

Socially Responsive Investments: A Case For Islamic Finance

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This paper explores the possible use of the time State Preference Model from the modern portfolio theory as well as an index bond whose performance is based on the growth in an industry or the national income for possible applications in Islamic financial transactions. This appears to be in line with the provisions of Islamic economic thought as it prohibits receiving a fixed rate of interest on the use of money as well as calling for the need for enhancement of economic and social welfare of all members of the society. Islamic laws, in principle, aim for productive use of capital and earning a reasonable return on investment in the context of risk sharing rules. This is for the purpose of an equitable distribution of profit among the individual investors and banks with the suppliers of human capital and business enterprises.

INTRODUCTION

The idea that individuals pursue their self interest for achieving maximum utility with its resulting increase in wealth has been dominant in the economics literature. However in the past several decades numerous investor groups have stressed the need for social and ethical consideration in economic and financial transactions. Herbert Simon, the Nobel Prize winner in economics in 1978, showed that rather than maximizing the utility of final wealth for the stockholders corporate agents tend to pursue a satisfying goal given the constrained environment. That is, corporate managers may pursue an optimization process aiming for an acceptable outcome for all stakeholders. In this context one can hypothesize that the firm's objective could be to earn a reasonably good return on invested capital while meeting socially desired goals. Robert Shiller, the 2013 Nobel Laureate, has further been developing economic thought for enhancing social welfare of the society.

In addition, the world Commission on Environment and Sustainable Development aims for policies meeting the needs of the present without comprising the welfare of the future generations as shown in Scholtens (2009). In line with this, companies with a record of charitable character appear to have a better long term performance as shown by Brammer and Millington (2008) and have a lower cost of capital as noted by Haigh and Hazelton (2004), with a more stable cash flow reflected in Bollen, (2007).

Religions of the world which evolved during various centuries have further been striving at instilling ethical, spiritual and humane behavior towards the world and nature. As noted in Korn (2013) such faith based actions are purported to show "how business might serve others—from satisfying customers to providing employment and creating wealth." Social and ethical consideration dates back to the 19th century to Quaker and Methodist religious movements and the later establishment of the Pioneer Investment Fund in 1928 as shown in Gold and Ali (2002).

During the past two decades global investors have embraced Islamic investments which advocate socially responsive behavior in its provisions of permissible activities and for enhancing the welfare of the society at large. For example, as earning interest is prohibited, Islamic banks make a joint partnership with depositors and entrepreneurs sharing both the risk and the resulting profit. In this manner, the interests of the owners of the capital, financial intermediaries and the economic firms are well integrated and aligned with the society at large, removing any conflicts of interest among the various stakeholders. In addition, business transactions that can harm the society are prohibited. Instead, business activities should be socially beneficial to the society. Principles of corporate governance in Islam are centered on accountability, transparency, and trustworthiness which are among the recent regulations of the 2000s in the U.S. capital markets.

In reviewing the vast literature in the area of socially responsive investments, the case for Islamic finance has received special attention during the past two decades in the western capital markets especially in North America and Western Europe. Islamic finance, while socially and ethically responsive, has at the minimum an added provision against the use of the term *riba* or the excessive fixed rate of interest for compounding the value of money in that money is not viewed as a commodity but simply a medium of exchange and store of value. Since all financial instruments in the western capital markets are interest-based and the varying rates of interest affect the prices of bonds, common stocks and their derivative products in the market, they may not be easily applicable to Islamic transactions. Various financial institutions around the world however have designed and established rules and provisions which have received general agreement by Moslem scholars in facilitating financial transactions.

This paper brings attention to the possible applications of the Time State Preference Model in the context of the modern portfolio theory and an index bond whose total return would depend on the growth in profit in an industry or the rate of growth in the national income for their use in Islamic financial transactions. The return or the payoff function in the context of the Time State Preference Model does not depend on the rate of interest as it depends on, for example, the degree of completion of a project. Similarly, the return on a bond whose performance is based on the rate of growth in the economy known as a GDP bond depends on the real growth in national income and not the rate of interest. As all individuals are expected to benefit from the growth in the economy a GDP bond appears to be in line with the provisions of Islamic economic thought as it calls for the need for enhancement of economic and social welfare of all members of the society.

