

Whereas *mudarabah* and *musharakah* contracts are critical in credit and capital creation, other contracts such as *wikala*, *jo'alah* and *rahn* also play an important role in providing vital economic services equivalent to those that a conventional financial intermediary may offer.

***Mudarabah*** In a *mudarabah* contract, an economic agent with capital develops a partnership with another economic agent who has expertise in deploying capital into real economic activities, with an agreement to share the profits. The earliest Islamic business partnerships can be traced back to the Prophet (pbuh) himself, who acted as an agent (*mudarib*) for his wife when he undertook several trade expeditions on her behalf. *Mudarabah* partnerships performed an important economic function by combining the three most important factors of production—capital, labor, and entrepreneurship. Typically, the *mudarabah* contract involved an arrangement in which the capital-owner entrusted capital or merchandise to an agent (*mudarib*) to trade with it and then return to the investor the principal plus an agreed share of the profits. As a reward for his labor and entrepreneurship, the *mudarib* received the remaining share of the profit. Any loss resulting from the exigencies of travel or from an unsuccessful business venture was borne exclusively by the investor.

More formally, a *mudarabah* is a contract of partnership between the investor (principal) and the entrepreneur who acts as an agent to invest the money in a fashion deemed suitable by the agent. This contract is usually limited to a certain period of time, at the end of which the profits are shared as agreed. An example of *mudarabah* in modern times would be of a contract between an investor and an Islamic bank where the investor deposits funds with a bank that has developed a certain expertise in the financial markets and in identifying profitable projects and uses its management skills to invest those funds on the investor's behalf. After a certain period, both the bank and the investor share the profits in accordance with their predetermined profit-sharing ratios.

The *mudarabah* has the following distinct features:

***Control*** Although *Shari'ah* scholars have differences of opinion about the restrictions in a *mudarabah* contract in regard to its activities, scope, and objectives, these differences do not have any significant impact on its function. In general, the investor designates the *mudarib* as an agent and therefore does not have any right to control, or participate in, the *mudarib*'s decisions as to the placement of funds. In other words, the investor does not have any management rights over the *mudarib*, who is free to select the projects in which to invest or the manner in which to invest. However, in some cases, the investor may impose some upfront restrictions on the agent to participate in a particular project or in a particular fashion. In such cases, the contract is known as "restrictive *mudarabah*." If the *mudarib* acts contrary to such conditions or restrictions, he is deemed to have acted beyond his

powers and, therefore, by virtue of the trust that was placed in him, to be liable for any resulting loss or damage.

**Profit/loss sharing** One of the most significant features of *mudarabah* is that while the profits are shared between the investor and the agent, any loss in the investment or business is borne solely by the capital-owner, unless such loss is caused by the misconduct or negligence of the *mudarib*. In cases where the agent acts in good faith and prudently, but still the investment results in a loss, the capital owner loses a portion of the capital, but the agent loses the time and effort deployed during the business venture. The capital-owner suffers a financial loss from the loss of capital, while the agent/entrepreneur does not make any financial gains and loses the potential reward for his skills. The *mudarib* is not a guarantor of the capital, except where there is misconduct or negligence on his part.

**Profit distribution** In the *mudarabah* agreement, the partners enjoy absolute freedom to determine the division of profits. The following are some of the rules applicable to the determination and distribution of profit and loss under a *mudarabah*:

- The most critical requirement is that the division of profits between the investor and *mudarib* must be in the form of proportions and ratios, rather than in absolute numbers.
- The profit-sharing formula itself must be made specific beforehand and must be clearly indicated in the agreement for profit distribution. Neither party can have preferential rights over the profits to the exclusion of the other.
- The profit distribution ratio may differ from that of capital contribution.
- The distribution of profits in a *mudarabah* can only take place after the capital-owner has retrieved his capital. Any interim or periodic distribution before the closing of the accounts is considered tentative and subject to final review and revision and has to be made good on any loss of capital. In other words, if any periodic return was paid based on expected profits or interim proceeds, it is to be treated as a partial return before the conclusion of the contract, when the final profit or loss will be determined after adjusting for any interim profits paid.

**Multiple tiers** Early *Shari'ah* scholars played an important role in the development of complex intermediation structures by granting the necessary freedom to the *mudarib* to form other partnerships with third parties. On the one hand, this allowed the *mudarib* to expand the partnership to create a large pool of capital providers as passive partners and, on the other, it allowed a *mudarib* to engage entrepreneurs on the basis of *mudarabah* to invest the capital entrusted to the *mudarib*. This flexible structure of different tiers has become the basis of modern Islamic banks.

**Credit risk and defaults** Since there may not be any tangible assets that can be used as collateral against potential losses, managing the credit risk and defaults often becomes an issue. To minimize such risk, the capital-owner or investor should perform due diligence in respect of the past performance and reputation of the *mudarib*. By the same token, the *mudarib* entrusted with investing funds should perform adequate screening and monitoring of potential projects worthy of good investment opportunities. In cases where an Islamic bank is acting as the *mudarib*, it may ask for a guarantee, pledge or collateral of a property from the business.

## Trust

**Wikala** The contract of *wikala* entails designating a person or legal entity to act on one's behalf or as one's representative. It has been a common practice to appoint an agent (*wakil*) to facilitate trade operations. A *wikala* contract gives power of attorney or an agency assignment to a financial intermediary to perform a certain task. On the surface, there does not appear to be much difference between a *mudarabah* and a *wikala* contract, since both are principal-agent contracts. However, under a *mudarabah*, the *mudarib* has full control and freedom to utilize the funds entrusted. In the case of a *wikala*, the *wakil* acts only as a representative to execute a particular task according to the instructions given.

**Amanah, Ariya and Wadia** *Amanah* (trust), *ariya* (gratuitous lending) and *wadia* (deposits) contracts are all concerned with placing assets in trust. These contracts are utilized in facilitating a custodial relationship between investors and the financial institutions.

*Wadia* arises when a person keeps his/her property with another person for safe keeping and allows the trustee to use it without the intention of receiving any return from it. The *wadia* assets delivered for safe keeping are a trust in the hands of the person who accepts them. Liability arising out of the *wadia* contract depends on the nature of the agreement. For example, if the trustee does not charge a fee for the safe keeping services, the trustee is not liable for the losses other than those arising from his/her negligence. However, if a fee is involved as part of the contract, then the trustee is liable to compensate in the event of loss. The trustee can, with the owner's prior permission, let the asset on hire, lend it for use, pledge the asset or use it him/herself, but must return it on demand.

The term "*amanah*" (trust deposit) is a broad term where one party is entrusted with the custody or safekeeping of someone else's property. For example, when an employer hands over a property to an employee, it comes under the contract of trust. However, in the context of intermediation, *amanah* refers to a contract where a party deposits its assets with another for the sole purpose of safekeeping. Unlike *wadia*, where the keeper of the asset is allowed to use the asset, an *amanah* deposit is purely for safe keeping and the keeper cannot use the asset. Demand deposits of an Islamic bank are

offered through *amanah* contracts, under which a person entrusted with the safe keeping of property who is found to be negligent or guilty of not taking proper care of the property is held liable for any losses.

*Ariya*, or lending for gratuitous use, is a contract where the lending of an asset takes place between a lender and the borrower, with the agreement that the former will not charge anything for the use of the asset he lent out. In other words, the borrower is entitled to enjoy the benefits yielded by the asset borrowed, without giving any payment or rent to the lender. The borrower is responsible for the maintenance and upkeep of the asset to the best of their capability. The borrower is to return the item immediately on demand by the lender. The lender may impose restrictions as to time, place and nature of use. The lender can discontinue the contract and withdraw the loan at any time.

**Jo'alah** The contract of *jo'alah* deals with offering a service for a predetermined fee or commission. One party undertakes to pay a specified amount of money to another as a fee for rendering a service stipulated in the contract. *Jo'alah* allows contracting on an object not certain to exist or come under a party's control. It can be utilized to introduce innovative financing structures. In this respect, the scope of the *jo'alah* contract is wide enough to open up several fee-earning opportunities and can be utilized to offer advisory, asset-management, consulting and professional services, fund placements and trust services often offered by investment banks in the conventional system. In addition, by using this contract, a financial intermediary can offer custodial services for customers in the securities market as well, where securities change hands in a relatively short period of time, thus performing another important task of a modern financial intermediary.

## Security

**Rahn** A financial institution reduces its credit risk of non-payment by the borrower by securing a financial obligation either through personal surety or through a pledge. In other words, the lender takes an asset as collateral against a financial liability to make sure that the borrower will repay the debt. The contract of *rahn* (or pledge) is to make a property a security provided by the borrower against a loan, so that in case of the borrower's inability to make the payment, the liability may be recovered from the value of the pledged property. The *rahn* has the following features:

- Only assets with a sale value can be offered in pledge.
- Two different creditors may take a common pledge from a single debtor, in which case the pledge will secure the whole of the two debts.
- Acceptance of the pledge does not cancel the demand for repayment of the debt by the creditor.
- If at the time for repaying the debt the borrower refuses to make payment, the lender may approach the court to force the borrower to sell the pledged

asset in order to recover the debt. Where the borrower refuses to do so, the court has the authority to sell the pledged asset to repay the debt.

**Kifala** The contract of *kifala* (“suretyship”) refers to an obligation in addition to an existing obligation in respect of a demand for something. This may relate to an individual, an act or a financial obligation. A *kifala* for an act or the performance of an act entails the timely delivery/fulfillment of the obligation or timely action in respect of the task contracted by the principal. In the case of a financial obligation, it refers to an obligation to be met in the event of the principal debtor’s inability to honor the obligation. In financial transactions, under the contract of *kifala*, a third party becomes a surety for the payment of a debt or obligation, if it is not paid or fulfilled by the person originally liable. It is similar to a pledge given to a creditor that the debtor will pay the debt, fine or any other liability. In this respect, the *kifala* can become the basis of a more sophisticated vehicle for a financial intermediary to undertake financial and performance guarantees and for the underwriting of financial claims, which are an integral part of modern banking and capital markets.

The following are some of the features of *kifala*:

- It does not release the principal debtor from liability since it is an obligation in addition to the existing obligation.
- More than one *kifala* for a single obligation is acceptable.
- Persons jointly indebted may provide surety for each other, in which case both of them are jointly liable for the whole debt.
- If a delay is granted to the principal debtor for the payment of his debt, it implies that a delay is also granted to the *kifala*.
- The discharge of the *kifala* does not necessarily discharge the liability of the principal debtor.

**Hawala** *Hawala* entails transferring a debt or obligation from one debtor to another, releasing the original debtor from that debt or obligation. This is different from the *kifala*, where the principal debtor is not released from the obligation.

The historical background to Islamic financial instruments can be found in Appendix B.

## APPENDIX **B**

# Islamic Instruments: Historical Background

**T**he mercantile communities of the Middle East followed a sophisticated tradition of trade and business partnerships that can be traced back to the pre-Islamic period. With the introduction of Islam, the examination of common business practices began with a view to identifying those practices which were in direct conflict with its teachings. This process continues to this day. However, one of the major contributions of Islam was to codify, systematize, and formalize traditional trade and business practices into a formal legal system of standardized contracts, leading to a mercantile law in complete harmony with Islam.

As Islam spread out of Arabia to other geographical regions, new situations, business practices, cultures and customs were put to the same test of conformity to the tenets of Islam. Islamic practices and contracts became well-known from one corner of the globe to another, as scholars have noted:

*Through their trade and commerce in the Middle Ages, Muslims spread over the continents of Asia and Africa and into Europe, bringing with them their religion and their cultures. From the earliest days of the expansion of Islam to the present day, Muslim businesses have been models of success and integrity. Islamic business in history is an exotic and dynamic panorama that ranges from gem merchants in Ceylon, to caravan traders in Mali, to dealers of saffron in Muslim Spain, to sellers of aromatic oils in the deserts of Arabia, to colorful cotton markets in Turkey, to spice markets in India, to the hardwood merchants of Malaysia, to the plantations and industry of Indonesia, to carpet makers in Kashmir, to the great merchant houses of the Levant, to the oil of the Arabian Peninsula, North Africa, and Brunei. The business practices and ethics in all of these places, and from the moment that Muslims arrived there, are derived from the same source.<sup>6</sup>*

During the period referred to as “the age of the commercial revolution” (Lopez 1976), trade flowed freely across the known world, supported by the risk-sharing methods of finance developed in the Muslim countries consistent with the *Shari’ah*. Information regarding the basic features of these methods spread through Europe, Egypt, India, and North Africa. These new financial techniques were also transmitted by Muslim merchants to Eurasia, Russia and China, as well as to East Asia.<sup>7</sup>

Among these were the *commenda* and *maona*—two popular financing instruments in the Europe of the Middle Ages—which were undoubtedly based on the *musharakah* and *mudarabah* from the Islamic world.<sup>8</sup> These institutions, along with financial instruments such as *hawala* and *suftaja*, were transmitted to Europe and to other regions by Jewish scholars and merchants throughout the Jewish Diaspora and via Spain through trade and scholastic borrowing from Islamic sources.

