Developing Inclusive and Sustainable Economic and Financial Systems

Islamic Banking and Finance-Essays on Corporate Finance, Efficiency and Product Development

Volume 3

Editorial Board

Dr. Hatem A. El-Karanshawy

Dr. Azmi Omar

Dr. Tariqullah Khan

Dr. Salman Syed Ali

Dr. Hylmun Izhar

Wijdan Tariq

Karim Ginena

Bahnaz Al Quradaghi

جامعة حمد بن خليفة
HAMAD BIN KHALIFA UNIVERSITY

كلية الدراسات الإسلامية في قطر
QATAR FACULTY OF ISLAMIC STUDIES

Estimating expected returns on *Mudaraba* time deposits of Islamic banks

Zeynep Topaloglu Calkan

Adjunct Assistant Professor, Georgetown University – Qatar, Phone: +974 5568 9211, zt57@georgetown.edu

Abstract - On the deposit side, Islamic banks work on a *mudaraba* (partnership) contract, where the depositor and the bank are business partners. While in conventional banks the depositor is provided with a fixed interest rate, in Islamic banks the depositor can only discover his return when the investment period is over. This fundamental distinction brings forth a disadvantage for Islamic banks while competing with their conventional counterparts in the market.

On the other hand, most of the credits extended by Islamic banks follow a *murabaha* (cost-plus sale with deferred repayment) contract, and the banks specify profit rate on the credits from the beginning. Using this information we have developed a forecast model to quote the depositors their expected returns on *mudaraba* time deposits within a 95% confidence interval at the beginning of the investment term. Besides increasing competitive advantage, estimating expected returns will assist Islamic banks in their risk management and asset-liability management.

Keywords: Islamic banking, estimating returns on Islamic time deposits

1. Introduction

The financial crisis of 2007–2008 triggered an extended global recession, which still distresses the economic activities. This crisis also evoked questions about morality of the current global financial system. The research after the crisis shows that financial institutions of the West, with the help regulators and the rating agencies, deceived their clients and the public.[1] Islamic finance and its ethical principles emerged as an alternative model because most of the elements that caused and extended the crisis are not permissible by *Shariah* rule.[2] Although the virtue of the Islamic financial system was invigorated after the crisis, the scholars and practitioners of Islamic finance have been emphasizing its value long before. Considering its merit, the insignificant size of Islamic financial assets compared to global financial assets makes us question what can be and should be improved by practitioners of the area of Islamic finance to reach its deserved levels. Here, in this paper, we propose a tool to improve competitiveness of Islamic banks. This is an attempt to facilitate the process of reflecting intrinsic value of Islamic finance to statistical figures.

Except a few countries[3] where the entire internal financial system has been transformed, Islamic banks have to compete with their conventional counterparts in attracting customers. Factors like lower penetration[4] and fewer financial instruments place Islamic banks in an unfavorable position compared to their competitors.

One of the structural factors that cause difficulties for Islamic bankers is the inability to provide a specific rate of return to depositors. Depositors are used to knowing the interest rate and are most of the time comparing different investment alternatives based on their rate of return. This becomes challenging especially when banks are interested in attracting customers to long-term savings accounts. Depositors of Islamic banks need to wait up until the end of their investment period in order to observe their return, whereas in conventional banks depositors know how much they will receive at the beginning of their investment.

The reason behind this lack of information is the underlying *Shariah* contract in Islamic savings accounts. Typically two types of contracts, *wadia* (safe-keeping) and *mudaraba* (profit-loss sharing), are used in these accounts. Briefly, *wadia* is a contract where the bank acts as a safe keeper to depositor's funds with a permission to utilize them at its own risk, and *mudaraba* is a type of profit-loss sharing contract where a depositor invests money into a partnership with the bank, where the bank provides its labor/services to the partnership in an agreement to share proceedings – either profit or loss – later on. In both of these contracts it is forbidden to specify a rate of return in the beginning as

it nullifies the essence of these contracts. Besides *Shariah* prohibition, in reality it is not possible to know the value of ingenerated profits/losses.

Currently, the banks that use these two contracts in their profit sharing investment accounts (PSIA) do not share a profit rate with their deposit clients. They only share historical information, mainly previous term's profit distribution. In this paper, we argue it is possible for Islamic banks to provide an anterior rate to their clients without breaking *Shariah* rules by sharing already available information in their accounts.[5]

Although it is not permitted and possible to specify the profits in advance, it is still possible to make precise estimations. The reason behind it lies in the way PSIA funds are being utilized in the Islamic banks. Scholars argue that Islamic banks are initially established in order to promote sharing risk not only on the depositor side but also on the financing side through profit/loss sharing system. However due to reasons like mismatch between asset and liability duration, moral hazard and adverse selection issues, today the main mode of financing in Islamic finance is not one of the profit/loss sharing contracts (*musharaka* or *mudaraba*) but one of the trade contracts namely *murabaha*. In *murabaha* contract the Islamic financial institution (IFI) acts as a tradesman. It purchases the items from the vendor and sells them to its client with a mark-up in a deferred payment plan. There are several requirements of *murabaha* contract that have to be satisfied by the bank and the client; however, for our research, the significance of this contract is its feature to provide ex-ante profit rate. Both parties know and agree on how much profit will be charged by the bank on the item well before the transaction takes place. Most of the time Islamic banks follow conventional loan rates when quoting their mark-up price since they are in competition with them.

Therefore even if IFIs cannot specify the profit rate that they will distribute to PSIA holders, on the financing side they know how much money they will make when they sell the *murabaha* contract. It is possible to use this knowledge to generate a reliable estimation about their profit distribution.

