Techniques of Engineering Economics Perspective, Managers of Islamic Banks

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ABSTRACT

The Islamic banking concept of Islamic economics is part of the government to change its banking system is considered. In its lending, borrowing and investment operations, which is the environmental risk is shared between the parties. Despite these advantages compared to conventional banking, the banking practice of some Islamic countries and its proper place is essential. Techniques of engineering economics, banking profits and losses of the partnership we have with the use of statistics and indicators, to prove the theory focuses on the economic value of traditional banking, Islamic banking is made.

INTRODUCTION

Today, banking is considered as one of the most important sectors of the economy [14]. Banks, on the one hand, organize money transfer On the other hand, facilitate trade and commerce; Also they equip investments, and redirect them toward productive enterprises, to provide opportunities for growth and prosperity [12]. Bank as the largest financial intermediaries play an important role in financing economic units [13]. The role of investment banks and Islamic finance institutions, which in some Islamic countries is considered in some Islamic countries, is very important.

Islamic banking is part of the broader concept of Islamic economics, which combines Islamic value system with the existing economic structure [1]. The bank, formed on the basis of participation in profit and loss and mostly emphasis on the real sectors of the economy, and to invest in this sector and this what distinguishes that from traditional banking [23, 24]. Imagine that, the defence of Islamic banking is only due to emotion and religious claims, is false. Due to the unique concerns and characteristics of Islamic finance, Islamic banking, and financial institutions require inventing and developing new and appropriate ways in an era of fierce competition to provide better banking services, be able to compete with them [4].

Despite the benefits of Islamic banking in comparison with the customary banking, this type of banking is not so common in Islamic countries [4].

Before presenting topics and methods, it would be better to go through the history of the Iranian banking, Islamic banking, and a history of the researches done so far, features of Islamic banking, and imperfections in both systems.

An Ideal Islamic banking is to create a structure that develops two-step limited partnership; for financing this project hedge fund, which is common in Conventional banking. History of banking in different times & formation of Islamic banking

History of Banking in the formation of Islamic Banking:
In the medieval period, means of banking and commerce in Rome and Greece was quite different, and almost completely disappeared after a while.
"Ferguson achieves" America economic history professor, explains the origin of entrance of such interests into human life as below:

"In Judaism, the usury forbidden. But, there is a way to usury, and that Usury giving way to a non-Jewish person."
The Jews whose job were that (usury to non-members), to do this they used to sit on chairs were called “Bank”. Later on, when they earned good enough for this job, instead of sitting on those chairs in the street, they build some special building for this job and named the buildings “Bank”, the same name as the chairs.

With the advancement of trade and commerce in the Mediterranean Sea, explore and trade routes between East and West, Range of economic activities was expanded to the Atlantic coast states, and resulted in arrival of gold and silver from America. On the other hand, "John Calvin" The Protestant leader issued a sentence, which gave ban to bank interest in Christianity; and resulted in a dramatic increase in bank activities in a way that several new banks funded.

A brief look at the history of banking, we can observe the banking history goes back to 1401 and foundation of a bank in Barcelona, Spain. The bank is titled as the first bank used Czech for interbank transfers. Then in 1587, a fully state-owned bank “Venice” was established, The bank loan, bank credit and receive and pay interest on outlawed and all fees are paid by the state. In 1609 AD, the Bank of Amsterdam was founded to undertake the task of standardizing metal coins. In 1619, a bank was founded in Venice, which was named “GIO”, and later incorporated in 1638 with a Spanish bank with the same name, “GIO”, continued to work until 1806 AD. In 1656, the first joint-stock bank called “Risk Bank “opened in Sweden, then in 1694, they opened their first bank in England. Also first Bank of the United States, the Bank of North America has been founded in 1782 by Robert Morris of Philadelphia.

After many years the banking system from the beginning of its establishment, was achieved in ideal conditions, there was talk of Islamic banking. Little exploration has been done on this type of banking. But over time, the system can be expressed as follows:

The first spark of belief in Islamic banking appeared in 1940. In this period, economists believed that development and industrialization are the only solution for poverty reduction and did not pay much attention to the distributional consequences. However, in 1950, the conflict between growth and income distribution, and the need for more government interference are seen. In 1963 the bank \"mite gametes \" as the first institution in Egypt, Islamic banking began.

