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Chapter 2

Islamic Finance Revisited: Conceptual and Analytical Issues from the Perspective of Conventional Economics

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Introduction

Islamic finance has come of age. Islamic banking and finance have been growing at a very fast rate, despite apparent serious setbacks (such as interruption of payments in Abu Dhabi in 2009, the Great Recession in Western countries between 2008 and 2010, and the recent turmoil in Middle Eastern countries). The industry, which was valued at a mere \$150 billion in the 1990s, has increased to nearly \$1 trillion. Although it is still a niche market and its share in world finance is quite small, it is nevertheless poised for further rapid expansion as economic development proceeds, particularly in the Muslim world. The current composition of Islamic finance consists of roughly \$800 billion in Islamic banking funds; \$100 billion in the *sukuk* (Islamic bonds), and another \$100 billion in *takaful* (Islamic insurance), Sheng (2011) estimates. According to data recently released by Standard & Poor's, in the first quarter of 2011, \$32.4 billion of Islamic bonds (*sukuk*), were issued, compared with \$51.2 billion raised in all of 2010. The engine of the global market up to now has been Malaysia, which accounted for 58 percent of funds raised in the first quarter.

However, the situation may be changing, with the big Western banks such as Goldman Sachs and HSBC deciding to enter the Islamic bond market. This is partly due to the current

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financial difficulties of the Euro Area banks and conventional debt markets. HSBC's Middle East unit became the first Western bank to issue an Islamic bond (*sukuk*) in May 2012; it was worth \$500 million and carried a maturity of five years. The French Bank Credit Agricole has said it is considering issuing an Islamic bond or creating a wider *sukuk* program that could lead to several issues. However, the big recent event in the Islamic bond market has been the controversial decision of Goldman Sachs to raise \$2 billion from this market. The controversy is due to the fact that several Shari'ah law scholars have argued that the Goldman Sachs' *sukuk* does not meet requirements of Shari'ah law. However the merchant bank denies the charge of noncompliance and appears to be sticking to its decision to go ahead with the *sukuk* (Reuters 2012).

The rapid growth of Islamic finance, however, has not been a spontaneous event but one carefully prepared and helped by Islamic governments and their central banks. The Central Bank of Malaysia (Bank Negara Malaysia) has been in the forefront of these efforts, and has assisted the growth of Islamic finance by establishing an institutional framework for a clear understanding and propagation of the laws of Islamic finance (see Mirakhor 2010). This is no mean achievement, as Islamic scholars disagree on many crucial aspects of Shari'ah laws. The Malaysian government's chief objective has been to help establish regulatory and monitoring institutions that will provide an internationally accepted and unambiguous conception of laws relating to Islamic banking and financial organizations. The International Monetary Fund (IMF) has also been helpful in these and other respects, together with a number of other Islamic governments (including those of Bahrain, Pakistan, and Sudan). Apart from the IMF, a number of non-Islamic financial centers have also recently taken steps to encourage Islamic banking and finance. Tax laws have been revised to facilitate Shari'ah-compliant financial instruments, such as the long-term *sukuk* bonds mentioned above. A notable recent entrant in this field has been the non-Islamic center of Singapore, which has started doing business in Islamic finance. A number of non-Islamic countries in Europe, including the United Kingdom, have also taken legal action to facilitate Islamic banking, as these countries want a slice of this fast-growing market. By contrast, there are other jurisdictions where many people would like to ban Shari-ah law. A recent example is Oklahoma. But the U.S. courts have ruled out anti-Shari-ah law legislation on constitutional grounds.

The reasons for expecting rapid expansion of Islamic finance lie not only in the increasing incomes of Islamic populations, but also in the fact that the basic infrastructure for Islamic finance has now been laid with the establishment of the Accounting and Auditing Organization for Islamic Financial Institutions (AOFFI), and the Islamic accounting standards authority, the Islamic Financial Services Board (IFSB), the international Islamic financial regulatory standard-setting organization. The Institute for Education in Islamic Finance (ISRA) also provides an invaluable website that is increasingly the transparent source for Shari'ah interpretations on what is considered acceptable under Islamic law (Sheng 2011).

The *Islamic Finance Global Stability Report*, which was jointly produced by a number of organizations in 2010, 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 has resulted from this report, and the International Islamic Liquidity Management (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 (Ahmed and Kohli 2011, xxvii)

Against this empirical background, this study now turns to its main purpose, which is theoretical and conceptual. It seeks to relate the concepts of Islamic finance to those of conventional finance and to examine certain important economic questions that arise from the interactions between the two kinds of theories. The study is written self-consciously from the perspective of conventional (or modern) economics.¹ It identifies similarities and dissimilarities between these two systems of thought and speculates on the extent to which the differences can be resolved. The central conclusion of the study is an optimistic one: namely, that each of the two paradigms of thought has its own strengths and weaknesses, but can nevertheless coexist with the other without any serious difficulties.

World Bank economists Thorsten Beck, Asli Demirgüç-Kunt, and Ouarda Merrouche (2010) have recently observed that while there is a large literature for practitioners on Islamic finance in general, and specifically Islamic banking, there are few academic papers. This study is intended to help fill that gap.

The Central Tenet of Islamic Finance: Absolute Prohibition against Interest Rates

In the 1970s when the subject of Islamic finance was first raised in a serious way, its central tenet of the absolute prohibition of interest payments on debt was severely criticized by mainstream economists. It was alleged that such a prohibition was incompatible with modern economic analysis and would result in a gross misallocation of resources. It was dubbed as a zero interest system in which there was no return to capital. Professor Abbas Mirakhor (2009) reports that the BBC and the Wall Street Journal regarded the system as being totally nonviable and derived from “voodoo” economics.

Apart from these popular criticisms of Islamic injunctions against any interest payments, there were also serious academic objections. Professor Mirakhor (2010) summarizes the main points of these criticisms:

- Zero interest meant infinite demand for loanable funds and zero supply.
- Such a system would be incapable of equilibrating demand for and supply of loanable funds.
- With a zero interest rate, there would be no savings.
- This meant no investment and no growth.
- In this system, there could be no monetary policy, since no instruments of liquidity management could exist without a fixed predetermined rate of interest.
- This all meant that in countries adopting such a system, there would be one-way capital flight.

It should be noted that, ironically, all the above criticisms would also today apply to countries that practice zero interest rate policies under quantitative easing.

