
Shehab Marzban* and Mehmet Asutay**

Abstract
This paper focuses on Shari‘ah-compliant investments, which are managed in a Shari‘ah-compliant manner that goes beyond defining a set of rules or guidelines to generate a static list of automatically screened equities. Shari‘ah screening is about identifying a set of investments that adhere to Shari‘ah principles and would thus be considered eligible for an Islamic investor to invest in. Generally, different Shari‘ah mandates can be found across the industry that may result in different asset universe sizes and constituents. The main distinction between the different rulebooks is the use of either total assets or market capitalization as the base to value a company and to use as denominator for the different financial ratios. By using the top 200 large cap companies in the United States as well as Japan, this paper reveals that different Shari‘ah mandates result in discrepancies in asset universe size, constituents, asset allocation and most important, return and risk. Therefore such an analysis of the Shari‘ah mandates is crucial before launching a new Islamic fund to ensure that the advantages and disadvantages of the different mandates are recognized and taken into consideration. This analysis also revealed that different mandates might be advantageous in different regions and time spans.

Introduction
Islamic finance has evolved in recent years into a term characterized by growth, opportunity and large discrepancy in terms of definition. Islam and finance are terms that might on first sight not make much sense if combined together. Islam, which is a life style for its followers, is not only about defining faith, having ethical responsibilities and following specific religious rituals (called ibadat); it goes beyond that through defining mutual interactions and transactions (called muamalat) including financial transactions. Thus, Islamic finance is about conducting financial transactions that adhere to Islamic principles or are considered Shari‘ah-compliant.
One such type of financial activities is equity investments that by their nature are classed as Shari‘ah-compliant assets due to their profit-loss (musharakah) characteristics. Since Shari‘ah can be characterized by being highly diversified, in this paper the main distinguishing Shari‘ah requirements for identifying compliant investments are reviewed and discussed in depth. This paper also aims to provide a critical approach to Shari‘ah screening by suggesting other issues to be considered as part of moral screening.

It should be noted that Islamic finance is also about generating returns, and so the different Shari‘ah requirements are analyzed with respect to risk and return and compared to each other to explore whether adhering to religious principles will impact investment returns and undertaken risks or not. This analysis was empirically conducted from January to December 2010, using the top 200 large cap companies in the United States as well as Japan to explore the effect of using different Shari‘ah methodologies on different asset universes.

1. Principles of Islamic Finance

Islamic finance is an alternative financing method, which offers various instruments to conduct the financing of economic activities from basic instruments to rather sophisticated methods. Regardless of the nature of the instruments used, Islamic financial instruments are all subject to certain principles, which constitute the contents of the Shari‘ah screening. The main principle often referred to, and through which Islamic finance is known is the prohibition of interest or riba. The other principles, which shape the nature of Islamic finance contracts, hence, are [Asutay 2010]:

(i) **Prohibition of interest or riba**, as an explicit Qur‘anic injunction with the objective of providing not only a stable economy and financial environment but also a socially efficient economic environment;

(ii) As a consequence of the prohibition of interest, fixed return is also **prohibited** as provided by interest [Ayub 2007];

(iii) Islamic finance aims at creating productive economic activity through **asset-based financing** rather than a debt-based system, as the asset-backed principle requires that all financial activities must be linked to tangible assets [Iqbal and Mirakhor 2006];

(iv) In Islamic finance, as a principle **money does not have any inherent value in itself**; and therefore money cannot be created through the credit system [Chapra 1985];

(v) Due to prohibiting interest, Islamic finance changes the nature of the relationship between capital and work by instituting the **profit and loss sharing** (PLS) principle as a framework...
within which economic and business activity takes place [Ayub 2007]; This aims at establishing justice between work effort and return, and between work effort and capital. As a consequence, risk sharing becomes another important feature of Islamic finance [Siddiqi 1985];

(vi) Profit-and-loss sharing as well as the risk-sharing principle result in participatory nature economic and business activity through participatory financing. Through profit-and-loss sharing, the providers of capital and labour merge to establish partnerships through their individual contributions in different ways within various Islamic finance instruments.

