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Intermediate Islamic Finance

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Preface

To the best knowledge of the authors, this book is the first intermediate-level addition to the class of textbooks on Islamic finance. *Intermediate Islamic Finance* can serve as a classroom material and professional reference book for practitioners and policymakers. The principal objective of this work is to foster a better understanding of the essence of Islamic finance. One possible and rarely explored way to achieve this aim is to present Islamic finance from an analytical perspective. Together with the rich literature of descriptive and informative *exposés* of the subject, the need for work that integrates the analytics of finance with the moral thrust of Islamic finance is indeed pressing.

An analytical approach to Islamic finance is justified by the necessity of logical reasoning, as well as by the familiarity of readers with the theoretical foundations of conventional finance derived in the same approach. The present attempt to communicate the institutional and academic developments in Islamic finance using the same analytical methods poses some challenges. In contrast to advances in conventional finance theory, the literature on the analytics of Islamic finance remains scant. Efforts are made also to provide analytical perspectives while escaping excessive mathematics. A blend of analytical and intuitive arguments is thus used to draw the interest of readers toward points of possible convergence or conflict between Islamic finance and conventional finance.

Intermediate Islamic Finance is a modest contribution to the ongoing efforts toward the preparation of textbooks for an integrated curriculum that is shaped, to one extent or another, by analytical arguments. The analytics of finance may aid in expressing the jurisprudential opinions and ideas about equity and justice, and the essence of Islamic finance in a different way. This analytical approach can also be useful in drawing parallels with conventional finance and economics. Thus, a corollary objective is to disseminate an intellectually comprehensible body of knowledge about Islamic finance for professionals who are well versed with models of asset valuation and risk analysis and hedging methods in conventional finance.

There are excellent books about Islamic finance that provide a comprehensive synthesis of the development of the industry to meet an increasing demand for Islamic financial products. Short of an integrated theory and clear guiding principles, however, the Islamic finance industry may not be able to sustain a healthy path of development. Confusion in this regard *of Nations*. The rigorous model of general equilibrium by Kenneth Arrow and Gérard Debreu embodies Smith's vision of a competitive economy and represents a theoretical framework for risk sharing. Within an ideal Islamic financial system, the full spectrum of risk–return profiles would be also covered by risk-sharing instruments that allow for optimal risk allocation.

This chapter also describes the main institutional features of Islamic finance and argues that there are three central threads running through the ideal conventional and Islamic financial systems: These financial systems are consistent with human nature, they are based on general rules of morality and justice, and they are conducive to optimal allocation of resources through risk sharing. It is important that the reader gains an essential understanding of these epistemological issues, because they have some important bearing on the discussion in subsequent chapters about the analytics of finance, corporate finance, derivatives trading, financial regulation, and much of the remainder of the book.

Chapter 2 is a natural extension of the epistemological analysis, given the foundation of Islamic finance on Islamic virtues, and the moral and ethics systems underlying Adam Smith's vision of competitive economy. The chapter discusses the importance of ethics, and considers a virtue theory of ethics based on the Golden Rule widely accepted across major philosophies, religions, and traditions. The focus is also made on the exposure of Islamic finance in practice to the same ethical issues faced in conventional finance, and the need to reconsider ethical teachings in the areas of corporate governance, financial engineering, economic development, and corporate social responsibility.

In light of the fundamental understanding of the relation between Islamic finance and conventional finance, ethical content, and risk-sharing principle in the two opening chapters, Chapter 3 is, in contrast, technically more demanding. It presents a review of the analytics of finance, focusing on the theory of interest, the concept of time value, utility theory, optimal consumption and investment choices, and market efficiency. These fundamental concepts shall facilitate a better understanding of the cornerstones of finance theory, including portfolio selection theory, capital asset pricing model, arbitrage pricing theory, capital structure theory, efficient markets hypothesis, and option pricing theory. The implications of these theoretical advances are also discussed in relation with the concept of risk-sharing, which underlies Islamic finance. The analysis is not limited to the prohibition of *ribā*, as it also provides some explanation about the economic rationale behind the impermissibility of lottery purchases and their distinction from permissible forms of investment into risky assets. The focus on risk sharing puts into perspective not only the linkage between the financial sector and the real economy, but also the existence of alternative payments that provides strong incentives for debt over equity financing. Thus, the nature of the firm is intrinsically related to its financing modes.

