SPIVA® After-Tax Scorecard:

The Effect of Taxes on Indices and Active Funds

Contributors

Joseph Nelesen, PhD
Senior Director
Index Investment Strategy
joseph.nelesen@spglobal.com

Michael Brower
Associate Director
Index Investment Strategy
michael.brower@spglobal.com

Davide Di Gioia
Chief SPIVA® Engineer
Index Investment Strategy
davide.di.gioia@spglobal.com

Grace Stoddart
Analyst
Global R&D
grace.stoddart@spglobal.com

Summary

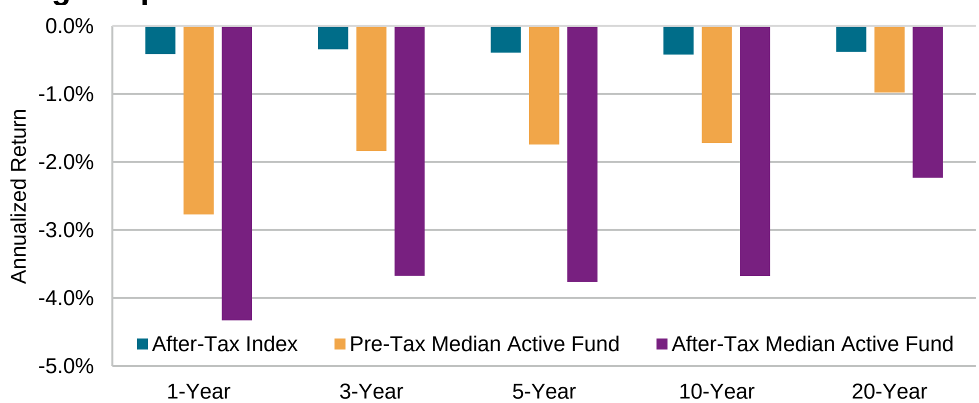
"Taxation is the price which civilized communities pay for the opportunity of remaining civilized."

Albert Bushnell Hart

Since 2002, S&P Dow Jones Indices (S&P DJI) has evaluated index versus active fund performance through the SPIVA Scorecards. In this report, we revisit the broad U.S. domestic equity categories with an additional layer of analysis**, comparing the putative after-tax performance of active funds to indices**.

The average cumulative effects of taxes on investor returns are summarized in Exhibit 1 for the Large-Cap Core fund category. After tax, the **median active fund trailed the S&P 500® over every time horizon, by up to 4.3% annually** (see Exhibit 1).

Exhibit 1: After-Tax Index, Median Pre-Tax, and Median After-Tax Large-Cap Core Fund Annualized Performance versus S&P 500



