

CHAPTER TWO

THEORETICAL REVIEW

2.1 Introduction

In this chapter the theory behind the screened investment portfolio (i.e. Islamic and ethical or socially responsible) is discussed. This chapter starts with the definition of screened investment portfolio then it discusses the main types of screening criteria that Islamic investment portfolio is based upon in different countries. Next is the impact of the act of screening on risk and returns and benefit of screened investment portfolio. After discussing the impact of the act of screening, the hypotheses development based on the research questions explained in Chapter one will follow. Finally, the last part is a conclusion of the main findings of the previous studies.

2.2 Screened Investment Portfolio: Islamic Versus Socially Responsible Investment Portfolio

The term screened investment portfolio used in this chapter refers interchangeably to either Syariah compliant investment portfolio or ethical and socially responsible investment portfolio. The commonality between Islamic and ethical investment portfolio is the screening act applied to both. Although screening criteria are not identical, they may converge in some issues while diverging in others. For instance, Islamic investment portfolio is a portfolio that follows the tenets of Islamic jurisprudence. In other words, only when an investment portfolio has passed the Islamic filtering based on the major sources of Shariah can it be called Islamic investment portfolio. There is no single definition for ethical or social responsible investment portfolio. Cowton (1994) defines ethical

investment portfolio as, the use of ethical and social criteria in the selection and management of investment portfolios. Thus, in addition to risk and returns, ethical investors consider the characteristics of the companies in which they want to invest.

Islamic investment portfolio on the other hand, is an investment portfolio that avoids prohibited activities and income derived from prohibited activities. Therefore, any type of criteria, whether it is social, environmental, religious, or moral is implemented on any investment portfolio this investment portfolio is considered as screened investment portfolio. However, Ghoul and Karam (2007) mention that one problem of Islamic investment portfolio is that there is no perfect agreement on the interpretation of Shariah among Muslim scholars. This is solved by establishing a Shariah Supervisory Board that would have the final say on whether an investment portfolio, transaction, instrument, or a security is Islamic.

Although there are issues that are clear-cut with no disagreement on their prohibition in an Islamic investment portfolio, different schools of jurisprudence have different interpretations of other issues. Islamic investment portfolio has a fixed screening criteria in term of the product invested in, while in terms of income or financing there are some disagreements among scholars on how the criteria should be set. For example, some indices such as KLSI consider products based on dealing with interest or Riba (Usury), such as finance companies, as unlawful while, on the other hand, they accept firms with Halal products, even though their mode of financing is unlawful.

Rosly (2005), in elaborating on the means used by Islamic law (*Shariah*) boards all over the world, has put forward four main methods of valuing the islamicity of stocks or the

screening act. The first method is activity or production method, whereby stock is declared permissible (*Halal*) if the company issuing it does not indulge in non-permissible activities such as usury (*Riba*), gambling (*Maisir*), intoxicants (*Khamar*), and pornography as its main business. This approach is implemented in screening stocks in Kuala Lumpur Syariah Index (KLSI) in Malaysia, whereby the screening criteria is mainly activity based. No debt or liquidity screens are used. Thus, screening will require income statements but not the balance sheets of the companies. Second, there is the income method, where the income must be free from the element of generating usury (*Riba*). Dow Jones Islamic Index as indicated by Hakim and Rashidian (2003) implements the income method along with the production method. The third method is the asset approach, which allows investment portfolio in companies that have a combination of fixed and current assets, whereby the percentage of liquid assets to total assets must not be below 33%. Finally, the capital structure approach, whereby the debt ratio in structure must be less than 45%. However, Dow Jones Islamic index benchmark is set at less than 33%.

While Islamic investment portfolio depends on religious criteria for screening, ethical and socially responsible investment portfolio, on the other hand, is subjective. Ghoul and Karam, (2007) cite the aim of social responsibility investment funds of Calvert socially responsible mutual funds in the US as the funds that “integrate personal, social, and environmental concerns with financial consideration, their objective is to increase investors’ wealth while ensuring that the selected companies have a positive impact on people and the planet” (Ghoul and Karam 2007:97). In a similar vein, Schueth defines socially responsible investment portfolio as “the process of integrating personal values and societal concerns into investment portfolio decision-making” (Schueth, 2003:190).

Travers (1997) and Schueth (2003) mention three strategies through which investors can be socially responsible. Firstly, investing in companies that pass restrictive screens. Secondly, through shareholder activism, the investors can attempt to change the way a firm does its business, and the third strategy is investing directly in the community. Travers (1997) asserts that the main problem with defining socially responsible investment portfolio is the restrictions applied. In other words, to include or exclude a security from being socially or non-socially responsible is subjective. There is no agreed upon “threshold” that can be applied equally to all investment portfolios. Some companies are considered as socially irresponsible because of their activities, but their subsidiaries are considered socially responsible. One example is that some companies allow subsidiaries of tobacco or weapons manufacturers in their portfolio while others are totally against such a practice. He divides the restrictions used for socially responsible investment portfolio into two main groups, positive and negative screens. Positive screens “involve the search for companies that contribute in some way to society” while negative screens “involve the search of companies that violate one or more of the restrictions” (Travers, 1997:51).

In other words, negative screens are designed to exclude companies while positive screens are designed to include companies from all available stocks. Negative screens involve excluding companies in the “sin” business such as tobacco, alcohol, and gambling, as well as weapons manufacturers and environmentally unfriendly firms. On the other hand, positive screens include companies that have contributed to the community, have good labor relations, are environmentally friendly, have contributed to charity and have an outstanding record in minimizing discrimination in workplace (Travers, 1997; Barnett and Salomon, 2006; D’Antonio et al. 1997; Michelson et al. 2004 and Statman, 2005).

The subjectivity of these screens creates a benchmark or cut off point dilemma in choosing which companies to include or exclude. An example given by Travers (1997) is how to classify a paper company that produces cigarette paper and supplies it to a tobacco firm, or a microchip producer who supplies his technology to a weapons manufacturer. In order to resolve this issue, he suggests three ways to handle the problem. First, “zero tolerance” policy should be enacted whereby a company is excluded even though it does not directly violate screens, but is involved in business with a company that violates certain screens. Second, the “well-defined levels of tolerance” policy, whereby a violation to certain level is tolerated as long as such a violation does not exceed a preset percentage. The third approach, to distinguish between companies that are socially responsible and those that are not is to identify companies that violate some screens but are striving to improve. This approach is a very subjective and difficult to implement because and it requires a very specific benchmark for improvement.