In the following sections of the paper the research proceeds as follows: In the second section, the main discussions about profit loss sharing accounts in the literature have been presented. In the third section the methodology to estimate PSIA return has been developed, and in the last section the results and conclusion have been shared with the readers.

2. Literature review

Profit sharing investment accounts (PSIA) have been a topic of interest among scholars in the field of Islamic finance. There are mainly two issues, one of which is accounting treatment and risk management implications of PSIAs, while the other is the profit smoothing applications of Islamic Financial Institutions (IFI) against the risk of losing PSIA investors, in other words displacement risk.

Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) in its Financial Accounting Standard

No. 6[6] defines PSIAs as a new category between liability and owners' equity since PSIA investors are not regular depositors receiving a fixed return but they are profit/loss-sharing partners. On the other hand PSIA investors do not have managerial and voting rights as owners of the bank. Akacem and Gilliam (2002), Kahf (2005), Sultan (2006), Ayub (2007), Ibrahim (2007), Shubber and Alzafiri (2008), in agreement with the definition provided by AAOIFI, states PSIAs are an equity-like instrument compared to conventional deposits. This attribute of the PSIAs brings challenges in terms of accounting treatment of them. Atmeh and Ramadan (2012) critically evaluate accounting treatment of *mudaraba* returns by AAOIFI, and they explain how some of its implications deteriorate the reliability and fairness of the financial statements and how they compare AAOIFI standards with IFRS in that respect. In application we observe not all banks stick to the AAOIFI standards. Rating Agency Malaysia (RAM) in its Research Report (October–December 2007) comparing Malaysian and Middle Eastern IFIs, points out reporting PSIAs as a liability on the balance sheet as one of the differences of Malaysia.

Besides accounting treatment, PSIAs equity-like structure brings out different risk implications compared to conventional risk management. Since PSIA investors are supposed to bear the associated loss in these accounts, capital adequacy calculation, and the approach towards interest rate risk and credit risk differs in IFIs. Khan and Ahmed (2001) provide a detailed analysis of the risk management in the Islamic financial industry. Archer and Abdel Karim (2009) especially call attention to the regulatory challenges faced in Europe and North America, where there is no special regulation for IFIs. Ariffin and Kassim (2011) through a survey on selected banks uncover the areas for improvement in the risk management practices within IFIs.

On the other hand, Sundararajan (2005) with his cross-country study argues PSIAs are subject to a considerable amount of smoothing on their return, which in turn implies the investment risks of the banks that are not fully shared by the PSIA investors. He challenges whether IFIs really need a distinct risk treatment compared to conventional banks.

Second major issue about PSIAs is the return equalization activities of IFIs. As pointed out by Sundararajan (2005), and Archer et al. (2010), in order to compete in the market and avoid withdrawal risk by providing market-related returns to PSIAs, IFIs employ a variety of return smoothing activities. Additionally, in Jordan, Malaysia and Qatar, the central bank requires IFIs to manage PSIAs in a way not to reflect losses to the investors and to "smooth" returns. Therefore due to regulatory requirements or market pressure, IFIs are driven to use a combination of methods like conservative investment strategies, profit equalization reserves (PER), (a reserve account formed out of profits of PSIA to smooth profits), investment risk reserves (IRR), (another similar account to cover periodic losses) or a donation to PSIA holders from the share of the owners. Besides Sundararajan (2005), many scholars like Zuobi and Al-Khazali (2007), Taktak et al. (2010), Farook et al. (2012) confirm that IFIs pursue income-smoothing activities to compete with market-based deposit interest

rates. Taktak et al. (2010) demonstrate unlike conventional banks, IFIs do not use Loan Loss Provisions (LLP) but use PER and IRR to provide steady returns. On the other hand Zuobi and Al-Khazali (2007) report GCC banks that use LLP to smooth their returns.

The evidence for profit distribution management revealed recently by Farook et al. (2012) represents the strongest support in the literature. They have utilized an extended dataset covering 37 banks in 17 countries. They have shown most IFIs do really manage profit distributions, with IFIs in Brunei, Malaysia and UAE showing lower average profit distribution management, while in Bahrain, Indonesia, Pakistan, Saudi Arabia, IFIs presenting a higher average profit distribution management. Percentage of Muslim population, financial development, market concentration, depositor reliance and age of the Islamic bank are the most significant factors to answer the question why IFIs engage in income smoothing.

The existence of income smoothing activities by itself proves the competitive pressure on Islamic banks. Literature shows competing with the conventional banks is one of the most important challenges of IFIs and they utilize various methods to overcome this challenge. In this study we will provide a model to forecast PSIA returns in the short-run to provide a marketing tool for IFIs.

3. Methodology

In order to define PSIA returns, we will use a simplified version of the framework mandated by the Turkish Banking Authority to the IFIs in Turkey. The reasons behind choosing the Turkish framework follow:

1. PSIA funds are not mixed with bank equity capital
2. Profit/loss distribution is done on a daily basis
3. Instead of PER and IRR, LLP is used to smooth returns which makes it comparable to conventional banks

Before stating the formula for PSIA returns, we need to define some of the terminology that will be used in our specification.

Unit Value (u_t): It is assumed to be equal to 100 on the first day IFI accepted deposits to its PSIAs. It changes daily based on the distribution of profit and loss to the account. We can consider unit value as an index to tell us how our funds are performing.[7] There is one unit value for each day of operation. The change from one day to another reflects the percentage of profits or losses made by the bank during one day.

Unit Account Value (ua_t): It defines the current total monetary value of PSIAs for the bank, which can be calculated by multiplying unit value and account value. For every individual account holder, unit account value is equal to the amount of money they have deposited in the first day. Unit account value will grow each day based on bank's performance.

$$ua_t = u_t \times a_t \qquad (1)$$

Account Value (a_t): It is the value calculated by dividing the amount of money deposited to PSIAs by that day's unit value. It represents the participation share of PSIA holder to the total funds. There is an account value for each individual account holder. The total of all depositors' account values make the account value for the total funds.

