A Life Cycle Approach to Islamic Wealth Management and Risk Tolerance

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Abstract

This paper examines a holistic, life cycle approach to Islamic wealth planning and management in relation to risk tolerance. In determining asset allocation, Islamic wealth planning must consider more than the risk-return trade-off of financial assets and take into account life cycle financial advice. This paper adapts a life balance sheet accounting approach that reflects both explicit and implicit *Shari'ah* compliant items in determining core capital, non-discretionary and discretionary wealth. The significance is that a Muslim wealth manager can objectively determine risk tolerance from implied leverage within the discretionary wealth framework of life cycle financial advice that better reflects the private client's emotional goals and provides more flexibility in asset allocation. This contrasts with traditional net worth analysis of product-orientated personal financial planning that includes a subjective risk tolerance function derived from a questionnaire in determining asset allocation. This paper proposes a more holistic, sophisticated, goal-orientated approach, thereby enhancing the delivery of *Shari'ah* compliant Islamic wealth management services.

Keywords: Islamic finance, Islamic wealth management, risk tolerance

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1. Introduction

Personal finance is of course an inexact science (Samuelson, 2007, p.1). That it is as much art as it is science is reflected in the earliest definition of economics (*oikonomos*) as part of Greek philosophy, which involved the management (*nomos*) of a household (*oikos*), especially the income and expenses of a family. Indeed, the old French word *economie* also meant managing a household and was later adopted by the English in reference to economy, or economics. Muslim scholars were the first to obtain Greek works, and Muslim philosophers (*hukama*) translated *oikonomos* into *tadbir al-manzil*, but in any case, economists subsequently extended the role of economics from managing a household in to a social science that involves managing an economy as a whole. Indeed, households and economies have much in common in terms of managing wealth. However, with regard to wealth planning and management, we need to draw a distinction between wealth planning and financial planning. Wealth planning is integral to realizing a private client's financial goals and objectives involving a high net worth individual (HNWI) with at least USD 1.0 million of investible assets[1] (Capgemini, 2009, p.2; Maybank 2018). In fact, given the demand, some firms now require at least USD 5.0 million (DBS Singapore, Standard Chartered), or even USD 10.0 million (J. P. Morgan), in investible assets (Finews Asia, 2018). Wealth planning is more sophisticated, and thus distinct from financial planning, which is primarily associated with the sale of insurance products to wider retail clients. "Wealth management is the investment management specialization focused on high net worth individuals and families. Private wealth management encompasses both taxable investment management and complex personal financial planning concerns and represents an increase in technical sophistication over 1980s era financial planning… private wealth management requires comprehensive and customized solutions to a client's complex investment goals. By contrast, asset management typically involves a focused investment mandate that is standardized across

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[1] "HNWIs are defined as those having investable assets of US$1 million or more, excluding primary residence, collectibles, consumables, and consumer durables" (Capgemini, 2009, p.2).

investors, as in the case of mutual funds." (Jennings *et al*, 2010). Essentially, the private wealth manager is the chief financial officer (CFO) of a private client, managing all aspects of a client's wealth. The main distinction between conventional and Islamic wealth planning is that wealth (*mal*) in Islam belongs to *Allah* (s.w.t.) and man is only a trustee of wealth. Hence, man must ensure that wealth is generated and distributed in accordance with the *Shari'ah*.

However, the Islamic or conventional financial planning industry in Malaysia, which is alternatively also referred to as wealth management, is still characterized by financial planning involving product-orientated insurance planning and fund management for retail or affluent investors. This is notwithstanding the goal-centred approach in assisting clients in determining their financial goals as reflected in the constitution of the Malaysian Financial Planning Council (MFPC, 2013). The emphasis continues to focus on the retail or affluent client that captures explicit accounting items in determining a client's net worth (MFPC, 2018), whilst ignoring implicit goals associated with a life balance sheet and lifetime financial advice. This may be contrasted with global banking franchises, such as Credit Suisse, who have now structured their services in terms of private wealth and asset management, away from investment banking, to cater for increased HNWI demand, especially in Asia. Indeed, Asia-Pacific (excluding Japan) is projected to hold more than a quarter of global wealth by 2019 (figure 1). However, the domestic Malaysian wealth management industry continues to lose significant market share to the adjacent wealth management centres of Singapore and Hong Kong. The Securities Commission of Malaysia (SCM) has sought to address this by seeking to develop the Islamic wealth management industry in Malaysia with the publication of a blueprint, in order "to establish Malaysia as a leading international centre for Islamic fund and wealth management" (SCM, 2017, p.vi). However, the SCM noticed that "about USD9.5 trillion of global Muslim wealth is intermediated by conventional financial institutions; with estimated potential annual revenue of about USD180 billion if these funds are managed by Islamic fund and wealth managers. Part of the reason for the high leakage has been attributed to the shortage of *Shari'ah* compliant assets and services" (SCM, 2017, p.19).
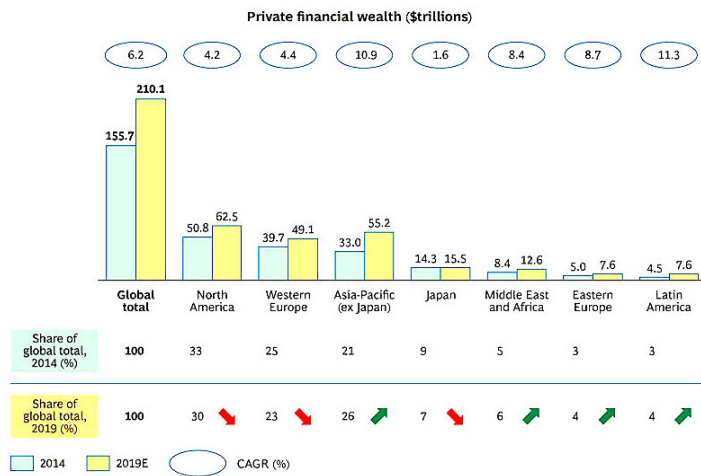

