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Clearing the Hurdle

Beating Index Funds After Taxes

Executive Summary

Do index funds always benefit from a vast advantage over active managers after taxes are factored in? Many pundits make this claim, but we disagree. Indeed, our analysis indicates that under realistic assumptions, active managers need to generate less than 0.2% per year after fees and before taxes to match the after-tax return of an index fund.

Why such a low hurdle? Because when all factors are properly considered, index funds are less tax-efficient for most investors than they appear at first glance, and active managers can be more so: The messy facts of life and the capital markets go a long way toward undermining the theoretical edge of index funds. Contrary to the assumptions that generally underlie analyses positing a big after-tax index-fund advantage:

- Most investors regularly spend from their portfolios, which usually triggers tax due, even on index funds.
- Similarly, most investors rebalance their portfolios and take advantage of new opportunities from time to time—both of which likely create taxable capital gains.
- Market volatility (in particular, a down market) actually makes active portfolios more tax-efficient, since the losses realized through normal turnover and explicit harvesting will offset and defer future gains.
- Active investors can earmark highly appreciated securities for charity, permanently avoiding gains taxes on those gifts.
- Sooner or later, virtually all investors ultimately liquidate their portfolios, passive or active—which can trigger a large tax liability.

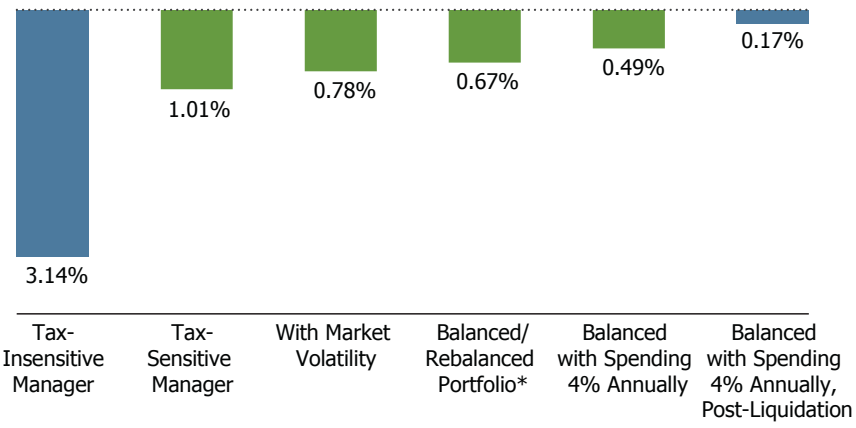
To all the above we need to add the benefit of customized tax management by active managers—using techniques like harvesting losses and tailoring trades to an investor's specific tax circumstances. Such active strategies are either unavailable to index funds or unwieldy for passive managers to utilize. Nor does any of this factor in the qualitative advantage of the regular advice, investment planning, added flexibility, and continuous portfolio-"tending" offered by active managers.

Can active managers earn their keep after taxes? In our view, taxes are a hurdle that skilled managers can definitely clear. ■

Display 1

Lowering the Bar

Pretax Return Hurdle for Active Equity Managers (Median Markets, After Fees)



**We assume a simple balance of 60% US large-cap stocks and 40% municipal bonds.*
See Note on Bernstein Wealth Forecasting System in the Appendix on the last page.
Source: AB

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Are you better off with a "passive" investment manager—one who tracks a market index to generate market-like returns—or an "active" manager: one who selects securities in an attempt to *outperform* the market? Passive investing, often accomplished through indexed mutual funds and exchange-traded funds (ETFs), has many adherents and, indeed, some good arguments on its side: Fees are famously low; beating the market isn't easy; and in recent years indexed investments have generally outperformed their active counterparts (although active proponents can point to other time periods in which their strategies have performed better than market indexes).

Taxes further complicate the picture for taxable investors. In the absence of taxes, it's simple to compute whether or not an active manager is worth his fee: After-fee returns either outperformed their benchmark index, or they didn't. But active managers will make decisions to buy and sell and hence realize capital gains that index funds will not.

So active portfolios almost always come with a higher *tax* bill attached. When you factor in those taxes, there's a hurdle that active managers need to clear in order to beat index funds. We'd note, though, that the goal of taxable investors should not be to minimize taxes per se, but rather to maximize after-tax return (the two are not the same).

Still, is topping index funds after taxes virtually impossible for active managers? That's what many industry professionals, market observers, and academicians argue, and the debate has been going on for years. In published research, some practitioners have put the extra pretax return required to offset the tax advantage of passive strategies at above 2% a year.[1] Few active managers could consistently meet that test.

With this research as a foundation, many industry professionals and asset-management firms have begun offering passive investment funds exclusively. That's especially been the case with taxable clients, due to the permanent tax deferral on gains that passive funds offer—theoretically.[2]

Yet we would argue that industry advisors rely too heavily on this research because it's usually based on a set of assumptions that ignores the messy realities of life and the capital markets for typical investors. We address these realities here, finding that, in practice, *the tax advantage of indexing is actually very small, and not hard to overcome for tax-aware active managers.*

If You're a Billionaire…

So let's start at the top, with a typical set of academic assumptions in calculating a hurdle rate for active managers over indexers. How many do you feel comfortable with?

- Securities, and especially stocks, will appreciate at a high rate every year, and with zero volatility;
- You have no need to rebalance asset classes to keep your overall portfolio allocation on track—or if you do, you have spare cash to cover the costs;
- You'll never need to spend out of your portfolio in excess of dividend payments;
- You won't give appreciated stock to charity during your lifetime, and you're unconcerned about estate taxes; and
- Active tax-management strategies never come into play.

In our view, this full set of assumptions is very constraining. Billionaire Warren Buffett, well-known for his belief in an all-equity asset allocation and his desire to leave all of his wealth to charity, is one of these rare birds who can ignore asset-class rebalancing, spending, and estate taxes. For the vast majority of private investors in the world, at least some of these assumptions won't apply—whether we look at a single portfolio or multiple "buckets" of assets earmarked for different purposes, such as spending and wealth transfer.

