Effect of Tax-Deferred Assets on Mutual Fund Strategies of the Mutual Funds

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ABSTRACT

Mutual funds are financial intermediaries that pool savings of individual investors with diverse tax consumers. In spite of the fact that a lot of funds are held basically by individuals who are taxable investors, quite a large amount of mutual funds’ assets are apprehended by certain retirement funds which are taxable. The main ideal of the study investigated the investment strategies as well as the performance of mutual funds which are held by different tax customers is distinct from each other in Ghana. It was found in the study that, funds which are basically held by the taxable investors tend to be more tax efficient than the funds held basically in tax-deferred special retirement funds like the Tier two and Tier three in Ghana. There was no significance difference between the funds which are held fundamentally by retirement accounts against with those held by taxable investors that presumes that tax efficient fund managers constraints does not show to have costs in terms of minimum risk-adjusted returns.

Keywords: Volatility, Variability Rewards, Mutual Funds, Ghana, Jensen Alpha Index

INTRODUCTION

Ghanaians at large are now beginning to accept investment in the equity market as well as in financial instruments at large. According to Arora (2015), mutual funds are financial intermediaries that pool the savings of several investors of common financial goals and then invest the proceeds in a well-diversified portfolio of securities with the underlying composition of debenture, equity shares of joint stock companies, money market instruments, etc.

The importance of Mutual Funds have claimed world-wide attention making it very attractive for researchers to diverge into looking at its significance as well as it performance evaluation based on non-risk adjusted and risk-adjusted returns. emphases’ on the fact that, it is independent for a country or nation to be classified as “Emerging Market” and it featured it under three characteristics. The authors state that a country can be classified as an emerging market if it has a low or middle per capita income; if it is an unindustrialized economy thus when it lacks road network, communication network and power generating plant which are all lack of technological infrastructure; and lastly when it has an underdeveloped financial infrastructure thus when it does not have stock markets and even those that have has it total market capitalization rottenly small relative to its GDP.

In spite of this, there is a little information about the performance of mutual funds in all types of media. The only places you can get information about the fund is either going through the Ghana Stock Exchange site where they published all the listed mutual fund managers annual financial reports and rank them according to its relative composite index or market benchmark. Investors therefore finds it very difficult gathering information about which of the mutual funds companies are doing well based on its composite index in order to invest. Taxes have also become one of the issues associated with the mutual fund investment on the perspective of the investors and this is basically because the investors
do not even have much knowledge about the fund. This oblivious response fallout since tax considerations matter as an excessive issue for mutual funds investors at large, while many published performance measures and rankings ignore taxes.

The important part of managers’ investment strategies must be the preferences of portfolio managers’ clientele. For instance, in making investment decisions, tax is mostly considered by portfolio managers with high net worth or trust clients. On the other hand, managers of defined benefit pension plans have no need to consider tax effects because the portfolio is not taxed on capital gains or dividends. A typical example is Ghana which is an emerging market, withholding tax on dividend on investment is 8.5% but the provision of the Income Tax Act exempted tax on dividend of all listed funds up to 2015. However, the verdicts made by all the portfolio managers or the fund managers are forthright since they can concentrate on the tax concerns in their portfolio oriental decisions. Fund managers however have more byzantine task, the reason been that mutual funds are normally a pooled of investment vehicles with hypothetically different tax customers and in parts since their incentives can urge them to overlook their investors’ tax situations.

From the standpoint of a taxable shareholder, the decision of a mutual fund may depend partly or solely on the tax funds tax efficiency. A document compiled by the Morningstar provides mutual fund investors with information on funds that are matched with it capital gains tax which appears to burden the investor inflows. From our sample, the average annual tax burden of a mutual fund thus taxes on dividends and capital gains is about 8% assuming there are no exemptions for those funds listed on the Ghana Stock Exchange up to the year 2015. This tax burden in the same directive of enormousness as the average fund’s expense ratio in our sample which doubles as previous estimates of cost of trading, but granting the expense ratio and cost of trading have established considerable attention in current literature, whereas the tax burden has gotten relatively low. Mutual fund managers with their respective shareholders in making decisions have become more convoluted in current years because of the rapid increase in diversity of the shareholders tax eminence. This is due to large growth in tax-deferred assets which are invested in mutual funds. This study report whether the existence of tax-deferred assets will affect the strategies of the mutual funds in which they are primarily invested. In this regard, we address the issue of whether systematic differences exist in the investment strategies or performance of mutual funds according to the relative degree of defined contribution assets in the funds.

