DIVIDEND SIGNALING HYPOTHESIS AND SHORT-TERM ASSET CONCENTRATION OF ISLAMIC INTEREST-FREE BANKING

Joseph Farhat, M. Kabir Hassan and Bashir Al-Zu'bi

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FOR THE ARAB COUNTRIES, IRAN & TURKEY

7 Boulos Hanna St. Dokki, Cairo, Egypt
Tel: (202) 3370810 – (202) 7485553 – (202) 7602882
Fax: (202) 7616042. Email: erf@idsc.net.eg. Website: http://www.erf.org.eg

Abstract

This paper finds that dividend signaling hypothesis is able to explain the phenomenon of assets concentration in short and medium investments in Islamic Interest-Free banking (IIFBs). In this paper a dividend signaling model framework has been introduced, where in the process of maintaining a stable dividend, mangers of Islamic Interest-Free banking (IIFBs) will prefer to invest in investments that have more certainty about its return, leading to a heavy use of mark-up-pricing, which in turn concentrated on short and medium investments. The empirical results are found to be consistent with the prediction of our model. Dividends in Islamic Interest-Free banking (IIFBs) are found to be stable, and bank earnings cashflow is a major source of this stability. Moreover, there is evidence that the short and medium investments are more important in generating earnings than long-term investments.

1. Introduction

In the last three decades, Islamic Interest-Free Banking (IIFBs hereafter) has grown in the size and number around the world. IIFBs operate in more than 50 countries, most of them in the Middle East and Asia. In Iran, Pakistan, and Sudan, the entire banking system has been converted to the Islamic mode of finance. In most countries where IIFBs operate, conventional banking institutions are still dominating the banking system. Still, IIFBs is the highest growing segment of the credit market in Muslim countries. IIFBs are offering instruments consistent with the religious beliefs of Muslim societies. According to the religious literature, IIFBs should emphasize profit-and-loss sharing contracts and prohibit debt and interest rates.

Investment, financing, and dividend decisions are the basic concerns of corporate finance. The dividend decision is probably the most controversial of the three issues of long-term financial decision making. In a frictionless world, when the investment policy of a company is constant, its dividend payout policy has no impact on shareholders' wealth (Modigliani and Miller, 1958, 1961). Contrary to this theory, Lintner (1956) find that US companies follow an adaptive process in their dividend policies. Moreover, Gay and Hartford (2000) find that companies tend to increase dividends when they believe that there is a permanent increase in their net income.

Various theories exist regarding the firm's dividend policy on its value. Two prominent of such theories are asymmetric information and agency cost. The signaling (asymmetric information) suggests that managers as insiders choose dividend payment levels and increases to signal private information to investors. Managers have an incentive to signal this private information to investment public when they believe that the current market value of their firm's stock is below its intrinsic value. Increased dividend payment serves as a credible signal when other firms that don't have favorable inside information cannot mimic the dividend increases without unduly increasing the chance of later incurring a dividend cut. The implication of the dividend-signaling hypothesis is that firms that increase (decrease) cash dividends should experience positive (negative) price reactions. (Bhattacharya, 1979; John and Williams, 1985 and Miller and Rock, 1985).

The agency theory model explains cash dividend payments as value-maximizing attempts by managers to minimize the deadweight costs of the agency conflict between managers and shareholders that arise in publicly traded firms where there is separation of ownership and control. The prediction of agency model of dividend is summarized in Table 1. (Megginson, 1997).

Much of the empirical research has been applied on companies listed on advanced stock markets. While the numbers of empirical papers that examine the dividend stability issue in emerging markets are relatively limited. On the other hand, empirical studies about dividend in IIFBs are non-existent. The phenomena of assets concentration in short and medium investments is well documented in the literature of IIFBs. No explanation has been introduced to explain such a phenomena.

In this paper, we try to introduce the signaling theory as a potential model to explain why and how IIFBs use dividends to solve three problems simultaneously: maintaining the inflow of investment deposits, minimizing the costs for public investment and investment in optimal level from investment depositors' viewpoint.

This paper is organized in eight sections. Following the introduction in section 1 we summarize the various financial contracting in IIBFs in section 2. We provide a summary of IIFBs literature in section 3 and in section 4, we examine the corporate governance of Islamic banking. In section 5, we build a model of portfolio and risk behavior of IIFBs. In section 6, we discuss capital structure of IIFBs and the signaling theory and their implications. In section 7, we examine the hypotheses that may explain the assets concentration in short and medium term investments and report the empirical results. In section 8, we conclude the paper.

2. Financial Contracting in Islamic Interest-Free Banking (IIFBs)

Transactions in IIFBs are regulated by Islamic legal principles. Prohibition of interest is the most important of these principles. Any predetermined return in financial transactions is prohibited, regardless of the use of the loan. Zaher and Hassan (2001) provide an extensive survey of the Islamic finance contracting literature. IIFBs developed alternative interest-free financing techniques. Those techniques have been based on two principles: the profit and loss sharing (PLS) and markup (MUP) principles.

The PLS principal is the cornerstone of contractual transactions. Moreover it is the most accepted in the Islamic legal literature. Under the PLS principle, if the bank is willing to share in the risk of the investment and bears a loss if the project fails, then the financier can earn a return on its investment. Thus, instruments based on PLS principles can be thought of as equity investments. IIFBs utilize two instruments based on this principle (PLS):

- *Mudarabah financing,* where capital is provided by the bank and the entrepreneur contributes effort and exercises complete control over his business venture. In case of loss, the bank earns no return or negative return on its investment and the entrepreneur receives no compensation for his effort.

- *Musharaka financing,* where the entrepreneur and the financier jointly supply the capital and manage the project. Losses and profit are born in proportion to the contribution of capital.

Markup (MUP) is the second principle that IIFBs utilized for commercial financing. The bank finances the purchase of goods or rents assets in exchange for a profit margin calculated as the difference between the cost price and sale or rental price. The main two instruments based on this principle (MUP):

- *Murabaha financing*: where the bank purchases a good on the request of the client. The bank resells this commodity to the client at a predetermined price that covers the original cost and an added profit margin. Payment is made in the future in installments or in lump-sums, and the ownership of the asset rests with the bank until all payments are made. Murabaha is the classical instrument for trade financing dating to the 9th century Arabia.