If You're *Not* a Billionaire…

We undertook our own study to inject some realism into the typical assumptions about passive's after-tax advantage. Our results are in *Display 1* on the previous page. By challenging each assumption, we systematically reduce the pretax after-fee return hurdle faced by active stock managers attempting to beat index funds *after* taxes.[3] Altogether, by introducing reality to the assumptions about portfolios, markets, and investors, we bring the hurdle rate down to less than 0.2% in median markets—and that's *before* assuming the application of any specific tax-management techniques (loss harvesting, for example, or tax-aware security trading). A full expansion of Display 1 appears in the Appendix on the last page of this paper.

We start out with the "worst-case" active manager for taxable investors: one who pays no attention to tax management, and hence runs up very high annual turnover rates (100% or higher), which creates short-term capital gains. If we assume a portfolio allocated wholly to US equities, we'd expect a pretax compound return of 6.5% going forward; that's a total return number, consisting of 4.1% price appreciation and 2.4% dividend

[1]See, for example, Robert Arnott, Andrew Berkin, and Paul Bouchey, "Is Your Alpha Big Enough to Cover Its Taxes? Revisited," Investment Management Consultants Association, January/February 2011. Their argument is predicated on an all-US-stock portfolio with price appreciation at a steady 6% per year, a turnover rate of 25%, a capital-gains-tax rate of 35%, and a 20-year time horizon.
[2]Index funds may occasionally make capital-gains distributions for various reasons—including large net redemptions and the effect of index reconstitution, which can force sales.
[3]Note, though, that index funds, unlike indexes themselves, come with fees attached as well—albeit considerably lower than an active manager's most of the time. So even index funds will fall short of index returns. However, our analysis here assumes no fees payable to the index-fund manager; applying an index-fund fee would further reduce the hurdle rates for the active manager (after active-management fees).

yield. This pretax return translates into 5.95% for an index fund after dividend taxes are paid.[4]

If the high-turnover active manager earns no premium over the market, investors in his portfolio will see fully 1.78% of their returns consumed by taxes because of turnover, leaving them with 4.17% a year, after fees. But the pretax hurdle rate needs to be *higher* than 1.78% because any outperformance will also be taxed. When we apply our assumptions, the "worst-case" pretax hurdle turns out to be 3.14%. That's the premium, after fees, that an active manager needs to generate simply to match the after-tax wealth creation of a passive portfolio.

Any tax-aware manager will aim to significantly lower that hurdle by first reducing turnover, but we also found that other facts of life, like the effect of market volatility, balancing and rebalancing, and spending, all successively bring the hurdle rate down.

Before we proceed with the results, a word about methodology: In generating our hurdle numbers, we rely on a sophisticated modeling technique that factors in an array of relevant return and risk factors going forward, as well as 10,000 market scenarios from spectacular to dismal. (All the estimates in this paper reflect *median* outcomes.) This state-of-the-art system goes beyond randomization by acknowledging that the prevailing market conditions will always have an effect on future returns.[5] Further, while we've tried to bring as much realism and rigor as possible to our analysis, investors interested in setting a pretax return hurdle for their active manager should view these numbers as rough guideposts rather than absolutes.

Finally, our assumption of 6.5% US-equity returns going forward two decades may be surprising, considering that the S&P 500 annualized total return over the *last* 20 years was almost 10%. But we don't expect as friendly an environment for stocks (or bonds) ahead. The culprit for stocks is higher valuations: Stocks just aren't as cheap as they were in the recent past. And bond returns will probably be negatively affected by low and rising interest rates. These lower return projections are yet another argument for active management, since many investors will no doubt be dissatisfied with future index results, and we're optimistic about the potential for active managers to outperform. But details on that issue go beyond the scope of this paper.

To Liquidate or Not to Liquidate

Before we get to more details let's take a step back and explain how we'll calculate after-tax returns, which is the starting point for estimating a pretax return hurdle. This is not as simple an issue as it might appear, because good tax management considers the impact of activity in the *current* period on *future* taxes. The SEC has approached this complicated problem by requiring mutual funds to report after-tax returns on both a pre- and post-liquidation basis (the latter of which factors in future taxes).

Neither method is perfect, since the pre-liquidation approach rewards a manager for reducing current-period taxes but does not penalize for pushing a lot of taxes into the future. The post-liquidation method overly punishes a manager by immediately charging for all deferred taxes, instead of allowing some credit for tax deferral.

In fact, both methodologies may apply to a given individual's assets. For example, a wealthy investor who does not spend from the portfolio and intends to leave all of his assets to charity can use the pre-liquidation method, because embedded gains will never be realized. However, if he intended to make lifetime wealth transfers to children and grandchildren who would likely spend or reallocate the funds, a post-liquidation number would be more appropriate.[6]

With that as background, we'll examine each of the factors lowering the hurdle for active managers.

Keeping Turnover Reasonable

The first factor, as indicated above, is straightforward. With an assumed annual turnover rate of at least 100%, the tax-insensitive manager is, by definition, taking lots of short-term gains. But an engaged active manager should be able to avoid most short-term gains for taxable clients by simply deferring their realization for at least a year and a day after a security purchase.

Sometimes—if research suggests that a stock is headed for a blowup, for example—taking short-term gains is unavoidable. But those instances are fairly rare. By assuming an average three-year holding period for the tax-sensitive manager with any short-term gains balanced out by losses, *more than 2% of our starting hurdle rate disappears.*

The Upside of Volatility

Yes, market volatility—inescapable for long-term investors—has a positive effect on the active/passive hurdle rate after taxes (see Display 1). The benefit of volatility is that it creates ample opportunity to realize, and capitalize on, losses (see "Volatility Can Be Your Friend" [next page] and "Taking Losses Another Step" on pages 10–11). Indeed, if there are enough losses, active managers can achieve the same tax efficiency as index funds for a period of time—i.e., as long as the losses last. Altogether, the salutary effect of volatility on after-tax returns will, we believe, *shave off another 0.23% from the active manager's return hurdle versus index funds.*

[4]Assuming a 23.8% federal tax rate on dividends and long-term capital gains, 43.4% on short-term capital gains. We include the tax on net investment income where appropriate.
[5]For more detail on the Bernstein methodology, see Note on Bernstein Wealth Forecasting System in the Appendix on the last page.
[6]Note that our post-liquidation analysis assumes that all embedded gains are realized after 20 years, not on an annual basis.