(vii) Productive economic and business activity together with the prohibition of interest, defines another principle of Islamic finance and also another rule for Shari’ah screening: uncertainty (gharar), speculation and gambling is also prohibited with the objective of developing a stable financial system which continues to link finance with the real economy through asset-based productive economic activity [Iqbal and Mirakhor 2006].

(viii) Business activity is also limited, as certain sectors are not considered as ‘halal’ or lawful, which includes any business activity causing harm to individuals, society and the environment, such as environmentally harmful business activity, the arms industry, pornography, pork production and related sectors etc.

It should be noted that despite all these principles, through present legal (fiqhi) scholarship new and more sophisticated financial instruments are developed within the understanding of acceptable levels of uncertainty in responding to the current needs of the industry. Such compromises have also been observed in shifting from asset-based financing to debt-based financing and from profit-and-loss sharing paradigms such as musharakah and mudarabah to mark-up based debt oriented instruments such as murabahah.

These financial rules in Islam are articulated in the Qur’anic verse that “trade is allowed, riba (interest) is prohibited.” Accordingly, profit constitutes the essential return for business activity, and it is around this point that Islamic financial instruments are shaped [Asutay 2010].

Asutay [2010] summarises the comparison between interest and profit to develop a better understanding of the differences between the two, as depicted in Table 1.

In summarizing all these, as Figure 1 depicts, Islamic finance is the outcome of religious ethics in banking due to the fact that, Islamic banking and finance solutions are engineered with the Shari’ah filter process which is informed through Shari’ah sources producing Islamic finance contracts or fiqh al-muamalat contracts within and according to the principles identified (lower
Thus this study aims to apply Shari’ah screening to US and Japanese equities whereby the impact of asset-based versus market capitalization-based Shari’ah screening is established empirically through asset management.

2. Shari’ah-compliant Asset Management

Investing according to the Shari’ah is not a straightforward exercise since it is highly complex and needs to be handled with great precaution to ensure that the Shari’ah requirements are...
met as intended by the Shari’ah governing body (the Shari’ah board). Due to the complexity of modern capital markets, the existence of complex investment instruments and the multidisciplinary and global involvement of companies, Shari’ah scholars are required to use deductive and analytical logic as well as religious interpretation (Ijtihad) to extract from the verbal and historical Shari’ah sources a set of rules or guidelines to be employed to determine which investments can be undertaken from a compliance perspective.

The responsibility of ensuring that conducted investments such as Shari’ah-compliant funds are managed in a Shari’ah-compliant manner goes beyond defining a set of rules or guidelines to generate a static list of automatically screened equities. Shari’ah-compliance is actually about providing fund managers with credible Shari’ah advisory, data and screening services, purification, and on-going compliance monitoring capabilities.

To ensure that the entire fund management process is run according to Shari’ah principles, conventional portfolio management processes need to be extended by multiple Shari’ah-specific requirements to ensure that funds are managed in accordance with the Shari’ah. In the planning phase a Shari’ah governing body has to be selected to define the set of rules / guidelines, in the form a set of rules or guidelines called a Shari’ah mandate to be followed, to determine which investments are to be considered eligible. Once the Shari’ah governing body is appointed, mostly in the form of a Shari’ah board or advisory provider, a data and screening provider has to be selected to screen assets to determine which investments adhere to the guidelines defined and would represent a permissible investment universe. Across the industry most funds would either outsource the Shari’ah governance and screening to an index provider or hire an internal Shari’ah board and separate screening provider.

Other Shari’ah-specific considerations include the quantification of purification, which is the process of purifying or cleansing any non-compliant elements from conducted investments, report generation to capture Shari’ah monitoring requirements reflecting compliance changes over time, as well as portfolio purification calculations.

2.1 Shari’ah Screening / Guidelines
Shari’ah screening is about identifying a set of investments that adhere to Shari’ah principles and would thus be considered eligible for an Islamic investor to invest in.