- *Ijara financing (leasing)*, where the bank purchases the asset and allows the entrepreneur to use it for a fixed charge. The ownership of the asset either remains with the bank or is gradually transferred to the entrepreneur in a rent and purchase scheme.

Many Islamic economists discourage the use of markup financing. Although legally acceptable, markup financing is very similar in many aspects to interest-based debt instruments. Markup financing techniques can imply a fixed return on investment for the financier. The Islamic Jurists fear that markup financing may open a "back door" to interest. In addition, it may affect the economic development by holding back entrepreneurs from investing in any new projects. Nevertheless, markup techniques are widely used. Moreover, Islamic banks provide charitable loans (Qard Hasanah), where the is no interest due, no mark-up and no charge. (Aggarwal and Yousef, 2000).

Normally, IIFBs operate three main categories of account:

- The current account, as in the case of conventional banks, gives no return to the depositors. It is essentially a safekeeping arrangement between the depositors and the bank, which allows the depositors to withdraw their money at any time and permits the bank to use the depositors' money.

- The savings account is also operated on a safekeeping basis, but the bank may pay the depositors a positive return periodically. Such payment is considered lawful in Islam. The savings account holders are allowed to withdraw their money at any time. The investment account is based on the Musharaka principle and the deposits are term deposits, which cannot be withdrawn before maturity. Losses and profit are born in proportion to the contribution of capital.

3. Literature Review

Empirical studies of Islamic banking have been increasing in the recent years. Khan (l983) study covered IIFBs operating in United Arab Emirates, Sudan, Jordan, Kuwait, Bahrain, and Egypt. Khan identified two main types of investment accounts: In the first, the depositor authorized the banks to invest the money in any project, whereas in the second, the depositor has to choose the project to be financed. On instruments side, the banks under study had been resorting to mudaraba, musharaka and murabaha instruments. The profit rates of the IIFBs studied are very competitive with those of conventional banks. The rates of returns of IIFBs range from 9 percent to 20 percent and the deposit rates of returns range from 8 percent to l5 percent, which are very similar to those of offered by conventional banks.

Khan (1983) find that IIFBs investments are concentrated in trade finance and real estate investments, which are short-term and medium-term investments. Khan did not provide any explanation for why IIFBs preferred short and medium investments to long-term investments.

Iqbal and Mirakhor (l987) study IIFBs in both Iran and Pakistan, where the entire banking system was Islamized. Iqbal and Mirakhor documented that the transfer to an Islamic banking system is much faster on the deposit side than on the asset side. In Iran IIFBs were not able to use more than 50 percent of its investment deposits, the recourses used were mostly in the form of short-term investments. Iqbal and Mirakhor's study points out that the concentration of IIFBs assets (financing) on short-term rather than on long-term financing is undesirable for two reasons. First, it is inconsistent with the intentions of the Islamic banking system; and second, the risk increases due to less diversification in assets.

The case studies (Hassan, 2000; Darrat, 1988; Huq 1986; Halim l986; Khan l986; Nienhaus 1988; Man l988; Mastura 1988; Rahardjo 1988) of IIFBs operating in Bangladesh, Egypt, Philippines, Malaysia, Pakistan, Sudan and Southeast Asia, documented similarities and differences between IIFBs operating in those countries. A striking common feature of all these IIFBs is that they have a higher concentration in short to medium term investments.

Hassan and Mazumder (2001) empirically examine the stability of the demand for money under two different financial systems. One system pays interest on money deposited at the bank and charges interest on bank loans; the other doesn't pay interest on money deposited in the bank, and enters into a profit-sharing contract with the bank borrower instead of charging interest on bank loans. The first system resembles the western financial system and the second resembles the Islamic financial system.

A study by Darrat (1988) studied the behavior of demand for money in Tunisia, and concluded that interest-free money is more stable than the interest-bearing money. The behavior of demand for money in fifteen countries has been analyzed in this research in order to find out if the findings by Darrat (1988) are applicable to other countries that practice Islamic banking. This study finds that the velocity of money and its variance are lower for an interest free banking system than for an interest bearing banking system. This result may support the hypothesis that interest-free money is more stable than interest-bearing money. However, further analysis of the results provides inconclusive evidence toward this hypothesis. In addition, most of these countries failed to show a coincidence of goals between the wishes of the government to expand the economy through the use of an active monetary policy and having the inflation under control.

In summary, previous empirical research and fieldwork on IIFBs documented the phenomena of concentrated assets in short and medium investments, but did not offer any explanation as to why such concentrations in short to medium term investments occur.

4. Corporate Governance in Islamic Banking

Islamic banking embodies a number of interesting features since equity participation, risk and profit and loss sharing contracts form the basis of Islamic financing. All of these financial transactions must involve real transactions and not purely financial ones. Depositors have a direct financial stake in the bank's investments and equity participation. IIBFs are subject to Sharia supervision, which makes sure the investment and financing activities conform to Islamic Law. There are at least five direct stakeholders that exist in the corporate governance of banking organizations. These are shareholders, depositors, management and government. Figure 1 shows the key stakeholders in an Islamic bank. Unlike conventional banks, IIBFs must serve God and develop a distinctive corporate culture. Second, they must provide and design acceptable financial products and instruments. The Islamic concept of *amana* or trust signifies that "that wealth belongs to God and man is individually and collectively a custodian of wealth". Wealth cannot be an end by itself and should be used for defined ends (Algaoud and Lewis, 1999).

IIFBs should be viewed within the context of culture, which is a series of variables that shape an organization and behavior of its members. The culture sets out appropriate behavior and bounds, motivates individuals, governs internal relations, values, and how groups within organizations act and deal with external environment. IIFBs should be such organizations in which Islamic cultures and values are reflected in all facets of behavior ranging from internal relations (employee relationships) to external relations (dealing with bank customers).