Islamic laws, in principle, aim for productive use of capital and earning a reasonable return on investment in the context of risk sharing rules. This is for the purpose of an equitable distribution of profit among the individual investors and banks with the suppliers of human capital and business enterprises. The theory and empirical evidence in financial economics has shown the need for such a consideration as for example one can infer from Statman (2010) that investors are interested in not just increasing the utility of financial wealth but also attaining an emotional benefit in line with reaching a socially directed goal. As such a socially responsive investment criterion is not a constraint, but a factor in investment management. Earning a satisfying return instead of a maximizing one is explored by Simon (1978).

Socially responsive investments are a must as noted for example in Shanmugam and Zahari (2009) “a company’s managers and staff, by virtue of their individual responsibility to religious principles, are accountable to the shareholders, customers, regulatory bodies, and society at large ... acting responsibly toward others and being responsible toward others and being responsible for oneself is ... act of the free will given by God. Neglecting personal and social responsibilities is a form of betrayal in the eyes of God.” In the context of the Islamic trades and transactions this is made possible by various provisions of partnerships, cooperatives and funding provided to individuals and small businesses.

The rationale for the provision of risk sharing rules is that profits and losses are known only after the results of an action are observed and a reasonable, pre-agreed sharing of the profits and losses need to be arranged in advance among all factors of production. In particular, placing a fixed rate of interest on the use of money is prohibited as it is perceived to be unfair to place solely human capital and labor at risk for the use of money. In effect there should be no increase for the use of money over time. That is, money cannot earn interest over time. As noted by Shanmugam and Zahari (2009) Islamic banking system is

based on providing depositors with a rate of return commensurate with a fair and agreeable proportional ex-post profit as compared to a fixed rate of interest. That is, the bank as supplier of capital is viewed as partner with entrepreneurs and they both should help in enhancing the welfare of the society while earning a risk adjusted return on investment.

Compliance with the Islamic financial rules is enforced by the members of the Sharia board who oversee the activities in the financial markets and the executive board of the firms. The profit sharing agreements, referred to as *mudharabah*, joint venture and partnership known as *musharakah* help in economic growth and distribution of wealth among productive forces in the economy. These arrangements are purported for attaining economic justice and fair distribution of resources. The Islamic law, Sharia, does not allow passive earning of interest on money (prohibition against *riba*), directs attention to clarity in terms of trade (prohibition against *gharar*), prohibits consumption of products and services that are viewed hazardous and known as sin such as alcoholic products and gambling, and promotes philanthropy and charity to the community and society at large as noted by Shanmugam and Zahari (2009).

These provisions are aimed at managing the risk to the society as can be inferred from Zweig (2010) as social signals of danger which is explained in neurosciences in that an amygdalae in the brain helps in perception and reaction to fear in say running out of money, or going bankrupt if the only person at risk is the entrepreneur. Similar state of uncertainty exists when the supplier of capital is solely facing the interest rate risk, or when the community is at risk of consumption or production of hazardous materials.

ISLAMIC FINANCE

Prudent management of business enterprises in the context of Islamic law, known as Sharia, requires the availability of complete information regarding business transactions, promotes profit sharing within the risk sharing rules, encourages joint ventures, entrepreneurship and directs business ventures toward permissible (*halal*) activities which excludes earning passive interest, gambling and activities harmful to the society at large as noted in Shanmugam and Zahari (2009). In particular, receiving passive interest by compounding the value of money (*riba*) is prohibited and both parties to a transaction must make a charitable contribution of their respective shares of profit (*zakat*).

Investments in the form of short to medium term bonds (*sukuk*) have been available since the late 1990s in the form of asset-backed securities whose performance is based on total return on the underlying investment reported by Igbal, and Tsubota (2006). Profit rate swaps are also observed in which one party pays a fixed return while will be receiving a variable return during a stated time. As a result of changes in interest rates and commodity prices however one side of the contract would remain at risk as reflected in Ghani (2004). An Islamic bond–*sukuk*– cannot be interest rate-based. In a thorough coverage of Islamic bonds Mirakhor and Zaidi (2007) show that performance of an Islamic bond is tied to the performance of the underlying project.

