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Pick Your Battles: The Intersection of Investment Strategy, Tax, and Compounding Returns

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-Sun Tzu

ct smarter, choose specialized managers to improve returns, buy hedge funds to lower risk, turn a new product or a global event into a profit-making opportunity." When it comes to investors who want to get ahead—be they taxable or tax-exempt—this is the typical advice. But in the hunt for investment value added, taxable investors need to think differently. For us, a low-cost, low-turnover, equity-oriented strategy with broad, consistent exposure to the market is far more likely to succeed.

You may feel this approach is a cop-out because you won't beat the market, but in fact you'll end up outperforming most investors. The power of this simple approach lies in the interaction of investment strategy, tax management, and long-term compounding. Managing this well is all upside and the impact is big. If after doing the analysis you still want to fight the typical battles, do so in the knowledge that the odds are stacked against you.

COMPOUNDING RETURNS IN A TAXABLE ENVIRONMENT

Whether Einstein called compounding interest "the eighth wonder of the world"

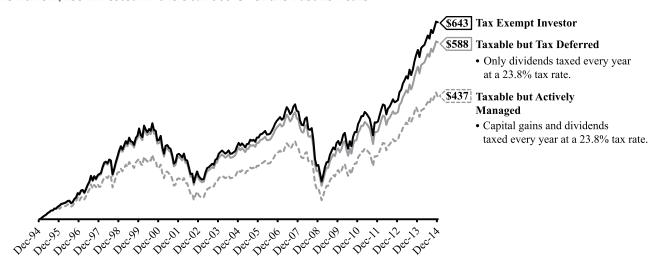
is debatable, but the power of compounding returns is formidable. The most efficient way to compound return without adding risk is to defer the payment of tax on profits. The higher the profits' growth rate, the greater the power of compounding; removing money from the system to pay tax diminishes that power.

Let's look at an investor who is trying to match the performance of the S&P 500. Exhibit 1 shows the growth of a \$100 investment over the past 20 years that exactly matches the performance of the S&P 500 after fees under three tax scenarios. Remember, the generally reported pre-tax rate of return is exactly the same for each one.¹

The black line is the standard calculation typical of "growth of a dollar" charts so often used to give a picture of performance. This line shows the return of a portfolio matching the S&P 500 with dividends reinvested. Over 20 years, the original \$100 investment grows to \$643; but this is only true if the investor is not a taxpayer—an endowment, a pension fund, an IRA, or a 401k plan.

The gray line models the experience of a taxable investor (Mr. Hold) investing in the same portfolio. In this case taxes are paid on dividend distributions (at the current 23.8% federal + Medicare rate) and the net proceeds are reinvested, but capital gains and any associated taxes are deferred. Under this scenario, \$100 grows to \$588 over 20 years.²

EXHIBIT 1
Growth of \$100 Invested in the S&P 500 Over the Past 20 Years



The dashed line models the experience of a taxable investor (Mr. Active) who invests in an actively managed portfolio that also matches the performance of the S&P 500 after management fees. Investors in actively managed portfolios usually hope for more and, if successful, the power of compounding should work in their favor. But regardless of performance, stock turnover is an essential component of an active investment strategy, and it comes with a bigger tax bill. In this case, Mr. Active pays tax on dividends at the same rate as Mr. Hold while he buys and sells each stock once a year, generating 100% turnover. Even though Mr. Active is careful to pay only long-term capital gains tax (no gains are taxed at the higher, short-term rate),³ the effort to "beat the market" costs him dearly. He ends up with only \$437 after 20 years. Even though he has matched the performance of the S&P 500 after fees, he has given up a third of his profit in the hope of outperforming.

Exhibit 2 breaks down the different components of return for Mr. Active and Mr. Hold. Over 20 years, on an initial investment of \$100, Mr. Active pays \$75 in capital gains taxes that Mr. Hold retains and uses to earn \$55 of incremental profits and dividends. On the incremental profits Mr. Hold defers even more tax, on which he earns even more. Using this simple approach—investing in a passive equity portfolio and maximizing the power of compounding—Mr. Hold has created incremental value that is 50% larger than the total assets each investor started with 20 years before.