The IIFBs are seen as financial intermediaries mobilizing savings from the public on a mudaraba (trustee) basis and channeling capital to entrepreneurs on a

mudaraba (trustee) basis and providing capital to entrepreneurs on a PLS partnership basis. Such financing contracts create agency problems. First, the absence of collateral in IIFBs may aggravate the adverse selection problem. The borrowers who can derive non-monetary benefits but low realized profits from their projects would prefer PLS financing because they will reap high total returns at a very low cost of capital. Second, mudaraba contract creates moral hazard problem, because IIFBs are unable to exert pressure on entrepreneur's effort and action for maximum outcome. Third, in PLS contracts, entrepreneurs have incentives for under reporting profits and over reporting expenses. (Sarker, M.A.A., 1999).

Such agency problems can also exist on the liability side of IIFBs. Current account holders are like creditors to banks as the current account balances are the bank's non-contingent liability to pay on demand. Investment accounts operate under a PLS scheme, where capital is not guaranteed, nor is there a fixed predetermined return. Mudaraba account holders are very close to shareholders at least with respect to downside risk. In the event of a loss, both mudaraba depositors and bank shareholders share the loss.

Figure 2 provides a governance structure for the IIFBs. Internal regulations include activities and functions of the board of governors, non-executive directors, the audit committee and the internal audit. These must be supplemented by internal control systems, which have the objectives of ensuring the reliability of financial reporting, compliance with relevant laws and regulations, along with the efficiency of operations. Sharia supervision plays a very critical role in IIFBs. Sharia scholars work for banks either on advisory or consultancy basis to ensure that the day-to-day policies and activities of the bank are in accordance with Sharia. The Sharia supervisory board and the internal controls, which support it are important for two reasons. First, those who deal with Islamic banks require assurance that its activities are Sharia compliant. If the SSB report any wrong doing on behalf of the management of IIFBs, the bank will lose credibility among its customers. Second, Islamic religious principles act as counter to the incentive problems arising from moral hazard and asymmetric information. External regulation includes the external audit function along with the associated best accounting practices, stockholder and the stock exchange.

5. A Model of Short-term Asset Concentration, Regulation and Risk in IIFBs

It is argued that removal of interest rate increases the potential of moral hazard, thus making long-term profit-sharing investment projects risky. Therefore, the policy stance of regulators has been to restrict long-term financing and encourage short-term, low risk financing, which has resulted in a concentration of short-term trade financing in Islamic banking. We argue that given a favorable policy and institutional framework, Islamic banks will undertake long-term profit-

sharing projects. We borrow ideas from portfolio theory to show that the relevant object of policy should be the overall risk of an Islamic bank's portfolios and their expected returns, not the risk of individual assets (Roy, 1952; Telser, 1955; Kahane, 1977; Blair & Heggestad, 1978; Koehn & Santomero, 1980; Allen, 1983; Tobin, 1958; Mirakhor, 1987).

Mirakhor (1987) shows that the implementation of portfolio regulation via restrictions placed on high-risk, high-return asset acquisition through musharakah and modarabah financing may produce results not intended by authorities, that is, there is a distinct possibility that the risk of bank failure may in fact increase. The regulators, while agreeing with the partnership rather than creditor-debtor relationship in Islamic banking, argue that the structure of Islamic financing mechanism must not lead to the collapse of the banking system. The safety concern arises from a type of moral hazard argument that, in the absence of operating Islamic values in the economy, engaging in high-risk, high-return activities by the banks may lead to bank failure. It is contended that the removal of interest rate increases risk in the financial system in general and in the banking system in particular. One way of reducing bank failure and enhancing bank safety is by restricting the use of mudaraba and musharaka financing. The regulatory concern coupled with the relative ease of low-risk methods of financing has led to an overwhelming dominance of short-term assets, acquired through trade financing, in the asset portfolio of the Islamic banking system.

Short-term asset concentration creates two types of concerns. First, in many countries, where an Islamic banking system operates, the capital markets are underdeveloped and institutional structure is not suitable for the growth of investment-type lending, and banks are the only sources of long-term project financing. Second, even in the absence of mudaraba and musharaka limiting bank regulation, a natural tendency exists among bankers to favor short-term trade financing, thus leading to a bias against mudaraba and musharaka investment-type bank financing.

Failure can be defined as when a bank's losses exceed its total capital. Given a bank's capital position and its asset portfolio characteristics, defined by its expected return and its variance, an upper boundary can be estimated for the probability of failure. One method of estimation is to use Chebyshev Inequality according to which if x is a random variable with mean $\overline{x}$ and variance σ^2, then

$$P = PR\left(\left|x - \overline{x}\right| > n\right) \leq \frac{\sigma^2}{n^2} \qquad (1)$$

Where n is any positive number and $P = PR\left(\left|x - \overline{x}\right| > n\right)$ is the probability that y will differ from m by at least $\pm n$.

If the regulations designate some disaster level d for expected net profits $\overline{\overline{\Pi}}$, i.e., n=$\overline{\overline{\Pi}}$ -d, then the probability of failure will be given as:

$$P = PR\left[\overline{\Pi \leq d}\right] = \frac{\sigma^2}{\left(\overline{\Pi - d}\right)^2} \qquad (2)$$

The letter d can be any positive or negative number and determines the intercept of the ray in the expected return-standard deviation space. Equation (2) can be graphically represented as the square of the reciprocal of the slope of any ray in the risk-return space with the specified intercept d. Further, one can infer from (2) that an increase in the expected return decreases failure risk while an increase in variance increases the probability of failure. Thus the bank's portfolio has an upper limit on its probability of failure, which is constant across the ray represented by (2). Utilizing the efficient frontier framework, the point of intersection between the ray, the banks indifference curve, and the efficient frontier will determine the bank portfolio decision. Hence, a steeper ray to the selected portfolio will imply lower probability of its failure for any specification of d.

The bank regulators of Islamic banking, while agreeing that Islamic banking system must operate on the basis of risk-return sharing arrangements (Musharakah and Mudarabah), is concerned about the safety of its banking system. As a result, the authorities impose regulations that narrow Islamic banks' operations to include low-risk methods of financing. This practice has led to an overwhelming dominance of short-term assets, acquired through trade financing. The reason behind such restricting actions is that, derived from the policy makers concern about the safety of the banking system, the removal of interest rate increases risk in the financial system in general and the banking system in particular.