Such screening is first to be applied on an asset class level and afterwards on a security level. On an asset class level interest-based or speculative instruments are not compliant with the Shari’ah. Therefore the Shari’ah forbids investment in conventional interest-bearing bonds, derivative and speculative instruments and activities such as futures, forwards, options, short-
selling transactions as well as preferred shares that provide a fixed or guaranteed dividend payment. Once these asset classes are screened out, the remaining instruments (mainly equities) are analyzed in depth through applying first a set of sector-specific guidelines / ratios to identify the level of income from non-compliant activities and secondly a set of financial ratios measuring the involvement in interest-based investment and borrowing transactions.

The sector-based screening process would investigate whether companies are involved in Shari’ah non-compliant activities—such as the sale of pork or alcohol—and financial activities. This enables the exclusion of businesses whose primary activity does not comply with the Shari’ah, such as conventional banks, bars and casinos. Financial screens, on the other hand, measure businesses’ involvement in Shari’ah non-compliant activities, such as interest earnings and debt financing.

Generally, different Shari’ah mandates can be found across the industry, which may result in different asset universe sizes and constituents. The main distinction between the different rulebooks is the use of either total assets or market capitalization as the base to value a company and to use as the denominator for the different financial ratios.

Formally, financial screens are in the form of ratios that are compared to a maximum allowable threshold level. Those ratios focus on different aspects of an investment like liquidity, interest, debt and non-permissible income. Each Shari’ah board uses a bundle of ratios for screening the potential investments and an investment is compliant if and only if it passes all screens included in the bundle.

The following are two typical Shari’ah mandates / bundles used across the industry. The distinguishing factor between them is the divisor.

Other versions of the above-stated rulebooks can be found across the industry such as ones using a combined cash and receivables ratio or including non-operating interest as part of non-

Table 2. Rulebooks

<table>
<thead>
<tr>
<th>Asset-based Rulebook</th>
<th>Market Cap-based Rulebook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-permissible Income / Total Income &lt;5%</td>
<td>Non-permissible Income / Total Income &lt;5%</td>
</tr>
<tr>
<td>Interest-bearing Cash and Investments / Assets &lt;33%</td>
<td>Interest-bearing Cash and Investments / 12 month average market capitalization &lt;33%</td>
</tr>
<tr>
<td>Receivables / Assets &lt;33%</td>
<td>Receivables / 12 month average market capitalization &lt;33%</td>
</tr>
<tr>
<td>Interest-bearing Debt / Assets &lt;33%</td>
<td>Interest-bearing Debt / 12 month average market capitalization &lt;33%</td>
</tr>
</tbody>
</table>

Source: Prepared by the Authors.
permissible income.\(^1\)

Derigs and Marzban [2008] were the first to survey all the Shari‘ah mandates in depth and to investigate the impact of using different Shari‘ah mandates on asset universe size and constituents using the main Shari‘ah mandates (S&;P, Dow Jones, MSCI, FTSE and HSBC) used across the industry. Afterwards, Derigs and Marzban [2009] investigated the impact of the different Shari‘ah mandates on portfolio performance using a Mean-Variance Optimization model. The results revealed that market capitalization-based Shari‘ah mandates such as Dow Jones and S&;P outperform asset-based rulebooks such as the ones used by MSCI, FTSE and HSBC. Marzban and Asutay [2009] analyzed the impact of Shari‘ah mandates on the performance of GCC stocks and proved that asset-based rulebooks outperform their market cap-based counterparts due to the relatively high book value of industrial and petrochemical companies compared to their market capitalization in the GCC. Marzban and Donia [2010] applied a market-cap weighted asset allocation model for US companies and the results revealed that market cap-based rulebooks result in much higher returns compared to asset-based rulebooks in the US.

3. Empirical Analysis of the Shari‘ah Mandates

Since scholars differ in opinion on using either total assets or market capitalization as the divisor, it is important to analyze the impact of using the two rulebook variants on the asset universe size and the expected performance, as well as the anticipated risk level.

