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Tax preferences of investors and fund investments

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HIGHLIGHTS

- Funds take into account the tax preferences of investors in managing portfolios.
- Distributions of open-end funds are taxable in the year of distribution.
- Distributions of variable annuity funds are tax-deferred until withdrawn.
- Variable annuity funds distribute higher dividends than open-end funds.
- Variable annuity funds distribute higher capital gains than open-end funds.

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ABSTRACT

Funds must distribute all dividends and net realized short-term and long-term capital gains to their investors each year. Investors have to pay tax on these distributions. We find that funds whose distributions are taxable pay lower dividends than funds whose distributions are tax-deferred. Taxable funds also distribute relatively lower short-term and long-term capital gains. This suggests that funds take into account the tax preferences of their investors in making investment decisions.

1. Introduction

Mutual funds are required to distribute to their shareholders any realized capital gains that are not offset by realized losses by the end of their accounting year. A capital gain (loss) is realized when a fund sells a security at a price higher (lower) than the purchase price. If total capital gains are higher than the total capital losses then the fund has a net positive capital gain that it must distribute to the fund shareholders. In addition, the securities may generate income in the form of dividend payments from stock holdings and coupon payments from bond holdings. The fund must distribute all the income generated by its holdings to the shareholders. Mutual funds do not pay tax on investment income or realized capital gains. However, the shareholders must pay taxes on the distributed investment income and capital gains if the fund is not held in a tax-deferred vehicle like 401(k) plan, individual retirement account (IRA), or variable annuity plans.

In case of open end funds, the shareholder must pay taxes on distributions whether he receives the distributions in cash or reinvests the distributions to buy more shares of the fund. In case of funds offered inside variable annuities, the distributions are automatically reinvested and are tax-deferred until withdrawal by the investor. Therefore, the manager of a variable annuity fund is comparatively less concerned about the tax consequences of his investments on fund shareholders.

Variable annuities are tax-deferred which means that the investor pays no taxes on income and capital gains until the money is withdrawn. If money is withdrawn from a variable annuity, all earnings are taxed at ordinary income tax rates. Any withdrawal in excess of earnings is taken from the principal and is not taxable. In addition, a 10% federal tax penalty may be charged on early withdrawals before the age of 59$^1/_2$ except in case of withdrawal due to death, disability, etc. A variable annuity investor is generally allowed by the insurance company to transfer money from one fund to another within the variable annuity subject to certain restrictions on the frequency of such transfers. There are no tax consequences of such transfers. Section 1035 of the US tax code

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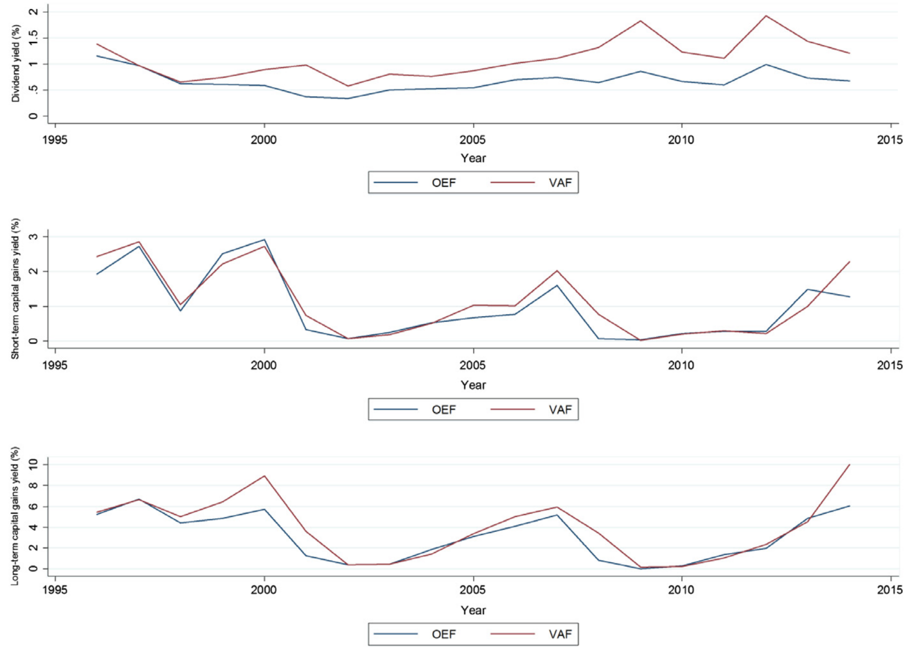