We will argue that such policy action will actually increase the probability of banks failure not their safety, that is, the whole efficient frontier facing a certain bank will shift downward increasing the probability of bank failure and decreasing its profits. Moreover, by discarding the high-risk high-return activities, the bank will end up with a less diversified portfolio. To illustrate this point, let us assume the following:

To avoid the moral hazard problem, the regulators set a minimum capital to asset ratio, κ.

   a.   Banks operates in a perfectly competitive market structure

b. There are only two assets available in the banks portfolio, those acquired via mark-up (denoted by u) and those obtained via mudarabah (denoted by m) financing.[1]

c. ϕ_u and ϕ_m are the fractions of bank capital allocated to the two assets.

Assume that the overall and individual net return per unit of bank capital are Π, Π_u, and Π_m, so that:

$$\Pi = \phi_u \Pi_u + \phi_m \Pi \qquad (3)$$

Where the sum of ϕ_u and ϕ_m accounts for bank's degree of leverage.[2]

The binding constraints on how much must be invested in each asset is as follows: $\phi_u + \phi_m = \dfrac{1}{\kappa}$ $\qquad (4)$

The portfolio variance is the sum of the variances of the individual securities multiplied by the square of their weights plus the covariance. Mathematically, this can be illustrated as follows:

$$\sigma_p^2 = \phi_u^2 \sigma_u^2 + \phi_m^2 \sigma_m^2 + 2\phi_u \phi_m \rho_{u,m} \sigma_u \sigma_m \qquad (5)$$

Where σ_p^2, σ_u^2 and σ_m^2 are the portfolio variance and the variances of the two assets respectively. The product $\rho_{u,m}\sigma_u\sigma_m$ is the covariance between the mark-up and mudarabah assets. Where $\rho_{u,m}$ is the correlation coefficient between the two assets, while σ_u, σ_m are the standard deviation of mark-up and mudarabah

Equation 5 can be used to find the combination of random variables, u and m, that provides the portfolio with minimum variance. So if the bank chooses to minimize the variance of its overall returns, then the values of the ϕ_u and ϕ_m that minimize the portfolio variance.

We can minimize portfolio variance by setting the first derivatives equal to zero:

$$\frac{\partial \sigma_p^2}{\partial \phi_u} = 2\phi_u \sigma_u^2 + 2\phi_m \rho_{u,m} \sigma_u \sigma_m = 0 \qquad (6)$$

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[1] The selection of only two assets is designed for simplicity and will easily be generalized to n number of assets.

[2] Banks degree of leverage is the amount of assets per unit of capital.

$$\frac{\partial \sigma_p^2}{\partial \phi_u} = 2\phi_m \sigma_{mu}^2 + 2\phi_m \rho_{u,m} \sigma_u \sigma_m = 0 \qquad (7)$$

Solving for the optimal percentage to invest in u and m in order to obtain the minimum variance portfolio, we get:

$$\phi_u^* = \frac{\sigma_m^2 - \rho_{u,m}\sigma_u\sigma_m}{\kappa\left(\sigma_u^2 + \sigma_m^2 - 2\rho_{u,m}\sigma_u\sigma_m\right)} \qquad (8)$$

$$\phi_m^* = \frac{\sigma_h^2 - \rho_{u,m}\sigma_u\sigma_m}{\kappa\left(\sigma_u^2 + \sigma_m^2 - 2\rho_{u,m}\sigma_u\sigma_m\right)} \qquad (9)$$

The necessary and sufficient condition for ϕ_u^* to yield a global minimum, is that

$$\sigma_p^2, \sigma_u^2 > \sigma_m^2.$$

However, since the probability of bank failure is a function of expected returns as well as its variance, minimizing the variance of return could increase the probability of bank failure. The alternative is to choose asset weights such that the right-hand side of (2) is minimized. This occurs at the point:

$$\phi_u^{**} = \frac{\sigma_m^2(\bar{\Pi}+\kappa) - \rho_{u,m}\sigma_u\sigma_m(\bar{\Pi}+\kappa)}{\kappa\left(\sigma_u^2(\bar{\Pi}_m+\kappa) + \sigma_m^2(\bar{\Pi}_u+\kappa) - 2\rho_{u,m}\sigma_u\sigma_m(\bar{\Pi}_u+\bar{\Pi}_m+2\kappa)\right)} \qquad (10)$$

From (10) it can be seen that:

$$= \phi_u^{**} = \phi_u^* \text{ if } \bar{\Pi}_m = \bar{\Pi}_u$$

$$\phi_u^{**} \succ \phi_u^* \text{ if } \bar{\Pi}_m \prec \bar{\Pi}_u$$

$$\phi_u^{**} \prec \phi_u^* \text{ if } \bar{\Pi}_m \succ \bar{\Pi}_u$$

ϕ_u^{**} is an increasing function of the variance of investing in mudarabah and the expected payoff on mark-up. At the same time ϕ_u^{**} is a decreasing function of it

own variance and the expected payoffs of mudarabah. ϕ_u^{**} is an increasing function of the covariance between u and m if, and only if,

$$\left(\bar{\Pi}_u + \kappa\right)\sigma_m^2 > \left(\bar{\Pi}_m + \kappa\right)\sigma_{hm}^2 \tag{11}$$

The major theme of inequality (11) is that attempts to constrain bank's portfolios from engaging in risk-return sharing financing, could increase the probability of failure if the expected return from mudarabah assets exceed the expected return from mark-up, given the variances are the same, that is, mudarabah assets dominate mark-up in the first order stochastic dominance, assuming a risk averse framework.

6. Capital Structural of IIFBs and Signaling Theory

The distinguished features of IIFBs are they are unleveraged firms, interest free and do not make loans. Examining the ownership of the Islamic bank reveal that the majority shares held by governments, government agencies, financial institutions and big individual investors. Big individual equity investors usually form the board of directors in the IIFBs, and therefore, equity shareholder can be considered insiders to the firm. The Mudaraba and Musharaka account holders (Investment depositors) can be considered outsiders to the firms. Equity-holders of IIBFs use their capital jointly with investment depositors to generate cash flows and profit surplus. Profits or losses will be shared between the partners depending on the equity ratio. In this case, both insiders and outsiders can be considered equity holder. Four factors distinguish between insiders and outsiders. First, insiders can access the capital market to sell their shares whereas outsiders cannot do so. Second, insiders have a voting right in the firm. Third, insiders claim all earnings generated form financial services provided by the IIFBs except the earnings generated from investment, which are shared between the insiders and outsiders on the basis of profit-loss ratio. Finally, insiders have more information about the firm than outsiders.