Volatility Can Be Your Friend

"Beneficial volatility" sounds like an oxymoron, but it's exactly what taxable investors experience. In the absence of taxes, volatility simply creates "risk drag," which reduces compound return. But when we layer on taxes, the tax bite makes losses less injurious (and extremely high returns less beneficial). For example, if a portfolio gains 10% and later loses 10% pretax, after factoring in gains taxes and loss harvesting, the gain and loss may be closer to 7½% each—a softening effect that promotes better after-tax compounding rates.

Display 2

Volatility Reduces Tax Drag

	Straight-Line Path of Returns	Volatile Path of Returns*
1. Pretax Price Appreciation (Annualized) S&P 500: 1995–2014	7.80%	7.80%
2. After-Tax Compounding Rate	– 5.94	– 6.30
3. Tax Drag	1.86	1.50
4. Effective Cap-Gains Tax (Line 3 Divided by Line 1)	**23.8%**	**19.2%**

**Assumes a standard deviation of returns of 18.7%*
Source: AB

We illustrate this effect by starting with the S&P 500 price appreciation over the 20 years ending December 31, 2014—which turned out to compound at 7.8% before taxes (*Display 2*). But the after-tax compounding rate—assuming a 23.8% capital-gains tax, 100% turnover (high, for the purposes of this analysis), and the immediate realization of tax benefits for losses[7]—was 6.30% if the return was earned in a volatile path, versus 5.94% for a straight-line variant.

It was the volatility that reduced the tax cost—creating an effective tax rate 4½ percentage points lower. Volatility will always make the effective tax rate lower, and the more volatile the path of returns, the more that gap will open up in the investor's favor.

[7]Taxpayers can use capital losses to offset capital gains, plus up to $3,000 of ordinary income (for joint filers) each year; losses above that amount can be carried forward indefinitely.

A Static Portfolio?

In addition, the great majority of investors will need (or want) to spend from their portfolios at some point, whether to maintain their lifestyles, enable discretionary spending, support new ventures, or gift to family or charity during their lifetimes. This fact of life (for both active and passive investors) is typically omitted from the literature on after-tax comparisons. But anything stock investors do that may cause the realization of gains—such as liquidating in excess of the typical 2% in dividends for spending purposes—*will cut into the tax-deferral benefit of index funds and bring down the active/passive hurdle rate*.

For example, most investors understand the benefits of diversification and therefore do not hold US stocks alone (or any single-asset portfolio); they balance their US stocks with international stocks, bonds, and often other investments. And balancing requires rebalancing to keep portfolio assets at their desired allocation levels. That, in turn, can trigger the realization of capital gains, even in portfolios composed of multiple index funds (see "When Rebalancing Comes Naturally" [next page] for more detail).

We estimate that rebalancing and spending 4% annually, adjusted for inflation, *will deduct another 0.29% from the active manager's hurdle*—even assuming only two asset classes (US large-cap stocks and municipal bonds). We're also assuming that only the stocks generate any premium to the market ("alpha")—a conservative assumption that ignores the potential value of active bond management.[8]

Moreover, as we suggested above, the allocation of most portfolios hardly stays pat over 20-year periods: Investor needs and circumstances often change over time, leading investors to opt for a more conservative or a more aggressive portfolio. Investor risk/return parameters change. A new product becomes available that intrigues an investor.

For all these reasons and more, portfolios frequently become significantly modified, or get liquidated altogether—and capital gains are realized. These realities are seldom baked into the assumptions in the literature about active and passive strategies after taxes. The impact of portfolio

Continued on page 6

[8]In our analysis we modeled both index and active portfolios with the same bonds: intermediate-duration municipals.

When Rebalancing Comes Naturally

In the real world, investors typically own *multiple* assets—and typically decide on a strategic allocation among those assets, often in consultation with a financial advisor. That strategic allocation may change over time along with the investor's age and circumstances, and along with the evolution of new investment alternatives in the market. But we'll assume here that an investor's allocation stays constant over 20 years.

With fluctuations in the value of each asset class, the allocation of a portfolio is likely to change continuously—often by enough to require "rebalancing" to bring the portfolio back to its agreed-upon allocation—apart from any cash flows in or out of the portfolio. And while there's a small tax cost in doing so because of the gains that accrue, the cost pales in relation to the improvement that rebalancing brings to a portfolio's risk/return profile.

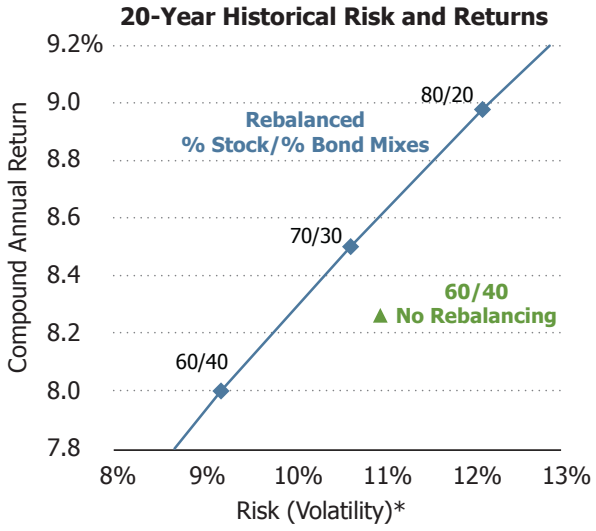
In *Display 3*, we show that a rebalanced 60% stock/40% municipal-bond mix would have saved investors substantial volatility over the past 20 years (and reduced return by a bit, since without rebalancing, stocks tend to dominate over time). Meanwhile, a rebalanced 70/30 allocation would have earned more return than an unrebalanced 60/40 (which you'd expect) and with *less risk* (which you wouldn't expect).

Still, shedding expensive assets for cheap ones can be emotionally difficult, since by definition, rebalancing entails selling some of the most successful assets and buying more of those that are trailing at the moment. But it's part of the route to buying low and selling high: every investor's ideal. And *this benefit is part of the normal activity in an actively managed portfolio*, since the manager will typically be turning over successful investments and buying into newly undervalued securities.

