Islamic Mutual Funds: Assessing Performance

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Abstract
We assess the performance of the four Islamic mutual funds that are available in the U.S. for investment. We find that the two Amana mutual funds, tickers: AMANX and AMAGX, that have been in existence for over a year have outperformed the broad-based Vanguard total stock market index fund. They have also outperformed a style-adjusted basket of mutual funds. Amana’s new Developing World Fund, AMDWX, has existed for only five months. It under-returned Vanguard’s Emerging Market fund, but the short period causes us to pay this result little heed. The other mutual fund, the Dow Jones Islamic mutual fund, IMANX, under-returned both sets of benchmarks. Advocates of indexing will be surprised by the positive results for the two long-lived Amana funds, because of the higher expense ratios carried by the Amana funds than by the Vanguard index funds.

1. Introduction
In this paper we assess the performance of the four mutual funds available to American investors which invest according to Islamic principles. One of these is the Dow Jones Islamic Fund. Its ticker is IMANX. Here is its description from Wikipedia. The blue parts are quoted from Wikipedia.

The Dow Jones Islamic Fund is offered by Allied Asset Advisers, a subsidiary of the North American Islamic Trust (NAIT). Allied Asset Advisers is the registered investment adviser and manager of the Fund. The Fund invests at least 80% of its net assets in domestic and foreign securities included in the Dow Jones Islamic Indexes, as well as up to 20% of its net assets in securities chosen by the Fund's Investment Adviser that meet Islamic principles. The Fund consists solely of common stocks. It includes, among others, shares of stocks from the Dow Jones Islamic Market US Index, which tracks American companies that meet Islamic principles. The Indexes is advised by a Shariah Supervisory Board of six prominent Islamic scholars from six countries. The Investment Adviser is advised by a Board of Trustees of prominent Islamic scholars from the United States.

Characteristics of the Dow Jones Islamic Fund
• **Shariah Compliance** - The Fund adheres to the criteria developed by the Shariah Supervisory Board composed of internationally renowned scholars. Based on these criteria, the following businesses are generally excluded: alcohol, tobacco, pork products, conventional financial services (banking, insurance, etc.), weapons, defense, and entertainment. The Fund does not invest in interest-paying instruments (*riba*) frequently used by mutual funds as temporary investments, and instead may hold cash on a temporary basis.

• **Diversification** - The Fund offers you diversification with a portfolio of over 300 Shariah Compliant companies in diverse business sectors.

• **Low Expenses** - The Fund is a no-load fund\(^1\) with one of the lowest annual fees of any Shariah compliant fund available.\(^2\)

• **Accessibility and Flexibility** - The Fund is available at Charles Schwab, Ameritrade and TD Waterhouse, offering flexible accounts and services including telephone purchase and redemption, and check writing.

**Active Portfolio Management** - An actively managed portfolio enables the Fund to take advantage of future opportunities in the market while adhering to Islamic legal requirements. Among the securities that meet Islamic principles, the investment adviser determines a security's attractiveness for purchase based on a number of factors, including its anticipated value and record of earnings growth, among other things.

The Amana group of funds is described below by Wikipedia. Since the Wikipedia entry was written one more fund has been added to the two discussed. The Amana Developing World Fund was added in 2009 and October 2009 is its first full month of operation.

The Amana Income Fund, founded by Unified Management Corporation, Indianapolis, IN, in 1986, was the Trust’s first fund. The Amana Growth Fund was created in 1994. Both funds are managed according to Islamic principles.

Traditional mutual funds are off-limits to Muslims, because they typically contain securities that are forbidden by sharia law. Accordingly, the Amana Funds are managed under strict guidelines to comply with Islamic principles. Examples of forbidden (*haram*) investments are companies that:

- Produce or sell alcohol, tobacco or pornography
- Process or sell pork products
- Generate revenue from gambling or interest (*riba*)
- Maintain a debt ratio of greater than one-third of assets\(^1\)

The funds were created and are still managed under the value investment style. Nicholas Kaiser has been portfolio manager of the funds since 1990.\(^2\)
The Amana Income Fund and the Amana Growth Fund are unique in that they were specifically conceived to meet the needs of Muslims investors. One of the reasons Muslims are motivated to save and invest is to make financial preparations necessary to make the *Hajj*, a sacred form of a self-presentation before God (Allah in Arabic) that is considered within Islam to be one of life's primary duties. In order to make the *Hajj*, a Muslim must first get his financial house in order, which presents special challenges if the money is to be invested in compliance *Shari'ah*-oriented financial principles. According to Amana's founding chairman Dr. M. Yaqub Mirza,

In order to make the *Hajj*, muslims must first pay off their debts, including the *zakat* due on their wealth; to return whatever was given them in trust; and have enough savings to bear the expenses of the journey (such as travel, *Hajj* tax, and lodging) and the sacrifice (of an animal). Besides this, they also have to provide for their families and dependents during their absence. They must have earned and saved enough to cover these expenses. No *Hajj* is valid if it is performed "on credit."

