CHAPTER FIVE

HYPOTHESES DEVELOPMENT

Following the previous discussion about the criticism and the benefits of Syariah investment portfolio put forward by different researchers, this chapter presents the hypotheses to be tested in this thesis. This chapter focuses on the development of the hypotheses that are tested for each part. The first part is concerned with comparing the Syariah and the non-Syariah stock market indices returns, their long and short run relationships. The second part deals with the relationship between macroeconomic variables and the stock market indices, their long and short run dynamics. The third part deals with the firms' specific variables and the Syariah and non-Syariah firms returns.

5.1 Comparison and Relationship between Syariah and Non-Syariah Stock Market Indices Returns

The first part of the thesis deals with returns KLCI and KLSI. KLCI represents the conventional, non-screened or non-Syariah investment portfolio while KLSI represents Islamic, screened or Syariah compliant investment portfolio. Since most of the criticism (e.g. Rudd 1980, Johnson and Neave 1996, and Langbein and Posner 1980) of Syariah investment portfolio is the lower returns it yields, two indices are used to test empirically whether Syariah index has lower returns than non-Syariah index. Therefore, the first research question is

RQ1: Is there any difference in returns between Syariah and non-Syariah investment portfolio?

Based on theoretical and empirical findings presented on Chapters 2 and 3 respectively Syariah investment portfolio yields lower returns than non-Syariah investment portfolio due to less diversification and high monitoring cost. Therefore, the first null hypothesis is as follows,

H_1: There is no significant difference in returns between Syariah and non- Syariah indices.

The second research question focuses on whether both Syariah and non- Syariah indices move together in the long term. Theory suggests that if the two indices have different returns in the short run, this indicates that they behave differently in the long term and this indicates that they diverge from each other. If both indices move together, in the long term it indicates that they are cointegrated and that the screening act does not cause the Syariah index to diverge from non-Syariah index (Reyes and Grieb 1998). Therefore the second research question is,

RQ2: Are both indices cointegrated?

Based on the question the derivation of the hypothesis is straightforward. The null hypothesis is,

H_2: There is no long-term relationship between Syariah and non-Syariah indices.

The above questions are concerned with the returns of both indices without taking into account any other variables.

Since KLCI and KLSI cover stocks in the Malaysian stock market, there is a possibility that causality might exist between them. The causality helps to determine whether changes in one index can be explained by the other index. Based on Hickman et al. (1999) the low correlation between the overall market movement and the Syariah against the high correlation between overall market and the non-Syariah investment portfolio may indicate that there will be no causality between Syariah and non-Syariah indices. Therefore the third research question is,

RQ3: Is there causality between KLCI and KLSI?

Based on the question it is valid to hypotheses that,

H_3: Syariah index does not Granger cause non-Syariah index

H_4: non-Syariah index does not Granger cause Syariah index

If both hypotheses are rejected, then is it safe to conclude that there exists a bi-directional Granger causality between the indices.

5.2 The Relationship between Macroeconomic Variables and Stock Market Index Returns

The second part of the thesis deals with the common macroeconomic variables that affect the Syariah index and compare their effect on the non-Syariah index. The theory of Syariah investment portfolio does not elaborate directly on the effect of macroeconomic variables on Syariah investment portfolios. However, Hickman et al. (1999:74) suggests, “after all, the social performance of such investment portfolios will not be systematically changed by, for example, a recession, so there’s no reason for social investors to alter their holdings”. In addition, Hickman et al. (1999) asserts that the correlation between the overall market and Syariah investment portfolio tends to be lower than between the overall market and non-Syariah investment portfolio. In other words, this could indicate that non-Syariah investment portfolio is affected by the business cycle fluctuations in an economy more than Syariah investment portfolio. This is because of lower correlation between the Syariah investment portfolio and the overall market or the systematic risk. This lower correlation is caused by less diversification of the Syariah investment portfolio. Therefore, Syariah and non-Syariah investment portfolio might react differently to the same variables. Consequently, the research questions for this part are,

RQ4: Whether there is long run relationship between the selected macroeconomic variables and the KLSI index?

The above questions can be answered by investigating the long-term cointegration between each index and the same selected macroeconomic variables. Therefore, if Syariah as well as non-Syariah investment portfolios are cointegrated with the macroeconomic variables selected, then both indices are facing the same systematic risk. As a result, the null hypotheses are,

H_5: There is no long-term relationship between the selected macroeconomic variables and the Syariah index.

From this hypothesis the following sub-hypotheses statements are derived,

H_{5a}: there is no relationship between KLSI and industrial production.

H_{5b}: there is no relationship between KLSI and inflation.

H_{5c}: there is no relationship between KLSI and oil prices.

H_{5d}: there is no relationship between KLSI and narrow money supply.

The following hypothesis is directed to answering the second research question of this part of the study that is

RQ5: Do Syariah and non-Syariah investment portfolios react similarly to the same selected macroeconomic variables?