By way of contrast, indexed investors who own multiple funds and hence can trade among them to rebalance their overall allocation will pay for the privilege in capital-gains taxes that they probably didn't count on originally. (Nor could they enjoy the full benefit of rebalancing, since only shares of a fund can be sold, whereas an active manager can cherry-pick specific securities "ripe" for sale.) So rebalancing helps the active manager's return hurdle shrink—and the more asset classes an investor owns, the more rebalancing opportunities will surface.

Display 3

Rebalancing Increases Portfolio Efficiency



Risk/Return Comparisons

Allocation	Compound Return	Risk*
60/40 (Rebalanced)	**8.0%**	**9.2%**
60/40 (No Rebalancing)	8.3	11.0
Difference	(0.3)	(1.8)

Allocation	Compound Return	Risk*
70/30 (Rebalanced)	**8.5%**	**10.7%**
60/40 (No Rebalancing)	8.3	11.0
Difference	+0.2	(0.3)

Past performance is not necessarily indicative of future results.
**Standard deviation of monthly returns*
Monthly rebalancing assumed for rebalanced mixes. Calculated from January 1, 1995, through December 31, 2014, with stocks represented by the S&P 500 Index and bonds by the Lipper Intermediate Municipal Bond Fund Average.
Source: Lipper, Standard & Poor's, and AB

"evolution" over time will depend on the specific circumstances of each investor. The effect, though, will always be to cut further into the tax-deferral benefits of index funds and bring down the hurdle for active managers even more.

But what if an investor really does make no changes to her portfolio for decades and doesn't use it for her spending budget because she has other sources of income? Under those circumstances, it could be tough for an active manager to beat an index fund after taxes. However, it's a limiting—and limited—case that can lead to both a sizable estate and hence a potentially large estate-tax bill: more on that in the next section of the paper.

Estate Taxes Can Count

The typical index-versus-active analysis ignores estate taxes and assumes that the embedded capital-gains tax in an index portfolio will never be realized. For those assumptions to hold, one of the following assumptions must also be true: the investor is immortal (impossible), the estate tax is repealed (unlikely), or the ultimate and single beneficiary is always charity (not an everyday occurrence). If we adopt a more realistic perspective on the disposition of an investor's assets at death, the hurdle that the active manager must overcome during an investor's lifetime may be reduced.

Consider first the account owner who does not spend from his portfolio—as mentioned above, an atypical case. Here, there's no ongoing realization of gains during the owner's lifetime, and upon his death his beneficiaries would receive a step-up in cost basis. If his estate was worth $5.43 million or less (in 2015), it would not be subject to the federal estate tax, and indeed active managers would face their highest bogey in matching after-tax index-fund returns.

In contrast, if the portfolio is part of an estate passing to noncharitable beneficiaries that's worth more than $5.43 million, it would be subject to estate taxation—which applies to both principal and appreciation. The current federal estate tax for amounts above the exclusion is 40%.[9] So for very high-net-worth investors, exchanging capital-gains taxes for estate taxes and waiting to bequeath a stepped-up portfolio does not carry any certainty of tax avoidance, ignores the possibility of changes in the tax code, and in fact is generally a poor strategy.

Fortunately, the tax code provides many opportunities to shift wealth to heirs during the investor's lifetime and thus avoid or diminish the estate tax. But since there's no free lunch in investing, the trade-off for avoiding the estate tax on transferred assets is sacrificing the step-up in basis at death and leaving income tax to be paid in the future. For most wealthy investors this trade-off is a good one. But it's not without work on the part of the investor and his advisors: Wealth-transfer strategies are complex and require thought in both selection and implementation.

In addition, the presumably younger heirs will probably spend out of the portfolio or choose to reallocate it, unlocking capital gains. Altogether, for most investors subject to estate taxes, a *post*-liquidation analysis is more appropriate for comparing active versus passive returns. In fact, for a pre-liquidation assumption to be appropriate, we would need to assume that the heirs would maintain the portfolio's holdings untouched over their lifetimes: most unlikely.

We estimate that liquidating the embedded gains in an index fund would *lower the required return for the active manager to just 0.17%*. And our estimate may be too conservative. Indeed, based on the SEC-mandated post-liquidation returns reported by US mutual funds, there is *little difference at all* between representative stock funds and actively managed funds in their post-liquidation tax efficiency over roughly the last 10 years. (See details in the Appendix on the last page of this paper.)

Display 4 captures the major arguments we've made so far, using conservative assumptions and highlighting several different scenarios. Those scenarios include different asset allocations and different spending policies. The display, which looks back to Display 1, also brings home that tax management is never a one-size-fits-all proposition: a point we'll come back to shortly.

Display 4

Tax Hurdles Vary by Allocation and Spending Policy

Required Premium to Match After-Tax Index Portfolio Return*

	Pre-Liquidation	Post-Liquidation
100% Equities: No Spending	0.78%	0.13%
60% Equities/40% Bonds: No Spending	0.67%	0.21%
60/40: Spending 4%	0.49%	0.17%

**Premium applies only to the equity component of the portfolios.*
See Note on Bernstein Wealth Forecasting System in the Appendix on the last page.
Source: AB

[9]*We're ignoring state capital-gains and estate-tax rates as well as state estate-tax exclusion floors. State income-tax rates vary widely and can have enough of an effect to push up the pretax-return hurdle, while state estate taxes would have the opposite effect.*

Scoring the Match at Mid-Game

Some investors will hold assets that fall into one or both of the highlighted areas in Display 4: a *balanced* 60% stock/40% bond portfolio to meet lifetime spending needs and/or an all-equity *growth* portfolio earmarked for long-term wealth transfer.

We'd expect an active manager of a balanced portfolio with 4% investor spending per year to face a *0.49% hurdle in meeting the after-tax return of an identical indexed portfolio before liquidation—and only 0.17% afterward* (bottom boxes in Display 4). At the same time, for an all-equity allocation with no spending, the post-liquidation hurdle is even lower (top right box). It's considerably higher beforehand, though, because no cash flow is coming out of the portfolio. You can discuss with your Bernstein Advisor how tax hurdles apply to your specific situation.

