conventional banks. The latter arises when market returns on liabilities increase relatively to returns on assets; if the liabilities are variable-rate and the asset is fixed-rate, the increase in market returns results in an interest-rate "squeeze." In cash flow and profit and loss terms, the spread between interest income and interest expense is reduced. In Islamic banks, the tenor of unrestricted PSIA may be shorter than that of Islamic financing assets such as *ijarah*, *murabahah*, *salam*, or *istisna'a*, while only in the case of *ijarah* is repricing permissible. When market rates of return rise, unrestricted IAH expect their returns to keep pace (otherwise they may place their funds elsewhere), while in the absence of repricing, the assets are effectively fixed-rate and a rate-of-return "squeeze" (in cash-flow and profit-and-loss terms) ensues.

These supervisory (and in some countries, market) pressures have the effect of displacing onto shareholders investment risks on IAH funds which, from a purely *Shari'ah* point of view, would (in the absence of misconduct and negligence on the part of the bank as *mudharib*) be borne entirely by the IAH. In other words, these pressures give rise to DCR. The PER and IRR are mechanisms whereby banks mitigate DCR. The standard financial reporting treatment of unrestricted investment accounts is to report them on-balance sheet as "Equity of unrestricted investment accounts," with little further disclosure (AAOIFI, 1993).

2.2 PER, IRR and the Mitigation of DCR

The main theme of this paper is the capital adequacy implications of the above characteristics of unrestricted investment accounts, and in particular, the equivocal nature of such accounts which from a *Shari'ah* point of view are profit-sharing and loss-bearing but which from a competitive (and in a number of countries, a supervisory) perspective tend to be assimilated to deposit accounts (i.e. "capital certain" and with a steady rate of return). In order to reconcile *Shari'ah* requirements with market (and in some cases, supervisory) pressures, and to mitigate the DCR to which they are exposed, Islamic banks have resorted to the use of two types of reserves (Van Greuning and Iqbal, 2008).

The PER is a reserve formed of appropriations from investment profits before these are allocated between shareholders and unrestricted IAH. Hence, the PER has two components: a shareholders' component, which forms part of the shareholders' equity as retained profits; and an unrestricted IAH component, which forms part of the equity of the unrestricted IAH. Appropriations to the PER reduce the amount of profit attributable to IAH on which the bank as *mudharib* is entitled to a share as a fee for investment management. The PER (including the shareholders' component by way of donation) may be used for stabilizing the periodic profit payouts to IAH, but not for covering any periodic losses (as the *mudharib* may not cover a loss attributable to the *rab-al-mal*). It should be noted that what is stabilized is the profit payouts, not the profits themselves (since the PER is a reserve, not a provision). To that extent, the term PER is misleading (payout stabilization reserve would be appropriate), and given the lack of transparency which is typically found in the financial

reporting of Islamic banks, so are the financial statements of such banks which present the profit payout as being the profit actually earned.²

The IRR is a reserve formed of appropriations from investment profits attributable to unrestricted IAH, that is, after profits are allocated between the bank as *mudharib* (and so, in effect, the shareholders) and the unrestricted IAH. Hence, such appropriations do not reduce the amount of profit attributable to IAH on which the bank as *mudharib* is entitled to a share as a fee for investment management. The IRR may be used to cover losses attributable to IAH funds and thus, in conjunction with the PER, to make a profit payout even in periods when a loss has been incurred. Again, given the typical lack of transparency, it may not be clear that any loss has been incurred.

The serious implications of this lack of transparency from the perspectives of corporate governance and supervisory review are briefly discussed in the next section, which is primarily concerned with the implications for capital adequacy that constitute the main theme of this paper.

3. Capital Adequacy and Supervisory Implications

The importance of correctly estimating the DCR, i.e. the extent of credit and market risk that is shifted to banks instead of being borne by the IAH, is illustrated in this section, and some of the different country practices are briefly reviewed from this perspective.

3.1 The Status of Unrestricted IAH and Its Capital Adequacy Implications

If IAH bear entirely (in the absence of misconduct and negligence of the bank as *mudharib*) the investment risks from credit and market risk exposures on assets financed by their funds (i.e. there is no DCR), then the only type of risk for which the bank needs to provide capital to support risk exposures relating to such funds is operational risk. But insofar as the bank, owing to competitive or supervisory pressures, absorbs some or all of the credit and market risks attributable to assets financed by IAH funds, then it needs to provide capital to support the related (displaced commercial) risk exposures, subject to any risk mitigation. The amount of any of such

capital requirement will in fact be reduced by the risk mitigation provided by any PER and IRR built up by the bank.

The IFSB Capital Adequacy Standard refers to the proportion of risk weighted assets (RWA) financed by unrestricted IAH³ funds that needs to be included in the denominator of the CAR as “alpha” (the Greek letter α). At one extreme, if there is no DCR, the value of alpha is equal to zero. At the other extreme, if all the credit and market risk exposures on the assets financed by unrestricted PSIA are borne by the bank (as is the case with conventional deposits), the value of alpha is equal to one. However, in the latter case, the denominator of the CAR will be reduced by the proportion of RWA financed by the PER and IRR⁴ components of the unrestricted PSIA. This is illustrated in Table I.

The illustration in Table I indicates that a change in the value of alpha from 0 to 1 can have the effect of reducing the CAR by nearly 50 percent, from a very comfortable 18.2 percent (Panel C) to a number much closer to the minimum requirement (Panel B). It can also be seen from Panel B that in the illustration with alpha equal to 1, the effect on the CAR of the adjustment for PER/IRR (when the latter totals 10 percent of the balance of unrestricted PSIA) is small. Without the adjustment, the CAR would be: $8/84 = 9.5$ percent.

Such a small increase in the CAR resulting from the PER/IRR adjustment (0.5 percent in the illustration) might understate the effect of these reserves in mitigating DCR. The availability of PER/IRR will have an effect not only on the size of adjustment to the RWA funded by PSIA in the denominator of the CAR, but also on the extent to which IFSI may have to absorb the fluctuations in unsmoothed IAH returns and hence on the size of alpha itself. In any event, with the CAR formula as it stands, the illustration suggests that these reserves would need to total at least 20 percent of unrestricted PSIA to have an appreciable effect on the CAR.

The foregoing helps to highlight the importance of setting a value for alpha that fairly reflects the amount of DCR, taking account of the risk mitigating effects of the PER and IRR, as discussed in the next section of this paper.

In practice, however, with a few notable exceptions, supervisors implicitly use a value of 1 for alpha, thereby treating the unrestricted investment accounts as equivalent to deposits, with the corresponding assets carrying the applicable risk weights for capital adequacy purposes. The Central Bank of Bahrain uses the value of 0.5 percent for alpha, in

Table 1 Illustrative Calculation for Capital Adequacy Ratio (CAR) for IIFS**Panel A**

Assume eligible capital (EC) = 8, alpha = 30% and PER + IRR = 10% of unrestricted PSIA

Restricted PSIA (RPSIA)	20%
Unrestricted PSIA (UPSIA)	50%
All other funds (AOF)	30%
Total	100%

	RPSIA (20%)	UPSIA (50%)	AOF (30%)	Total
CRWA	8	20	12	40
MRWA equivalent	8	20	12	40
ORWA equivalent	0	0	20	20
Total	16	40	44	100

CAR = Eligible capital (EC)

= $8 / [\text{Total RWA} = 100 \text{ less CRWA and MRWA equivalent of}$

RPSIA = $8 + 8$

= $16 \text{ less } (1 - \alpha) * \text{CRWA and MRWA equivalent of}$

UPSIA = $(1 - 0.3) * (20 + 20) = 28$]

CAR = $8 / (100 - 16 - 28 - 1.2) = 8 / 54.8 = 14.6\%$

Panel B

If alpha is set equal to 1, CAR becomes:

EC = $8 / [\text{Total RWA} = 100 \text{ less CRWA and MRWA equivalent of}$

RPSIA = $8 + 8$

= $16 \text{ less } (1 - \alpha) * \text{CRWA and MRWA equivalent of}$

UPSIA

= $(1 - 1) * (20 + 20) = 0 \text{ less } \alpha * (\text{PER} + \text{IRR}) \text{ of}$

UPSIA

= $1 * 0.1 * (20 + 20) = 4$]

CAR = $8 / (100 - 16 - 0 - 4) = 8 / 80 = 10\%$

Panel C

If alpha is equal to 0, the CAR is as per the IFSB standard formula

CAR = $8 / (100 - 16 - 40 - 0) = 8 / 44$

= $8 / [100 - 0.7 * (40 + 40)] = 8 / (100 - 56) = 8 / 44 = 18.2\%$

Notes: CRWA, credit risk weighted assets; MRWA, market risk weighted assets equivalent; ORWA, operational risk weighted assets equivalent.

line with the suggestion contained in an earlier AAOIFI (1999) proposal. Dubai Financial Services Authority currently uses the value of 0.35 for alpha. These specifications are, however, subject to substantial errors, as they are “seat of the pants” estimates rather than being based on a well-developed and explicit method for the estimation of DCR, which is the basic determinant of alpha as demonstrated in Section 4.

3.2 Implications for Supervisory Review

If supervisory authorities act as though alpha is equal to 0 when in fact it should be set close to 1, the result (as can be seen from Table I) is likely to be Islamic banks that are significantly undercapitalized, with consequent threats to financial stability. Conversely, supervisors acting as though alpha is close to 1 when in fact it should be set much lower, will result in Islamic banks being required to carry excess amounts of capital, which will impair their ability to compete. Thus, accurate supervisory assessments of alpha are critical to fostering stability without undermining the competitive position of IFSI, and to providing adequate incentives for IFSI to manage the DCR in respect of their PSIA.

This paper, therefore, sets out to provide a method whereby an appropriate value for alpha can be approximated statistically using a set of relevant data. In order for the necessary data to be available, Islamic banks need to make the necessary disclosures, at least to the supervisor if not to the public. Public disclosure would, however, have the substantial-added advantage that information intermediaries such as rating agencies and research analysts would have ready access to it, thus contributing to market discipline. Moreover, retail-oriented disclosures of relevant data can help manage the risk-return expectations of IAH. Islamic banks should of course produce the necessary data for their own purposes as part of their risk management procedures with respect to DCR and capital adequacy.