Then in 1967, the number of Islamic banks reached 9. As one of their distinctive features, not traded interest can be named. In 1971, the bank “Naser Social Bank” was established in Egypt, it was the first commercial bank according to interest. In the meantime, there were many activities around the world, to establish Islamic banks. However, due to decades of Second World War and poverty in this period, not a lot of information to document the activities of Islamic banks is available. After this period, in 1990, due to the changing strategies of development from poverty reduction strategies to grow strategies, this decade called War on Poverty era.

In 2004, the Islamic Bank of Great Britain, where their services were provided for Muslims in London, Birmingham, and Leicester was established. In 2010, Tunisia and Morocco also established the first Islamic bank.

A glance at the bank, and the inception of Islamic banking in Iran:

Prior to the establishment of new banks, money changers were conducting banking operations. Change in the profession of money exchange into the new banking industry was along with the colonial presence. Establishing of a banking system in Iren the first time suggested by Frenchman Jean Savalan to Mirza Mohammad Khan Naserolmalek when he was in London for railway contracts 1864. And the new bank called Bank of East, centred in London, established in 1887.

In 1888, the Imperial Bank of Credit established by Naser al-Din Shah Qajar, and Banks became, Riialto money and capital markets trading centres in Iran. The calendar year 1890, the new East Bank received the sum of 000/20 English pounds and conceded all its branches to Royal Bank, and the Bank continued its activities until 1948. In the same year, a Russian got the credit to establish a loan institute for 75 years.

Ottoman Bank was founded in 1922, at the same year; the Loan Association renamed to Loan Bank, and was transferred to Iran. Bank of Pension Fund for Army Noncommissioned Officer was called “Oshoon-e-Pahlavi”, which was later renamed to Bank Sepah, entered into the banking system in 1925, and established in 1926, and Iran launched pawnshop was established in 1926.

In 1927, a bill to authorize the establishment of a national bank in the Sixth Parliament was introduced and the Iranian National Bank was established a year later. After that, the boom can be found in banking activities, So that, in 1950, private Iranian banks using trade rules for joint stock companies, was established. In 1954, a bill based on a complex set of local and foreign banks, was passed and It increases the activity of banks in the country, so that, in 1340, the number of Iranian banks, including public, private, and mixed banks rose to 28.

With the victory of the Islamic Revolution, Banking Without Usury Act, 1978, took place. This is the first step, for Islamization of the Iranian banking system. Until 1983, however, Islamic banks have absolutely no experience or knowledge to manage. And since then, with the provisioning of credit unions and loan funds, and three non-banking institutions, a step was taken in this way. After the Islamic Revolution (1979), just 9 out of 36 established banks remained. In 1981, the state became, to do the necessary studies in a short time and offer non-
usury banking bill, to National parliament. Non-usury Banking Act bill, was presented to cabinet, in 1982. After 2 years, in 1984, the Non-usury Banking system was communicated to all banks. Banking activities in Iran continued progress. In the '70s, Authorization was given to establish credit institutions and, ultimately, private banks. And, Banking system became completely private. In the same decade, foreign banks operating in the free zones of Iran, took his first steps and began their work. Iran's first private bank, named “Bank-e-Karafarin ”, was established in 1999. And then, two new Bank “Eghtesad-e-Noniv” & “Parsian” joined the country’s private banks.

It is worth noting, though World War II, had little direct physical loss or damage in Iran, However, serious economic impacts caused by the Allies, many years after the war, was still swiped. Plenty of essential products hit the occupying forces of the country, and some were sent to the Soviet Union. While most of the country’s population lived in poverty. Commercial contracts with Britain and America, during the war, not only did not produce a satisfactory condition. But, the pressure on these countries, to the government of Iran, to increase money printing, and make money for foreign forces, the value of Iran's currency dropped to 100%, and inflation rose to serious levels.

**Comparing traditional banking with Islamic banking:**

In an overall view, you can see the use of funds in Islamic banks and conventional banks, as in Table 1.

<table>
<thead>
<tr>
<th>Islamic Banks</th>
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<tbody>
<tr>
<td>Cash and balances with other banks</td>
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</tr>
<tr>
<td>From the sale of receivables, limited partnership, advance money</td>
<td>Loans</td>
</tr>
<tr>
<td>Invest in securities</td>
<td>Mortgage</td>
</tr>
<tr>
<td>Funded through contributions</td>
<td>Financial lease</td>
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<td>Investing in rental property</td>
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In the conventional banking system, three groups of depositors, banks, loan applicants, economically and legally, act completely independently. But their relations based on Islamic banking are the sharing of profit and loss [10]. In conventional banking, capitalism, financial, non-religious and world axis. While, the Islamic banking system has been established based on Islamic philosophy and ethics, law and guidelines. Also the conventional banking, focuses on economic and financial aspects But Islamic banking, in addition to economic issues, the moral issues, emphasizes on behavioral, social, and religious aspects Of social justice and equality, the public be entitled.