Figure 1: Global Private Financial Wealth
Source: BCG (2015, p.6)

Accordingly, this paper examines a life cycle approach to Islamic wealth planning and management in relation to risk management and specifically risk tolerance. In determining asset allocation, Islamic wealth planning must consider more than the risk-return trade-off of financial assets and take into account life cycle financial advice. This paper adapts a discretionary wealth hypothesis (Wilcox 2000, 2003, 2005 and Wilcox et al, 2006), involving a life balance sheet accounting approach that reflects both explicit and implicit Shari'ah compliant items in determining core capital, non-discretionary and discretionary wealth. The significance is that a Muslim wealth manager can objectively determine wealth risk tolerance within the framework of lifetime financial advice, that better reflects the private client's emotional goals and aspirations and provides more flexibility in asset allocation (including financial, real and alternative assets). This contrasts with the traditional net worth analysis and subjective risk tolerance involving near-term attitudes to financial assets,

associated with product-orientated personal financial planning for retail clients, in determining asset allocation. The impact of this research requires a more holistic, sophisticated, goal-orientated approach that would enhance the delivery of *Shari'ah* compliant Islamic wealth management services, in line with the SCM's vision of establishing Malaysia as an international wealth management centre. Accordingly, this paper is organized in to five sections, with section one providing a background to the study. Section two provides a review of related literature. Section three provides a discretionary wealth and risk tolerance framework. Section four evaluates a Muslim private client's life balance sheet with regard to a life cycle approach to Islamic wealth planning, whilst section five provides some concluding remarks.

2. Literature Review

There is limited contemporary conventional research, let alone Islamic research, devoted to designing techniques that permit individuals to generate wealth in order to meet various lifetime financial goals, which for this very reason, might seem surprising, since "life cycle finance is arguably the most important specialty in finance" (Siegel, 2007, p.vii). The traditional investment advice model is the Markowitz (1952) mean-variance framework, which is widely accepted in academic and practitioner finance as the primary tool for developing asset allocations for investors. According to modern portfolio theory, asset allocation is determined by constructing mean-variance portfolios for various levels of risk (also Merton 1969, 1971). Based on the investor's risk tolerance, one of these efficient portfolios is selected, such that investors invest their financial assets according to the asset allocation output. Efficient portfolios are plotted on a mean-variance (*MV*) efficient frontier (figure 2), which represents the smallest risk for its level of expected return $\bar{R}_p$, where p, where risk (σ_p) is expressed in units of standard deviation (the square root of variance).
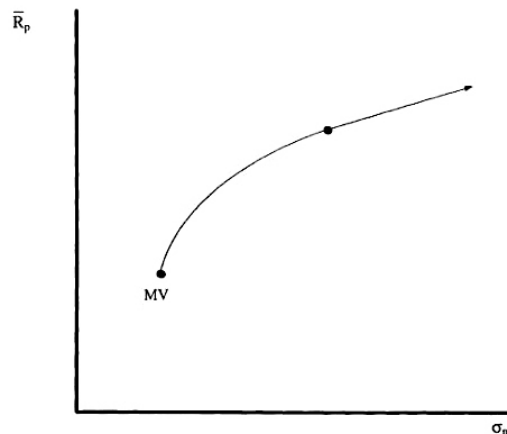

Figure 2: Mean-Variance Efficient Frontier

The mean-variance framework emphasizes diversifying financial investments, or asset classes, and when the framework is used to develop investment advice for investors, questionnaires are adopted to measure the investors' tolerance for risk. As Ibbotson points out, the framework considers only the subjective risk-return trade-off in financial assets as derived from the risk tolerance function acquired from the scores obtained from the questionnaire and does not consider other risks and objectives that individual investors have to contend with throughout their lives (Ibbotson *et al*, 2007, p.5).

In this regard, according to Evensky *et al* (2011), a more traditional approach is undertaken by determining the financial wealth of a client, such that a balance sheet is prepared, with only explicit and no implied assets and liabilities. Then, "a separate analysis is performed to determine future cash needs such as college and retirement to determine how much additional periodic investment is needed such that when combined with the client's current portfolio there are sufficient funds to meet cash needs" (Evensky *et al*, 2011, p.6). However, the traditional net worth, needs analysis and risk tolerance approach, subjectively optimizes the portfolio in terms of asset allocation, without a holistic life cycle approach to wealth planning

and management.

Indeed, Siegel identified that "the central problem of life cycle finance is the spreading of the income from the economically productive part of an individual's life over the person's whole life" (Siegel, 2007, p.vii). Ibbotson elucidated that education can be thought of as an investment, in the capacity to earn income over the balance of an individual's life. This earning power, or "human capital", as Ibbotson refers to it, can be defined "as the present value of the anticipated earnings over one's remaining lifetime" (Ibbotson *et al*, 2007, p.1). Ibbotson states that an investor's total wealth consists of readily tradable financial assets and also human capital and the latter is the largest asset an investor has. This is especially the case for younger investors whom have far more human capital, in terms of years to work, and have had less time to accumulate financial wealth. However, many asset allocation advisors focus on only the risk-return characteristics of readily tradable financial assets, whilst ignoring human capital altogether (Ibbotson *et al*, 2007, p.14).