In this paper we evaluate the performance of these four funds against benchmarks. Full disclosure requires that we tell you that James Dean is on the Council of Economic Advisors of Saturna Capital, parent company of the Amana Funds; he was the Kaiser Professor of Economics at Western Washington University, financed by a grant from Saturna Capital, and Tower received a $1500 payment for a seminar he gave at Western Washington University, which was funded by a grant from Saturna Capital to WWU.

In this paper we evaluate the performance of these four funds against benchmarks. Full disclosure requires that we tell you that James Dean IS ON THE COUNCIL OF ECONOMIC ADVISORS OF SATURNA CAPITAL, PARENT COMPANY OF the Amana Funds and Tower received a $1500 payment for a seminar he gave at Western Washington University, which was funded by a grant from Saturna Capital to WWU. I DON'T THINK SO BUT NICK PLEASE CORRECT ME IF I'M WRONG. AND I THINK AT THE TIME YOU CAME I WAS ROSS PROFESSOR , NOT KAISER PROFESSOR. WHAT YEAR DID YOU COME? That would have been 2006 I think

2. Simple Comparisons

There are three Amana mutual funds. We first assess the most recently born of the Amana mutual funds. This is the Amana Developing World Fund, AMDWX. The most reasonable benchmark for this fund is the Vanguard Emerging Markets Mutual Fund. Figure 1 shows that between the First of October 2009 and the End of February 2010, the fund has returned 2 percent, while the Vanguard Emerging Market Mutual Fund, VEIX, has returned a little over 11 percent. The value lines in Figure 1 and elsewhere in the paper include reinvested dividends net of mutual fund expenses. The value lines do not move closely together in Figure 1. Thus, it appears that AMDWX invests in a portfolio that differs a lot from VEIX. The period is too short for us to find a portfolio that matches AMDWX more closely. We worked with monthly data from Yahoo. Had we worked with daily data, we could have made a braver attempt to match the AMDWX portfolio with a collection of Vanguard mutual funds, but we did not do so. This fund under-performed its rather ill fitting Vanguard counterpart. The current expense ratio for AMDWX is 1.34% of assets per year.
Figure 1. Values for Amana Developing World Fund and Vanguard Emerging Market Fund

Figure 2. Average annualized rates of return to March 1, 2010

Figure 2 presents annualized rates of return for the two remaining Amana funds, Amana Growth, AMAGX, and Amana Income, AMANX, from the dates indicated to the end of February 2010. It also presents data for IMANX. To benchmark these returns we include the broad-based Vanguard Total Stock
Market Index Fund, VTSMX. This holds US stocks on a capitalization weighted basis. The start date for our analysis is June 3, 1996, as that is the limit of the Yahoo data. We plan to update the study with Morningstar data which will take us back further. So the current study should be interpreted as assessing recent performance of the two Amana funds.

Since inception

- AMAGX has returned 10% per year to VTSMX’s 4% for a 6% differential.
- AMANX has returned 8% per year to VTSMX’s 4% for a 4% differential.
- IMANX has returned -3% per year to VTSMX’s 0% for a -3% per year differential.
- Thus the two Amana funds have over-returned, and the Dow-Jones Islamic Mutual Fund has under-returned. We use the term “return” rather than “perform” because we did not adjust for risk, and save the term “perform” for risk adjusted returns.

3. Style Adjusted Returns

The simple return differentials found above are perhaps too simple. Still they are relevant for one who wants to know the historical differential between investing in one of these Islamic funds and the broad US Vanguard fund, VTSMX, advocated by some index fund investors. They provide information about the wisdom of selecting styles of investment and selecting stocks within those styles. The return differentials reflect both of these things.