**Characteristics of Islamic Banking:**

To justice, equitable distribution, regardless of the amount and distribution losses amount to divide it between the bank and the customer is not already set for the function [7]. That is capable of financing adjusted earnings equitable distribution of wealth and the ability to apply both methods (with and without the presence of PLS PLS). Other features of Islamic banking can be mentioned as, increase the stability of the financial assets of the parties, and the solvency of the system, and Unique features and balance, which causes significant risks to the individual accounts are also mentioned.

**Defects and problems of Islamic banking:**

The high costs of monitoring PLS projects , inefficient tax system, the high rate of illiteracy, lack of accounting standards in this area, Islamic banking is risky, lack the legal framework according to most investors, lack of standard procedures, Lack of expertise and tools necessary to achieve the anticipated benefits, the PLS investment is among the most important defects of this type of banking [1]. Application areas PLS, usually due to operational problems, and ethical constraints, have limited commercial application. Failure to comply with religious principles, and international banking standards, the lack of analytical support facilities, project finance and ... Banking based on PLS, has failed to find its right place [19].

**A short history of research in the field of Islamic banking:**

- Rafi Khan: A study entitled Economic Analysis of PLS model for the financial sector
- Mir Akhor et al.[18]:The overall picture, and an overview of the applications and structures of Islamic banking, and offer an emphasis on strict Islam policy and laws .
- Mir Akhor et al. [18]: Discussion of optimal contracts, partnerships, and investment in an interest-free Islamic economy.

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**Table 1: the use of funds in Islamic and conventional banks [30].**

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- Masoud Khan: The study was part of his doctoral dissertation, entitled, Towards an economic system without interest (Islamic).
- Shirani: Two decades, Islamic banking, and structural and administrative challenges of the banking system, was studied.
- Bahmani et al. [6]: Structure of interest rates in the banking without interest, have been analysed.
- Qani Nejad: Review some relevant theories of interest-free banking.
- Mazaheri: Alternative model for the country’s banking system has been presented and no usury banking law, enacted 62 years, the main thrust of the banking system, Iran is considered.
- Alzafri et al.: study, on the cost of capital of Islamic banking, the report, four major banks (Kuwait, UAE, Qatar, Bahrain) in the 1996-1998 timeframe.
- Aqili Kermani: This practical solution for Islamic banking compliance with regulations and international banks, have been studied.
- Wjari et al. Factors, which motivate customers to deal with Islamic banks.

MATERIALS AND METHODS

Banks and financial institutions, as usual, do supply of financial capital (finance) of investment projects, both through doing:
1. Fixed interest loan and receive (FRS)
2. Participation in the project and its profit and loss sharing (PLS)

Increased investment in economic development is an important prerequisite, and the ways, which different societies develop or adapt to finance investment projects, play an important role in facilitating investment, and promote economic development in the community. So far, some Muslim economists, have shown that the theoretical approaches based on participation in the profits and losses of financing, comparing with the lending practices and receive a fixed return, in terms of reducing production costs, increasing wealth, the risk control business cycle, and prevent bank failures, is of a higher efficiency [3]. researchers want to study, first a new method, using the techniques of engineering economics, to prove that the Islamic banking Vs. conventional banking, will lead to greater economic value. But according to many experts, and managers of banks, needed context is not present now, so Islamic banks are not willing to participate in the profits and losses. The most important reason for financial institutions, the prefer method of financing through a loan, usually are three common problems in the financing process [17]. One problem is the uncertainty of the business environment on the banks. And the other is related to information asymmetry. Information asymmetry in the two periods is discussed. Pre-financing, the mouth is a bad choice. And after the period of funding, which is called moral hazard. Each of these obstacles, described below, and then 14 Iranian bank managers' comments about the importance of each of these barriers, and strategies to meet them will be presented.