LITERATURE REVIEW

According to Bandopadhyaya & Jones (2011) mutual fund investors take tax effects into account when they making an investment decisions. In light with what they stated, mutual funds managers’ investment decisions also are also in light of tax consequences on taxability of investors. Mutual fund managers tend to take into consideration taxes in their decisions, but the decision that they consider at the end tend to be a bit complex because taxes are mostly not predictable since they might not know the number of investors that might invest with them within a certain period of time. Awunyo-Vitor, et al (2015) analyses the conflict that faces mutual fund managers in determining the capital gains distribution policy where they argued that, in order to attract potential investors, fund managers have a possible incentives to realize on the capital gains. A work done by Tang, et al (2012) which analyse the externalities of tax on mutual funds among investors showed that, the externalities of tax are crucial determinants of equity mutual funds when arriving at after-tax performance. Some other papers employed actual trading of mutual fund managers in order to infer if tax concerns are considered by them is their quest to make decision on investment. Gibson, Safieddine, and Titman (2000) find evidence of mutual fund managers engaging in tax loss selling just before a year end. Huddart and Narayanan (2002) find differences in the propensities to realize capital gains between mutual funds and tax-exempt institutions. From the studies above, they indicated that mutual fund managers gives much attention and concentrate more on tax concerns or tax consequences of their investment decisions. Another paper that considers the tax decisions of mutual fund managers is that of Christoffersen, Geczy, Musto and Reed (2005), also in their paper considered the tax decisions of mutual fund managers and they found that managers’ decisions with respect to cross border dividend payments changes in respect to the proportion of defined assets contribution in their funds.

DATA

The researchers compiled a date set of mutual funds adopting the financial years 2010, 2011, 2012, 2013, 2014 and 2015. As of January 2010, the listed funds were classified as matured and data from that year onwards could be used for any analytical study one wants to conduct. Because of the tax impact the researchers needed to consider what has been multifarious over a long period, the researchers
required that the fund must have been in existence for six (6) years. Any of the fund meeting the selection criteria was ranked with its total net assets with the largest 10 funds listed on the Ghana Stock Exchange. For the purpose of not identifying the name of the fund, it was identified in the research as Fund 1 to Fund 10. As the pivot of our research is how taxes change turn around the relative rankings of mutual funds and not on quantifying the returns of the fund represented in the work over a period of time, the prejudice of it should not have any impact on the conclusion that will be drawn.

Taxation and Mutual Funds 10 with an average total assets of approximately GHS1.5 billion. Each of the fund in our sample was obtained from GSE month-end net asset values (NAV), dividend and realized capital gains payments per share, “ex” dates for the dividend and capital distributions, reinvestment prices for the distributions, and split dates and ratios. The Net Assets Values here is the net of all operating expenses in the financial statement but not adjusted for any load charges. The main source of data for the size of the mutual fund assets per the Demarcated Contribution (DC) special retirement fund accounts is based on the annual survey of the mutual fund families by the Pension House of Ghana. The survey asked the mutual fund families to report the total assets that is been managed in the demarcated contribution accounts. Data was obtain for the surveys between 2010-2015.

The study also data used for the study covers the 6 years solid operations of the performing mutual funds for those funds in operation for more than 6 years. The data collected from the Ghana Stock Exchange combine both short and long-term capital gains realization circulations in the reported capital gains circulations amounts. Although investment income such as dividends and interest are categorized under capital gains tax under the Income Tax Laws in Ghana, it is rather deducted at source as a withholding tax. Thus before the investor receives the returns from the fund managers, tax might have already been deducted at source. The capital gains distributions reported by GSE are checked against both Ghana Statistical Annual Dividend Record and Standard and Fund Managers Annual Dividend Record. Both the Ghana Statistical Service and Standard and Fund Managers publications report the short-term and long-term realized capital gains distributions by mutual funds.

**MODEL SPECIFICATIONS**

**Returns:**
The monthly total return as the percentage balance in the value at the end of the prevailing month of one mutual fund share bought at the end of the preceding month.