It's not new news that deferring tax for long periods enhances returns. Of course, active management can enhance returns, too. So we asked ourselves, how much incremental return does Mr. Active need to beat Mr. Hold, and what are the odds of doing so? The answer is path-dependent and is a function of how the stock market performs. From 1977 to 2014, Exhibit 3 tells us that Mr. Active would have had to beat Mr. Hold by between 1.24% and 2.50% each year over 20 years just to achieve a tie. Based on past performance, we know the vast majority of active mutual fund managers do not achieve the necessary hurdle to match the index after fees, let alone beat it by such a significant margin.⁴

Mr. Active's 100% turnover, while not extraordinarily high, is still above that of many active but tax-aware investment managers. However, even if Mr. Active's turnover were reduced by half, or even 75%, the result wouldn't change more than a few tenths of a percent.

Our model assumes that at the end of each 20-year period Mr. Hold does not sell, and does not generate a tax bill on the accumulated capital gains. As a result, Mr. Hold has a big deferred tax bill, while Mr. Active has none. That might seem an apples-to-oranges comparison, but there's no a priori requirement to sell after a 20-year investment period. As we showed earlier, the benefits of not selling continue to accumulate.⁵

Let's look at a theoretical 21st year where both portfolios generate the same pre-tax performance and the same dividend yield. Although performance

EXHIBIT 2

Growth of \$100 Invested in the S&P 500 Over the Past 20 Years

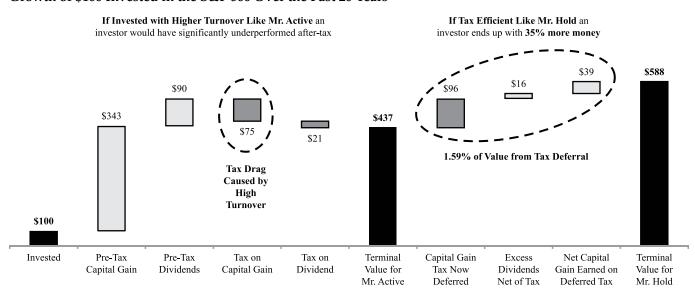
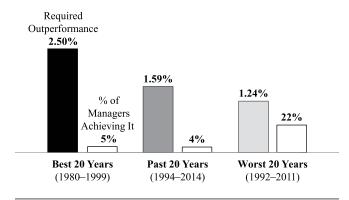


EXHIBIT 3

Required Annual Outperformance from Managers vs. the S&P 500 to Put the Same Money in Your Pocket



looks identical, Mr. Hold earns 34% more dollars than Mr. Active. To put it another way, if both portfolios return 10%, Mr. Hold generates \$59 to Mr. Active's \$44 in Year 21, and their portfolios are worth approximately \$647 and \$481. Yet standard industry performance measures report that, every step of the way for 21 years, both investors have exactly the same "performance" (see "TWR Disinformation"), and common practice is to represent that performance with the black line in Exhibit 1, not the dashed line or the gray line.

Now, let's add another wrinkle: estate tax. Exhibit 1 shows that after the 20th year Mr. Hold's portfolio is

worth \$588 and Mr. Active's is worth \$437. If at that time both men unfortunately pass away, federal estate tax is paid on both portfolios at the 40% rate, and both portfolios benefit from the "stepped-up basis at death." In other words, each man's heirs establish new cost bases that are equal to the net value of the inherited assets. In this scenario, Mr. Hold's estate pays more tax on his portfolio than Mr. Active's, but even after the estate-tax payment, Mr. Hold's heirs receive \$353, 34.7% more than the \$262 for Mr. Active's. All dollars are net of all taxes. This is a true apples-to-apples comparison.

If Mr. Hold's portfolio has a value measured in millions of dollars, or tens or hundreds of millions, he can add a feature called tax loss harvesting, which can add another 0.20% to 0.60% annual value added. This technique enables him to generate investment losses in his portfolio without compromising performance and without generating realized gains. Structured correctly, these losses may be used to offset realized gains elsewhere in his investing activity, deferring more tax, adding further value, and doing so with a high probability of success.