But all these hurdle rates are before considering any benefit of active year-round tax management. And indeed there are many additional ways that an active manager can improve after-tax returns through assiduous attention to tax-aware strategies. Among them are capitalizing on charitable strategies, trading with attention to each client's tax situation, and harvesting losses.

Doing Well by Doing Good

As we all know, tax-lowering strategies are very widely available. One of the most potent strategies for investors is charitable giving, which ranges from outright gifts to complex arrangements. While cash can, of course, be donated from any liquid portfolio, active or passive, using highly appreciated securities can have significant tax benefits—and the more appreciated, the bigger the tax benefit (*Display 5*). But as we indicated earlier, investors in index funds (or any funds, for that matter) must gift *fund shares*, not specific securities. They can be excised only from individually managed portfolios.

So fund investors lose the critical advantage of selecting appreciated securities and delivering them to a charity free of any gains-tax penalty. For instance, in 2014, the S&P 500 returned a respectable 13.7%—but note in *Display 6* how much more the top-earning stocks for the year produced; if you were a donor with philanthropic intent and held any of these stocks, you might well want to put these to use rather than cash. And similarly, *poorly* performing stocks could be excellent candidates for loss harvesting (see pages 10–11).

Giving cash and getting the benefit of the charitable deduction is worth about 40 cents in federal tax benefits for every $1 donated. Gifting a zero-basis stock, on the other hand, translates into erasing up

Display 5

Not All Charitable Gifts Offer the Same Tax Savings

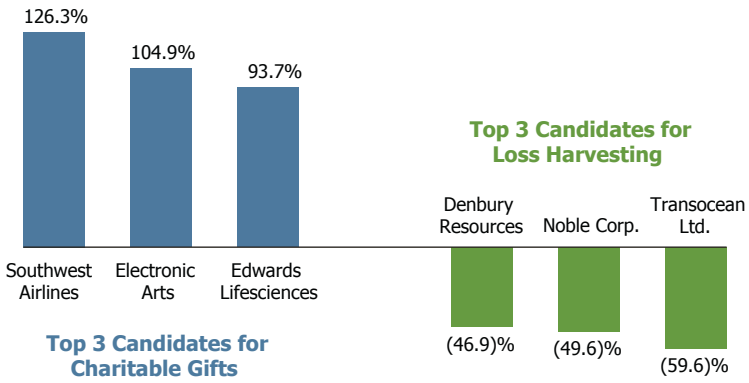
Tax Benefit per $1 Donated: Almost 60% Greater for Appreciated Stock

Numbers do not sum due to rounding.
Deduction is limited to 50% of Adjusted Gross Income (AGI) in the year of gifting cash, or 30% of AGI in the year of gifting appreciated public stock. The benefit of deduction assumes full use of the deduction against income, with an assumed tax rate of 39.6%. For simplicity, we have ignored the Pease limitation on itemized deductions for donors with high AGIs (and the Pease limitation is very unlikely to affect charitable deductions in states levying an income tax). Only federal taxes are considered here, and the gift is to a public charity.
Source: Internal Revenue Service and AB

Display 6

Active Management Allows for "Cherry-Picking"

2014 Returns for S&P 500 Companies
Index Return = 13.7%



Past performance is not necessarily indicative of future results.
Source: Standard & Poor's and AB

to 63 cents of federal tax per $1 donated. We're not quantifying that additional benefit, but it's on top of all the reductions to the active manager's hurdle rate we've already detailed.[10]

And so outright gifts to charity are good. But more complex strategies—which should always be discussed with tax and legal professionals—can carry even more weight.[11] One of the more complex philanthropic strategies, a charitable remainder trust, is discussed *at right*.

Tax-Aware Management

However, our discussion isn't yet complete—because charitable giving is hardly the only tax-conscious strategy available. In order for Bernstein to meet and beat the passive tax bogey, which we believe we can, *we always manage our taxable portfolios with tax implications in mind*—not only at year-end, but year-round. And state-of-the-art tax management (which Bernstein always aspires to) includes factoring in taxes *before* trades are made—not just after gains and losses are tallied up.

Take stocks, for instance. We won't execute a trade in a taxable portfolio unless we have high conviction that the new stock will beat the old one *after taxes*. So we set up explicit tax hurdles for every trade and compare after-tax expected returns. In other words, we factor in the tax cost of each proposed trade in a taxable portfolio; if the tax cost exceeds the expected benefit of the trade, we won't execute on it.

In addition, we pay close attention to the timing of every trade. Not only do we closely monitor holding periods to avoid taking short-term gains, but we also pay attention to timing during the year to maximize the potential for tax deferral. For example, by deferring taking a gain from December into January—waiting only one month—a taxpayer can defer

Having Your Cake and Giving It Away Too: A Charitable Remainder Trust

Charitable remainder trusts (CRTs) generate cash flow for a donor—for his lifetime, if he wishes to set it up that way—with the remainder going to charity. These trusts are most often used by charitably inclined taxpayers with large holdings of appreciated assets who would like to sell or diversify their positions.

How It Works

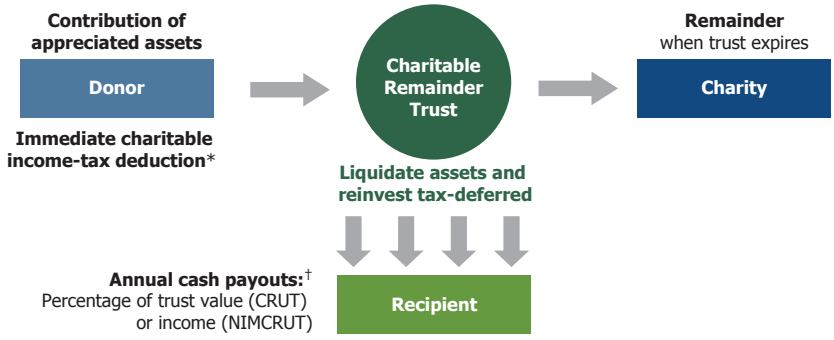
With a CRT, a donor makes an irrevocable contribution of assets to a trust that typically invests in a diversified portfolio and subsequently distributes (taxable) payouts to the donor or another designated recipient (*Display 7*). The payouts are a set dollar value, a set percentage of the trust's value, or the trust's income.