In addition, as part of risk management, Islamic banks need to have an idea of the appropriate levels of PER and IRR, given their exposure to DCR. For the reasons indicated above, the purpose of setting aside these reserves is not simply to improve the CAR as calculated formulaically. Rather, the appropriate value of alpha needs to be determined taking into account the incidence of DCR and the actual mitigating effects of these reserves. The following section addresses these issues.

4. Risk Management, DCR, and Estimation of “Alpha”

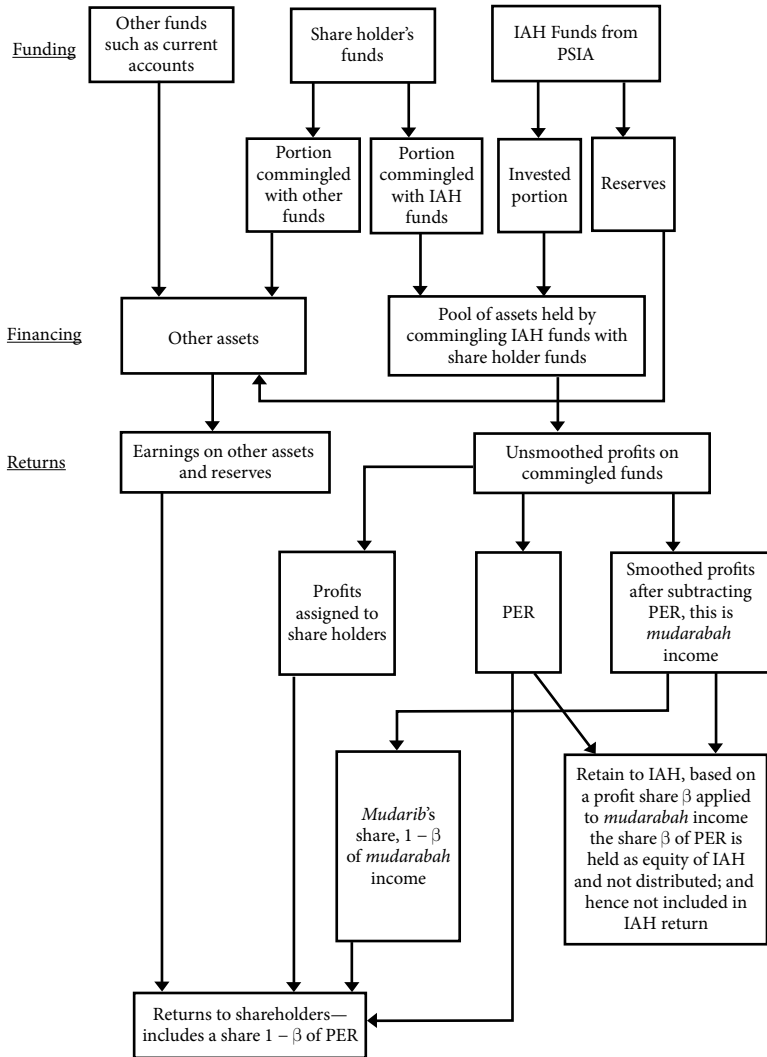
This section presents the basic accounting framework in an IFSI for the management of risks and returns of PSIA, drawing on accounting

definitions and industry practices. The objectives are to demonstrate how the additional risks that IFSI shareholders may assume in order to cushion the returns to IAH against variations in asset returns, the so-called DCR, can be measured; and to illustrate how this measurement approach can be applied to estimate the value of alpha that is needed in the IFSB supervisory discretion formula. Risk, defined as UL on an asset portfolio, is modelled using variability of asset returns. Unexpectedly, low returns that fall below a threshold value or unexpectedly high losses that exceed a threshold level at a specified probability level, serve as the measures of risks that IFSI shareholders will face under various scenarios relating to how the payouts to the IAH are determined.

In order to assess the returns to PSIA, and the associated risks measured by the variability of these returns, a basic framework is needed for measuring the “*mudharaba* profits,” defined as profits that are available for distribution between IAH (as capital provider, *rab-al-mal*) and the IFSI (as *mudharib*). This framework is shown in Figure 1. When funds of UPSIA are commingled with other funds of an IFSI, that is, shareholders’ funds and current account holders’ funds, the unrestricted IAH are exposed to their proportionate share of the overall risks of investments made with the commingled funds as reflected in the volatility of overall returns from such investments. This is shown in Figure 1, where these commingled funds are invested in a specified pool of assets reflecting the general business and management strategy of the IFSI. Other funds, including any uninvested portion of IAH funds, and other deposits, are held in remaining assets of the IFSI. The returns to shareholders are derived from both the IFSI’s share of returns on the pool of investment assets acquired using the commingled AH/shareholder/current account funds, plus their share of *mudharaba* profits for the IFSI’s services as *mudharib*, and the net earnings from other funds. In contrast, the IAH get their returns only from what remains of the *mudharaba* profits on their share of the pool of investment assets after the deduction of the IFSI’s share as *mudharib*. In the case of RPSIA, the IAH share in the returns and risks in a specific class of assets or a specified type of asset portfolio, as specified in the investment contract between the IFSI and the restricted IAH. There is typically no commingling of shareholders’ funds in the acquisition of the investment assets.

A key issue for Islamic banks is how to manage the risk sharing properties of PSIA, both restricted and unrestricted, in order to mitigate

Figure 1 A Framework to Compute *Mudarabah* Income and Returns to IAH



partly the risks to shareholders that would arise in case the IFSI has to protect the IAH against return volatility, thereby exposing shareholders to some DCR. Thus, in addition to collateral, guarantees, and other traditional risk-mitigants, the management of risk-return profiles,

particularly of unrestricted IAH, could be used as a key tool of risk management. Appropriate policies toward PER (and possibly IRR) coupled with a systematic approach to the transfer of resources to IAH (through adjustments in the *mudarib* share or other means to manage incomes to bank owners) can help to match the returns to IAH with the extent of risks assumed by the IAH. Under current practices, IFSI seek to provide a stable return to IAH through suitable adjustments in the use of PER and in transfers from IFSI shareholders via reductions in the *mudarib*'s share when appropriate (Al-Sadah, 2008), and to prevent any loss of IAH capital through the use of IRR. Such adjustments in reserves and transfers should, in principle, allow for some mitigation of risks to IFSI shareholders (i.e. to the bank's own capital) through investment account management. In practice, however, many banks with sharply divergent risk profiles and returns on assets seem to be offering almost identical returns to IAH, which are broadly in line with the general rate of return on deposits in conventional banks. That is, in practice, there seems to be a significant absorption of risks by IFSI, i.e. by their own bank capital.

These relationships have been analyzed empirically in Sundararajan (2005). The evidence reveals a significant amount of return smoothing, and a significant absorption of risks by bank capital (and thus, only a limited sharing of risks with investment accounts). This finding raises a broader issue of how best to measure empirically the extent of risk sharing between unrestricted investment accounts and bank capital. A framework for measuring such risk sharing based on measures of volatility of *mudharabah* profits under alternative scenarios is presented in Sundararajan (2007). The section below builds on this measurement framework.

The definition and measurement of *mudharaba* profits are first discussed; and then a methodology is presented for calibrating risk sharing between IAH and bank capital based on a value-at-risk (VAR) methodology.

4.1 Accounting Definitions

The relationship between *mudharabah* income and overall return on bank assets is first explored based on available accounting standards. Drawing on this relationship, a methodology for measuring the risks

facing IAH and the risk sharing between bank shareholders and IAH is suggested.

According to Financial Accounting Standards (FAS) (No. 6) of the AAOIFI, when a bank commingles its own funds (K – capital) with *mudharaba* funds (DI – unrestricted investment deposits), profits are first allocated between the *mudharib*'s own (i.e. shareholders') funds and the funds of IAH, and then the share of the Islamic bank for its work as *mudharib* is deducted from the share of profits allocated to the IAH.

In addition, FAS No. 6 states that profits of an investment jointly financed by the Islamic bank and unrestricted IAH should be allocated between them according to the contribution of each of the two parties in the jointly financed investment. Allocation of profit based on percentages previously agreed upon by the two parties is also juristically acceptable (for example in *mudharaba* and *musharaka* contracts), but the AAOIFI standard calls for allocation proportionate to the contributions.

The minimum standards for calculating the rate of return as specified by Bank Negara Malaysia (BNM, 2004) in its Framework of the Rate of Return (2001 and 2004), call for the shares of profits to “depositors” (i.e. IAH) and to the bank as *mudharib* to be uniform across banks as specified in the framework documents, and provide a uniform definition of profit and provisions to ensure a level playing field. Profit is defined as income from balance sheet assets plus trading income minus provisions, minus appropriations to (or plus releases from) PERs, minus the income attributable to capital-specific investments, and due from other institutions. This is the *mudharaba* income (RM) distributable between IAH and the bank (as *mudharib*). Provisions are defined as general provisions (i.e. portfolio-wide) plus specific provisions and income-in-suspense for facilities that are non-performing. The framework then distributes *mudharaba* income between IAH and the bank as *mudharib*, taking account of the type and structure of the IAH investment deposits.⁵

In addition, both the AAOIFI standard and the rate of return framework of BNM recognize the PER and the IRR. PER (or RP) refers to amounts appropriated out of gross income in order to maintain a certain level of return for PSIA and this is apportioned between IAH and shareholders in the same proportions that apply to the sharing of profits. IRR (or RIR) are

reserves attributable entirely to IAH, but maintained specifically to absorb periodic losses on their investments in whole or in part.

4.2 **Measuring Risks in Investment Accounts and Risk Sharing**

For measuring risks and risk sharing based on these definitions, *mudharaba* profit (RM), that is, the distributable profit after the appropriation to PER, can be written as:

$$RM = A(R_A - S_p) - AR_p - KR_K = A(R_A - S_p - R_p) - KR_K$$

where:

- A = the total assets of the (commingled) *mudharaba* fund.
- R_A = rate of return on those assets before provisions.
- R_p = appropriation to PER (as a percentage of assets).
- R_K = rate of return on shareholders' capital in the *mudharaba* fund.
- S_p = provisions as a percentage of assets.
- K = shareholders' funds.