In IIFBs, the two main resources of capital are the equity and investment deposits. Since the cost of equity is higher compared to that of investment deposit, due to the adverse selection problem, managers will prefer to raise capital from investment deposits. Table 2 shows the mean and the median of the percentage of both equity and investment to the total assets. In our sample of banks, investment deposits count for 71 percent on average of the total capital available for investment in the IIFBs, whereas equity counts as little as 14 percent, which confirms that managers rely on investment deposits more than equity to finance their investments opportunity. Even though, this percentage varies between different IIFBs, still, equity represents a very low percentage

comparing to the investment deposits. Thus, managers will be more concerned to signal their bank profitability to the outsider investment depositors to maintain the level and the inflow of investment deposits.

In the IIFBs framework, banks act as investment agents for the investment depositors. The financial instruments used in IIFBs raise three main problems, namely, an agency problem, an over-investment problem and the problem of maintaining the inflow and the level of capital by outsider holders (investment depositors). Outsiders have no means to control the managers' investment decisions nor they can observe them. Thus, outsiders try to acquire information about the insiders' investment behavior, which lead to higher agency cost to the outsiders. The over-investment problem occurs because outsiders require that investment deposits be employed optimally so as to maximize their returns. On the other hand, managers seek to invest each dollar of the investment deposits, which in turn, could force managers take less profitable projects or projects with negative net present value. It, thus, appears that there is conflict of interest between bank managers as insiders and bank investment depositors as outsiders regarding the optimality of investment decisions. Assuming managers and equity holders as insider groups, their objective is to maximize equity holders' wealth by making optimal positive NPV projects, but the objective of the investment depositors is to maximize profits. While profit maximization does not necessarily lead to wealth maximization, the natural agency conflict between equity holders and investment depositors arises. Maintaining the inflow and the level of capital by outsiders is an important task for the managers. Since outsiders (investment) deposits represent the major source of capital, a large decrease of these deposits result in lower profits for IIFBs as they are unable to realize the economies of scale of their investment, which, in the worst case scenario, could lead to corporate bankruptcy.

Managers and equity holders in IIFBs must solve these problems by utilizing existing financial tools. To recast, the main problems are: to maintain inflow and the level of capital by outsiders; to minimize the agency cost for outsiders and investing at the optimal level from the point view of the outsiders.

In IIFBs, dividend is the only information available to the outsiders (investment depositors) and the public, since return on investment deposits is not released until the realization of profit. Under PLS principal, dividend and return on investment deposits is highly correlated (the correlation is 0.73 and significant at the 0.01 level). Managers of IIFBs will find that dividend is the only tool to signal profitability to the outsiders of bank investment. This, in turn, reduces the agency cost and allows the bank to maintain both the inflow and the level of investment deposits. In doing so, managers have to maintain stability of the dividend across years to reflect the stability of return on investment. Maintaining a stable dividend, which leads to a stable return on investment deposits (ROID),

is not an easy task for the managers and equity holders (insiders) and imposes a restriction on the type of investment that managers have to take. Short-term and medium-term investment in IIFBs have the nature of quick and stable return. The return on long-term investment is unstable and risky due to the various macroeconomic and political factors in the countries where most IIFBs operate.

To overcome the problem of optimal investment as seen by the outsiders, managers tend to utilize all the cash flow supplied by the investment depositors. In other words, the investment amount taken by the IIFBs turns out to be close to the amount of the investment deposits.

7. Methodology, Data and Results

Within the previous analytical framework, we expect that dividend payout to be stable in IIFBs. Moreover, the stability of dividend is driven from investing in short and medium projects, which most likely use the markup principle. In investigating the use of dividend as a signaling device by insiders, we collected data for a total of 52 IIFBs over the 1980 to 1992 period. In order to test dividend stability, which requires time series data, we limited our analysis to 19 banks, which have continuous time series data over 9 years. In total, we have a balanced panel data of 171 observations, which we believe are sufficient to give us robust econometric results.

In his classic study of the dividend policy of sample of 28 U.S. corporations, Linter found two attributes of corporate dividend policy. Managers tend to (a) establish target dividend payouts as a proportion of earnings; (b) set dividend payments that adjust slowly over time towards a desired fraction of earnings. Using a partial adjustment model of dividend smoothing, Linter used the following equation to test dividend stability hypothesis.

$$DPS_{i,t} = \alpha_i + \beta_1 DPS_{i,t-1} + \beta_2 EPS_{i,t} + \varepsilon_{i,t} \qquad (1)$$

Where

$DPS_{i,t}$ = dividend per share (i) in time period (year) t

$EPS_{i,t}$ = earning per share (i) in time period t

$DPS_{i,t-1}$ = dividend per share (i) in time period t-1

$\varepsilon_{i,t}$ = the error term.

We use a variety of econometric modeling experiments such as panel data methodology, pooled ordinary least squares, fixed effects model, and random effects model to settle on an appropriate model for our sample. According to the signaling effect, changes in the level of dividends convey new information to investors about the future earnings of companies. This argument is based on the information asymmetries that exist between insiders and outsiders. Moreover, the

signaling effect can be used to justify stable dividends. Under the theoretical model of dividend stability the coefficients β_1, β_2 have to be positive to provide support to the dividend stability hypothesis.

Table 3 reports the estimates of Lintner's model .The high and significant value of the Hausman statistic indicates that the fixed-effect model is the most appropriate specification. Based on estimated fixed effect model, we can make a number of conclusions. First, the lagged dividend per share coefficient is positive and statistically significant (0.59). Second, the earnings per share coefficients are high and statistically significant (0.76). Third, all of the estimated equations have high-adjusted R^2 values. Overall, we can state that dividends tend to be sensitive to lagged dividends and sensitive to current earnings. Thus, we conclude that there is evidence supporting the stability hypothesis of dividend.