THE COST OF BEING WRONG

Very few taxable investors—or their advisers—consider the downside of picking a manager they later wish they hadn't, or what we call "the cost of being wrong."

Taxable investors typically consider a manager "bad" if performance is below the market benchmark. Since stock markets generally rise in value, even a "bad" manager is likely to achieve positive returns simply by participating in the market. So if an investor sells such a "bad" investment, he will bear the burden of a tax bill as well as the opportunity cost of poor (but positive) performance. To indicate the potential magnitude of this cost, in Exhibit 4 we calculate five-year rolling returns (excluding dividends) from investing in the S&P 500 Index—the best one might expect from a "bad" manager.

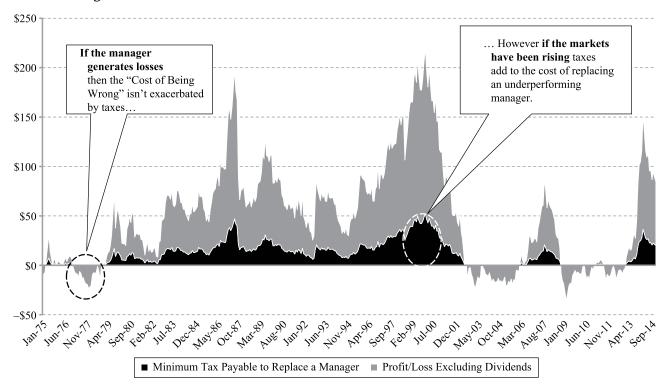
For each time period we calculate the capital gains tax to be paid upon selling; remember that those taxes paid will never again compound or earn a dividend. Of course, if the manager really underperforms, the investor might get away with paying less tax (or even generate a tax loss) when he sells and switches managers, but the opportunity cost will be commensurately greater—an even less attractive outcome.

There is another potential cost of being wrong. Many taxable investors simultaneously select several active managers in the hope that one or more will do really well, and believe that by spreading their money across several active managers they are reducing risk.⁷ But the math and probability reveal that this typical behavior just lowers their chance of success.

We saw in Exhibit 3 that only 5% to 22% of managers beat the S&P 500 after taxes; so let's say that the odds of choosing one actively managed fund that outperforms the S&P 500 after tax are 15%, or about 1 in 7. The odds of picking two outperformers in two tries are about 1 in 50, of picking three in three tries are 1 in 300, of picking four of four are 1 in 2,000.8 These are pretty challenging odds, even for the most insightful selector of managers.

Despite the long odds, let's say an investor has invested an equal amount in four managers, and he has been pretty good at choosing them. Three out of four exceeded the 1.59% after-fee excess annual return target shown in Exhibit 3. The fourth was an average performer, generating a return, after fees, of 50 basis points below the S&P 500. Overall, the investor would have done better than most, but—because of that single laggard—would

EXHIBIT 4
Five-Year Rolling Returns of \$100 Invested in the S&P 500 Since 1970



still be short of the index, net of fees and tax. To make up for the one average performer, the good performers—which he selected against 1 in 300 odds—would have had to earn, on average, not 1.59% but roughly 2.3% above the index annually for the cadre of four managers just to match the index after fees and tax.⁹

EXAMINING SUCCESS

The key to investment success is to pick your battles well; to find opportunities where the odds are in your favor and there is more potential gain if you succeed than loss if you fail. For most taxable investors, active management in public equities has been anything but. Most active managers do not outperform the market over time, especially after fees and tax. When they do outperform, it's usually by a small amount. The only certainty is that the investor picks up the tax bill.

Effective synthesis of investment strategy, tax, and compounding returns confers considerable benefits to taxable investors.

There Is a High Probability of Success

As we've explored, the benefit to deferring tax is considerable if the long-term value of investments rises. Individual companies sometimes prosper and sometimes fail, but equity markets have generally risen in value and been favorable to tax deferral strategies. Over the past 40 years, the S&P 500 has risen in almost 90% of 5-year periods and 94% of 10-year periods. In addition, we know with certainty that the investor pays less tax if he holds his assets for more than 365 days. We also know with confidence that adjusting asset allocation to reduce taxable investment income in favor of qualified dividends and tax-advantaged income increases tax efficiency, and often returns as well. Only a fundamental change in the structure of taxation would cause these benefits to go away.