After defining the basic terminology, we will now define the formula to calculate unit value. As stated, unit value is basically an index to track the performance of PSIAs. It can be said that by converting PSIAs to an index value, the Turkish Banking Authority requires Islamic banks to remove the size effect and concentrate on the performance. In our study we use the following simplified formula for unit value:

$$u_{t+1} = \frac{ua_t + R_t - (c_t + y_t)}{a_t} \qquad (2)$$

where u_{t+1} represents unit value for time $t + 1$, the next day, ua_t represents unit account value for time t, R_t represents revenues to PSIA for time t, C_t represents costs to PSIA for time t, y_t represents reserves for time t and a_t represents account value for time t.[8]

R_t, revenues to PSIA, is defined as a combination of profits accrued to the PSIA account within current business day plus any annulment of former provisions and/or reserves. C_t, costs to PSIA, is defined as a combination of provisions imposed by regulations, plus payments to deposit insurance fund and loan loss provisions. Revenues and costs are reflected on the calculation starting with the first day of the loan. Therefore even if the bank does not receive any installments, the PSIA account will start recording a profit when the loan is extended. For the purposes of simplicity we will assume all loans follow a *murabaha* contract.[9]

After calculating unit value, we define daily returns to our PSIA funds with the following formula:

$$r_{t+1} = \frac{u_{t+1} - u_t}{u_t} \times 100 \qquad (3)$$

In this calculation for unit value, PSIA costs and reserves are constant percentages of PSIA revenues given by the regulatory authority. Therefore the only variants in this formula are unit account value, which represents the amounts deposited to the bank and PSIA revenues, representing the returns from the loans extended by the bank. Unit account value fluctuates as the depositors withdraw their money or deposit new funds to their accounts. PSIA revenues increase as new *murabaha* loans are extended to the clients. Therefore in our analysis we will simulate these two variables and the unit value and daily returns to PSIA funds will adjust.

4. Results and conclusion

Data

In our analysis, we will use the formula generated in the methodology section to simulate the daily average PSIA returns of Turkish participation banks.[10] Currently there are four participation banks operating in Turkey. They publish daily returns to their PSIA funds for the
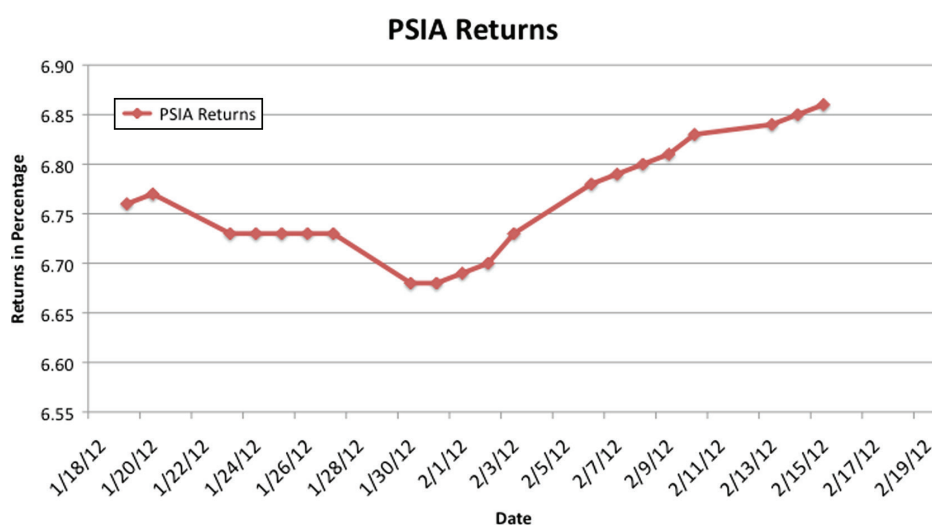
PSIA Returns

Figure 1.   Average PSIA returns for 4 Turkish participation banks.

trailing one-month, three months, six months and one year for different currency classes in their websites. We have taken four banks' average data for trailing one-month (31 days) returns to Turkish Lira PSIA funds for the period between January 15, 2012, and February 15, 2012. In our simulation we try to estimate returns during this one-month period. We have chosen one-month maturity, since these accounts hold the highest amount of funds compared to other maturities. The date selection is arbitrary. Turkish lira has been chosen as the selected currency since the analysis is being done with Turkish data. Figure 1 presents the path followed by PSIA returns for our selection.

First simulation
In our simulation we have assumed the following:

		At t = 0	At t >0
Unit account value	ua_0	: TL6 billion	Endogenous
Unit value	u_0	: 100	Endogenous
Account value	a_0	: 60 million	Assumed constant
PSIA revenues	R_0	: TL 2 million	Will be estimated
PSIA costs	C_0	: 15% of revenues	Exogenous
Reserves	y_0	: 5% of revenues	Exogenous

Unit account value represents the deposits collected by our average participation bank. Since we are using the data from the beginning of 2012 for TL accounts, we have referred to TL deposits collected at the end of 2011. Total value of TL deposits collected has been TL 24.04 billion.[11] In our simulation we have taken the average of this value and used TL 6 billion[12] as unit account value.

Unit value is assumed to be 100. Since it is an index to follow the performance of the funds, instead of its absolute value, the changes from day to day are significant for our analysis.

Assuming a unit account value of TL 6 billion and unit value of 100, account value is calculated to be TL 60 million.[13] With the separation of unit value and account value, it is now possible to track changes in deposits in two ways. Unit value captures the changes due to the investment returns (profits and losses), and account value captures the fluctuation in the funds deposited to the bank (deposits and withdrawals).