Returns are calculated on both a pretax and a post-tax basis. Innately, the pretax measure reinvests the entire distribution while the post-tax measure reinvests only the after-tax payment. In notational terms:

Calculation of returns is done on both pretax and a post-tax basis. Innately, the pretax measure reinvests the whole distribution whereas the post-tax measure reinvests only the after-tax payment. The mathematical representation is:

\[
R_t = \frac{(\text{NAV}_{t+1} - \text{NAV}_{t})}{\text{NAV}_{t}}
\]

**Pretax:**

\[
\text{pretax:} \; \text{shares}_t = 1 + \sum_{i=1}^{n_{\text{div}}} \frac{\text{Divs}_i}{PD_{it}} + \sum_{j=1}^{n_{\text{KG}}} \frac{\text{KGains}_j}{PKG_{jt}}
\]

**Posttax:**

\[
\text{posttax:} \; \text{shares}_t = 1 + \sum_{i=1}^{n_{\text{div}}} \frac{\text{Divs}_i}{PD_{it}} + \sum_{j=1}^{n_{\text{KG}}} \frac{(1 - T_{rg})\text{Divs}_j}{PKG_{jt}}
\]

**Dividends and Capital Gains**

Dividends are taxed at the marginal rate on ordinary income, \(r_{\text{div}}\), and realized capital gains are taxed at \(r_{\text{c}}\). There is a provision in the Income Tax Act, 2015, Act 896 which indicates that long-term realized gains or losses distributed by mutual funds are taxable as long-term gains, even though it is seen as a withholding tax and eventually exempted if it meets the provision in the Act, at the time of the distribution, an individual may not hold her mutual fund shares for the time routinely required for an investment to qualify for the special long-term rate. Because our data may report "ex"-dates instead of actual payment dates, our methodology may predict that a distribution's "ex"-date and payment date fall within the same month. The study expresses two assumptions here which are embedded in the equation (1). The first assumption stated that all distributions are taxed immediately. Secondly, for multiple distributions on different days within the month, we assume that the fund has already gone "ex." In this sense the new shares that will be acknowledged from the reinvestment of one payment will have no claims on any future distributions made in the same month.

**Tax Burden**

Dividend payout turns to be relatively low with the reason been that, mutual funds mostly deduct fund
expenditures before making the distributions. We decided to find the weighted average dividend yield of the fund’s equity position by calculating the dividend yield of the fund’s holdings as an alternative measure. From, our sample, the dividend yield based on the average holdings is equitable to 1% per annum.

In order to obtain the measure of overall tax cost of an equity fund, Tax Burden (TB) is define mathematically as:

\[
TB_{i,t} = y_{DIV} \cdot DIV - y_{SCG} \cdot SCG + y_{LCG} \cdot LCG, \tag{2}
\]

Where \(y_{DIV}, y_{SCG}, \) and \(y_{LCG}\) are the dividend and short and long-term capital gains distribution yields, and \(\mu_{DIV}, \mu_{SCG}, \) and \(\mu_{LCG}\) are the average marginal tax rates on dividends, and short-term capital gains for taxable investors.

**EMPIRICAL RESULTS**

Table 1: Impact of Tax on Dividend and Capital Gains

The table shows and summarizes how tax affect dividend or returns and capital gains distributions. It reports the average dividend yields on all equity holdings of the listed mutual funds on the GSE with it Composite Index of both short and long-term averages of capital gains distribution. The sample then is divided based on the time period for the study thus post and pre-tax before of within the exemptions period under the Tax Act and according to the invested assets in the Demarcated Contributions retirement fund.