Given an aging population, life cycle investing also incorporates "longevity risk", which Ibbotson defines as the risk of living too long (from a financial perspective), such that individuals may out-live their financial wealth post-retirement (Ibbotson *et al*, 2007, p.2). By purchasing conventional, or takaful annuity plans that pay yearly income as long as one lives, ensures that individuals do not outlive their wealth. The longer the annuitant lives, the more payments the individual receives (LIAM, 2018). Thus, an annuity contract is the exact reverse of an ordinary life insurance policy, which in terms of mortality risk, without life cover would result in the loss of human capital with a potentially devastating impact on the financial well-being of a family (Ibbotson *et al*, 2007, p.7).

Jennings notes that, "institutional pension management has long incorporated the idea of asset/liability management (ALM) or liability-driven investing (LDI). It is a truism that investors without liabilities do not need to invest; the point of the asset portfolio is to defer consumption to pay for future liabilities" (Jennings *et al*, 2010, p.11). In this respect, Wilcox (2000, 2003, 2005 and Wilcox *et al*, 2006) developed a discretionary wealth hypothesis, which incorporated a form of ALM, by encouraging private wealth managers to form a time series of implied balance sheets for each client. Assets and liabilities are both implied and actual. For example, the present value (PV) of future savings from employment is an implied employment asset, whereas the PV of spending in retirement is an implied liability. The ratio of discretionary wealth to total assets, where discretionary wealth is total assets less total liabilities, determines the client's appropriate level of risk tolerance, asset allocation and investment aggressiveness. "Clients with large relative discretionary wealth can invest aggressively, whereas clients with no or little discretionary wealth to total assets should invest conservatively" (Jennings *et al* 2010, p.11). This holistic life balance sheet form of life cycle investing could be adapted for Islamic wealth planning and management, to obtain an objective risk tolerance incorporating a Muslim private client's implied assets (human capital) and liabilities (emotional goals and aspirations).

In terms of contemporary Islamic literature, Lahsana (2016) presents a comprehensive approach to *Shari'ah* financial planning, Sulaiman *et al* (2014) provides specific case study analysis, Rasban (2006) provides a general advisory approach, but all are geared to the retail investor with no holistic life cycle, or life balance sheet analysis. With regard to Lahsana (2016) and Sulaiman *et al* (2014) the traditional approach of establishing explicit cash-flow and balance sheet items to establish a client's net worth is undertaken including personal financial ratio analysis, with separate analysis provided to determine future needs in relation to education, retirement and *hajj* planning. Similarly, other works do not adopt a holistic view and only address various segments of Islamic wealth planning and management, on *zakat* management and taxation (Abu Bakar *et al*, 2014), Islamic inheritance planning (Ismail, 2013), Islamic estate, retirement and waqf planning (Bahari, 2014), estate planning for Muslims (Rasban and Ismail, 2016), issues relating to *fara'id* in Singapore (Rasban, 2014) and Islamic investment planning (Yusni *et al*, 2014). However, Al-Abbadi and Abdullah (2017) noticed that despite the attempt to produce a comprehensive theory of individual and market behaviour, behavioural finance primarily focuses on the investing aspects of finance, whilst providing minimal attention to the other aspects of finance, such as wealth planning and management. The authors noticed that the relatively new field of financial therapy has emerged to provide holistic financial advice that encompasses all aspects and factors that impact financial matters during the life of an investor, which perhaps could also include life balance sheet considerations (Al-Abbadi and Abdullah, 2017).

Thus, with regard to contemporary conventional and Islamic literature, we may summarize that a more integrated model could be developed to provide a more holistic life cycle approach to Islamic wealth planning, and objectively determine risk tolerance and asset allocation. The wealth manager is akin to a CFO for a private client, and thus requires a framework to assess a clients' overall financial status. A life balance sheet

framework provides a comprehensive accounting of a client's assets, liabilities and net worth in the form of discretionary wealth. This must necessarily incorporate implied assets and liabilities that reflect both human capital and emotional goals. Therefore, by adapting the discretionary wealth hypothesis, a life balance sheet accounting approach that reflects both explicit and implicit *Shari'ah* compliant items, would enable the Islamic wealth manager to determine core capital, non-discretionary and discretionary wealth to more objectively determine risk tolerance. Given a set of financial parameters and assumptions concerning a Muslim HNWI private client, a theoretical life balance sheet can be structured to evaluate its holistic contribution to life cycle investing and its application in Islamic wealth planning and management in relation to risk tolerance, that will accordingly facilitate portfolio optimization and asset allocation.

3. The Discretionary Wealth Framework and Risk Tolerance

In terms of allocating *Shari'ah* compliant investible resources, we may adopt the discretionary wealth framework as developed by Wilcox (2000, 2003, 2005 and Wilcox *et al*, 2006) and adapt the life balance model to suite Islamic wealth managers and their Muslim private clients, to develop a holistic view of a client's assets and financial goals, in order to determine a client's risk tolerance. The relationship between assets and discretionary wealth dictates a client's implied leverage, which amplifies changes in the value of assets in relation to the effect on discretionary wealth. Rather than maximize the utility of the client from a subjective aversion to short-term risk from a questionnaire, the wealth manager replaces the subjective risk tolerance function, with a more objective implied leverage derived from the life balance sheet in order to maximize the median long term outcomes on discretionary wealth.