Cost-Benefit Analysis, Time Preference and Shari'ah Law

In contrast with Islamic economic analysis, conventional economists widely use the notion of interest rates in their work. In terms of their paradigm, they have legitimate use of zero interest rates, negative interest rates, and positive interest rates in examining real world economies. To illustrate with a difficult case, one commonly used concept in both theoretical and applied conventional economics is that of the cost-benefit analysis of a project, or of a development policy, or the choice of a particular technique of production. To take a simple specific example of a project to build a bridge across a river, the cost-benefit analysis would involve estimating the time series of respective costs and benefits that would accrue during the time span of the project. The costs and benefits would normally differ not only in their magnitudes but more importantly in their respective time profiles. In order to assess whether the proposed project is viable, one needs to systematically compare the two time series. This is done in cost-benefit analysis by taking the net present value of each of the series—the latter being determined by deflation by a common rate of discount. This rate of discount, which is normally taken to be the market interest rate, is supposed to reflect society's preference between consumption or utility today and consumption or utility tomorrow. If the two are equally valued, this may be regarded as the case of Islamic finance, with a zero discount or interest rate.

Interestingly, in conventional economics in the classic work of Arthur Pigou (1920) and F. P. Ramsey (1928) on this subject, it is also strongly argued that this time preference should be

zero, the purpose in this case being the achievement of intergenerational fairness. A positive discount rate or interest rate would greatly favor the current generation at the expense of future generations. Pigou considered it as ethically wrong to discount future consumption or utility just because it takes place in the future. He argued that discounting was basically due to myopic behavior. Pigou and Ramsey took the view that a zero rate of discount would promote equity by preventing the current generation from acting selfishly. They regarded a non-zero rate of discount as necessarily implying an unfair advantage for the current generation.

Thus Pigou and Ramsey's ethical judgments coincided with those of Islamic finance on this particular issue. However, there is a more significant argument in favor of a non-zero discount rate or a positive time preference, which is based on the fact that the society tomorrow is likely to be richer than it is today because of economic growth. In these circumstances, a social rate of time preference has a sound ethical justification. Summarizing a huge literature on optimal growth theory, Marini and Scaramozzino (2000, 644) rightly note, "Under endogenous productivity growth, the optimal social discount rate must be equal to the marginal social product of capital.....Positive social time preference, far from discriminating against future generations, is essential for an equitable inter-temporal allocation of resources."

It is a moot point whether a non-zero discount rate in cost-benefit analysis accords with Shari'ah law. Nevertheless, it may be useful to observe that the non-zero discount rate arises here entirely from the fact of greater production in the subsequent time periods. Therefore, it is different from the case of money earning interest without any effort. Here the non-zero rate is associated with economic growth.

Interest Rates, Savings, and Financial Liberalization

Another, more straightforward example of the use of positive interest rates in conventional economics is provided by the work of R. I. McKinnon (1973) and E. S. Shaw (1973), which has played a major role in financial liberalization in developing countries since the 1970s. In this research, high interest rates are viewed extremely positively. As this work of the so-called Stanford School has had a wide impact, it will be useful to examine it a little more fully. Writing in the 1970s, McKinnon and Shaw attributed the poor performance of investment and growth in developing countries to "financial repression," as expressed in interest rate ceilings, high reserve ratios, and directed credit programs.

The Stanford economists, therefore, argued strongly in favor of financial "derepression." They suggested that the liberalization of the financial system would lead to higher interest rates and thereby to greater savings, to greater quantity as well as quality of investments, and to growth. This work is controversial, however, and its conclusions are contrary to much of mainstream economics as well as the foundations of Islamic finance.²

The main testable hypotheses of the Stanford economists were (1) high interest rates would yield higher savings; (2) higher savings would lead to higher investment; (3) high interest rates will also improve the productivity of investment and thereby lead to faster growth.

All these assertions are debatable, at a theoretical level as well as empirically. It is not the purpose here to provide a detailed analysis of these propositions. Suffice it to say, very briefly, that mainstream modern economists—the Keynesian economists, in particular—contest the McKinnon and Shaw hypotheses on the ground that their underlying model assumes that savings determine investment. Savings are, however, done by one kind of economic agents (individuals and households), and investments are carried out by other groups, such as firms and entrepreneurs. The different kinds of agents have different motivations, and there is no reason why savings should determine investment.³ Critics also point out that McKinnon and Shaw assume there is always full employment of resources. Moreover, they suggest that whether or not higher interest rates in the formal sector following liberalization will increase aggregate savings depends on the savings behavior of the losers and gainers from this process. To the extent that the personal sector (individuals and households) finances the investments of the corporate sector—which are often highly geared in developing countries—higher interest rates may reduce corporate profits and retained earnings. The central point is that, although the rise in interest rates will increase personal income, if the savings propensity of the personal sector is lower than that of the corporate sector (which is likely), it will lead to a decline in total savings (Akyuz 1991).

More importantly, whether for the above reasons or others, empirical evidence from many countries that liberalized their credit markets in the 1980s and 1990s and increased real interest rates—particularly Asian countries—shows that there was no systematic rise in aggregate savings in these countries. This was also the conclusion reached by Cho and Khatkhate (1989) in their influential analysis of Asian countries. Akyuz (1991) reached the same conclusion with respect to aggregate savings in relation to Turkey's liberalization experiment during the late 1970s and in the 1980s.

As for the effects of credit market liberalization on the efficiency of the investment allocation process, leaving aside the disastrous consequences of such liberalization in the Southern Cone countries in the 1970s, many successful economies have used subsidies—indeed, negative interest rates—for long periods of time as an important part of their industrial policies during the course of economic development. This has certainly been true of Japan, which provided negative real interest rates to its favored corporations for much of the postwar period of its most rapid industrialization (1950 to 1973).⁴ Subsidies and directed credit were also central features of the Republic of Korea's highly successful industrial policy during the previous two decades, as Amsden (1990) notes.

To sum up, there is enough evidence to indicate that, contrary to the Stanford School, a

high-interest rate policy based on financial derepression was apparently not regarded as being suitable by many developing countries. The most successful economies in East Asia did not follow such policies. Policymakers in developing countries ordinarily try to maintain low interest rates in order to encourage investment and growth. In that sense, there is unlikely to be much difference at a practical level in the performance of Islamic and non-Islamic countries in the real world.

However, at a conceptual level, the difference between the two paradigms is huge. Islamic scholars do not find any justification for positive interest rates. Nevertheless, the fundamental flaw in the mainstream strictures against the zero interest rate policy of Islamic finance was that it failed to take into account the fact that although the policy did not reward financial investment with interest payments, profits on capital and enterprise were fully allowed, and indeed encouraged. Finally, in addition to zero and positive interest rates, conventional economics also employs negative interest rates. These often arise from the government's industrial policy, where the government wishes to encourage certain industries and is therefore willing to "socialize" the risks involved for the individual firm; in other words, the government subsidizes the relevant activities of the firm.