Total *mudharaba* assets (A) equal the sum of shareholders' capital (K) and PSIA funds (DI) in the *mudharaba* fund. Thus:

$$A = K + DI$$

The rate of return on shareholders' capital, R_K , may thus be written as follows:

$$R_K = (R_A - S_p) - D_K \tag{1}$$

where D_K is any transfer of profits by the IFSI from its shareholders to its IAH,⁶ expressed as a percentage of shareholders' capital. Thus, when D_K is 0, the shareholders receive a share of the total asset return proportionate to their contribution to the commingled pool. If $D_K > 0$, shareholders have transferred some resources to IAH in order to provide a targeted return to IAH (see below for further discussion), in the process reducing shareholders' returns.

The rate of return for IAH (R_I) can then be calculated by taking their share β of the *mudarabah* profit on their investment DI , and subtracting any appropriation to the IRR (R_{IR} , expressed as a percentage of PSIA funds DI):

$$R_I = \beta \frac{RM}{DI} - R_{IR} = \beta \frac{A(R_A - S_P - R_P) - KR_K}{DI} - R_{IR} \quad (2)$$

In practice, there are two ways to categorize how R_K is determined. One approach, practiced in many jurisdictions (for example, see the rate of return framework provided by BNM), is to treat R_K as an endogenous decision variable that is determined by management. For example, the bank management may choose $D_K > 0$; hence, the overall return to shareholder funds will be such that the IAH receive a targeted return that is commensurate with their risk bearing capacity (or consistent with their risk appetite; see below for further clarification of this idea). An alternative approach is to assume that the return to a component of capital in the commingled pool is proportional to its contribution to the pool, and hence the investment return to capital before deducting the appropriation to PER is the same as the return ($R_A - S_P$) obtained from the assets financed by the commingled funds. In this case, $D_K = 0$.

The variable D_K thus serves to indicate (in terms of a rate) a “donation” from shareholders that is determined from time to time to ensure that the risk-return expectations of IAH are met.

Since D_K is deducted from the profit rate ($R_A - S_P$) before distribution to IAH, only a share β of D_K will be attributed to IAH. In practice, bank management may choose to adjust the *mudarib*'s share $(1 - \beta)$ in order to provide a targeted return to IAH and set $D_K = 0$. Thus, there is one to one correspondence between adjustments in D_K and the equivalent adjustments in $(1 - \beta)$ with $D_K = 0$ to provide a targeted return to IAH.

First, assuming R_K is endogenous, the return to equity can be written as the sum of investment income earned by shareholders from their share of the commingled funds (KR_K), income earned as *mudarib* $(1 - \beta)RM$, where $((1 - \beta)$ is the *mudarib* share), and the share of PER accruing to the shareholders $((1 - \beta)AR_p)$ that is added back, all expressed as a proportion of total capital. Other sources of shareholder income, for example from other banking services and other non-PSIA assets, are ignored for simplicity.

The rate of return on shareholders' equity, R_E , following the definition above, is thus equal to R_K plus the other components as shown in equation (3):

$$R_E = R_K + (1 - \beta) \left\{ \frac{RM + AR_p}{K} \right\} \quad (3)$$

Combining equations (1)–(3), and simplifying the expressions, yields:

$$R_I = \frac{\beta(R_A - S_p) - \beta(AR_p)}{D_I} + \frac{K\beta D_K}{DI} - R_{IR} \quad (4)$$

$$R_E = \left[1 + (1 - \beta) \frac{DI}{K} \right] (R_A - S_p) - \beta D_K \quad (5)$$

Investment risk facing IAH and shareholders can be computed based on the variance of R_I and R_E respectively. For example:

$$\begin{aligned} VAR(R_E) = & \left\{ 1 + (1 - \beta) \frac{DI}{K} \right\}^2 VAR(R_A - S_p) + \beta^2 VAR(D_K) \\ & - 2\beta \left\{ 1 + (1 - \beta) \frac{DI}{K} \right\} COV((R_A - S_p), D_K) \end{aligned} \quad (6)$$

Similarly, the investment risk to IAH can be computed by calculating the variance of R_I and its components based on equation (4).

Thus, the true risk facing shareholders, which is the main determinant of the CAR, is given by equation (6). This risk to shareholders is determined primarily by three components:

1. the variability of investment returns;
2. the variability of the income transfers from shareholders to IAH; and
3. the covariance between investment returns and the income transfers.

The larger the asset return, the less is the need for income transfer from shareholders, and hence this covariance is expected to be negative. The larger this covariance, the larger is the risk to shareholders and hence the larger

is the capital requirement. In addition, an IFSI may adjust the *mudarib*'s share β as an additional mechanism for income smoothing. Under the *mudarabah* contract, the investment losses on PSIA funds are to be borne by IAH, and hence β is zero in case of losses (that is, $\beta = 0$, whenever $(R_A - S_p) < 0$). Similarly, shareholders cannot make up for negative returns by transfers from shareholders' funds (that is, $D_K = 0$, if $(R_A - S_p) < 0$).

In view of these constraints on the behavior of D_K and β , it is assumed that a sufficient amount of accumulated PER and IRR is available to achieve the targeted return to IAH even when asset returns are negative.

A key implication of equation (6) is that the risks facing shareholders and hence the capital requirements, are independent of PER and IRR if $D_K = 0$, and β is fixed. That is, if an IFSI can manage the value and returns on investment accounts entirely through adjustments in PER and IRR without recourse to any income transfers from shareholders, then there is no DCR that requires additional capital requirements, and hence "alpha" is zero.

In the rest of the paper, D_K will be treated as an endogenous variable determined as a function of developments in market rates of return, investment returns, the availability of PER and IRR, etc. in order to achieve a desired rate of return for IAH. For simplicity, it is assumed that R_I is determined as a weighted average of a market rate of return benchmark (R_m) and the actual investment return ($R_A - S_p$), as shown in equation (7):

$$R_I = w R_M + (1 - w)(R_A - S_p) \quad (7)$$

If $w = 0$, then IAH payouts are strictly based on investment returns, and hence $\alpha = 0$; this corresponds to PSIA's being treated as pure investments. If $w = 1$, then IAH payouts are strictly determined based on the market rate of return, and hence $\alpha = 1$; this corresponds to PSIA's being treated as pure deposits as in conventional banks. If $0 < w < 1$, then the appropriate value of D_K that yields the desired return to IAH as specified in equation (7) can be derived by substituting equation (7) into equation (4), and then extracting an expression for D_K as shown in equation (8):

$$D_K = \frac{A}{K} R_p + \frac{1}{\beta} \frac{DI}{K} w R_m + \frac{DI}{K} \frac{1 - w - \beta}{\beta} (R_A - S_p) + \frac{1}{\beta} R_{IR} \frac{DI}{K} \quad (8)$$

Thus, the size of transfer from shareholders required to achieve a desired return to IAH depends upon the level of PER and IRR used, the market rate of return, and the investment rate of return. Equation (8) may also be rewritten to provide an expression for $1 - \beta$ (by setting $D_K = 0$, and rearranging the terms) in order to specify the value of *mudarib*'s share that would provide the desired return to IAH. For simplicity, however, we will work with the formulation shown in equation (8). On substituting equation (8) into equation (5), a new expression for return to equity can be derived, as shown in equation (9):

$$R_E = \left\{ 1 + \frac{DI}{K} w \right\} (R_A - S_p) - \beta \frac{A}{K} R_p - \frac{DI}{K} w R_m - \frac{DI}{K} R_{IR} \quad (9)$$

Alternative expressions for R_E can be derived corresponding to alternative scenarios concerning D_K , w , R_p , R_{IR} and β . The variability of R_E corresponding to each of these scenarios provides the basis for estimating DCR and "alpha" as further described below.

For example, if $D_K = 0$, β is fixed, and all income smoothing and loss mitigation are done through PER and IRR, then the expression for R_E and hence the variance of R_E (equation (5)) is independent of w , so that the DCR is zero, and no additional capital is required (other than for operational risk) to cover DCR in respect of assets funded by PSIA.

If $D_K = 0$, but β is endogenous, then DCR needs to be recognized in the computation of capital requirements. If $D_K \neq 0$, then R_K is an endogenously determined decision variable that results in DCR, which can be managed by choosing the level of D_K , w , R_p , R_{IR} and if necessary, β . The risk measurements that form the basis for estimating DCR and capital requirements are further explained below. The sharing of risk, defined as UL, measured by a profit at risk measure between IAH and shareholders can be calculated as follows. From a monthly time series of *mudarabah* profits (as a return on assets), its variance σ_p^2 (and the standard deviation σ_p) can be calculated, and assuming normality, profit at risk can be measured as:

$$PAR = Z_\theta \sigma_p \sqrt{T} \quad (10)$$

where:

Z_θ = the constant that gives the appropriate one-tailed confidence interval with a probability of $1 - \theta$ for the standard normal distribution (e.g. $Z_{0.1}$ for a 99 percent confidence interval).

T = holding period or maturity of investment account as a fraction of a month.

Such aggregate PAR for the jointly funded investments by the IFSI provides a first cut estimate of risks in unrestricted *mudarabah* accounts and provides the basis for estimating the size of UL under various scenarios as explained further below.

First, at a given probability level, the unexpected losses UL_0 on the rate of return to shareholders' equity capital (R_{E0}) when risks are borne fully by IAH can be calculated by assigning PER and IRR to zero and setting R_I equal to the unsmoothed investment rate of return, thereby assuming that the IFSI's shareholders do not sacrifice any returns in order to cushion the returns to IAH in bad states of the world. In this scenario, the parameter α in the IFSB's capital adequacy formula (IFSB, 2005b) is equal to 0.