In conclusion, the main difference between Islamic investment portfolio and socially responsible investment portfolio or ethical investment portfolio is that Islamic investment portfolio is based on Islamic law only while ethical investment portfolio is based on a variety of screens that depends on religious, environmental, social, and moral criteria. Socially responsible or ethical investment portfolio screening is therefore subjective and it depends on how many unethical issues an index, firm, and a fund can tolerate. Islamic investment portfolio, on the other hand, has clear guidelines for investors on what can be included and what should be avoided.

2.3 Screened Investment Portfolio: Islamic and Ethical Investments Portfolio

2.3.1 Risk and Return of Screened Investment Portfolio

Most of the criticisms directed at screened (i.e. Islamic or socially responsible) investment portfolio stems from its contradiction to the principles of the efficient portfolio theory or modern portfolio theory of Markowitz (1952). Kettell (2001) defines the efficient portfolio as the portfolio with the smallest risk for a given expected return or the greatest returns given the risk. This theory is based on rational investors whose goal is to maximize their wealth. Markowitz' (1952) assumptions, though simple, have been used for decades for wealth optimization. He summarizes the assumptions as, single investment portfolio period, no transaction cost and investor's choice being based solely on expected returns and risk. The main conclusion of the modern portfolio theory, as D'Antonio et al. (1997) summarizes it, is that investors seeking greater expected returns also want to avoid or minimize risk. The minimization of risk is done by holding a group of assets rather than single one. The process of grouping assets will produce the desired risk-return trade off. This process is known as diversification. Diversification is a "consequence of the imperfect correlations of returns between securities" (Hickman et al, 1999:73). Hickman et al (1999) indicate that the lower the correlations of returns between securities, the higher the reduction of risk. Therefore, a well-diversified portfolio will be affected by only economy-wide risk or market risks. As a result, traditional investors will focus on diversifying their investment portfolio to minimize risk and maximize profit, which is their main concern.

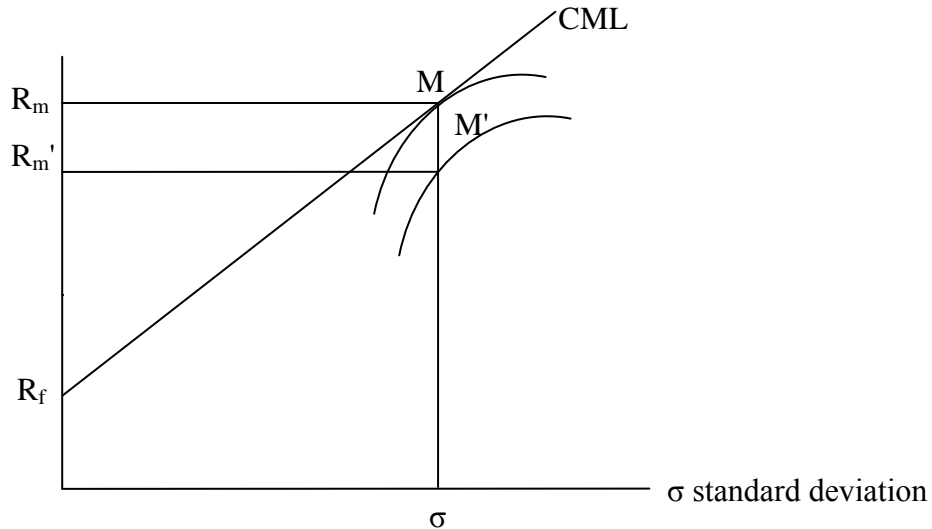
Johnson and Neave (1996) after elaborating on the type of instruments used by Islamic financial intermediation, theoretically indicate that Islamic finance is ineffective and

inefficient. They cite three main reasons for this failure. The first reason is allocative inefficiencies, whereby they show that a Syariah compliant portfolio is less diversified than an efficient portfolio and leads to lower returns and a lower level of utility maximization. The second reason is operational inefficiency that is inflated by the extra cost of managing the portfolio such as monitoring cost and higher transaction cost. The third reason is ineffective governance, which is caused by the fact that some of the Islamic transactions require certain skills that are not required in conventional transactions such as monitoring the operation of certain transactions and more detailed knowledge about the modus operandi of the transaction, which are not required in conventional investment portfolio. They conclude that there is a “cost to ideological orthodoxy.” In other words, for them Syariah compliant investment portfolios are restricted and constrained.

They depict their view of inefficiency in general and the allocative and operationally inefficiency of Islamic investment portfolio in specific in Figure 2.1 and Figure 2.2 respectively. Figure 2.1 shows the equilibrium capital market risk and returns combination both when there is full diversification and when diversification is restricted. This allocative inefficiency is caused by less diversification due to the screening act. Figure 2.1 shows both the efficient portfolio using full diversification at M with portfolio returns at R_m and market risk at σ_A and Islamic inefficient portfolio using less diversification at M' with returns at R_m' while facing the same systematic market risk at σ_A and same risk free rate at R_f . Both portfolios M and M' face the same market risk or systematic risk since the market contains all the stocks available for trading. Therefore, any movement in the market as a whole affects both portfolios. Figure 2.1 shows how the screening act followed by the Islamic investment portfolio will cause its portfolio to be lower than the efficient market portfolio at M due to less diversification. The returns are lower at R_m' for the Islamic portfolio M'

given the same risk as the market portfolio M faces at σ_A . Therefore, Islamic investment portfolio faces the same risk as the market portfolio, but receives lower returns due to less diversification.

