



Do Islamic banks use loan loss provisions to smooth their results?

Neila Boulila Taktak

DEFI-ESSECT University of Tunis, Tunisia, Tunisia

Sarra Ben Slama Zouari

DEFI-University of Tunis and ISCAE-University of Manouba, Tunisia, Tunisia, and

AbdelKader Boudriga

*DEFI, University of Tunis, Tunisia, Tunisia and
Laboratoire d'Economie d'Orléans, Orléans University, Orléans, France*

Abstract

Purpose – The paper seeks to examine income smoothing practices in Islamic banks. It first focuses on detecting income smoothing practices. It then seeks to test whether loan loss provisions (LLPs) are used for earnings management purposes.

Design/methodology/approach – The paper explores income smoothing practices on a sample of 66 Islamic banks over the period 2001-2006 using Beidleman's and Eckel's coefficients. Data are obtained from the Bankscope database. To test the use of LLPs to smooth Islamic banks results, a regression model was developed and tested.

Findings – The results provide evidence on an extensive use of income smoothing by Islamic banks. More than 75 per cent of the examined banks have a determination coefficient between 0.5 and 1 and 44 per cent have a variation coefficient less than 0.5. However, income smoothing is not achieved through LLPs. The variable earnings before taxes and provisions are not significant in all model specifications. The paper advances that these smoothed incomes are derived rather by the use of profit equalization reserve (PER) and investment risk reserve (IRR). The finding is contradictory to the widespread view stating that those mechanisms are designed to stabilize rewards attributed to investment account holders.

Research limitations/implications – The non-disclosure of detailed information on PER and IRR prevented the empirical testing of the assertion on the use of these discretionary items to smooth Islamic banks' incomes.

Originality/value – Unlike previous studies which implicitly assume that Islamic banks intentionally use accounting techniques to disclose smoothed results, this paper pioneers the study on detecting income smoothing practice by such institutions. Second, it explores the use of LLPs for earnings management purposes in the context of a fast growing industry where Islamic assets have grown on average by 30 per cent per year over the period 2002-2007. Third, it is the first paper to give some evidence on the use of PER and IRR as income smoothing devices. Finally, the paper covers a larger number of Islamic banks and from various countries.

Keywords Islam, Banks, Loans, Investments

Paper type Research paper

1. Introduction

Despite the existence of an extensive literature on income smoothing practices, only few are devoted to the banking industry. Particularly, a limited number of papers have



investigated this issue in the context of non-American banks. The majority of empirical evidence supports the income smoothing hypothesis (Greenawalt and Sinkey, 1988; Scholes *et al.*, 1990; Collins *et al.*, 1995; Bhat, 1996; Niswander and Swanson, 2000; Anandarajan *et al.*, 2003, 2005). Few other papers fail to find evidence of income smoothing through loan loss provisions (LLPs; Wetmore and Brick, 1994; Beatty *et al.*, 1995; Ahmed *et al.*, 1999).

Relating to the specific case of Islamic banks, there has been relatively less research testing the income smoothing hypothesis although they offer a unique environment due to the particular framework within which they operate. First, such banks are governed by Islamic principles (the *Shari'a*) based on risk sharing between investors. Second, Islamic accounting regulators encourage the use of dynamic provisioning. Islamic banks are thus more inclined to set up an allowance for loss provision to absorb any future losses. Finally, to avoid bank runs, Islamic financial institutions are also encouraged to use profit equalization and investment risk reserves (IRRs) to keep stable returns to reward investment account holders (depositors). These devices may contribute towards more stable financial outcomes in Islamic banks compared to conventional banks.

Empirically, Ismail and Be Lay (2002) find evidence on earnings management using LLPs by Malaysian banks over the period 1997-1999. In the same vein, Zoubi and Al-Khazali (2007) find evidence of income smoothing practices on a sample comprising of 65 conventional and Islamic banks operating in the Gulf Cooperation Council (GCC). They argue that managers use LLPs to smooth earnings over the period 2002-2003. However, based on a sample of ten Malaysian commercial banks offering Islamic banking services from 1998 to 2001, Ismail *et al.* (2005) show that bank managers use realized security gains rather than LLPs for earnings management purposes.

The aim of this study is twofold. First, it explores to what extent income smoothing is widespread amongst Islamic banks. Second, it investigates whether Islamic financial institutions use LLPs to smooth income. We examine a sample of 66 Islamic banks from 12 Islamic countries. Data are obtained from the Bankscope database over the period 2001-2006. Using Beidleman's (1973) and Eckel's (1981) coefficients, we report an extensive use of income smoothing. We find 49 banks (75 per cent) have a determination coefficient between 0.5 and 1 and 29 banks (44 per cent) have a variation coefficient less than 0.5. However, it appears that this smoothing is not achieved through LLPs. The variable, earnings before taxes and provisions, is not significant in all the specifications used. We argue that, these stable figures may be attributed to the use of profit equalization and IRRs.