The percentages 15% and 5% for PSIA costs and reserves assumed in our simulation are an approximation based on the rules imposed by the Turkish regulatory authority. Turkish regulatory authority requires banks to set aside reserves under the names of special provision, general provision, federal deposit insurance premium and precautionary provision. Based on Turkish monetary and macroeconomic policy, the rates on these provision expenses can be altered; a total of 20% is a fair approximation to the reality. The ratios for PSIA costs and reserves are kept constant in all simulations since they represent the best legal approximation.

For PSIA revenues our selection of TL 2 million daily return is derived from 6.75%, with a starting monthly PSIA return given in Figure 1. TL 2 million daily revenue is equal to 0.03% daily return on TL 6 billion pool of funds. Using 70/30 profit sharing ratio between the bank and the depositor, it refers to a 6.72%[14] monthly PSIA return.

In our first simulation, we have assumed the account values to be constant at t = 0 value, meaning that there are no deposits or withdrawals in PSIA funds. Therefore we only need to simulate the trend in PSIA revenues. In 2011, participation banks have extended a total of TL 41.14 billion[15] in loans. This will approximately refer to daily TL 40 million[16] of loans. The revenue on these loans depends on the profit rate charged by the bank to the borrower. There is going to be a negative correlation between the rate and the loan amount. As the rate on the loan goes
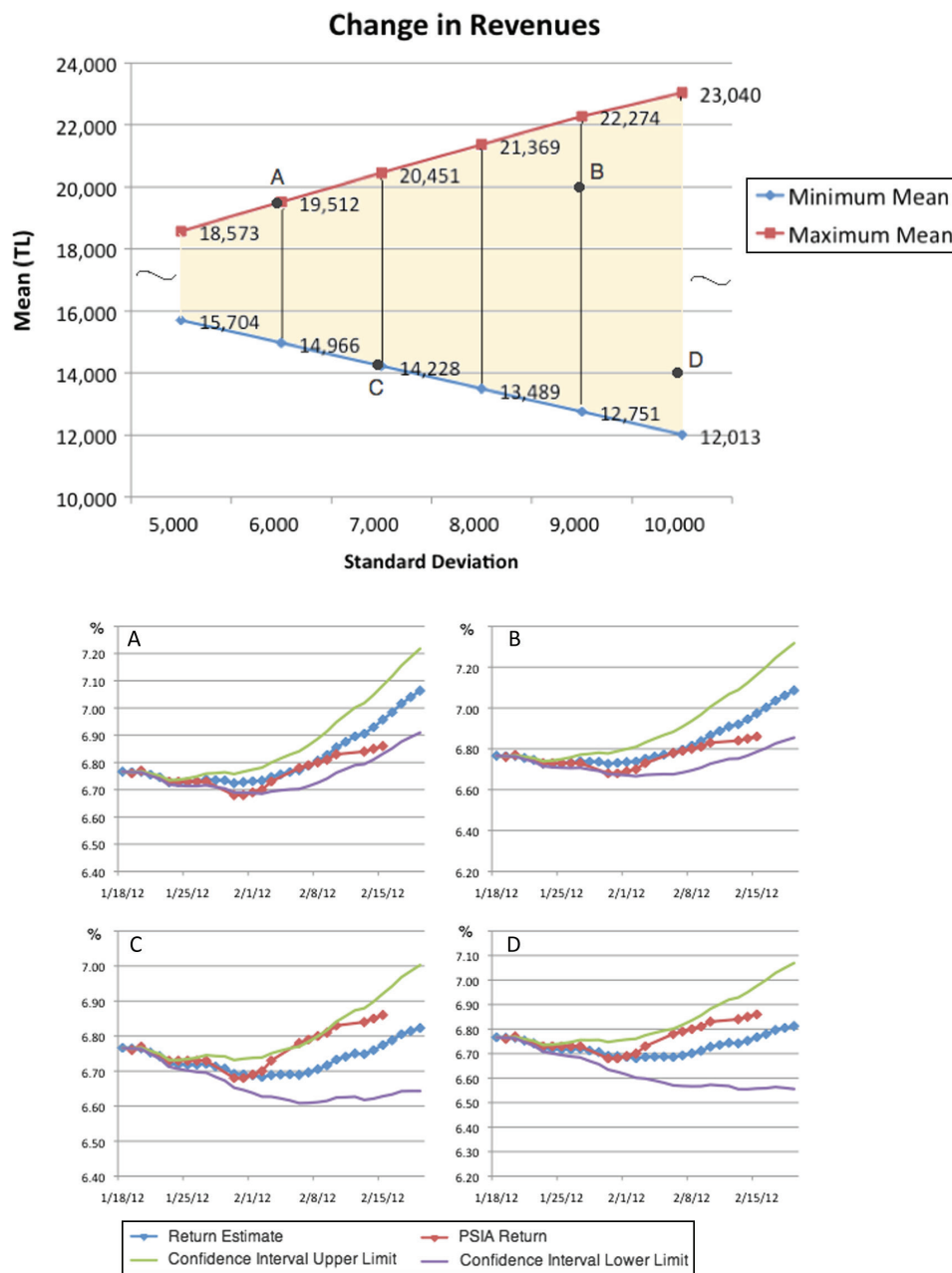
Figure 2. Estimating the trend in PSIA revenues: Panel A gives the area for mean-standard deviation combination, Panel B uses 4 sample points from Panel A to construct confidence interval for PSIA returns.