Within this research, this analysis is conducted on two different asset universes. The first asset universe contains the top 200 large cap companies in the United States, whereas the second universe contains the top 200 large cap companies in Japan.

3.1 US Large-Cap Universe

Through considering the 200 large-cap companies in the US it can be noted that the number of compliant companies using an asset-based or market-cap based rulebook is almost identical, with about 45% of the asset universe being Shari‘ah-compliant. Notable from Table 3 is that the market cap-based mandate results in a larger exposure to the technology sector but zero exposure to the utilities sector. This phenomenon has been discussed by Marzban [2009] where he proved that the technology and health sector is more appropriately screened using market cap-based mandates whereas it is preferable to screen utility and industrial companies using total

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\(^1\) A detailed survey of Shari‘ah screens can be found in [Derigs and Marzban 2008].
Critical from a Shari’ah perspective are the results in Table 4, which indicate that even if the previous results showed that the asset universe size using different screening methodologies is almost identical, the constituents of the universe differ widely. In the case of the US Large-cap companies analyzed, a 21.5% discrepancy exists between the two Shari’ah mandates, which means that about one out of five companies would be compliant using one mandate and non-compliant using the other.

So, if a fund manager is keen to invest in specific sectors such as the technology sector this would mean that he or she is better off using a market-cap based Shari’ah mandate.

Finally, the compliant universes are analyzed from a return and risk perspective. Portfolios are constructed from the respective asset universe by weighting the investments by their relative market capitalization on the 1st of January 2010.

The constructed portfolios are evaluated by their Year-To-Date (YTD) weighted portfolio return and weighted Beta as can be seen in Table 5. As can be noted the conventional portfolios

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total</th>
<th>Assets</th>
<th>Market Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Materials</td>
<td>11</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Cyclical Consumer Goods / Services</td>
<td>30</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Energy</td>
<td>20</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Financials</td>
<td>35</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Healthcare</td>
<td>22</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Industrials</td>
<td>28</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Non-Cyclical Consumer Goods / Services</td>
<td>17</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Technology</td>
<td>25</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Telecommunications Services</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Utilities</td>
<td>9</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Grand Total</td>
<td>200</td>
<td>91</td>
<td>94</td>
</tr>
</tbody>
</table>

Source: Prepared by the Authors.

<table>
<thead>
<tr>
<th>Market Cap</th>
<th>Total Assets</th>
<th>FAIL</th>
<th>PASS</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAIL</td>
<td>43%</td>
<td>10%</td>
<td></td>
<td>53%</td>
</tr>
<tr>
<td>PASS</td>
<td>11.50%</td>
<td>35.50%</td>
<td></td>
<td>47%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>54.50%</td>
<td>45.50%</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Prepared by the Authors.
without Shari’ah restrictions achieved the highest YTD performance which came with the highest risk almost identical to market risk.

The superiority of the conventional portfolios’ performance when compared to the Shari’ah-based portfolios is mainly attributable to the recovering financial sector, which is not part of the Shari’ah-compliant asset universe.

It is interesting that the asset-based universe dominates the market cap-based universe both in terms of return and risk. This behavior is attributable to the utility and basic materials companies that are compliant using the asset-based rulebook and are non-compliant using market-capitalization. These companies actually achieved high return levels and therefore superior performance.

It is worth mentioning here that in a previous research conducted by Marzban and Donia [2010] on the same asset universe but for the entire year of 2008, the opposite results have been achieved (see Table 6).

In this previous research the market cap-based mandate outperforms the asset-based mandates by 8%. This can be explained by the fact that this analysis was based on a pre-crisis status where market capitalizations were relatively high compared to 2010 numbers. These equities have still not totally recovered from the crisis and are thus still non-compliant using market cap-based mandates.