Our research contributes both to the literature on income smoothing in the banking industry and to the growing literature on Islamic finance. First, it empirically reports evidence on the use of income smoothing by Islamic banks. Second, it provides insights on the use of LLPs in the context of a growing banking industry, which has specific supervisory bodies and regulations. Finally, it investigates other possible reasons for the stable financial outcomes disclosed by Islamic financial institutions.

The rest of the paper is organized as follows. Section 2 presents the specificities of Islamic banks. Section 3 presents a literature review of income smoothing practices in the banking industry. Section 4 explains the research design used to test income smoothing as well as the database. We present the results of the empirical analysis in Section 5. Section 6 concludes the paper.

2. Characteristics of Islamic banks

2.1 Shari'a principles

Islamic banks are governed by *Shari'a* principles which make their functioning different from conventional banks. First, *Shari'a* forbids trading in speculative activities (*gharar*), dealing with derivatives and investing in non-permissible (*haram*) sectors and products such as tobacco, alcohol and pork. *Shari'a* also prohibits Islamic banks from paying or receiving interests (*riba*) to/from their financial and commercial transactions. The prohibition of interest makes the investment approach adopted by Islamic banks unique since they operate on profit/loss sharing arrangements. This principle requires banks to share with their customers the profits and losses resulting from co-funded projects.

The Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI, 1999) FAS 6 (FAS, Financial Accounting Standard), states that:

[...] profits of an investment jointly financed by the Islamic Bank and investment account holders should be allocated between them according to the contribution of each of the two parties in the jointly financed investment

Mudharabah and *musharaka*, based on profit and loss sharing principle, are the main products offered by Islamic banks.

In *mudharabah* contract, the depositor assumes the role of capital provider while the bank plays the role of the entrepreneur. The depositors' funds are utilized for financing and investment activities, and the profits generated from these activities are shared between the depositors and the bank, based on the pre-agreed profit sharing ratio. In the event of a loss, it will be borne by the depositors. In *musharaka* contract, the bank provides funds needed for the project from depositor's savings while the entrepreneur offers labour and expertise. The profits (or losses) are then shared between the bank, the depositors and the entrepreneur at a fixed ratio. By investing their funds jointly with their customers, Islamic banks become partners and will have to share the risk with both depositors and entrepreneurs. This requirement of risk sharing makes return on equity of Islamic banks higher than for conventional banks (Karim and Ali, 1989).

Profit and loss sharing principle also gives Islamic banks the ability to absorb shocks on assets' returns. Based on cross-country data, Sundararajan (2005) reveals a considerable smoothing of returns paid to profit sharing investment accounts (PSIA). Such smoothing effect makes Islamic bank's returns less volatile than those of conventional banks. In other words, this principle provides insurance against cyclicity in returns (Hassoune, 2002).

2.2 Provisioning practice, profit equalization reserve and IRR

Conventional and Islamic banks differ substantially in terms of their provisioning policy[1]. The AAOIFI encourages Islamic banks to adopt dynamic provisions, which would allow them to better anticipate their credit risk. Indeed, dynamic provisioning policy allows covering of credit losses in loans along the lending cycle. This consists of setting aside provisions for loans based on expected losses rather than actual or realized losses. Such provision policy enables banks to have safety funds that can be used during periods of economic distress.

According to AAOIFI's FAS 11 which is related to provisions and contingent liabilities, Islamic banks are required to maintain an adequate level of provision

against assets impairments and credit exposures by recognizing a general and a specific provision. The former, which is based on a percentage of the financing portfolio, allows the bank to cover potential losses that are not specifically identified. The latter is the amount needed to write the assets down to their cash equivalent value if it is lower than their cost (FAS 11)[2]. This practice helps to restrict pro-cyclicality in lending and produces smoother LLP ratios (Pérez *et al.*, 2008; Laeven and Majnoni, 2003).

Besides the use of LLPs to cover credit risk related to products not governed by profit and loss sharing principal, Islamic banks have extensively used specific reserves for profit and loss sharing products. Profit equalization reserve (PER) and IRR are two mechanisms actively used by Islamic banking institutions to reduce the volatility of rates of return on investment deposits and consequently to smooth their returns (Sundararajan, 2005; Khan and Ahmed, 2001; Archer and Karim, 2006; Archer *et al.*, 2010). This allows Islamic banks to avoid displaced commercial risk consisting in a massive withdrawal of funds and, therefore a potential bank run.

Islamic banks transfer some proportion of profits to increase depositors' returns. The PER is appropriated out of the total gross income and is shared by both the depositors and the bank. It consists of the retention of reserves from the profits on assets attributed to both investment account holders and shareholders in the same proportions that apply to the sharing of profits (Sundararajan, 2007; Archer and Karim, 2006). In addition, IRR aims specifically to cover, in whole or in part, potential losses on assets (Sundararajan, 2008). In practice, these reserves are actively used by Islamic banks to smooth the actual rate of return paid out over time on investment accounts. The calculation and use of PER and IRR are decided by Islamic banks based on their own discretion and there are no specific supervisory disclosure requirements regarding this. Indeed, the publicly available information on these reserves is rather limited (Sundararajan, 2005). Hence, it is interesting to examine if Islamic banks use other tools, particularly LLPs, as a mean to enhance the stability of their returns like their conventional counterparts.