Second, at the same probability level, the level of unexpected losses UL_1 on the rate of return to shareholders' equity capital (R_{E1}) can be calculated assuming that the rate of return on investment accounts R_I is determined based on market returns independently of bank income from investments, as in conventional banks. In this scenario, various decision variables (the *mudarib*'s share, use of PER, and any transfers of resources from shareholders to IAH, etc.) adjust automatically to ensure that the rate of return to IAH is fully smoothed to equal market rates of return on deposits. In this scenario, $\alpha = 1$.

Third, again at the same probability level, unexpected losses UL_2 on the rate of return to equity capital (R_{E2}) can be computed assuming that R_I is determined based on a weighted average of market rates of return and developments in bank's profits and losses, in line with historical experience that reflects a set of policies governing PER, IRR and profit transfers from shareholders to IAH. In practice, both UL_1 and UL_2 can be computed based on historical data that reflect actual policies and actual return experience of investment accounts and general market rates of return. In this scenario, α has a value between 0 and 1, which can be estimated as follows. Based

on the above, risks left with IAH (UL_D) can be measured as:

$$UL_D = UL_1 - UL_2 \quad (11)$$

Risks transferred to shareholders compared to the situation of risks fully borne by IAHs can be measured by:

$$UL_S = UL_2 - UL_0 \quad (12)$$

UL_S thus provides a measure of DCR. These measures of risk transfer (UL_D and UL_S) can form the basis for defining the risk weight adjustment, i.e. the parameter α in the IFSB capital adequacy formula, for the assets financed by investment accounts.

More specifically, the proportion α of RWA funded by IAH (net of PER and IRR of IAH) that should be added to the RWA funded by sources other than IAH, can be calculated as:

$$\alpha = \frac{UL_2 - UL_0}{UL_1 - UL_0} = \frac{UL_S}{UL_D + UL_S} \quad (13)$$

where UL_S is the measure of risks (exposures to UL) transferred to shareholders, i.e. the DCR, computed as $UL_2 - UL_0$, and UL_D is a measure of risks left with IAH, computed as $UL_1 - UL_2$.

The maximum possible value of DCR is given by $UL_1 - UL_0$, which is the difference between the UL for shareholders when the PSIA are treated like deposits (UL_1) and the UL for shareholders when they are treated as pure investments bearing all losses (UL_0). The α can be interpreted as the ratio of the actual DCR to its maximum value.

The rationale for equation (13) can be further elucidated as follows. When $\alpha = 1$, PSIA are akin to conventional deposits, and the capital requirement (UL_1) in this case is based on all assets in the IFSI's balance sheet net of RWA funded by the reserves PER and IRR set aside for IAH (i.e. RWA_T , less R_{IAH}), as shown in equation (14). RWA funded by the reserves PER and IRR, denoted by R_{IAH} , are deducted because these reserves have the specific function of absorbing volatility and UL on the returns from the investments of the IAH and hence the corresponding assets do not require capital (other than for operational risk) from the shareholders of the IFSI. In other words, the RWA funded by PSIA (RWA_{IAH}) minus

the RWA funded by the reserves (PER and IRR) held for IAH (R_{IAH}), are added to the RWA corresponding to all non-PSIA assets, ($RWA_T - RWA_{IAH}$), in the IFSI's balance sheet:

$$UL_1 = CAR(RWA_T - R_{IAH}) \quad (14)$$

where CAR is the appropriate CAR, such as 8 percent.

When $\alpha = 0$, RWA funded by PSIA, denoted by RWA_{IAH} , are excluded altogether from total RWA_T . Therefore, the capital requirement (excluding that for operational risk), UL_0 will be based on all non-PSIA assets, ($RWA_T - RWA_{IAH}$) as shown in equation (15):

$$UL_0 = CAR(RWA_T - R_{IAH}) \quad (15)$$

When $0 < \alpha < 1$, only the proportion α of the RWA funded by PSIA, namely RWA_{IAH} , but net of R_{IAH} is added to the RWA funded by non-PSIA funds. Therefore, capital requirements UL_2 can be written as:

$$UL_2 = CAR(RWA_T - RWA_{IAH}) + \alpha (RWA_{IAH} - R_{IAH}) \quad (16)$$

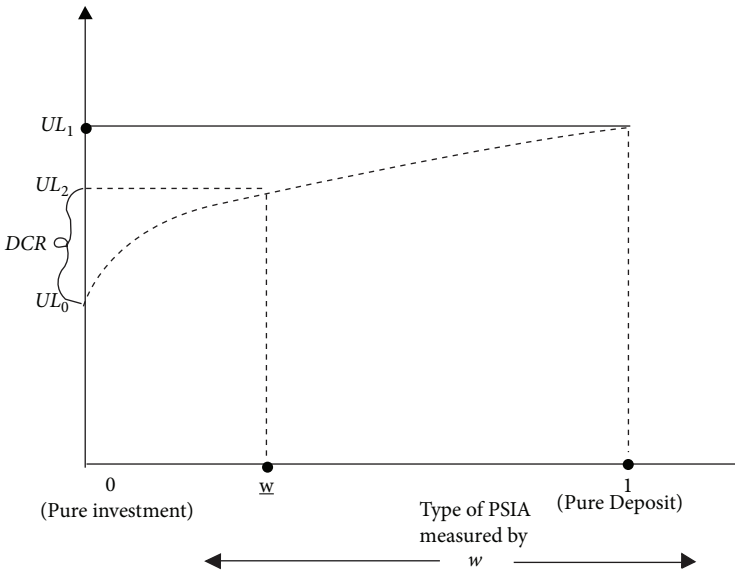
Substituting from equations (14) and (15) into equation (16), we get:

$$UL_2 = UL_0 + \alpha (UL_1 - U_0)$$

The above expression can be rewritten to yield the formula for α (as a function of the UL under alternative scenarios) shown in equation (13) above. The computation of DCR, and hence of α , and its relationship to the nature of PSIA, as reflected in the value of w (the relative weight attached to market returns by the IFSI in its decisions on a payout to IAHs) are further shown in Figure 2.

Thus, computation of UL to IFSI that requires shareholder capital under alternative scenarios to support income smoothing provides the basis for estimating the adjustment factor α , which is subject to supervisory discretion under the new IFSB capital adequacy formula. When $\alpha = 1$, there is full income smoothing, and capital requirements will be governed by UL_1 . When $\alpha = 0$, there is full risk absorption by IAH, with no DCR, and the capital requirement is governed by UL_0 . The adjustment factor α when there is partial income smoothing, can be computed based on

Figure 2 Determinants of DCR (Displaced Commercial Risk)



Notes: As w moves from zero to 1, the character of PSIA changes from being pure investment like product to pure deposit like product, requiring increasing amounts of shareholder capital; additional capital requirements, i.e. the increase in UL as w shifts from 0 (pure *mudarabah* outcome) to its actual level “ w ” given by $UL_2 - UL_0$ —is the measure of DCR: the maximum possible value of DCR is given by $UL_1 - UL_0$. The value of α in the capital adequacy formula is given by the ratio of actual size of DCR to its maximum value, as shown in equation (13) in the text.

equation (9), and a simplified expression for α can be derived based on the standard deviations of key return variables.

The computation of UL_0 , UL_1 , and UL_2 , can be illustrated for the simple case where IRR and PER are 0, $D_K = 0$, and only $\beta \geq 0$ varies in response to market and investment returns in order to achieve the desired payout to IA. By combining equations (4) and (7), an expression for β can be derived as shown in equation (17) below:

$$1 - \beta = \frac{(R_A - S_p - A)/(DI \cdot R_{IR}) - (wR_m + (1-w)(R_A - S_p))}{(R_A - S_p - A)/(DI \cdot R_p)} \quad (17)$$

Assuming $R_{IR} = 0$ and $R_p = 0$, the expressions for R_E under alternative scenarios are as follows. In the case of pure investment, where $w = 1$, the return on equity R_{E0} is given by:

$$R_{E0} = R_A - S_P \quad (18)$$

In the case of pure deposit, where $w = 1$, the return on equity R_{E0} is given by:

$$R_{E1} = (R_A - S_P) + \frac{DI}{K} \cdot (R_A - S_P - R_m) \quad (19)$$

In the intermediate case, where $0 < w < 1$, the return on equity R_{E2} is given by:

$$R_{E2} = (R_A - S_P) + \frac{DI}{K} \cdot w \cdot (R_A - S_P - R_m) \quad (20)$$

Similarly, if $D_K \neq 0$, β is fixed, and $R_{IR} = 0$, then returns to equity under alternative assumptions regarding w , can be expressed, based on equation (9), as follows:

$$R_{E1} = \left(\frac{a}{K} \right) \cdot (R_A - S_P - \beta R_P) - \frac{DI}{K} \cdot R_m \quad (21)$$

where $w = 1$ (the case of pure deposit)

$$R_{E0} = R_A - S_P - \beta \cdot \left(\frac{A}{K} \right) \cdot R_P \quad (22)$$

where $w = 0$ (the case of pure investment)

$$R_{E2} = \left\{ 1 + \left(\frac{DI}{K} \right) \cdot w \right\} (R_A - S_P) - \beta \left(\frac{A}{K} \right) R_P - \left(\frac{DI}{K} \right) \cdot w \cdot R_m \quad (23)$$

Equation (23) represents the intermediate case, where the payout to IAH is a weighted average of market return and investment return.

The standard deviation of the above variables R_{E1} , R_{E0} , and R_{E2} , denoted by σ_1 , σ_0 and σ_2 , respectively, can then be used to compute the unexpected

losses UL_1 , UL_2 and UL_0 , respectively; for example $UL_1 = Z_{\theta\sigma_1}\sqrt{T}$. The simplified expressions for the rate of return to shareholders under alternative scenarios, shown in equations (18)–(20) or equations (21)–(23), can provide a first cut estimate of alpha based on equation (13). However, the model based on variations in the *mudarib*'s share alone as the tool of investment account management may be unrealistic. Modeling more realistic scenarios of investment account management which allows both D_k and β to be variables, and taking into account the restrictions on the value of β and D_k arising from the nature of *mudarabah* contract, would require simulation methods based on parameters derived from historical data on returns, reserves, and *mudarib*'s share.