Maximizing economic value added (EVA), the Islamic banking:

Funds invested in an Islamic bank, the cooperative banking system they use, are based on depositors, investors and bank debt. Islamic banks, with most of the resources, After deducting legal reserve and contingency reserve uses the resources in the form of partnership contracts with variable interest, and returns the result of a joint investment, and the accrual basis of accounting systems, accounting and will split between the shareholders [21]. The objective of Islamic banks, is maximizing the interests of shareholders, depositors and owners alike will be legal. The present value of economic value added as a criterion, we seek to Comparative Islamic banking and conventional scientific return. Calculation of economic value has been added to the economy in a variety of theoretical literature, But in general, most of the proposed method, the opportunity cost of capital is calculated as net profit (profit after tax) will be deducted from the firm. Therefore, in order to maximize the economic value of the two cooperative banking system, and based on interest, is essential to the economic value of the objective function, we examined both the banking system.

\[
EVA = \pi - Er.k
\]  

\[
Er, \text{ stands for the weighted average of the opportunity cost of capital (WACC) which will follow as exogenous, and the performance of the real sector of the economy. RPLS is the rate of return of the real part of the economy. Therefore, the above equation shows that the economic value added, where, } \pi \text{ refers to profit, and } K \text{ will be shared bankroll. Rate of return, in PLS, is the same as the rate of productivity. However, rates of return or interest rate on interest-based banking, is equal to the market interest rate in addition to risk rate. The following equations can be used to analyses rate the performance of the two systems.}
\[
r_{\text{PLS}} = r_{m} + E (\text{div})
\]
It is argued from above equivalent, that rate of return on PLS, is a sum equal to the market interest rate, and expected random deviation $E(\text{div})$. Random deviation of "containing credit risk " is as a negative factor, and "unscheduled return " is as a positive factor. Equity returns the real part of the economy with market interest rates depends on deviation factor. Thus, there are three logical relationships can be written as follows:

I) If $E(\text{div}) = 0 \Rightarrow r_{PLS} = r_m$ (3)

If the expected deviation is equal to zero, then both rates will be encapsulated of convergence.

II) If $E(\text{div}) > 0 \Rightarrow r_{PLS} > r_m$ (4)

If the deviation is positive, then the rate of return on PLS, will be higher than market interest rates (interest-based banking).

III) If $E(\text{div}) < 0 \Rightarrow r_{PLS} < r_m$ (5)

If deviation is negative, then the rate of return on PLS, will be below market interest rates (interest-based banking). And benefit is obtained from the following equation, which is the difference between revenue and cost.

$$\pi = TR – TC$$ (6)

Joint income of banks is from bank available funds, and fees and income from services, and non-financial products, which is calculated according to the following equation.

FD and $r$, respectively, are, available resources, and, the rate of return of investment in the real sector of the economy.

$$TR = F Dr_{PLS} + BF$$ (7)

Resources available to banks is calculated from the following equation, Where, “a” is the reserve requirements, is to be received by a central bank for the sake of monetary policy, and “b” is contingency reserve or pre-order, in order to pay for short-term bank liabilities. Contingency reserve in PLS banking, is lower than interest-based banking (BM). Hence, the performance of funds in corporate banking is more than interest-based banking. Because in the PLS banking, due to stability of cash flow funds to cover liquidity risk, fewer discretionary resources are needed than in interest-based banking.

$$FD = D (1-a-b_{PLS})$$ (8)

Bank charges are shown in the equation $TC$, as Including the cost of operations and the None. Operating costs, including costs related to credit risk (Remember doubtful receivables), and operational risk that is shown as the coefficient ($\theta$), in the mathematical model, defined as the resources available to supply credit.

Non-operating costs, including staff costs, administrative and depreciation. In general, in corporate banking, deferred and past due receivables, are not considered in partnership contracts,

Or was reduced compared to interest-based banking. In this respect, the coefficient $\theta$, is reduced, in corporate banking in comparison with the interest-based banking. So based on the above arguments, the relation "$\theta_{PLS} < \theta_{BM}$" is true.

$$TC = OC + NOC$$ (9)

$$OC_{PLS} = \theta_{PLS} (1- a- b_{PLS}) D$$ (10)

Replacing the above relationships, in the function of PLS economic value added system, is shown in the following equation:

$$EVA_{PLS} = [D_f (1 - a - b_{PLS}) r_{PLS} + BF_f - \theta_{PLS} (1 - a - b_{PLS}) D_f - NOC_f - Er K_f]$$ (11)

On the other hand, operating costs in interest-based banking, the equation is shown below.

$$OC_m = [\theta_m (1 - a - b_m) + i] D$$ (12)
In the above formula, "I" is the weighted average interest rate paid to depositors, and "r" is the weighted average interest rate received from borrowers. Economic value added function, in this case, will be according to the following equation.

\[ EVA_m = \left[D_t(1-a-b_m)r_m + BF_t - i D_t - \theta_m(1-a-b_m) D_t - NOC_t - Er.K_t \right] \]  \hspace{1cm} (13)

Above equations, represents the economic value added, in two banking systems, i.e. PLS, and interest-based.