To test the hypothesis that short and medium term investment play a greater role in generating earnings than the long-term investments, the following regression was used.

$$ESP_{it} = I + \beta_1 LTIN_{i,t-1} + \beta_2 STIN_{i,t-1} + i_t \qquad (2)$$

Where

ESP_{it} = earning per share (I) in time period t

$LTIN_{i,t-1}$ = the ratio of long term investment to total assets (I) in time period t-1

$STIN_{i,t-1}$ = the ratio of Short and medium term investment to total assets (I) in time period t-1

It= the error term.

Table 4 reports the estimates of equation 2 based on a fixed effect specification, which is based again on Hausman statistic. Thus, Table 4 reports the results of the fixed effect model only. Based on these results, short and medium investment are the main determinants of the earning per share. The coefficient of short-term investment is 0.648 and significant at a 5 percent level, while the coefficient of long-term investment is negative but not statistically significant. These results are consistent with the hypothesis that short and medium investments are the main source of generating earnings.

If dividend is used as a signaling device to maintain the level and the inflow of investment deposits, we expect that changes in the investment deposits to be positively related to the level of dividends. We employ the following empirical regression equation to test the following hypothesis.

$$\Delta INVAS_{i,t} = \alpha_i + \beta_1 DPS_{i,t-1} + \varepsilon_{i,t} \qquad (3)$$

Where

$\Delta INVAS_{i,t}$ = the change in the ratio of investment deposits to total assets (i) in time period t

$DPS_{i,t-1}$ = lagged dividend per share. (i) in time period t-1

$\varepsilon_{i,t}$ = the error term.

Table 5 reports the estimates of equation 3 using the fixed effect model. These results support our hypothesis of a positive relationship between dividend and the change in the investment deposits, which is statistically significant. Our results indicate that managers use dividend as a signaling device to maintain the inflow of investment deposits.

To give more insight on the structure of the investment in IIFBs we report the mean and median of the ratio long-term investment to total assets and the ratio of short and medium term investments to total assets in Table 6. The mean ratios of short/median term investments to total assets and long-term investments to total assets are 58 percent and 2 percent. A parametric paired samples test shows that the ratio of short and medium term investments to total assets is larger (significant with P-Value=0) than the ratio long-term investment to total assets.

To test the over investment hypothesis, we generate a variable called *Under,* which is equal to total investment divided by investment deposits. A value of *Under* less than 1 implies under investment and a value greater than 1 implies over investment. In order to satisfy full utilization of funds and profit maximization goal of outsider investment deposit holders, the managers undertake less profitable projects. Table 7 reports a descriptive statistics of the created variable (Under). We find that 63.75 percent of the years in our data IIFBs over invest and 36.25 percent of the years they under invest. To investigate the effect of over investments on the return on investment deposits, we employ the following equation:

$$ROID_{i,t} = \alpha_i + \beta_1 LTIN_{i,t-1} + \beta_2 STIN_{i,t-1} + \beta_3 UNDER_{i,t-1} + \varepsilon_{i,t} \qquad (4)$$

Where

$ROID_{i,t}$ = return on investment deposits (i) in time period t

$LTIN_{i,t-1}$ = the ratio of Long term investment to total assets (i) in time period t-1

$STIN_{i,t-1}$ = the ratio of Short and medium term investment to total assets (i) in time period t-1

$UNDER_{i,t-1}$ = the ratio of total investment over investment deposits (i) in time period t-1

$\varepsilon_{i,t}$ = the error term.

Table 8 reports the fixed-effect estimates of equation 4. We again find that the coefficients of short-term/medium term investment to total assets are the major sources of bank profitability. Moreover, we find a significant negative coefficient for the *Under* variable, which supports our conjecture that managers, in order to invest all investment deposits and to minimize the agency conflicts between insiders and outsiders, over invest by undertaking less profitable projects and even projects with negative net present value.

In summary, we can state that insiders of IIFBs use dividend as a signaling device to the outsiders. We find evidence in favor of stable dividend policy pursued by IIFBs. Earnings are found to be generated by short and medium investment and not by long-term investments. The long-term investments carry on significant risk in the countries in which these IIFBs operate. The MUP financing, which consists of short term and medium term, are less risky and generate more certain profits. In order to minimize agency problems, the IIFBs concentrate very heavily in short and medium investments. In addition, insiders of IIFBs tend to over invest under the pressure from the outsider investment deposit holders to maintain full employment of investment deposits.

8. Summary and Conclusions

Imposition of restriction on risk-return portfolio activities of Islamic banks may result in non-optimal decisions, and will lead to lower aggregate capital formation in the economy. The risks of mudaraba and musharaka can be decomposed into general economic risk and firm-specific risk. General economic risk exists regardless of whether the bank engages in low-risk murabaha or high-risk mudaraba and musharaka financing modes. Firm-specific risk can further be decomposed into investment risk and fraud risk. Investment risk refers to the viability and profitability of the proposed project and the abilities of the entrepreneur. The bank should be able to evaluate projects and monitor the activities of the entrepreneur. One way of tackling investment risk is to allow the development of specialized banks whose sole objective would be to invest long-term high-risk projects on the basis of profit-loss sharing. The Islamic banks then can represent themselves in the managerial decision making as member of boards of the firm in order to monitor the projects in which they have equity investments.

The fraud risk refers to under-reporting profits and over-reporting expenses and moral hazard risk, arising from the perception that banks will share risks in case of potential financial losses. There are three ways this risk can be minimized. First, strict enforcement of contracts according to Islamic law requires that all of the terms and conditions be faithfully observed and a well-defined retributive judicial process be followed to safeguard the sanctity of the contract. Second, a third party insurance scheme can be developed with the participation of the central bank and the commercial banks. Third, a pool of loss-reserve by the

commercial banks, in which all Islamic banks participate, will help a member bank in times of financial distress.

Relaxation of portfolio composition is expected to allow Islamic banks diversify their asset portfolios and reduce portfolio asset risk. The practice of Islamic Sharia, enforced by the means of Sharia Supervisory Board, in-house judicial advisors and compliance officers will ensure the confidence of the depositors and the investors who seek fairness and justice in Islamic financial matters. This in turn will reduce the overall risk associated with Islamic banks' asset portfolio.