<table>
<thead>
<tr>
<th>Panel A: Dividend Yield of Holdings</th>
<th>Low DC</th>
<th>High DC</th>
<th>High DC-Low DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2012</td>
<td>0.69**</td>
<td>0.63**</td>
<td>-0.064</td>
</tr>
<tr>
<td>Difference</td>
<td>(0.041)</td>
<td>(0.042)</td>
<td>(0.053)</td>
</tr>
<tr>
<td>2013-2015</td>
<td>1.34**</td>
<td>1.18**</td>
<td>-0.162**</td>
</tr>
<tr>
<td>Difference</td>
<td>(0.045)</td>
<td>(0.048)</td>
<td>(0.058)</td>
</tr>
<tr>
<td>Panel B: Short-Term Capital Gains Distributions</td>
<td>Low DC</td>
<td>High DC</td>
<td>High DC-Low DC</td>
</tr>
<tr>
<td>2010-2012</td>
<td>1.406</td>
<td>1.379</td>
<td>(0.027)</td>
</tr>
<tr>
<td>Difference</td>
<td>(0.123)</td>
<td>(0.125)</td>
<td>(0.176)</td>
</tr>
<tr>
<td>2013-2015</td>
<td>0.388</td>
<td>(0.060)</td>
<td>(0.072)</td>
</tr>
<tr>
<td>Difference</td>
<td>(1.018)</td>
<td>(0.916)</td>
<td>0.102</td>
</tr>
<tr>
<td>Panel C: Long Term Capital Gains Distributions</td>
<td>Low DC</td>
<td>High DC</td>
<td>High DC-Low DC</td>
</tr>
<tr>
<td>2010-2012</td>
<td>3.52**</td>
<td>4.39**</td>
<td>0.764</td>
</tr>
<tr>
<td>Difference</td>
<td>(0.189)</td>
<td>(0.220)</td>
<td>(0.285)</td>
</tr>
<tr>
<td>2013-2015</td>
<td>2.33**</td>
<td>2.38**</td>
<td>0.053</td>
</tr>
<tr>
<td>Difference</td>
<td>(0.165)</td>
<td>(0.051)</td>
<td>(0.077)</td>
</tr>
</tbody>
</table>
| The table above shows how tax impact on returns and capital gains of mutual funds and provides a very important traditional experimental to know whether mutual funds mutual funds changed its investment attitude contingent to their tax customs. Our expectations was that, the end results of the investment stratagems of the funds in question held by an individual taxable investors must in a way be affected or have influence other than funds held by the nontaxable investors so far as the fund managers will be answerable to the tax inclinations of their shareholders. The table above reports on the average dividend yields and the average short and long-term capital gains distributions for the various firms which are above and below the median DC ratio for both the pretax and post-tax periods, with dividend yields in Panel A, short-term capital gains in Panel B, and long-term capital gains in Panel C, and in the same vain the table also reports on the differences-indifferences estimators.

In agreement with a work done by (xxxxxxxx) who stated as part of his findings that, after there was a tax reform in the country under study, a larger number of firms increased dividend payments after there was a tax reform, our study from the empirical results in Panel A put together dividend yields based on the equity holdings of the funds. It was reveal from our analysis that, mutual fund managers have changed their investment strategies based on the tax provisions available since increase in dividend yield is more prominent for the funds which are above median DC assets. As tax penalty came down in 2015, mutual funds with taxable customers will be more willing to hold stocks paying relative to greater dividend yields.

There was a poor stock market performance in 2015 per the GSE-CI and because of that, capital gains distributions came down during the second sample period, which can be seen the Panel B and C for both short and long-term distributions. When examination was conducted in the difference-in-differences estimation, there was no significant time effect between the high and low DC funds for short-term capital gains distributions since the short-term gains rates did not change significantly. Nevertheless, as seen in Panel C, our study found a significant difference-in-difference for the long-term capital gains.

The reduction in long-term capital gains distributions has been significantly less pronounced for low DC funds than for high DC funds, which is consistent with a less severe tax penalty on long-term capital gains and with the hypothesis that mutual fund managers take the tax preferences of their shareholders into consideration in making investment decisions. In summary, our two tests on the direction of influence support the hypothesis that mutual fund managers consider the tax preferences of their shareholders. When the proportion of taxable shareholders changes or the tax laws change, the
evidence suggests that mutual fund managers change their investment strategies accordingly.

**Conclusion**

As soon as managers think about tax preferences of their shareholders, differences with regards to investment strategies of mutual funds which have high demarcated contribution assets are then contrasted with those with low demarcated contribution assets which this differences at the end must reflect the preferences of tax-deferred against the taxable shareholders. Our study found that, mutual funds which are held entirely by the retirement account holders turn out to be the most less-efficient in terms of taxes than the other types of funds which are assumedly held by some taxable investors. In the same vain, the study find that, there an increasing ratio in terms of demarcated contribution assets with regards to long-term capital gains distribution of funds and those funds which are held automatically by nontaxable investors have smaller or minimum tendency in realizing capital gains. Thus this results is of the view that, the mutual funds managers held basically by taxable investors take into consideration the tax bearings base on their investment decisions. Our study also find that, when tax efficiency of a mutual fund stand still, it may constrain the fund managers’ investment strategies which may results in a smaller or minimum returns for the tax efficient funds, this was because there was no significance difference between the funds which are held fundamentally by retirement accounts against with those held by taxable investors that presumes that tac efficient fund managers constraints does not show to have costs in terms of minimum risk-adjusted returns.

To sum it all up, our study shows mutual fund managers takes into consideration their tax bearings of their decisions when they have a minimum aspect of demarcated contribution plan shareholders.

**REFERENCES**