In effect bonds that are based on a profit sharing (*mudharabah*) or partnership agreements (*musharakah*) are equity type in nature while those financing properties based on lease agreement–*ijarah*–provide fixed or variable returns. In addition it appears that the bondholder has recourse to the underlying asset. Some Islamic mutual funds appear to concentrate in higher dividend yielding investments and writing call options for added income. Although writing a call option is in effect gambling on the likely direction of the stock, the written call options that are covered by the underlying investments of the fund are assumed to be a slight form of hedging. The written calls may however limit the upside potential with not much protection provided on the downside risk. In addition, the various forms of derivative contracts are interest rate based. For example the fair value or equilibrium price of a call option is determined by the difference between the stochastic price of the stock less the present value or discounted value of the expected value of the final wealth in a fully neutral hedged position. It is thus noted that option prices are interest-based and that the final wealth depends on the probability distribution of past prices. Futures contracts are further affected by the changes in interest rates as well as prices of the underlying securities.

Reward and Risk Sharing Securities

Shiller (2013) expresses through examples the various ways in which investors in the market can obtain adequate return on investment while pursuing socially desirable goals. One example noted by Shiller is a “social impact bond,” in which payoffs are tied to achieving a stated outcome. In this regard Hayat (2013b) referring to Islamic finance as sustainable and responsible investing notes the Australian solar Islamic bond (sukuk) in 2012 promoting environmental friendly financing. The other innovation noted by Shiller is the “Benefit Corporation,” for helping the community while earning a profit for the suppliers of capital. The third is the “crowd funding” as a way of financing a project by a large number of small investors.

Risk sharing in Islamic banking is proportional to capital participation, while distribution of profit is based on an agreed upon schedule very much similar to the crowd funding. Of particular notice in Shiller’s remarks is the GDP bond. The GDP bond is, in principle, a financial instrument which appears to fulfill the requirements of the Islamic financial and economic rules. Imagine a country with 1000 units of gross domestic product or national income which would like to borrow 100. It can issue 100 bonds in the country’s currency to finance its infrastructures. In return, the borrower promises to pay the rate of growth in the economy on an annual basis. Such payments may further be modified on the basis of risk involved, for example to pay growth in the economy minus 2 percent.

Meanwhile, the proceeds from the sale of the bond and its subsequent investment in the production activities would raise the national wealth and welfare of the society due to the growth in the economy. In addition, a GDP bond tends to store wealth and the purchasing value of money for the bondholder. This is because the growth in this bond includes the real growth adjusted for inflation and it should further be fully marketable and traded at par value and in line with the changing level of national income. An index bond tied to the gross domestic product or the national income of the country thereby appears to exhibit the desirable properties of an Islamic investment such as preservation of capital, reasonable return on investment, risk sharing, and raising the welfare of the society at large.

An Islamic-based economic firm may issue an intermediate to long term bond whose return would be based on annual growth in the country’s economy minus say 2 percent which would be necessary to cover the administrative costs of the firm. There would then exist only one class of shareholders; GDP bondholders. This is in line with Mirakhor and Zaidi (2007) who state that an Islamic bank needs to “focus on the return on the physical investment, because its own profitability is directly linked to the real rate of return ... to improve the links between the real and financial sides of the economy ...” Furthermore, Ahmad and Khan (2007) note that the liability side of an Islamic bank consists of profit sharing deposits while the asset side includes either a cost plus or profit sharing loans. This would place the bank at risk of changes in the rate of interest which is in part due to the changes in the economic growth and inflation.

Furthermore, a GDP index bond appears to remove the uncertainty and speculation in financial transactions. Hayat (2013a) stresses the impact of uncertainty in transactions which is prohibited in Islamic finance by the notion of prohibition against “*gharar*” as asymmetric information between lenders and borrowers in structured products might have caused the financial crisis during the latter part of the decade of 2000. He further notes that Islamic finance aims at including social values in economic firms away from the sole profit maximization.