Empirical literature on IIFBs has documented the phenomena of assets concentration in short and medium term investments. No explanation has been given for such a phenomenon. In this paper, we use a dividend signaling model framework to study the possible determinants of short-term asset concentrations in IIFBs. In the process of maintaining a stable dividend, managers of IIFBs prefer to invest in assets with certain returns, which results in investing in mark-up financing (MUP) and increasing investments in short to medium term assets. The empirical results of this paper are found to be consistent with the prediction of our model. The IIFBs follow a stable dividend policy with earnings being its major determinant. Moreover, there is evidence that the short and medium investments are more important in generating earnings than long-term investments. In this study, empirical evidence indicates that insiders of IIFBs over invest in short-term assets in order to convince the outsiders that their investment deposits are fully invested, not necessarily optimally in a risk-return framework.

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Figure 1: Key Shareholders in Islamic Bank
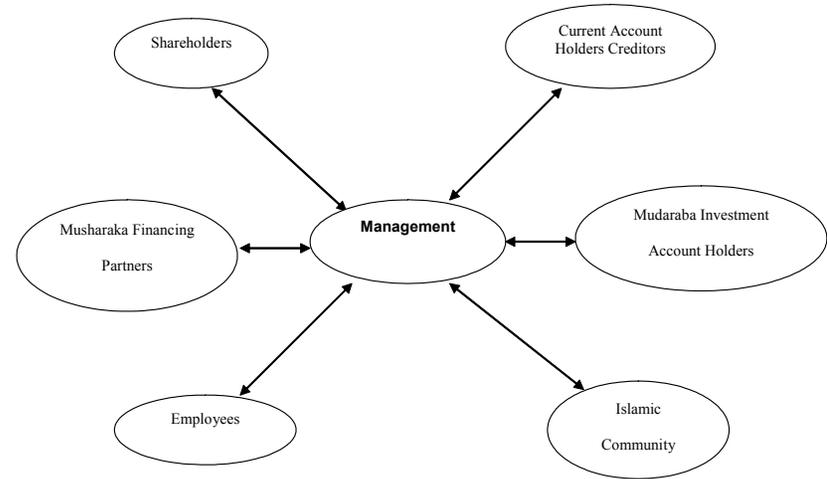
Figure 2: Corporate Governance in Islamic Banking

External Regularity System		Internal Regularity Systems

| • Shareholders
• External Auditor
• Stock Exchange
• Company Law
• Central Bank/Financial Regulator
• Islamic Accounting Standard Board | ↔ | • Board of Directors
• Non-executive Directors
• Audit Committee
• Internal Audit
• Shari'a Supervisory Board
• Shari'a Supervisor Judicial adviser |

Internal Control System
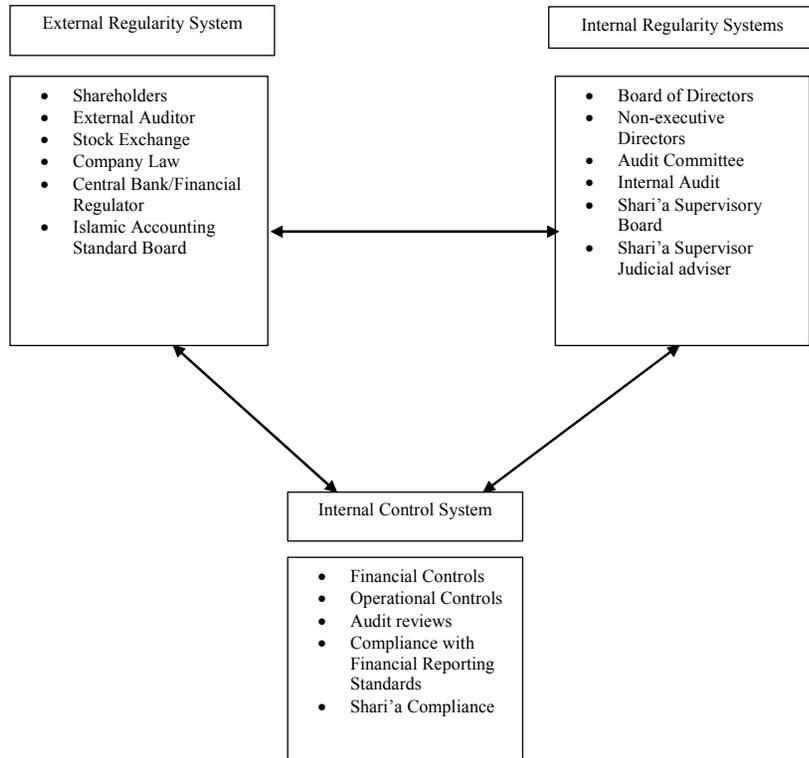
• Financial Controls
• Operational Controls
• Audit reviews
• Compliance with Financial Reporting Standards
• Shari'a Compliance

Table 1: Prediction of Dividend Payout According to Agency Theory

Increase in Firm and Macro Variable	Impact on Dividend Payout as Follow
Asset Growth Rate	Reduce
Positive-NPV Investment Opportunity	Reduce
Capital Intensity of the production process	Increase
Free Cash Flow Generated	Increase
Number of Individual Shareholders	Increase
Relative "Tightness" of Ownership Coalition	Reduce
Size of Largest Bloc Holder	Reduce
Transaction Costs of Security Trading	Increase
Personal Tax rates on Dividend Income	Reduce
Personal Tax rates on Capital Gains Income	Increase
Importance of Institutional Investors	Reduce
Power of Institutional Investors in Corporate Governance	Reduce
Relative Importance of Capital Markets versus Intermediated Financing	Increase
Amount of Corporate Information Disclosure	Reduce

Source: Megginson (1997).

Table 2: Capital Structure in IIFBS

Percentage of Equity to Total Assets calculated as the ratio of total equity to total assets. Percentage of Investment Deposits to Total Assets calculated as the ratio of total investments deposits to total assets. The mean and the median are reported for the period 1982-1992.