Chapter 6 considers the issue of risk hedging and the scope of financing engineering and derivatives in Islamic finance. Whereas the previous chapters focus on the essence of risk sharing, this chapter centers on risk-hedging instruments. It explains the properties of derivatives securities, including forward, futures, and options contracts, and their theoretical pricing. The application of option pricing theory to the valuation of financing instruments can provide useful insights, for instance, about the conceptual difference between debt and *ijārah*. Option pricing theory recognizes a risk-sharing element in *ijārah* but not in debt-financing, which may constitute the economic rationale behind the permissibility of the former and prohibition of the latter in Islamic finance.

This chapter offers also some explanation, rather detailed, about the use of futures and options in relation with the underlying asset. The distinction is made between futures and options strategies for risk hedging and speculative purposes. The analysis considers the debate regarding the scope of derivatives and financial engineering in Islamic finance, and the importance of regulatory measures to promote derivatives transactions for *bona fide* hedging that are permissible and restrict speculative strategies that are not. The principle of risk sharing may indeed be associated with a corollary of risk hedging in Islamic finance.

Chapter 7 provides an analysis of financing modes based on risk sharing and their implications for ownership transfer. It explains the conceptual differences between non-risk-sharing contracts such as conventional loans, and participatory models, such as sale with deferred payments (*albaý biththaman al-ājil*), diminishing partnership (*mushārakah mutanāqisah*), and diminishing balance partnership. The focus is made on the structure and dynamics of outstanding balances. This chapter explains the trade-off between the preference for fixed annuities payments and the pursuit of faster ownership transfer. The hybrid financing models based on *murābahah* and *mushārakah* principles have the potential of solving the issue of rate compounding and promoting the financier's right to legitimate profits, which are negotiable in a competitive economy. They may also be helpful in optimizing the customer's ownership transfer rates and meeting individual preferences for constant or variable installments. Risk sharing in Islamic finance can be promoted through the concept of completeness of contracts, where partnership agreements allow for the revision of contractual terms contingent on the realization of particular states of nature. Thus, Chapter 7 describes the main features of financing models based on risk sharing and explores the linkage between the financial sector and the real economy insofar as the relation between payment ratios and ownership transfer rates is concerned.

Islamic financial systems. It addresses first the economics of regulation and the complexity of financial regulation. The fragility of the financial system due to the fragility of banking arrangements has implications for financial regulation. The complexity of the regulatory framework for the conventional financial system is thus reflective of the complex nature of debt and debt-like obligations. Given the prevalence of risk transfer arrangements, prudential regulation is affected by moral hazards and negative externalities. This chapter also describes the main features of the regulatory environment under Islamic finance. The equity-based financial system is conducive to greater financial integration and financial stability, as it promotes incentives for all economic agents to participate in decision making and therefore reduces moral hazards. The focus thus is not made on the democratizing and humanizing of credit but of risk-bearing and risk-sharing mechanisms that have the potential to lighten the burden of financial regulation.

Given the critical and analytical orientation, this work, unlike standard textbooks, leaves other important areas in Islamic finance such as jurisprudential and legal perspectives rather untouched. This book is not intended, however, to serve only the needs of the academic community for teaching materials. It can also serve as a guide to the theory and practice of Islamic finance for practitioners, including finance professionals, regulators, and policymakers. This book is indeed written for readers with either applied or theoretical interest in Islamic finance. Readers with interests in applied Islamic finance may find Chapters 1, 2, 6, 7, 8 and 10 more appealing. Those with purely theoretical interests may focus on Chapters 1, 2, 3, 4, 5, and 9. It is clear that Chapters 1 and 2 would appeal to both. At several stages in the analytical presentation, as well as at the end of each chapter, there is a critical discussion of the possible interpretations of assumptions and results from the perspective of Islamic finance. It is toward these sections that readers who are not familiar with analytical methods may seek guidance and further understanding about the relationship between Islamic finance and conventional finance.

