INVESTMENT RESEARCH

Investment research presented in papers, academic journals and other periodicals that may be of interest to individual investors.

Taxable vs. Tax-Deferred Accounts

Deciding What Funds to Hold in Taxable vs. Tax-Deferred Accounts*, published by T. Rowe Price Associates in the T. Rowe Price Report, Issue No. 52, Summer 1996.*

Conventional wisdom has held that, when allocating assets among taxable accounts and tax-deferred accounts (such as 401(k) plans and deductible IRAs), investments that generate the higher amount of annual taxable income should be allocated to the tax-deferred account. For instance, if an investor has both bond funds and stock funds, he would be best off on an aftertax basis by putting as much of the bond fund assets as possible in his tax-deferred accounts.

A new study by T. Rowe Price Associates, however, indicates that such an approach may not necessarily produce the best aftertax results, at least as far as mutual fund investing is concerned, where even lower turnover stock funds tend to produce at least some annual distributions.

The study used actual historical (through March 31, 1996) mutual fund data that was supplied by Morningstar. It compared the results of investing $10,000 in various types of funds over a 10-year and 20-year period (through March 31), using both taxable and tax-deferred accounts. The study compared the results for various tax brackets and a 28% capital gains tax rate, taking into account all fund dividend and capital gains distributions, and assuming liquidation of the account at the end of each period; if the fund was held in a tax-deferred account, all earnings were taxed at the assumed ordinary income tax rate upon liquidation. Liquidation was assumed to occur after the retirement age of 59½, thus avoiding any early withdrawal penalties.

The study showed that over the 20-year period, an investor would have done better by putting the stock funds in a tax-deferred account and bond funds in a taxable account, regardless of the investor's tax bracket.

The results were particularly interesting at ordinary income tax rates higher than 28% before and after retirement. When stock funds are put into a tax-deferred account, distributed and accumulated capital gains are taxed at the higher income tax rate upon liquidation rather than at the more favorable 28% capital gains rate they would receive in a taxable account.

The length of time invested, however, was important—the study found that over the 10-year period, the investor would have done slightly better by putting the bond funds in the tax-deferred account and the stock funds in a taxable account if he were in a 36% or 39.6% tax bracket before and after retirement.

The study notes that a key reason for the results was that stock funds significantly outperformed bond funds during the time period examined. Allowing dividend and capital gains distributions from the higher-returning stock funds to build up on a tax-deferred basis—even when eventually taxed at rates greater than 28%—was more advantageous

Table 1.
Pairing Funds in Taxable and Tax-Deferred Accounts
(based on actual fund performance through March 31, 1996)

The table shows the total aftertax value for various pairs of fund types depending on which one is held in a taxable account and which is held in a tax-deferred account, based on a $10,000 initial investment in each fund category and actual fund performance for the 20 years ended March 31, 1996. For example, if a small-company growth fund had been held in the tax-deferred account and a balanced fund had been held in the taxable account, the total aftertax value after 20 years would have been $184,800; if the accounts were reversed, the value would have been $177,300. The table assumes both accounts are liquidated at the end of the 20-year period, and a 28% tax rate on the earnings accumulated in the tax-deferred account and on all fund distributions and capital gains realized in the taxable account. The tax efficiency represents the percentage of each fund's pretax return that was earned after adjusting for taxes on earnings, assuming liquidation of both accounts at the end of the 20-year period.

		Total Dollar Value After Taxes ($10,000 initially in each fund)						
		Type of Fund in Taxable Account						
Tax Efficiency (%)	Type of Fund in Tax-Deferred Account	Growth	Growth & Income	Equity Income	Small-Company	Foreign	Balanced	Taxable Bond
78.4	Growth	—	171,500	182,100	204,600	169,200	168,300	142,400
75.4	Growth & Income	167,900	—	158,300	180,900	145,500	144,500	118,600
74.8	Equity Income	187,900	167,700	—	200,800	165,400	164,500	138,600
79.3	Small Company	208,200	188,000	198,600	—	185,700	184,800	158,900
77.8	Foreign	159,100	138,800	149,500	172,000	—	135,700	109,700
74.7	Balanced	164,400	144,200	154,800	177,300	141,900	—	115,100
69.6	Taxable Bond	128,800	108,600	119,300	141,800	106,300	105,400	—

Sources: T. Rowe Price Associates, Inc.; Morningstar, Inc.

than allowing the distributions from the lower-returning bond funds to build up on a tax-deferred basis over the longer time period.

The study also compared the results of allocating various combinations of different types of stock funds between taxable and tax-deferred accounts. Here, the differences in aftertax bottom line results were not as dramatic as the stock and bond fund combinations. Nonetheless, the investor was usually better off putting the fund with the highest pretax return in the tax-deferred account unless he was in the highest tax bracket at retirement.