It's Almost All Upside

With the exception of small transaction costs, tax management is almost all upside. If assets rise in value, investors can hold their investments and earn profits and dividends on the unpaid tax. The larger the profit, the greater the benefits of tax deferral coupled with compounding returns. Investors always retain the option

to sell, or they can give away appreciated securities as charitable gifts and never pay capital gains tax on them. When an investment drops below cost the investor can sell, triggering a tax credit that can be used elsewhere in the portfolio and reducing the after-tax loss.

Possibly the biggest risk of this approach is that large deferred tax obligations are more exposed to the cost of tax rate increases. Of course, the approach also benefits disproportionately if tax rates fall. In either case, tax only becomes due when the investor chooses to sell.

It's Easy and Responsible

A broad-based, low-turnover, low-cost portfolio of the world's most successful companies that matches the performance of a similar broad-based equity index is easy to find, easy to buy, and easy to hold. Prices will go up and down, but you will own great businesses. Unless the future changes radically, over time the portfolio will grow in value and perform well relative to actively managed alternatives. The outperformance is not a function of superior skill, or luck; it's structural.

TIME-WEIGHTED RETURN DISINFORMATION

The job of taxable investors is made much harder because of the widespread use of performance measurement tools that were designed for tax-exempt investors, of which Time-Weighted Rates of Return (TWRs) are the gold standard. TWRs are designed to assess the investment performance impact of the decisions made by a fund manager independent of those made by its investors. In the case of tax-exempt investors, TWRs truly isolate and provide a reasonable measure of a manager's performance.

So what is the problem? As we have seen, decisions made by managers to buy and sell securities—the decisions measured by TWRs—can have tax consequences that affect how much money ends up in the investor's pocket. But these tax consequences are not captured by TWRs. For taxable investors, TWRs usually overestimate the manager's performance, often by a substantial margin, and they misstate the taxable investors' actual results, both on an absolute basis and relative to other managers with different tax efficiency.

Because compounding is such a powerful contributor to investment performance, this disinformation is

a major problem. None of the divergence in "growth of a dollar" results (Exhibits 1 and 2) is captured when using TWRs, nor is the "cost of being wrong." It's true that after-tax results measured with a more accurate and appropriate tool would look very different (see Stein [1998]). Unfortunately, today, taxable investors have little choice but to use TWRs—so we must appreciate the imperfections.

Starting in 2001, the Securities and Exchange Commission required mutual funds to report after-tax performance, but this reporting is not widely covered in the media, academia, or the wealth management industry. "Alternative" investment funds such as hedge funds, private equity, and real estate are not required to produce after-tax results. The wealthier one is, the more likely one is to have a substantial percentage of financial assets invested in products that do not report after-tax results.

RETHINKING TAXABLE INVESTMENT STRATEGY

Many successful people are driven to try to beat the stock market, regardless of the likelihood of success (see Camerer and Lovallo [1999] and Svenson [1981]). That yearning comes with high risk. Just to be on a par with a buy-and-hold approach, active managers must achieve annual excess returns of 1.49% to 2.50% over long stretches of time (0.71% to 1.91%, if you liquidate after 20 years). This is a big hurdle for active managers to achieve, and few do so over extended periods of time. Then include the cost of being wrong, which can add another 70 basis points or more to the hurdle rate. Instead of being purely passive, tax loss harvesting further raises the hurdle another 20 to 60 points (see endnote 6). We estimate that if taxable investors want to fight for returns through active management they should expect more than 160 to 380 basis points of value added (net of fees) per year to justify the commitment. Otherwise, they would likely earn higher after-tax returns investing in a broadly diversified, low fee, indexed or tax managed portfolio that defers the realization of profits for 10 to 20 years or longer.