The beauty of the strategy is that any income earned or capital gain incurred inside the CRT account becomes taxable only when paid to the recipient. Thus, an investor with a large appreciated holding can diversify and reinvest the proceeds with no current tax cost, but instead pay the tax over time (though according to IRS rules, the most highly taxed type of income must "come out" first).

In addition, the donor receives an up-front tax deduction for some portion of the value of the initial contribution.

Display 7

How a Charitable Remainder Trust Defers *and* Avoids Taxes



**The income-tax deduction is not the total amount contributed, but rather the present value of what is expected to pass to charity. The calculation of the present value takes into account the value of the contributed assets, the proposed payout rate, the discount rate (based on the Section 7520 rate), and the term of the trust (for lifetime trusts, a life-expectancy table is used). See Sections 7520 and 664 of the Internal Revenue Code of 1986, as amended, and the Treasury regulations thereunder.*
†CRUT = charitable remainder unitrust; in a CRAT (charitable remainder annuity trust) variant, payouts are fixed dollar amounts. A NIMCRUT (net income with makeup charitable remainder unitrust) distributes trust income.
Source: AB

[10]The extra benefit of picking appreciated securities to gift is lost to investors in any mutual fund, active or passive, but since index mutual funds are so popular, we believe it's an appropriate comparison to make.
[11]See "The Bernstein Income Tax Playbook" for a detailed discussion of an array of charitable-giving strategies, including outright gifts, donor-advised funds, private foundations, and charitable gift annuities (as well as charitable remainder trusts).

The amount is generally based on the portion of the trust's initial assets that is likely to go to charity, given the donor's life expectancy or the term of the trust: The smaller the payout or the shorter the term, the larger the deduction. At the end of the trust term (often the death of the payout beneficiary), assets remaining in the trust pass to the charity.

In today's higher-tax-rate environment, the most common variation of the strategy—a CRT that pays out a set percentage of the trust's value to the donor and is funded with a highly appreciated asset—has the potential to create better personal and charitable outcomes relative to outright diversification in a taxable account.

Paying Out Income

There's even a special CRT variation that may be helpful for investors of very substantial means who would otherwise spend only their portfolios' dividends and intend to leave the balance of their assets to charity. Called a "net income with makeup charitable remainder unitrust" (NIMCRUT), this CRT pays out only trust income to the recipient during his lifetime. Such a CRT would allow our high-net-worth investor to pursue an active-management strategy with his stock portfolio (now in the trust), pay no capital-gains taxes along the way, and still be able to spend his dividend income.[12] Plus, he would receive an up-front tax deduction for his initial contribution to the trust.

This strategy would leave the investor in the best possible economic position with respect to his goals. If he were concerned about irrevocably giving the principal to charity, he could, in consultation with his trust-and-estate attorney, build an option into the trust to take a larger payout than the dividend income at some point.

The financial consequences of investing in a NIMCRUT, or any other CRT variation, can be very favorable for the donor, factoring in the charitable deduction, the after-tax payouts, and the wealth generated by reinvesting both.[13]

[12]Gains in a NIMCRUT are subject to income tax only if and to the extent that the donor receives distributions in excess of "top-tier" income (e.g., dividends) in a given year. Because annual distributions ordinarily will be limited to dividends, those gains are likely to remain in a NIMCRUT for the donor's lifetime—unless the trust is drafted specifically to permit the distribution of capital gains as well as dividends.

[13]CRTs are not without risks and costs, including ongoing legal and accounting fees. An investor interested in a CRT should discuss his or her situation with an attorney and a tax professional. In addition, a NIMCRUT is only one strategy of many that can be appropriate for investors of substantial means with philanthropic intent.

the eventual bill on that gain for an entire year.

Further, we're aware that every investor has his or her own degree of tax sensitivity. It's greater, for example, for older investors, since their time horizon for overcoming the tax hurdle is reduced, or for investors in high-tax states like New York and California, and lesser for investors in low-tax states like Texas *(Display 9, page 11)*. Finally, different services carry different degrees of tax sensitivity: While the turnover rate of Bernstein's core US-equity service is in the range of 33%, other services we offer—but would never suggest for a taxable portfolio—carry higher return potential and much higher turnover.

So as we indicate above, tax management at Bernstein is customized to each client. The same trade may look good for a client with low tax sensitivity, but be unattractive for a highly tax-sensitive client. And our tax management is always executed so as not to disturb the characteristics of a portfolio, including its overall risk/return profile and its sector and industry diversification. Tailored tax management can further shave down the active/passive return gap.

We're aware, too, that sometimes minimizing taxes can actually hurt our clients—if we hang on to a highly appreciated security too long, or a security that our research suddenly sees as troubled. As we've often said, taxes—no matter how important—should never trump investment strategy.

It's hard to quantify the benefit of all the techniques that come under the category of "tax-aware management"—but we are convinced that collectively they will further reduce that 0.17% gap for a 60/40 portfolio.

Continued on page 11

Taking Losses Another Step: Harvesting

Volatility is often accompanied by a high dispersion in stock returns: significant variation among the returns of individual securities. The higher the dispersion, the greater the chance for active managers to not only generate losses through normal portfolio management but also to *harvest* them. The appeal of loss harvesting is that realized losses can be used to offset realized gains—and so reduce tax expense in the current year.

However, we need to include a caveat about offsetting realized gains with losses, because the benefit of loss harvesting is widely misunderstood: Harvesting *defers* all or part of a tax liability rather than *avoiding* it. Whenever a stock is sold at a loss (and the proceeds reinvested in the portfolio), the cost basis of the portfolio falls by the amount of the loss—but the market value of the portfolio stays the same. The gap between the cost basis of a portfolio and its market value is a measure of the net unrealized gains in the portfolio—gains that are likely to be realized in the future. If net unrealized gains increase (because the cost basis has fallen but the market value has stayed the same), gains likely to be realized in the future have increased.

Paying the Taxman

Display 8 presents a simplified version of how this phenomenon can work.