When financing is provided by a bond whose performance is tied to the future outcome of a particular industry or the economy of the country, both investors and savers are safeguarded against changes in the monetary policy of the country. For example, at times, such as the financial crisis that occurred in 2007 the central banks may pursue monetary policies that result in a negative real return to savers (negative real cost to entrepreneurs), clearly resulting in asymmetric changes in wealth in the economy. The return on investment on a GDP-based bond however as shown by Kamal et. al (2012) is expected to stay equal to the real growth in the economy for both parties and in addition its performance would dominate a high quality bond.

Time State Preference Model

The various provisions in Islamic law regarding investments further may be executed in the context of the Time State Preference Model as well. In the following notes which are adapted from Martin, Cox and MacMinn (1988), one may consider “when a dollar is received,” and “the state of nature in which it is received.” That is, an investment provides a return or payoff in accordance with the existing state of nature. These states of nature may relate to the possible future state of the economy such as expansion, moderate growth or a recession. Alternatively, the states of nature may be tied to the degree of completion of a project in each year. While the occurrence of each state is unknown, the payoff in each state is known in advance. For example, the state of economy with a 2 percent growth is not known; it could be next year or three years from now, but the payoff is known as 2 percent.

An individual may search for a satisfying level of wealth by constructing a portfolio resulting in a certain payoff across the states of nature. This is done by a combination of a “primitive” as well as a “complex” security. A primitive security pays one dollar at the end of each period if a given state occurs. A complex security provides a payoff in two or more states of nature providing perhaps a minimum and a maximum payoff. Thus the uncertainty about future wealth at a particular time can be reduced by building a portfolio of primitive and complex securities. With partial information, a certain level of payoff can be obtained by investing equal amounts in each primitive security corresponding to all states of nature. It should be noted that the rate of interest plays no role in this construct and thereby the Time State Preference Model appears to be a reasonable construct in Islamic finance. Various bonds such as GDP bond, social impact bond and securities tied to the benefit corporation appear to be in line with the Time State Preference Model.

A Review of Empirical Evidence

Empirical evidence shows that Islamic investments have generally fared well over time and perhaps done better in the down cycles of the financial markets because of their defensive nature due to their beta being less than one. Lobe, Roble and Walkshäusl (2012) find that while performance of investments in line with Islamic principles are similar to the average performance during 2001-2012, fund performance during the three-year bear market of 2007-2009 was superior to the rest of the stock market due to their lower beta. The authors employed the capital asset pricing model as well as other factors accounting for size, value and momentum effects. Similarly, Shah, Hijazi and Hamdani (2005) review and measure performance of mutual funds in Pakistan using the Sharpe, Treynor and Jensen measures which reveal their outperformance during 1997-2004 as compared with the Pakistani stock index averages.

Elfakhani, Hassan and Sidani (2007) as well as Elfakhani, Sidani and Fahel (2004) report performance of mutual funds pursuing Islamic finance guidelines together with their appropriate benchmarks during 1997-2002. This is an interesting time horizon as it is equally divided into a strong positive performance of the stock market at the beginning and a sharp decline in the latter part of the period. While the Islamic mutual funds’ performance were mostly in line or below their respective benchmarks, they fared quite well during the sharp decline of the financial markets revealing their defensive characteristics, which is shown by their lower value of beta. Meanwhile, due to various constraints imposed on the investment activities, at times, returns may be sub-par. Mueller (1994) finds performance of ethical funds to be less than their comparative averages.

Other investments based on religious or socially desired beliefs are shown to have performed either somewhat better or the same as the averages in various time horizons. Bengtsson (2008) cites various examples in which socially responsive investments in Scandinavia were initiated by religious values and were later modified to include a variety of social and cultural values within an institutional context. They further prohibited investments in alcohol, gambling, armament, firearms and tobacco. Swedish socially responsive funds that were later developed in the latter part of the 1980s further extended their objectives to environmental sustainability and charitable contribution. A similar pattern is noted for Norway and Denmark, and the adaptation of the United Nations principles for responsible investing.

