CHAPTER 3

HYPOTHESIS, RESEARCH
METHODOLOGY AND BANK MANAGEMENT PRINCIPLES

3.1   HYPOTHESIS OF THE STUDY

The writer wants to test the difference of Islamic banking and conventional banking in loan repayments and to confirm whether or not loan repayments under Islamic banking are higher than conventional banking. Based on previous literature, the null hypothesis of the study is as follows:

H_0 =   There are no differences in loan repayments between Islamic banking and conventional banking.

3.2   RESEARCH METHODOLOGY

This chapter also describes the research methodology used in the study, which can be divided into three major sections. Those sections are as below:

1. Sample Selection;
2. Data Collection Techniques; and
3. Data Analysis Techniques.

3.2.1 Sample Selection

In the research, BIMB was chosen as a sample of an Islamic bank and BCB as a sample of a conventional bank. BIMB was selected for its role in pioneering the implementation of the Islamic banking system in Malaysia. Needless to say, BIMB has been a prominent financial institution in this field. BCB which currently

mplements a purely conventional banking system was formed via the merger between Bank of Commerce and Bank Bumiputra Malaysia Berhad.

3.2.2 Data Collection Techniques

In searching for the information, the writer used two methods:

1. Library research
2. Fieldwork

1. Library research

By using this method, the writer analyzed materials from BIMB reports, BIRT (BIMB Institute of Research and Training) reports, BCB reports, Bank Negara Reports, books, journals and various publications from University of Malaya Main Library, Faculty of Business and Accountancy Library and Perpustakaan Peringatan Za'aba.

2. Fieldwork

The writer interviewed officers from BIMB and BCB after making appointments with them. The officers were requested to fill up tabulated forms of loan repayments for several loans i.e. housing loan, shophouse loan, car loan and personal loan. The tabulated forms are presented in the Appendix I (a) – (e). The formula pertaining to the loan calculations was also provided in both systems. The officers were assured that all information given would be strictly confidential.

3.2.3 Data Analysis Techniques

Materials and information were compiled and analyzed to observe similarities and differences, which exist in both systems. The collected data were analyzed

by using descriptive analysis. Descriptive analysis refers to the transformation of raw data into a form that will make them easy to interpret. The data were analyzed by using the Statistical Package for the Social Science (SPSS) software for Window. Among the statistical tests conducted, were mean and t-test for difference of means. The mean analysis was applied to check on the differences between the loan repayments in Islamic banking and conventional banking. The purpose of conducting the t-test for difference of means is to test the hypothesis that the mean scores on some interval-scaled variable will be significantly different for two independent samples or groups.

3.3   BANK MANAGEMENT PRINCIPLES

In managing a bank, its management team needs to give attention to three groups of stakeholders:

1. Shareholders as capital providers for the operation of the bank;
2. Depositors as resource fund providers by depositing or investing their money. The fund is used for the purpose of giving loans/financing or investment by the bank; and
3. Customers as a party that contribute income to the bank whether through financing activities, investment and services provided by the bank.

The usage of the fund given by the shareholders and depositors is under the policies fixed by the Central Bank. Part of the fund used will bring some return to the shareholders (bank) and the other part of the fund used may not give anything at all. The return from the usage of shareholder fund is for the shareholders (bank) whereas the return from the usage of the depositor's fund will be apportioned proportionately according to the agreed profit ratio between the bank and depositors as well as any internal policies provided by the bank.

The return to the bank will be used to finance its daily operations and to return part of it to the shareholders.

The matters below are practical norms in the bank industry:

1. Shareholders are hoping to have a reasonable rate of return from their investment;
2. Depositors are also expecting to have a rate of return which is at least at the same as given by other banks;
3. Customer who get financing facilities from the bank are wishing to be charged a low rate which is not more than rates charged by other banks;
4. Customers who are using the bank's services wish to be charged low fees.

A bank which operates on a commercial basis faces a very high level of competition in marketing its products. Therefore the bank management will be struggling to overcome challenges to fulfill the wishes and hopes of all stakeholders and this seems to be a dilemma.

3.3.1 Cost of Fund (COF)

In the calculation of the COF, the relationship between accumulated deposit and the amount that can be used is very important. According to the central bank's policies, part of the deposit need to be used for fulfilling the need of statutory reserves and primary liquid assets and secondary liquid assets.

For giving a loan/financing of RM A, deposit (D) that is needed is as follows:

$$D = \frac{A}{1 - d_1 - d_2(a) - d_3(b)}$$

where

d_1 the proportion of the deposit that must be maintained as statutory reserves with Bank Negara Malaysia;

d_2 the proportion of the deposit that must be maintained as primary liquid assets;

d_3 the proportion of the deposit that must be maintained as secondary liquid assets;

a   the amount of deposits in current and saving accounts; and

b   the amount of deposits in investment accounts

For example, assuming a bank wants to give a loan/financing of RM1.00, its deposit's composition is 50% of current and saving accounts, and the remaining is in investment accounts where

$$d_1 = 12.5\%, \; d_2 = 10.0\%, \; d_3 = 5.0\%$$

Then

$$D = \frac{1}{[1 - (0.125) - 0.1(0.5) - 0.05(0.5)]}$$

$$= \frac{1}{0.8}$$

$$= 1.25$$

Base on the above scenario, the deposit of RM12,500,000 is needed for giving financing of RM10,000,000.