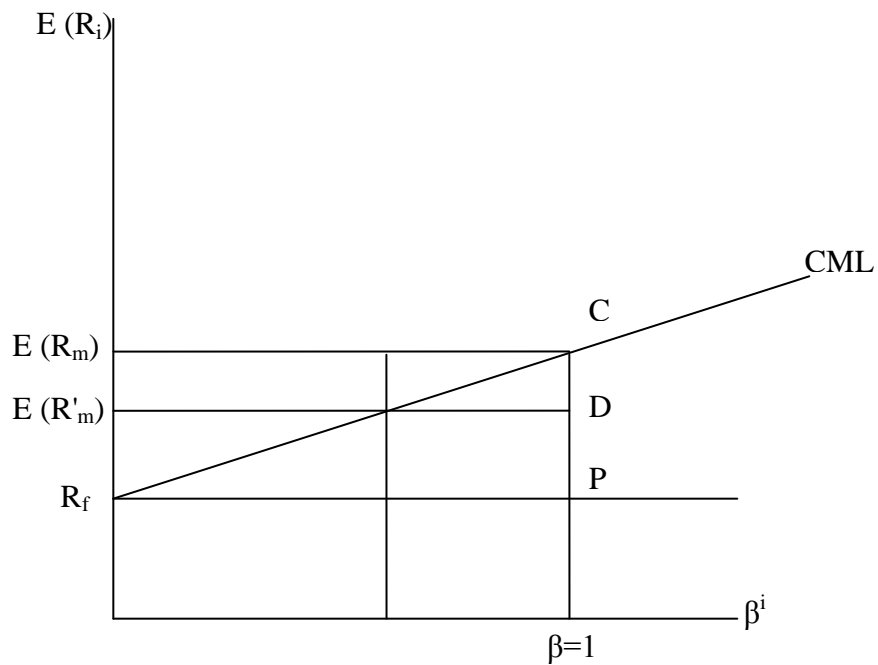
Figure 2.1 Allocative inefficiency due to less diversification



Source: Johnson and Neave (1996)

Figure 2.2 shows operational inefficiency. Operational inefficiency occurs when the intermediary tailors the product according to the screening act. In other words, the intermediary screened in or out investment portfolios based on the screening criteria. Therefore, rather than following what the market offers as the best portfolio, the intermediary come in and design products bearing in the process all the administrative, monitoring, and controlling costs. The operational inefficiency is depicted by the PDC where the extra cost of governance (i.e. monitoring, administrative, and controlling) DC is borne by the intermediary leading to lower returns at R'_m while the market returns is at R_m while facing the same market risk of β . Thus, the intermediary will receive only PD as returns rather than PC in total. This is considered a type of capital rationing since the intermediaries will provide less funds due to the screening criteria.

Figure 2.2 Operational Inefficiency



Source: Johnson and Neave (1996)

Friedman (1970) was the first to criticize the socially responsible investment portfolio. He indicates that businesses main goal is the maximization of profit. He criticizes those businesses that extend their goals to provide social ends or to have a “social conscience” to be “preaching pure and unadulterated socialism.”

In addition, he indicates that individuals may have social responsibilities; however, businesses do not have such a thing. The agent appointed by the stockholders is not at liberty to carry on his social responsibility using their money. He might do that with his own income but not with the wealth of his employer. He further explains that the agent’s behavior to spend others’ money on his social agenda is in fact imposing taxes on the one hand and deciding how to spend them on the other. The author discusses how the issue of

social responsibility could lead to socialism as an ideology. The issue of the imposition and spending of taxes raises two political questions, one in terms of principle, and the other in terms of consequences. As for the question of principle, Friedman points out that the imposition and spending of the taxes are functions of the government appointed by the public.

Therefore, when the agent performs that function, he will become a public servant that must be elected through a political process so that the imposition and spending of the money will be directed to its optimal objectives. In terms of consequences, He points out that it is difficult for an agent who is initially appointed to maximize the stockholder's wealth to know whether he has fulfilled the goal he is considering as social responsibility simply by acting single handedly in society and without being experienced in such a field. Examples include fighting inflation, increasing employment, eliminating poverty and so on, whereby the agent is not an expert in performing any of these tasks. If the agent still decides to perform these tasks, he is practically given a free hand to spend others' money without getting any retribution.

Moreover, he proceeds further to indicate that the idea of socially responsible investment portfolio might be used as a "cloak" for other hidden purposes. In this point, the idea of a firm that comes to invest in a small community devoting some of its resources to provide facilities to that community sounds good. However, this might be a signal to employees to accept lower wages or to ignore pollution or other damages inflicted by this firm. Therefore, the author continues, to build a free and productive society such responsibilities should be determined by unanimity and conformity not simply by personal ideology.

Socially responsible products in the capital market were not fully accepted by the pundits in the field. There are scholars who accepted socially responsible investment portfolios because of the merits they provide by avoiding the “sin” products and services, while others objected to the fact that it inflicts an extra cost and risk while reducing returns.

Theoretically, those opposing the socially responsible screens suggest that they are bad for investment portfolio. Rudd (1981) suggests that screening criteria such as exclusion of some products or concentration on certain assets would create bias and portfolio problems. He continues to explain that whenever there is a screening process, the ethical assets will experience two types of risks, extra-market risk, and specific risk.

The extra market risk refers to the possibility of concentrating on certain securities such as large, well-established, and mature securities while ignoring small, newly established, and new securities. This is called extra-market covariance, which will arise from the co-varying of the mature companies in a manner that is unrelated to the market. The second is the specific risk, which occurs because of less diversification than in the case of normal portfolios. These risks jointly create a measure of diversification called residual risk. The second problem with the screening process is the cost. He states that there are two types of costs involved in such screening. The first is transformation cost, which is incurred due to the exclusion of the non-ethical assets, which are again divided into two costs, the broker commission, and the market impact arising from buying or selling a big bulk of shares. The second is the long run cost incurred due to the increase of the risk arising from a less diversified portfolio. It consists of increase in transaction cost and management fees and increase in risk. The first involves the decrease of average liquidity since it is concentrated

in less traded shares, and the increase in management fees of complex combinations that may require detailed research to determine the eligibility of inclusion.

Similarly, Teper (1991) starts by indicating that social responsibility investment portfolios are “no excuse” for financial “irresponsibility” and that those investors should be careful of the incurred cost when investing in socially responsible assets. In addition, he points out that cost is not the only criterion to consider when investing in ethical investment portfolio. An important criterion is the risk-adjusted returns because screening criteria might increase volatility. Increasing volatility, however, does not produce higher risk adjusted returns but lower risk adjusted returns. He supports that by giving five reasons. These reasons are lower asset returns due to the exclusion of better performer assets, higher risk assets due to replacement of large firms with smaller firms, which are usually volatile, less diversification due to skewed portfolios, transaction cost of reweighing, and lastly, opportunity cost due to the exclusion of international assets because of difficulty in monitoring.