3.2 Japanese Large-Cap Universe

Conducting the same analysis on the large-cap companies in Japan, it can be noted that the asset-based Shari’ah mandate has a much larger asset universe (capturing an additional 17% of the total asset universe) compared to the market cap-based universe. This difference is mainly attributable to the cyclical consumer goods and industrial companies which have a significant larger asset value compared to market capitalization.

In Table 8, the discrepancy between the two methodologies is much higher for the Japanese universe (29%) than the US universe (21.50%). So from an asset universe size the results would prioritize an asset-based Shari’ah mandate in Japan which is also a different result from the one

<table>
<thead>
<tr>
<th>Universe</th>
<th>YTD</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>9.08%</td>
<td>0.9947</td>
</tr>
<tr>
<td>Asset-based</td>
<td>7.81%</td>
<td>0.8160</td>
</tr>
<tr>
<td>Market Cap-based</td>
<td>6.48%</td>
<td>0.8588</td>
</tr>
</tbody>
</table>

Source: Prepared by the Authors.
Finally, even from a risk and return perspective the Japanese universe results in different conclusions from the US universe. Even though the market cap-based mandate results in a much smaller universe, the quality of the stocks is superior to the ones determined using the asset-based rulebook, resulting in achieving almost five times the return at a lower risk compared to the market. The main reason that the market cap-based mandate outperformed the total asset-based one is that a large number of weakly performing companies (such as Sharp or Toshiba) are non-
compliant under the market cap-based mandate.

3.3 Harmonizing the Mandates—*Ijmaa* Strategy

Based on an a strategy developed by Marzban [2009], a consensus or *Ijmaa* universe is to be used as the *Shari’ah*-compliant universe which is determined through selecting only the companies which are compliant across all the *Shari’ah* mandates considered.

This approach of course would result in a smaller asset universe but based on the results in Table 10, for the US universe the *Ijmaa* strategy achieves superior return and risk figures when compared to each *Shari’ah* mandate individually and for the Japan universe the *Ijmaa* strategy achieves the lowest risk but from a performance perspective is outperformed by the market cap-based mandate.
4. Critical Perspectives on the \textit{Shari’ah} Screening Process

The analysis in this paper has so far utilized the conventional \textit{Shari’ah} screening adopted in the Islamic finance industry. This is, however, based on the idea of ‘form’ or the \textit{Shari’ah} compliancy in terms of legal requirements. In other words, in \textit{Shari’ah} screening the above mentioned principles as Islamic rules are considered, which has been the common practice. However, considering that Islamic finance is also the articulation of Islamic ethics and morals in banking as it is located within Islamic moral economy [Asutay 2007a, 2007b], it is essential to endogenise the aspirations of Islamic moral economy in the \textit{Shari’ah} screening process so that the observed social failure of Islamic banking can be overcome [Asutay 2007b, 2008].

In understanding the moral aspects of \textit{Shari’ah} screening as identified by the ethical norms of Islamic moral economy, alongside the above mentioned principles, further principles of Islamic finance have to be identified, as follows [Khan 2007]:

(i) Community banking aiming at serving communities not markets;
(ii) Responsible finance, as it builds systematic checks on financial providers; and restrains consumer indebtedness; ethical investment, and CSR initiatives;
(iii) An alternative paradigm that offers stability by linking financial services to the productive, real economy while providing a moral compass for capitalism; and
(iv) Fulfils aspirations in the sense that it widens the ownership base of society, and offers ‘success with authenticity.’

These additional principles help to endogenise ethics into the \textit{Shari’ah} screening process, thus ensuring the ethical outcomes expected by Islamic moral economy. In other words, the operations, activities, returns, and revenues of Islamic banking and finance institutions as well as corporations should be screened with such a comprehensive process in order to yield a moral outcome. This will also respond to the shortcomings in ‘\textit{Shari’ah} compliancy’ by ensuring ‘\textit{Shari’ah} based’ results by implying that in addition to ‘form’ the ‘substance’ is also served. For example, ‘form’ oriented \textit{Shari’ah} screening does not consider CSR initiatives and environmental issues in evaluating the performance of banks, financial institutions and corporations. However, the framework of the comprehensive \textit{Shari’ah} screening process suggested in this section aims to make sure that a \textit{Shari’ah} screening consequentialist approach should be adopted through which the social and environmental consequences of the financing activities of Islamic banks and
financial institutions should also be taken into account. These comprehensive Shari'ah screening rules as an extension of the Shari'ah screening rules identified in Figure 1 are depicted in Figure 2:

As can be seen in Figure 2, in the comprehensive screening process, the Shari'ah filtering process includes a ‘moral screening process’ as well, which can be seen in the top right-hand box (dashed line box). This Shari'ah screening process is expected to deliver solutions, which also serves the moral objectives as stated above, as a consequence, which are identified in the bottom right-hand box (dashed line box). Thus, through endogenising morals into the Shari'ah screening process, it is possible to achieve Shari'ah based results which maximise the social outcome whereby not only the ‘form’ but also the ‘substance’ of Islamic finance is ensured.

An example of the distinction between the processes identified in Figure 1 (Shari'ah compliancy or form oriented screening) and Figure 2 (Shari'ah based or substance oriented screening) can be illustrated by the case of Zamzam Towers, which is a large block of up-market, luxurious apartments overlooking the Kaaba in Makkah offered through a time-sharing concept. The construction of the tower was possible through Islamic finance. Because the Shari'ah

![Fig. 2. Comprehensive Shari'ah Screening Process](source: Asutay [2011] is an extended version of Khan [2007].)
screening they employed was based on a ‘form’ oriented understanding as explained in Figure 1, the *Shari'ah* scholars who approved the project did not find any problem in approving it, while it clearly undermines the spirituality of Islam’s most holy place, undermines equal opportunities in worshipping, damages the historicity of the place, and harms the environment. However, if it had been judged according to the moral screening process based on ‘substance’ in addition to ‘form’; Zamzam Towers would not have been found acceptable as an Islamic finance project. Thus, the consequentialist approach produces a moral outcome in the screening process, which is what Islamic finance aims to achieve in an aspirational sense, as Islamic finance is the outcome of religious ethics in banking and finance.

In summary, there is a need for a paradigm shift in Islamic finance not only in terms of the *Shari'ah* screening of investments and the credit policies of Islamic banking and finance, but also in the *Shari'ah* screening of these institutions by rating agencies. The comprehensive screening process proposed in this study should be considered as part of the mentioned paradigm shift towards comprehensive ‘*Shari'ah* based finance’ as opposed to narrow and form based ‘*Shari'ah* compliant financing.’

**Conclusion**

The analysis in this study reveals that different *Shari'ah* mandates result in discrepancies in asset universe size, constituents, asset allocation and most importantly return and risk. Therefore an analysis of the *Shari'ah* mandates is crucial before launching a new Islamic fund to ensure that the advantages and disadvantages of the different mandates are recognized and taken into consideration.

The analysis also revealed that different mandates might be advantageous in different regions and time spans. For instance the ‘asset-based mandate’ resulted in a much larger asset universe in Japan while ‘market capitalization’ resulted in a larger universe in the US. Based on previous research, pre-crisis market capitalization resulted in better portfolio performance, whereas during circumstances when the markets had not yet recovered from the crisis, asset-based mandates were superior.

Finally, better results and harmonization might be achievable through using the *Ijmaa* strategy [Derigs and Marzban 2009] that resulted in promising results in terms of risk and/or return for both the US and Japan markets.

Lastly, this paper suggests that the *Shari'ah* screening process, not only at the institutional level but also in its overall evaluation, should follow a comprehensive screening process by
endogenising ethical and social factors whereby the aspirations of Islamic moral economy can be fulfilled and the narrow ‘form’ oriented screening process can be substantiated by a ‘substance’ oriented process. The outcome of the evaluation of the Shari’ah assets of Islamic finance institutions will then be different. Such a paradigm shift would be a really positive step in the right direction for the development of the industry.

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