Furthermore for the discussion of the COF, the return for each fund placement needs to be seen and can be described as follows:

y_1 the yield on statutory reserves;

y_2 the yield on primary liquid assets; and

y_3 the yield on secondary liquid assets.

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One more important thing about calculating the COF is the expected rate of return to depositors, say r.

Then, the formula for calculating the COF can be described as follows:

$$COF = \frac{A}{1 - d_1 - d_2(a) - d_3(b)}[r - y_1 d_1 - y_2 d_2(a) - y_3 d_3(b)]$$

$1 - d_1 - d_2(a) - d_3(b)$ is the deposit part that can be used, D_F

The formula can be rearranged as follows:

$$COF = A\left[r + \frac{(r - y_1) d_1}{D_F} - \frac{(r - y_2) d_2(a)}{D_F} - \frac{(r - y_3) d_3(b)}{D_F}\right]$$

For example, let say $r = 5\%$, $y_1 = 0\%$, $y_2 = 5.5\%$, $y_3 = 5.5\%$ and other variables are assumed to be the same as before:

$$COF = 1\left[0.05 + \frac{0.05 (0.125)}{0.8} - \frac{0.005 (0.05)}{0.8} - \frac{0.005 (0.025)}{0.8}\right]$$

$$= \quad 0.0573 \text{ or } 5.73\%$$

Based on the above scenario, the cost of fund for providing 5% rate of return to depositors is 5.73%. This cost is merely to fulfill the need of the central bank's policies without taking into account other costs, which are involved in operating as a commercial bank.

3.3.2 Price Of Loan/Financing (PF)

Apart from the COF, other factors that need to be taken into consideration in determining loan/financing prices are as follow:

1. Provision for loan/financing losses;
2. The cost of administration per unit asset;

3. The cost of capital per unit asset; and

4. The cost of maintaining priority sector lendings, if available

Then, the formula for the price of a loan/financing (PF) can be formed as follows:

$$PF = r + C_{SRV} + C_{PLA} + C_{SLA} + R + E + K$$

where

r	expected rate of return to depositors or the rate of interest;
C_{SRV}	the cost of maintaining statutory reserves per unit of deposit;
C_{PLA}	the cost of maintaining primary liquid assets per unit of deposit;
C_{PSF}	the cost of maintaining priority sector lendings;
C_{SLA}	the cost of maintaining secondary liquid assets per unit of deposit;
R	the charge-off for actual loan/financing losses;
E	the administrative cost per unit asset; and
K	the capital cost per unit asset.

For example, let say $r = 5\%$, $COF = r + C_{SRV} + C_{PLA} + C_{SLA} = 5.73\%$ and $C_{PSF} = 0\%$.

R = 0.7% (i.e. 1% on fund for a loan/financing, let say 70% from total deposit)

E = 2.0% (range for E in bank industry between 1.5% up to 3.5%)

K = 0.5% (approximated return of 10% and shareholder fund ratio to total asset of 1:20 i.e. $\frac{10\%}{20\%} = 0.5\%$)

The actual cost for having the R value = 0.7, E = 2.0% and K = 0.5% is based on the amount of deposit that can be used 80% i.e. $\frac{(0.7 + 2.0 + .05)}{0.8} = 4.0$

Then, the price of a loan/financing that needs to be charged based on the above assumption is as follows:

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PF   =   5.73% + 4.0%

PF   =   9.73%

The above scenarios clearly show that for having to give a fair return to the shareholders and an average rate of return to depositors is at 5%, the average price of a loan/financing that needs to be charged is 9.73%.

3.4   Methods of Fixing A Loan/Financing Price

3.4.1 Islamic Financing

Total Financing	:	RM100,000.00
Profit Rate	:	9.75% (monthly effective rate)
Duration of Financing	:	20 years
Annuity Factor	:	0.00948518
Monthly Installment	:	Annuity Factor X Total Financing
	:	0.00948518 X 100,000.00
	:	RM948.52
Selling Price	:	Monthly Installment X No. of Installment
	:	RM948.52 X 24
	:	RM227,644.80

3.4.2 Conventional Loan

Total Financing	:	RM100,000.00
Interest Rate	:	9.75% (monthly effective rate)
Duration of Loan	:	20 years
Annuity Factor	:	0.00948518
Monthly Installment	:	RM948.52

Note: 1)   For an Islamic financing, the selling price is fixed; and

2)   For a conventional loan, the interest rates vary according to Base Lending Rates (BLR).