With the above relations, and parameters in the model, and the use of logical reasoning, and mathematical analysis, it is concluded that the economic value added, in the cooperative banking system (PLS), in contrast to interest-based banking, will be greater.

A comparative study of some aspects of corporate banking and interest-based banking:

For a true comparison of financial indicators, the two cooperative banking system and the interest-based banking, The financial statements of the Bank, RHB, RHB Islamic Bank in the years 2007 and 2008 are used (World Bank, 2008).

Table 2: Comparison of fixed interest-based banking, cooperative banking.

<table>
<thead>
<tr>
<th>Financial Indicators</th>
<th>RHB (bank)</th>
<th>RHB (Islamic bank)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Profit</td>
<td>$238,852,000</td>
<td>$239,138,000</td>
</tr>
<tr>
<td>Total Assets</td>
<td>$8,526,184,000</td>
<td>$8,404,436,000</td>
</tr>
<tr>
<td>Return On Equity</td>
<td>10.95%</td>
<td>14.46%</td>
</tr>
<tr>
<td>Return On Assets</td>
<td>6.05%</td>
<td>1.72%</td>
</tr>
<tr>
<td>The Instantaneous</td>
<td>52%</td>
<td>49%</td>
</tr>
</tbody>
</table>

Net profit and total assets and liabilities, of both banks during the year under review are almost identical. However, return on equity, has a higher rate in a cooperative bank. This indicates that, in Bank PLS, due to the emphasis on the participation of the shareholders (investors) and Investment Project implements, Rate of return on equity will increase. Also, return on assets, in the cooperative bank also has a higher rate. Which represents a more profitable rate on investment projects during the year under review? Hence, comparing the return on equity (net worth), and the assets in the two banking practices, matches with theoretical foundations of ours. That is, the efficiency of PLS-based banking, is higher than the interest-based banking. A higher ratio indicates higher performance and economic value added, in the cooperative banking system. Also, as expected, acid ratio (coefficient b), in cooperative banks, is less than in interest-based banking, due to the stability of the flow of funds. Reduction of coefficient b, effective factor in increasing the economic value added in the corporate banking than interest-based banking.

Suggestions:

This paper presents some proposals for the future researches, are as follows:
- Using the experiences of other banks, and international institutions, Accounting and Auditing Organization of Islamic banks as an empirical example.
- Development of legal Islamic instruments, in the area of equipment and allocation of resources.
- Provide legal and appropriate legal instruments to communicate with conventional and Islamic banks at the international level.
- Establishing the Juridical Committees, in the central branches of all banks operating in the country (like most Islamic banks in other countries).
- Active supervision of the Central Bank, over the achievement of economic objectives, and prevention of operational processes, procedures and practices that are inconsistent with the principles of Islamic banking.
- Developing functional training courses, for managers in the banking sector, and encourage managers to use corporate banking, in the area of profit and loss.
- Complete, current standards, which are used by traditional banks, the standards, the risks unique to Islamic banks cover.
- The Islamic Republic should have further emphasized on the integration of the Iranian financial system, which will accelerate the global financial system and banking development in Iran [19].
- Paying more attention to innovation, and provide new tools and new Islamic banks can take advantage of this kind of banking on a framework applicable to outstanding [24].

Conclusions:

Short history of the Islamic banking system, which has also been brightened do not exceed more than three decades. Islamic banks in the financial system have the additional risk compared with the systems of their rivals.
Looks economic thinking of winner, rejects looser, and the two calls into a form of economic behavior, which partake of its benefits and both sides accept responsibility for possible damages. This attitude is significant in all Islamic legal contracts, which are Query Islamic banks, and are essentially legal contracts [4]. In this paper, the techniques of engineering economics, the cooperative banking system, the profit and loss (PLS) covered. And using statistics and indicators obtained, we tried proving to of more focus on economic value added, in Islamic banking than traditional banking.

REFERENCES