3. Literature review

Prior literature is unanimous on the use of LLPs as the main tool for smoothing income by conventional banks since their business activity is based on credits (Fonseca and Gonzalez, 2008; Hasan and Wall, 2004; Bhat, 1996). Managers can easily manipulate these provisions upward (downward) when the result is lower (higher) than desired since they have private information about the default risk (Wahlen, 1994). This practice is especially pronounced before the banking reforms of 1990 when the provisions were included in full among the regulatory capital (Collins *et al.*, 1995; Moyer, 1990).

Most studies are generally interested to identify such practices in American banks. Studies by Greenawalt and Sinkey (1988) on a sample of 106 banks for the period 1976-1984, Ma (1988) on a panel of 900 observations for the period 1980-1984 and Bhat (1996) on a sample of the 148 largest banks during the period 1981-1991 confirmed that US banks engaged in earnings management through provisioning policy.

Other studies have addressed the use of provisions to manage earnings in different countries. Naciri (2002) shows that the implementation of the Basel Accord in Canada had no effect on earnings management as the Canadian banks (1980-1996) continue to manage their provisions for doubtful debts before and after adoption of the Basel Accord.

In Japan, Shrieves and Dahl (2003) and Agarwal *et al.* (2007) provide evidence on the use of this technique in times of financial distress. Anandarajan *et al.* (2003) and Pérez *et al.* (2008) show that Spanish banks, despite regulatory requirements on provision that leave little discretion for managers, do use reserves to manage their results.

In the case of Islamic finance, studies related to income smoothing practices are limited and report mixed results. Zoubi and Al-Khazali (2007), using a sample of 55 conventional and ten Islamic banks for the period 2000-2003, find support for the income smoothing hypothesis. They show that managers of both conventional and Islamic banks in the GCC region smooth their income by loss provisions. Managers will recognize provisions only if this result is enough. Similarly, based on a sample of 14 Islamic banks in eight countries, Sundararajan (2005) find considerable smoothing of returns paid to PSIA, despite wide divergence in risk. Ismail and Be Lay (2002) also find evidence of earnings management by Malaysian banks using LLP over the period 1997-1999. Shahimi *et al.* (2006), based on a panel of 15 commercial banks providing Islamic banking products and services over the period 1996-2003, also highlighted that Islamic banks in Malaysia exercise income smoothing through LLPs just like their conventional counterparts. However, Ismail *et al.* (2005), using data of ten commercial banks in Malaysia which offer Islamic banking services from 1998 to 2001, show that managers did not use LLPs to manage capital and earnings. Instead, they use realized security gains and losses to manage their earnings.

Based on previous literature, we thus expect Islamic banks to behave in the same way as conventional banks with regard to earnings management. In other words, we hypothesize that Islamic banks smooth their results using LLPs.

4. Methodology

4.1 Sample selection

To test for income smoothing, we select a sample of Islamic banks from various Muslim countries. We initially selected 156 Islamic banks with data available on Bankscope database. Then, we selected banks for which financial information is available for at least three successive years. This reduced the sample to 66 [3] banks operating in 19 countries over the period 2001-2006. Of these, about 65.2 per cent of the sample comprised of banks in Bahrain, Iran, United Arab Emirates, Turkey, Kuwait, Sudan and Yemen. Our sample is thus representative of the Islamic banking industry. Besides the GCC countries, a significant development of the industry has taken place in Malaysia, Iran and Sudan (Islam, 2003).

4.2 Research design

To examine income smoothing practices through LLPs by Islamic banks, we use the two-stage approach. First, we investigate the variability of the object of smoothing (the net income before taxes and *Zakat*). We identify the group of smoothing banks by using Beidleman's (1973) coefficient and Eckel's (1981) coefficient. Beidleman's coefficient or also known as the coefficient of determination assumes a steady growth of net income over time and it measures the correlation of the object of smoothing with time trend. On the other hand, Eckel's coefficient or the coefficient of variation measures the variability of the object of smoothing with regard to its average over time. It is calculated as the ratio of the standard deviation of the changes in the net

income over the sample period for each bank and the mean of the net income. Smoothing is supposed to be perfect when the variation coefficient is nil or/and the determination coefficient is equal to the unit. To select smoothing banks, we adopt the threshold of one to distinguish between smoothing and non-smoothing banks for the determination coefficient and 0.5 for the coefficients of variation (Chalayer and Dumontier, 1994).

Second, we examine whether Islamic banks use LLPs to smooth their results. We focus only on the artificial form of income smoothing resulting from managing LLPs for loans and investment in *murabaha*, *musharaka* and *mudarabah*. The econometric model used in this paper is based on the study by Pérez *et al.* (2008), which consider income smoothing under dynamic provisioning on a sample of 142 Spanish[4] banks over the period 1986-2002.