For instance, small-company funds averaged 15.2% over the 20-year time period, compared to 12.6% for balanced funds. Although balanced funds typically throw off higher annual distributions and would seem to need more tax sheltering, the investor was nonetheless better off putting the small-company fund in the tax-deferred account unless he was in the top 39.6% bracket before and after retirement: A $10,000 initial investment in both a small-company fund and a balanced fund would have resulted in $185,000 after taxes (based on a 28% bracket) if the small-company fund were in the tax-deferred account, compared to $177,000 after taxes if the balanced fund were in the tax-deferred account.

Table 3.
Taxable vs. Tax-Deferred Accounts
(based on average return for 20-year period ended March 31, 1996)

	Total Aftertax Value*					
	31% Tax Bracket		36% Tax Bracket		39.6% Tax Bracket	
Type of Fund	Taxable Account ($)	Tax-Deferred Account ($)	Taxable Account ($)	Tax-Deferred Account ($)	Taxable Account ($)	Tax-Deferred Account ($)
Growth	82,700	103,600	80,478	96,793	79,040	91,911
Growth & Income	62,300	80,800	59,755	75,669	58,031	71,975
Equity Income	71,900	99,900	67,889	93,429	65,107	88,736
Foreign	60,600	72,300	59,103	67,807	58,031	64,556
Small-Company	95,900	119,400	94,080	111,487	92,909	105,778
Balanced	58,400	77,400	54,823	72,543	52,456	69,025

** Assumes a $10,000 investment in each account on March 31, 1976, and liquidation of each account March 31, 1996. Assets in the tax-deferred account are taxed at the assumed tax rate upon liquidation; assets in the taxable account assume the given ordinary income tax rate and a 28% capital gains rate. Figures reflect aftertax value for each account upon liquidation based on the average return for each fund category for this 20-year period.*

Source: T. Rowe Price Associates; Morningstar, Inc.

For funds that had similar pretax returns, the study found that an investor would have been best off if the fund with the greatest amount of annual distributions was put in the tax-deferred account. For example, a $10,000 initial investment in both an equity-income fund and a growth fund would have resulted in $187,900 after 20 years if the equity-income fund were in the tax-deferred account, compared to $182,100 if the growth fund were in the tax-deferred account.

Table 2.
Pretax and Aftertax Returns
(for 20 years, ending March 31,1996)

	Average Annual Return* (%)	
Fund Category	Pretax	Aftertax
Small-Company	15.2	12.8
Growth	14.3	11.8
Equity Income	14.1	11.1
Growth & Income	12.9	10.2
Balanced	12.6	9.9
Foreign Stock	12.2	10.1
Taxable Bond**	9.2	6.4

**The pretax return represents the average annual total return earned by each fund category over the 20-year period. The aftertax return reflects payment of taxes on all fund distributions, assuming a 28% tax rate. These returns do not take into account taxes on any capital gains that would be realized upon liquidation of the accounts.*
***All taxable bond funds tracked by Morningstar.*

Sources: Morningstar, Inc.; T. Rowe Price Associates.

Table 1 presents a comparison of the aftertax amounts resulting from an initial $10,000 investment in a taxable and tax-deferred account invested in various pairings of fund types over the 20-year period (through March 31, 1996), assuming a 28% marginal bracket. Table 2 indicates the average annual pretax and aftertax returns over the period.

Lastly, the study examined the aftertax results of holding a particular stock fund in a taxable versus a tax-deferred account over the 20-year time period at marginal rates higher than 28%. Based on the returns over this time period, the study found that an investor would have been better off putting any type of stock fund in the tax-deferred account rather than leaving it in a taxable account, even if the capital gains upon liquidation are taxed at the highest income tax rates (39.6%) rather than the more favorable 28% rate available in a taxable account. The length of time invested, however, was important—the study found that the benefits of tax deferral overcame the disadvantage of the higher tax rates after a nine-year holding period for investors in the 31% bracket, an 11-year holding for those in the 36% bracket and a 13-year holding for those in the 39.6% bracket.

Table 3 indicates the aftertax values at various tax brackets that would have resulted investing in taxable and tax-deferred accounts for the various types of mutual funds, based on the 20-year period ending March 31, 1996.

The study points out that all of the results are based on historical fund performance over the indicated time period. Future return patterns may look quite different, of course, and produce different outcomes.

The bottom line for investors: *The advantages of tax-deferral are strong and when allowed to compound over long time periods, they may overwhelm higher tax rates. When trying to decide which mutual funds to allocate to tax-deferred accounts, the odds are in your favor if you put the highest pretax-returning fund in the tax-deferred account. And remember, as far as taxes are concerned: Never pay today what can be put off until tomorrow.*