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

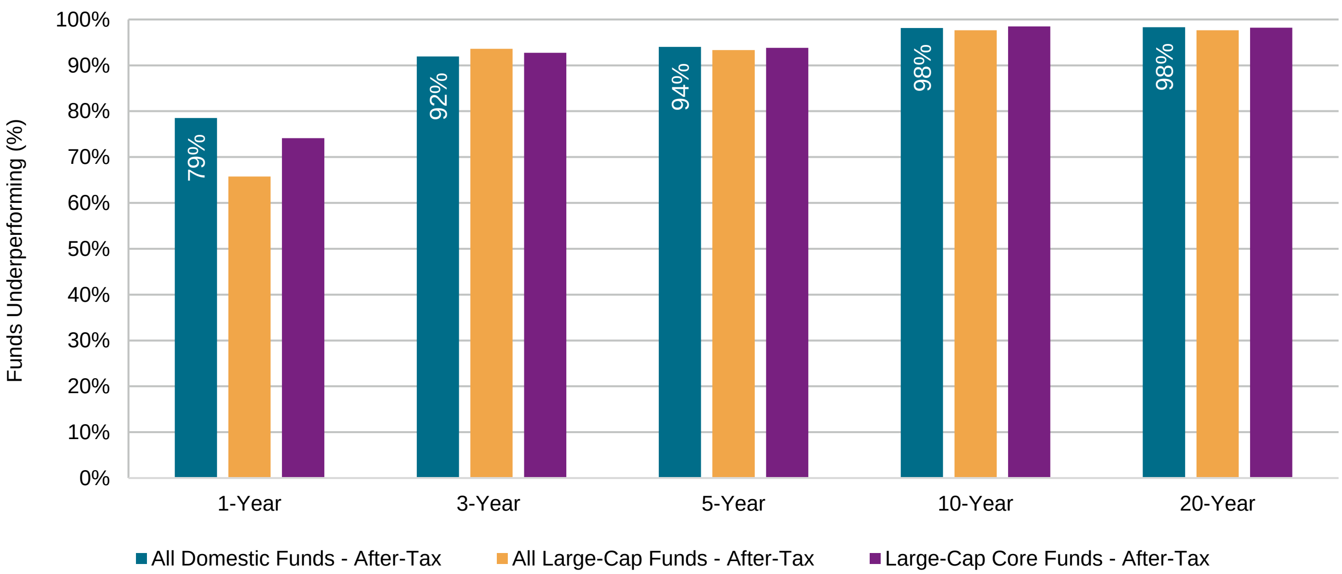
Introduction

In last year's inaugural SPIVA After-Tax Scorecard, we acknowledged the patience required for many investors to follow capitalization-weighted approaches to equities in the face of rising stock valuations and concentration. Under such conditions, active managers often tout their ability to sell off such positions; but at what cost? In the aggregate, more than 20 years of S&P Dow Jones Indices' SPIVA Scorecards have illustrated the rarity that such sales lead to market-beating performance. Once the additional levy of taxes on gains and other distributions are factored in, underperformance only increases further.

But the challenges of successful market timing and stock picking are not the *only* factors in favor of the patience encoded in indices like the S&P 500. Additional support for an indexed approach may come from considering the potential tax implications associated with liquidating long-held profitable positions, while gains generated from short-term trading activity are normally diminished by a yet higher tax rate. Therefore, it might seem reasonable to suggest that outperforming broad, capitalization-weighted indices might prove even harder after accounting for the tax consequences of active trading.

The existence of a common standard for reporting after-tax returns in U.S. mutual funds allows for measurement of tax impact on performance across selected categories from the traditional SPIVA Scorecards. Exhibit 2 highlights selected statistics from the detailed analysis that follows, confirming the relatively high long-term *after-tax* underperformance rates for actively managed U.S. domestic equity mutual funds.

Exhibit 2: Percent of Active Funds Underperforming Benchmarks, After Taxes



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Methodology

To produce this scorecard, actively managed funds were selected and screened via the same sources and analytical engine underlying S&P Dow Jones Indices' SPIVA U.S. Scorecards, including the selection of fund share classes and assignment into fund categories. Accordingly, the funds represented in this report are precisely those whose aggregate pre-tax statistics were reported in the SPIVA U.S. Year-End 2023 Scorecard, and whose pre-tax and gross-of-fee performances were examined in the SPIVA Institutional Year-End 2023 Scorecard.

After-tax fund performance is calculated on a pre-liquidation basis using the highest historically applicable individual federal marginal income and capital gains tax rates in place at each point in time.[1] We rely on a convention established in 2001, when the Securities and Exchange Commission (SEC) introduced rules requiring fund managers to annually report after-tax performance using a standardized treatment for dividends, capital gains and other fund distributions.[2] We apply this methodology by multiplying the taxable distributions issued by actively managed U.S. equity mutual funds by 1-t (where t equals the relevant tax rate applicable to the distribution type at the date of distribution) before calculating performance assuming immediate reinvestment of the remaining amounts.

Seeking to make "apples to apples" comparisons, we apply an equivalent calculation to generate a hypothetical after-tax performance for each comparison benchmark. After-tax index performance is calculated using historically applicable qualified dividend tax rates applied to historical index dividends on a daily basis, assuming immediate reinvestment of the remaining amounts. State and local tax liabilities, alternative minimum tax or phaseouts of certain tax credits, exemptions, and other deductions are excluded from these calculations.

While the traditional SPIVA Scorecard offers analysis on a wide range of fund categories and benchmarks, we strictly limit our analysis here to fund categories whose benchmarks are broad-based and market-capitalization weighted (and thus have a relatively low turnover by design). In particular, we only report statistics for those fund categories benchmarked to the S&P 500 or S&P Composite 1500® in the SPIVA U.S. Scorecard. Taxable distributions made by index funds tracking these benchmarks have not proved typically frequent or material, which allows for viable comparisons between active fund performances and after-tax benchmark returns calculated in this manner.[3]

1 The top marginal income tax rate varied between 35.0% and 39.6%, and long-term capital gains rates varied between 15% and 20% over the 20-year period of analysis in this scorecard.