Arms (1999) divides the investment portfolio theories into two main types, the pro-market theories, and the pro-SRI (Socially Responsible Investment). She asserts that the pro-market theories are based on the widely acknowledged principles of finance where the market portfolio will outperform the socially responsible investment portfolio because of being less diversifiable or unsystematic risk embedded in SRI due to the screening act. On the other hand, the pro-SRI theories suggest that SRI investors outperform the market. This is because firms passing the screening criteria will encounter less environment lawsuits, will have higher employee relations leading to higher productivity and therefore higher returns, and will have higher corporate citizenship standards, which lead to higher loyalty

and therefore higher product sales. In addition, the screening process might act as a proxy for “risk examination” for fund managers. This is done by avoiding risky investment portfolio such as investment portfolio in South Africa and environmentally less friendly investment portfolio, which might encounter lawsuits. In terms of empirical results of comparing SRI index against S&P 500 index from 1990 to 1998, the author finds that there is no significant difference in returns between both indices and that SRI has lower risk than the market portfolio, which is supposed to be highly diversified.

Langbein and Posner (1980) point out four major issues when criticizing social responsibility criteria. The first issue is the less-diversification problem. They suggest that “socially irresponsible” investment portfolio is usually composed of many large firms that, if excluded from the portfolio, cause it to be less diversified. They indicate that there is a sampling error if the socially responsible assets are chosen randomly from a larger universe. Although this is not always the case, sampling bias causes the socially responsible investment portfolio to be less diversified by dropping large firms. The second issue is the effect on rate of return, which, by excluding many successful firms and replacing them with unsuccessful firms, causes investors to forgo gains from the market portfolio. The third issue is increase in the administrative cost that causes the net expected returns to be lower. This is because of extra security analysis and trading cost of investing, which is higher than the traditional investment portfolio. Socially responsible investors monitor and follow whatever changes happen in the issuing company policies and regulations to check their compliance with their criteria. The last of the major issue is increase in risk, which is directly connected to under diversification of the portfolio. The less diversified the portfolio, the higher the value of total risk. However, the authors suggest that socially responsible investors might deduce compensating utility from their

investment portfolio. That is, some investors might gain utility from following their conscious while for other it is an increase in disutility. They suggest that the individual disutility might be small but in sum, they might not be small.

Kurtz (2005) in answering the question concerning financial theories and their interaction with socially responsible investment portfolios (SRI) explain that the Modern Portfolio Theory (MPT) as elaborated by Markowitz (1952) attacked SRI in regard to restricting the choice pool of assets to diversify risk. Excluding the non-ethical businesses from the pool is expected to penalize the investors intending to invest in SRI. However, empirically SRI has proven its competitiveness with its counterpart. Moving on to the Capital asset pricing model (CAPM), it follows the same argument as in MPT where the diversifiable risk pool is not as wide as the non-ethical investment portfolio. Again, the empirical studies suggest the opposite. In addition, Arbitrage Pricing theory (APT) asserts that it is possible for investors to invest in SRI on the condition that the factors of the portfolio and the benchmark are the same. Lastly, concerning behavioral finance, the SRI is allowed and it is even supported by this theory. Investors subject their investment portfolio to many factors including peace of mind and values.

Farmen and Wijst (2005) in a note regarding the pricing of ethics argue that most studies treat ethical investment portfolio from a business ethics perspective while little if any attention is given to the finance theory perspective of ethical investment portfolio. They argue that since modern investment portfolio strategies are based on the efficient market hypothesis, ethical investment portfolio should be analyzed from the Efficient Market Hypothesis perspective. They start with dividing the market into informationally efficient and informationally inefficient. Therefore, portfolio managers follow either passive

investment portfolio strategy with efficient market or active investment portfolio strategy in informationally inefficient market. Their main assumptions are that a firm's ethical characteristics are not included in its investment portfolio characteristics such as mean-variance characteristics, and that there are ethical and non-ethical investment portfolios and investors. Passive ethical investors who agree on the definition of unethical, unethical firms, and ethical investment portfolio are homogenous passive ethical investors (HOPEI) while those who disagree on some of these points are considered Heterogeneous passive ethical investors (HEPEI). HOPEI and HEPEI, theoretically, incur extra cost or "price of ethics" for filtering their investment portfolio. Although ethical investors are able to compare their investment portfolio mean-variance characteristics to their counterparts, they voluntarily restrain from competing with them leading to either higher return and standard deviation, lower return and standard deviation or either one higher the other lower than return and standard deviation of non-ethical investment portfolio. If, however, the ethical investment portfolio competes with its counterpart in terms of maximizing return and minimizing cost, ethical investment portfolio will be "superfluous."