Taxable investors should also think differently about asset allocation. Long-term investments in public or private equities benefit from tax deferral far more than do taxable bonds purchased at par or high turnover hedge funds (Dougherty [2003]). Across the board, investors' hurdle rates should be sensitive to how different investment return streams are taxed (see Lucas

[2014a]) and the probabilities of achieving superior aftertax returns. As turnover, the amount of taxable investment income, or the proportion of short-term gains increase, the odds of success decrease, (Arnott and Jeffrey [1993]). But it's also important to consider risk preferences and liquidity needs, which may auger for including some less tax-efficient assets in one's allocation.

For taxable investors, the tax regime and the power of compounding profoundly affect the long-term growth of their investment assets. The disciplined marriage of investment strategy, good tax management, and compounding over long periods of time creates the capacity for powerful investment value added. Done well, the benefits are large and enduring. They are predictable and available. The longer investors practice it, the greater its power. More often than not, the restraint of Mr. Hold bears much greater fruit than Mr. Active's fight for value and opportunity. Pick your battles carefully!

Investors should remember that their scorecard is not computed using Olympic-diving methods: Degree-of-difficulty doesn't count.

-Berkshire Hathaway Chairman's letter, 1994

ENDNOTES

¹Time-weighted rate of return, after fees. We used the Vanguard 500 mutual fund as proxy for the actual S&P 500.

²Some passive portfolios engage in systematic tax-loss harvesting. Tax-loss harvesting can add additional value within the overall portfolio context of a taxable investor, but is not considered in this analysis. For more information see Stein and Narasimhan [1999].

³The 100% turnover rate is somewhat higher than the 1980–2014 average of 61% reported by the 2015 Investment Company Fact Book: A Review of Trends and Activities in the U.S. Investment Company Industry (55th Edition), Chapter 2, page 37. On the other hand, we assume that 100% of gains were taxed at the current long-term gains rate, with no state tax and no short-term capital gains tax.

⁴Source: Morningstar, Inc., includes all U.S. equity mutual fund share classes with inception dates before the time period begins that reported a 20-year track record (a total of 770 entries for 1995–2015, 511 for 1992–2011, and 168 for 1980–1999). This survival bias may result in overstatement of the percentage of funds and fund classes that have outperformed.

Michael Jensen may have been the first to seriously study the performance of active managers, concluding in his 1969 PhD thesis that professional investors don't outperform market averages. In the spring of 1993, Robert H. Jeffrey and Robert D. Arnott published "Is Your Alpha Big Enough to Cover Your Taxes?" in *The Journal of Portfolio Management*, looking at after-tax manager value added. Since then, numerous research studies covering numerous time periods have been written, by Arnott et al. [2000], and others, that confirm Arnott and Jeffrey's initial findings and are consistent with ours. More recent updates include Arnott et al. [2000] and Arnott et al. [2011]. For a more extensive list visit the reference list in this article.

⁵For those who want the numbers, in the case where the funds are cashed out after 20 years and all taxes are paid, the required hurdle rate of active management drops to 89 basis points for the most recent 20 years, 191 basis points for the best 20 years in the market, and 71 basis points for the worst 20 years. So there are still significant benefits to compounding returns tax deferred, even if after 20 years you sell everything.

⁶Arnott et al. [2001] estimates 60 bps of value added using a 35% tax rate from tax-loss harvesting. We have seen other models that predict 100 bps or more of benefit using different assumptions. Today's tax rates for investors vary considerably based on their location, whether the losses are short- or long-term, and other tax circumstances. In some industry models, most of the benefit accrues in the early years of investment, assuming the application of and ability to fully offset short-term tax rates. In practice, this may or may not be the case. In addition, the extra management fees and expenses for loss harvesting capabilities may not be accounted for and may not be fully tax deductible. For these reasons, we prefer a more conservative net 20 bps-60 bps range, with the potential for positive surprises. Although the estimated benefit may be smaller than some expect, the probability of actually achieving a positive benefit net of fees and expenses is very high.

⁷For information on the proliferation and specialization of equity mutual funds from 1970 (355 funds) to 2012 (approximately 8,700 funds) see Lucas [2013].