Such effective investment account management would help to determine a level of α that is consistent with the risk-return preferences of IAH. Such active management would require disclosure of overall risks facing IAH (and shareholders), and offering IAH a range of products with different risk-return combinations. This, in turn, would require more active management of assets, with greater reliance on securitizing asset side positions originated by banks, and trading of these securitized assets in the market to match the risk and maturity profile of assets with risk and maturity profile of various funding sources. Such on-balance-sheet risk management based on securitization would seem a more feasible alternative for Islamic banks than the use of derivatives and other more standard off-balance-sheet risk management tools that are available for conventional banks. This is because *Shari'ah* compatible substitutes for futures, options, and swap markets are not yet widespread, and could take time to develop fully. Thus, new product innovations based on innovative uses of Islamic asset securitizations,⁷ would facilitate development of products with specific risk return combinations for restricted investment accounts and better control of the risks in unrestricted investment accounts.

5. Summary and Concluding Remarks

As illustrated in Subsection 3.1, the CAR for IFSI is highly sensitive to changes in the value of "alpha." This sensitivity implies that if the CAR of an IFSI is calculated without the use of a reasonably realistic value

of alpha, the CAR will not provide an adequately accurate measure of the IFSI's capital adequacy. The value of "alpha" depends upon the policies of IFSI toward the returns paid out to PSIA in relation to unsmoothed returns earned on assets invested with PSIA funds and the resulting DCR. The estimation of "alpha" requires historical data on these returns and the related usage of reserves and profit transfers from IFSI, so as to compute their variability and correlations, and using these to estimate UL to shareholders under various scenarios. Thus, the paper provides a quantitative analytical framework for the exercise of supervisory discretion on "alpha" to assess the adequacy of IFSI capital. The framework is also highly relevant for the IFSI's risk management process.

At the present time, few, if any, IFSIs will have the necessary historical data to enable them to fit a statistical model such as that presented above in order to estimate their own alpha. Rather, a panel data approach (combining both cross-sectional and time-series data) will need to be applied using data from as many IFSIs in the country or region as possible. Cooperation between banking supervisors and between them and the IFSB would greatly facilitate the application of such an approach. This will permit a value of alpha to be estimated for a given population of IFSIs operating under similar conditions. This "population alpha" may then be adjusted heuristically for application to individual IFSIs within the population. However, all this will be possible only if the IFSIs make the necessary disclosures. If an IFSI failed to do so, then the supervisor would presumably be obliged to apply a very conservative, that is to say, high value of alpha to that institution so as to set its regulatory capital at a safely high level.

Making the necessary data available to the supervisor, public disclosure of relevant data differentiated by the type of stakeholder and applying the best efforts to arrive at a realistic value of alpha, are the implied risk management and corporate governance issues for an IFSI. Public disclosure of historical data on asset returns, IAH returns, and the use of reserves and transfers to smooth returns, etc. are critical both to enhance confidence of IAH and to benefit from market discipline as a complement to support the supervisory assessments of CAR. For such public disclosures to be effective, however, supervisors should provide adequate guidance on a framework to compute the rate of return and on the management

of PER/IRR as a means to encourage appropriate supervisory and public disclosures. Additional empirical and analytical work on the estimation of DCR, the adequacy of PER and IRR, and the relationship between PER, IRR and DCR, are key to formulating appropriate additional guidance for the effective application of IFSB standards.

Notes

1. Such reserves may also be used in connection with restricted investment accounts, but as the latter are not generally perceived to be *Shari'ah* compliant substitutes for conventional deposits, the same motivation for using them does not generally exist.
2. A survey of annual reports for 2001–2003 of a sample of IFSIs showed that only 30 percent of banks surveyed disclosed the amount of PER on their balance sheets (Sundararajan, 2005).
3. Islamic banks may also practice DCR in connection with restricted investment accounts. However, this is not commonly the case as restricted investment accounts are not perceived as a substitute for conventional deposit accounts and hence, are not exposed to the market and other pressures that result in DCR.
4. The IRR component may not be used for smoothing the profit payout. Its function is to cover losses arising on IAH funds. Thus, strictly speaking, it does not serve to mitigate DCR. Where the IAH funds are commingled with the IFSI's own funds and current account funds, DCR may also operate if the IFSI donates to the IAH part of the profit from its own funds and current accounts. The function of the PER is to eliminate or reduce the pressure on the IFSI to accept DCR. By mitigating losses on IAH funds, the IRR "smoothes" the financial outcome upwards. While the IRR does not thereby replace the function of the PER in smoothing returns, it may be considered to contribute indirectly to mitigating DCR by being used in conjunction with the PER.
5. Thus, the income to the bank has two components: the return on bank capital used in calculating the *mudarabah* profits (this is the return to bank's contribution as a co-investor) plus its *mudarib* share of *mudarabah* profits (this is the fee for its investment management services).
6. D_K is therefore a donation (expressed as a rate) from the shareholders to the IAH out of the shareholders' share of profits on commingled funds, as distinct from a reduction of the *mudarib* share $(1 - \beta)$ to a level below the percentage specified in the *mudarabah* contract. Although the effects of the donation and the reduction may be the same, the reduction may be made when there are no commingled funds.

7. However, there are currently a number of impediments to full asset securitizations in Islamic finance, notably legal difficulties in many emerging markets to providing the security holders with effective recourse to the underlying assets (DeLorenzo and McMillen, 2007).

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Glossary

' <i>adl</i>	Justice. A morally upright witness.
<i>ahkam</i>	Plural of <i>hukm</i> (rule)
' <i>amal</i>	Conduct
<i>amaanah</i>	Trust; bailment.
' <i>aamm</i>	General
' <i>aqaid</i>	Belief; tenets of Faith.
<i>awqaf</i>	Plural of <i>waqf</i> . For meaning, see <i>waqf</i> .
' <i>aql</i>	Reason. The fourth interest secured by the <i>Shari'ah</i> and recognized as purpose of Law.
<i>asl</i>	Origin; root; foundation. Source of Law.
<i>baatil</i>	Nullity, void.
<i>bay'</i>	A comprehensive term that applies to sale.
<i>dalil</i>	Evidence
<i>diin</i>	Religion
<i>duyun</i>	Debts
<i>fasid</i>	Vitiated; irregular.
<i>fadl</i>	Excess. Terms is used for usury in the case of <i>Riba al-Fadl</i> .
<i>faqih</i>	Jurist
<i>fardh</i>	Obligatory
<i>fatawa</i>	A <i>Shari'ah</i> ruling or a scholarly opinion on a matter of Islamic laws. A recognized religious authority in Islam issues a <i>fatawa</i> . However, since there is no hierarchical priesthood or anything of that form in Islam, a <i>fatawa</i> is not necessarily "binding" on the faithful. The people who pronounce these rulings are supposed to be knowledgeable, and base their rulings in knowledge and wisdom. They need to supply evidence from Islamic sources for their opinions, and it is not uncommon for scholars to come to different conclusions regarding the same issue.

<i>fiqh</i>	Knowledge of <i>Shari'ah</i> , i.e., law. Refers to the whole corpus of Islamic jurisprudence. In contrast with conventional law, <i>fiqh</i> covers all aspects of life, be it religious, political, social, commercial, or economic. The whole corpus of <i>fiqh</i> is based primarily on interpretations of the Qur'an and the <i>Sunnah</i> and secondarily on <i>ijma'</i> (consensus) and <i>ijtihad</i> (individual judgment). While the Qur'an and the <i>Sunnah</i> are immutable, <i>fiqhi</i> pronouncements may change due to changing circumstances.
<i>fuqaha</i>	Plural of <i>faqih</i>
<i>gharar</i>	Literally, it means deception, danger, risk, and uncertainty. Technically, it means exposing oneself to excessive risks and danger in a business transaction as a result of uncertainty about the price, the quality and the quantity of the countervalue, the date of delivery, the ability of either the buyer or the seller to fulfill his commitment, or ambiguity of the terms of the deal; thereby, exposing either of the two parties to unnecessary risks.
<i>hadith</i>	Saying. The written record of the <i>Sunnah</i> .
<i>hajat</i>	Needs or necessities
<i>hakim</i>	The Lawgiver
<i>haraam</i>	Prohibited
<i>hawl</i>	One year. The prescribe period after which payment of <i>Zakah</i> is due.
<i>hibah</i>	Gift
<i>hukm</i>	Rule, injunction or prescription.
<i>ijarah</i>	Hire, rent, or leasing. Sale of the usufruct of an asset. The lessor retains the ownership of the asset, together with all the rights and the responsibilities that go with ownership. An <i>ijarah</i> contract refers to an agreement made by IIFS to lease to a customer an asset specified by the customer for an agreed period against specified installments of lease rental. An <i>ijarah</i> contract commences with a promise to lease that is binding on

	the part of the potential lessee prior to entering the <i>ijārah</i> contract.
<i>ijarah muntahia bittamleek</i>	An <i>ijarah muntahia bittamleek</i> (or <i>ijarah wal iqtina</i>) is a form of lease contract that offers the lessee an option to own the asset at the end of the lease period either by purchase of the asset (<i>ijarah thumma al-bay</i>) through a token consideration or payment of the market value, or by means of a gift contract.
<i>ijma'</i>	Consensus of opinion
<i>ijtihad</i>	The effort of the jurist to derive the law on an issue by expending all the available means of interpretation at his disposal and by taking into account all the legal proofs related to the issue.
<i>imam</i>	Leader
Investment accounts (unrestricted)	The account holders authorize the IFSI to invest their funds based on <i>mudarabah</i> or <i>wakālah</i> (agency) contracts without laying any restriction. The IIFS can commingle these funds with their own funds and invest them in a pooled portfolio.
Investment accounts (restricted)	The account holders authorize the IFSI to invest their funds based on <i>mudarabah</i> or agency contracts with certain restrictions as to where, how and for what purpose these funds are to be invested.
Investment risk reserve	Investment risk reserve is the amount appropriated by the IFSI out of the income distributed to IAH, after allocating the <i>mudarib's</i> share, in order to cushion against future investment losses for IAH.
<i>istisna'a</i>	An <i>istisna'a</i> contract refers to an agreement to sell to a customer a nonexistent asset, which is to be manufactured or built according to the buyer's specifications, and is to be delivered on a specified future date at a predetermined selling price.
	It refers to a contract whereby a manufacturer (or contractor) agrees to produce (or construct) and deliver, at a given price on a given date in the future, a well-described good (or building) according to specifications. As against <i>salam</i> , in <i>istisna'a</i> , the