Thanks to the latest research conducted on the Geniza archives in Cairo, our understanding of historical Biblical writings and translations, ancient Jewish liturgies, communal records and relations between Jews and Arabs in medieval Islamic society has increased enormously.<sup>9</sup>

From these records and Islamic *fiqh* sources, it is clear that there is what has been called a “remarkable symmetry between the legal formulations of the late-eighth century and the documented commercial practices of the eleventh and twelfth century Geniza merchants.”<sup>10</sup>

The Geniza records provide little evidence of lending money for interest, which was shunned religiously and of limited significance economically. However, trade in the Middle Ages was both extensive and intensive, financed by risk-sharing partnerships in industrial, commercial and public administration projects.

The practice of *mudarabah* is well-documented in the westward trade between Egypt and Tunisia. The same sources make it clear, too, that *musharakah* partnerships were being practiced in the north–south trade between Egypt and Syria as well as between Egypt and Jeddah during the eleventh century.<sup>11</sup>

Similarly, 32 *mudarabah* contracts from the seventeenth century were discovered in the Turkish city of Bursa and were clearly the most important type of business partnership being practiced there at that time. Interestingly, these partnerships were, for all practical purposes, identical with the classical ones observed in the Geniza archives. Lively trade exchanges also took place between the Arabian Peninsula and India. Goitein, for instance, has found 315 documents in the Geniza archives dealing specifically with trade in the Indian Ocean. Islamic partnerships were observed even further East, in Indonesia, at the other end of the Indian Ocean.<sup>12</sup>

Before the beginning of the twentieth century, most economic historians of the Middle Ages ignored the importance of trade and financial relations between Europe and the rest of the world, which were crucial to the economic development of the West before the fifteenth century. Abu-Lughod (1994) contends that this was the result of the belief among Eurocentric

scholars that globalized trade became relevant only after the “rise of the West” in the late fifteenth century. According to Abu-Lughod, an advanced globalized system of trade “already existed by the second half of the thirteenth century, one that included almost all regions (only the “New World” was missing). However, it was a world-system that Europe had only recently joined and in which it played only a peripheral role.” She maps growing global trade flows between 737 and 1478 AD, demonstrating that trade flows first centered in Mesopotamia and spread rapidly over the next eight centuries throughout the then-known world to become global.

There is ample evidence that Islamic modes of financing and intermediation were widely used in several regions of the world. What is even more important to note is that the available evidence is scattered not only across geographical space but also across time, thereby demonstrating to us the universality as well as the tremendous resilience of these institutions. It is important to note that the charging or payment of interest in business transactions was avoided as far as possible and, on the other hand, equity or partnership-based financing was encouraged. That shows how Islamic partnerships dominated the business world for centuries and also that the concept of interest found very little application in day-to-day transactions.

## ENDNOTES

1. From a legal perspective, a contract in Islam can be either unilateral or bilateral. Unilateral contracts are usually of a gratuitous nature and may not require the consent of the recipient. Such contracts comprise gifts (*hadiah*, *bibah*) or writing-off a debt (*ibra*) or endowment (*waqf*). Bilateral contracts, on the other hand, are more formal contracts and require the informed consent of both parties. They are subject to strict guidelines and rules when it comes to their documentation, rights and obligations. What is normally accepted or tolerated in unilateral contracts would not necessarily be accepted or tolerated in bilateral contracts. All commercial contracts are bilateral contracts and are therefore regulated by well-established legal rulings.
2. The general practice of Islamic banks is to wait for two consecutive defaults before taking any action.
3. In Sudan, Islamic banks do not authorize their clients to accept delivery of the product being financed. It is common practice among banks to take delivery and then at a later stage offer to sell the same to the client, who has the right to accept or reject the offer.
4. It is common practice among Islamic banks to take a promise from the client before purchasing the product that the client will purchase the product from the bank.
5. In the early books of *fiqh*, the partnership business was discussed mainly under the heading of *shirakah*. However, contemporary scholars have preferred to use the term *susharaka* to represent a broader concept combining features of *shirakah* and *mudarabah*. Therefore, in a *musharakah*, a *musharik* also provides capital in addition to the management skills. For further details, see Ayoub (2002).
6. See De Lorenzo and Talah (2002).



7. Abu-Lughod (1989).
8. See Udovitch (1970a), (1970b), (1967a), (1967b).
9. Goitein (1964) refers to Geniza archives as “a treasure of manuscripts written mainly during the Fatimid and Ayyubid periods and originally preserved in a synagogue in Old Cairo.” Further, he indicates that “Geniza, as may be remarked in passing, is derived from the same Persian word as Arabic ‘*janazah*,’ burial, and has almost the same meaning. It is a place where discarded writings were buried so that the name of God, which might have been written on them, might not be discarded. Thus, Geniza is the opposite of an orderly archive.” He further informs us that “the documents discussed in this paper, albeit mostly written in Hebrew characters, are in Arabic language.”
10. Udovitch (1970b).
11. For further details, see Goitein (1964), Gerber (1981) and Firestone (1975).
12. *Ibid.*

## CHAPTER 5

# Risk Sharing as an Alternative to Debt

Islam has long endorsed risk sharing as the preferred organizational structure for all economic activities, prohibiting interest-based contracts of any kind. Indeed, as we have seen, it requires mandatory risk sharing with the poor, the deprived and the handicapped based on its principles of property rights.

The notion of risk has many dimensions. In general terms, it entails the possible occurrence of an event—accident, fire, sickness, perhaps—that leads to a loss. Economic agents who face such common risks try to transfer and reduce their risk exposure through insurance. Automobile drivers can transfer their accident risk by buying car insurance. Industrial plants are exposed to various risks such as fire and theft; industrialists transfer these risks through insurance. Labor faces the risk of unemployment; labor transfers this risk through unemployment insurance. Retirees face the risk of losing their income; they transfer the risk through social security or pension plans.

Much has been written about risk and the sources of risk but the emphasis has, for the most part, been on risk transfer rather than risk sharing. This chapter discusses the Islamic perspective on risk and how it can be mitigated by sharing. Further, it addresses the broader implications and stability of a financial system based on the sharing of risk.

### **UNCERTAINTY AND RISK**

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Uncertainty is a fact of human existence and stems from the fact that the future is unknown and therefore unpredictable. Uncertainty, if severe enough, can lead to anxiety and inaction. For each of us, a lack of certainty about the future is exacerbated by ignorance of how others behave in response to uncertainty. Yet individuals have to make decisions and take actions that affect their own lives as well as those of others. Decision-making is one of the most fundamental of human capabilities and is inexorably bound

up with uncertainty. Facing an unknown and generally unknowable future, individuals make subjective decisions by forming expectations about the payoffs attached to alternative courses of action. Alternatively, the person can use known probability techniques to form an expectation of returns from a particular action. Either way, the expected outcomes will form an expression in terms of probability of occurrence of the consequences of an action.

In other words, uncertainty is converted into risk. Risk, therefore, is a consequence of choice under uncertainty. As one commentator put it:

*. . . even in the most orderly societies the future is by no means certain. Even if an individual or organization has defined goals they must reflect their attitude toward risk. In some cases risk may be evaluated statistically . . . [W]hen a population is large enough, some odds can be calculated with fair accuracy, as is exemplified by some calculations in the life insurance area. In general, however, many of the aspects of uncertainty involve low probability or infrequent events. (Shubik 1978: 124)*

This makes decisions difficult and actions risky. Risk exists when more than one outcome is possible. It is uncertainty about the future that makes human life full of risk.

Risk can arise because the decision-maker has little or no information regarding which state of affairs will prevail in the future, or does not or cannot consider all possible states that can prevail in the future. There is so much missing information that it is impossible to form expectations about payoffs to various courses of action. This situation is referred to as “ambiguity,” which, if severe enough, can lead to reluctance or even paralysis in making decisions. One strategy for dealing with this “risk aversion” is to exercise patience (a strategy commended many times in the *Qur’an*) and postpone making decisions until the passage of time makes additional “missing” information available.

In fact, the *Qur’an* makes it clear that this temporary existence is a crucible of constant testing, trials and tribulations from which not even believers are spared.<sup>1</sup>

To every test, trial and tribulation in their lives, humans respond and in their actions they demonstrate the measure of their self-awareness and the degree to which they are conscious of Allah (*swt*). If their actions are in compliance with the rules of behavior prescribed by the Supreme Creator as set down in the *Qur’an*, then the trial becomes an occasion for self-development and strengthened awareness of Allah (*swt*). Even then, uncertainty remains. No-one can be fully certain of the total payoff to life within the birth-to-eternity horizon. Muslims are recommended not to ever assume that they are absolutely certain of the consequences of their action. They are to live in a state of mind and heart suspended between fear (*khawf*) of the consequences of their actions and thoughts, and hope (*raja*) in the mercy

of the Creator. All actions are risky because the full spectrum of future consequences of action is known to no one but Allah (*swt*).

## **ISLAM'S PERSPECTIVE ON RISK SHARING**

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It follows from the above discussion that it would be difficult to imagine the idea of testing without uncertainty and risk. Statistician David Bartholemu (2008: 230) asserts that: "It could be plausibly argued that risk is a necessary ingredient for full human development. It provides the richness and diversity of experience necessary to develop our skills and personalities." He speculates that: "The development of human freedom requires that there be sufficient space for that freedom to be exercised. Chance seems to provide just the flexibility required and therefore to be a precondition of free will." (2008: 200) Further, he suggests (pp. 239–40) that:

*[W]e value our free will above almost everything; our human dignity depends upon it and it is that which sets us apart from the rest of the creation. But if we are all individuals free, then so is everyone else, and that means the risks created by their behavior, foolish or otherwise, are unavoidable. To forgo risk is to forgo freedom; risk is the price we pay for freedom.*

Muslims believe that life and freedom are gifts of the Supreme Creator, and uncertainty and risk are there to test and try man to facilitate his growth and development. People are not left unaided to face the uncertainty of life and suffer its consequences. Prophets and messengers have brought guidance on how best to make decisions and take actions to mitigate the risks of this life and to improve the chances of a felicitous everlasting life. Islam, in particular, has provided the ways and means by which the uncertainties of life can be mitigated.

First, it has provided rules of behavior and a taxonomy of decisions—actions and their commensurate payoffs. Complying with these rules reduces uncertainty. Clearly, individuals exercise their freedom in choosing to comply or not. That rules of behavior and compliance with them reduce uncertainty is an important insight of the new institutional economics. Rules reduce the burden on cognitive capacity, particularly in the decision-making process under uncertainty. Rules also promote cooperation and coordination (Mirakhor 2009). Second, Islam has provided ways and means by which those who are able mitigate uncertainty by sharing the risks they face by engaging in economic activities through exchange with others. Sharing allows risk to be spread and thus lowered for individual participants. However, if poverty prevents a person from using any of the means of risk sharing, Islam requires the rich to share the risks of the poor by redeeming their rights derived from the Islamic principles of property rights.

Individuals face two types of risks. The first derives from the exposure of the economy to uncertainty and risk arising from external and internal

economic circumstances and its vulnerability to shocks. How well the economy is able to absorb shocks depends on its resilience which will, in turn, depend on the institutional and policy infrastructures of the particular society. How flexibly these respond to shocks will determine how much these risks will affect individual lives. The second type of risk that individuals face relates to the circumstances of their personal lives. These include risks of injury, illness, accident, bankruptcy or even changes of taste and preference. This kind of risk is referred to as idiosyncratic risk. When idiosyncratic risks materialize, the resultant shock to an individual's income can play havoc with their livelihood. Engaging in risk sharing can mitigate idiosyncratic risk and weaken the correlation between income and consumption such that should these risks materialize the individual's consumption and livelihood do not suffer correspondingly.

As we shall see, instruments of Islamic finance enable risk sharing and diversification through which individuals can mitigate their idiosyncratic risks. Levies—mandated or otherwise—such as *zakah*, *sadaqat* and *qard-ul-hassan*, enable the idiosyncratic risks of the poor to be shared by the rich, thus helping to reduce the poor's income–consumption correlation. In other words, the poor are not forced to rely entirely on their low level (or no) income to maintain a decent level of subsistence living for themselves and their families. It is possible that at some point even these levies can be instrumentalized to be included in the full-spectrum menu of Islamic financial instruments for risk sharing. In that event, Islamic finance would become a risk manager for society.

Such instruments will also ensure that innovators, entrepreneurs, small and medium-size firms have access to financial resources without having to take all risks on themselves or, alternatively, abandon productive projects altogether. There will be instruments of insurance that not only provide protection against health and accident risks but also insure against risks to livelihood and home values to protect people's long-term income and livelihood.

Such a full-spectrum Islamic finance can then truly be said to have “democratized finance” without transferring risks of any venture to a particular class or to the whole society. This would be in sharp contrast to the results of the recent global financial crisis in which the risks associated with dubious financial innovations were shifted away from financiers in such a way that while the gains were privatized, the pain was socialized (Sheng 2009).