2 This document calculates pre-liquidation performance only, in consideration of different individual tax scenarios. For more details on disclosure of after-tax mutual fund returns, see https://www.sec.gov/rules/2001/09/disclosure-mutual-fund-after-tax-returns.

3 Admittedly, it has historically proved possible for many index-linked funds and ETFs tracking benchmarks with higher turnover to limit their taxable distributions.

Analysis of After-Tax Returns

"*When our legitimate revenues are attacked, the whole structure of our Government is attacked.*"

Franklin Delano Roosevelt

Over the 1-, 3-, 5-, 10-, 15- and 20-year periods studied, the added effect of taxes resulted in higher rates of active fund underperformance on an after-tax versus pre-tax basis. Exhibit 3 details the underperformance rates of actively managed funds, as compared to the pre-tax underperformance rates previously reported in the SPIVA U.S. Year-End 2023 Scorecard.

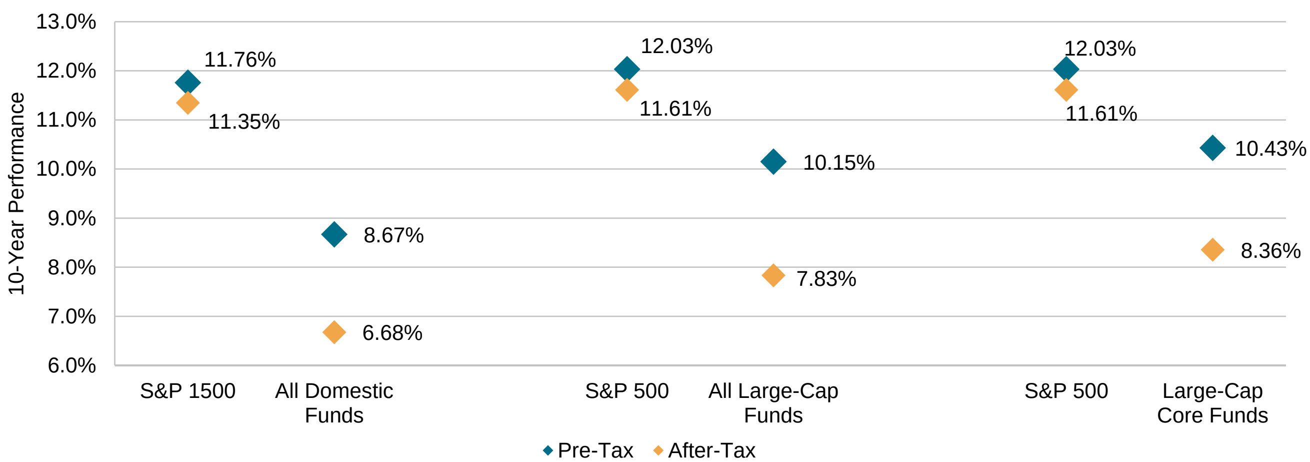
Exhibit 3: Percentage of Funds Underperforming Benchmarks Before and After Taxes

SPIVA Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
All Domestic Funds	75.32	78.97	84.82	91.44	90.84	93.97
All Domestic Funds - After-Tax	**78.52**	**91.94**	**94.03**	**98.13**	**97.88**	**98.31**
All Large-Cap Funds	59.68	79.78	78.68	87.42	87.98	93.03
All Large-Cap Funds - After-Tax	**65.76**	**93.59**	**93.32**	**97.67**	**97.41**	**97.65**
Large-Cap Core Funds	72.57	79.28	80.65	96.45	94.57	94.31
Large-Cap Core Funds - After-Tax	**74.12**	**92.74**	**93.81**	**98.49**	**97.91**	**98.21**

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Factoring in taxes affected the average returns of actively managed funds and their benchmarks to significantly different degrees. Adjusting the S&P Composite 1500 and S&P 500 for tax resulted in a less than 0.5% annual impact over all the time periods studied, while, for example, the median after-tax 10-year annualized returns for All Domestic funds, All Large-Cap funds and Large-Cap Core funds lagged pre-tax medians by 2.0%, 2.3% and 2.1%, respectively. These figures are illustrated in Exhibit 4.