	price need not be paid in advance. It may be paid in installments, similar to progress payment as agreed by the parties, or partly up front, with the balance being paid later.
<i>khiyaar</i>	Option
<i>maal</i>	Wealth
<i>makruh</i>	Reprehensible; abominable; disapproved.
<i>mandub</i>	Recommended
<i>maslaha</i>	The principle that the <i>Shari'ah</i> has determined goals or purposes and the securing of these purposes is an acknowledged interest.
<i>mudarabah</i>	A contract of partnership between capital and work—i.e., between two parties, namely one or more capital owners or financiers (called the <i>rab-al-mal</i>) and an entrepreneur or investment manager (called the <i>mudarib</i>). Profit is distributed between the two parties in accordance with a predetermined ratio, agreed at the time of the contract. Financial loss is borne only by the financiers. The entrepreneur's loss lies in not getting any reward for his services.
<i>murabahah</i>	<p>A <i>murabahah</i> contract refers to a sale contract whereby the IFSI sell to a customer at an agreed profit margin plus cost (selling price), a specified kind of asset that is already in their possession.</p> <p>It is sale at cost plus mark-up price. The term, however, is now used to refer to a sale agreement whereby the seller purchases the goods desired by the buyer and sells them at an agreed marked-up price (<i>murabahah</i> to the purchase orderer). The payment being settled within an agreed time frame, either in installments or in a lumpsum. The seller bears the risks associated with the goods in possession until they are delivered to the buyer.</p>
<i>murabahah</i> for the purchase orderer (MPO)	An MPO contract refers to a sale contract whereby the IIFS sell to a customer at cost plus an agreed profit margin (selling price), a specified kind of asset that has been purchased and acquired by the IIFS based on

	a promise to purchase from the customer, which can be binding or nonbinding.
<i>musharakah</i>	A <i>musharakah</i> is a contract between the IIFS and a customer to contribute capital to an enterprise, whether existing or new, or to ownership of a real estate or moveable asset, either on a temporary or permanent basis. Profits generated by that enterprise or real estate/asset are shared in accordance with the terms of <i>musharakah</i> agreement whilst losses are shared in proportion to each partner's share of capital.
Diminishing <i>musharakah</i>	Diminishing <i>musharakah</i> is a form of partnership in which one of the partner promises to buy the equity share of the other partner gradually until the title to the equity is completely transferred to the buying partner. The transaction starts with the formation of a partnership, after which buying and selling of the other partner's equity take place at market value or the price agreed upon at the time of entering into the contract. The "buying and selling" is independent of the partnership contract and should not be stipulated in the partnership contract since the buying partner is only allowed to give only a promise to buy. It is also not permitted that one contract be entered into as a condition for concluding the other.
Parallel <i>istisna'a</i>	A parallel <i>istisna'a</i> is a second <i>istisna'a</i> contract where a third party will be manufacturing for the IIFS, a specified kind of asset, which corresponds to the specification of the first <i>istisna'a</i> contract.
Parallel <i>salam</i>	A parallel <i>salam</i> contract refers to a second <i>salam</i> contract with a third party acquiring, from the IIFS, a specified kind of commodity, which corresponds to that of the commodity specified in the first <i>salam</i> contract.
Profit Equalization Reserve	Profit Equalization Reserve (PER) is the amount appropriated by the IFSI out of the <i>mudarahah</i> income, before allocating the <i>mudarib's</i> share,

	in order to maintain a certain level of return on investment for IAHs and to increase owners' equity.
<i>qard</i>	A noninterest bearing loan intended to allow the borrower to use the loaned funds for a period with the understanding that the same amount of the loaned funds would be repaid at the end of the period.
<i>qard</i> or <i>qard al-Hasan</i>	A financing extended without interest or any other compensation from the borrower. The lender expects a reward only from God.
<i>riba</i>	Literally, it means increase or addition or growth. Technically, it refers to the "premium" that must be paid by the borrower to the lender along with the principal amount as a condition for the loan or an extension in its maturity. Interest, as commonly known today, is regarded by a predominant majority of <i>Fuqaha'</i> to be equivalent to <i>riba</i> .
<i>sadaqah</i>	An act of charity
<i>salam</i>	A <i>salam</i> contract refers to an agreement to purchase, at a predetermined price, a specified kind of commodity not available with the seller, which is to be delivered on a specified future date in a specified quantity and quality. The IIFS, as the buyers, make full payment of the purchase price upon execution of a <i>salam</i> contract. The commodity may or may not be traded over the counter or on an exchange.
<i>Shari'ah</i>	Refers to the corpus of Islamic law based on Divine guidance as given by the Qur'an and the <i>Sunnah</i> , which embodies all aspects of the Islamic faith, including beliefs and practices.
<i>sukuk</i>	<i>Sukuk</i> (certificates) represents the holder's proportionate ownership in an undivided part of an underlying asset where the holder assumes all rights and obligations to such asset.
<i>takaful</i>	An equivalent to the contemporary insurance contract whereby a group of persons agree to share a certain risk (e.g., damage by fire) by collecting a specified sum from each. In case of loss to any one of the group, the loss is met from the collected funds.

<i>wadī'ah</i>	An amount deposited whereby the depositor is guaranteed his/her fund in full.
<i>wakālah</i>	<i>Wakālah</i> is an agency contract, where the IAH (principal) appoints the IIFS (agent) to carry out on behalf of the principal the investment for a fee or for no fee, as the case may be.
<i>waqf</i>	Appropriation or tying up a property in perpetuity for specific purposes. No property rights can be exercised over the corpus. Only the usufruct is applied toward the objectives (usually charitable) of the <i>waqf</i> .
<i>zakah</i>	The amount payable by a Muslim on his net worth as part of his religious obligations, mainly for the benefit of the poor and the needy. Paying <i>zakah</i> is an obligatory duty for every adult Muslim whose wealth exceeds a certain threshold.

Index

- Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI), 12, 70, 71, 92, 181–83, 251
- Financial Accounting Standards (FAS), 93, 106, 112, 165, 217, 256
- amanat*, 75, 76
- aqed idhaan*, 36
- Arbitration and Reconciliation Centre for Islamic Financial Institutions (ARCIFI), 12
- asset- and sales-based contracts, 5
- Asset Liability Management (ALM), 111, 125, 156, 201, 244
- asset quality, assessment under CAMELS framework, 62–63
- auction process, for selling primary issues of CMCs, 47
- awqaf*, 186, 198–200
- balance sheet liquidity, management of, 122
- bank liquidity, cross-country comparisons of, 28
- Bank Negara Malaysia (BNM), 28, 39, 58, 113, 136, 165
- intra-day credit facility, 150
- Basel Capital Accord (Basel I), 88
- Basel Committee on Banking Supervision, 206
- Basel Core Principles of Banking Supervision, 89, 109, 111, 189
- Basel II proposals. *See* New Basel Capital Accord
- bay'al-dayn*, 130, 144
- bay'al-istijrar*, 130
- budget financing, 29
- CAMELS system, for assessing bank soundness, 60, 62–64
- capital adequacy ratio (CAR), 164, 244
- calculation for, 251
- capital allocation, 94, 98
- capital-to-asset ratio (C/A), 117
- capital value guarantee, 75
- Cash Reserve Requirements (CRR), 135, 155
- central bank
- credit facilities, 133–35
 - design of, 41–42
 - ijarah* certificates, 142–43
 - lending, classification, 41
 - market-based instruments for open market operations, 139–45, 155
 - participation papers, 142
 - role of foreign exchange markets in monetary operations of, 152–53
 - sale and buyback agreements, 143
 - standing facilities for IFSIs in various jurisdictions, 136–37
 - supervisory incentives for liquidity management, 145
 - wadī'ah* certificates, 142
- Central Bank Musharaka Certificate* (CMC), 30, 31–34, 58, 141
- form of issue, 46–47
 - market value of, 46
 - open market operation fund

- accounting issues in
 - establishing, 43–44
 - recording of, 44–45
 - treatment of dividends paid to, 46
 - primary issues of, 47
 - secondary market trading and repurchase facility for, 47–48
 - term of, 46
 - valuation of, 45–46
- Central Bank of Bahrain (CBB), 136, 250
- Citibank, 53
- commenda* contract, 245
- commodity price risk, 56, 65, 97–98, 106, 192, 207
- Comprehensive Peace Agreement, 8
- Consultative Group to Assist the Poor (CGAP), 198
- corporate and *Shari'ah* governance systems for IFSIs, 216
- Council for Islamic Banks and Financial Institutions (CIBAFI), 10
- Credit Committee, 25, 26
- credit rating agencies, 156, 218
- credit reporting systems, 189, 194, 210, 217–18, 236
- credit risks
 - measurement, types of, 95
 - in sales based contract, 93–98
- credit value-at-risk (credit VAR), 93
- default model, for credit risk
 - measurement, 95, 97
- delivery versus payment (DVP), 148
- demand deposits, 29, 59, 64, 75, 76, 82
- deposit insurance funds, management based *Shari'ah* principles, 219
- differentiated-price auction, 47
- direct investment contracts, 56
- displaced commercial risk (DCR), 92, 163, 207, 243
 - determinants of, 265
 - PER, IRR and mitigation of, 248–49
 - domestic financing, of fiscal deficits, 28
- Dow Jones Islamic Market Index (DJIMI), 7, 10, 11
- Dubai Financial Services Authority, 251
- Dubai Islamic Bank, 9
- earnings, assessment under CAMELS framework, 63–64
- equity risks, in *mudharaba* and *musharaka* facilities, 99
- Exchange Traded Funds (ETF), 7
- expected and unexpected loss, computation of, 95, 97–99
- External Credit Assessment Institutions (ECAI), 183, 218
- fatawa*, 130
- finance, Islamic mode of. *See* Islamic finance
- finance risk-bearing investment projects, 76
- Financial Accounting Standards Number 6 (FAS 6), 112, 165
- financial development indicators (FDI), 194
 - for conventional finance (World Bank), 195
- Financial Sector Assessment Program (FSAP), 174, 175, 238–39
 - bank-fund reviews of analytical tools of
 - development assessments, 234
 - standards and codes, 232–33
 - stress-testing, financial soundness and development analyses, 233–34
- Guidance Note on Assessing Credit Reporting Systems, 217
- internal reviews and external evaluations, 230–32
- methodology for assessment of financial sector's stability and development for legal and institutional frameworks, 178

