

CHAPTER 3

HYPOTHESIS DEVELOPMENT AND THEORITICAL FRAMEWORK

This chapter discusses the research methodology employed in the study.

This study differs from other studies on the riskiness of Banks by the use of the capital ratios. The focus on capital ratios is relevant in light of the changes in banks' balance sheets due to significant write offs that caused the credit crunch. Therefore, capital ratios constitute a reliable tool to test how the banks were affected by the current financial crisis.

First, the research framework is developed to connect capital ratios which are predictors of Bank failures as the main variables of the study. These ratios are leverage ratios and gross revenue ratios which simple ratios to predict bank failures over a short term period of one to two years.

A secondary set of analysis is based on solvency and profitability ratios of Local conventional bank, Islamic bank and Foreign Bank. The secondary ratios are return on assets and return on equity ratios. The study of variability of capital ratios applies dispersion measures.

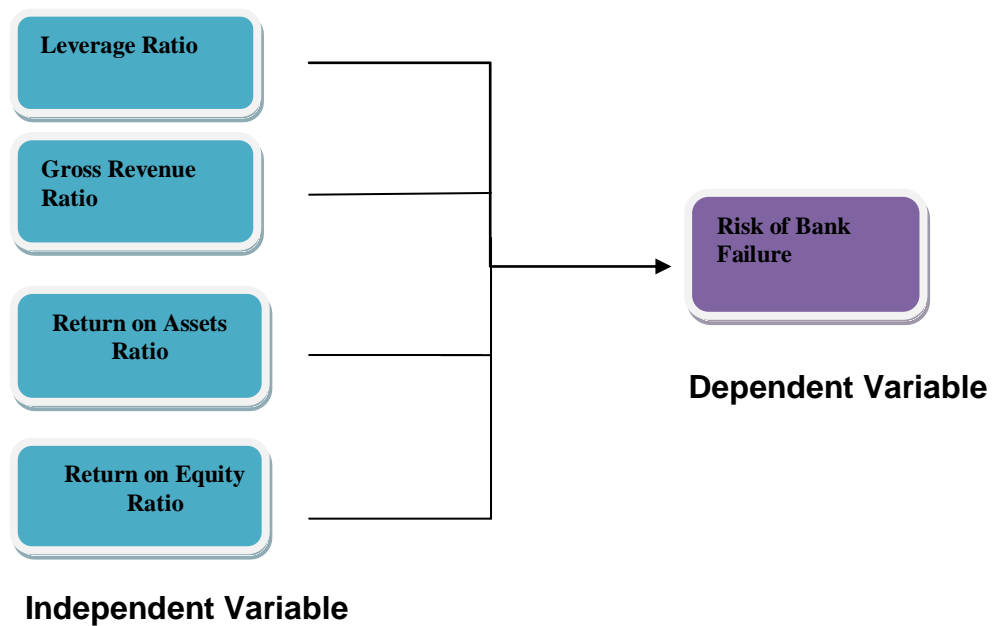
The research model is based on methodology from Estrella et al. (2000). Finally, the technique of analyzing the data is presented.

3.1 Research Framework and Hypotheses

Based on the research objective and questions mentioned in Chapter 1 and supported by the literature in Chapter 2, a theoretical framework has been adopted to investigate the relationship between independent ratios, leverage ratios, Gross Revenue Ratio, Return of Assets Ratio and Return on Equity Ratio as predictors of Bank Failure as illustrated in Figure 3.1.1

Figure 3.1.1

Research Framework



Thus, the research hypotheses have been formulated as below for the purposes of this study

H1_A : Decrease in capital adequacy ratios positively relates to a credit crunch.

H2_A : Conventional Banks have more risk exposure than Islamic Banks in a Credit Crunch.

3.2 Selection of Measure (Model)

The study derives part of its methodology from Estrella et al. (2000) who discusses the following ratios:

- leverage ratio, calculated as tier 1 capital divided by total tangible assets. This ratio reflects to capital adequacy ratio of the banks. Based on history, it is implied that capital need of a bank is directly proportionate to its level of assets. However, leverage ratio does not take into account risky off balance sheet items that may produce misleading relative results. This setback is addressed in the gross revenue ratio.
- gross revenue ratio, calculated as tier 1 capital divided by total revenue. Total revenue includes total interest income and non interest income before any expense. Shephard- Walwyn and Leitterman (1998) uses gross revenue as measure of scale.