Assume that you're holding a portfolio with a cost basis of $700 and a total market value of $800. Over the course of the current year you've already realized a net gain of $100 through trading in your portfolio. So you're facing a long-term capital-gains tax bill of $23.80 at today's 23.8% rate for taxpayers in the highest bracket. At the same time, you're now looking at an unrealized loss of $100 in Stock ABC, which has declined in market value from $200 to $100. You can harvest that loss, offsetting the already-realized gain.

If you do so, and reinvest the $100 proceeds in Stock XYZ (or, for that matter, buy back ABC at its lower cost basis after the month-long prohibition against wash sales has passed because you still have faith in the stock), you have lowered the cost basis of the portfolio by $100. After loss harvesting, assuming the other stocks in the portfolio haven't moved, your total cost basis is down to $600. But the market value remains $800, because you've merely replaced one $100 stock with another.

So now you're sitting on $200 of unrealized gains—instead of $100. You'll most likely *realize* that extra $100 gain in the future. Seen properly, the tax bill on the realized gain in the current year was not eliminated, but merely deferred. In the same vein, the tax benefits of harvesting should never be treated as an addition to after-tax return—unless the investor dies before deferred tax liabilities are realized or sheds them from the portfolio via charitable gifting of stock.

For a passive investor, tax-loss harvesting from a separately managed index portfolio is often touted as a way to generate excess returns relative to an index mutual fund. Some claim that this "hybrid" approach can add as much as 2% per year to an investor's after-tax return.[14] Unfortunately, such claims rely on a whole host of assumptions that are often unrealistic: namely, that harvested losses always offset short-term capital gains elsewhere in the investor's portfolio, the investor continually adds new capital to the portfolio (and thus continually replenishes the portfolio's basis), and the investor will never liquidate the portfolio for rebalancing and/or spending needs.

Display 8

Loss Harvesting Defers—but Doesn't Avoid—Taxes

Before Loss Harvesting

Stock	Cost	Market Value
ABC	**$200**	**$100**
Others	500	700
Total	**$700**	**$800**

Already-Realized Gain: $100
Potential Tax: $23.80
Unrealized Gain: $100

After Loss Harvesting

Stock	Cost	Market Value
XYZ	**$100**	**$100**
Others	500	700
Total	**$600**	**$800**

Already-Realized Gain: $0
Potential Tax: $0
Unrealized Gain: $200

Source: AB

[14] *See Carolyn T. Geer, "Individual Stocks vs. Index Funds: The Next Frontier,"* The Wall Street Journal, *March 6, 2015.*

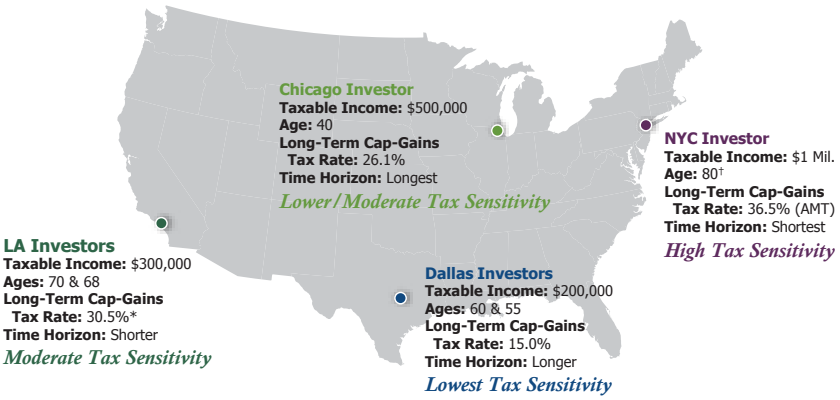
We believe it is more realistic to assume that harvested losses are more likely to offset lower-taxed long-term gains if the investor is investing in a tax-aware manner, that the ability to harvest losses will diminish over time unless significant capital is continually added, and that (as we've said) harvesting losses defers—rather than avoids—taxes for most investors. In our view, claims about tax-loss harvesting as an enhancement to pure indexing are exaggerated when measured against more realistic assumptions.

Still, deferring a tax bill is a beneficial thing to do. The investor will have prevented money from flowing out of the portfolio to pay capital-gains taxes and can earn a return on this money—for as long as the tax bill is actually deferred.

In sum, while realizing losses in the normal course of portfolio management—and selectively loss harvesting—can't be counted on to avoid taxes in perpetuity, they're usually worthwhile deferral strategies. Tax deferral is what makes an index fund that never makes a capital-gains distribution so tax-efficient. Realizing losses allows active managers to defer some of the taxes otherwise created by their trading, and narrow the tax-deferral advantage of index funds.

Display 9

Different Investors, Different Levels of Tax Sensitivity



**The rate on long-term capital gains and dividend income, after deductions and other adjustments; includes state and city income taxes, if applicable. Dallas and LA investors are assumed to be joint filers; Chicago and NYC investors are assumed to be single filers.*
†For clients 73 and older, Bernstein increases tax sensitivity.
Source: Internal Revenue Service, state tax authorities, and AB

Conclusion

As they say, you can't tell a book by its cover. At first glance, indexing—no matter what else it may or may not offer—has a commanding after-tax lead over active portfolio management, because of indexing's relatively infrequent realization of capital gains. However, that proposition is flawed by a series of explicit or implicit assumptions:

- That volatility is of no consequence (when in fact it promotes loss realization and hence tax deferral for active managers);
- That index funds can defer taxes for decades for the majority of their shareholders (in most cases, they don't, for a variety of reasons including investor spending in excess of dividend income and decisions to rebalance or reallocate assets);
- That index funds can be handed over to the next generation free of capital-gains taxes (so can active portfolios, but if the assets are large enough they'll be subject to estate taxes); and
- That active managers have no tools to reduce the tax burden (they have an arsenal at their disposal).

With realistic assumptions, we believe that the tax advantage of indexing is quite modest. As outlined in this paper, we estimate that the active manager's disadvantage can be about 0.17% for a typical balanced account.[15] And again, that's *before* the value added by vigorous tax management; active, research-based security selection; systematic financial planning; and opportunistic investing. For active managers willing to put energy into year-round tax management, the result could easily be premium returns large enough to eclipse indexers both before and after taxes.