Keynes and Zero Interest Rates

As discussed, the Stanford School expectation that high interest rates would generate high savings and investments is not only incompatible with empirical evidence but is also regarded as being theoretically erroneous by many modern economists. Most significantly in the context of this study, John Maynard Keynes, in his magnum opus, *The General Theory of Employment, Interest and Money* (1936), provided a powerful defense of zero interest rates and condemned usury, historic or contemporary. Usury was strongly opposed both by Islam and the Christian Church in medieval Europe and elsewhere. Although Keynes did not set out to do so, his analysis, in our view, provides the best rationale for some of the basic principles of Islamic finance. In *The General Theory*, Keynes wrote:

There remains an allied, but distinct, matter where for centuries, indeed for several millennia, enlightened opinion held for certain and obvious a doctrine which the classical school has repudiated as childish, but which deserves rehabilitation and honour. I mean the doctrine that the rate of interest is not self-adjusting at a level best suited to the social advantage but constantly tends to rise too high, so that a wise Government is concerned to curb it by statute and custom and even by invoking the sanctions of the moral law. (p. 351)

Keynes went on to observe:

Provisions against usury are amongst the most ancient economic practices of which we have record. The destruction of the inducement to invest by an excessive liquidity-preference was the outstanding evil, the prime impediment to the growth of wealth, in the ancient and medieval

worlds. And naturally so, since certain of the risks and hazards of economic life diminish the marginal efficiency of capital while others serve to increase the preference for liquidity. In a world, therefore, which no one reckoned to be safe, it was almost inevitable that the rate of interest, unless it was curbed by every instrument at the disposal of society, would rise too high to permit of an adequate inducement to invest. (p. 351)

Thus, Keynes made common cause with Christian scholars and the medieval church in denouncing usury, and raised issues with those modern economists (the neo-classicals) who believed that free markets would automatically generate interest rates that will ensure full employment. In the context of the economic problems of his day, Keynes thought that it was evident that the market magic was not working. A nonmarket but low or zero interest rate was therefore the right policy stance.

Keynes believed that only a very low or zero interest rate could ensure continuous full employment in a modern economy. From a Keynesian perspective, there are two essential issues concerning the determination of interest rates and employment. The first is the question of the level of interest rates. The second is the issue of marginal efficiency of capital. It is important to note in the context of this study that Islamic finance addresses both these concerns. By religious injunction, interest rates are kept at zero. At the same time, Islamic laws encourage circulation of money, rather than keeping it locked up and unused. Islamic finance, indeed, encourages the union of capital and enterprise in order to meet society's needs.

Keynes also opposed high interest rates on the grounds of equity. He wrote:

The justification for a moderately high rate of interest has been found hitherto in the necessity of providing a sufficient inducement to save. But we have shown that the extent of effective saving is necessarily determined by the scale of investment and that the scale of investment is promoted by a *low* rate of interest, provided that we do not attempt to stimulate it in this way beyond the point which corresponds to full employment. (p. 375, emphasis in the original)

Keynes further noted:

Interest today rewards no genuine sacrifice any more than does the rent of land. The owner of capital can obtain interest because capital is scarce, just as the owner of land can obtain rent because land is scarce. But whilst there may be intrinsic reasons for the scarcity of land there are no intrinsic reasons for the scarcity of capital. (p. 376)

Minsky [1975] page 155-156 provides a valuable analysis of Keynes' thinking on these matters concerning full employment and more equal distribution of income. It is worth quoting in full the relevant passages:

“Keynes’ vision that the euthanasia of the rentier, as a necessary outgrowth of the accumulation process, will radically decrease, if not eliminate, income from the ownership of scarce capital resources requires the prior achievement of a state of disciplined wants, a stable population, and a lifting of the burdens of war. None of these conditions have been fully satisfied—and of these conditions, it may well be that the disciplined-wants requirement is furthest from sight.

Keynes advanced two reasons why capital income should and would decrease as a proportion of total income. There was no need for high incomes to decrease the propensity to consume. In fact, a low propensity to consume is counterproductive, for it decreases the inducement to invest. Furthermore, in a short space of time, full investment could be achieved if full employment were maintained and if wants were disciplined. Once such full investment had been achieved then a new social order could emerge, for

‘All kinds of social customs and economic practices, affecting the distribution of wealth and of economic rewards and penalties, which we now maintain at all costs, however distasteful and unjust they may be in themselves, because they are tremendously useful in promoting the accumulation of capital, we shall then be free, at last, to discard.’”⁵

In order to put Keynes’s analysis of usury in perspective, it may be interesting to see how modern economic historians view this phenomenon. Rubin (2011) provides an alternative interpretation to the conventional ones regarding the incidence and magnitude of usury over the ages and spells out its implications for underdevelopment of the Muslim world compared to the Christian world. Rubin’s basic argument is that the political authorities of the Muslim world required more help from the religious authorities in order to legitimize their regime. He puts this forward as a main explanation of why the Islamic usury laws were more stringent than those of Christianity in the Middle Ages, although before 1000 A.D. it was the other way around. Only time and further research will tell whether Rubin’s analysis is valid. We note, however, that Rubin regards any freedom to practice usury as a positive aspect, without considering the negative aspects that Keynes outlined above. He does not call attention either to the question of marginal efficiency of investment or the relationship between the latter and interest rates. This brief historical perspective on Islamic finance raises important further questions, which will be discussed in the final session.

Economic System and Usury: A Summing-up

Building on the historical perspective on usury, this study takes up further analytical issues concerning the role of interest rates and their abolition in diverse economic systems. An economic system where capital is rewarded according to its earning capacity could be entirely adequate for achieving sufficient savings and investments for economic growth, and for allocating them efficiently. The main proposition of Islamic finance is that the return to capital is determined after the investment (ex post) and would be based solely on the return to economic activity in which the capital was employed. Savings and investment would be determined by this

ex post rate of return on capital. Indeed, subsequent research showed that the Islamic system can be based entirely on equity capital, without debt, and is therefore often more stable than the conventional system based on debt. This question will be discussed further in the fourth section, where the Modigliani and Miller theorems and their implications for optimal financial structure for firms will be analyzed. This discussion raises an important question for conventional economists; whether an economic system requires an ex ante interest rate to function efficiently. Here, Professor Mirakhor (2011) has reminded us that the Arrow-Debreu-Hahn system of general equilibrium, together with its welfare properties, does not have an ex ante interest rate in the analysis (see Arrow and Hahn 1971, and chapter 1, this volume). This system is totally viable and is indeed the crowning glory of modern economics. Adding an extra variable such as the interest rate would overdetermine the system and will be difficult to interpret.⁶

It is also interesting to note that because there is competition between conventional investors and investors in Islamic banks, there is not likely to be much difference in the rates of return earned by the two groups: interest, in the case of conventional banks; and share of profits, in the case of retail Islamic profit and loss sharing (PLS) accounts. This hypothesis is confirmed by a recent IMF study that compares the rate of return from the two kinds of banking institutions in Malaysia and Turkey from January 1997 to August 2010 (Çevik and Charap 2011).