## **RISK SHARING EMBEDDED IN ISLAMIC INSTRUMENTS**

With the exception of spot exchanges, all Islamic contractual forms involve time. From an economic point of view, time transactions involve a commitment to do something today in exchange for a promise of a commitment to do something in the future. All transactions involving time are subject to uncertainty, and uncertainty involves risk. Risk exists whenever more than one outcome is possible. Consider, for example, a contract in which a seller

commits to deliver a product in the future against payments today. There are a number of risks involved. There is a price risk for both sides of the exchange; the price may be higher or lower in the future. In that case the two sides have a shared risk once they enter into the contract agreement. If the price in the future is higher, the buyer will be better off and the price risk has been shed to the seller. The converse is true if the price is lower. There are other risks for the buyer, including the risks of non-delivery and quality. The seller also faces additional risks, including the risk that the price of raw materials may be higher in the future, as may transportation and delivery costs. This risk may also be lower. Again, these risks have been shared through the contract. The same argument applies to deferred payment contracts.

It may appear that spot exchanges or cash sales involve no risk. But price changes after the completion of a spot exchange are not entirely unknown. The two sides of a spot exchange share this risk. Moreover, from the time of the classical economists it has been known that specialization through comparative advantage provides the basis for gains from trade. But in specializing, a producer takes a risk of becoming dependent on other producers who specialize in producing what he needs. Again, through exchange, the two sides to a transaction share the risk of specialization. Additionally, there are pre-exchange risks of production and transportation that are shared through the exchange. It is clear that the contracts at the other end of the spectrum—*mudarabah* and *musharakah*—are risk-sharing transactions. Therefore, it can be inferred that by mandating *al-bai'*, Allah (*swt*) ordained risk sharing in all exchange activities.

A further observation that can be made is that it appears that the reason for the prohibition of *riba* is the fact that opportunities for risk sharing do not exist in such contracts. It may be argued that the creditor does take risk—the risk of default. But it is not risk taking per se that makes a transaction permissible. A gambler takes risk as well, but gambling is forbidden (*haram*.) Instead what seems to matter is opportunity for risk sharing. *Riba* is a contract of risk transfer. As Keynes emphasized in his writing, if interest rates did not exist, the financier would have to share in all the risks that the entrepreneur faces in producing, marketing and selling a product. But by decoupling his future gains, by loaning money today for more money in the future, from all activities of the entrepreneur, the financier transfers all risks to the entrepreneur.

It is clear that the intent behind prohibiting *riba* is to shift the focus to risk-sharing contracts of exchange. Ismail (1989), however, suggests that, based on the three interpretations considered, trade (*al-bay'*) and exchange (*al-tirajah*) are the same. These terms appear in a number of verses of the *Qur'an*, and in at least one verse (24:37) they appear together. Given the acknowledged beauty and eloquence of its rhetoric in conveying complex ideas, many scholars argue that it is unlikely that it would use two words in the same verse to refer to the same transaction contract. Indeed, major lexicons of the Arabic language reveal that the two phrases are not the same. These sources suggest, based on the *Qur'an* itself (2:16; 2:254; 9:111;

35: 29–30; and 61:10–13), that there is a major difference between contracts of exchange and trade. Trade contracts are always entered into with the expectation of making a profit (*ribh*). In a contract of exchange on the other hand, there is a possibility of gain but there is also the probability of a loss (*khisarah*).<sup>2</sup>

It can be inferred from the above discussion that there are two types of contracts involving time; (i) contracts over time (or on the spot) involving trade, in which there is the expectation of gain; and (ii) contracts over time involving exchange, in which there is an expectation of gain or loss. The latter must refer also to contracts of investment with uncertainty as to gain or loss. This, of course, does not mean that *mudarabah* and *musharakah* could not be used for longer-term trade in expectations of profits to be shared, and for long-term investment, as was the case for centuries in the Muslim world as well as in Europe in the Middle Ages.

Lopez (1976) suggests that there is a consensus among historians that the *mudarabah*—borrowed from Muslims and known as “*commenda*” in Western Europe—was of the highest importance as a means of financing the long-term trade and investment that led to economic change and growth in Europe. Therefore, it should be emphasized that *al-bay'* covers long-term investment contracts that allow the growth of employment and income and expansion of the economy. The focus of *al-tijarah* and all its financing instruments is the trade of commodities already produced. In effect, Islam meets the financing needs of trade as well as the requirements of resource allocation, investment, production, employment, income creation, and risk management.

Given the above, major economic implications follow. First, *al-bay'* is a contract for the exchange of property. This means that the parties to the exchange must have property rights over the subjects of the contract antecedent to the exchange. Second, exchange requires a place for the parties to complete their transactions; that is, a market. And, markets need rules of behavior to ensure an orderly and efficient operation. The contract of exchange requires trust among the parties that the terms and conditions of exchange will be enforced and there must be rules governing the distribution of proceeds after the terms of the contract have been performed. These are rules that govern the redemption of the rights of those who are not parties to the contract directly but who have acquired rights in the proceeds because, one way or another, they or their properties have contributed to the production of what is the subject of exchange.

## **FEATURES OF RISK-SHARING FINANCE**

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An important performance dimension of risk-sharing finance, in general, and of Islamic finance in particular, is whether it is more or less vulnerable than conventional finance (which relies heavily on debt finance) to principal-agent

and informational issues. Agency issues arise because of asymmetric information between agents (entrepreneurs) and principals (investors) and the possibility that the agent's utility maximization may not maximize the utility of the principal. The agency problem is normally addressed by incorporating incentive structures in contracts for the complete sharing of information and for the agent to behave in a way to maximize rewards for the principal. In addition, there are implications on risk transfer, cooperation among economic agents, and the stability of a financial system when risk sharing is widespread and encouraged across the system.

### **Reduced Information and Agency Problems**

Informational and agency problems have generally been discussed in the context of one risk/reward sharing instrument: equity. Stiglitz (1989), for example, suggests that there are two informational problems in such cases: (i) an adverse signaling effect, which leads good firms not to issue as much equity as they might wish to for fear that it may signal poor quality; and (ii) an adverse incentive effect, which suggests that equity finance weakens the incentive for the entrepreneurs (agents) to exert their maximum effort for the highest maximum joint returns for themselves and their shareholders (principals). This happens because once the project is financed, the entrepreneur knows that the net return will have to be shared with the financier (the principal) and, therefore, may not have a strong motivation to work as hard as when the return is not shared. There are also agency and informational problems in interest-rate based debt financing. Stiglitz points out that there is an inherent agency conflict in debt financing in that the entrepreneur (the agent) is interested in the high end of the risk–return distribution. The lender (the principal) on the other hand, interested in safety, focuses on the low end of the risk–return distribution, and therefore discourages risk taking. This, Stiglitz asserts (p.57), has “deleterious consequences for the economy.” He further suggests that “from a social point of view equity has a distinct advantage: because risks are shared between the entrepreneur and the capital provider, the firm will not cut back production as much as it would with debt financing if there is downturn in the economy.”

The agency problem has been generalized to bank lending. Banks, being highly leveraged institutions that borrow short (deposits) and lend long, are exposed to an asset–liability mismatch that creates potential for liquidity shocks and instability. Stiglitz (1989) suggests that to protect their financial resources, banks generally discourage risk taking. Additionally, their behavior toward risk often creates informational problems that lead to phenomena that can be classified as market failure, such as credit rationing. By contrast, Hellwig (1998: 335) argues that there is an oft-neglected informational problem in the lending behavior of banks, which he refers to as “negative incentive effects on the choice of risk inherent in the moral hazard of riskiness of the lending strategy of banks.” This risk materialized



dramatically in the run-up to the recent financial crisis (see Askari *et al.* 2010; Sheng 2009).

Given this background, the question is whether Islamic contracting (with risk sharing) is better suited to solving this contractual dilemma through its reliance on risk/reward sharing under conditions where interest-based debt financing is prohibited. In the presence of informational problems such as asymmetric information (where only one side of the contract, usually the agent, has information not available to the other parties) there is a transaction cost as well as the cost of monitoring the agent's activities and the project(s) to be taken into account. It could be plausibly argued that in Islamic contracts asymmetric information issues would be minimized. This assertion is supported by the strict rules governing contracts, exchange and trade enunciated in the *Qur'an* and the *sunnah*. These include the need for written contracts that stipulate terms and conditions fully and transparently, the direct and unequivocal admonition that commitments to the terms and conditions of contracts must be faithfully carried out, and the strong emphasis on trust, cooperation and consultation. Rules governing market behavior also create incentives—both positive and negative—to enforce honest, transparent and compliant behavior on the part of participants. Hence, risk-sharing contracts designed under Islamic rules would mitigate informational problems (Khan and Mirakhor 1987; Presley and Sessions 1994) and could be better structured than interest-based debt contracts with incentives to maximize both parties' expected joint rewards.

In comparing risk-sharing financing and debt financing, Presley and Sessions (1994: 587) propose to consider:

*. . . a single project undertaken by a single manager, the outcome of which is determined by the level of capital investment, the level of managerial effort, and the state of nature, which we envisage in terms of some random shock to demand or technology. We examine the situations where capital is financed through *riba* [debt] and *mudarabah* [profit/loss] based contracts respectively . . . The manager is assumed to have superior information to investors in two respects: First, having signed a contract with investors the manager is able to observe the demand or productivity conditions affecting the project before committing to production decisions; and second, he alone observes his personal level of effort. Such an asymmetry is not unusual and, indeed, rationalizes the manager's involvement in the project. But whilst the manager's relative informational expertise suggests that he should be delegated some authority over production decisions, the exploitation of this expertise is problematic. Since effort is private information, the manager cannot be compensated directly for its provision. A revelation problem therefore arises with the manager's preferences over productive inputs only coinciding with those of investors if he personally bears the entire risk of adverse shocks.*

In this situation, Presley and Sessions show that a profit/loss (*mudharabah*) contract between the agent and a group of investors may result in a more efficient revelation of any informational advantage possessed by the agent over the principals. Again, and as mentioned a number of times above, it should be noted that there is an important moral dimension to Islamic risk sharing, strengthening society by enhancing cooperation between principals and bringing agents and principals closer together.<sup>3</sup>

### **Enhanced Cooperation among Economic Agents**

When risk is spread by means of risk/reward-sharing contracts, closer coordination is forged between the real and financial sectors of the economy. Risk transfer by means of interest-based debt contracts, in contrast, weakens that linkage. Particularly when risk transfer is combined with high leverage, the growth of interest-based debt contracts and their pure financial derivatives—those with little or no connection to real assets—outpace the growth of the real sector, leaving the liabilities in the economy a large multiple of real assets needed to validate them. This phenomenon is called “financial decoupling” (Menkoff and Tolkorof 2001) or “financialization” (Epstein 2006; Palley 2007), whereby finance is no longer anchored in the real sector. The result is financial instability leading to frequent crises. Reinhart and Rogoff (2009) have catalogued the high frequency of historical occurrences of crises in the conventional interest-based system and have clearly shown that all crises, whether classified as a currency or banking crisis, have been at their core a debt crisis.

### **Risk Sharing vs. Risk Transfer**

Interest rate-based debt contracts have two major characteristics. First, they are instruments of risk shifting, risk shedding, and risk transfer. Second, in such contracts, the creditor acquires a property-rights claim on the debtor, equivalent to the principal plus interest and whatever collateral may be involved, without losing the property-rights claim to the money lent. This is a violation of Islamic property-rights principles as described in Chapter 2.

The “sharing of risk” has many possible meanings, depending on how risk sharing is organized. All forms of organized risk sharing have a “mutuality” dimension in their activities. The most familiar are cooperatives of various forms designed to share risk faced by their members. Producer, consumer and farm cooperatives allow members to share risks of production, consumption, crop output and related activities. In the case of Islamic insurance such as *takaful*, a group pools its resources to insure its members against risk. Ordinary insurance, where a person buys an insurance contract for a fee (indicated by a premium), is not an example of risk sharing but of “risk transfer,” where for a fee the insured transfers part of his/her idiosyncratic risks to a firm willing to provide protection against possible

contingencies. What is missing here is the element of mutuality. Each policyholder deals directly with the insurance company without the need to know any other policyholder. For instance, if plant catches fire in a factory, the owner does not have to bear the full cost of rebuilding the plant. The insurance company can cover this because it pools the resources of a large number of such policyholders. Since fires do not occur simultaneously in all insured firms, an insurance company is expected to be in a position financially to replace one or a number of destroyed plants.

### **Stability of the Financial System**

While, in our opinion, Islamic finance would be inherently stable (see Chapter 7) because it is structured on a foundation of equity financing and risk sharing, conventional finance, a debt-and-interest-based system, has proven to be unstable. Minsky has dubbed the instability of conventional finance as “endogenous instability” because conventional finance experiences a three-phased cycle: relative calm, speculation and fictitious expansion, and then crisis and bankruptcy. Bankruptcy in conventional finance is not limited to the private sector as governments can also face bankruptcy. Again, recent historical analysis has demonstrated that all financial, banking and currency crises are, at their core, a crisis arising from debt.<sup>4</sup> In the recent past, the widespread bankruptcies of many developing countries have entailed debt cancellation or forgiveness. This is often because governments that borrowed at what were considered reasonable debt levels (normally as measured by debt: GDP) later found themselves in an unsustainable debt spiral as a result of increased debt service obligations. Some countries even found themselves with debt levels many times larger than the original amount of borrowed principal.