The model introduces different variables which are reported to explain banks' LLPs. They include non-performing loans (NPL), total loans (TL) and gross domestic product (GDP) growth as variables to control for the credit risk on the non-discretionary component. The variable NPL is the balance sheet non-performing loans of bank i in period t normalized by total assets. TL is the ratio of total loans to total assets and represents a proxy for the risk profile of the bank. Both NPL and TL coefficients are expected to be positive. GDP is the rate of growth of gross domestic product in year t . It is intended to capture the effect of macroeconomic conditions (business cycle) on LLPs. The GDP coefficient is expected to be negative.

The variable EBTP is the net operating income before taxes and provisions of bank i in period t , normalized by total assets. This variable is usually used in prior literature as a proxy for earnings management practices. Under the inter-temporal income-smoothing hypothesis, as suggested by Moyer (1990), Beatty *et al.* (1995), Collins *et al.* (1995) and Ahmed *et al.* (1999), we expect a positive relation between EBTP and LLPs.

Previous studies also control for the effect of capital adequacy ratio (CAR) on LLPs. Kim and Kross (1998) and Ahmed *et al.* (1999) found banks with low capital significantly reduce their LLPs. The variable CAR is approximated by the ratio of the total capital of the bank in period t to its total assets. Bank size (measured by the log of total assets) and consolidation (a dummy variable taking one if data comes from accounting statements of consolidated banking groups and 0 otherwise) are also included in the model as control variables.

The following regression model is used to examine whether managers of Islamic banks use LLPs to smooth banks' income:

$$LLP_{it} = \alpha + \beta_1 TL_{it} + \beta_2 NPL_{it} + \beta_3 EBTP_{it} + \beta_4 CAR_{it} + \beta_5 SIZE_{it} + \beta_6 CONS + \beta_7 GDP_{it} + \varepsilon_{it} \quad (1)$$

where:

LLP_{it} = Specific and general loan loss provisions of bank i in year t normalized by the total assets.

TL_{it} = Ratio of total loans normalized by the total assets.

NPL_{it} = Non performing loans normalized by the total assets.

$EBTP_{it}$ = Earnings before taxes and provisions normalized by the total assets.

CAR_{it} = Capital adequacy ratio approximated by total funds to total assets.

$SIZE_{it}$ = Logarithm of total assets.

$CONS_{it}$ = Dummy variable; one if data comes from accounting statements of consolidated banking groups and 0 otherwise.

GDP_{it} = The rate of growth of gross domestic product in year t .

We estimate model (1) using bank-specific random effects corrected for heteroscedasticity. Our empirical specification follows closely the models used in the literature to test the income smoothing hypothesis (Greenawalt and Sinkey, 1988).

5. Empirical results and analysis

5.1 Descriptive statistics

Table I presents the descriptive statistics for all the variables used in our estimation. The mean ratio of LLPs to total assets equals 0.54 per cent with a maximum of 8.9 per cent. The standard deviation of 0.88 per cent indicates differences in LLP practices between banks in our sample. Our results are similar to those reported by Pérez *et al.* (2008) who find the mean ratio of LLPs to lagged total assets to be 0.65 per cent with a standard deviation of 0.88 per cent. It also concurs with the findings by Zoubi and Al-Khazali (2007) who report both conventional and Islamic banks in the GCC region to have a low estimate of loss provision. They allocate on average only 1.31 per cent of their TL and investment to the LLP with a maximum of 25.68 per cent. The mean for NPL to total assets in this paper is around 4.23 per cent, which is close to the level of 7.53 per cent reported by Zoubi and Al-Khazali (2007), with a maximum of 20.98 per cent.

As shown in Table I, the mean of TL to total assets for Islamic banks included in our sample is 53.4 per cent. The ratio varies between 0 and 100 per cent with a standard deviation of 21.33 per cent. This indicates a large dispersion in the level of loans provided by Islamic banks. The average of profit before taxes and provisions to total assets is 2.29 per cent with a maximum of 26.11 per cent while the return on assets (ROA) before tax and loss provision reported by Zoubi and Al-Khazali is around 2.23 per cent. Total funds are relatively high. They represent 20.04 times the TL and investments for our sample. On average, the natural logarithm of total assets is about 13.73 per cent and the standard deviation is 1.66 per cent.

Table II exhibits the correlation matrix for the variables in our model. The correlation coefficients among the independent variables are low suggesting the absence of multicollinearity problems. The correlation between LLPs and profit before

Variables	Mean	Median	SD	Minimum	Maximum
LLP	0.0054	0.0042	0.0088	- 0.0170	0.0899
NPL	0.0423	0.0262	0.0435	0.0000	0.2098
TL	0.5340	0.5701	0.2133	0.0000	1.0000
EBTP	0.0229	0.0205	0.0349	- 0.2967	0.2611
CAR	20.0482	11.4100	23.0057	- 7.3200	100.00
SIZE	13.7306	13.7298	1.6671	10.2579	17.1510

Table I.
Descriptive statistics

Note: All the variables are explained in equation (1)

tax and LLPs is negative, suggesting that on average banks do not exercise income smoothing. The correlation between LLPs and loan growth on one hand and LLPs and NPL on the other hand are both positive, confirming the practice of dynamic provisioning by Islamic banks. The correlation between LLPs and GDP growth is negative, suggesting an anti-business cyclical behavior of bank's LLP (Pérez *et al.*, 2008).