The data reveal, as expected, a high degree of correlation between conventional deposit rates and the rate of return on retail PLS accounts in Malaysia and Turkey. A correlation of one-year term conventional bank deposit rates and the rate of return for PLS accounts was 91 per cent for Malaysia and 92 per cent for Turkey for the study period. Further econometric analysis by these authors provides strong evidence of cointegration between conventional bank deposit rates and PLS returns over the long term. The authors then use Granger causality analysis and error correction methodology to explore the direction of causation between conventional deposit rates and the rate of return on PLS accounts, both with respect to the levels of the variables and first differences.⁷

An important result of the authors' analysis using this methodology indicates that the null hypothesis (that changes in PLS returns do not "Granger-cause" changes in conventional deposit rates) cannot be rejected for either Malaysia or Turkey. But the null hypothesis (that changes in conventional deposit rates do not Granger-cause changes in PLS returns) can be rejected (Çevik and Charap 2011).

In broad terms, an Islamic banking system is essentially an equity-based system in which depositors are treated as if they are shareholders of the bank. There is thus no fixed payment to the depositors for their money, but they are entitled to a share of the profits of the bank. In this equity-based system, corporate governance is rather different than in the conventional system. It will be argued below that this leads to problems of moral hazard for the Islamic bank. It will be

suggested further that the redistributive stance of Islamic laws leads to the problems of moral hazard for the depositor. This requires either strong ethics or very strong regulation, or both, for the resolution of these difficulties. In view of their significance for the theory and empirics of Islamic finance, these points will be examined more fully in the next section.

Ethical Foundations of Islamic Finance

The rejection of interest payments is an essential element of Islamic finance. These and other ethical principles contained in Islamic commercial jurisprudence are derived from the Qu'ran, *Sunnah* (sayings of the Prophet), and legal reasoning by Shari'ah scholars, and in their entirety constitute the basis for Islamic finance (Ahmed and Kohli 2011, 1). Ethical principles guiding Islamic finance emphasize the avoidance of *Gharar* in the sense of deliberate ambiguity. Principles of Islamic finance are implemented through contracts. Shari-ah law covers conditions of contracts and rights and freedoms of the contracting parties, among other matters.

Importantly, there is a strong redistributive element in Islamic finance. As Professor Mirakhor (2011) notes, in the conventional system:

[The] rich help the poor as a demonstration of sympathy, beneficence, benevolence and charity. In Islam, the more able are required to share the consequences of the materialization of idiosyncratic risks—illness, bankruptcy, disability, accidents and socioeconomically disadvantaged—for those who are unable to provide for themselves. The economically well-off are commanded to share risks of those who are economically unable to use the instruments of Islamic finance. In Islamic finance, the risks that would face the future generations are shared by the present generation through the rules of inheritance. These rules break up the accumulated wealth as it passes from one generation to another to enable sharing risks of a larger number of people. (p. 15)

To illustrate with a simple example from an element of the Islamic banking code, consider the case of a mortgagee with an Islamic bank. In Islamic finance, the normal mortgage contract carries an implicit and explicit assurance that if the mortgagee is unable to pay his mortgage, the contract will entitle him for help from the bank. Some economists argue that this will create a moral hazard for the mortgagee. However, opinions differ. Other scholars suggest that if the mortgagee does not obey the Islamic ethical code outlined above, he or she will be subject to severe sanctions from members of the community. Similarly, Khan and Mirakhor (1994) argue that the banks have direct and indirect control over the agent-entrepreneurs through both explicit and implicit contracts. This is the case because banks could refuse further credit or blacklist the agent-entrepreneur and put at stake his/her credibility and respectability. This brings in a strong deterrent to irresponsible behavior. However, V. Sundararajan observes that this argument does not change the fact that the bank has no legal means to intervene in the management of the current enterprise while it is done by the agent entrepreneur (see Ahmed and Kohli 2011, 56).

To the mainstream economist, it seems very unlikely that adherents of Islamic finance will be able to live up to such high moral standards. Conventional economics invariably assumes that human beings are selfish and analyzes their activities on the basis of that postulate. If the same assumption of selfishness is made in relation to the participants in Islamic finance, it will lead to a huge moral hazard problem on the side of the debtor.

There is also the possibility of moral hazard on the side of the bank. This arises from the unrestricted *mudarabah* contract, where the bank manages the deposits at its own discretion.⁸ This increases the moral hazard for a bank, as it may indulge in more risk taking, without adequate capital. As Sundararajan notes, investment depositors in Islamic banks do not enjoy the same rights as equity investors in conventional investment companies but do share the same risks (see Ahmed and Kohli 2011).

For these reasons, Islamic finance poses considerable pressure on the Islamic finance management to manage their investment risks to avoid moral hazard. It also poses considerable pressure on financial regulators to monitor investment and agency (bank intermediary) behavior to avoid passing all risks ultimately to the depositor. A third unknown factor is the certainty of the Shari'ah bankruptcy courts to enforce disputes over contracts that show clear signs of moral hazard (or shirking by borrower/investee to avoid his repayments). Table 2A.1 in the annex outlines the main differences between Islamic and non-Islamic banks.

The most recent empirical research by World Bank economists Beck, Demirgüç-Kunt, and Merrouche (2010), referred to earlier, suggests that conventional and Islamic banking are more alike than previously thought. As they argue:

“Differences in business models—if they exist at all—do not show in standard indicators based on financial statements information. Other differences, such as cost efficiency, seem to be driven more by country differences than by bank type differences. Finally, the good performance of Islamic banks during the recent crisis appears to be driven by higher precaution in liquidity holdings and capitalization, but no inherent difference in asset quality between the two bank types...” (p. 3)

Although based on rather different data and a different definition of the analytical problem, the World Bank economists' conclusions from their empirical study support the findings of the IMF economists, Çevik and Cherap (2011), as discussed in the previous section.