In terms of a subjective risk tolerance function, in modern portfolio theory, risk aversion is measured as the additional marginal reward an investor requires to accept additional risk, and risk is measured by the standard deviation of the return on the selected portfolio,

$$\mu = \alpha - \delta / \gamma \qquad (1)$$

Where, μ is the utility of the portfolio for the investor, is the expected return of the portfolio, δ is the standard deviation of the return on the portfolio and γ is the risk tolerance function derived from the risk tolerance score obtained from a questionnaire. So, a client's risk tolerance function (γ) represents an investor's marginal rate of substitution of variance for expected value. Moreover, the measure of portfolio utility (μ) can be interpreted as a risk-adjusted expected return, since it is computed by subtracting a risk penalty (δ / γ) from the expected return (α). However, a client's utility, or satisfaction, is based on a risk tolerance score: a low score implies that a client is risk averse, and a high score implies a preference of risk. This subjective approach to near-term risk on assets, might be useful for a retail client that is being offered banking, *takaful* and fund management products by a financial planner, but it is not tailored to a private client's discretionary wealth in relation to core capital and non-discretionary wealth.

By adopting the implied leverage approach to risk tolerance the "goal is not to maximize median outcomes for assets. Rather, it is to maximize median outcomes for discretionary wealth" (Wilcox, 2005, p.43). Hence, the key determinant for portfolio policy is the ratio of discretionary wealth to total assets. The primary objective for a wealth manager should be to maintain discretionary wealth above zero. The secondary objective should be to grow discretionary wealth and derive the best median outcome. Therefore, in the discretionary wealth framework, a wealth manager maximizes median outcomes for discretionary wealth from the following expression,

$$\text{Median Long-Term Wealth} = \overline{r}_p - \frac{1}{2} L \sigma_p^2 \qquad (2)$$

Where, $\overline{r}_p$ is the expected return of the portfolio, σ_p is the expected standard deviation of the portfolio, L is the implied leverage determined by the life balance sheet (Evensky *et al*, 2011, p.219). The objective of maximizing this function provides an approach to analyzing financing decisions and is identical to the Markowitz mean-variance optimization (MVO) found in any conventional mean-variance optimizer with the trade-off for risk aversion set to *L/2*. The client's risk tolerance reflects appropriate long-term goals, so that the implied leverage measures the investor's objectively appropriate risk aversion given emotional needs

(implying liabilities). Alternatively, the objective to maximize can be simply expressed as,

$$E - LV / 2 \tag{3}$$

Where, E is the expected return of the portfolio, L is the implied leverage as a function of total assets divided by discretionary wealth, and V = standard deviation squared (Wilcox, 2005, p.43). A wealth manager may explicitly account for implied leverage in a portfolio optimizer, and if not, then the manager may adjust for it subjectively, as in the case of this study, when selecting from possible efficient portfolios, by selecting low-risk portfolios when the implied leverage is high, and high-return portfolios when the implied leverage is low.

A wealth manager can adopt simulations to advise a client on possible trade-offs solutions between current spending and future wealth by guiding the client through a wealth planning process that prioritizes the clients' goals. This involves distributions of outcomes, under various assumptions relating to savings, spending and investments by constructing a time series of investor life balance sheets that reflects optimal asset allocations for each point in the life cycle and dependent on investment results to that point (Wilcox *et al*, 2006, p.16). A time sequence set of life balance sheets that incorporate explicit as well as implicit assets and liabilities would be of significant use in tailoring life cycle financial advice to a private client. In this study, we will evaluate a Muslim private client at a single point in time, as a young investor and provide criteria and assumptions in order to construct a life balance sheet and calculate an implied leverage.

4. Evaluating a Muslim Private Client's Life Balance Sheet

Accordingly, this section identifies the explicit and implied components of a Muslim private client's life balance sheet. It also analyzes theoretical assumptions and evaluates the impact of implied leverage on risk tolerance and asset allocation.

4.1 The Components of a Life Balance Sheet

Explicit items on a Muslim private clients' life balance sheet, would typically include the market value of explicit tangible assets, such as real estate, vehicles and other *Shari'ah*-compliant financial assets, alternative assets including precious metals and collectibles. Explicit liabilities would include Islamic home financing, car financing and other debt secured by tangible or financial property on the asset side of the balance sheet. High-priority investment goals reflect non-discretionary wealth and represent implicit or implied liabilities. These might include the PV of a retirement fund, an education fund for a client's children, starting a business, planning for a social-responsible investment (SRI), or fulfilling a charitable bequest (*sadaqah*), all reflect future emotional goals and aspirations by the private client and represent implied liabilities.

When adopting the implied leverage approach to risk tolerance the wealth manager has to consider non-financial assets, such as human capital, into the recommended asset allocation. If the private client is a hedge fund manager, investment banker or commodity trader, whose employment prospects might be considered volatile, given that they are inevitable linked to the volatility of related markets, then the human capital would be deemed risky, or equity-like. In this case, the wealth manager should include the human capital as part of the equity allocation recommended by a portfolio optimizer or build a portfolio around the client's existing risk exposures and would likely include *Shari'ah*-compliant fixed-income (sukuk) or money market products. Similarly, if the client owns an Islamic fintech venture, or a Muslim entrepreneur holding tax efficient equity investments in maritime assets (Abdullah, 2018), or specialized oil and gas investments (Hallman and Rosenbloom, 2009, p.157), including associated human capital. On the other hand, if the client is a successful university Professor that is employed under a permanent full-time contract in a public university, then the human capital, or net employment capital, would be considered as low risk, or "bond-like". In this case the client might require equity market products such as *Shari'ah* compliant equity funds. If the client is a successful real estate developer, with direct exposure from real estate holdings and associated net employment capital, then the manager would consider excluding *i*-REITs, or indeed, other profit-rate (interest-rate) sensitive securities in any portfolio (Evensky *et al*, 2011, p.219; Ibbotson et al, 2007, p.14).