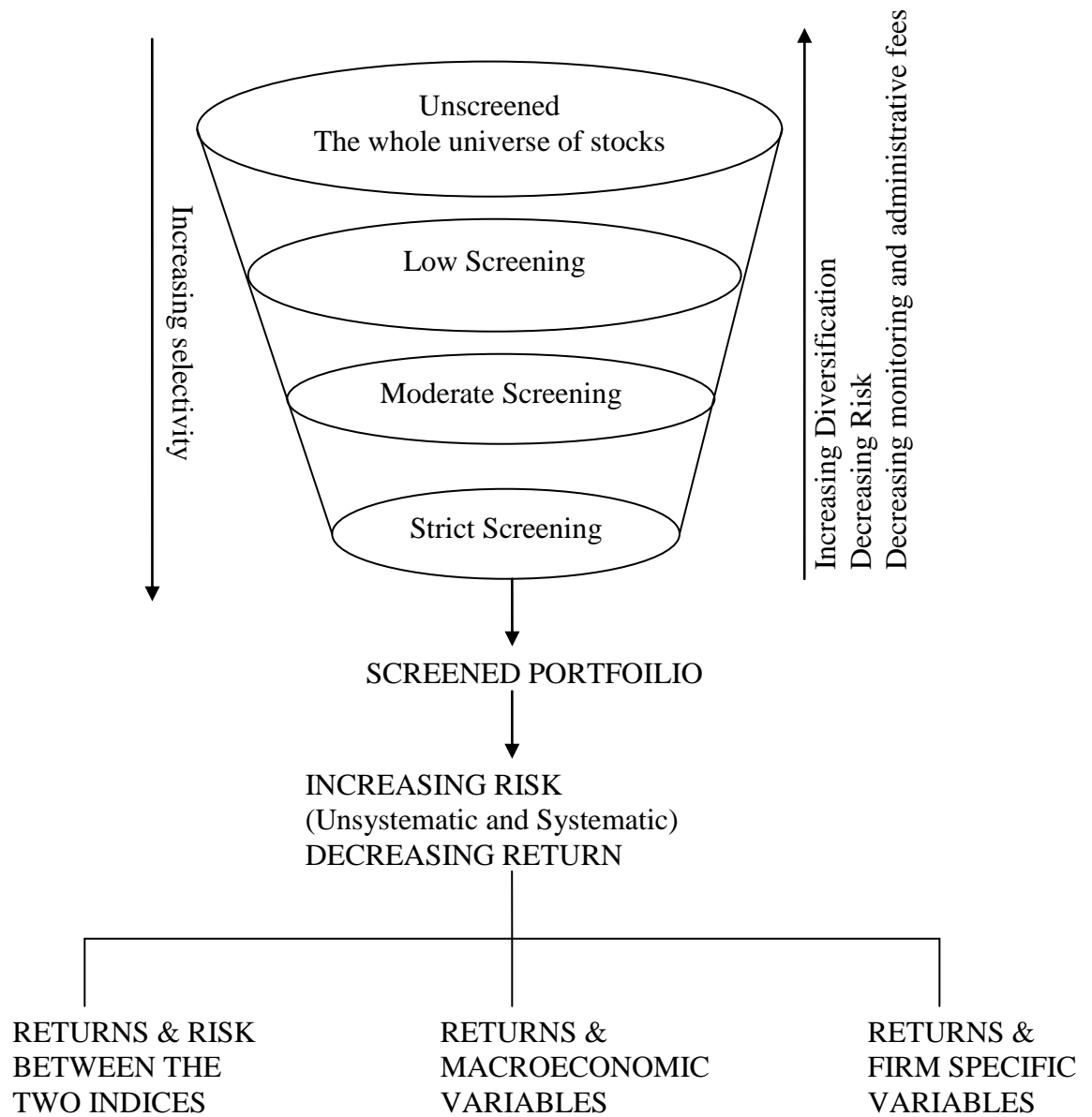
They consider the higher return and standard deviation of ethical investment portfolios than non-ethical investment portfolios to be an illusion, although they do not elaborate how and why it is an illusion. On the other hand, if the market is informationally inefficient, investors become active. If the market is inefficient in returns as well as the ethical information, this leads ethical investment portfolio to include non-ethical firms and exclude ethical firms, which is called "ethical illusions," and leads to difficulty in actively constructing ethical investment portfolio with informationally inefficient market. They conclude that ethical issues in investment portfolio should be approached with caution due

to these main points, namely superfluity, difficulty in actively constructing ethical investment portfolio and ethical illusion.

In conclusion, it is clear that all the criticism toward screened investment portfolios is due to under-diversification, higher management and administrative cost, lower returns, higher volatility, and concentrating in small stocks. This is shared by other studies such as Barnett et al. (2006), Michelson et. al (2004), Schroder (2004), Ghoul et al. (2007), Reyes et al. (1998), and Hickman et al. (1999).

Figure 2.3 shows the relationship between the screening act with risk and returns. The increase of screens will increase the selectivity of stocks and thus decrease diversification. The decrease in diversification is one of the fundamental points that the criticism towards the screened investment portfolio is directed at. Another problem that is caused by the screening act is the increase in cost whether transaction, monitoring, controlling, or administrative due to strict screening. In addition, the last issue is the increase in risk due to concentration on smaller stocks in the screened portfolio that have higher volatility than large firms do. This increase in risk is not compensated by higher returns due to less diversification.

Figure 2.3 the Relationship between Screening Criteria and Risk and Returns



Source: Barnett & Salomon (2006)

2.3.2 Summary

In short, it is clear from the above discussion that screening investment portfolio tends to be less diversified although facing the same market risk as non-screened investment portfolio. In addition, screened investment portfolio investor faces extra costs of monitoring and administrating the portfolio. Another weakness for screened investment portfolio is that the extra cost as well as the higher risk is not compensating by higher returns. Lower returns could be because usually screened investment portfolio is concentrated in small stocks. Large firms are usually not included in the screened investment portfolio since most of them are in conflict with the screening act. Therefore, these points can be generalized on any screened investment portfolio whether Islamic or socially responsible. Based on all points, it is expected that the KLSI should perform lower than KLCI. This is because KLCI is not restricted by any criteria, while Islamic law of transactions restricts KLSI.

2.3.3 Non-Financial Returns of Screened Investment Portfolio

Screened investors have mainly two concerns to focus upon when investing in screened investment portfolio, namely maximizing profit and their social benefits. This additional concern has led researchers to stigmatize screened investment portfolio as being irrational. However, screened investors do not ignore the wealth maximization issue; they combine doing well financially with doing good socially. The literature below discusses the theory of the non-financial returns of screened investment portfolio.

Angel and Rivoli (1997) in answering the question of whether ethical investing imposes any cost on firms assert that investors mainly have two methods of responding to unethical corporate behavior, which are voice and exit. These methods create a market that is segmented in term of equity access. In other words, a firm might have access to one

segment of equities in the market but not to the other segment. Based on Merton's (1987) model of segmented market they assert that in this kind of market there exist two types of investors; those who invest in a certain firm and those who do not. They conclude that the bigger the firm, the higher the firm specific risk, and the greater the boycotting of a certain firm, the greater the cost of equity. Therefore, larger and riskier firms incur higher cost of equity if investors avoid it. This higher cost of equity is reflected in decline in stock prices using the valuation model of a firm whose dividends are growing continuously at a constant rate¹⁰. Therefore, whenever cost of equity (part of the denominator) increases the stock price declines *ceteris paribus*. In addition, faster growing, larger, riskier firms suffer more from investors' boycott than slower growing, smaller, less risky firms.

In a recent paper, Rivoli (2003) in answering the question whether screened investment portfolio is "making a difference or making a statement", approaches the issue of screened investment portfolio from the imperfect market point of view. She asserts that the finance theory of Modern portfolio theory and CAPM are built on the assumption that the market is perfect, which mean that demand curve is horizontal¹¹, and therefore screened investment portfolio will not affect share price. The perfect market assumptions in the competitive market theory are that there are no transaction cost, full information and no information cost, homogenous expectations, and perfect substitute. Therefore, the screened market does not "make a difference" in these conditions.