It appears that both the conventional and socially responsive investments are affected by the same factors in the market. Shank, Manullang and Hill (2005) study performance of socially responsive firms

during a five-year interval of June 1998 – May 2003 and find no statistically significant excess return indicating “no market pricing of value expressive features.” However, funds with ten years of data outperformed the market by about 1.5 percent. The authors state that socially responsive investors “will not be economically penalized.” Cortez, Silva and Areal (2009) study performance of European socially responsible funds during 1996-2007 in the context of the capital asset pricing model in the original as well as conditional forms searching for a risk adjusted excess return, alpha. The conditional model incorporates the impacts of the lagged information available in the market. Their extensive empirical studies show neither superior nor inferior performance for socially responsive investments relative to the benchmarks. However it appears that socially responsive funds and conventional funds are both influenced by the same factors.

In comparing the conventional and socially responsive funds one needs to account for the style of investment, such as the value or small size. Fernandez-Izquierdo (2008) examine the performance of ethical and socially responsible funds with other funds using the style analysis and find that the ethical and socially responsible funds do better or at least the same as the benchmark during the mid 1998 to the mid 2001. Their multi-factor analysis included the Spanish market premium over risk free rate, the difference in global return and the Spanish market, and the term spread between long term and short term bonds. In addition, the distribution of returns on socially responsive funds deviates away from normal.

Mallin, Saadouni and Briston (1995) provide extensive empirical analysis of ethical investment results for the UK investment trusts. They compare return and risk of investments that pursue both positive and negative criteria for inclusion in a portfolio with a matched sample of similar size portfolios as well as the average market performance. The inclusion of a matched sample is for the purpose of comparison across market capitalization value as ethical investment portfolios tend to include more of a small cap stocks. The financial times all-share actuaries is used as the benchmark on a monthly basis during 1986-1993. They find the ethical investments to have a lower risk as shown by their low beta reflecting a less volatile performance. In addition, ethical investments generally possess positive alphas reflecting outperforming the market. Furthermore, in most cases ethical investments tend to outperform the non-ethical ones on the basis of ranking criteria of Jensen, Treynor and Sharpe, however underperforming the overall market.

Bollen (2007) finds that while a better return on investment appears to attract investors to socially responsive funds, deterioration in performance leads to a lower level of out flows in such funds as compared to the regular mutual funds. In addition, socially responsive funds show a more moderate volatility in their cash flows. The study covers the period 1961-2002 using risk adjusted returns in the context of both the capital asset pricing model and a four-factor model for measuring risk. Bollen notes that socially directed investment criteria serve as a constraint on the portfolio structure which may affect performance and flow of funds. In particular socially concerned investors possess behavioral characteristics which may differ from those with no such constraints.

That is, satisfaction derived from the socially concerned goals of their invested companies may supplement the desire to obtain the required risk adjusted return. Bollen finds that mature funds as well as the newer socially responsive funds appear to have a different flow of funds than the conventional funds as their cash flow volatility is lower, outflows are at a slower pace following poor returns and inflows are stronger when returns are strong. Bollen’s results are important as a relatively stable cash flow and reduced volatility characteristics of socially desired investments could reduce the cost of capital for socially responsive companies.

Statman (2000) finds similar performance from the Domini social index and S&P 500 during 1990-98. These two indexes are similar in terms of structure while the former includes exclusionary screens such that firms involved in production or trading of alcohol, tobacco, weapons or gaming are excluded. Domini social index further emphasizes inclusion of companies with positive attributes on employee relations, diversity, environmental safety and the like. Statman further concludes that socially responsible funds and the unconstrained funds have similar performance. Statman uses the Jensen alpha, Sharpe ratio as well as the adjusted Sharpe ratio. These gauges provide a risk adjusted measure of performance. Hamilton, Jo and Statman (1993) review the risk adjusted return of socially desired firms during 1981-

1990 in the context of the capital asset pricing model and find their performance to be the same as conventional firms.