The analytical parts of the book may be technically demanding, but they can be avoided by readers who are ready to accept the economic implications of these results. Analytics is no substitute for intellectual debate about economic and financial matters, but it can, as a convenient tool, bring some clarity to the issues at hand. This book is a humble attempt to explain Islamic finance from an analytical perspective, and the mathematical accuracy of the results, economic interpretations, and practical implications are subject to debate and further development. This is not an attempt at explaining conventional finance from an Islamic perspective, but at elucidating the essence of Islamic finance based on the placement of risk sharing at the crossroads between Islamic finance and conventional finance. Islamic finance does not, indeed, contend with or take side with contracting parties, but it does set the

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Intermediate Islamic Finance

seems to be compounded by difficulties in understanding the essence of risk sharing and the necessity of balancing tradition with innovation. This book provides a critical examination of some aspects of financial innovation in Islamic finance that are better understood within the analytical framework of conventional finance. The treatment of these topics adds more material to the usual contents of intermediate texts but it should be of greater interest to practitioners and regulators alike.

The literature about Islamic finance is inclusive of topics that were the subject of extensive research, such as interest prohibition and the performance of Islamic banking industry, among others. But other issues of equal importance have received much less attention, such as asset pricing, risk hedging, and financial engineering. The nature of *ribā* (interest) and *gharar* (information asymmetry) are important issues in their own right, but these classical queries about what Islamic finance prohibits should not obscure the fundamental question of what it stands for. This book explains risk-sharing as the defining principle of Islamic finance, and explores its implications for financial stability, and financial regulation.

There are also perceptions that a gap has not just begun to emerge but is rapidly widening between the practice of Islamic finance and its development as a discipline. This is a difficult endeavor, particularly with regard to the development of textbooks, as the subject transcends economics, ethics, and theology, and does not lend itself easily to rigorous scientific analysis. The development of the Islamic finance industry may at least provide an opportunity to formulate a positive theory. The focus can be indeed made on positive statements similar to conventional theory about the state of affairs *as it is,* rather than *as it should be.* As with Islamic economics, there may be however no consensus about whether Islamic finance is normative or positive. Blending the insights from theoretical and empirical studies is useful in providing a consistent framework for the study of Islamic finance and economics. Thus, it is important to begin to articulate an analytical synthesis of the theory and practice of Islamic finance, but the challenge is to present knowledge in literary form that is accessible to ordinary people, as with the literature in classical economics, and to eschew unwarranted mathematical abstraction, which is usually treated with considerable reserve.

The first chapter provides an epistemological analysis of conventional finance and Islamic finance. Epistemological questions are important because of public perceptions that Islamic finance industry has developed over the recent years on the platform of the conventional financial system. The aim was to address "market failures," where demand for *Sharīa'h*-compliant products was not satisfied by conventional financial services. This chapter traces the roots of the ideal conventional system back to Adam Smith's *The Theory of Moral Sentiments* and *The Wealth* solutions to the central contradiction of capitalism as argued by Thomas Piketty's *Capital in the Twenty-First Century*. As with Chapter 1, it is also important that the reader gains a solid understanding of concepts discussed in Chapter 3, which can be regarded also as another opening chapter for the analytical approach in discussing issues related to corporate finance, derivatives, securitization, and structured finance in subsequent chapters.

Chapter 4 builds on the knowledge and understanding gained in the previous chapter about the behavior of agents in a competitive economy governed by general rules about utility maximization. The focus is made on firm behavior in a dynamic Islamic economy, where the profit maximization postulate is discussed in relation to equity. This chapter explains the usefulness of the profit maximization postulate as an efficiency criterion in the nascent development of a theory of the firm in Islamic economics. It presents a theoretical construct of equity and allocative efficiency and considers a distributive rule based on the profit-sharing principle that achieves both efficiency and equity. This analysis is also important from the perspective of social and economic justice that underlies both the conventional and Islamic financial systems, as discussed in Chapter 1, because it crucially demonstrates that profit maximization does not necessarily mean a sacrifice of equity.

Chapter 5 draws also upon the analytics of finance discussed in Chapter 3. It provides some explanation about equilibrium pricing models and theoretical issues in corporate finance. The chapter focuses on the capital asset pricing model and arbitrage pricing theory, showing that in the absence of risk-free assets, models of asset pricing based on single or multiple risk factors are consistent with the defining principle of risk sharing in Islamic finance. The fundamental message that no reward should be expected without bearing undiversifiable risk is thus shared with Islamic finance. Theoretically, there should be no risk premium for assets that have no correlation with the real economy. However, the only market that has no correlation with the market portfolio or other risk factors and indeed no correlation with the rest of the economy is the market for risk-free assets. Debt plays therefore an important role in shaping the financial system.