In considering human capital, or net employment capital, if this means the PV of after-tax earnings (wage-income) on the asset side of the balance sheet, then the wealth manager must include the PV of the clients'

lifestyle maintenance in terms of consumption (expenses), on the liabilities side of the balance sheet. An alternative to this would be to consider net employment capital as the PV of after-tax savings on the asset side of the life balance sheet. In terms of choosing an appropriate discount rate between earnings and savings, for the PV of net employment capital, if one views consumption as a fixed expense, then savings is a leveraged cash-flow as compared to wages (Evensky et al, 2011, p.217).

Thus, on the asset side of the life balance sheet, net employment capital (the PV of future savings during employment) would increase over time and then decrease as retirement approaches. A younger HNWI would have considerable implied wealth from employment that may exceed the value of other explicit assets. On the other hand, the PV of the implied liability for a retirement fund would initially be relatively modest due to time discounting for a younger private client. Nonetheless, it would likely peak upon retirement and may decrease if the principal is liquidated as life expectancy shortens post-retirement. Similar considerations would apply for other implied liabilities, regarding education planning for children and *hajj* planning for family members. However, a Muslim wealth manager ought to advise that a Muslim HNWI should undertake a *Hajj* sooner rather than later, given that there are no meaningful constraints in terms of cost for the private client. The reverse might be true of retail, or event affluent clients. In reality, such a Malaysian client might even have begun saving for a Hajj by opening an account with *Lembaga Tabung Haji* (LTH), with the intention of performing the *Hajj* upon retirement. Due to any quota or cost constraints, they might not be able to perform their *Hajj* any sooner.

4.2 Assumptions and Analysis

Before we construct a life balance sheet, it is necessary to provide some assumptions in considering the profile of a theoretical private client. In this case, the client, Ashraf, is a 30-year-old Singaporean citizen, married to a Malaysian housewife and they have two children (twins), aged 8 years old. The client has an investment share in a new ship-owning company based in Singapore worth the equivalent of MYR 3.0 million[2] and operates a ship-management subsidiary out of Malaysia. Upon further analysis, the nature of the ship-owning company involves a private equity ship-leasing operation, investing in vessels with long-term charters, that is expected to generate a net yield of 8.5% per annum[3], a dividend yield of 7% and an 82% payout ratio[4]. Essentially, it is a tax efficient equity investment involving maritime asset management that generates a fixed-income return from operations. The overheads (operating costs) are reduced significantly by running the ship-management company out of Malaysia instead of from Singapore.

With regard to explicit assets and liabilities, Ashraf currently owns a residential home in Kuala Lumpur, which is currently worth MYR **1,500,000**, with an outstanding *musharakah mutanaqisah* financing of MYR **968,090**[5]. They also own two cars with a combined market value of MYR **500,000**. One of the cars is fully paid-off, but the other has a balance *ijarah thumma al-bai'* financing of MYR **157,716**[6]. Ashraf's only other investment is MYR **4,000,000** in the form of a *mudharabah* investment savings account with Maybank. In terms of capital market expectations and associated risks, for the purposes of calculating the PV of the implied assets and liabilities, we assume appropriate discount rates of 5% for inflation and a 7% required investment rate of return. In determining his net employment capital, as an implied asset, Ashraf's net (after-tax, post-*zakat*) annual savings is MYR 180,000[7]. The client mentions that the salary is likely to be fixed, with any performance related remuneration to be derived from company dividends. At first glance, the manager might categorize the Islamic private equity (*mudharabah*) shipping company as a specialized alternative investment, but in reality, the investment, and associated net employment capital, reflects fixed income from a maritime leasing operation. The net dividend yield provides an additional MYR 210,000 annually, and combined with his net annual savings, totals MYR 390,000 as annual net employment capital. Thus, to determine the PV of Ashraf's net employment income, we assume 30 years to retirement and a required rate of return (discount

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[2] Assuming SGD 1.0 Mn at a MYR:SGD exchange rate of 3.00.

[3] Income from ship-owning and operating is tax exempt in Singapore, whilst *zakat* is paid at 2.5% on net current assets, as per MUIS guidelines on zakat payable on a business (MUIS, 2018).

[4] Ship-leasing companies often reflect dividend yields with a high payout ratio: c.f. Ocean Yield (2017, p.12).

[5] Assuming 20-year financing of MYR 1.0 million at 4.40% per annum, with 19 years remaining.

[6] Assuming 7-years financing of MYR 180,000 at 2.25% per annum, with 6 years remaining.

[7] We may assume that his net cash flow is net of both *zakat* on his business as well as income, and also includes annual contributions for life *takaful*, as well as car, mortgage, house-owners and house-holders *takaful*.

rate) of 7%. The PV of an annuity due for a flat annual period payment (at the beginning) of MYR 390,000 equates to MYR **5,179,293**[8].

With regard to Ashraf's implied liabilities, or emotional goals, these reflect non-discretionary wealth involving the purchase of a holiday home in 5 years time, as well as, retirement, education and *hajj* planning. With a successful business, Ashraf aims to acquire a holiday home in 5 years time, which he intends to fund internally from savings. The property is a freehold apartment at Batu Ferringhi beach, Penang, and the current market price, or present value (PV), is MYR **1,500,000**. He could purchase it with cash now, but the wealth manager advises him to wait, given short-term concerns about the investment environment for real estate in Malaysia. Nonetheless, the manager takes a conservative growth projection of 7% from the Malaysian Home Price Index (HMPI), derived from the National Property Information Centre (NAPIC, 2018), to determine a future value (FV) of RM 2,103,828[9]. This implies that Ashraf would need to save MYR 341,903[10] annually assuming a 7% required investment rate of return, in order to acquire the holiday home in 5 years time.