These developments have helped the perpetuation of a system that a number of renowned economists, including Keynes, have deemed detrimental to growth, development and to equitable income and wealth distribution. More recently, a growing literature and proposed reforms have argued that the stability of a financial system can only be assured by limiting credit expansion and leveraging; this in turn requires the elimination of subsidies that fuel moral hazard, such as subsidized deposit insurance schemes and guarantees that support “too large to fail” institutions, and restrictions to limit the creation of money through the fractional-reserve conventional banking system. Islamic finance, based on risk sharing and limiting fractional-reserve banking, has been shown to be inherently stable and socially more equitable. In such a system, there is a one-to-one mapping between the growth of financial and real sector activities, meaning that credit cannot expand or contract independently of the real sector as in the conventional system. In other words, the real and the financial sectors are closely connected and cannot be decoupled as in conventional finance.

## HISTORY OF SHARING RISK IN ISLAM

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Islamic finance based on the sharing of risk has had a long history and was the dominant form of financing investment and trade in the Middle Ages. Even today, venture capital financiers use techniques very similar to Islamic contracts such as *mudarabah*. Conventional banking, which began with the goldsmiths' practice of fractional-reserve banking, has received strong financial subsidies from central banks as lenders of last resort, from government deposit insurance schemes and from tax treatments, rules and regulations which have heavily favored debt-based contracts over risk-sharing contracts. For these and other reasons, risk sharing is still at an early stage of development in all countries, to say nothing of its even more modest international application.

Beginning with Postan (1928), economic historians have indicated that these trade flows were supported by a financial system sustained by an expanding risk-sharing credit structure based on *commenda* and *maona*.<sup>5</sup> Postan's paper was ground-breaking in that it demonstrated that: (i) economists and historians had, until then, underestimated the growth of the volume of credit in the Middle Ages, and (ii) the bulk of this credit was either *commenda* or *commenda*-like, joint risk-sharing partnerships, even if they were "miscalled or modified" as loans (Postan 1928, 1957). As we saw in Chapter 4, there is little doubt that these and other financial instruments originated in the Islamic world and were spread through Europe by scholars during the Jewish Diaspora and by Islamic merchants in Spain. The Geniza records clearly show that: (i) trade in the Middle Ages was both extensive and intensive, financed by risk-sharing partnerships; (ii) partnership was used in industrial, commercial, and in public administration projects; (iii) the Mediterranean and Indian trade were largely not based on cash benefits or legal guarantees, but on the human qualities of mutual trust and friendship; and (iv) that lending money for interest was not only shunned religiously, but was also of limited economic significance.

Moreover, research by Medieval historians has demonstrated the extensive use of risk-sharing partnerships (Adelson 1960; Arfoe 1987; Ashtor 1975, 1976, 1983; Byrne 1920, 1930; Exenberger 2004; Laiou 2002; Lieber 1968; Lopez 1951, 1952, 1955). While risk-sharing techniques continued to prevail in Europe until the mid-seventeenth century, beginning in the mid-sixteenth century, the institution of interest-based debt financing also began to be used more widely and extensively throughout Europe (Munro 2003).

The explanation for the initial utilization of this method of financing and its dominance over risk-sharing methods has been a combination of several factors, including (i) the demise of the scholastic prohibition of usury (Munro 2003; Sauer 2002); (ii) the appearance and rapid growth of fractional-reserve banking that led to the specialization of finance by intermediaries who preferred to provide financing to agent-entrepreneurs at fixed interest rates based on contracts enforceable by law and the state in order to reduce

monitoring and transaction costs; (iii) the inflow of vast amounts of gold and other riches into Europe from the colonies in the Americas and elsewhere, which reduced the incentive for the elite classes to continue financing trade on the basis of risk sharing, preferring fixed-interest debt contracts; (iv) the emergence of nation-states whose governments needed finance for wars or other state activities, but could not raise resources except by means of fixed interest-rate contracts, according to which an annuity was paid in perpetuity without the need for governments to repay the principal (Michie 2007); and, most importantly, the process of securitization in the fourteenth century, an innovation that created a revolution in mobilizing financial resources (Michie 2007). It is likely, however, that the breakdown of trust in Europe and elsewhere was a major factor for the loss of dominance of risk-sharing finance by the end of the Middle Ages.

## **CONCLUSION**

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Islamic finance is all about risk sharing. It encourages risk sharing in its many forms but generally discourages risk shifting or risk transfer, in particular interest-based debt financing. It is, in part, so designed to promote social solidarity by encouraging finance to play an integrating role. This form of finance would be inclusive of all members of society and all entities, especially the poor, in enjoying the benefits of economic growth, and to bring humankind closer together through the sharing of risk. Since risk sharing is the foundation and a basic activity in Islamic finance, it is governed by rules that, if and when observed, lead to lower transaction costs than in conventional finance.

These rules ordain trust; demand faithfulness to the terms and conditions of contracts; command compliance and prohibit violations; encourage transparency and truthfulness in transactions; prohibit interference with market forces, such as through the hoarding of commodities to force price increases or through the formation of coalitions to influence prices and/or quantities; and market supervision to ensure compliance. These, plus others mentioned earlier, when observed, reduce the incidence of informational problems that plague the conventional interest-based financial system (Mirakhor 2007).

A further implication is that finance based on risk/return sharing means that the rate of return to finance is determined *ex post*, by the rate of return on real activity rather than the reverse, which is the case when interest-based debt contracts finance production. This has a further economic implication in that risk/return-sharing finance removes interest payments from the pre-production phase of an enterprise and places it in the post-production, after-sales, distributional phase. In turn, this has price–quantity consequences. It should be clear that compliance with the behavioral rules prescribed by Islam reduces risk and uncertainty, both of which are facts of human existence. When risks to income materialize they play havoc with people's

livelihood. It is, therefore, welfare enhancing to reduce risks to income and lower the chances of its volatility in order to allow consumption smoothing.

This is accomplished by risk sharing and risk diversification (Shiller 2003). By focusing on trade and exchange in commodities and assets, Islam promotes risk sharing. Arguably, it can be claimed that through its rules (institutions) governing resource allocation, property rights, production, exchange, distribution and redistribution, financial transactions, and market behavior, the Islamic paradigm orients all economic relations toward risk/reward sharing. This can be said to be a logical consequence of an insistence on the unity of mankind since Islamic finance promotes social solidarity through risk sharing. "Massive risk can carry with it benefits far beyond that of reducing poverty and diminishing income inequality. The reduction of risk on a greater scale would provide substantial impetus to human and economic progress" (Shiller 2003). The most meaningful human progress is achieved when all distinctions on the basis of race, color, income and wealth, and social-political status are obliterated to the point where humanity, in convergence with the declaration in the *Qur'an* (31:28), truly views itself as one and united. It can be argued that the implementation of Islamic finance will promote maximum risk sharing, and thus create the potential for enhanced social solidarity (Mirakhor 2007; Askari, Iqbal and Mirakhor 2009).

Arguably, the ideal Islamic finance paradigm points to a full-spectrum menu of instruments serving a financial sector imbedded in an Islamic economy in which all rules of market behavior prescribed by Islam are fully operational. The essential function of that spectrum would be the spreading and allocating of risk among market participants rather than allowing it to concentrate among the borrowing class. Islam proposes two sets of risk-sharing instruments: (i) *muamalat* risk-sharing instruments in the financial sector, and (ii) redistributive risk-sharing instruments used by the economically more able segment of society in order to share the risks facing the less economically able. As we have seen, these are not instruments of charity, altruism or beneficence: they are instruments for the redemption of rights and the repayment of obligations. Through its redistributive mechanisms, such as *zakat*, Islam incorporates the duty of sharing into all economic relations. In other words, Islam prescribes that the more able have the duty to share in the risks faced by the poor and vulnerable social classes. As part of its incentive structure, the *Qur'an* promises that these sharing arrangements, far from reducing income and wealth of the more able, increase income and wealth by multiples.<sup>6</sup>

## ENDNOTES

1. See, for example, 2:155, 29:2 and 9:126.
2. See, for example, *Al-Tahqiq Fi Kalamat Al-Quran Al-Karim; Lisan Al-Arab; Mufradat Alfaz Al Quran*, among others.
3. See Mirakhor and Askari (2010): 158–70; and Mirakhor (2010): 8–19.

4. See Reinhart and Rogoff (2009).
5. For a full discussion of Islamic financial instruments, see Iqbal and Mirakhor (2007).
6. “Allah will destroy *al-riba* and will reward in multiples deeds of sharing” [through redistributive mechanisms provided; acts that confirm and affirm belief and rule compliance] (*Qur’an* 2: 276).

## CHAPTER 6

# The Islamic Financial System

**T**he primary role of a financial system is to create incentives for an efficient allocation of financial and real resources for competing aims and objectives across time and space. A well-functioning financial system promotes investment by identifying and funding good business opportunities, mobilizes savings, monitors the performance of managers, enables the trading, hedging and diversification of risks, and facilitates the exchange of goods and services. These functions ultimately lead to the efficient allocation of resources, rapid accumulation of physical and human capital and faster technological progress, which, in turn, feed economic growth.

Within a financial system, financial markets and banks perform the vital functions of capital formation, monitoring, information gathering, and facilitation of risk sharing. An efficient financial system is expected to perform several functions. First, the system should facilitate efficient financial intermediation to reduce information and allocation costs. Second, it must be based on a stable payment system. Third, with increasing globalization and demands for financial integration, it is essential that the financial system offers efficient and liquid money markets and capital markets. And, finally, it has to have a well-developed market for risk trading, where economic agents can buy and sell protection against event risks as well as financial risks.

Research on financial intermediation and financial systems in the past two decades has enhanced our understanding of the significance of the financial system and the crucial role it plays in economic development. For example, studies have shown that countries with higher levels of financial development grow faster by about 0.7 percent a year. Between 1980 and 1995, 35 countries experienced financial crises. These were, essentially, periods during which the financial systems of these economies stopped functioning and, as a consequence, their real sectors were adversely affected, which led to recessions. Although strong evidence points to the existence of a relationship between economic development and a well-developed financial system promoting efficient financial intermediation through a reduction in information, transaction and monitoring costs, this linkage and the direction of causation



is not as simple and straightforward as it may seem. The form of financial intermediation, the level of economic development, macroeconomic policies, and the regulatory and legal framework are some of the factors that can complicate the design of an efficient financial system.

## **FINANCIAL SYSTEMS: A FUNCTIONAL VIEW**

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A financial system is better understood when viewed as a set of functions it performs in an economy. Where a traditional view of a financial system restricts its role to mere capital mobilization, a functional view expects it to perform an expanded role. By restricting the role of the financial system to capital mobilization, its deeper role under uncertainty, where risk allocation becomes critical, is ignored. In addition, given information asymmetries and incentive problems, capital markets may offer more efficient contracting through marketing for corporate control.<sup>1</sup> Another argument favoring a functional view is that the functions of a financial system do not significantly change over time and space, while the forms and functions of institutions and intermediaries are subject to change.

Although, the most fundamental role of a financial system is still financial intermediation, the following are the core functions expected from an efficient financial system.

### **Efficient Capital Mobilization**

The ultimate function of a financial system is to perform efficient resource allocation through capital mobilization between savers and users of capital. This function is performed efficiently when the economic agents have access to capital through a liquid market for varying maturity structures; that is, from the very short- to the very long-term needs. Access to capital has to be easy, transparent, and cost effective, with minimal transaction costs and free of information asymmetries.

### **Efficient Risk Allocation**

Under uncertainty and volatile market conditions, the function of risk sharing, risk transfer, and risk pooling becomes critical in a financial system. In the absence of such functionality, the financial system will discourage projects that attract high risk but also high value-added to the economy. The “insurance” function is vital for any financial system and the availability of efficient risk-sharing facilities promotes diversification and allocational efficiencies.

### **Pooling of Resources and Diversification of Ownership**

A financial system provides a mechanism for the pooling of funds to undertake large-scale indivisible investments that may be beyond the scope of

any one individual. They also allow individual households to participate in investments that require large lump sums by pooling their funds and then subdividing shares in the investment. The pooling of funds allows for a redistribution of risk as well as the separation of ownership and management.<sup>2</sup>

### **Efficient Contracting**

A financial system should promote financial contracting that minimizes incentive and agency problems arising from modern contractual arrangements among owners, managers, regulators, and other stakeholders. Both financial institutions and financial markets have distinct incentive problems arising from the conflicting interests of investors, managers, owners, and regulators. A financial system should therefore encourage financial contracting which minimizes distortion and enhances allocation efficiency.

### **Transparency and Price Discovery**

A financial system should promote the efficient processing of information such that all available information pertaining to the value of an asset is available at the lowest cost and is reflected in the value or price of the asset. This price-discovery function leads capital being allocated to the most productive use in the most efficient manner.

### **Better Governance and Control**

Advances in modern finance have highlighted the importance of good governance, especially with respect to financial institutions and markets. A financial system should facilitate transparent governance and promote discipline in management through external pressures or threats, such as takeovers, so that any misallocation and misappropriation is minimized.