¹⁰ $P = D / (r - g)$ where, P is the stock price, D is dividend payment, r is discount rate (the cost of equity) and g is the growth rate.

¹¹ Shleifer (1986) asserts, "The stock price is unbiased predictor of underlying value, maintained through arbitrage. The extent that stocks have close substitutes, that underlying value is not significantly dependent on supply. Thus the (excess) demand curve for a security is nearly horizontal."

On the other hand, if these conditions are relaxed, screened investment portfolio makes a difference. In the first case where the expectations are heterogeneous, screened investors might influence the valuation of a stock when choosing to eliminate it from their portfolio. Although this might not lead to declining prices of the currently available shares, the steeping of demand curve caused by the screening will cause any new issued share to be priced lower.

Secondly, if the substitutes are imperfect, this leads to a downward sloping demand curve, which implies that certain unscreened stocks will not be close substitute to screened stocks and consequently segments the market leading to an effect on the pricing.

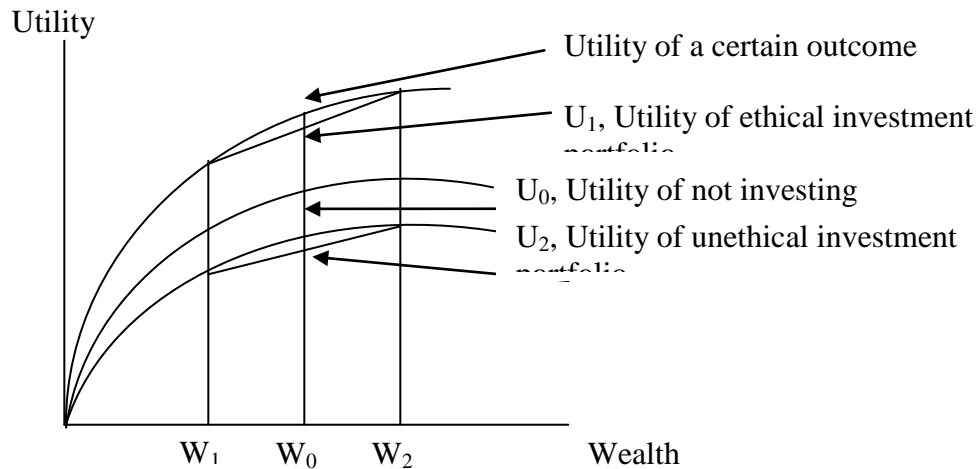
The third case occurs when diversification is incomplete. CAPM predicts that stock returns are determined only by systematic risk. Thus, market risk is the only risk priced in the market given that investors are fully diversified. Therefore, in the case of the screened investment portfolio, diversification is incomplete because of the investor's refinement to invest in non-screened compliant stocks. Consequently, if greater investors avoid the non-screened compliant stocks, the required returns will be higher and therefore the cost of equity will increase causing prices to decline. In other words, segmentation or restrictions i.e. non-screened compliant cause investors to require higher returns that lead to decline in the price.

The last assumption is about the transaction cost that is assumed to be zero in the finance theory. The transaction cost could be related inversely to the size of investor base by the effect of share liquidity. In other words, the smaller the size of investor base, the less liquid the share, the higher the transaction cost, and the higher the required return on a security

and therefore the lower the price. As a result, in the realm of perfect market, screened investment portfolio might not make a difference; however, in the real imperfect market when the assumptions are relaxed, market segmentation might lead the screened investment portfolio to make a difference.

Beal and Goyen (2005) answer the question of why investors invest ethically by citing three main reasons. They do so for financial returns, non-wealth returns and for social change. They found that these three reasons collectively influence the decision to invest ethically. Since the ethical investor derives more than simply financial returns from investing, these extra “psychic” returns must be included in the utility function. To prove that theoretically, they developed three methodologies to approach the utility of the ethical investor. The first scenario is to treat the “psychic” return as a gambler’s fun of participation, which is independent of the outcome of the gamble. In this case, the ethical investor derives higher satisfaction from the gamble. Therefore, the utility gained from ethical investment portfolio is a combination of financial returns plus utility of investing ethically. This is illustrated in the figure below that depicts the relationship between wealth and utility. Figure 2.3 depicts the relationship between utility of investing in ethical, unethical, and not investing with an initial wealth of W_0 . It shows that utility will be higher at U_1 if the investor perceives the investment portfolio to be ethical because the benefit equals the financial returns plus the fun of participation or the psychic returns. Screened investors derive utility from not investing at U_0 higher than investing in unethical investment portfolio at U_1 , which leads to negative fun of participation. Therefore, if the investment portfolio is unethical, the ethical investors do not invest because the fun of participation is negative and outweighs the financial returns.

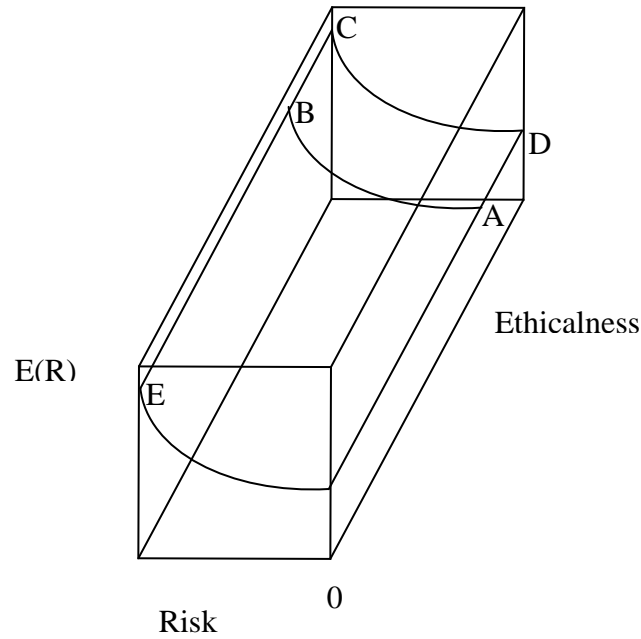
Figure 2.4 Screened investor’s utility function



Source: Beal and Goyen (2005)

The second case is to add the degree of ethical preference of investment portfolio to the utility function of the finance theory that considers risk and the expected returns. The basic utility function shows the effect of risk and returns on the individual utility. Returns positively influence utility while risk has a negative effect on utility. This reveals that the indifference curve between risk and returns is upward sloping. Adding the ethical or intensity of the investment portfolio to the utility function will result in three factors model affecting utility. Figure 2.4 below shows each investor position in the indifference plane. The traditional or conventional investors lie on the front edge of the indifference plane line O, E. If the ethical investor chooses a minimum level of ethicalness, say A, then he can choose any point that maximizes his utility in the area ABCD. This model is flexible to the extent that it allows studying the actions of different type of ethical investors, such as investors who are willing to make a trade-off between all the three factors, those who are unwilling to compromise their ethicalness for returns and those who are focusing mainly on ethicalness.