Although as noted in the first section, Islamic finance has expanded very fast, it still has a small share of world finance and is still in a niche market (Tan 2009). Some respected commentators argue that the market has concentrated on the development of safe, short-term financial instruments and ignored the long-term market. These scholars fear that because of path-dependency, which is characteristic of many economic events, the Islamic finance industry may

simply continue to operate on the short end of the market. Indeed, these well-wishers of Islamic finance would like to take a major step forward and develop an Islamic stock market to meet the needs of the Islamic investors for investments with long-term horizons. This important question will be examined in detail in the fifth section.

Modigliani and Miller Theorems

Having examined the two basic tenets of Islamic finance, the discussion now moves on to consider a fundamental tenet of modern economics: the Modigliani and Miller (MM) theorems concerning the optimal financial structure of firms. The discussion also analyzes the feasibility and desirability of establishing stock markets based on Islamic rules to assist the growth of Islamic finance.

Since the late 1950s and until recently, the modern neoclassical view of finance has been dominated by the so-called “irrelevance theorems” associated with Modigliani and Miller (1958, 1963). In seminal contributions, starting with their pioneering 1958 paper, Modigliani and Miller put forward two central propositions about the theory of finance. They showed that in fully developed capital markets, under fully idealized neoclassical assumptions of perfect competition, no transaction costs, no taxation, and no bankruptcy, even in a world of uncertainty, the stock market valuation of the firm is independent of its financing or dividend payout decisions. On the basis of certain further restrictive assumptions about expectations and the nature of uncertainty (such as uniformity in expectations held by all investors in the stock market), they established that the market would value the firm’s shares entirely on the basis of its earnings prospects; share prices would be invariant to the capital structure of the firm or to the extent to which it resorts to internal or external sources to finance its investment plans.

Miller (1991, 269) provides an intuitive explanation for the MM theorems with the help of an analogy. “Think of the firm as a gigantic tub of whole milk. The farmer can sell the whole milk as it is. Or he can separate out the cream, and sell it at a considerably higher price than the whole milk would bring. The Modigliani-Miller proposition says that if there were no costs of separation, (and, of course, no government dairy support program), the cream plus the skim milk would bring the same price as the whole milk.” Villamil (1992, 1) elaborates on this explanation in the following terms:

The essence of the argument is that increasing the amount of debt (cream) lowers the value of outstanding equity (skim milk)—selling of safe cash flows to debt-holders leaves the firm with more lower valued equity, keeping the total value on the firm unchanged. Put differently, any gain from using more of what might seem to be cheaper debt is offset by the higher cost of now

riskier equity. Hence, given a fixed amount of total capital, the allocation of capital between debt and equity is irrelevant because the weighted average of the two costs of capital to the firm is the same for all possible combinations of the two.

At a deeper level, the Modigliani and Miller theorems suggested a dichotomy between finance and the real economy: corporate growth and investment decisions were dictated completely by “real” variables such as productivity, demand for output, technical progress, and relative factor prices of capital and labor. Finance in this paradigm is always permissive and simply facilitates the investment process.

As in the case of neoclassical economics, the normal Keynesian perspective on the role of finance in investment and economic growth also assumes well-developed capital markets. However, this perspective does not postulate perfect capital markets in the sense that the relevant information on costs, reliability, and other aspects of the transaction is not available on equal terms to all the participants in the market. According to the Keynesian view, corporate investment is essentially determined by “animal spirits,” by business people’s confidence, by expected demand, and by the cost of capital. The latter variable in practice is regarded as being relatively insignificant compared with demand factors.

As they do not accept the assumption of perfect capital markets, Keynesian economists do not generally believe that the Modigliani and Miller propositions are operational in the real world. These neoclassical irrelevance theorems also run contrary to the traditional conception of a firm’s investment and financing decisions. The traditional view was a so-called “pecking order” theory of finance (Donaldson 1961; Myers 1984; Fazzari, Hubbard, and Peterson 1988), which suggested that firms always preferred internal to external finance—and, if they had to use external finance, they would prefer to employ debt, and only as a last resort, equity finance. The firm’s capital structure and its dividend payout decisions, in this analysis, were important variables that had an independent influence on its share price. More generally, the nonavailability of the appropriate kind of finance could constrain a firm’s growth or investment plans: this suggestion was often incorporated in the postwar microeconomic investment models in the Keynesian spirit. Meyer and Kuh (1957) and Meyer and Glaüber (1964) are classic references. These issues have been carefully examined in Stiglitz (2005).

Paradoxically, the above traditional theory of finance has been resurrected and revalidated by a number of theoretical developments in the last two decades that attempt to relax some of the highly restrictive assumptions of the Modigliani and Miller propositions. With respect to the latter, it was noted at the simplest level that if taxation and the possibility of bankruptcy and financial distress are introduced into the analysis, this would produce an optimal capital structure for the firm and thus invalidate the Modigliani-Miller irrelevance theorems. Many corporate tax systems, for example, allow interest to be deducted as a cost, which provides

a significant tax advantage to the use of debt finance. There is, however, a trade-off, since too high a level of debt increases the risks of bankruptcy or financial distress in an economic downturn. This simple trade-off model leads to an optimal debt-equity ratio for the firm, which maximizes its stock market valuation.

More complex considerations and theoretical developments involving asymmetric information between insiders (managers) and outsiders (creditors or shareholders), problems of adverse selection, moral hazard, agency costs, signaling, and transaction costs lead to different costs of the various forms of finance, but can be shown to be broadly compatible with the “pecking order”-type theory outlined above. (The classic reference here is Myers and Majluf 1984.) In general, this far richer and more complete analysis of the issues points to the significance of the corporate capital structures and the financial decisions for the real economy. At the very least, the new models of the firm suggest that “finance” is not simply a veil, but that there are very important interactions between corporate finance and the real economy. Thus, unlike the neoclassical investment models (see in particular the widely acknowledged and valued contributions by Jorgenson, Ho, and Stiroj that dominated the profession in the 1960s and 1970s), many economists subsequently in the light of the new interpretation of MM theorems, particularly the post-Keynesian ones, came to regard “cash flow” and corporate retained earnings as being a significant constraint on a firm’s investment decisions.