### **Operational Efficiency**

A financial system should provide for the smooth operation of financial intermediaries and financial markets by minimizing any operational risk due to failures in processes, settlement, clearing, and electronic communication. The smooth and transparent execution of financial transactions develops reputation and “trust” among economic players and therefore is beneficial in attracting external resources. This is especially applicable in the case of emerging economies that are eager to attract foreign investors.

## **COMPONENTS OF THE ISLAMIC FINANCIAL SYSTEM**

A financial system comprises different sub-systems such as banking, financial markets and capital markets, and is underpinned by a legal and commercial

infrastructure. This section discusses the theoretical design of the banking-style financial intermediation and the capital markets when operating under the *Shari'ah* legal system. When compared to the conventional system, the Islamic financial system has two distinct features: first, as we have seen, the prohibition of *riba* results in the elimination of debt and, ultimately, opportunities to create leverage in the system. Second, the financial system promotes risk sharing through modes of transactions designed to share risks and rewards on more equitable grounds.

The Islamic financial system proposes a sound banking system which operates without debt and promotes financing of the real economy. The risk-sharing nature of the system means that stock markets play a vital role and are expected to form a large segment of the system. Where the conventional system is dominated by the debt market, followed by the banking sector and the stock market, in an Islamic system there is no debt market. Researchers have argued that the debt market has been replaced by an active and vibrant market of securitized assets, bears some resemblance to the conventional asset-based debt market but has its own distinct features that enable it to behave and operate differently.

### **The Banking System**

As discussed in the previous chapter, there are several contracts or instruments which facilitate financial intermediation and banking in the Islamic financial system. Although committed to carrying out their transactions in accordance with the rules of the *Shari'ah*, Islamic banks perform the same essential functions as banks in the conventional system. That is, they act as the administrators of the economy's payments system and as financial intermediaries. The need for them in the Islamic system arises precisely for the same reason as that in the conventional system. That is, generally, their *raison d'être* is the exploitation of the imperfections in the financial markets. These imperfections include the imperfect divisibility of financial claims, transaction costs associated with the search, acquisition, and diversification for the surplus and deficit units, and the lack of market expertise and economies of scale in monitoring transactions.

This brief review of the contracts available under the Islamic economic system leads us to conclude that transactional and financial contracts (as discussed in Chapter 4), coupled with intermediation contracts, offer a comprehensive set of instruments with varying financing purposes, maturities and degrees of risk, to satisfy the needs of diverse groups of economic agents in the economy. This set of instruments can be used to design a formal model for an Islamic financial intermediary (IFI) or an Islamic bank that can perform the typical functions of resource mobilization and intermediation. By utilizing this set of intermediation contracts, an IFI will be able to offer a wide array of commercial- and investment-banking products and services.

Formally, three theoretical models have been suggested for the structure of Islamic financial intermediation and banking. The first model is commonly

referred to as the “two-tier *mudarabah*” model, while the second model is known as the “two-windows” model. As mentioned earlier, a *mudarabah* is a principal/agent contract, where the owner of the capital (investor/depositor) forms a partnership with the owner of a specialized skill (professional manager or bank) to invest capital and to share the profits and losses of the investment. The third model is the *wikala*-based model, as discussed below.

**Two-tier *mudarabah*** This model is so called because the contract is utilized on each side of the bank’s balance sheet and integrates the assets and liabilities. It envisages depositors entering into a contract with a bank to share the profits accruing to the bank’s business. The basic concept is that both the mobilization and utilization of funds are conducted on the basis of profit sharing among the investor (depositor), the bank and the entrepreneur or the users of the funds. The first tier of the contract is between the investor (analogous to a depositor) and the bank, where investors act as suppliers of funds to be invested by the bank, which acts as the *mudarib* on their behalf. The investors share in the profits and losses earned by the bank’s business related to their investments. Funds are placed with the bank in an investment account.

The liabilities and equity side of the bank’s balance sheet thus shows the deposits accepted on a *mudarabah* basis. These investment deposits are not liabilities (the capital is not guaranteed and they incur losses if the bank does so) but a form of limited-term, non-voting equity. In this model, banks can also accept demand deposits that yield no returns and are repayable on demand at par; these are treated as liabilities. This model, though requiring that current deposits be paid at the demand of the depositors, has no specific reserve requirement.

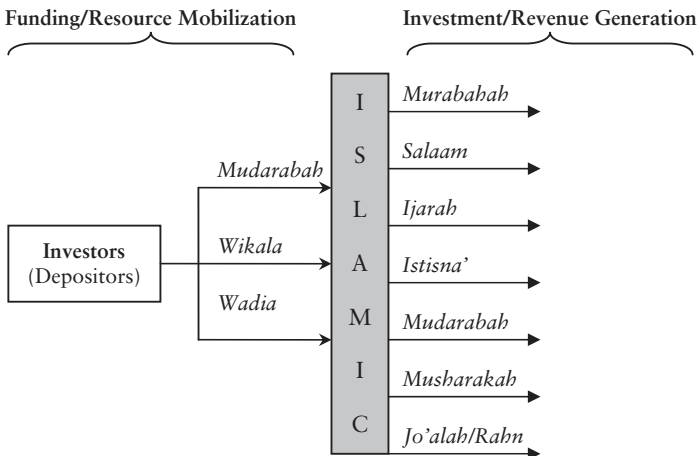
The second tier represents the *mudarabah* contract between the bank, as supplier of funds, and the entrepreneurs, who are seeking funds and agree to share profits with the bank according to a certain percentage stipulated in the contract. The bank’s earnings from all its activities are pooled and are then shared with its depositors and shareholders according to the terms of their contract. Thus the profit earned by the depositors is then a percentage of the total banking profits. A distinguishing feature of the two-tier model is that, by design, the assets and liabilities sides of a bank’s balance sheet are fully integrated, which minimizes the need for active asset/liability management, which, in turn, provides stability against economic shocks. The model does not feature any specific reserve requirements on either the investments or the demand deposits.

**Two-windows model** This model also features demand and investment accounts but takes a different view from the two-tier model on reserve requirements. The two-windows model divides the liabilities side of the bank’s balance sheet into two windows; one for demand deposits (transactions balances) and the other for investment balances. The choice of the window is left to the depositors. This model requires a 100-percent reserve

for the demand deposits but stipulates no reserve requirement for the second window. This is based on the assumption that the money deposited as demand deposits is placed as *amanah* (that is, for safe keeping) and must be backed by a 100-percent reserve, because these balances belonging to the depositors do not carry with them the innate right for the bank to use them as the basis for money creation through fractional reserves. Money deposited in investment accounts, on the other hand, is placed with the depositors' full knowledge that their deposits will be invested in risk-bearing projects, and thus no guarantee is justified. In this model, too, the depositors may be charged a service fee for the safekeeping services rendered by the bank. The provision of interest-free loans to those who may need them is limited to the funds deposited in such accounts by the depositors who think that the bank may be better equipped for this purpose. No portion of the deposits in the current account or investment accounts will be required to be used for this purpose.

**Wikala model** A third, but lesser-known, model for an Islamic bank has also been suggested. This model is based on the contract of *wikala* where an Islamic bank acts purely as *wakil* (agent/representative) of the investors and manages funds on their behalf on the basis of a fixed fee. The terms and conditions of the *wikala* contract are to be determined by mutual agreement between the bank and the clients.

Figure 6.1 shows a simplified version of how a typical Islamic bank can be structured to mobilize funding from the deposits and how the funds are invested in different instruments. The bank's relationship with the depositors could be based on a *mudarabah*, *amanah*, *wikala* or *wadia* basis on its liabilities side. However, on the assets side, the bank has more freedom and choices to invest depositors' investments. Islamic banks carry



**FIGURE 6.1** Islamic financial intermediation

*murabahah*, *ijarah*, *istisna'*, *mudarabah* and *musharakah* investments on their assets side.

The banks in the Islamic financial system can reasonably be expected to exploit economies of scale as their counterparts do in the conventional system. Through their ability to take advantage of these imperfections, they alter the yield relationships between the surplus and deficit financial units and thus provide lower costs to the deficit units and higher returns to the surplus units than would be possible with direct finance. Just as in the conventional financial system, the Islamic depository enables financial intermediaries to transform the liabilities of business into a variety of obligations to suit the preferences and circumstances of the surplus units. Their liabilities consist of investments/deposits and their assets consist mainly of instruments of varying risk/return profile. These banks are concerned with decisions relating to such issues as the nature of their objective functions, portfolio choice among risky assets, liability and capital management, reserve management, the interaction between the assets and liabilities sides of their balance sheets and the management of off-balance-sheet items—such as revolving lines of credit, standby and commercial letters of credit and bankers' acceptances.

Moreover, as asset transformers, these institutions become risk evaluators and serve as filters to evaluate signals in a financial environment with limited information. Their deposit liabilities serve as a medium of exchange and they have the ability to minimize the cost of transactions that convert current income into an optimal consumption bundle. One major difference between the two systems is that, given the prohibition against taking interest and the fact that they have to rely primarily on profit sharing, the Islamic banks have to offer their asset portfolios of primary securities in the form of risky open-ended "mutual fund"-type packages for sale to investors/depositors. In contradistinction to the Islamic system, banks in the conventional system keep title to the portfolios they initiate. These assets are funded by the banks through issuing deposit contracts, a practice that results in solvency and liquidity risks, since their asset portfolios and loans entail risky payoffs and/or costs of liquidation prior to maturity, while their deposit contracts are liabilities that are often payable instantly at par. In contrast, Islamic banks act as agents of investors/depositors and therefore create a pass-through intermediation between savers and entrepreneurs.

In short, Islamic financial intermediaries are envisioned to intermediate on a "pass-through" basis such that the returns (positive or negative) on the assets are passed to the investors/depositors. The intermediary will apply financial engineering to design assets with a wide range of risk–return profiles to suit the demands of the investors on the liabilities side.

## Capital Markets

Conventional capital markets can be broadly divided into three categories; (i) debt markets, (ii) equities or stock markets; and (iii) markets for structured securities which are hybrids of either equity or debt securities. Debt markets

dominate the conventional capital markets and debt is considered the major source of external funding for the corporate and public sectors. As the result of financial innovations and the application of financial engineering, large numbers of financial products have been developed for resource mobilization. Most of these innovations are variations on plain vanilla debt or equity security, with added options or customization.

In comparison, future Islamic capital markets will have two major categories; (i) stock market; and (ii) securitized “asset-linked” securities. Due to the prohibition of interest, the financial system will be free of any debt market and there will be clear preference for risk-sharing securities such as an exchange-traded stock market. After the stock market, a market for securitized securities issued against pool of assets which carry risk–return characteristics of underlying assets will be the major source of capital.

**Stock market** With the prohibition on interest and the preference for partnerships to share profits and losses, equity markets hold a significant place. Therefore, Islamic scholars have pointed out the necessity, desirability and permissibility of the existence of a stock market in the financial system of Islam in which transactions in primary capital instruments such as corporate stocks can take place. The conditions of the operations of these markets, in accordance with the rules of the *Shari'ah*, are much like those that prevail in markets for goods and services. For example, in such markets the rules are intended to remove all factors inimical to justice in exchange and to yield prices that are considered fair and just. Prices are just or equitable not on any independent criterion of justice, but because they are the result of bargaining between equal, informed, free and responsible economic agents. To ensure justice in exchange, the *Shari'ah* has provided a network of ethical and moral rules of behavior for all participants in the market and requires that these norms and rules be internalized and adhered to by all. Given that a proper securities underwriting function is performed by some institutions in the system (the banks, for example), the firms could then raise the necessary funds for their investment projects directly within the stock market, which would provide them a second source of funding other than the banks.

A stock market operating strictly in accordance with Islamic rules is envisioned to be one in which the disposal of investible funds is based on the profit prospects of the enterprises, in which relative profit rates reflect the efficiencies between firms, and in which profit rates (as signals coming from the goods market) are not distorted by market imperfections. Such a market might be expected to allocate investible funds strictly in accordance with expected investment yields; that is, resources would be allocated in order to finance higher-return projects. Stock markets would also be capable of improving allocation of savings by accumulating and disseminating vital information in order to facilitate comparisons between all available opportunities, thus reflecting the general efficiency in resource allocation expected from a system that operates primarily on the basis of productivity of investment.

If we assert that Islamic finance is all about risk sharing, then the best instrument for this is a stock market “which is arguably the most sophisticated market-based risk-sharing mechanism” (Brav *et al.* 2002). Developing an efficient stock market can effectively complement and supplement the existing and future array of other Islamic finance instruments. It would provide the means for business and industry to raise long-term capital. A vibrant stock market would allow the risk diversification necessary for managing aggregate and idiosyncratic risks. Such an active market would reduce the dominance of banks and debt financing where risks become concentrated and create system fragility (Sheng 2009).