Figure 2.5 Trade-off risk, return, and ethicalness



Source: Beal and Goyen (2005)

The third case is by incorporating “Happiness” in the utility function. It is assumed that ethical investment portfolio yields pleasure for its owners and that this pleasure is measured by net affective experience¹². The utility of this pleasure, u_i , is sum of the product of the investment portfolio period and the net affective experience.

$$u_i = \sum h_{i,j} \mu_{i,j} \tag{2.1}$$

Adding this term to the traditional utility function will yield the following function,

$$U_i = \sum h_{i,j} \mu_{i,j} + [(1 + b)E_R + bE_R^2 - c\sigma_R^2] \tag{2.2}$$

¹² Net affective experience is a measurement of the well-being an individual attribute to different activities.

Where first term is the utility of the pleasure, E_R is the expected financial returns and σ_R^2 is the risk, b is a parameter that adheres to restrictions and it is between -1 and 0 and c is a parameter that adheres to restrictions and it is between 0 and 1. Therefore, total utility is a function of net affective experience, which represents the pleasure of investing ethically, plus a quadratic function of rate of return.

The three cases mentioned above lead to the conclusion that ethical investors benefit from investing ethically beside those financial returns that are acquired by the traditional investors. The modern finance theory does not account for the psychic returns proposed here. The inclusion of these returns in the modern finance theory leads to a new perspective in looking at screened investment portfolios. That is, if the psychic return is included in the normal utility function, then a comparison between unscreened and screened investment portfolios can be fair.

Fisher and Statman (1997) criticize the mean-variance optimization as being not what investors use whenever they select a portfolio. They suggest that investors do not only focus on risk-returns trade-off whenever they form a portfolio. Rather, many factors come into play in selecting assets in portfolio. They indicate that intuition plays a greater role in forming a portfolio. In that sense, they compare security portfolio to food portfolios. Food portfolio optimizer depends on cost and nutrition in selection which food goes into their portfolio. Similar to security selection where mean and variance are the most important determinants of security inclusion or exclusion in a portfolio, they look at the cost of the food included and their nutritional value. Food portfolio optimizers try to minimize cost and increase notations of the portfolio. However, optimized food portfolio fails to consider other issues such as pleasure, variety, and taste. The same logic applies to security

portfolios whereby investors do not depend solely on mean and variance but also intuition. They indicate that investors build their portfolio layer by layer in a pyramidal form. Using this method leads investors to form a portfolio less optimal than the efficient portfolio. Screened investors might not follow the mean-variance optimization, but it is still considered. This is true because screened investment portfolios fulfill utility derived from preference rather than financial returns. They conclude that mean variance “optimization techniques should fit the goals of investors, rather than dictate goals to investors” (Statman et al. 1997, 49).

Similarly, Statman (2004) in investigating the diversification puzzle in the mean-variance portfolio found out that investors are more eager to be undiversified. He indicates that investors under the mean-variance theory have a single attitude toward risk while under the behavioral theory they have many attitudes toward risk. Their different attitude toward risk is illustrated in their pyramid of investment portfolio, whereby the down layers of the pyramid is designed to be a protection against poverty, and the upper layers are designed to fulfill the aspiration of becoming rich. Thus, what drives investors not to be well diversified is not that they are risk seekers, but that they want to achieve their aspiration to become rich.

Moreover, Ghoul and Karam (2007) indicate that being socially or morally responsible will positively affect performance. According to them, large companies tend to “get in trouble” due to their various activities in unethical or immoral business. Therefore, they suggest that by avoiding large companies, screened investment portfolio will yield higher returns since small companies are riskier. In addition, screened investment portfolios are known for having long-term investment portfolio contributing to its stability and probably higher risk

adjusted returns. Furthermore, one of the screened investment portfolio criteria is to be less dependent on debt, which usually reflects its lower volatility and therefore give it a better image than unscreened heavily leveraged investment portfolio. Lastly, they assert that screened investment portfolio managers' trade and speculate less leading to lower turnover rate and therefore lower expenses and transaction cost.

In short, the above discussion describes the non-financial benefits of screened investment portfolio. These benefits can be summarized as follow. First, if most of the investors are following screened investment portfolio the pressure shifts to the non-screened investment portfolio where it yields lower returns and incur higher risks. Second, investors are not focusing on the financial returns as the main goal of investment portfolio but non-financial returns and social change. These other goals lead investors to look at the picture from all angles and not from maximizing profit angle. Overall, it is clear that screened investment portfolio has benefits that yield some utility to its investors, which is not focused on financial benefits.

Al-Zoubi and Maghyreh (2006) summarized four points on why Islamic investment portfolios that follow the Profit and Loss¹³ (PLS) principle minimize risk. The first point is in terms of the gain and losses. They argued that Islamic investment portfolio provides lower payoff in good market conditions while it provides higher payoffs in bad economic conditions. They elaborated further that, under Mudarabah contract, when the market is doing well the financier usually gets the higher returns based on a predetermined ratio between the entrepreneur and the shareholders. On the other hand, the shareholders receive

¹³ Profit and Loss is based on Mudarah and Musharaka which are considered two of the equity financing method.

lower returns than non-Islamic investment portfolio. However, when the market is in bad state then any losses incurred are borne solely by the financier while the shareholders loss nothing. In conclusion, they asserted that investors in Islamic investment portfolio have less volatile payoffs compared to non-Islamic investors.

The second point is related to the agency cost. Since contracts in Islamic investment portfolio are based on PLS therefore banks or financier, share with the investor the risk and the returns. Therefore, the financier accepts projects that have lower risks. On the other hand, in the conventional system the lenders cannot fully monitor the activities of the borrowers and therefore might only lend to lower quality projects than Islamic investment portfolios. In short, the PLS system reduces the overinvestment portfolio problem by motivating the financier to monitor the project.