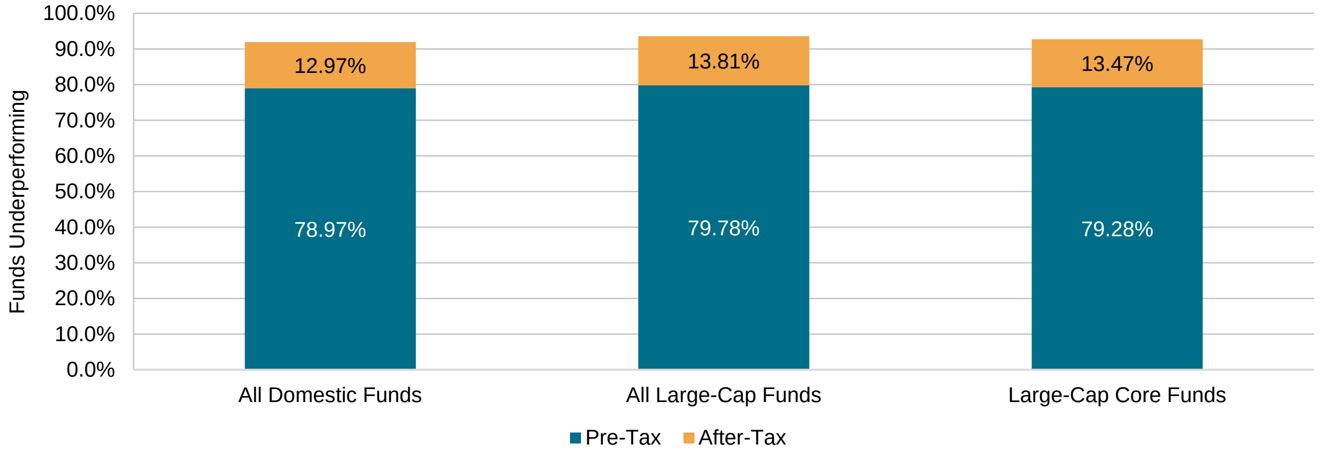
Exhibit 4: Median Pre-Tax and After-Tax 10-Year Annualized Performance



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Placing differences in average pre-tax and after-tax underperformance rates over various periods under the microscope, we found that the three-year period ending December 2023 exhibited the largest increases in active fund underperformance after adjusting for taxes, with a cross-category average of 13.42% (see Exhibit 5).

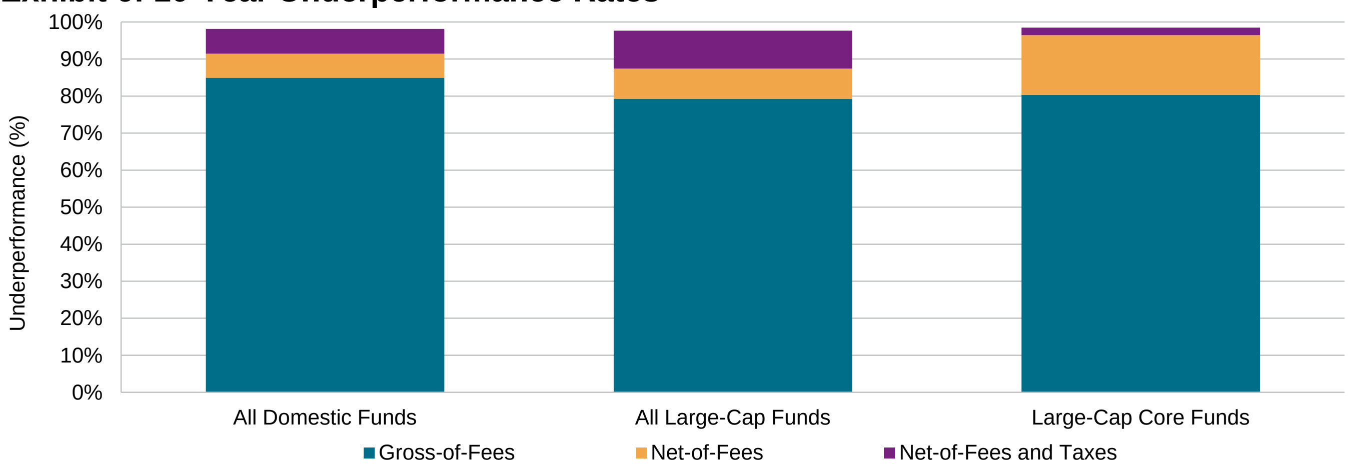
Exhibit 5: Tax Impact on Three-Year Active Fund Underperformance Rates



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Extending our results comparing pre- and after-tax underperformance rates, Exhibit 6 incorporates additional data from the SPIVA Institutional Year-End 2023 Scorecard, which compares underperformance rates of actively managed funds both before and after fees. For the broad All Domestic equity category (versus the S&P Composite 1500), and the narrower All Large-Cap and Large-Cap Core categories (both versus the S&P 500), Exhibit 6 summarizes the combined impact of **active security selection, fees *and* taxes** on the prospects for outperformance over a 10-year horizon.