Idiosyncratic risks have a potential impact on the liquidity of individuals. With an active stock market, individuals can buffer idiosyncratic liquidity shocks by selling equity shares on the stock market. Firms too can reduce their liquidity risk through active participation in the stock market and can reduce risks to the rate of return to their own operation—such as productivity risk—by holding a well-diversified share portfolio. Thus incentives are created for investment in more long-term, productive projects. Importantly, by actively participating in the stock market, individuals and firms can mitigate the risk of unnecessary and premature liquidation of their assets due to liquidity and productivity shocks (Pagano 1993). Moreover, an active and vibrant stock market creates strong incentives for a higher degree of technological specialization, through which the overall productivity of the economy is increased. Without sufficiently strong risk sharing through participation in the stock market, firms avoid deeper specialization, fearing the risk from sectoral demand shocks (Saint-Paul 1992).

The reason stock markets are such an effective tool for risk-sharing purposes is that each share represents a contingent residual equity claim. In the case of open corporations, in particular, their common stock are “proportionate claims on the pay offs of all future states” (Fama and Jensen 1983). These returns are contingent on future outcomes. Stock markets that are well-organized, regulated and supervised are efficient from an economic viewpoint because they allocate risks according to the risk-bearing ability of the participants. A solution to the problem of how best to allocate the risks of the economy was provided by the famous Arrow-Debreu model of competitive equilibrium (1954; see also Arrow 1972). According to this model, efficient risk sharing requires that the risks of the economy are allocated among participants in accordance with their “respective degree of risk tolerance” (Hellwig 1998).

An economy in which there are contingent markets for all commodities—meaning that there are buyers and sellers who promise to buy or sell given commodities “if and only if” a specified state of the world occurs—is known as an Arrow-Debreu economy. In such an economy, it is the budget constraint of the participants that determines how much of each contingent commodity they can buy at prevailing market prices. Since these commodities are contingent on future states, they are risky. Therefore, individual budget constraints determine the risk-bearing ability of each market participant. Arrow himself



recognized that requiring such a market is unrealistic: “Clearly, the contingent commodities called for do not exist to the extent required, but the variety of securities available on the modern markets serve as a partial substitute” (Arrow 1972). Such securities are referred to as Arrow Securities. They are contingent securities; they promise a certain amount of money to be delivered if a given state of the world obtains and nothing otherwise. The use of Arrow Securities, whose payoffs could be used to purchase commodities, would reduce the number of markets required while replicating the efficiency of the risk allocation of complete contingent markets. Associated with complete markets are complete contracts. These are agreements contingent on all states of nature. In the real world, not all contracts can cover all future contingencies. Therefore, they are said to be incomplete contracts and may indicate inefficiencies in exchange. However, as suggested above, optimal contracts can be devised provided there is mutual trust between the parties to the contract. That would be a simple contract with provisions for modifying the terms and conditions should contingencies necessitate change.

Not all Arrow Securities would satisfy *Shari’ah* requirements as some may well represent contingent debt contracts to deliver a fixed predetermined amount of money if a given state of the world occurs. These may not, therefore, represent an ownership claim either. Shares of common stock of open corporations do meet these requirements. They are residual ownership claims and receive a proportionate share of net returns contingent on future outcomes. The Arrow-Debreu model had other assumptions, such as no transaction costs and full information, which are also violated in the real world. Arrow recognized this limitation as well, suggesting that the model “is as much a normative ideal as an empirical description. It is the way the actual world differs from the criteria of the model which suggests social policy to improve the efficiency with which risk-bearing is allocated” (1972: 127), meaning that government action may become necessary “to improve the efficiency with which risk-bearing is allocated.” Moreover, Arrow emphasized that the model is about efficient allocation. It does not and cannot mean optimal distribution. It is possible to have an efficient economy but poor distributional results. The need for government intervention to correct for “the way the actual world differs from the criteria of the model” has echoes in a large body of research that focuses on these deviations—for example, market-failure literature—and suggests ways and means of correcting these shortcomings with government policy actions (see, for example, Stiglitz 1989; Arndt 1998).

Financing a portion of a government’s budget through the stock market, instead of resorting to debt financing as is the practice the world over, has advantages, including the following:

- It can energize a stock market—provided that all preconditions regarding human capital, legal, administrative and regulatory framework are met—and helps strengthen the credibility of the market.
- It deepens and broadens the stock market.

- It demonstrates that stock markets can be used as a tool of risk and financial management.
- It reduces reliance on borrowing, thus imparting greater stability to the budget and mitigating the risk of “sudden stops.”
- It has a positive distributional effect in that the financial resources that would normally go to service public debt can now be spread wider among the people as returns to the shares of government projects.
- It enhances the potential for financing a larger portfolio of public-goods projects without the fear of creating an undue burden on the budget.
- It makes the task of monetary management simpler by limiting the amount of new money creation.
- It promotes ownership of public goods by citizens. This should have a salutary effect on the maintenance of public goods as it creates an ownership concern among the people and to some extent mitigates “the tragedy of commons.”
- It has the potential to strengthen social solidarity.
- It also has the potential to promote better governance by involving citizens as shareholder-owners of public projects.
- It provides an excellent risk-sharing instrument for financing long-term private-sector investment.
- It is also an effective instrument for firms and individuals to use to mitigate liquidity and productivity risks.
- By providing greater depth and breadth to the market and minimizing the cost of market participation, governments convert the stock market into an instrument of international risk sharing, as other countries and their people can also invest in the market.
- It will help demystify Islamic finance and will create an environment of cooperation and coordination with international finance.

The design of risk-sharing instruments to be issued by governments is not difficult. These instruments can be traded in the secondary market if the shareholders experience a liquidity shock. Their rate of return can be structured as an index of return tied to the rate of return of the stock market. If the domestic stock market is not deep, then an index of regional and/or international stock market returns can be included. The argument is that since social rates of return to public goods are much higher than to privately produced goods and services, the investment in public goods should have a rate of return at least as high as the return to the stock market to promote efficient resource allocation. Of course, since governments are usually less risky, the rate of return to government-issued shares has to be adjusted downward to take account of governments’ risk premium. Depending on the country and the interest rate its government pays on borrowed money, it is not likely that the rate of return it would pay to holders of equity shares it issues—adjusted for the credit rating of the government as reflected in lower risk—would be any higher than the rate of interest. Even in the unlikely event that a few basis points more have to be paid, the tradeoff would be

worthwhile considering the positive contributions the instrument would make to the economy and to society.

**Securitized “asset-linked securities” market** In addition to the standard stock market, there is another capital market that provides a platform for trading asset-linked securities. The notion in Islamic finance of binding capital closely and tightly to a real asset encourages the issuance of securities against a portfolio of assets. For example, an asset financed through *ijarah* or *istisna’* can be used as collateral to issue securities linked to the payoffs and cash flows generated by the underlying assets. The assets of an Islamic financial intermediary based on *ijarah* or *istisna’* have interesting features. First, it provides a wide range of maturity structure; that is, from short-term trade financing to medium-term lease-based assets. A second and equally important feature is that the risk profiles of such assets carry relatively low credit risk because the payoffs are directly linked to the predetermined cash flows. Finally, predetermined cash flows and fixed maturities make these securities a close substitute for fixed-income securities which could be desirable to some investors. A portfolio of such assets could be securitized to create a financial security that can be traded on an organized capital market, in both the primary and the secondary markets.

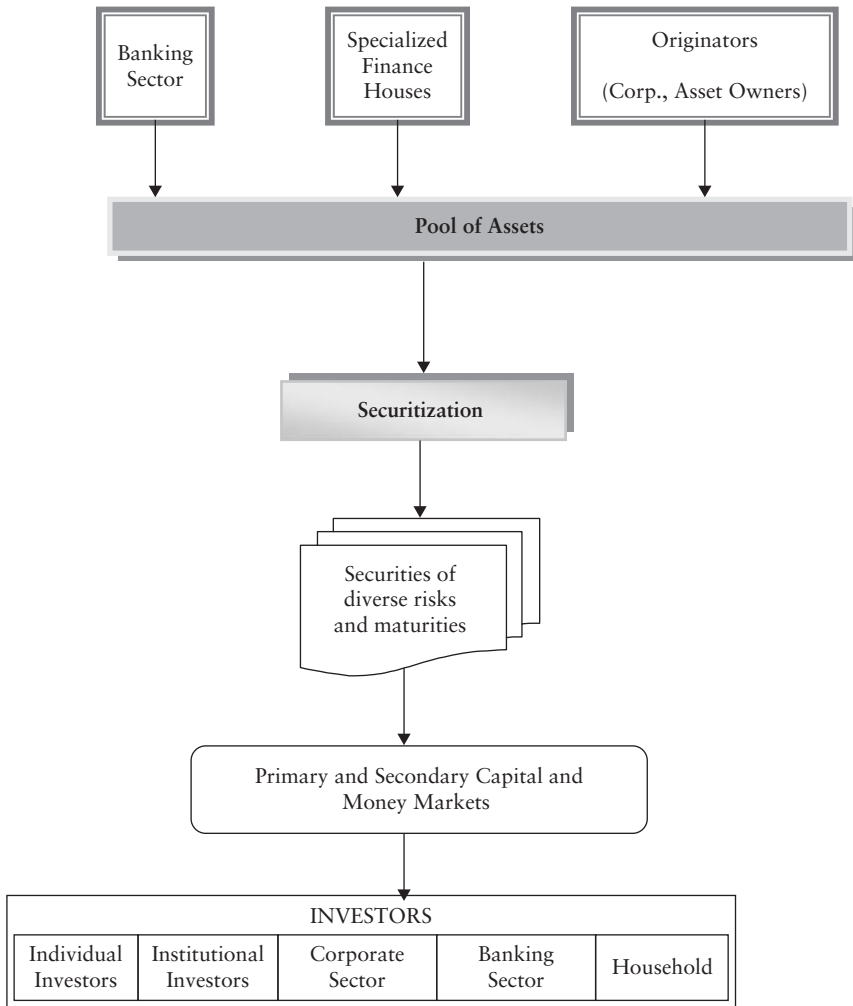
The securitization technique has been criticized in the conventional system in the aftermath of the financial crisis of 2007–08 where securitized securities with complex embedded derivatives led to the meltdown. A serious postmortem of the crisis will probably exonerate the process of “securitization” as such and will put the blame elsewhere. The technique of securitization by which a marketable security is developed that is backed by the payoffs of the underlying asset has a number of merits. As will be discussed below, a judicious application of securitization can lead to the development of a vibrant market for “asset-linked” securities which can play a critical role in the financial system.

Securitization involves collecting homogenous assets with a known stream of cash flows into a pool, or portfolio, which is independent of the creditworthiness of the financier. This pool of assets is used to issue securities, which can be marketed to different classes of investors ranging from individuals to institutional investors. The securities are structured in such a way that all payoffs in terms of risks and returns are “passed-through” to the investors or the holders of the securities. The net result is that it is as if the investor has the direct ownership of underlying assets, shares the returns of the assets and, finally, is exposed to all the associated risks. These securities are, in turn, traded and negotiated freely on organized exchanges.

The process described above is readily and directly applicable to the development of securitized securities in an Islamic financial system. The point of departure from the conventional system depends on the way the returns and risks are shared with or passed on to the investors. A securitized security in the conventional system is referred to as an asset-backed security because, in most cases, the security owner is exposed to the credit risk of the

guarantor and to the risk to the underlying asset’s returns and risks; or, in other words, the risks/returns of the underlying assets do not “flow” back to the security owner. Although the security is *backed* by the assets in the pool, its payoffs are not *linked* to the security risk/return profile. Arising from this distinction, we argue that a securitized security in Islamic finance will be designed to be linked to the payoffs of the underlying asset and we therefore refer to such securities as “asset-linked” securities.

Figure 6.2 shows the process of securitization of asset-linked securities. Different financial intermediaries and economic agents will hold assets



**FIGURE 6.2** The structuring of asset-linked securities

which can qualify to be pooled together and the holders of these assets may desire to sell these assets in the market for various valid reasons. For example, Islamic banks may have accumulated a portfolio of leases (*ijarah*) which it can sell through securitization to free up its investible funds. Similarly, a specialized finance house or corporation can offer assets to be securitized.

The pool of assets is converted into marketable securities through the process of securitization which can be carried by either specialists in securitization or by an Islamic financial intermediary. The process of securitization ensures that the security is structured to match the risk and return profile demanded by diverse group of investors. For example, some investors may have a lower risk appetite than others or may be looking for longer maturities. The structuring of the security will ensure that the designed security is attractive to the investor and offers portfolio management and diversification benefits.

These asset-linked securities are traded in the market through competitive bidding to the pool of investors, which includes individuals, Islamic bank portfolios, institutional investors such as pension funds or insurance funds, and corporate treasuries. The investors trade these securities in primary and secondary markets. There is no reason to believe that the targeted investors will be limited to Islamic investors the risk/return profile of the security may also be attractive to conventional investors. The great interest in mortgage-backed securities in the conventional system shows the appetite for securitized products.

Table 6.1 lists the main differences between the conventional and Islamic securitized securities. In the former, the resultant security is a debt security with a predetermined stream of coupon payments and where principal is guaranteed (often through formal credit guarantees). In the latter, the security's cash flow stream will depend on that of the underlying asset and the principal will not necessarily be guaranteed. It is possible that in some cases, depending on the underlying asset, the security owner may have a high certainty of full repayment of principal but it may not be guaranteed.