Now let’s turn to calculating style-adjusted returns. We turn to a method developed by William F. Sharpe for doing this. We find the basket of Vanguard index funds which most successfully mimics or tracks the return of the Islamic fund being considered. The successful mimic is the basket of Vanguard mutual funds, selected such that the variance of its returns minus that of the Islamic fund is as small as possible. The ideal would be to find a basket which returns the same each month as the Islamic fund plus a constant, which may be positive, zero, or negative. The basket is assumed to be rebalanced monthly. All the Vanguard Equity index funds were considered to be possible candidates for the basket. In addition we included the Vanguard Intermediate Term investment Grade Index Fund, VFICX, in the basket. All the Vanguard equity funds were required to enter in non-negative quantities. Islamic funds are designed as much as possible to neither borrow nor lend. So we did not know whether the Vanguard bond fund should be present in the basket in positive or negative portions, i.e. long or short. Thus we did not constrain the sign of the bond contents of the fund. Thus if it has a sign of -3%, the case for IMANX, and the stock funds in the basket add to 103%, we say that the Islamic fund is mimicked by a basket of funds including 3%, which is bonds sold short with the proceeds invested in Equity mutual funds. Only for IMANX is the bond weight negative. A positive weight on bonds typically means that the Islamic fund is less volatile than the closest mimicking equity basket would have been, and a positive quantity of bonds is necessary to reduce the volatility of the tracking basket down to that of the Islamic fund.

The calculation is implemented using Microsoft Excel. This technique is described in detail in a number of papers cited in the references.

4. The Dow Jones Islamic Fund, IMANX
Table 1 describes the performance of the Dow Jones Islamic Mutual Fund. Its tracking index consists of a mix of Vanguard’s emerging markets, European, and growth index funds, with most of the weight on the growth index fund, and a 3% short sale of the intermediate term investment bond index. It under‐returns by 1.74% per year. We use Microsoft Excel’s statistical package for evaluating whether the mean values of two paired series are significantly different. The probability that the under-return of the population as big or bigger than that calculated for the sample is due to luck (one tailed test) is 7%. The average expense ratio for Vanguard domestic index funds is roughly 0.18% of assets per year (the figure for VFINX, the 500 index fund) and the average expense for international funds is roughly .40%, the figure for VEIEX, the emerging markets index fund. The current expense ratio for IMANX is 1.72 % of assets each year.

<table>
<thead>
<tr>
<th>Vanguard Fund</th>
<th>Weight in basket %</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEIEX, emerging markets index</td>
<td>7</td>
</tr>
<tr>
<td>VEURX, European index</td>
<td>15</td>
</tr>
<tr>
<td>VIGRX, growth index</td>
<td>81</td>
</tr>
<tr>
<td>VFICX, intermediate term investment grade bond index</td>
<td>-3</td>
</tr>
<tr>
<td>Return differential continuously compounded favoring IMANX</td>
<td>-1.74%/year</td>
</tr>
<tr>
<td>Probability that the under-return of the population as big or bigger than that calculated is due to luck (one tailed test)</td>
<td>7%</td>
</tr>
</tbody>
</table>
Figure 3 shows the natural log of value for IMANX and its tracking basket of Vanguard funds. Both series had negative returns. The continuously compounded average return is \( \frac{\text{change in Ln value}}{\text{years}} \). A fall from 0.2 to 0 over 9 years is a rate of return of minus 2.2% per year. The series move quite closely together. Thus short term fluctuations in value are quite similar, although the mean return differential is the rather large 1.74% per year.

5. The Amana Income Fund, AMANX

Table 2 describes the performance of the Amana Income Mutual Fund, AMANX. Its tracking index consists of a mix of Vanguard’s emerging markets, European, Pacific, small, and value index funds, with most of the weight on the value index fund, and a 32% long position in the intermediate term investment bond index. It over-performs by 1.10% per year. We use Microsoft Excel’s statistical package for evaluating whether the mean values of two paired series are significantly different. The probability that the under-return of the population as big or bigger than that calculated for the sample is due to luck (one tailed test) is 24%. The current expense ratio for ANANX is 1.32% of assets per year.
<table>
<thead>
<tr>
<th>Vanguard Fund</th>
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<tr>
<td>VEIEX, emerging markets index</td>
<td>8</td>
</tr>
<tr>
<td>VEURX, European index</td>
<td>7</td>
</tr>
<tr>
<td>VPACX, Pacific index</td>
<td>2</td>
</tr>
<tr>
<td>NAESX, Small Cap index</td>
<td>2</td>
</tr>
<tr>
<td>VIVAX, Value index</td>
<td>49</td>
</tr>
<tr>
<td>VFICX, Intermediate term investment grade bond index</td>
<td>32</td>
</tr>
<tr>
<td>Return differential continuously compounded favoring AMANX</td>
<td>1.10%</td>
</tr>
<tr>
<td>Probability that the outperformance is as big or bigger than that calculated is due to luck (one tailed test)</td>
<td>24%</td>
</tr>
</tbody>
</table>
Figure 4 shows the natural log of value for AMANX and its tracking basket of Vanguard funds. Both series had positive returns. The continuously compounded average return is the change in the Ln of Value divided by years. A rise from -1 to 0 over 14 years is a rate of return of 7.1% per year. The series move quite closely together. Thus short term fluctuations in value are quite similar, although the mean return differential is the rather large 1.10% of assets per year. AMANX under-returned prior to 12/2002 and over-returned after that.