Exhibit 6: 10-Year Underperformance Rates



Source: S&P Dow Jones Indices LLC, CRSP. Includes data from Report 1, as well as Exhibit 6 in the SPIVA Institutional Year-End 2023 Scorecard. Gross- and net-of-fees underperformance rates as compared to total return indices in USD, net of fees and taxes underperformance calculated versus after-tax index performance. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

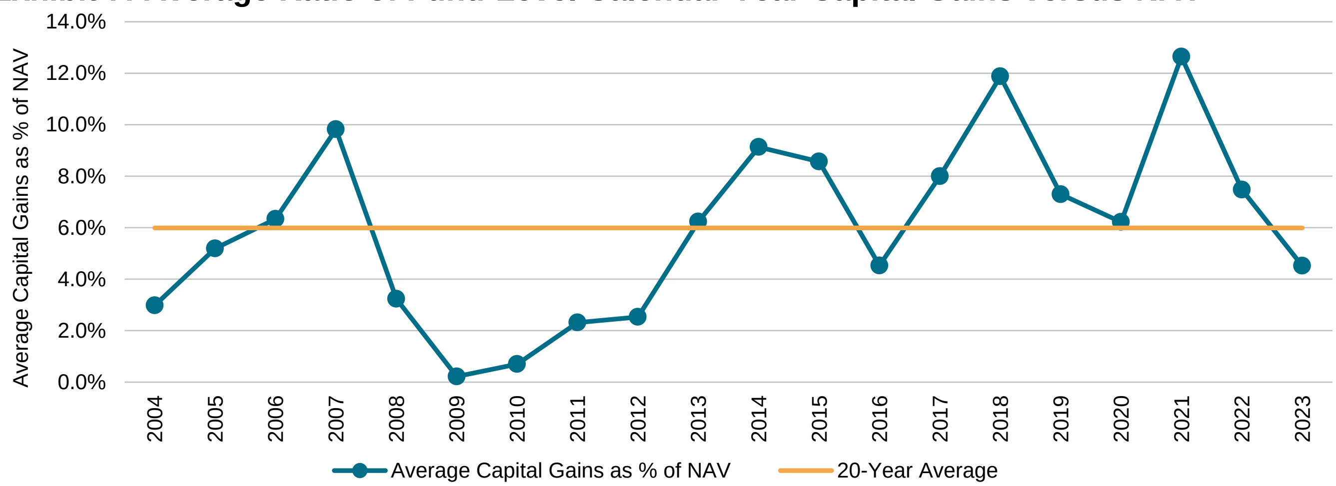
Drivers of After-Tax Performance Differentials

"Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism but peace, easy taxes, and a tolerable administration of justice: all the rest being brought about by the natural course of things."

Adam Smith

The most obvious potential reason for the differences between pre-tax and after-tax performance of active funds is the periods of increased turnover, which can lead to higher taxable capital gains distributions, thereby proportionately reducing after-tax returns. To illustrate the variation in capital gains over time, we sum each eligible fund's calendar-year capital gains and divide that total by the fund's average net asset value (NAV) value over the same period, before calculating the cross-sectional annual averages.[4] The equal-weighted annual average of these distribution rates is shown in Exhibit 7 for funds in the All Domestic Funds category.