The holder of a conventional asset-backed security does not own the underlying asset but the ownership control in an asset-linked security will be higher. The asset ownership is also determined by how much recourse the security owner has to the underlying asset. One of the major differences between the two types of securities is the variables used in the pricing. In a conventional mortgage-backed security, the typical pricing model uses variables such as probability of prepayment or refinancing, which depend on the expected interest-rate levels in the future, loan-to-debt ratio, the credit rating of the borrower, and so on. Since its principal is guaranteed through credit-enhancing mechanisms, the security is priced like a coupon-bearing debt security with an early prepayment option. In the case of an Islamic security, however, the price will depend on typical variables determining the expected periodic cash flows in the future but will also have to factor in the expectation of the future market value or the residual value of the underlying asset. In the absence of any guarantee of principal, the redemption value

**TABLE 6.1** Comparison of conventional and Islamic securitized securities

	Conventional asset-backed security	Islamic asset-linked security (Theoretical—not current practice)
Security type	Fixed income (debt-based)	Hybrid depending on the contract and underlying assets. Could be quasi fixed income or risk sharing or both
Ownership	Security holder does not own the asset but owns a security against the asset	Security holder has ownership interest in the underlying asset
Recourse	Security holder does not have recourse to the asset in the event of distress	Security holder has recourse to the underlying asset in the event of distress
Pricing variables	Based on expected yields, current interest rates, and other variables influencing the asset owner's decision-making to prepay or refinance. Creditworthiness of asset owner or the guarantor influences prices	Based on expected yields, current levels of returns, market value of underlying assets, and expected value of the underlying asset at maturity
Linkage with asset value	No direct link to the market value of the underlying. Indirect variables such as loan-to-value (LTV) ratio are used as proxy.	In general, final or other payoffs may be linked to market value of the underlying asset.
Principal protection	Principal is protected irrespective of the value of underlying assets	Principal is linked to market value of underlying
Risk shifting	Risk transfer	Risk sharing

of the security will depend on the expected market value of the asset at the time of maturity of the security.

Finally, due to multiple layers of origination and credit enhancements, the risks are transferred to a third party in the event of a default. The risk sharing is minimized and investors are protected from the performance of underlying assets but are still exposed to the creditworthiness of the guarantor. In an asset-linked security, the price of the security will incorporate the riskiness of the underlying assets and the investor will be sharing

the risk through fluctuations in the security's price. The investors will be exposed to the risks of the asset portfolio and will share the losses rather than being exposed to the creditworthiness of the guarantor. This will put greater emphasis on the need for prudent selection of underlying assets, close monitoring of asset performance, and encourage securitization specialists to structure high-quality securities which offer valuable and secure investment opportunities.

Given that Islamic capital markets are based on a vibrant stock and asset-linked securities market, the door is open for the investors to apply portfolio management techniques to develop optimized portfolios with an unlimited number of different risk–return profiles. Whereas the stock market may have higher volatility, asset-linked securities are expected to exhibit less variance and thus provide vast diversification benefits. The markets complement each other, have different investor characteristics, and serve as venues for resource mobilization.

Table 6.2 provides a comparison of a stock market security and an asset-linked security.

**TABLE 6.2** Comparison of stock and asset-linked security

	Stock-market security	Asset-linked security
Risk	Business risk	Asset risk Credit risk
Collateral	Business assets (tangible and intangible) Equity capital	Underlying assets
Returns	Depends on business growth and earnings; residual claim on assets	Depends on cash flows of underlying assets
Cash flows	Less predictable	Deterministic
Volatility	Medium to high, subject to sector or business volatility	Mostly low but could be medium to high depending on the nature of securitization and degree of risk sharing
Contractual agreement	Equity share Capital ownership	Diverse, ranging from leases (rental) to equity (risk-sharing). Could be amortizing or rental stream or pass-through
Recourse	None. Last claim on residual assets	Ownership of underlying assets
Pricing	Based on the expected growth and the earnings of the business	Creditworthiness of asset holder and the market value of underlying asset

The success of an asset-linked securities market will largely depend on the supply and variety of assets, and on the ability to innovate security structures with distinct features such as return, risk, maturity, creditworthiness, geographical exposure, sector (technology, manufacturing, etc.) exposure, and currency exposure. It can be argued that, as the underlying pool of Islamic assets expands, a vibrant market for securitized securities will develop and in its fully developed form such a market will offer great opportunities for portfolio and risk management to all classes of investors.

From this, the following conclusions about the capital markets can be drawn:

- The elimination of debt markets will not deprive investors of diverse investment opportunities.
- Asset-linked securities offer a better value proposition than the plain debt security.
- With the application of financial engineering or spanning, the capital market can develop securities and financial products with the full spectrum of risk profiles.

### **Derivative Markets**

No discussion of financial systems can be complete without a mention of derivative markets, which perform the following three main functions:

1. **Risk reduction and redistribution:** It is widely accepted that the primary function of the derivatives market is to facilitate the transfer of risk among economic agents. Financial derivatives unbundle the risks associated with traditional domestic and cross-border investment vehicles, such as foreign exchange, interest rate, market, credit, and liquidity risks. Derivatives facilitate the redistribution of these risks from those who do not want or are not capable of hedging them to those who are in a better position to manage them.
2. **Price discovery and stabilization:** The existence of derivatives markets for futures and options is expected to increase information flows into the market and is known to lead to a price-discovery function in the financial sector.
3. **Completeness of markets:** Another critical function of the derivatives market is that it can enable individuals and firms to customize and monetize payoffs that might not otherwise be possible without considerable transaction costs.

Research on the scope of derivative securities and trading of risk in an Islamic financial system is in its early stages. *Shari'ah* scholars are working on assessing the permissibility of derivatives such as forwards, futures, options and swaps. Unlike financing and investment instruments, which have been in existence for several centuries and, therefore, have been taken up



by *Shari'ah* scholars, financial derivatives as independent financial contracts that can be traded have no precedents in classical Islamic jurisprudence. As a result, the research in this area is still evolving. While there have been a number of studies, these have not resulted in any concrete conclusions.

The majority view of *Shari'ah* scholars is that an option is a promise to sell or purchase a thing at a specific price within a stipulated time, and such a promise cannot be the subject of a sale or purchase. As the resolution of the Islamic Fiqh Academy, Jeddah, asserts:

*Option contracts as currently applied in the world financial markets are a new type of contract which do not come under any one of the Shari'ah nominate contracts. Since the subject of the contract is neither a sum of money nor a utility nor a financial right which may be waived, the contract is not permissible in Shari'ah.*<sup>3</sup>

These objections are based on the prohibition of *mysir* and *gharar*. The *Qur'an* prohibits speculative risk, warning the faithful to avoid games of chance in which the probability of loss is much higher than the probability of gain. Conventional finance argues that speculators play an important role in price discovery and price stabilization, but what it does not recognize is that excessive and large-scale speculation can become a factor for instability in the system. In Islam, gambling of any form is strictly discouraged on the grounds that it does not create value in society and an addiction to gambling is detrimental to economic growth.

In short, the debate on derivatives will continue but, at present, they have very limited acceptability in Islamic finance and are unlikely to be as widespread as in conventional markets in the near future. However, as Islamic finance grows, its own version of hedging mechanisms and financial products with embedded options will emerge. The prohibition of derivatives, however, does not preclude an Islamic financial intermediary from designing a risk-sharing or risk-mitigating scheme. This can be achieved through the creation of a risk-mitigating instrument synthetically using existing instruments. While it was shown in Chapter 5 that Islamic financial instruments promote risk sharing across the system, there will be opportunities for financial intermediaries to utilize these contracts and the freedom to contract in designing products and services to hedge against exposures.

### **Primary, Secondary and Money Markets**

The development of a secondary market is important and essential to the development of a primary market. All savers, to some degree or another, have a liquidity preference. This liquidity preference, although perhaps to a different extent and magnitude, can exist in an Islamic system or in any other system. To the extent that savers can, if necessary, sell securities quickly and at low cost, they will be more willing to devote a higher portion of their savings to long-term instruments than they would otherwise. Since

the probability is high that primary securities in the Islamic system would be tied to the projects and management of particular enterprises, there are various risks—those relating to the earning power of the firm and of its default, for example—that must enter into the portfolio decisions of savers.

There is another class of risk that is closely tied to the secondary market for a given security. If two securities are identical in all respects except that one has a well-organized secondary market while the other has a poor one, investors in the latter run the risk of liquidating their securities holdings at depressed prices compared to the prices offered for the former. Moreover, the degree of this marketability risk is directly related to factors such as the extent of the knowledge of the participants as well as the number of traders in the market, which determine the depth and the resilience of the secondary markets.

In an Islamic system, perhaps more than in any other, both the primary and secondary markets require the active support of the government, the central bank and regulators, not only in their initial development and promotion but also in their supervision and control, in order to ensure their compliance with *Shari'ah*. In secondary markets, in particular, traders and market-makers need the support and supervision of the central bank if the markets are to operate efficiently. For secondary markets to be able to transform an asset into a reliable source of cash for an economic unit whenever the latter needs it, they must be dealer markets, in which there is a set of position users who trade significant amounts of assets. In the traditional interest-based system, these position takers are financed by borrowings from banks, financial intermediaries, and other private cash sources. Since in the Islamic system refinancing on the basis of debt is not permitted, reliable and adequate sources of funds must be provided by the central bank. There will have to be arrangements through which the central bank and the regulator can, at least partially, finance secondary markets and supervise them fully.

In a conventional interest-based system, the money market becomes a means by which financial institutions can adjust their balance sheet and finance positions. Short-term cash positions, which exist as a result of imperfect synchronization in the payment period, become the essential ingredient for the presence of the money markets. The money market, in this case, becomes a source of temporary financing and an abode of excess liquidity in which transactions are mainly portfolio adjustments, and no planned or recently achieved savings need be involved.

In an Islamic financial system, the liabilities that an economic unit generates are, by necessity, closely geared to the characteristics of its investment. On the other hand, the liabilities that financial intermediaries generate are expected to have nearly the same distribution of possible values as the assets they acquire. Hence, given that debt instruments cannot exist, money market activities will have different characteristics from their conventional counterparts. As stated earlier, the existence of a poorly organized money market combined with a poor structure of financial intermediation leads to

a situation where money becomes more important as a repository of wealth than would be the case with more active financial intermediation.

The existence of broad, deep, and resilient markets in which the assets and liabilities of financial intermediaries can be negotiated is a necessary feature of supportive money markets. Additionally, to the extent that money markets lower the income elasticity of demand for cash and finance investment projects, their importance in an Islamic financial system cannot be overlooked. Even in this system, money markets will enable financial units to be safely illiquid, provided they have assets that are eligible for the money market. In this system, too, the basic source of the money in the market is the existence of pools of excess liquidity. One main activity of money markets in this system is to make arrangements by which the surplus funds of one financial institution are channeled into profit-sharing projects of another. It is conceivable that, at times, excess funds may be available with some banks, but no assets, or at least assets attractive enough in their risk–return characteristics, on which they can take a position. On the other hand, there may be banks with insufficient financial resources to fund all available opportunities, or with investment opportunities requiring commitments of what the banks may consider excessive funds in order for them to take a position and for which they may prefer risk sharing with surplus banks. In such a case, the development of an interbank funds market is a distinct possibility. It may also be possible for some banks to refinance a certain position that they have taken by agreeing to share their prospective profits in these positions with other banks in the interbank funds market. Finally, since most of the investment portfolios of banks will contain equity positions of various maturities, it is also possible that a subset of their asset portfolios comprising equity shares can be offered in the money market in exchange for liquidity.

Here, too, effective and viable money markets in an Islamic system will require active support and participation by the central bank, particularly at times when the investment opportunities and/or the risk–return composition of projects and shortages of liquidity in the banking system may require a lender of last resort. Such money markets must be flexible enough to handle periods of cash shortage for individual banks, based on some form of profit-sharing arrangement. The challenge for money markets, as well as for the secondary markets, in an Islamic financial system is the development of instruments that satisfy the liquidity, security and profitability needs of the markets while, at the same time, ensuring compliance with the rules of the *Shari'ah*—that is, the provision of uncertain and variable rates of return on instruments with corresponding real-asset backing.

### **EFFECT ON SAVINGS AND INTERMEDIATION**

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It can be argued that in an Islamic economic system, particularly with its emphasis on hard work and moderation in consumption, savings would be enhanced. Moreover, it seems intuitively plausible that since, in normal

circumstances, the rate of return on an investment must, generally, be higher than the rate of interest paid to depositors, replacing interest rates with a rate of return should increase the reward on savings. Consequently, insofar as saving is responsive to reward, incentives would be created for increasing savings (it should be noted that an increase in return to depositors is a function of the share parameter negotiated between the banks and their depositors on the one hand, and that negotiated between the banks and their customers—that is, agent-entrepreneurs—on the other).