At Bernstein we're careful to integrate tax considerations in our portfolio management for all taxable clients. Our Bernstein Advisors stand ready to discuss your tax situation, in conjunction with your tax professional. ■

[15]To be more precise, given our assumptions, the hurdle rate applies to the equity manager of a balanced account.

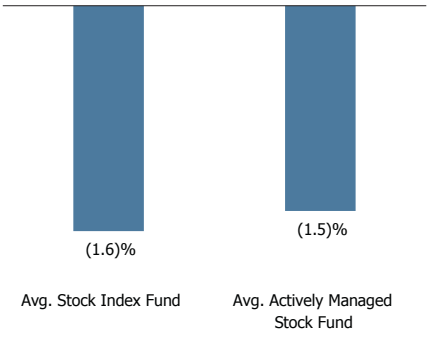
Appendix

Does the Tax Hurdle Disappear in Practice?

When we looked at the 10-year post-liquidation after-tax returns reported by leading US stock index funds and actively managed funds (as required by the SEC), we were struck by the results. Leading US index funds reported an average 1.6% differential between pretax and after-tax returns post-liquidation, slightly *more* than the average 1.5% for leading active funds (*display at right*). This implies that our estimated 0.17% post-liquidation hurdle for a 60/40 balanced account after 4% spending could well be even lower in practice, even *before* the application of customized tax-management strategies. However, the fund after-tax data could be influenced by the specific tax rates over recent 10-year periods. To be conservative, it seems reasonable to conclude that the after-tax fund data reinforce our key conclusion that in general, index funds have very little—if any—tax advantage over active funds.

Virtually No Gap = Virtually No Hurdle

Difference Between Pretax and After-Tax 10-Year Returns Post-Liquidation: Representative Funds



**Period ending December 31, 2014, except as indicated. Index-fund universe comprises Vanguard 500, Mid-Cap, Extended Market, and Total Stock Market, and Schwab Total Stock Market; for actively managed funds, American Funds' The Growth Fund of America,† Dodge & Cox Stock Fund,† Fidelity Contrafund, and AB Large-Cap Growth† and Concentrated Growth services.†*
†For 10-year period ending December 31, 2013
Source: Capital Group (American Funds), Charles Schwab, Dodge & Cox, Fidelity Investments, The Vanguard Group, and AB

Tax Costs and Hurdles for Active Portfolio Management*

Scenarios	Pretax Return	After-Tax Return: Index Strategy	After-Tax Return: Active Strategy	Tax Cost: Active Strategy	Pretax Hurdle for Active Manager
Tax-Insensitive Manager	6.53%	5.95%	4.17%	1.78%	**3.14%**
Tax-Sensitive Manager	6.53	5.95	5.13	0.82	**1.01**
w/Market Volatility†	6.53	5.86	5.24	0.62	**0.78**
w/Balanced/ Rebalanced Portfolio	5.43	4.83	4.52	0.31	**0.67**
w/Spending	5.43	4.56	4.34	0.22	**0.49**
Post-Liquidation‡	5.43	4.37	4.30	0.07	**0.17**

**Values reflect median outcomes for a 20-year analysis. Scenarios are incremental (e.g.,"w/Market Volatility" assumes that the manager is already tax-sensitive). "After-Tax Return: Index Strategy" is net of taxes on dividends and realized capital gains (where applicable). "Tax Cost: Active Strategy" is the difference between the after-tax total returns of the index and the active portfolios (assuming equivalent pretax returns). "Pretax Hurdle for Active Manager" is the additional after-fee return that an active equity manager would need to earn to match the indexed portfolio total return after taxes. We calculate this amount assuming the same turnover and tax assumptions that we used to calculate the tax cost of the active portfolio.*
†Volatility and dividend paths impact index return, which results in a slightly lower return than the zero-volatility scenario.
‡"Post-Liquidation" assumes that unrealized gains are realized and that taxes are paid after 20 years (for the index and the active portfolio).
Based on Bernstein's estimates of the range of returns for the applicable capital markets over the next 20 years. Data do not represent any past performance and are not a promise of actual future results. See Note on Bernstein Wealth Forecasting System, at right.
Source: AB

Note on Bernstein Wealth Forecasting System

Bernstein's Wealth Forecasting System℠ is designed to assist investors in making long-term investment decisions regarding their allocation of investments among categories of financial assets. Our planning tool consists of a four-step process: 1) Client Profile Input: the client's asset allocation, income, expenses, cash withdrawals, tax rate, risk-tolerance level, goals, and other factors; 2) Client Scenarios: in effect, questions the client would like our guidance on, which may touch on issues such as when to retire, what his/her cash-flow stream is likely to be, whether his/her portfolio can beat inflation long term, and how different asset allocations might impact his/her long-term security; 3) The Capital Markets Engine: Our proprietary model, which uses our research and historical data to create a vast range of market returns, takes into account the linkages within and among the capital markets, as well as their unpredictability; and 4) A Probability Distribution of Outcomes: Based on the assets invested pursuant to the stated asset allocation, 90% of the estimated ranges of returns and asset values the client could expect to experience are represented within the range established by the 5th and 95th percentiles. However, outcomes outside this range are expected to occur 10% of the time; thus, the range does not establish the boundaries for all outcomes.

Expected market returns on bonds are derived taking into account yield and other criteria. An important assumption is that stocks will, over time, outperform long-term bonds by a reasonable amount, although this is in no way a certainty. Moreover, actual future results may not meet Bernstein's estimates of the range of market returns, as these results are subject to a variety of economic, market, and other variables. Accordingly, the analysis should not be construed as a promise of actual future results, the actual range of future results, or the actual probability that these results will be realized.

Asset-class projections used in this paper reflect initial market conditions as of December 31, 2014. They include the following median forecasts of 20-year compound rates of return: US diversified stocks (represented by the S&P 500 Index): 6.5%; municipal bonds (represented by AA-rated diversified municipal bonds of seven-year maturity): 2.8%; and inflation (represented by the Consumer Price Index): 2.5%.

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