5.2 Regression results

Table III shows the number of income smoother and non-income smoother banks determined based on Beidleman's and Eckel's coefficients. Results show that 29 out of 66 banks have a variation coefficient less than 0.5 and 49 banks have a determination coefficient between 0.5 and 1. To overcome these arbitrary thresholds, we combined the results from the variation coefficients with those from the determination coefficients. This led to the identification of 26 income smoother banks (39 per cent of the sample). This finding confirms that Islamic banks manage their results to reduce fluctuations in net income over time.

The table shows that determination coefficients detect a number higher for income smoother banks (75 per cent) than the Eckel's coefficient (only 44 per cent). In fact, over the examined period (2001-2006), Islamic banks have experienced a growth phase and an expansion of their credits. Therefore, the displayed results are inevitably increasing over time.

After highlighting the existence of income smoothing practices by Islamic banks, we now turn to investigate if they use LLPs for the purpose. Table IV displays the main results of our econometric investigation. It reports the results of four regressions:

- (1) using the full sample;
- (2) a panel that includes only observations for which the determination coefficient is between 0.5 and 1;
- (3) a panel that includes only observations for which the variation coefficient is less than 0.5; and

	LLP	NPL	TL	EBTP	CAR	SIZE	GDP	CONS
LLP	1							
NPL	0.513	1						
TL	0.0464	-0.0085	1					
EBTP	-0.0007	-0.0365	0.3487	1				
CAR	-0.2997	-0.218	-0.0099	-0.0071	1			
SIZE	0.1975	0.0615	0.0237	0.2998	0.034	1		
GDP	-0.0597	-0.3236	-0.0616	0.2104	0.1042	0.1206	1	
CONS	0.0286	0.2193	0.21	0.2773	-0.0067	0.3134	0.0793	1

Table II.
Correlation matrix

Note: All the variables are explained in equation (1)

	CV ≤ 0.5	0.5 ≤ CD ≤ 1	CV ≤ 0.5 and 0.5 ≤ CD ≤ 1
Smoother banks	29 (44%)	49 (75%)	26 (40%)
Non-smoother banks	37	17	40
Total	66	66	66

Table III.
Number of smoother and non-smoother banks

Table IV.
Results of the regression
model

	Full sample		Sub-sample 0.5 ≤ CD ≤ 1		Sub-sample CV ≤ 0.5		Sub-sample CV ≤ 0.5 and 0.5 ≤ CD ≤ 1	
	(1) LLP	(2) LLP	(1) LLP	(2) LLP	(1) LLP	(2) LLP	(1) LLP	(2) LLP
NPL	0.144** (2.26)	0.138** (1.82)	0.144*** (2.27)	0.139*** (1.82)	0.0257 (0.64)	0.0558** (1.76)	0.0257 (0.64)	0.0558** (1.76)
TL	0.00873** (1.89)	0.00528* (1.28)	0.00707 (1.42)	0.00149 (0.26)	0.00645 (0.88)	0.00315 (0.47)	0.00645 (0.88)	0.00315 (0.47)
EBTP	-0.0168 (-0.81)	-0.00626 (-0.35)	-0.0148 (-0.69)	-0.00148 (-0.08)	-0.0171 (-0.54)	0.00112 (0.02)	-0.0171 (-0.54)	0.00112 (0.02)
CAR	-0.00012*** (-3.50)	-0.00010** (-3.03)	-0.00012*** (-3.35)	-0.000110*** (-2.87)	-0.000087*** (-2.30)	-0.00009*** (-2.99)	-0.000087*** (-2.30)	-0.00009*** (-2.99)
SIZE	0.00188*** (2.44)	0.00175*** (2.37)	0.00195* (2.34)	0.00188** (2.24)	0.00118** (2.02)	0.00119** (2.22)	0.00118** (2.02)	0.00119** (2.22)
CONS	-0.00373 (-1.25)	-0.00444 (-1.48)	-0.00383 (-1.24)	-0.00468 (-1.48)	0.00264 (1.21)	0.000903 (0.56)	0.00264 (1.21)	0.000903 (0.56)
GDP	0.000398 (1.26)		0.000391 (1.24)		-0.000313 (-1.51)		-0.000313 (-1.51)	
IGDP		-0.0000551 (-0.20)		-0.000103 (-0.39)		-0.000191 (-0.94)		-0.000191 (-0.94)
CONSTANT	-0.0296** (-2.17)	-0.0231* (-2.04)	-0.0295* (-2.20)	-0.0222* (-2.04)	-0.0153 (-1.66)	-0.0145 (-1.76)	-0.0153 (-1.66)	-0.0145 (-1.76)
N	109	95	101	88	40	36	40	36
R ² (%)	37.51	34.60	37.65	35.08	44.96	43.02	44.96	43.02

Notes: Statistical significance at: *10, **5 and ***1 per cent level, respectively; all the variables are explained in equation (1); the regression results for the full sample are available only for 60 countries (Brunei, Egypt, Sudan, Iran, Mauritania and Tunisia were excluded because of a lack of data availability) which reduced the number of observations to 104

- (4) a panel that includes only observations for which the determination coefficient is between 0.5 and 1 and the variation coefficient is less than 0.5.