Fig. 1. Distribution of dividends, short-term capital gains and long-term capital gains.

also allows the investor to transfer his money from one variable annuity to another without paying any tax. However, the investor may have to pay surrender charges to the insurance company if such transfers are made before the expiry of surrender charge period.

In this paper, we study how taxes on dividends and capital gains distributions affect the investment behavior of funds. We analyze dividends, short-term capital gains distributions and long-term capital gains separately because they are related to fund's investment strategy in different ways. Fund managers are quite certain of the effect of their fund holdings on future dividend distributions because corporations generally declare dividends in advance and dividends do not change very often. On the other hand, there is no certainty of capital gains on the stocks in the portfolio. Also, while realized capital gains can be counterbalanced by realizing capital losses, there is no such strategy available in case of dividends which must be distributed.

The paper closest to ours is Sialm and Starks (2012) that examines similar issues in the context of defined contribution retirement plans. While they use survey data from *Pensions & Investments* surveys of mutual fund families, we use comprehensive data on mutual funds and variable annuities obtained from Morningstar Direct. Among other related papers, Huddart and Narayanan (2002) find that mutual funds are more likely than tax-exempt institutions to engage in trades that seem to be motivated by taxes on capital gains. Christoffersen et al. (2005) find that fund manager with more money from retirement investors favor the preferences of retirement investors in their decisions regarding cross-border dividend payments.

2. Data

We obtain survivorship-bias-free data on mutual funds and variable annuities from Morningstar Direct. Our sample covers the period 1996–2014. We focus on actively managed funds that invest mainly in US domestic equities. A fund may offer multiple share classes. However, the assets of all share classes are pooled and are managed by the same manager or management team. The total net assets (TNA) of a fund is defined as the sum of TNAs of all its share classes.

We know precisely which share classes of a fund are affiliated to variable annuities at each point of time. We define measures of variable annuity affiliation for a fund as follows. If none of the share classes of a fund are affiliated to variable annuities, we call it a pure open end fund (OEF). If all share classes of a fund are affiliated to variable annuities, we call it a pure variable annuity fund (VAF). If some but not all share classes of a fund are affiliated to variable annuities, we call it low_VA if less than half of total assets are in share classes affiliated with variable annuities and high_VA otherwise. Therefore, at each point of time, a fund belongs to one of the following categories—OEF, low_VA, high_VA and VAF. A fund may move from one category to another category.

We calculate annual dividend yield of a fund as the total dollar dividend per share distributed during the year divided by the net asset value (NAV) per share at the beginning of the year. Similarly, we calculate annual short-term capital gains yield (STCG yield) and long-term capital gains yield (LTCG yield) for each fund.

3. Results

We calculate average annual dividend yield, STCG yield and LTCG yield for the four types of funds for each year from 1996 to 2014. The distributions for only OEFs and VAFs are plotted in Fig. 1. The VAFs have dividend yield of 1.14% per year over the sample period compared to only 0.68% per year for OEFs. VAFs have higher dividend yields than OEFs throughout the sample period. The average STCG distributions for OEFs and VAFs are 0.78% per year and 0.97% per year respectively. The average long-term capital gains distributions for OEFs and VAFs are 2.76% per year and 3.56% per year respectively.

In Table 1, we report regression results. The dependent variables in the three regressions are dividend yield, STCG yield and LTCG yield. The main explanatory variables are dummy variables corresponding to OEFs, low_VA funds, high_VA funds and VAFs. We use OEFs as control group and include dummy variables low_VA, high_VA and VAF in the regressions. We include fund characteristics as well as fixed effects for years and fund investment styles as control variables.

There is a significant positive relation between variable annuity affiliation and dividend payments. In column (1), the coefficient of