down there will be more demand for loans and vice versa. Also the profit rate has to be set in accordance with market conditions. Islamic banks using their internal data can make analysis on this negative correlation and find out the relationship between the profit rate and the amount of loans they can extend in detail. However in our analysis we will use market interest rate as a reference point since participation banks are competing with conventional banks in attracting customers. Average monthly commercial loan rate for the period January 15th –February 15th 2012

in Turkey was 1.27%[17]. Thus, if the bank extends TL 40 million of loans at a rate of 1.27% everyday, PSIA revenues are increasing around TL 17,000 per day. Of course this is a rough estimation. Therefore in a way to provide the 95% confidence interval to PSIA returns curve given in Figure 1, we have constructed a range for the trend of PSIA returns. If mean and standard deviation of PSIA revenue change stays in the area given in Figure 2 Panel A, the bank can provide a profit rate quote that is within 95% confidence interval of the actual realized value. In order to demonstrate this, we

have plotted confidence interval for the actual PSIA return for four different points in the area given.

The result for the first simulation represents the possibility of providing a profit rate quotation to the deposit holders in Islamic banks. As our analysis suggests the banks can do this with a level of flexibility in their revenue estimations. Here in our analysis we have used market interest rate and four banks' average for other variables. Islamic banks on the other hand have access to historical data about individual loans with profit rates, loan values, payment information and so on. Using this extra information it is even possible for them to provide a better estimate for PSIA returns.

Second simulation

In the second simulation, we release our assumption of constant account value, in other words now there are deposits to and withdrawals from PSIA funds. In the first simulation account value was assumed constant at TL 60 million along the estimation period. Islamic banks in applying this framework can use their internal data about the fluctuations in the PSIA funds. However for our analysis we will use market growth rate as the trend. We have extracted the trend in TL deposits for participation banks for a period two months prior to our estimation period. Weekly deposits data is available at Central Bank's website[18]. Deposits data is equivalent of unit account value in our framework. However we calculate unit account value endogenously using equation 1. Therefore we will use the trend in deposits as an approximation to trend in account value. Figure 3 displays the path followed by TL deposits of Participation Banks. As we have been doing all along, here again we have divided total TL deposits value by four to reach an average value for one of the four banks in the market.

Therefore our assumptions in this simulation are as follows:

		At t = 0	At t > 0
Unit account value	ua_0	: TL6 billion	Endogenous
Unit value	u_0	: 100	Endogenous
Account value	a_0	: 60 million	Linked to deposit growth
PSIA revenues	R_0	: TL 2 million	Will be estimated
PSIA costs	C_0	: 15% of revenues	Exogenous
Reserves	y_0	: 5% of revenues	Exogenous

With the introduction of PSIA funds variation, mean and standard deviation combinations for revenues have been updated. Figure 4 Panel A displays the new range for revenues that makes it possible for the Islamic bank to provide a profit rate estimate within 95% confidence interval of the actual value. In Panel B, four different mean and standard deviation combinations from Panel A have been used to plot confidence intervals for the return estimate. Actual value lies within 95% confidence interval in each of them.

This second simulation demonstrates a more accurate estimate for realized values. We have incorporated variations in PSIA funds due to new deposits and withdrawals. Although we have used market growth rate as an approximation to PSIA variations, recognizing it as an exogenous variable, in reality banks have some level of control over their deposits. They are affected from market developments, but by charging a higher rate they can attract more deposits and they are always free to refuse new deposits. We have assumed in our analysis that they
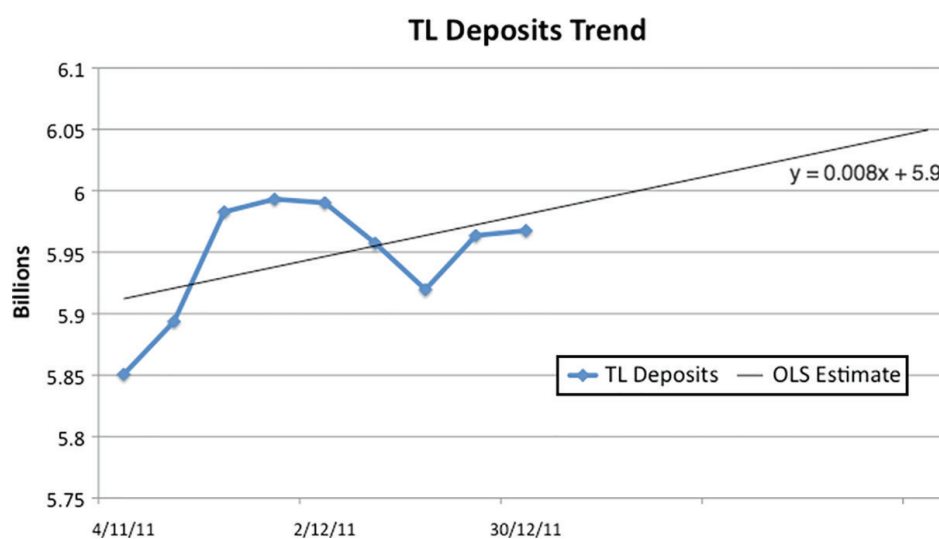