Meanwhile, the client plans to retire at 60 years old, with a MYR 180,000 annual income. The wealth managers ought to advise that, for a HNWI, the principal intact method should be adopted, and he may also bequeath it as part of his estate (according to *fara'id*). The PV of the retirement fund is likely to be modest, due to the time discounting effect attributable to a young client with 30 years left to retirement. Adjusting the MYR 180,000 annual income stream, post-retirement, with an inflation-adjusted return (discount rate) of 1.9048%[11], requires a FV lump-sum at the point of retirement of MYR 9,448,819[12]. Accordingly, the PV of this amount is MYR **1,241,264**[13], assuming a 7% required rate of investment return as the discount rate. Ashraf needs to save MYR 93,485[14] assuming a 7% return on investment annually, in order to fund the anticipated retirement fund in 30 years time.

Additionally, the parents are planning to send their children to a good university in Singapore at the age of 18 years old. Thus, the children have 10 years remaining before they enter university. The current total cost of tuition fees for a 3-year undergraduate degree, accommodation and living expenses, per year, is the equivalent of MYR 390,000[15]. Assuming a 5% rate of the inflation, the FV of the cost of education in 10 years time, for the two children, is MYR 635,269[16]. Assuming a 3-year degree and an inflation-adjusted return of 1.9048%[17], the PV of an annuity due with a periodic payment of MYR 635,269, and payment at the beginning, is MYR 1,870,406[18]. This amount represents the total of cost of education at 18 years old. In turn, this also reflects the FV of the education fund in 10 years time and assuming a 7% required rate of investment return (discount rate), the PV is MYR 950,820[19]. Ashraf needs to save MYR 126,519[20] at 7% annually to fund his children's education in 10 years time.

As a wealth manager, we would also advise that Ashraf and Sofea should undertake their *Hajj* in two years time (rather than perhaps upon retirement), the cost of which from Singapore is currently the equivalent of MYR 90,000[21]. The FV of the *Hajj* in two years two, discounted for 5% inflation is MYR 99,225[22]. Ashraf will need to save MYR 44,799[23] annually assuming a 7% return on investment to fund the future cost of the *Hajj*. The PV of MYR 99,225 at this required rate of investment return is MYR 86,667[24].

Table 1 presents Ashraf's theoretical life balance sheet, as a Muslim (HNWI) private client, with assets of

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[8] Using a financial calculator, it is computed as: beg, n = 30, I = 7%, pmt = -390,000, PV = 5,178,293

[9] Computed as: beg, n = 5, I = 7%, PV = - 1,500,000, FV = 2,103,828

[10] Computed as: beg, n = 5, I = 7%, FV = -2,103,828, pmt = 341,903

[11] Inflation adjusted discount rate (i) = ($r – I$) / $1 + I$, where, r = post retirement required rate of investment return of 7%, and I = post retirement inflation rate of 5%: thus, (7% – 5%) / 1.05 = 1.9048%

[12] MYR 180,000 / 1.905% = 9,448,819

[13] Computed as: beg, n = 30, I = 7%, FV = -9,448,819, PV = 1,241,264

[14] Computed as: beg, n = 30, I = 7%, PV = -1,241,264, pmt = 93,485

[15] Assuming SGD 65,000 per child at a MYR:SGD exchange rate of 3.00

[16] Computed as: beg, n = 10, I = 5%, PV = -390,000, FV = 635,269

[17] Inflation adjusted discount rate (i) = ($r – I$) / $1 + I$, where, r = post retirement required rate of investment return of 7%, and I = post retirement inflation rate of 5%: thus, (7% – 5%) / 1.05 = 1.9048%

[18] Computed as: beg, n = 3, I = 1.9048%, pmt = -635,269, PV = 1,870,406

[19] Computed as: beg, n = 10, I = 7%, FV = - 1,870,408, PV = 950,820

[20] Computed as: beg, n = 10, I = 7%, PV = -950,820, pmt = 126,519

[21] Assuming SGD 15,000 per pax at a MYR:SGD exchange rate of 3.00. We may also assume that Sofea does not have, or plan to have, savings in an LTH account, since the *Hajj* is being performed from Singapore

[22] Computed as: beg, n = 2, I = 5%, PV = -90,000, FV = 99,225

[23] Computed as: beg, n = 2, I = 7%, FV = -99,225, pmt = 44,799

[24] Computed as: beg, n = 2, I = 7%, pmt = -44,799, PV = 86,667

MYR 14,178,293 and also liabilities of MYR 4,904,557. The liabilities are identified as non-discretionary wealth, which must be protected, reflecting the client's core requirements. Therefore, this leaves MYR 9,273,736 of excess capital, or discretionary wealth, to meet Ashraf's low-priority goals, which if not met, do not threaten religious and family obligations. From a wealth manager's perspective, he also calculates that the discretionary wealth equals the equivalent of USD 2,318,434[25], of which MYR 4,000,000 (USD 1,000,000) consists of investible assets, this affirming Ashraf's eligibility as a private client. In any case, discretionary wealth represents available economic resources in excess of what is required to fund the high-priority goals. The relationship between a client's total assets and discretionary wealth dictates the client's implied leverage. In Ashraf's balance sheet the implied leverage is 1.53[26].