For those four regressions, we test two specifications: the first one includes all exogenous variables while in the second specification, we replace the GDP variable by its lagged value (LGDP) as suggested by Salas and Saurina (2002).

Before turning to the analysis of the results on income smoothing, we analyze the estimated coefficients for the other variables in the model. We find the proxy for the CAR on LLPs to be significant for all specifications in our regression models. The negative sign of the CAR ratio indicates that the lower the capital ratio, the higher will be the LLPs. This finding supports the contention that well-capitalized Islamic banks embark in less risky activities (Boudriga *et al.*, 2009). The signs of the coefficients for all the credit risk proxy variables are in the expected direction. The coefficient of the NPL over total assets is positive and significant. The coefficient of loans over total assets (TL) is also positive and significant but only for the whole sample (first model). Hence, we can deduce that dynamic provisioning is adopted by the majority of Islamic banks. However, this finding should be interpreted with caution, as the variable TL is not significant for the sub-sample specifications. GDP and LGDP growth give mixed results and are not statistically significant in all specifications. After controlling for the rest of the variables, the business cycle does not affect bank's LLPs. The variable CONS, which control for accounts consolidation, does not have a significant effect on LLPs. The log of total assets, the proxy for size of the bank, has a positive and significant effect for all specifications. This finding confirms the results of Zoubi and Al-Khazali (2007) who report that larger banks have higher levels of business and are expected to have higher LLPs than smaller banks.

We now focus on the analysis of the results on income smoothing hypothesis. First, it appears that the income smoothing hypothesis is not supported for the whole sample as well as the different sub-samples. In all the specifications, the profit before tax and provisions scaled by total assets is not found to be a significant factor in determining the amount of loss provision. This result which is contrary to Zoubi and Al-Khazali (2007) suggests that Islamic banks, unlike conventional ones, are reluctant to use LLPs to smooth their results. This could be due to FAS 11 which leaves little discretion to Islamic banks to manage their income. However, a closer look to this standard show that it actually allows much discretion (*Ijtihad*) to the managers since the risk assessment is internally determined. We can therefore advance two alternative explanations. First, smoothed incomes are considered to be a natural feature of Islamic banks (Archer and Karim, 2006). Second, the income smoothing practice may be attributed to the use of alternative techniques such as PER and IRR instead of LLPs. This suggests that these reserves are not used to smooth the profit payout to investment account holders as reported in the Islamic finance literature. We argue that, in practice, the main objective of Islamic banks' managers is primarily to stabilize revenues to shareholders rather than to smooth the profits attributed to depositors. This practice might jeopardize the position of Islamic financial institutions as it could lead to investment panic and ultimately to bank runs. We suggest that local regulators need to pay greater attention to disclosures on the use of PER and IRR by banks to reinforce the soundness of these institutions.

6. Conclusion

Using firm-level data over the period 2001-2006, we examine income smoothing practices in Islamic banks. We specifically test the use of LLPs to stabilize net income. Based on Beidleman's and Eckel's coefficients, we report an extensive use of income smoothing by Islamic banks.

However, our findings indicate that managers of Islamic banks, unlike conventional banks, do not use LLPs to smooth their results. We suggest that Islamic banks probably use profit equalization and IRRs to maintain stable results. Therefore, it appears that PER and IRR are not mainly used to stabilize returns to investment account holders. This is confirmed by the recent exposure draft proposed by the Islamic Financial Services Board (IFSB, 2010) related to "Guidance on the practice of smoothing the profits payout to investment account holders", which recommends the use of PER to smooth the profits payout to depositors.

Based on our findings, we make the following recommendations. First, to avoid financial system distress, regulators need to enhance disclosure on the use of specific reserves by Islamic financial institutions. Second, banks need to be prohibited from using these reserves for other objectives such as stabilizing the net income. A new regulation which leaves little discretion to managers on setting the level of PER and IRR may help to consolidate the soundness of Islamic finance institutions.

This study did not consider a direct test of the use of PER and IRR for income smoothing purposes. The lack of data on these devices prevented us from directly examining their discretionary use by Islamic banking institutions. Further research could be devoted to test this issue using individual bank data.