Concerns have been expressed, however, that the adoption of an Islamic financial system may lead to a reduction in savings and the retardation of financial intermediation and development. This assertion is based on three different arguments. One argument suggests that since, in an Islamic system, the individual's income is subject to ordained levies, their savings will be lowered. The second argument asserts that since savings receive no reward from interest rates, there is no incentive for individuals to save. The third argument maintains that savings will decrease because of increased uncertainty of future prospects for Islamic financial systems. For the first argument to hold, it must be assumed that the ordained levies in the Islamic system are, in fact, larger than the numerous taxes that income and wealth are subjected to in other systems; this assumption ultimately requires empirical validation, but *prima facie* it appears to be baseless. But even if such an assumption were to be true, the next point to consider is the fact that these levies are transfers from groups with a low marginal propensity to consume to those with a higher marginal propensity. The question is whether or not, as a result of this transfer, aggregate demand will get sufficient impetus so as to increase investment, employment and income, so that aggregate saving is also enhanced, particularly in a demand-constrained economy.

The second argument stems from a misunderstanding about Islam's prohibition against interest. It is thought that this prohibition is tantamount to an imposition of a zero rate of return on investment and capital. This view clearly reflects confusion between rate of return and rate of interest. While the latter is forbidden in Islam, the former is not only permitted but is, in fact, encouraged.

The third argument is based on the proposition that increased uncertainty in the rate of return affects savings adversely. This view, however, is neither unique to an Islamic system nor unknown in the conventional economics literature. Alfred Marshall, for example, maintained, on the basis of casual observation, that uncertainty tends to reduce savings. Only recently has this question been subjected to rigorous theoretical analysis, with conflicting results. The few studies that have analytically or otherwise considered this question within the context of the Islamic framework have tended to neglect the risk–return tradeoff aspects of the question. That is, the effects on savings of a fixed and certain rate of return are compared with effects on saving when only uncertainty is taken into account. The result shows a reduction in savings. It should be obvious that if the expected value of return is kept constant while its variance is increased—that is, when increased risk

is not compensated by higher returns—savings will be adversely affected. This conclusion is, however, far from obvious when both risk and return are allowed to vary. The theoretical conclusion of an analysis in which risk and return variability have both been taken into account depends on assumptions regarding the form of the utility function and its risk properties, such as the degree and the extent of risk aversion, the present future discount and the degree to which the future is discounted, whether or not increased risk is compensated by higher return and, finally, the income and substitution effects of increased uncertainty. It has been shown, for example, that when future non-capital income is subjected to risk, decreasing temporal risk aversion is a sufficient condition for increased uncertainty about future income to decrease consumption and increase savings. With respect to capital income, the combined substitution and income effects of increased uncertainty are indeterminable. Other studies have shown that under reasonable assumptions, in face of uncertainty, there does exist a precautionary demand for savings. The theoretical analysis has not, thus far, provided a clear-cut hypothesis in this regard and it becomes an empirical question whether savings will increase or decrease in an Islamic system. It can, however, be reasonably expected that *a rational planner may make more provision for the future when the future becomes more uncertain*; an expectation which, *prima facie*, cannot be contradicted by any of the features underlying an Islamic economic system.

It has already been indicated that incentives exist in an Islamic system for efficient intermediation, and system characteristics, most importantly the prohibition against interest, create an important opportunity for the integration of financial markets. Since legislative action would make the charging of interest illegal and society's value-orientation would create a stigma for those charging interest, unorganized markets could not operate on the basis of interest. They would have to allocate their resources on the basis of profit sharing and it would be their relative ability and efficiency in exploiting market imperfections, *vis-à-vis* that of organized markets, that would determine how much of financial activities would be carried out by the unorganized markets.

The productivity of small-scale investment, the extent of the familiarity with agent-entrepreneurs and their ability to closely monitor projects, may still allow unorganized financial markets to exist, but it can be reasonably expected that the spread between the rates of return in an organized and an unorganized market would not be as wide as that which exists in the two markets in an interest-based developing economy where the organized financial sector is regulated and interest rates are kept artificially low.

It can be stated, however, that the other problems plaguing the financial development of most developing countries, such as discrimination against small and indigenous entrepreneurs, the shallowness of financial markets and the limited availability of asset choices for savers will not be automatically eliminated by the introduction of an Islamic financial system. In fact, the introduction of an attractive and varied menu of asset choices will,

## STATEWIDE IMPLEMENTATION: LESSONS LEARNT

The process of making the economic and financial system compatible with Islam was undertaken in the Islamic Republics of Iran, Pakistan and Sudan (though under different political, economic, and cultural circumstances). In each case, this process was not undertaken in a carefully thought-out manner and with the understanding of Islamic principles and jurisprudence but, rather, in an ad-hoc fashion. A thorough examination and evaluation of the experience in each country would take a separate volume but some of the reasons for the lack of success are summarized below:

- Implementing a banking system merely by removing interest from the system without preparing the groundwork of financial liberalization and strengthening the necessary institutions required by Islam (such as those that protect property rights and enforce contracts) is not realistic. Modern banking and financial systems require a sound legal infrastructure to support the system. Full implementation of the Islamic system demands conformity of the legal environment with the rules of the *Shari'ah*. The task of introducing changes in the common and civil law, regulations and investors' rights is a massive task, which often does not get priority in countries where there is social and political instability.
- The institutional infrastructure for development of an efficient financial system did not exist. Institutions designed to promote transparency, to protect the rights of creditors and to encourage good governance were either non-existent or too weak to be effective.
- The economies of these countries are still developing. There are significant budget deficits and government involvement in borrowing leads to inefficiencies in the economy, putting strain on the banking and financial sectors.
- In some cases, there was a lack of political will. Transforming the financial system is not an easy task and therefore requires commitment and support from the political forces in the country. In Pakistan, for example, the process of Islamization was started by a military regime but was not taken seriously by subsequent governments.

There is a great shortage of expertise and skills in the financial sector. These shortages hamper the development of new products. In addition, it is hard to find knowledgeable people trained in *Shari'ah* as well as in the domains of economics and finance.

perhaps, be far more important in the mobilization of savings in an Islamic system than in a conventional interest-based system. Moreover, effective financial intermediation requires more-efficient resource allocation in an Islamic financial system. It can be expected that the monitoring costs would be higher, and the need for specialization and expert portfolio diversification and management far greater, at least in the initial phases of operation after the adoption of the Islamic system, than in a conventional interest-based system. While the integration of financial markets should present no difficulties in the Islamic system, the provision of a positive high rate of return, although not requiring any arbitrary decision by the authorities to increase the nominal yield, would necessitate the mobilization of indigenous entrepreneurial ability through efficient project selection and the allocation of financial resources based on relative expected profitability of projects, rather the solvency creditworthiness or the collateral strength of the agent-entrepreneurs. If the bias against indigenous and small entrepreneurs persists and financial resources continue to flow to well-established and large entrepreneurs and/or the financial markets remain weak and shallow and asset choices limited, adoption of an Islamic financial system will not achieve its full potential in promoting economic development and growth.

#### **ENDNOTES**

1. Ul-Haque (2000).
2. Ibid.
3. IRTI, Resolutions and Recommendations of The Council of the Islamic Fiqh Academy: 1985–2000, Islamic Development Bank, Jeddah, Saudi Arabia: 131.

## CHAPTER 7

# The Stability of the Islamic Financial System<sup>1</sup>

**T**he financial crisis that began in August 2007 is considered by many to be the worst since the Second World War. Representing the collapse of trillions of dollars of fictitious credit derivatives and the meltdown of uncontrolled credit growth, the scope of this crisis and its intensity have kept increasing and could potentially continue on a downward path for some time to come.

The crisis has crippled the financial system of many advanced countries, and has claimed as victims long-established banking institutions that were deemed “too big to fail.” Large bailouts by governments and massive liquidity injections by central banks may have served only to fan the flames. Capital markets have frozen and stock markets around the world have crashed, wiping out trillions of dollars in share value and in retirement investment accounts. The level of economic uncertainty is unprecedented over the last 80 years.

While the full impact of the crisis cannot yet be calculated, it has slowed down economic growth in many industrialized countries, increased unemployment to levels not seen in 25 years, triggered food riots and energy protests in many vulnerable countries, imposed extraordinary fiscal costs with unprecedented government bailouts and fiscal stimuli, and perhaps threatened the lives of more than 100 million people around the world. Notwithstanding its far-reaching and devastating consequences, the crisis has made the quest for financial stability a pressing and fundamental issue.

### **WHAT IS FINANCIAL STABILITY?**

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Financial instability has been a recurrent phenomenon in contemporary economic history, affecting countries to varying degrees and resulting in massive unemployment and lost economic output. The most enduring crisis was the Great Depression of 1929–33. Eminent economists who lived through



that period fought to establish a banking system capable of preserving long-term financial stability.<sup>2</sup> Although they were unaware of Islamic finance and its principles, their proposals were a natural restatement of some of the basic pillars of Islamic finance. The Chicago Plan basically divided the banking system into two components: (i) a warehousing component with a 100-percent reserve requirement, and (ii) an investment component with no money contracts and interest payments, where deposits are considered as equity shares and are remunerated with dividends, and maturities are fully observed. In the aftermath of the Chicago Plan and in the subsequent literature it has become clear that only a financial system along Islamic principles is immune to instability.

Financial stability is a basic concept in finance. It applies to households, firms, banks, governments, and countries. It is an accounting concept conveying notions of solvency, or equilibrium. For an entity, financial stability can be defined as a regular liquid treasury position, whereby the sources of funds exceed the uses of those funds. The sources of funds are diverse and include income streams (salaries, transfers, taxes, interest income, dividends, profits, and so on), borrowing or loan recovery, and sales of real and financial assets. The uses of funds include current expenditures (including interest and dividend payments, rents, salaries, taxes, and so on), capital expenditures, the purchase of assets, lending or debt amortization. Accounts are separated into income or current accounts, and balance sheet or capital accounts. Financial stability means that consolidated accounts are regularly in surplus.<sup>3</sup>

Financial instability can be defined as the opposite of financial stability. It can be associated with payment defaults, payment arrears, or insolvency. It manifests itself through a regularly deficient treasury position, whereby the sources of funds fall short of the uses of funds or payments obligations. When financial instability persists, access to borrowing becomes highly restricted. The entity facing financial instability may have to recapitalize, liquidate assets, restructure liabilities, seek a bailout or, in the extreme, may be subject to merger or liquidation.

### **The Role of the Credit Multiplier in Financial Instability**

In banking, there is stability if the maturities of assets and liabilities are matched, assets preserve their values and do not depreciate, and the amount of IOUs is fully backed by gold or warehouse deposits that served for issuing these IOUs. Excessive issuance of gold or warehouse certificates, bank notes, or fiat money may cause instability as manifested in a run on the bank by domestic or international depositors.<sup>4</sup> The amount of claims may exceed the stock of gold or merchandise; under these conditions, conversion may be suspended, bankruptcies may occur, or IOUs may be devalued. Under a fiat money system, the central bank may act as the lender of last resort to preserve stability by printing new money, which in turn may lead to currency depreciation.

With the advent of the banking and credit system, the literature had noted during the eighteenth and nineteenth centuries that the amount of credit was a multiple of the quantity of gold in circulation. The development of bank deposits and checks as means of payment was considered by classical economists as an innovation that economized on the use of gold and expanded payments transactions without expanding the quantity of currency.<sup>5</sup> In a pure credit system, where all payments are carried out through debiting and crediting bank accounts, the economy could dispense with the use of currency altogether. Currency is issued by the state in the form of metallic money or notes. Bank notes and deposits are the money created by banks. The relationship between currency and bank deposits or credit is known as “the credit multiplier.”

Each bank can issue money, in the form of bank credit. Normally, banks issue credit against deposits. However, banks often issue a credit against insufficient deposits. Where there is a shortfall in liquidity, a bank borrows from other banks, issues papers, or borrows from the central bank. In a high-risk environment, banks may refuse to issue loans and prefer to accumulate excess reserves. The credit they issue depends on factors that act on the supply side (the banks) and the demand side (the borrowers). It also depends on the degree of development of the banking system. In countries where the banking system is not developed, credit plays a more limited role in the economy. In countries where the banking system is highly developed and the number of banks is large, credit tends to be a large component of the payments system.

In the money supply of any country, broad money, defined as currency in circulation plus demand and time deposits, is many times larger than high-powered money, or the monetary base. The money-creation process explains how depository banks create money (Tobin 1965). The creation of money is not a mechanical procedure; it depends on the bank's willingness to lend and the willingness of a borrower to borrow. If banks compete for loans, lower interest rates, and push credit to sub-prime borrowers, and borrowers are willing to accumulate debt, then credit may increase rapidly. By contrast, if the banks turn prudent and raise interest rates or borrowers face recession and falling profits, then money creation may contract. In conditions of prudent banking, banks accumulate excess reserves, and issue loans only to prime customers.

The mechanics of the credit multiplier are simple. Assume that the central bank buys a government bond worth \$100 by printing new money. The seller of the bond, be it government or a private holder, deposits the proceeds with Bank 1, thus increasing the bank's reserves by \$100 as shown in Figure 7.1. Assume that the reserve-requirement ratio is equal to 10 percent of deposits. The bank keeps \$10 dollars in reserves at the central bank, and places \$90 into income-earning assets such as loans or securities. The borrower of \$90 is paying interest. He will not keep this money idle at Bank 1. He will most likely use it to finance investment or purchase a car, or consumer goods. Therefore, the money will quickly leave Bank 1 and end up