Gross revenue includes components of off-balance sheet items. Thus, capital to gross revenue ratio reflects riskiness of assets better than leverage ratio. Setback of using gross revenue is that it captures factors other than risk i.e. sensitive to business cycle and fee generating activities that carry limit risk report large revenues. However, gross revenue ratio is transparent and simple as leverage ratio.

Estrella et al. (2000) stressed that leverage ratio and the ratio of capital to gross revenue are as good as other complex models in predicting bank failures over a short period of one to two years, while risk-weighted ratios are superior over the long run. However, we are not including risk weighted in our

study as these ratios are complex and the dynamic change in assets composition render this ratio as not practical.

3.3. Capital Adequacy ratio

The capital adequacy ratios are computed in accordance with Bank Negara Malaysia's revised Risk-weighted Capital Adequacy Framework, which are based on the Basel II capital accord. The minimum regulatory capital Adequacy requirement is 8.0% for Banking Institutions in Malaysia for the risk-weighted capital ratio (RWCR). However, the leverage ratio and capital to gross revenue ratio is calculated only considering tier 1 capital as opposed to tier 1 and tier 2 capital as opposed to Basel II as a more prudent ratio calculation. The ratio determines tier 1 capital's to absorb capital losses arising from loans written off.

3.4 Sample Selection and Data Collection

The study covers the period 2006-2009, which includes the period of the US sub-prime crisis that started in 2007 and became a global financial crisis by 2008.

The data were secondary data obtained from the respective banks' annual report from 2006 to 2009. Results from the Annual report for Year end 2010 were not analysed due to non availability of audited financial statements for all the sample banks.

The study uses the same ratios on a sample of 7 conventional local banks, 7 local Islamic Banks and 7 conventional foreign banks. The sample period of study is from 2006 to 2009. The selection of Bank samples were based on 2 from top ranking, 2 from middle ranking and 3 from bottom ranking as to have more realistic results. Foreign Islamic Banks were not included in the sample as these banks are still in the infancy stage and would distort the findings.

The sample size is small as after the consolidation of the financial sector following the crisis in 1990s Malaysia has only 9 local Financial Groups and each of these Financial Groups are allowed management of a Bank, an Investment Arm and an Islamic Bank and an Insurance Company.

The original Islamic Bank was Bank Muamalat and Bank Islam. Foreign Islamic Banks were not included as most of these banks were incepted only in 2007/2008.

3.5 Data Analysis Techniques

The focus of the primary set of analysis covers leverage ratio and gross revenue ratio. A secondary set of analysis is based on solvency and profitability ratios namely return on assets ratio and return on equity ratio. To study the variability of capital ratios, dispersion measures are applied wherever necessary.

The secondary data are obtained from the respective annual report. The median, medium and standard deviation is computed using statistics in excel programme and tabulated as per Appendix III and the graph is plotted to give a pictorial visual understanding analysis data from 2006 to 2009.

3.6 Conclusion

This chapter presents an overview of the research framework and hypothesis developed for the study. This chapter also discusses the data collection procedure, and the methodology.

The primary focus of analysis covers leverage ratio and gross revenue ratio. This study differs from other studies on the riskiness of Banks in utilizing capital ratios. The focus on capital ratios is relevant in light of the changes in banks' balance sheets due to significant write offs that caused the credit crunch. Therefore, capital ratios are regarded as reliable tool to test how the Banks were affected by the current financial crisis.

A secondary set of analysis is based on solvency and profitability ratios for the same period. To study the variability of capital ratios, dispersion measures are applied .

This study also attempts to compare the effect of risk exposure on Conventional Banks, Islamic Banks and Foreign Banks to study levels of risks of bank failures. This study also attempts to investigate if conventional banks have more risk exposure than Islamic Banks in a Credit Crunch.

The following Chapter 4 will discuss the empirical results and analysis on each of the hypotheses as stated in this chapter