However the main concern in this study is not so much with corporate investment decisions, but with the question of the financial structures of Islamic and non-Islamic firms. Stiglitz (1988) establishes that under most conditions, if there is no bankruptcy, then the theorems would continue to hold. This suggests that under the neoclassical assumptions of MM theorems, any financial structure for Islamic firms is optimal, including that of all equity and no debt. However, if these strict assumptions are relaxed, particularly when there is a real possibility of bankruptcy, the firm valuation will depend on its debt-equity ratio. Thus, for any specific firm, there will be a corresponding optimal debt-equity ratio. There is no reason to believe that Islamic firms would attempt to achieve or would have achieved their respective optimum financial structures in terms of debt-equity ratios. Does this make Islamic firms less efficient? The answer is not necessarily so because the question of optimality in the above analysis is considered only from the perspective of an individual firm and not from that of society as a whole. Suppose all Islamic firms are 100 percent equity-financed. This may violate the results of the optimality tests of the MM theorems, but from the point of view of the society as a whole, such a capital structure may have considerable macroeconomic benefits, such as more stable GDP growth.

The fundamental point is that if all Islamic finance contracts are equity contracts, then it is vital for the banks to ensure that the investee/borrower is not too highly leveraged. The higher the leverage of the borrower, the higher the risks assumed by the Islamic finance investor. By definition, the lower the leverage of the borrower, the safer the financial system is on the whole.

Risk Sharing, Risk Shifting, and the Risks of Bankruptcy

From the perspective of conventional economics, there is another way of interpreting the differences between the Islamic and non-Islamic borrowing individuals and firms, as well as the lending banks. This involves the question of the relative costs and efficacy of bankruptcy in the two systems. So it is not just a matter of whether or not there is provision for bankruptcy or insolvency in a model of corporate finance, but what are its costs and who is expected to bear them, in law and in practice.

In terms of conventional finance, the real issues are those of information asymmetry, principal-agent (contract), and insolvency. Conventional finance assumes that one can shift the risks between two parties based upon contract. In Islamic finance, one starts with risk-sharing between the borrower and the bank. But in all contracts, there is an inherent information asymmetry when the borrower or investee does not know when they will enter economic insolvency (this being dependent on whether banks are willing to lend and the rate of interest). Most companies that are in trouble may be still solvent in terms of accounting, but economically insolvent, depending on the mark-to-market price of assets, which also depends on the discount rate. In other words, the company may not know when it becomes insolvent (nor does the Islamic finance institution know). When the company becomes insolvent, the losses are automatically shared among its shareholders and holders of its obligations.

Hence, there is essentially no difference between the non-Islamic finance lender and the Islamic equity contract in these respects. Conventional lenders protect their own risks and shift these by contracting with the borrower, to include collateral and guarantees. If the real interest rate rises, however, the discounted cash flow value of the borrower's assets decline and the real value of liabilities increases, and the borrower may go into economic insolvency. At the same time, the collateral value of the lender's holdings of collateral also declines (especially if they are land or equity). Thus, at higher real rates of interest, especially during a crisis, the borrower moves into economic insolvency and therefore (nontransparently) transfers the insolvency risk to the lenders and holders of his or her paper. This risk-reversion is identical in form for Islamic finance or non-Islamic finance firms.

There is a further cost of bankruptcy (transactions cost in time, legal fees, and the like), which the borrower or investor may have to invest in so as to recoup his or her loan or investment. Thus, if both Islamic finance and non-Islamic finance contracts involve involuntary risk-sharing, then the only real distinguishing feature between the two systems is whether the bankruptcy laws are strong enough and efficient enough for enforcement.

In the Islamic finance contract, there is a moral or nontemporal sanction on the borrower, in the hopes that this “soft power” will be more effective than “hard power”—legal or other means of enforcement—to force the borrower to repay. The reason is that there is information asymmetry between the borrower’s true solvency and the lender/investor. The borrower may engage in lying or hiding his or her true solvency in order to pass as much of the losses as possible to the lender and/or investor. It cannot be determined a priori whether the soft power of Islamic finance is necessarily better than the legal power of debt enforcement. This depends on the circumstances of the case, the legal powers in a country, the effectiveness of the courts, and the like.

To put it clearly, all debt or risk-sharing contracts suffer from moral hazard. If they are not enforced against cheating or free-riding, then risks will pass to the solvency holder/lender. In simple utility terms, when the marginal benefit to borrowers is higher than the cost of sanctions, then they will not pay. An important question is therefore whether sanctions are real enough for the borrowers to make the necessary adjustments so that if they cannot pay today, they shall at least pay tomorrow.

It is arguable that the costs of bankruptcy to the borrowers in terms of conventional finance are lower for the Islamic finance borrower than for the non-Islamic finance borrower. In the case of the latter, there are not only the laws relating to bankruptcy, but also daily court judgments implementing the law. This will tend to make the loan contract more transparent, and probably more painful in case of default. It is worth noting that the basic laws on bankruptcy differ greatly between advanced countries, notably the United States and the United Kingdom. In broad terms, the U.K. law is less user-friendly to the borrower than the U.S. law, which has Chapter 13 provisions allowing the firm to continue as a going concern for a longer period than would normally be permitted by English receivership arrangements. It may also be observed that because of the novelty of Islamic finance, there may be nonuniform implementation of the bankruptcy laws for Islamic firms. It is not clear how many cases of bankruptcy in Shari’ah law are ever settled by Shari’ah courts. It is also not clear whether the judgments of these courts are accepted more generally by the public and by non-Islamic courts.

The conclusion of this section is that whether Islamic or non-Islamic finance is more effective in avoiding moral hazard would depend on the entire financial infrastructure of risk management systems, regulatory systems, and court systems. If Islamic financial systems end up with lower debt/equity as a whole than non-Islamic systems, then the Islamic finance system is likely to be able to cushion shocks as a whole. However, this is a question of practice, not one of theory.

The Stock Market and Islamic Finance

Islamic economists greatly favor the establishment of a stock market based on Islamic principles in order to further the expansion of Islamic finance. Long ago Professor Mokhtar Metwally (1984) observed:

In an Islamic economy where interest bearing loans are prohibited and where direct participation in business enterprise, with its attendant risks and profit sharing, is encouraged, the existence of a well-functioning Stock Exchange is very important. It would allow for the mobilization of savings for investment and provide means for liquidity to individual shareholders. However, existing Stock Exchanges in non-Islamic economies have many drawbacks. They generate practices such as speculation and fluctuations in share prices which are not related to the economic performance of enterprises. These practices are inconsistent with the teachings of Islam. (p. 19)

Professor Abbas Mirakhor, a leading scholar of Islamic finance, has recently urged government intervention to develop stock markets in Islamic countries. In his view, the stock market is not only a principal means of risk sharing, but is probably the best available instrument. The establishment of stock markets on a sound basis can benefit international and national risk sharing and thereby make the whole system much more stable. The stock market would thus be a useful addition to complete the Islamic sequence of markets to enhance economic efficiency.