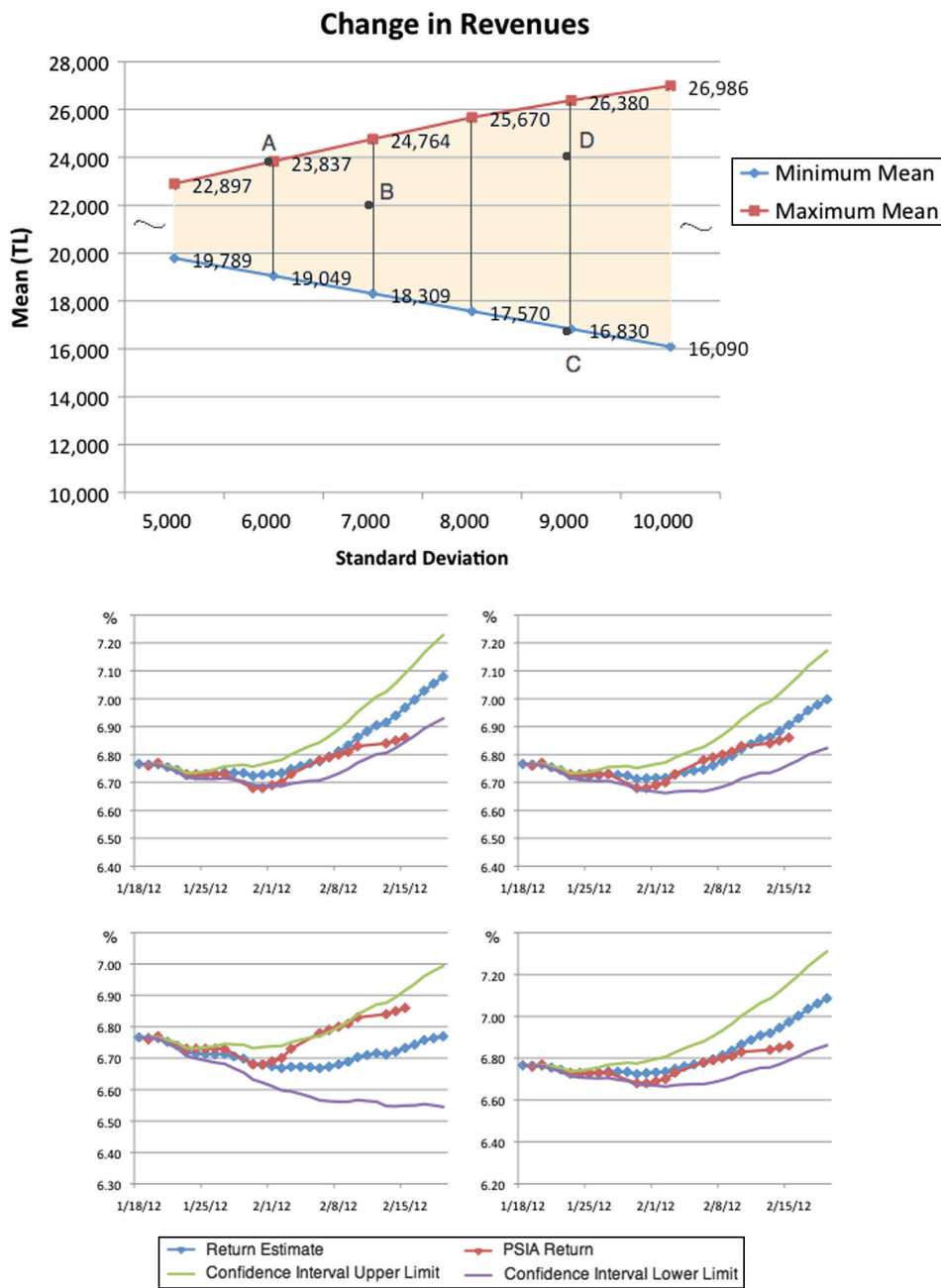**Figure 3.** Average TL deposits of participation banks.

Figure 4. Estimating the trend in PSIA revenues: Panel A gives the area for mean-standard deviation combination, Panel B uses 4 sample points from Panel A to construct confidence interval for PSIA returns.

do not have any control. Figure 5 demonstrates the effect of change in deposit assumption from one simulation to another. It plots Panel A of Figure 2 and 4 on top of each other. As can be seen, when we assume growing deposits, the bank needs to receive more credit return meaning they will provide more *murabaha* credits to the clients. This figure also shows that Islamic bank can use deposit growth as another policy tool. The changes in deposit growth will move the policy region up or down. Also, orange colored area provides a more conservative estimate, which suits both growth assumptions.

In both of the analyses we have considered PSIA revenues as a policy tool. The bank can change the profit rate they distribute to deposit holders by increasing or decreasing the mark-up rate they charge on *murabaha* credits. Although the demand for credit depends on the rate they charge, there is still room for policy making. Therefore, using this
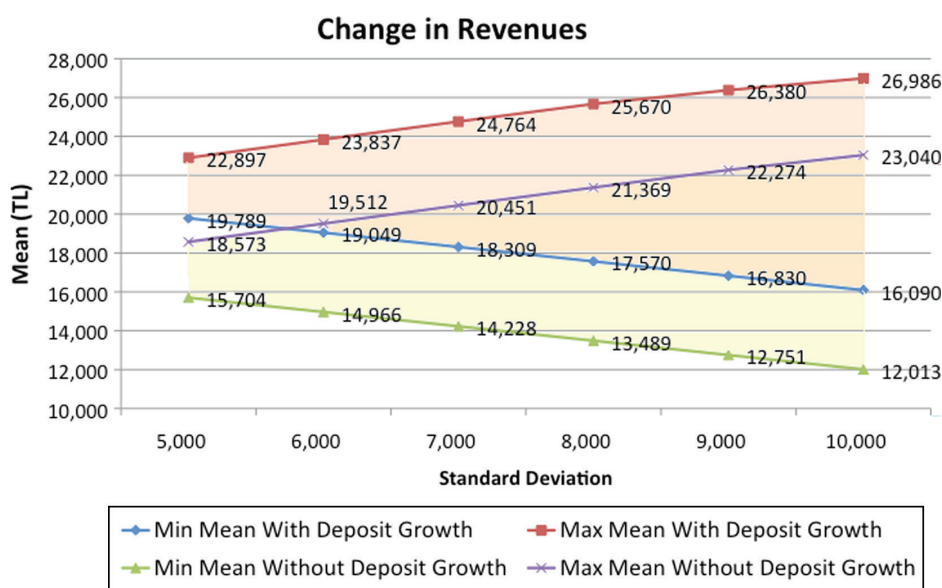
Figure 5. Changes in revenues.

tool, Islamic banks can also compete with each other and with conventional banks in attracting deposits, besides providing a profit rate quotation.