The third point is about minimizing method of financing and cost of bankruptcy. The pecking order theory introduced by Myers (1984) and Myers and Majluf (1984) indicate that investors finance any investment portfolio by retained earnings, followed by issuing debt, and finally by issuing equities to minimize adverse selection cost. Myers (1984) and Myers and Majluf (1984) in the modified pecking order theory indicated that investors might start with issuing equities to preserve liquidity and minimize debt. Therefore, issuing equities will reduce the underinvestment portfolio problems and lower the expected possibility of bankruptcy. In the Islamic bank, depositors are considered as shareholders who gain if the bank makes profit or lose if the bank incurs losses. Therefore, PLS contracts minimize the possibilities of bankruptcy.

The last point is elimination of the conflict of asset substitution between equity holders and bondholders. Asset substitution problem is a problem that happens when a company exchanges its low-risk assets for high-risk investment portfolios. This asset substitution transfers value from a firm's bondholders to its shareholders. The transfer of assets places more risk on the debt holders without providing them with additional compensation. High-risk projects can yield higher profits, however more risk is incurred by the firm. The added profit may only benefit the shareholders, as the bondholders require only a fixed return. The increase level of risk does affect the bondholders, since the company increases its chance of defaulting on its debt. Therefore, interest free contract will eliminate the conflict between bondholder and equity holder.

Scholes (1972) discusses the main opinion regarding the demand curve for shares in the stock market. Generally, there are two main demand curves based on two hypotheses. The first hypothesis is the substitution hypothesis (SH) where it is assumed that shares are perfect or close substitute to each other. This is reflected by a horizontal demand curve where the change in the quantity does not influence the price. In other words, the demand curve is perfectly elastic. Therefore, these shares are price elastic. In this case, there is no change if an investor shifts from one type of stock to the other. In terms of screened and non screened shares, this hypothesis predict that there is no effect of the screening act and investors shifts from one type to the other easily with no cost.

The second hypothesis is the price pressure hypothesis that predicts that the demand curve is downward sloping. This view is built on the size of the trade. The argument is that if the size of the trade is small anyone can buy and sell shares on the prevailing market price. However, when the size of the trade increases relative to the small size trades, there will be

an excess supply of shares, which causes the price to increase beyond the equilibrium price. Buyers of share will refrain from buying at the higher price causing the price to fall to encourage investors to buy the extra shares. In other words, when the prices increase buyers will require higher rate of return for the new shares and therefore this will reduce its prices. In this sense, the demand for shares is relatively elastic or downward sloping. This hypothesis assumes that the cross elasticity of demand between two or more types of share is positive but low implying that this is a long run phenomenon. In other words, it means that demand is downward sloping and is not horizontal. Concerning screened and non-screened investment portfolios, it can be deduced that if one type of investment portfolio has prices over the prevailing market price then investors will require higher returns to compensate for the higher price causing the price to decrease. Therefore, screened and non-screened investment portfolio will influence each other in term of pricing.

Finally, he introduced another hypothesis called the information hypothesis. He suggests that investors buy or sell shares to change their consumption-investment portfolio decision or based on information. Valuable information on the other hand is not free and it requires some cost, however the size of the trade affects the value of the information and how it influences price. The information hypothesis predicts that large trades expect to reduce the prices of shares. This decrease in the price is the value of the information in large trades. This hypothesis indicate that price change but it will adjust to reflect the value of the information with no required increase in the rate of returns as indicated in price pressure hypothesis.

From all the discussion, it can be concluded that there are two schools of thoughts concerning screened investment portfolio. The first school is the traditional school, which

is based on the neo classical economics point of view. The traditional school assumes that investors are rational and their main goal is to maximize profit and minimize risk or cost. These investors focus solely on the expected returns and risk of their portfolio and there are no restrictions whatsoever in the process of constructing the portfolio. Therefore based on the view of traditional school any restricted or screened investment portfolio yields lower returns and incurs higher risks and costs. Based on this screened investment portfolio will underperform non-screened investment portfolio. The other school of thought is the non-traditional school where they assume that investors are not rational where they do not just focus on expected returns but making a difference using their portfolios. In this sense, these investors restrict themselves from investing in stocks that are in conflict with their values. Therefore, these investors will gain in non-financial terms and the total gain from screened investment portfolio might outweigh the financial gains from non-screened investment portfolio.

2.4 Conclusion

Based on the above discussion about the theories of investment portfolio concerning the Islamic as well as the ethical investment portfolios, this thesis focuses on three main issues. The first issue deals with the returns of two main indices in the Malaysian stock market. The second issue is the reaction of these indices to selected macroeconomic variables. The third issue deals with the reaction of screened and non-screened firms to selected firm specific variables. The main concept of the last two issues is to check whether the screened and non-screened investment portfolio react differently to the same variables.

It is clear that screened investment portfolios are facing many problems in theory. The issues relevant to this thesis are twofold. First, the problem of less-diversification. Since the

screening act is performed to exclude stocks from the universe stocks available, this will lead to the superiority and diversity of the traditional or non-screened investment portfolio returns. The second problem is increase in risk. The fact that most of the large stocks are investing in vice or non-Halal products from an Islamic point of view leads to their exclusion from the screened investment portfolio causing them to be of higher risk than non-screened investment portfolio. Therefore, screened investment portfolios are less diversified and more risky than non-screened investment portfolio.

In addition, it can be seen from the above discussion that Muslim jurists have developed a complete understanding of the process of Islamic capital market. The basis of the capital market in general and the stock market in specific in Islam is based on the contract of partnership, buy and sale, and not loan and interest. The Islamic stock market is growing in Muslim as well as non-Muslim countries and it appeals to the non-Muslims in Muslim countries too.

In short, in terms of screened investment portfolio it is clear that financial theories are not content with it. It is suggested that screened investment portfolio yields lower returns, higher risk, is less diversified, and incurs higher monitoring and administrative cost. However, it is empirically proven in many studies that screened investment portfolio has a competitive advantage (i.e. screened investment portfolio out performing non-screened investment portfolio), while other studies find that both yield similar returns. Some found that screened investment portfolio under-perform non-screened investment portfolio. This is what is going to be discussed in the next chapter.