6. The Amana Growth Fund, AMAGX
Table 3 describes the performance of the Amana Growth Mutual Fund, AMAGX. Its tracking index consists of a mix of Vanguard’s emerging markets, European, extended market, growth, Pacific, and intermediate bond funds, with most of the weight on the extended market and growth index funds, and a 4% long position in the intermediate term investment bond index. It over-returns by 3.26% per year. We use Microsoft Excel’s statistical package for evaluating whether the mean values of two paired series are significantly different. The probability that the under-return of the population as big or bigger than that calculated for the sample is due to luck (one tailed test) is 9%. The current expense ratio for AMAGX is 1.3% of assets/year.

<table>
<thead>
<tr>
<th>Vanguard fund</th>
<th>weight in basket %</th>
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</thead>
<tbody>
<tr>
<td>VEIEX, emerging</td>
<td>1</td>
</tr>
<tr>
<td>VEURX European</td>
<td>3</td>
</tr>
<tr>
<td>VEXMX, extended market</td>
<td>54</td>
</tr>
<tr>
<td>VIGRX, growth</td>
<td>32</td>
</tr>
<tr>
<td>VPACX, Pacific</td>
<td>6</td>
</tr>
<tr>
<td>VFICX, Intermediate bond</td>
<td>4</td>
</tr>
</tbody>
</table>

Return differential continuously compounded favoring AMANX 3.26%/year

Probability that the outperformance is as big or bigger than that calculated is due to luck (one tailed test) 9%

![Figure 5. Ln value for AMAGX and its basket](image)
Figure 5 shows the natural log of value for AMAGX and its tracking basket of Vanguard funds. Both series had positive returns. The continuously compounded average return is the change in the Ln of Value] divided by years. A rise from -1.4 to 0 over 14 years is a rate of return of 10% per year. The series move quite closely together, except at the end of 1999, when AMAGX jumped by much more than its tracking basket. Short term fluctuations in value are somewhat similar, although the mean return differential is the rather large 3.26 % per year. AMAGX over-returned in both halves of the period.

7. Conclusion.

We find that the two long lived Amana funds out-returned their Vanguard tracking baskets. This result is the more impressive, because the Amana funds, which are managed, had higher expense ratios than the Vanguard index funds. The third Amana fund, the Amana developing world fund, under-returned the Vanguard Emerging Markets fund. However, that Amana fund has existed for less than half a year; we must wait for further data to describe meaningfully its relationship to an index that tracks it. Champions of index funds will be surprised that in spite of the higher expense ratios for the two long-lived Amana funds, they still outperformed their Vanguard tracking index funds.

The Dow Jones Islamic Index, by contrast, under-returned its tracking basket.

What does this have to do with Islam and Economic development? Better returning funds are those funds which shift capital into more productive uses. Thus private gain is reflected in social utility.

We believe that Islam could contribute to economic development by encouraging and continually updating evaluations of firms and funds that use Islamic criteria. This would facilitate the low cost assembly of Islamic portfolios by mutual funds and institutional investors. It would also make it easier for individuals to construct their own Islamic portfolios. Because better returning funds are those that shift funds into more productive uses, transparent and up-to-date evaluation would raise the share of investment in Islamic funds that goes to more productive firms, thereby increasing economic growth without sacrificing economic welfare today, while simultaneously supporting Islamic values. Finally, John Bogle of the Vanguard group has argued for the efficacy of low turnover and low expense funds. The Amana growth fund and the Amana index fund have current turnover rates of 6%/year. This is in the range observed for index funds. The turnover for IMANX in 20090 was 108.7% of the portfolio. This is not unusually high for managed portfolios. However, Tower and Zheng (2008) find that each 100% increase in turnover tends to be accompanied by 0.8% diminuation in the rate of annual return for mutual funds, a number that is similar to one determined by John Bogle. This may explain part of the difference in returns relative to benchmarks between the Amana funds and the Dow Jones Islamic fund. Still it does not explain all.

References

References


Application of the Sharpe method to various issues is contained in the following papers of Tower.