Exhibit 7: Average Ratio of Fund-Level Calendar Year Capital Gains versus NAV

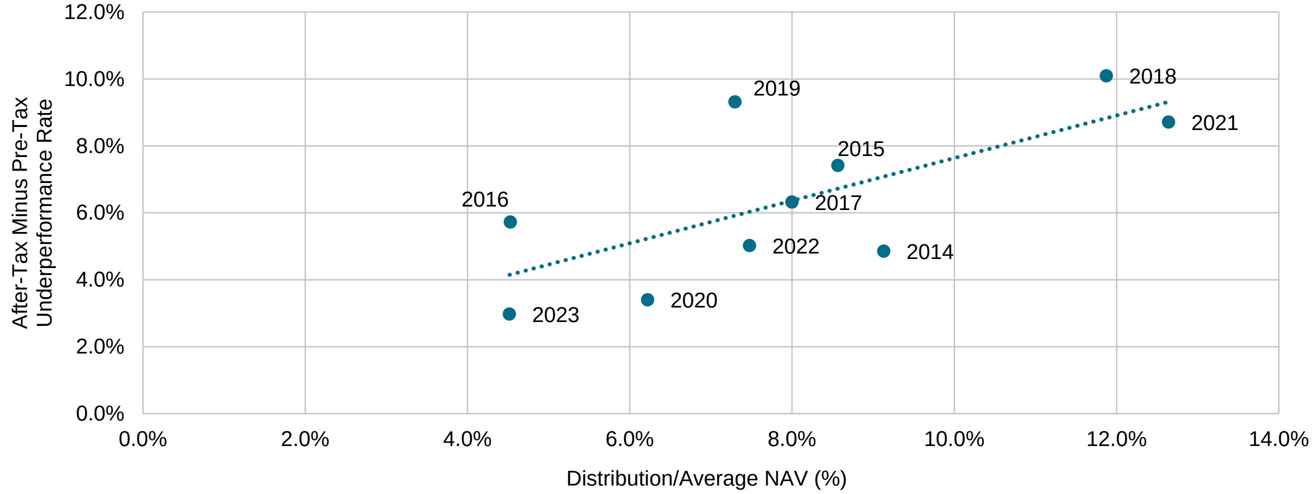


Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Exhibit 8 illustrates the relationship between the rate of capital gains generation and after-tax active outperformance rates over the past 10 years, by comparing the series of Exhibit 7 (on the x-axis) to the annual *difference* in before- and after-tax underperformance rates of actively managed funds (as usual, taken in comparison to the standard S&P 1500® and a tax-adjusted version of the index, respectively). The clustering of the series in the upper right quadrant of Exhibit 8 illustrates **a mild, but positive, association between higher fund distribution rates and a greater increase in underperformance rates after accounting for tax**.

[4] "NAV" or Net Asset Value represents the U.S. dollar value per share of each share in the respective fund. Eligible funds include all active funds in the All Domestic Funds category that paid a distribution in any calendar year from 2004 through 2023.

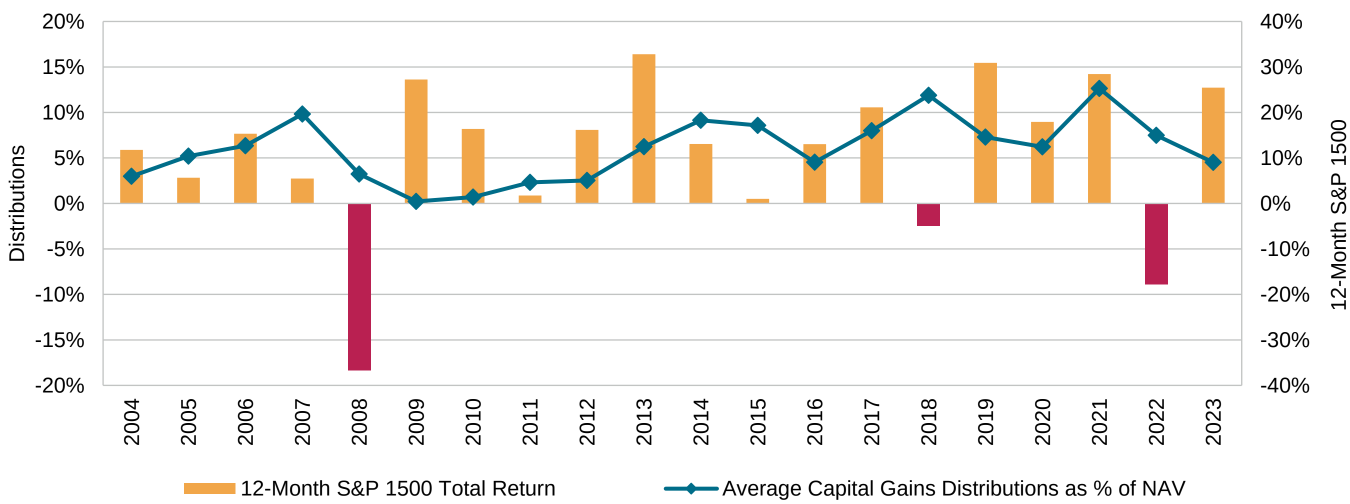
Exhibit 8: Capital Gains as % of NAV and After-Tax versus Pre-Tax Underperformance Rates