⁸This is the classic probability problem everyone learns in school, framed for the subject in question. If there is a 15% chance of picking an outperformer, then the probability of picking two outperformers out of two tries is roughly 15% times 15%; 15%² or 1 in 50. The chances of picking three outperformers out of three tries are 15%³, and of picking four out of four tries is 15%⁴. This math is an approximation; in reality the probabilities of picking an outperformer after every try would not remain constant since there is always a finite number of managers from which to choose; for example, if there are 100 managers and only 15 are outperformers, if we pick one outperformer in the first try there will remain 99 managers to choose from and only 14 outperformers left, leaving us with a 14% chance of picking one of the 14 outperformers left in the second try. We simplified our calculations to illustrate the point.

 9 We calculated the required return for the three managers using the formula: Target Excess Return (1.59%) = Required Excess Return of Three Managers * Initial Weighting of Those Managers (X * 75%) + Actual Excess Return of One Manager * Initial Weight of That Manager (-0.5% * 0.25%). Solving for X = (1.59% + (0.5% * 25%))/75%. X = 2.287%. This is admittedly a somewhat simplistic way to calculate the required excess return because it is subject to a lot of compounding and timing effects that could change the required result by several tenths of a percent; thus the qualifier "roughly."

REFERENCES

Arnott, R.D., A. Berkin, and J. Ye. "Loss Harvesting: What's It Worth to the Taxable Investor?" *The Journal of Wealth Management*, Spring 2001, pp. 10-18.

Arnott, R.D., A. Berkin, and J. Ye. "How Well Have Taxable Investors Been Served in the 1980s and 1990s?" *The Journal of Portfolio Management*, Vol. 26 (Summer 2000).

Arnott, R.D., A.L. Berkin, and P. Bouchey. "Is Your Alpha Big Enough To Cover Its Taxes? Revisited." *Investment and Wealth Monitor* (Jan/Feb 2011).

Arnott, R.D., and R.H. Jeffrey. "Is Your Alpha Big Enough to Cover Its Taxes?" *The Journal of Portfolio Management*, Vol. 19, No. 3 (Spring 1993).

Camerer, C., and D. Lovallo. "Overconfidence and Excess Entry: An Experimental Approach." *American Economic Review*, 89 (1999).

Dougherty, E.H. "Tax Implications of Hedge Fund Investments." AIMR Conference Proceedings, July 2003.

Gordon, R.N. "Making Hedge Funds More Tax Efficient." *The Journal of Wealth Management*, Summer 2004, pp. 75–80.

Horan, S.M. "An Alternative Approach to After-Tax Valuation." *Financial Services Review*, Vol. 16 (2007).

Horan, S.M., and D. Adler. "Tax-Aware Investment Management Practice." *The Journal of Wealth Management*, Vol. 12 (Fall 2009), pp. 71-88.

Lucas, S.E. Wealth: Grow It and Protect It, Updated and Revised. Upper Saddle River, NJ: FT Press, 2013.

——. "The 50% Rule." 2014a. http://wealthstrategistpartners .com/assets/images/documents/The_50_Percent_Rule_ (CFA)_April_2014.pdf.

——. "We're in a Low Return Environment: So What's an Investor to Do?" 2014b. http://wealthstrategistpartners.com/assets/images/documents/Low_Return_Environment_Article_FINAL_Sept_2014.pdf.

Rogers, D. Tax-Aware Investment Management: The Essential Guide. New York: Bloomberg Press, 2006.

Stein, D.M. "Measuring and Evaluating Portfolio Performance after Taxes." *The Journal of Portfolio Management*, Vol. 24, No. 2 (1998), pp. 117-124.

Stein, D., and P. Narasimhan. "Of Passive and Active Equity Portfolios in the Presence of Taxes." *Journal of Private Portfolio Management*, Fall 1999, pp. 55-63.

Svenson, O. "Are We All Less Risky and More Skillful Than Our Fellow Drivers?" *Acta Psychologica*, 47 (1981).

Wilcox, J., J. Horvitz, and D. diBartolomeo. "Investment Management for Taxable Private Investors." Research Foundation of CFA Institute, January 19, 2006.

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