6. Conclusion

In this study we have studied the possibility of providing an ex-ante return rate quotations to deposit holders at Islamic banks. Simulation results suggest, it is possible to offer a reliable forecast within a 95% confidence interval of upcoming actual PSIA returns to the clients. The benefits of this study are three-fold. The most important benefit of providing this information is increasing Islamic banks' competitive advantage compared to their conventional counterparties. Secondly, using these simulation techniques

IFIs can improve their fund management by controlling the amount of funds deposited to PSIAs and setting their mark-up rates according to their PSIA return targets. Furthermore these simulation methods can be used to better manage risks associated with asset liability management and rate of return.

Appendix: Detailed unit value calculation

The information below is extracted from Annex 1 regulation on the principles and procedures for accepting, withdrawal of deposits and participation funds as well as the prescribed deposits, participation funds custody and receivables in Turkish banking legislation.

New U		UA + R - (C + Y)			
		A			
Details of Numerator					
UA		Unit Account Value	C		PSIA Costs (a+b+c+d)
R		PSIA Revenues (a+b+c+d+e)		a	Special Provision Expenses
	a	Participation Share of Dividend Incomes		b	General Provision Expenses
	a.1	Dividend Incomes Procured from Loans Extended Arising from PSIA		c	Deposit Insurance Fund (DIF) Premium Expenses
	a.2	Profit Equivalent to Extended Fund Surplus		d	Precautionary Provision Expenses
	b	Collections Made from Loans Cancelled	-		
	c	Cancellations of Special Provisions	Y		Amounts/ Reserves Allocated from Profit to be Distributed to PSIA
	d	Cancellations of General Provisions			
	e	Provision Cancellations Set Aside from Profits to be Distributed to PSIA			
Denominator					
A	0	Account Value			

PSIA Revenues (a + b + c + d):

a) *Participation Share of Dividend Incomes*: Dividend amount equivalent to extended fund surplus is deducted from dividend incomes procured from extended loans arising from participation account. The amount found is separated on a currency type basis according to its weight in total participation accounts. The amount found by multiplying the separated amount by the ratio of account owner's participation in profit defines the amount in dividend income falling to the share of participation accounts.

   1. Dividend Incomes Procured from Extended Loans Arising from PSIA: This is the dividend income procured from funds extended arising from PSIA on currency basis. Whether or not delay funds collected for those not paid in their maturity among those funds or dividends deprived of as well as income from required reserves shall be taken into consideration as dividend income in the unit value calculation of PSIA shares are determined in PSIA contracts.

   2. Profit equivalent to extended fund surplus: the amount found by multiplying by the ratio calculated by dividing the dividend income procured from loans extended arising from PSIA on a currency basis to the sum of funds extended, with extended fund surplus.

b) *Collections Made from Loans Cancelled*: The amount falling to the share of participation accounts, from the collections made concerning cancelled loans from loans extended arising from PSIA.

c) *Cancellation of Special Provisions*: The amount relating to PSIA, among cancelled amounts of special provisions set aside for loans arising from PSIA classified as non-performing loans pursuant to the regulation on principles and procedures for determination of qualifications of loans and other receivables by banks and provisions to be set aside.

d) *Provision Cancellations Set Aside from Profits to be Distributed to PSIAs*: It is the amount cancelled for meeting SDIF premium and special and general provisions of provisions monitored in amounts set aside from profits to be distributed to PSIAs.

PSIA Costs (a + b + c + d + e):

a) *Special Provision Expenses*: It is the part fall to the share of PSIA of general provisions set aside for PSIA emanated loans classified as NPL pursuant to the regulation on principles and procedures relating to for determination of qualifications of loans and other receivables by banks and provisions to be set aside.

b) *General Provision Expenses*: It is the part that falls to the share of participation accounts of general provisions set aside for PSIA emanated loans pursuant to the regulation on principles and procedures relating to determination of qualifications of loans and other receivables by banks and provisions to be set aside.

c) *DIF (Deposit Insurance Fund) Premium Expenses*: It is the part that falls to the share of DIF premium participation accounts.

d) *Precautionary Provision Expenses*: It is the amount of precautionary provision to be used in meeting the part fall to the share of DIF premium PSIA and special and

general provisions from the total amount of income items stated in (b), (c) and (d) sub paragraph of the PSIA revenues explanation. These provisions set aside are recorded to the account of amounts set aside from profit to be distributed to PSIAs included in communiqué on uniform chart of account and its explanation to be implemented by participation banks.

Amounts Allocated from Profit to be Distributed to PSIAs:

It is the provision amount allocated within the scope of the provision of the article 14(3) of the regulation on principles and procedures relating to determination of qualifications of loans and other receivables by banks and provisions to be set aside from profit amounts to be distributed to participation accounts by calculation date of unit values.