- macro-prudential surveillance and financial stability analysis, 177
- structure of financial sector, 177
- objectives of, 178–79
- overview of country participation in, 229–30
- and rationale for assessment framework, 179–86
- recent developments in, 179–80
 - assessment to foster policy focus on IFSI development and stability, 185–86
 - divergent IFSI development, 180
 - IDB's role in development, 180–82
 - prudential and accounting standards, 182–85
- refinements in methodology for assessment of financial sector's stability and development, 234–36
- impact of global crisis, 189
- overview of recent FSAP reviews, 187–89
- scope of IFSI assessments, 189–93
- Stock Taking Project, 193
 - treatment of IFSIs in, 190–91
- Financial Sector Liaison Committee, for Islamic finance assessments, 228, 231
- Financial Soundness Indicators for Islamic Finance, 192
- fiqh al muamalat* (Islamic Commercial Jurisprudence), 245
- fiqhi* (Islamic jurisprudence), 70–71
- foreign exchange markets, 156
 - role in monetary operations of central banks and IFSIs' liquidity management, 152–53
 - trading system in, 147
- foreign exchange revaluation reserves, 45
- General Council for Islamic Banks and Financial Institutions (GCIBAFI), 12
- government debt and financing framework
 - development in coordination with monetary operations, 155–56
 - monetary policy operations and, 155
- government finance instruments, 14, 125, 139–45, 155, 200, 201
- government *ijarah* certificates, 142–43
- government investment certificate (GIC), 133, 141
- Government Investment Issues (GII) scheme, 27, 142, 154
- Government Islamic Investment Bond (GIIB), 143
- Government *Mudharaba* Certificate (GMC), 35–37
 - process for determination of rate of return on, 48–49
- qabala system*, 37
- volatility of tax revenues, impact of, 49–50
- Government *Musharaka* Certificate (GMC), 34, 58, 141
- government participation papers, 142
- government securities, under Islamic finance principles, 23
 - general funding instruments, 27–28
 - money market development, 28–29
 - specific funding instruments, 24–27
- government security market, development of, 145–47
- Gulf Cooperation Council (GCC), 17
- Hazrat Imam Reza* Participation Papers (PP), 25
- High *Shanaa* Supervisory Council (HSSC), 34
- IFSB Capital Adequacy Standard, 110, 145, 164, 166, 183, 244, 250

- ijarah* contract, 5, 6, 8, 24, 56, 96
- ijtihad*, 4
- insolvency and creditor rights regime (ICR), 194, 201, 209, 212, 234
- Institutions offering Islamic Financial Services (IIFS), 4, 6
 - calculation for Capital Adequacy Ratio (CAR) for, 251
- interbank investments, 39, 58
- interbank transactions, 122, 148
 - average daily volume of, 123
 - average rates of return on, 123
 - instruments used by IFSIs for, 132–33
 - trading arrangements for, 39
- interest-based transactions, 58
- internal rating systems, of Islamic banks, 73, 95, 107
- International Accounting Standards (IAS), 70, 217, 238
- International Association of Deposit Insurers (IADI), 219
- International Association of Islamic Banks (IAIB), 61
- International Islamic Financial Markets (IIFM), 12, 69–70, 175, 181, 184
- International Islamic Infrastructure Institutions (IIII), 12, 180, 181
- International Islamic Rating Agency (IIRA), 12
- Investment Account Holders (IAHs), 13, 161, 241
 - capital adequacy implications of, 249–51
 - computation of *mudarabah* income and returns to, 254
 - measurement of risks transferred to, 116–17
 - under *mudarabah* arrangements, 122
 - risk sharing with bank owners, 112
- investment accounts
 - determinants of return on, 91
 - management of, 15, 104, 162, 242, 255, 267
 - risks measurement and sharing, 113–17
- investment deposits, 7, 29, 54, 57, 62, 68, 75, 82, 92, 114
- Investment Risk Reserves (IRR), 91, 92, 104, 113, 116, 162, 243
 - determinants and relationship to DCRs, 167–72
- IOSCO Securities Regulatory Principles, 111
 - to Islamic securities market regulation
 - recommendations for executive committee, 236–38
 - recommendations for others, 238–39
 - issues in implementation of, 239–40
- The Islamic Banker*, 10
- Islamic banking, 7, 9, 52–53
 - CAMELS framework and disclosure requirements for
 - assets, 62–63
 - capital, 60–62
 - earnings, 63–64
 - information disclosure, 65–69
 - liquidity, 64
 - management, 63
 - sensitivity to market risk, 64–65
 - challenges, 71–74
 - vs. conventional banking, 74–83
 - key features of, 74–75
 - market-based monetary policy in, 21
 - regulatory and disclosure framework, 59–60
 - risk management, 53
 - general risks, 69–71
 - special risks, 59–69
 - risks associated with, 54–59
 - two-tier mudharaba* model, 82
- Islamic Bank of Malaysia, 27
- Islamic banks
 - balance sheets, 101
 - credit risks in sales based contract, 93–98

- disclosure practices of, 106–09
- economic capital requirements, 162
- equity risks, 99
- liquidity risks, 102
- London Interbank Offer Rate (LIBOR), 101
- market risks and rate of return risks
 - in, 99
- mudharaba* risk, 90–93
- operational risks, 102–03
- overall risks and approaches to risk mitigation, 103–06
- rate of return calculations, 166
- rating system, 95
- Islamic Banks Information System (IBIS), 194
- Islamic capital markets, 7, 9, 10, 17, 18, 122, 179, 201, 208, 218, 227, 236
- Islamic Collective Investment Schemes, 182, 183
- Islamic commercial jurisprudence. *See* Islamic finance contracts
- Islamic Deposit Insurance Group, 219
- Islamic Development Bank (IDB), 9, 10, 88, 125
 - role in development of IFSIs, 180–82
- Islamic finance
 - assessment of effectiveness of legal and institutional infrastructure for, 208–09
 - commercial laws, contract enforcement, and *Shari'ah* governance, 211–12
 - corporate governance and *Shari'ah* governance, 216
 - creditor rights and insolvency regimes, 212–15
 - crisis management framework, 218–19
 - legal and safety-net infrastructure, 209–11
 - monetary and prudential regulations, 217–18
 - tax and stamp duty laws, 215–16
 - background, 88–90
 - capital adequacy and supervisory implications
 - implications for supervisory review, 252
 - status of unrestricted IAH and its capital adequacy, 249–51
 - cross-country comparison in development of, 181
 - data on, 197
 - development of Islamic money markets and, 129
 - financial infrastructure for, 89
 - financial innovation and new product development in, 202–03
 - Financial Sector Liaison Committee for assessments of, 228
 - financial soundness indicators for, 192
 - foundations of, 3, 4
 - for globally active financial institutions, 16–17
 - Islamic social institutions and access to, 199–200
 - limitations on eligible collateral under, 96
 - measuring risks in
 - credit risks in sales based contract, 93–98
 - equity risks in *mudharaba* and *musharaka* facilities, 99
 - liquidity risks, 102
 - market risks and rate of return risks, 99–102
 - mudharaba* risk, 90–93
 - operational risks, 102–03
 - modes of, 74–75
 - operational characteristics of, 90
 - rating categories, 95
 - trust and stamp duty laws, 130
- Islamic finance contracts, 7, 14, 96, 103, 109, 110, 201, 209, 214–16, 218
 - dispute resolution mechanisms, 212
 - enforcement of, 211, 213

- types of, 3–6
- Islamic Finance Database Project, 194
- Islamic finance development indicators (IFDI), 193, 194, 225, 226
- Islamic finance products and services, 13
- Islamic finance supervision, assessment tools for, 207–08
- Islamic financial institutions, 9, 10, 70
 - characteristics of, 74–75
- Islamic Financial Services Board (IFSB), 12, 54, 89, 175, 181, 195
 - Basel II equivalent for Islamic finance, 161
 - Capital Adequacy Standard, 164, 244, 250
 - functions of, 127–28
 - Guiding Principles for Corporate Governance of IFSI (IFSB-3), 216
 - Guiding Principles of Risk Management, 145
- Islamic Finance Database Project, 194
 - standards, guidelines, notes and exposure drafts, 183
 - supervisory discretion formula, 164
- Islamic Financial Services Forum, 12–13
- Islamic Financial Services Industry (IFSI), 3, 53, 85, 88, 121–22, 174
 - analysis of missing and underdeveloped markets, 200–02
 - assessment methodology (guidance note) for, 219
 - assessment procedures and scope of assessments, 220–24
 - comprehensive assessment module in FSAP, 227
 - development module in countries with large share of IFSIs, 227
 - development module in countries with small IFSI sector, 225–26
 - stability module in countries with large share of IFSI, 226–27
 - stability module in countries with small IFSI sector, 224–25
 - assessment under FSAP to foster policy focus on, 185–86
 - background laws, *Shari'ah* issues, and tax considerations, 129–31
 - central bank's standing facilities for, 136–37
 - challenges in development and supervision of, 13–16
 - components of, 6–7
 - Islamic banking, 7
 - Islamic capital markets, 7
 - Islamic insurance, 8
 - Islamic money markets, 8
 - Islamic nonbank financial institutions, 8
 - development and access indicators, 193–98
 - development module in countries with
 - large share of IFSIs, 227
 - small share of IFSIs, 225–26
 - establishment of standard setting bodies, 12–13
 - excess reserves as percentage of total deposits, 124
 - factors affecting money market, 128–29
 - financial innovation and new product development in Islamic finance, 202–03
 - flexible asset–liability management, 125
 - gaps in assessment tools, 223–24
 - instruments used for interbank transactions and liquidity management, 132–33