Bank Name	Percentage of Equity to Total Assets	Percentage of Investment Deposits to Total Assets	Percentage of Equity to Total Assets	Percentage of Investment Deposits to Total Assets
	Median		Mean	
International Islamic Bank for Investment & Development	1.93	65.10	4.75	62.92
Faysal Islamic Bank of Egypt	4.70	82.26	4.34	82.03
Nasar Social Bank	16.33	40.27	17.14	37.65
Dubai Islamic Bank	5.49	89.15	6.67	87.38
National Islamic Bank	4.23	83.19	4.34	84.23
Kuwait Finance House	5.02	87.73	6.01	87.06
Jordan Islamic Bank	10.36	84.29	12.30	80.72
Bahrain Islamic Bank	20.32	70.38	22.23	70.55
Barka Islamic Bank-Bahrain	4.51	94.39	7.54	91.55
Faysal Islamic Bank of Bahrain	21.90	65.52	20.72	65.19
Faysal Islamic Bank of Sudan	10.95	65.90	11.98	65.22
Sudan Islamic Bank	15.68	57.51	25.96	54.83
Barka Islamic Bank-Sudan	8.82	75.27	11.60	73.21
South of Sudan Islamic Bank	11.07	62.40	15.40	64.81
Barka Finance House-Turkey	7.31	72.74	9.82	73.71
Development Islamic Bank-Sudan	11.78	68.32	17.76	68.73
Tadamon Islamic Bank-Sudan	24.15	46.90	19.23	45.53
Bangladesh Islamic Bank	30.69	61.37	35.33	56.49
Islamic Bank International of Denmark	4.76	84.18	6.13	82.99
Total	9.65	73.33	13.65	70.67

Table 3

The dependent variable is dividend per share ($DPS_{i,t}$) The independent variables are earnings per share ($EPS_{i,t}$) and lagged dividend per share ($DPS_{i,t-1}$). Regression 1 is estimated using ordinary least squares. Regression 2 is estimated using the random effects model and regression 3 is estimated using fixed effects.

$$DPS_{i,t} = \alpha_i + \beta_1\, DPS_{i,t-1} + \beta_2\, EPS_{i,t}$$

Coefficient	Regression 1	Regression 2	Regression 3
α_i	0.357	0.295	
	(0.75)	(1.01)	
β_1	0.971	0.750	0.590
	(26.36**)	(9.25**)	(15.01**)
β_2	0.340	0.198	0.760
	(0.81)	(1.95)	(2.29*)
Adjusted R^2	0.72	0.71	0.74
Hausman Test			25.23**

Notes:** Indicates that the t-statistic is significant at the 0.01 level.
 * Indicates that the t-statistic is significant at the 0.05 level.

Table 4

The dependent variable is earning per share $EPS_{i,t}$. The independent variables are the lag of the ratio of long-term investment to total assets, the lag of the ratio of Short-term investment to total assets.

$$EPS_{i,t} = \alpha_i + \beta_1\, LTIN_{i,t-1} + \beta_2\, STIN_{i,t-1} + \varepsilon_{i,t}$$

Coefficient	Regression
β_1	-0.230
	(-0.515)
β_2	0.648
	(2.65*)
Hausman Test	32.1**
Adjusted R^2	0.81

Notes:**Indicates that the t-statistic is significant at the 0.01 level.
 * Indicates that the t-statistic is significant at the 0.05 level.

Table 5
The dependent variable is the change in the ratio of investment deposits to total assets. The independent variable is the lagged dividend per share (DPSi,t-1).

$$\Delta INVAS_{i,t} = \alpha_i + \beta_1 DPS_{i,t-1} + \varepsilon_{i,t}$$

Coefficient	Regression 1
β_1	0.16
	(4.57**)
Hausman Test	42.3**
Adjusted R ^{2}	0.41

Notes: ** Indicates that the t-statistic is significant at the 0.01 level.

Table 6
Percentage of Long-term investments to Total Assets calculated as the ratio of total Long-term investments to total assets. Percentage of Short/Medium-term to Total Assets calculated as the ratio of total Short/Medium-term investments to total assets. The mean and the median are reported for the period 1982-1992.

Bank Name	Long-term investment to Total assets		Short/Medium-term investment to Total assets	
	Mean	**Median**	**Mean**	**Median**
International Islamic Bank for Investment and Development	0.77	0.55	61.99	62.26
Faysal Islamic Bank of Egypt	2.47	2.22	72.53	75.40
Nasar Social Bank	12.03	12.63	23.69	19.11
Dubai Islamic Bank	3.06	3.10	79.42	84.32
National Islamic Bank	4.20	4.49	62.17	57.29
Kuwait Finance House	0.25	0.23	61.66	62.89
Jordan Islamic Bank	14.63	10.98	78.15	83.09
Bahrain Islamic Bank	11.94	1.56	80.16	89.68
Barka Islamic Bank-Bahrain	0.50	0.32	97.83	97.84
Faysal Islamic Bank of Bahrain	5.95	3.28	27.57	26.96
Faysal Islamic Bank of Sudan	1.52	1.02	33.37	34.81
Sudan Islamic Bank	4.69	5.42	30.91	29.68
Barka Islamic Bank-Sudan	2.12	0.89	41.76	43.66
South of Sudan Islamic Bank	0.00	0.00	73.32	80.60
Barka Finance House-Turkey	3.71	2.74	37.47	41.74
Development Islamic Bank-Sudan	3.14	2.76	23.86	21.46
Tadamon Islamic Bank-Sudan	0.61	0.50	81.95	83.22
Bangladesh Islamic Bank	4.18	3.66	80.47	82.59
Islamic Bank International of Denmark	1.45	1.11	59.77	60.22
Total	3.98	2.08	58.46	60.22

Table 7
The variable *Under* is equal to total investment over investment deposits. This variable value, >1 indicting over investments and <1 indicting under investments.

	Frequency	Percent
Under <1	62	36.25
Under >1	109	63.75
Total	171	100.0

Table 8
The dependent variable is return on investment deposits ($ROID_{i,t}$). The independent variables are the lag of the ratio of long-term investment to total assets; the lag of the Short-term investment to total assets and the ratio of total investment over investment deposits estimated using the fixed effects model.

$$ROID_{i,t} = \alpha_i + \beta_1 LTIN_{i,t-1} + \beta_2 STIN_{i,t-1} + \beta_3 UNDER_{i,t-1} + \varepsilon_{i,t}$$

Coefficient	Regression
β_1	0.238
	(1.03)
β_2	0.325
	(5.25**)
β_3	-0.121
	(-2.88**)
Hausman Test	31.3**
Adjusted R ^{2}	0.616

Notes:*Indicates that the t-statistic is significant at the 0.01 level.