Table 1: Life Balance for Muslim Private Client

Assets		Liabilities & Equities	
House	1,500,000	Home Financing	968,090
Cars	500,000	Car Financing	157,716
Company Stock	3,000,000	Holiday Home	1,500,000
Mudharabah Investment A/C	4,000,000	Retirement Fund	1,241,264
Net Employment Capital	5,178,293	Education Fund	950,820
		Hajj Fund	86,667
		Discretionary Wealth	9,273,736
	14,178,293		**14,178,293**

A high leverage on a client's balance sheet reduces their tolerance for risk. In the case of Ashraf, a lower implied leverage reflects his willing to take risk, as one might expect from a younger high net worth investor. The implied leverage amplifies changes in the value of assets in terms of its effect on discretionary wealth. Since implied leverage reflects the ratio of total assets to discretionary wealth, with Ashraf's implied leverage of 1.53, a 10% decline in the value of assets will reduce discretionary wealth by 15.3%. Hence, the advantage of developing a time series of life balance sheets that would cater for any changes in the investor profile. Changes might occur through a change in market value of the assets, or changes in liabilities, such as the need for a larger education fund, if the parents have more children.

The wealth manager considers three potential financial portfolios comprising varying combinations of *Shari'ah*-compliant equities and bonds (*sukuk*). Table 2 presents possible efficient sets of portfolios, expected return (*E*) standard deviation and Standard deviation squared (*V*). By comparison, a high implied leverage (L) of 2.8 would indicate portfolio **A**, with 70% bonds, offering the optimal risk-adjusted return on investment of 5.7%, given lower discretionary wealth and risk tolerance. For Ashraf, with *L* at 1.53, portfolio **C** reflects the optimal median long-term return of 6.9% for discretionary wealth.

Table 2: Possible Efficient Sets and Implied Leverage

Portfolio	Portfolio Mix		Expected Return (*E*)	Standard Dev. of Returns	Standard Dev. Sqrd (*V*)	*E - LV / 2*	
	Bonds	Equity				where (*L*) = 2.8	where (*L*) = 1.45
A	70%	30%	6%	5%	0.0025	**5.7%**	5.8%
B	50%	50%	8%	15%	0.0225	4.9%	6.3%
C	30%	70%	10%	20%	0.04	4.4%	**6.9%**

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[25] Assuming a MYR:USD exchange rate 4.00:1.00
[26] Total assets MYR 14,178,293 / 9,273,736 in discretionary wealth = 1.53 implied leverage.

In terms of asset allocation, we note that Ashraf's non-discretionary wealth reflects 34.6%[27] of total liabilities and equities, which would drop slightly to 34% once the *Hajj* has been performed in two years time. In reality, to a Muslim HNWI, a *Hajj* can be funded very easily from savings, but not so for a retail or affluent client. Ashraf's net employment income, comprising the dividend yield and associated net savings from his ship-leasing business is bond-like, but providing equity-like returns[28]. Since it's bond-like, Ashraf already has 36.5%[29] of his assets that behaves like fixed income that could largely finance his non-discretionary goals. In any case, the wealth manager could allocate the difference of about 2% (36.5% less 34.6% non-discretionary wealth) of his net employment capital to an equity asset class, in order to generate a higher aggregate return. Equally, the *mudharabah* investment account (MIA) at Maybank, is technically an equity-like investment, but generates only a bond-like return, even if held as the equivalent of a savings deposit.

In the investment policy statement (IPS) agreed between the client and the manager, Ashraf has mandated a discretionary investment management account at his wealth manager's firm. The 7% bond-like return on Ashraf's net employment income is comparable to a 7-year yield-to-maturity (YTM) for investment grade corporate *sukuk* with a credit rating of A (BPAM, 2018). Meanwhile, concerned about the speculative domestic residential real estate market in Malaysia, at least in the short-term, the manager avoids local *i*-REIT and real estate opportunities for the time being, and allocates the balance of the net employment and MIA capital into *Shari'ah* equity funds, that are benchmarked to at least match the S&P 500 *Shar'iah* Index of an 11.67% annualized return over the past 5 years (S&P Dow Jones, 2018), net of any annual fund management expenses. Accordingly, the manager adjusts Portfolio **C** to allocate a 35% weighting from Ashraf's net employment capital proving a yield of 7%, and allocates a 65% weighting from global *Shari'ah* equity funds yielding at least 11.67%, to provide an aggregate absolute annual return over the long term of 10%[30], or a 6.9% risk-adjusted return based on discretionary wealth. This affirms the wealth manager's aggregate expected rate of return (discount rate) in the investment assumptions of 7.0%.

In contrast to the life balance sheet and implied leverage approach to risk tolerance for discretionary wealth, theoretically, we could analyze Ashraf through the traditional lens of a net worth statement as presented in Table 3 and measure his risk tolerance function as reflected in Table 4. The wealth manager notices that the net worth (assets less liabilities) equates to MYR 7,874,194, or USD 1,968.548[31]. Investible assets comprise MYR 4,000,000 (USD 1,000,000), which affirms Ashraf's eligibility as a private client. A traditional approach to analyzing net worth "would not include income as an asset or cash" (Yusop *et al*, 2014, p.236). Indeed, we notice that only explicit items and no implied items are captured in the net worth statement, and in particular, one may now realize the important contribution of net employment capital to an investor. Any dividends from Ashraf's business, or net savings as a function of annual income and expenses, would have been placed in the MIA.

Future goals relating to any holiday home, retirement, children's education and *Hajj* would typically be evaluated separately to determine what a client would have to save annually, assuming realistic rates of return on investments, to fund these future goals. In fact, we calculated them earlier. Ashraf would need to save the following amounts annually, assuming a 7% return on investment (ROI): MYR 341,903, in order to acquire the holiday home in 5 years time; MYR 93,485, in order to fund the anticipated retirement fund in 30 years time; MYR 126,519 in order to fund his children's education in 10 years time; and MYR 44,799 in order to fund the future cost of the *Hajj* in 2 years times.