Notes

1. Wall Street and Financial Crisis: Anatomy of Financial Collapse, report by US Senate Permanent Subcommittee on Investigations, 2011, Available at: http://www.hsgac.senate.gov//imo/media/doc/Financial_Crisis/FinancialCrisisReport.pdf?attempt = 2.
2. Kayed and Hassan (2011), Al Mamun and Mia (2012).
3. Iran, Sudan and Pakistan.
4. Average market share of Islamic banks in MENA region is 14%.
5. Some of the banks might be using this information in their internal policy making at the moment.
6. AAOIFI Statement of Financial Accounting No. 2: Concepts of Financial Accounting for Islamic Banking and Financial Institutions.
7. Turkish Banking Authority's approach to PSIA return calculation is similar to return calculation in a fund.
8. See appendix for detailed calculation of unit value.
9. As majority of the loans in the Islamic banking are provided with *murabaha* system, we will assume all loans given follows *murabaha* contract for the simplicity.
10. In Turkey, Islamic Financial Institutions are called participation banks.
11. Data from the website of Participation Banks Association of Turkey: www.tkbb.org.tr.
12. 24 billion/4 banks = 6 billion.
13. 60 million = 6 billion/100.
14. $0.03\% \times 360\,days = 9.60\%$ total return; $70\% \times 9.60\% = 6.72\%$ depositors share.
15. Data from the website of Participation Banks Association of Turkey: www.tkbb.org.tr
16. 41.14 billion/4 = 10.28 billion per bank; 10.28/250 (business days in a year)~40 million per day.
17. From Turkish Central Bank Electronic Data Distribution System.
18. From Turkish Central Bank Electronic Data Distribution System.

References

Akacem M, Gilliam L. (2002) Principles of Islamic Banking: Debt Versus Equity Financing. *Middle East Policy*. 9(1):124–138.

Al-Mamun Md, Mia MAH. (2012) Origin of & Solution to Global Financial Meltdown: An Islamic View. *International Journal of Business and Management*. (7):12.

Archer S, Abdel Karim RA. (2009) Profit-Sharing Investment Accounts in Islamic Banks: Regulatory Problems and Possible Solutions. *Journal of Banking Regulation.* 10:300–306.

Archer S, Abdel Karim RA, Sundararajan V. (2010) Supervisory, Regulatory, and Capital Adequacy Implications of Profit-Sharing Investment accounts in Islamic Finance. *Journal of Islamic Accounting and Business Research.* 1(1):10–31.

Ariffin NM, Kassim SH. (2011) Risk Management Practices and Financial Performance of Islamic Banks: Malaysian Evidence. Paper presented at The 8th International Conference on Islamic Economics and Finance, Doha, December 19–21.

Atmeh MA, Ramadan AH. (2012) A Critique on Accounting for the Mudarabah Contract. *Journal of Islamic Accounting and Business Research.* 3(1):7–19.

Ayub M. (2007) *Understanding Islamic Finance*. John Wiley & Sons, Ltd. England.

Farook S, Hassan MK, Clinch G. (2012) Profit Distribution Management by Islamic Banks: An Empirical Investigation. *The Quarterly Review of Economics and Finance*. 52(3):333–347.

Ibrahim SH. (2007) IFRS vs. AAOIFI: The Clash of Standard? *Munich Personal RePEc Archive (MPRA)*. No. 12539.

Kahf M. (2005) Basel II: Implications for Islamic Banking. Paper presented at the 6th International Conference on Islamic Economics and Banking, Jakarta, November 22–24.

Kayed RN, Hassan MK. (2011) The Global Financial Crisis and Islamic Finance. *Thunderbird Int'l Bus Rev*. 53:551–564.

Khan F. (2010) How 'Islamic' is Islamic banking? *Journal of Economic Behavior & Organization*. 76(3):805–20.

Khan T, Ahmed H. (2001) Risk Management – An Analysis of Issues in Islamic Financial Industry. Islamic Development Bank-Islamic Research and Training Institute. Occasional Paper No. 5. Jeddah.

Shubber K, Alzafiri E. (2008) Cost of Capital of Islamic Banking Institutions: An Empirical Study of a Special Case. *International Journal of Islamic and Middle Eastern Finance and Management*. 1(1):10–19.

Sultan SAM. (2006) An Overview of Accounting Standards for Islamic Financial Institutions. *Finance Bulletin*. Jan-Mac.

Sundararajan V. (2005) Risk Measurement and Disclosure in Islamic Finance and the Implication of Profit Sharing Investment Accounts. Paper presented at the 6th International Conference on Islamic Economics, Banking and Finance. Jakarta, November 22–24.

Taktak NB, Zouari SBS, Boudriga A. (2010) Do Islamic Banks Use Loan Loss Provisions to Smooth Their Results? *Journal of Islamic Accounting and Business Research*. 1(2):114–12.

Turkish Banking Legislation: Annex 1 to Regulation on the Principles and Procedures for Accepting, Withdrawal of Deposits and Participation Funds as Well as the Prescribed Deposits, Participation Funds Custody and Receivables. Available at: <http://www.bddk.org.tr/WebSitesi/english/Legislation/9656engdepositandparticipation_fundannex_08_06_2010.pdf>. Accessed: 10 May 2013.

Turkish Banking Legislation: Regulation on Procedures and Principles for Determination of Qualifications of Loans and other Receivables by Banks and Provisions to be Set Aside. Available at: <http://www.bddk.org.tr/WebSitesi/english/Legislation/8836eng_provisions_to_be_set_aside_13_06_2011.pdf>. Accessed: 10 May 2013.

Turkish Banking Legislation: Communiqué on Uniform Chart of Account and its Explanation to be Implemented by Participation Banks. Available at: <http://www.bddk.org.tr/WebSitesi/english/Legislation/8802eng_participationbanks_uniform_chart_ofaccounts_08_06_2011.pdf>. Accessed:10 May 2013.

Zoubi TA, Al-Khazali O. (2007) Empirical Testing of the Loss Provisions of Banks in the GCC region. *Managerial Finance*. 33(7):500–511.