Thus, Chapter 5 also explains Modigliani's and Miller's theorems, including the proposition that debt–equity policy is irrelevant for firm valuation. This is to some extent similar to Ricardian equivalence, which suggests that funding government expenditure with tax levies or government bonds does not affect household consumption and capital formation. The derivation of the debt–equity irrelevance theorem is made under strict assumptions, such as complete markets and the absence of agency costs and asymmetric information (*gharar*). It is the tax deductibility of interest

Chapter 8 constitutes the last chapter in the analytical part of this book, and it deals with securitization and structured finance. It starts with an explanation about the transfer of credit risk off-balance sheet through credit default swaps, allowing banks to circumvent regulatory strictures about capital adequacy ratios and increase liquidity. It describes also the mechanics of securitization, which in the case of loan portfolios enables credit expansion and increases leverage in the financial system. It is shown that the pass-through form of securitization where certificate holders have *pro rata* property rights over the securitized *Sharīa'h*-compliant assets may provide value to society by offering new channels for risk diversification and risk sharing. It is structured finance that alters *pro rata* claims on future cashflows and tilts the risk exposure of investors to provide credit enhancement for senior tranches at the detriment of equity and mezzanine tranches. The analysis can shed light on whether the capital structures of special-purpose-vehicles in *sukuk* issuances are the result of debt-creating structures rather than equity financing. The risks to financial stability derive from the complexity of structured finance and the ratings process, and the imprecision in evaluating the underlying risks and default correlations.

This chapter also explores ways in which risk transfer can be also reflected in complex double-*wa'ad* structures for total return swaps and for short selling. These complex trading structures are better understood within the classical analytical framework of options contracts described in Chapter 6. Since the role of double-*wa'ad* structures in total-return-swaps and short-selling strategies can only be effective as binding promises not just moral obligations, some clarity can thus be brought to the debate about the essence of *wa'ad*. Thus, securitization and structured finance, as well as *wa'ad* structures for total-return-swaps and short-selling, represent various strategies for risk transfer off-balance-sheet, or exposure to the underlying asset without ownership.

Chapter 9 examines issues related to financial stability. The focus on the stability of the financial system is justified in light of the previous discussion about the epistemology of finance in Chapter 1 and about the potential for structured finance to increase the on- and off-balance-sheet leverage and the risk-taking capacity of the shadow banking system in Chapter 8. The emphasis in Chapter 9 is made first on the procyclicality of the financial system, which reflects its propensity to amplify shocks to the real economy and exacerbate business cycle fluctuations. The focus is then made on the nature of financial crises, systemic risk, and the inherent instability of debt-driven financial systems. The discussion is then centered on the stability of the two-tier financial system under Islamic finance based on the full-reserve money system and the investment banking system.

Finally, Chapter 10 considers financial regulation in light of the previous discussion in Chapter 9 about the properties of the conventional and institutional and legal framework for the promotion of economic efficiency and social justice.

The hope is that this book can provoke thought for future research and pave the way toward the preparation of more consistent and comprehensive textbooks and professional guides for Islamic finance. The main issue is to avoid losing sight of the basic intuitions behind Islamic finance. It is driven not so much by prohibitions of *ribā* and *gharar* or restrictions about short-selling as by the fundamental principle of risk sharing. This defining principle has theoretical and practical implications for asset pricing, capital structure, risk hedging, financial stability, and financial regulation. The viable solutions that Islamic finance offers to the chronic problems of financial instability, income inequality, and allocative distortions are conditional on greater socio-political awareness and action.

Finally, we are grateful to our families for their understanding and encouragement. This book is also dedicated to those who reflect upon the *raison d'être* of Islamic finance, about its ethics, theory, practice, and socioeconomic implications. It is devoted to those who question the heart and intellect without bias or fear of possible answers. It is commitment to truth and knowledge that can lead to better life and prosperity for all humanity. "Of knowledge, we have none, save what You have taught us" (*al-Qur'an*, 2:32).

بسم الله الرحمن الرحيم

In the Name of Allah, The All Merciful, The All Beneficent

To my parents and son Mohammed Alim

—Nabil Maghrebi

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