Meanwhile, Ashraf scored 30 out of 35 from a questionnaire, which as an entrepreneur, we might assume was not altogether surprising, since it certainly indicates a strong preference for risk. The score of 30 determines his risk tolerance function (γ), in order to evaluate his utility (μ) towards possible efficient portfolios and his aversion to risk. In Table 4, we present the same risk and return portfolio parameters from Table 2 and applying the risk tolerance function approach to asset allocation.

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[27] MYR 4,904,557 non-discretionary wealth / MYR 14,178,293 total liabilities and equities = 34.6%.

[28] Legally different, but similar in behaviour, to preference shares, which have been deemed *Shari'ah*-compliant by the *Shari'ah* Advisory Council of the SCM in 1999 (SCM, 2007, p.92), but not elsewhere.

[29] MYR 5,178,293 net employment income / MYR 14,178,293 total assets = 36.5%.

[30] Weight return from asset allocation = (7% x 0.35) + (11.67% x 0.65) = 10%.

[31] Assuming a MYR:USD exchange rate 4.00:1.00

Table 3: Net Worth Statement

Assets		Liabilities & Equities	
House	1,500,000	Home Financing	968,090
Cars	500,000	Car Financing	157,716
Company Stock	3,000,000	Net Worth	7,874,194
Mudharabah Investment A/C	4,000,000		
	9,000,000		**9,000,000**

Table 4: Possible Efficient Sets and the Risk Tolerance Function

Portfolio	Portfolio Mix		Expected Return (α)	Standard Dev. of Returns (δ)	Risk Penalty (δ/γ)	$\mu = \alpha - \delta/\gamma$ where (γ) = 30
	Bonds	Equity				
A	70%	30%	6%	5%	0.2%	5.8%
B	50%	50%	8%	15%	0.5%	7.5%
C	30%	70%	10%	20%	0.7%	**9.3%**

Portfolio **C** is also the optimal investment, but the risk-weighted return reflects a subjective approach to near-term risk on assets, as opposed to an implied leverage from discretionary wealth. The implication is that a risk-adjusted return of 9.3% would be required from a portfolio broadly comprising 70% equities and 30% bonds on explicit investments and savings on the asset side of the balance sheet. However, the asset allocation is likely to comprise a lower grade of corporate sukuk and *Shari'ah*-compliant equities, that would not accurately reflect the associated risk given Ashraf's goals, since the 9.3% risk-adjusted return is 2.4% higher than the 6.9% optimal median long-term return for Ashraf's discretionary wealth.

In summary, this type of analysis is not well suited for a HNWI, since there is no linkage between risk tolerance and discretionary wealth, as a function of explicit and implicit items that we would find on a life balance sheet. As mentioned earlier, if the value of Ashraf's assets (and thus liabilities and equities) decline by 10%, then discretionary wealth would decline by 14.5%, given the implied leverage of 1.45. This may require a rebalancing in his asset allocation as part of a life cycle approach to investing. In fact, over time, the implied leverage will alter, as part of the wealth management process, to take into account changes in the investor's goals, assets, as well as investment performance and outlook.

It is worth recalling that the wealth planner is the CFO for the private client and provides complex legal, tax and investment advice from a team of advisors. A wealth manager's fee can be customized in order to price services accurately (Jackson and Ke, 2017), but is typically 1% (100 basis points) of investible assets under management for the first USD 1.0 million (i.e. USD 10,000), with a declining percentage for larger amounts: a private client with USD 5.0 million might pay 0.007% (USD 35,000) annually (Forbes, 2017). However, a financial planner might well adopt a traditional net worth and risk tolerance function approach for a retail client, including associated financial ratio analysis, and may only typically charge about MYR 4,000 (USD 1,000) for a simple consultancy fee. Thus, private clients are looking for more sophisticated CFO-like services from their wealth managers, that would typically be found in private wealth departments of asset management divisions within universal banks.

5. Conclusion

In summary, the above analysis has highlighted the importance of a life-cycle approach to Islamic wealth management and risk tolerance. This study has demonstrated that a more holistic approach is required in terms of adopting an accounting life balance sheet and implied leverage approach, as a function of discretionary wealth, in determining risk tolerance and asset allocation. Accordingly, this study evaluated theoretical assumptions relating to a HNWI Muslim private client and established a more objective approach to

evaluating risk tolerance in relation to *Shari'ah* assets, liabilities and associated long-term risk-adjusted returns for discretionary wealth. This was contrasted with a subjective risk tolerance function, in determining asset allocation associated with near-time risk on assets in evaluating a clients' utility derived from a questionnaire. We found that in evaluating these two approaches, we established that in considering possible efficient *Shari'ah* compliant portfolio sets, specific asset allocation would involve a different assessment of risk and risk-adjusted returns. The life balance sheet and discretionary wealth hypothesis, involving a holistic approach to tax efficient, post-zakat and *Shari'ah*-compliant investment is better suited to Islamic wealth planning for HNWIs. The net worth and risk toleration function associated with a client's utility, combined with financial ratio analysis and related advice, is more suited to retail clients and financial planning.

Other than for practitioners, this also has an important implication for Islamic wealth management education and training. From the context of Malaysia, this study recommends that the MFPC, Finance Accreditation Agency (FAA) and the Malaysian Qualifications Agency (MQA) should ensure that the latest skill sets are required, especially in terms of Islamic wealth planning, in order to deliver the appropriate human capacity necessary to intermediate Muslim HNWI's. This would enhance the national Islamic wealth management industry, thereby fulfilling the vision of SCM's blueprint (2017).

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