However, the merits and demerits of stock markets have long been the subject of acute controversy in mainstream economics, with John Maynard Keynes (1936) a leading critic of stock markets. This is a large controversial subject on which both authors of this study have written before.⁹ Nevertheless, in this context, we simply note that Islamic stock markets would be very helpful if they could be organized to obey the Islamic precepts. The main difficulty arises from the fact that since it is virtually impossible to distinguish between speculative and nonspeculative investment strategies, it would be difficult to establish a stock market in which Islamic ethics and nonspeculative strategies are followed by all players. In our next paper, we intend to explore how in the real world, the conventional and Islamic stock markets could deal with the fundamental problems of primary fund raising for corporations and the price discovery/valuation of secondary market listed stocks.

Interim Summary of the Main Findings and Two Further Questions

As this chapter has ranged over several fields of conventional and Islamic economics, it will be useful to summarize the main theoretical and empirical findings. The study first examined the central tenets of Islamic finance from the perspective of conventional economics. It started with the question of absolute prohibition under Islamic finance of interest payments in any form. The main conclusion is that it is possible to run an efficient economic system of the Islamic kind, which has no interest payments, but which allows profits on capital and enterprise. Such a system, based totally on equity finance, is completely viable and may, in fact, be more stable than a part-debt financed conventional system.

A salient finding of this study is that the best rationale for zero interest rates is provided by John Maynard Keynes in *The General Theory*. Keynes was not writing specifically about Islamic finance, but he endorsed the thinking of medieval Christian scholars and others who fundamentally objected to usury. Keynes sought to rehabilitate these scholars, whom the conventional economics of the nineteenth and twentieth century (for example, the Classical School) considered to be irrelevant and beyond the pale. He regarded high interest rates as the root cause of the problem of unemployment, and favored zero or low interest rates in order to achieve continuous full employment. He found no evidence, or any reasonable theory, that could show that the market system automatically generated interest rates that lead to full employment. He sought to lower interest rates, and to raise the marginal efficiency of investment (expected profitability) to achieve this important objective. Basic Keynesian doctrine fits in well with the Islamic emphasis on zero interest rates and the combination of capital and enterprise to produce social output.

However, it is generally recognized that conventional economics legitimately uses interest rates—zero, negative, and positive—for its analysis of various economic issues. There is little evidence, however, to support the McKinnon and Shaw hypotheses that financial liberalization necessarily leads to high interest rates, which in turn generate high savings, investment, and economic growth. The highly successful East Asian countries employed low, even negative, rates rather than high interest rates during their industrialization.

This study also considers from the perspective of Islamic finance the technique of cost-benefit analysis widely used in conventional economics. This involves the discussion of time preferences between generations and the rate of discount used in cost-benefit analysis: should it be zero or a positive number? There are reasonable arguments that suggest that both these discount rates may be compatible with Shari'ah law. It is up to Shari'ah scholars, however, to determine the merits of this argument.

As developing country policy makers are prone to use low but positive interest rates to encourage investment and growth, there is very little difference between conventional and Islamic (zero interest rate) paradigms in practical terms. The rates of return on deposits in

conventional banks and those of profit-sharing accounts in Islamic finance tend to be highly correlated and broadly of similar magnitude.

An analysis of the second major tenet of Islamic finance—namely, its ethical system—indicates that if human beings strictly adhere to the requirements of Islamic ethics, there would be few moral hazard problems in Islamic banking. However, since total adherence to the Islamic ethical system is unlikely for most individuals and institutions, important moral hazard issues loom large, both on the side of the depositors in Islamic banks as well as on the side of the Islamic banks themselves. These would need to be resolved in the real world by extensive regulation. It is a moot point whether such far-reaching regulation of ethical behavior, particularly of individuals, is at all feasible or desirable.

Turning to the relevant chief tenets of conventional economics, we find that there is no straightforward application of Modigliani and Miller theorems to Islamic firms and banks. This is because the assumptions underlying these theorems of no transactions costs, perfect markets, no taxation, and no bankruptcy have relevance to real world entities, whether Western or Islamic. If these assumptions are relaxed to conform more to the real world, then one would get an optimal capital structure: that is, some particular debt-equity ratio for a specific firm. However, this is looking at the question of optimality from the point of view of the firm rather than that of society as a whole. Further, it will be difficult to reach the judgment that Islamic firms have nonoptimal capital structures on the basis of Modigliani and Miller theorems alone.

Although for MM theorems, the concept of bankruptcy is important, in the real world it is its costs and who pays these costs that are significant factors in distinguishing between the two systems. The real issues are information asymmetry, principal-agent problems, and insolvency costs—and whether or not the practical application of these concepts leads to a “hard” or “soft budget constraint” for the borrowing firms, which do not wish to pay and aim to shift the burden to the lender. In the Islamic finance contract, there is an additional implicit sanction against this type of moral hazard affecting the borrower, which may be called “soft power.” In some instances, this may be more effective than the “hard power” of bankruptcy laws, but it is difficult to imagine that it will be so every time or in most cases.

This chapter also considers very briefly the desirability of establishing stock markets in Islamic finance systems, in order to further the completion of these systems and to help with their expansion. It concludes that a conventional stock market (that induces speculative behavior) would not be useful for Islamic economies because speculation is prohibited under Shari’ah law. Yet the search for an ethical stock market must continue.

In the light of the above findings on Islamic and non-Islamic finance, it would be useful to consider two further important and relevant issues at least briefly. The first is whether Islamic finance promotes economic development. The second is whether this type of finance poses a challenge to the current dominant theory and practice of finance.

Islamic Finance and Economic Development

Regarding the first question, this study has argued that Islamic finance, because of its rejection of interest rates and debt, is a force for stability in the national and international economy. However, this raises the question whether, apart from leading to stable economic development, this type of finance also promotes higher economic growth. This is where economic history becomes highly relevant. Important recent contributions by Kuran (2011) and Chaney (2011) bear on this issue. Kuran (2011) suggests that the reason for the success of Western Europe and the decline of Islam since the Middle Ages has been due to the Muslim world's inability to adopt institutions that facilitate the accumulation of capital and impersonal exchange. Capital accumulation was handicapped by the redistributive character of Islamic inheritance laws, for example. In contrast, Western Europe institutional development encouraged both impersonal markets and capital accumulation.