Bauer, Derwall and Otten (2007) provide a single-factor model, four-factor model as well as allowing for dynamic asset allocation in the appraisal of Canadian socially responsible funds during 1994-2003. The authors found that the ethical funds had a slightly lower return and higher standard deviation as compared with conventional funds. The single-factor model however shows no statistically significant differences between the ethical and conventional funds. They further provide empirical evidence regarding the multi-factor models that includes the market, size, and market to book value ratio. Overall, there appears to be no difference in performance between the conventional and socially responsive index. However, a graphical representation of the two shows that the socially responsive funds show more sensitivity to the ratio of market in relation to book value or are value oriented and are further influenced by the momentum factors. In addition, the multi-factor betas appear to change over time for both funds.

Shank, Manullang and Hill (2005) reviewed performance of socially responsive mutual funds and their top holding companies during 1993-2003 each based on specific characteristics such as community development, responsibility toward their work force, and service to the society at large. In the context of the capital asset pricing model, they found that socially responsive funds' performance does not differ from the average performance.

CONCLUSIONS AND MANAGERIAL IMPLICATIONS

As shown in this paper Islamic investments must be permissible under Islamic law (Sharia), which excludes the compounded value of money due to interest rate, should not involve speculation so as to reduce the uncertainty of the final outcome and should be beneficial to the society at large. Islamic finance, in essence, provides a vehicle for sharing reward and risk between entrepreneur investors and the providers of the capital who in effect become an equity owner instead of being a pure lender. Both parties in the transactions would, in turn, make a contribution to the society at large out of their respective shares of the profit. Alternatively, losses will have to be borne by both parties.

In addition, trading or investments in certain activities such as gambling and alcohol industries are prohibited. In any transaction, investment or partnership, all parties are obligated to elaborate on the sharing of information, assessment of risk and the likely outcome. As explained in detail in Shanmugam and Zahari (2009), the foundation of Islamic finance is based on faith, belief, and creed (*aqidah*), ethics (*akhlak*) and Sharia rules conducive to establishing moral, social and ethical behavior. The rank ordering of Sharia rules are categorized as obligatory (*wajib*); recommended, such as extra charitable acts (*sunnat/mandub*); permissible acts (*mubah*); discouraged (*makruh*) and forbidden (*haram*) which are permanent. Islamic finance rules are further based on provisions made by religious scholars by comparison, precedents, consensus interpretation in the public interest, custom (*urf*) and agreement of Islamic scholars across a wide region (*ijma*).

Within this construct various forms of financial instruments have been designed some of which resemble financial securities in the western capital markets. This paper provides one way of designing a financial product that is not based on interest rate in the context of the Time State Preference Theory and an index bond whose performance depends on the outcomes in an industry or the economy. One may think of socially oriented financial securities such as the social impact bond and investments that are tied to the benefit corporation as examples in line with the Time State Preference Theory. This is because the payoff resulting from the investment is associated with an outcome in the future which is beneficial to the society as well. One however does not know the probability or the timing of the payoff. An index bond whose performance depends on the future outcome in the production cycle is further free of the rate of interest. The return to the bondholder is in effect contingent upon the return on the underlying project which is financed. Such index bonds may be constructed for various industries or could be based on the performance of the entire economy. This in turn will help the creditors to share the risk as well as the resulting profit.

A review of empirical evidence shows that Islamic investments in line with socially responsive investments have performed somewhat better during the down cycle of the financial markets due to their lower beta, value style of management and lower outflows in time of financial distress. Some studies show a better performance in the long run. It is however noted that both conventional and socially responsive investments are influenced by the same factors. Some studies show similar performance or somewhat lower return for socially responsive investments.

Managerial implications of this paper may include the feasibility of controlling the cost of financing of investment projects of a business enterprise and aligning its activities towards socially desired outcomes. This is because the shareholders appear to show patience at time of distress in the downturn of the economy. This paper further provides one way to converge the interests of the stockholders and bondholders by offering a payoff function in line with performance of the overall economy. That is, financing investment projects by issuing a security whose performance follows the return on the undertaken project, the overall performance of that industry or the average growth in the economy. In this manner the providers of the capital, entrepreneurs, and the suppliers of human capital will all share in the prosperity of the firm. Meanwhile, the overall growth of the economy will be beneficial to all especially within a generally accepted accountability criteria to the society at large by the business enterprises.

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