- Islamic social institutions and access to finance, 199–200
- macro-prudential surveillance and stress testing of, 203–04
 - macro-prudential analysis, 204
 - system level stress testing, 205–07
- prudential and accounting standards for development of, 182–85
- Prudential Islamic Finance Indicators (PIFI) for, 204
- recent history and size of, 9–11
- recent regulatory focus on, 11–12
- risk management, DCR, and estimation of “alpha”, 252–67
- selected money market instruments used by, 134
- Shari’ah*-compliant money market instruments, 124
- stability module in countries with, 224–25
 - large share of IFSI, 226–27
- structure of, 8–9
- systemic liquidity architecture and infrastructure of, 128–31
- tools for assessment of IFSI Supervision, 207–08
- Islamic fixed income securities, 5, 9
- Islamic Government Investment Certificates, 133
- Islamic insurance, 7, 8, 179, 183
- Islamic Interbank Money Market, 39, 137, 142
- Islamic lease (*ijarah*) agreement, 6
- Islamic microfinance, 8, 180, 198
- Islamic modes of financing, 22, 53
 - synoptic analysis of, 77–80
- Islamic money markets, 8, 156
 - consequences of absence of, 125–27
 - end-of-period value of money market instruments, 132
 - factors affecting, 128–29
 - policy issues and strategies for
 - broad strategy and policy issues, 153
 - creating incentives, 156
 - government debt and financing framework, development of, 155–56
 - monetary policy operations and government debt and financing framework, 155
 - Shari’ah*-compliant money market instruments, 153–54
 - rationale for development of, 121–25
 - role of, 125–27
 - structure of, 131–32
- Islamic mutual funds, 69, 133, 183
- Islamic nonbank financial institutions, 8
- Islamic Research and Training Institute (IRTI), 10, 180, 184, 197
- Islamic social institutions, and access to finance, 199–200
- istisna’a* contract, 5, 96, 102, 103
- leasing-based financing contracts, 5, 125
- lender-of-last-resort (LOLR) facilities, 58, 64, 69, 129, 155, 218
- liquidity
 - assessment under CAMELS framework, 64
 - sources of, 149–50
- liquidity management, 21
 - central bank’s supervisory incentives for, 145
 - instruments used by IFSIs for, 132–33
- Liquidity Management Centre (LMC), Bahrain, 10
- liquidity risks, in Islamic banks, 102
- loan-loss reserves, 62
- London Interbank Offer Rate (LIBOR), 65, 101, 126
- Malaysian domestic Islamic debt certificates, 10

- market-based monetary management, 21, 38
- market microstructure, 10, 147, 201
- market risks
 - assessment under CAMELS framework, 64–65
 - measurement techniques, 99–102
- mark to market model, for credit risk measurement, 95, 96
- Modaraba Association of Pakistan, 11
- monetary and public borrowing instruments, modalities of, 30
- monetary instruments under Islamic banking, developments in, 29–30
- monetary management, 8, 14, 17, 21, 24, 29–30, 38, 58, 129, 146
 - foreign exchange operations for, 152
- monetary operations, issues in institutional arrangements for design of central bank credit facilities, 41–42
- interbank markets
 - market information, 38–39
 - modalities of arrangement, 40
 - trading arrangements, 39
- money market instruments, used by central banks and governments
 - central bank credit facilities, 133–35
 - central bank deposit facilities, required reserves, and excess reserves, 135–39
 - market-based instruments for open market operations, 139–45
 - supervisory incentives for liquidity management, 145
- money security market, development of, 145–47
- mortgage-backed securities, 140
- mudarabah* (or *mudharaba*) contract, 5, 6, 29, 35, 39, 55, 66, 76, 96, 137, 141, 162, 171, 242, 244, 246, 260, 267, 269
- mudarabah* deposits, 8, 13, 131, 135
- mudarabah* financing, 13
 - mudarib*, 5, 163, 165, 248, 255, 258, 260–62, 267
- mudharaba* certificate, 24, 30, 35–37, 48, 58
- mudharaba* facilities, equity risks in, 99
- mudharaba* funds, 112, 246, 256, 257
- mudharaba* income, 112–14, 256
- mudharaba* investment, 91
- mudharaba* lending, 42
- Mudharaba Participation Papers* (PP), 26
- mudharaba* profits, 253
 - calculation of, 92, 112
 - definition of, 93
- mudharaba* risks, in Islamic finance, 90–93
- mudharaba* transactions, 62
- murabahah* (or *murabaha*) contract, 5, 101, 102, 136, 275
- murabahah* transactions, 134, 136, 138, 139
- murabaha* transactions, 8, 184
- musharaka* facilities, equity risks in, 99
- National Participation Paper (NPP), 30–31, 58
- net domestic credit (NDC), 44, 45
- New Basel Capital Accord, 61, 73, 85, 88, 94, 161
- nonbanking financial institutions, 10, 11
- non-inflationary financing, of government deficits, 21
- non-profit-and-loss-sharing (non-PLS) modes of financing, 53, 56, 61
- OECD Principles of Corporate Governance, 216
- off-balance-sheet risk management tools, 105, 267
- on-balance sheet risk management tools, 105, 267
- Open Market Operations (OMOs), 30, 32, 43, 44, 128, 137, 139

- Open Market Operations Fund (OMOF), 43
- accounting issues in establishing, 43–44
 - recording of, 44–45
 - treatment of dividends paid to, 46
- operational risks, of Islamic banks, 102–03
- over-the-counter (OTC) markets, 147
- Participation Papers (PP), in Islamic Republic of Iran, 25–26
- payment settlement system
- collateral management, 150–51
 - components of, 148
 - development of, 148
 - issues related to Islamic financial system, 149
 - in Malaysia, 149
 - in Saudi Arabia, 151
 - sources of liquidity, 149–50
 - structures of, 149–51
- payment *versus* payment (PVP) system, for cross-border transactions and hybrid systems, 148
- payout stabilization reserve, 248
- percentage of assets (PER), 91, 117
- “plain vanilla” instruments, 140
- poverty alleviation, 198, 199
- probability of default, estimation of, 94
- profit-and-loss-sharing (PLS) modes of financing, 53, 54, 61, 73, 74
- mudharaba* contract, 55
- profit-at-risk (PAR) method, for measuring risk of *mudharaba* investment, 91
- profit, definition of, 113, 165
- profit equalization reserves (PER), 90, 92, 104, 113, 114, 115, 117, 162, 243
- determinants and relationship to DCRs, 167–72
- profit sharing
- contracts, 5
 - formula for calculating, 40
- profit sharing investment accounts (PSIAs), 85, 112, 135, 161, 214, 238, 241
- and *mudharaba* contract, 244–49
 - PER, IRR and mitigation of DCR, 248–49
 - types and characteristics of, 245–46
 - restricted investment accounts, 246
 - unrestricted investment accounts, 246–48
- Prudential Islamic Finance Indicators (PIFI), 204, 206, 207, 221, 225, 226
- public debt management
- principle of, 26, 146
 - programs, 14
- public–private partnerships in project finance, 202
- qabala* system of raising funds, 37
- qard Hassan*, 198, 199
- rate of return risks, 247
- measurement techniques, 99–102
- rating categories, of Islamic banks, 95
- Real Estate Investment Trusts (REITs), 7
- Real Time Electronic Transfer of Funds and Securities (RENTAS), 150
- Real Time Gross Settlement (RTGS), 148
- restricted investment accounts, 246
- restricted *mudharaba* contracts, 76
- return on investment accounts (RIA), 92, 104
- determinants of, 117–19
 - against general market deposit rate, 118
 - multiple regression analysis of, 105
 - net return on assets against, 115
 - return on equity (RIE) against, 116
- returns on equity (RIE), 105
- net return on assets against, 117

- against return on investment accounts (RIA), 116
- riba* contract, 3, 37
- risk assessment matrix (RAM), 235–36
- risk transfer, measurement of, 117
- risk weight adjustment, 117, 263
- risk-weighted asset (RWA), 110, 166, 172, 250
- salam* contract, 56, 96–98, 102
- Saudi Arabia Monetary Agency (SAMA), 136
 - murabahah* program, 138
- self-regulatory organizations (SROs), 130
- service-related contracts, 5
- Shari'ah*
 - governance arrangements, 6
 - litigation system, 56, 63
 - money market instruments, 153–54
 - permissibility of sale of debt, 130
 - prohibition against interest-based instruments, 64
 - rules and principles for governing Islamic financial services, 3, 4
 - Supervisory Committee, 70
- Skim Perbankan Tanpa Faedah scheme (SPTF)-interest-free banking, 39
- small and medium enterprises (SMEs), 199
- Special Purpose Vehicle (SPV), 6, 130, 142–43
- Structural Islamic Finance Indicators (SIFI), 183, 193, 194, 195
- sukuk al-ijarah*, 133, 137, 143
- sukuk al-salam*, 136, 144
- sukuks*, 5–6, 9, 10, 14, 16, 99, 122, 135, 140, 201, 215
- supervisory discretion formula, 164, 169, 172, 244, 253
- systemic liquidity infrastructure, 186, 226, 227
 - central banks and governments, role of, 154
 - components of, 128
 - for Islamic finance, 210
 - strategies for building, 200
- system level stress testing, for analysis of macroeconomic and macrofinancial stress scenarios, 205–07
- takaful*, 7, 8, 11, 53, 121, 122, 131, 179, 219
- Task Force on Islamic Finance and Global Financial Stability, 186
- tax and stamp duty laws, 215–16
- tax revenue volatility, 49–50
- two-tier *mudharaba* model, 57, 75, 76, 82
- uniform-price auction, 47
- United States Securities and Exchange Commission, 66
- unrestricted investment accounts, 246–48
- unrestricted *mudharaba* contract, 29, 57, 59, 66, 76, 83, 92
- value-at-risk (VAR) methodology, for measurement of market risks, 86, 101, 105, 255
- wakala* contract, 5, 7
- World Bank
 - Guidance Note on Assessing Access to Finance, 196
 - Working Group on Islamic Finance (WGIF), 175
- zakat*, 186, 198–200

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