Notes

1. Most Islamic banks adopt the financial accounting rules established by the International Accounting Standards Board, previously International Accounting Standards Committee (IASC).
2. FAS 11: "Specific Provision which is the amount set aside to reflect devaluation of a certain asset, i.e. write it down to its current cash equivalent value. General Provision which is the amount set aside to reflect a potential loss that may occur of current unidentifiable risks in relation to Total of Assets 'Receivables and Investment and Financing'" (AAOIFI, 1999).
3. The distribution of 66 Islamic banks in 19 countries is as follows: Bahrain (11), UAE (7), Turkey (6), Iran (6), Sudan (5), Pakistan (5), Kuwait (4), Yemen (4), Brunei (2), Qatar (2), Malaysia (2), Bangladesh (2), Saudi Arabia (2), Egypt (2), Jordan (2), Russia (1), Indonesia (1), Mauritania (1) and Tunisia (1).
4. Spain offers a unique environment as it has developed and started to apply dynamic provision since July 2000.

References

- AAOIFI (1999), *Statement on the Purpose and Calculation of the Capital Adequacy Ratio for Islamic Banks*, Accounting and Auditing Organization For Islamic Financial Institutions, Manama, Bahrain.
- Agarwal, S., Chomsisengphet, S., Liu, C. and Rhee, S.G. (2007), "Earnings management behaviors under different economic environments: evidence from Japanese banks", *International Review of Economics and Finance*, Vol. 16 No. 3, pp. 429-43.

- Ahmed, A.S., Takeda, C. and Thomas, S. (1999), "Bank loan loss provisions: a reexamination of capital management, earnings management and signaling effects", *Journal of Accounting and Economics*, Vol. 28 No. 1, pp. 1-25.
- Anandarajan, A., Hasan, I. and Loranzo-Vivas, A. (2003), "The role of loan loss provisions in earnings management, capital management, and signaling: the Spanish experience", *Advances in International Accounting*, Vol. 16, pp. 43-63.
- Anandarajan, A., Hasan, I. and Lozano-Vivas, A. (2005), "Loan loss provision decisions: an empirical analysis of the Spanish depository institutions", *Journal of International Accounting, Auditing and Taxation*, Vol. 14 No. 1, pp. 55-77.
- Archer, S. and Karim, R.A.A. (2006), "On capital structure, risk sharing and capital adequacy in Islamic banks", *International Journal of Theoretical and Applied Finance*, Vol. 9 No. 3, pp. 269-80.
- Archer, S., Karim, R.A.A. and Sundararajan, V. (2010), "Supervisory, regulatory, and capital adequacy implications of profit-sharing investment accounts in Islamic finance", *Journal of Islamic Accounting & Business Research*, Vol. 1 No. 1, pp. 10-31.
- Beatty, A., Chamberlain, S. and Magliolo, J. (1995), "Managing financial reports of commercial banks: the influence of taxes, regulatory capital, and earnings", *Journal of Accounting Research*, Vol. 33 No. 2, pp. 231-62.
- Beidleman, C. (1973), "Income smoothing: the role of management", *The Accounting Review*, Vol. 48 No. 4, pp. 653-67.
- Bhat, V. (1996), "Banks and income smoothing: an empirical analysis", *Applied Financial Economics*, Vol. 6 No. 6, pp. 505-10.
- Boudriga, A., Boulila, N. and Jellouli, S. (2009), "Banking supervision and nonperforming loans: a cross-country analysis", *Journal of Financial Economic Policy*, Vol. 1 No. 4, pp. 286-318.
- Chalayer, S. and Dumontier, P. (1994), "Identification and motivations for income smoothing practices, case of French listed companies", PhD dissertation, Management Science, Saint-Etienne University.
- Collins, J., Shackelford, D. and Wahlen, J. (1995), "Bank differences in the coordination of regulatory capital, earnings and taxes", *Journal of Accounting Research*, Vol. 33 No. 2, pp. 263-91.
- Eckel, N. (1981), "The income smoothing hypothesis revisited", *Abacus*, Vol. 17 No. 1, pp. 28-40.
- Fonseca, A.R. and Gonzalez, F. (2008), "Cross-country determinants of bank income smoothing by managing loan-loss provisions", *Journal of Banking & Finance*, Vol. 32 No. 2, pp. 217-28.
- Greenawalt, M. and Sinkey, J. Jr (1988), "Bank loan loss provisions and the income smoothing hypothesis: an empirical analysis 1976-1984", *Journal of Financial Services Research*, Vol. 1 No. 4, pp. 301-18.
- Hasan, I. and Wall, L. (2004), "Determinants of the loan loss allowance: some cross-country comparison", *The Financial Review*, Vol. 39 No. 1, pp. 129-52.
- Hassoune, A. (2002), "Islamic bank's profitability in an interest rate cycle", *International Journal of Islamic Financial Services*, Vol. 4 No. 2, pp. 1-13.
- Islam, M.M. (2003), "Development and performance of domestic and foreign banks in GCC countries", *Managerial Finance*, Vol. 29 Nos 2/3, pp. 42-73.
- Islamic Financial Services Board (IFSB) (2010), "Guidance note on the practice of smoothing the profits payout to investment account holders", *Exposure Draft*, March.
- Ismail, A.G. and Be Lay, A.T. (2002), "Bank loans portfolio composition and the disclosure of loan loss provision: an empirical evidence of Malaysian banks", *Asian Review of Accounting*, Vol. 10 No. 1, pp. 147-62.