Based on the literature review discussed in chapter three about the relationship between macroeconomic variables and the stock market index the following relationships were established. Real activity or GDP is positively related to the stock market index and inflation rate in the case of Malaysia. On the other hand, money supply seems to have a negative relationship in Malaysia. Oil prices have not been tested with the Malaysian stock market index, however, It has been tested in other market and reflected a negative relationship with stock market index therefore the relationship is expected to be negative. Consequently the following hypotheses are developed,

H_6: There is no significant difference of returns between Syariah and non-Syariah indices in their reaction to macroeconomic variables.

H_{6a}: there is no significant positive relationship between KLSI and industrial production.

H_{6b}: there is no significant positive relationship between KLCI and industrial production.

H_{6c}: there is no positive relationship between KLSI the rate of inflation.

H_{6d}: there is no positive relationship between KLCI the rate of inflation.

H_{6e}: there is no negative relationship between KLSI and money supply.

H_{6f}: there is no negative relationship between KLCI and money supply.

H_{6g}: there is no negative relationship between KLSI and oil prices.

H_{6g}: there is no negative relationship between KLCI and oil prices.

5.3 Firm Specific Variables and Stock Returns

The third part of the thesis focuses on the returns of Syariah firms and non-Syariah firms while controlling for firm specific variables. This is to investigate whether firms classified as Syariah for the interval of the study under-perform, or out-perform the non-Syariah firms. The same theoretical criticism on Syariah investment portfolio returns that is indicated in the first part will apply here. That is, Syariah firms tend to have increased risk due to being avoided by investors due to the perception that they yield lower returns. This increase in risk is reflected in how much is explained by the firm specific variables. In other words, if both, Syariah and non-Syariah returns yield the same returns then it is safe to say that they face the same risk too. In contrast, if there is difference in returns between both investment portfolios this indicates that risk is not priced. Following Angel and Rivoli (1997), the lower returns are due to market segmentation. The effect of the market segmentation on the returns depends on the size of the investor base. In other words, larger and riskier firm will incur higher cost of equity if investors avoid them. This higher cost of equity is reflected in decline in stock prices. Therefore, it could be asserted that Syariah firms either under-perform or out-perform the non-Syariah firms in terms of returns. Therefore, the research question is,

RQ6: Do Syariah firms under-perform or out-perform the non-Syariah firms?

Consequently the hypotheses to be tested for this question is,

H_7: There is no significant difference between Syariah firms and non-Syariah firms in term of returns.

H_8: There is no significant difference in the reaction of Syariah and non-Syariah firms to the same selected firm specific variables

From this hypothesis the following sub-hypotheses are derived,

H_{8a}: there is no relationship between Syariah firms' returns and size.

H_{8b}: there is no relationship between non-Syariah firms' returns and size.

H_{8c}: there is no relationship between Syariah firms and market to book ratio.

H_{8d}: there is no relationship between non-Syariah firms' returns and market to book ratio.

H_{8e}: there is no relationship between Syariah firms' returns and debt.

H_{8f}: there is no relationship between non-Syariah firms' returns and debt.

H_{8g}: there is no relationship between Syariah firms' returns and price earnings ratio.

H_{8h}: there is no relationship between non-Syariah firms' returns and price earnings ratio.

Table 5.1 summarized the hypotheses. These hypotheses to be tested in order to determine whether returns between screened and non-screened investment portfolio are different in the different essays of the thesis. In other words, the returns are tested individually, with the effect of macroeconomic variables and finally with firm specific variables

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Table 5.1 Null hypotheses

	Hypothesis	Expected results	Reasons	Bases
Part one	H_1: There is no significant difference in returns between Syariah and non-Syariah index.	Reject	Screened investment portfolio yields lower returns because of under-diversification	Langbein and Posner (1980)
	H_2: There is no long-term relationship between Syariah and non-Syariah indices.	Do not reject	Screening act leads screened investment portfolio to behave differently than unscreened investment portfolio.	Hickman et al (1999)
	H_3: Syariah index does not Granger cause non-Syariah index	Do not reject	Screened index has low correlation with overall market while non-screened index has high correlation overall market.	Hickman et al (1999)
	H_4: Non-Syariah index does not Granger cause Syariah index	Do not reject	Screened index has low correlation with overall market while non-screened index has high correlation overall market.	Hickman et al (1999)
Part two	H_5: There is no long run relationship between the selected macroeconomic variables and the Syariah index	Do not Reject	Screening act causes screened investment portfolio to behave differently than unscreened investment portfolio towards similar macroeconomic variables.	Hickman et al (1999)
	H_6: There is no significant difference of returns between Syariah and non-Syariah indices in their reaction to macroeconomic variables.	Reject	Screening act causes screened investment portfolio to behave differently than unscreened investment portfolio towards similar macroeconomic variables.	Hickman et al (1999)
Part three	H_7: There is no significant difference between Syariah firms and non-Syariah firms in term of returns.	Reject	Either Screening act leads screened firms to under-perform or out-perform non-screened firms.	Angel And Rivoli (1997)
	H_8: There is no significant difference in the reaction of Syariah and non Syariah firms to the same selected firm specific variables	Reject	Either Screening act leads screened firms to under-perform or out-perform non-screened firms.	Angel And Rivoli (1997)