Although most economists would accept the basic idea that economic growth is facilitated by appropriate institutions and retarded by inappropriate ones, Kuran's analysis is not entirely helpful. In contrast to Kuran, Harvard economic historian Chaney (2011) argues that, in the final analysis, it was the long-standing political equilibrium in the Middle East rather than Islamic law that held back the region. He argues that "Islamic law as interpreted in each period by Muslim religious leaders may have been largely endogenous to the incentives and constraints this (the ruling) group faced. Had the Middle East's political equilibrium changed, the religious leaders' interpretation of Islamic law would have also changed. Alternatively, these leaders could have lost political power and Islamic law might have ceased to be enforced." (p. 1469).

Turning from history to the current era, in many Muslim countries a fundamental change has occurred in the institutional arrangements that facilitate economic progress. Not only are banks, large and small, encouraged and other savings institutions allowed, but so are a number of new financial instruments that meet the requirements of Shari'ah law. Similarly, the traditional Islamic emphasis on profitability encourages investment that contributes to growth and full employment, as does its emphasis on redistribution of wealth. Interpersonal redistribution, rather than being a negative force for accumulation and economic development, becomes, in the current era, a positive force for maintaining aggregate demand for achieving full employment. It is therefore arguable that Islamic finance in general does not necessarily have negative consequences for economic growth, but rather quite the opposite.

The Real Challenge of Islamic Finance¹⁰

A second general question regarding Islamic finance relates to the issue of competition between Islamic and non-Islamic finance. Will fast-growing Islamic finance eventually seriously challenge the current Western approach of finance? As noted, from humble beginnings in the 1990s, Islamic finance has become a trillion-dollar activity. The global consensus is that Islamic finance has a bright future, owing to favorable demographics and rising incomes in Muslim communities.

The real challenge posed by Islamic finance for the Western world arises not so much from its prohibition on interest rates but rather from the second major tenet of Islamic finance, which holds that if people adhered strictly to its ethical requirements, there would be fewer moral hazard problems. Moral hazard exists, however, in all systems in which the state ultimately

absorbs the risks of private citizens.

The extent to which any particular system is efficient in avoiding moral hazard is a matter of practice rather than of theory. Many would agree that, historically, Christian morality played an important role in the rise of Western capitalism. Secular capitalism, however, has recently experienced an erosion of values, whereby the financial sector has put its own interests above those of the rest of society. If the ethical values in Islamic finance—grounded in Shari’ah religious law—can further deter moral hazard and the abuse of fiduciary duties by financial institutions, Islamic finance could prove to be a serious alternative to current models of derivative finance.

Indeed, the basic tenets of Islamic finance force us to rethink the ethical basis of monetary arrangements under the current Western financial system, particularly financial and economic globalization in the context of an international reserve currency system founded on fiat money. In the past, gold was the anchor of monetary stability and financial discipline, though at times it was deflationary. The test of any alternative financial system depends ultimately on whether it is—or can be—more efficient, ethical, stable, and adaptable than the prevailing system. For now, there is no Islamic global reserve currency, no Islamic central bank, and hence no Islamic lender of last resort. But the Islamic world is the custodian of huge natural resources that back its trading and financial activities.

As the Islamic world grows in stature and influence, Islamic finance could become a formidable competitor to the current dominant financial system. The world would have much to gain if the two systems were to compete fairly and constructively to meet people’s needs for different types of finance.

Conclusion

The Western system has been dominant until now, but of late it has shown itself to be less than perfect. In these circumstances, it would be eminently sensible if there were an alternative economic and financial system.

In the last two decades, because of the excesses of the International Monetary Fund (Washington Consensus policies, structural adjustment policies in Africa, and the IMF’s neoliberal agenda for much of the period), demand has been growing around the world for an alternative to the IMF, including the important function of lender of last resort.

In the context of the Asian crisis, for example, there were serious demands for regional financial systems that would better serve local needs for national and international finance to promote regional development. In Latin America, there was strong support for the establishment of a regional central bank.

Islamic finance has long represented a distinct approach to economic thinking and financial practice and provides a potentially complete system. One can envisage a future in which the two systems—the Western and the Islamic—each with its distinct characteristics, run in parallel, offering individuals and businesses open choices between the two.

Cooperation between these two systems is eminently desirable and feasible. The conventional and Islamic finance could cooperate and even compete to produce the best outcome for common projects, such as the provision of cheap banking for the world’s poor or for investment in environmental undertakings. There is wide consensus that the world’s poor should have wider access to finance. This may be more appropriate under the Islamic finance system because of its more ethical basis.

Annex

Table 2A.1 A Comparison between Islamic and Conventional Banking

Features	Islamic banking	Conventional banking
Guarantee of the capital	Yes	Yes
Value of:		
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-loss-profit (PLS) principle applies	Yes	No
Use of Islamic modes financing:		
PLS and non-PLS modes	Generally not allowed to reduce credit risk in PLS modes. By way of exception, may be allowed to lessen moral hazard in PLS modes.	Yes, always
Use of discretion by banks with	Allowed in non-PLS	

regard to collateral	modes.	
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Source: Ahmed and Kohli (2011, pp.81).

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¹ The words conventional and modern economics are used interchangeably throughout this chapter.

² The second and fourth sections draw on and update the material in Singh and Hamid (1992) and Singh (1995). See also Singh (1997).

³ In advanced countries, despite the stock markets, most firms finance their investment from their retained earnings. There is relatively little resort to the stock markets. However, the corporate motivation for increasing or decreasing retained earnings, is not the same as that of individual households. In developing countries, the motivation for savings and investment are somewhat different. Strangely enough, despite the relatively low development of stock markets in developing countries, these countries rely more on the stock market than the advanced countries. This is known in technical literature as the Singh-paradox. See Singh (2003); Gugler, Mueller, and Yurtoglu (2003).[[Add to ref list]]

⁴ See Amsden and Singh (1994)[[add to ref list]]; Singh (1995).

⁵ Keynes (1931) page 329

⁶ See also Milgate (2011).

⁷ The question of causation is an extremely complex one in all social sciences. One cannot assume that if an event A takes place after another event B, that B cannot cause A. The economists have provided a definition of causality based on this idea. But it is accepted that not everybody will accept this idea of causation. In order to make clear the specific way in which the economists use the notion of causation, the term Granger-causality is used.

⁸ *Mudaraba* is a "partnership where one provides the capital and the other the entrepreneurial expertise with the profits being shared" (UBS web definition; see also Ahmed and Kohli 2011, 275).

⁹ See Sheng (2009); Singh (1992, 1995, 1997, 2012).

¹⁰ This section is based on the authors' op-ed column published in April 2012 by Project Syndicate. See also Sheng (2010).