- Ismail, A.G., Shaharudin, R.S. and Samudhram, A.R. (2005), "Do Malaysian banks manage earnings through loan loss provisions?", *Journal of Financial Reporting and Accounting*, Vol. 3 No. 1, pp. 41-7.
- Karim, R. and Ali, A. (1989), "Determinants of the financial strategy of Islamic banks", *Journal of Business Finance & Accounting*, Vol. 16 No. 2, pp. 193-212.
- Khan, T. and Ahmed, H. (2001), *Risk Management an analysis of Issues in Islamic Development Bank*, Occasional Paper No. 9, Islamic Development Bank, Jeddah.
- Kim, M. and Kross, W. (1998), "The impact of the 1989 change in bank capital standards on loan loss provisions and loan write-offs", *Journal of Accounting and Economics*, Vol. 25 No. 1, pp. 69-100.
- Laeven, L. and Majnoni, G. (2003), "Loan loss provisioning and economic slowdowns: too much, too late?", *Journal of Financial Intermediation*, Vol. 12 No. 2, pp. 178-97.
- Ma, C.K. (1988), "Loan loss reserve and income smoothing: the experience in the US banking industry", *Journal of Business Finance & Accounting*, Vol. 15 No. 4, pp. 487-97.
- Moyer, S.E. (1990), "Capital adequacy ratio regulations and accounting choices in commercial banks", *Journal of Accounting and Economics*, Vol. 13 No. 2, pp. 123-54.
- Naciri, A. (2002), "Earnings management from bank provisions for loan losses", Working Paper, 4, University of Quebec, Management Research Center, Montréal, PQ.
- Niswander, F. and Swanson, E.P. (2000), "Loan, security, and dividend choices by individual (unconsolidated) public and private commercial banks", *Journal of Accounting & Public Policy*, Vol. 19 No. 3, pp. 201-35.
- Pérez, D., Salas, V. and Saurina, J. (2008), "Earnings and capital management in alternative loan loss provision regulatory regimes", *European Accounting Review*, Vol. 17 No. 3, pp. 423-45.
- Salas, V. and Saurina, J. (2002), "Credit risk in two institutional regimes: Spanish commercial and savings banks", *Journal of Financial Services Research*, Vol. 22 No. 3, pp. 203-24.
- Scholes, M.S., Wilson, P.G. and Wolfson, M.A. (1990), "Tax planning, regulatory capital planning and financial reporting strategy for commercial banks", *The Review of Financial Studies*, Vol. 3 No. 4, pp. 625-50.
- Shahimi, S., Ismail, A.G. and Ahmad, S. (2006), "A panel data analysis of fee income activities in Islamic banks", *JKAU: Islamic Econ.*, Vol. 19 No. 2, pp. 23-35.
- Shrieves, R.E. and Dahl, D. (2003), "Discretionary accounting and the behaviour of Japanese banks under financial duress", *Journal of Banking & Finance*, Vol. 27 No. 7, pp. 1219-43.
- Sundararajan, V. (2005), "Risk measurement and disclosure in Islamic finance and the implications of profit sharing investment accounts", paper prepared at the Sixth International Conference on Islamic Economics, Banking, and Finance, Jakarta, Indonesia, 22-24 November.
- Sundararajan, V. (2007), "Risk characteristics of Islamic product: implications for risk measurements and supervision", in Archer, S. and Karim, R.A.A. (Eds), *Islamic Finance: The Regulatory Challenge*, Wiley, Singapore, pp. 40-68.
- Sundararajan, V. (2008), "Issues in managing profit equalization reserves and investment risk reserves in Islamic banks", *Journal of Islamic Economics, Banking and Finance*, Vol. 4 No. 1, pp. 1-12.
- Wahlen, J. (1994), "The nature of information in commercial bank loan loss disclosures", *The Accounting Review*, Vol. 69 No. 3, pp. 455-78.
- Wetmore, J.L. and Brick, J.R. (1994), "Loan-loss provisions of commercial banks and adequate disclosure: note", *Journal of Economics and Business*, Vol. 46 No. 4, pp. 299-305.

Zoubi, T.A. and Al-Khazali, O. (2007), "Empirical testing of the loss provisions of banks in the GCC region", *Managerial Finance*, Vol. 33 No. 7, pp. 500-11.

Further reading

Scheiner, J.H. (1981), "Income smoothing: an analysis in the banking industry", *Journal of Bank Research*, Vol. 12 No. 2, pp. 119-23.

Corresponding author

Neila Boulila Taktak can be contacted at: neila_boulila@yahoo.fr

To purchase reprints of this article please e-mail: reprints@emeraldinsight.com
Or visit our web site for further details: www.emeraldinsight.com/reprints

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.