

Comparative study on the factors influencing credit risk: the case of islamic banks and conventional banks

AHMADI AYMEN

University Of Angers-GRANEM

The First Annual Conference of Islamic Economics & Islamic Finance @ ECO-ENA, Inc., Canada www.eco-ena.ca

Venue: Toronto University, Chestnut Conference Center, Armoury Suite | August 30th & 31st, 2013

1



Introduction

- *Appearance of the Islamic banks: Early 1970s.*
- *Principles of Islamic finance: prohibition of interest, profits and losses sharing...*
- *Types of contracts: profits and losses sharing contracts and mark-up contracts.*

Research Objectives

- *Measure the influence of several factors (financial ratios) on credit risk in Islamic banks.*
- *Making a comparison with conventional banks.*
- *Identify advantages and disadvantages of the Islamic finance in the management of credit risk.*

Definitions

Credit risk in an Islamic bank is in the form of settlement/payment risk arising when one party to a business transaction pays money (for example Salam or Istina contract) or deliver assets (Murabahah contract) before receiving its own assets or cash, there by exposing it to potential loss.

Definitions

In the case of (Musharaka or Moudharaba) contracts, credit risk is manifested by the non-payment by the contractor the share of the bank when it becomes due.

Other studies

*Credit risk is higher in Moucharakah contracts (3.69 (on a score of 1 to 5) followed by Moudharabah (3.25) *.*

PLS contracts are riskier than sales contracts with profit margin (mark-up).

**Khan and Ahmed, 2001*



➤ **Empirical studies**

- *14 Islamic / classic banks.*
- *Data from annual reports between 2006-2009.*
- *Ratio analysis (7 Financial Ratios precalculated)*
- *3 Macroeconomics variables*

Modelisation

Step 1: compare credit risk between countries according to macroeconomic parameters:

Islamic/conventional → dummy variable

$$\mathbf{CR}_{\text{country}1} = \mathbf{a}_0 + \mathbf{a}_1 (\text{islamic}=0 / \text{conventional}=1) + \mathbf{a}_2 \mathbf{GDP}_{it} + \mathbf{a}_3 \mathbf{Interest\ rate}_{it} + \mathbf{a}_3 \mathbf{Growth\ Rate}_{it} + \boldsymbol{\varepsilon}_t$$

➤ *Study credit risk based on macroeconomic variables for each country.*

➤ *Compare the effect of these variables to see if the credit risk is higher or not for Islamic banks in each country.*



Step 2:

- Explain the choice of financial ratios.
 - **LLP** : (loan loss provision to average loans outstanding)
 - **MGT** (management efficiency : earning assets to total assets)
 - **REGCAP** (regulatory capital : tier 1 capital to total assets)
 - **RWA** : Risk-Weighted Assets (RWA/ total assets)
 - **LNTA** : Natural log of total assets
 - **LD** (Proportion of loan to deposit : LTD ratio)
 - **EQTA** (Equity to Asset ratio)
- Make statistical analysis and treat each variable separately.
- Study the effect of each variable on the credit risk.

Step 3: measure credit risk based on financial ratios for the two types of banks

$$CR_{it}^i = \lambda_0 + \lambda_1 LLPs + \lambda_2 MGT_{it} + \lambda_3 REGCAP_{it} + \lambda_4 RWA_{it} + \lambda_5 LNTA_{it} + \lambda_6 LD_{it} + \lambda_7 EQTA_{it} + \varepsilon_{i,t}$$

$$CR_{it}^c = \lambda_0 + \lambda_1 LLPs + \lambda_2 MGT_{it} + \lambda_3 REGCAP_{it} + \lambda_4 RWA_{it} + \lambda_5 LNTA_{it} + \lambda_6 LD_{it} + \lambda_7 EQTA_{it} + \varepsilon_{i,t}$$

with:

i: the selected bank,

t: the year

$\lambda_0 \rightarrow \lambda_7$: the estimated parameters

ε : the error term

hypotheses to be tested:

- H1: credit risk has a negative relationship with MGT, LNTA, REGCAP, and EQTA variables.
- H 2: credit risk has a positive relationship with the LLP, RWA and LD variables.
- H3 : Islamic banks have more credit risk than Conventional banks

Research problems

- various methods of information processing.
- Application area (Asia / Europe / Africa).
- Availability of data.



Thank you for your attention