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

If the disproportionate effect of tax-drag on active fund relative performance was not challenging enough, the typical timing of some capital gains distributions illustrates a particularly gloomy possibility for taxable investors. Over the past 20 years, the combination of falling markets and fund redemptions, often closely related, has **more than once forced active managers to realize gains and trigger tax bills for investors in years when fund owners were already reeling from performance declines**. As Exhibit 9 illustrates, a relatively high proportion of capital gains, 7.5% of NAV on average, were distributed in the three calendar years when the overall market declined, compared to an average 5.7% of NAV in all other years since 2004.

Exhibit 9: Capital Gains as % of NAV and Annual S&P 1500 Performance



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Conclusions

For more than two decades, S&P DJI's SPIVA Scorecards have provided an objective perspective on the slim chances of selecting funds that surpass benchmark performance both before and after fees. Concurrently, many investors have increasingly turned to indices as essential tools underpinning vehicles such as ETFs and direct indexing strategies that harness S&P DJI benchmarks while also producing potentially different tax outcomes than traditional active mutual funds. However, in part because individual circumstances differ, data on after-tax returns has been less widely available. The results presented in this second annual edition of the SPIVA After-Tax Scorecard continue the endeavor of providing a more accurate reflection of the experiences of many investors, for whom taxes are an inevitable piece of the puzzle.

Even before taxes are considered, most active funds operating in broad U.S. equity categories have often struggled to match the returns of capitalization-weighted benchmarks like the S&P 500 or S&P 1500. Nonetheless, each year, some have been successful in overcoming the hurdle of index performance. For investors skilled or fortunate enough to identify the few managers with market-beating potential,[5] caution may still be warranted, as it would be premature to celebrate without first considering how much taxes erode performance and leave even fewer managers able to outperform and reach the finish line unscathed.

[5] Certainly, the endeavor of predicting which active funds will outperform based on past results has proven to be statistically daunting, as evidenced through the S&P DJI Persistence Scorecards. See for example: https://www.spglobal.com/spdji/en/spiva/article/us-persistence-scorecard/.

Reports

Report 1: Percentage of U.S. Equity Funds Underperforming Their Benchmarks (Based on Pre-Tax and After-Tax Absolute Return)

SPIVA Category	Comparison Index	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
All Domestic Funds	S&P Composite 1500	75.32	78.97	84.82	91.44	90.84	93.97
All Domestic Funds - After-Tax	S&P Composite 1500 - After-Tax	78.52	91.94	94.03	98.13	97.88	98.31
All Large-Cap Funds	S&P 500	59.68	79.78	78.68	87.42	87.98	93.03
All Large-Cap Funds - After-Tax	S&P 500 - After-Tax	65.76	93.59	93.32	97.67	97.41	97.65
Large-Cap Core Funds	S&P 500	72.57	79.28	80.65	96.45	94.57	94.31
Large-Cap Core Funds - After-Tax	S&P 500 - After-Tax	74.12	92.74	93.81	98.49	97.91	98.21

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 2: Average U.S. Equity Fund Performance (Equal-Weighted)

Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	20-Year (%)
S&P Composite 1500	25.47	9.83	15.39	11.76	9.75
All Domestic Funds	20.35	5.91	12.33	8.54	7.85
S&P Composite 1500 - After-Tax	25.05	9.49	14.99	11.35	9.38
All Domestic Funds - After-Tax	19.24	3.65	10.41	6.73	7.02
S&P 500	26.29	10.00	15.69	12.03	9.69
All Large-Cap Funds	24.20	7.48	13.07	9.47	7.98
S&P 500 - After-Tax	25.87	9.66	15.29	11.61	9.31
All Large-Cap Funds - After-Tax	22.27	5.28	11.31	7.85	7.27
Large-Cap Core Funds	22.62	8.09	13.37	9.49	8.15
Large-Cap Core Funds - After-Tax	21.51	6.08	11.86	8.18	7.45

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 3: Pre-Tax and After-Tax Quartile Breakpoints of U.S. Equity Funds

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
1-Year			
All Domestic Funds Pre-Tax	12.82	18.54	25.69
All Domestic Funds After-Tax	11.75	17.38	24.30
All Large-Cap Funds Pre-Tax	13.39	24.00	37.55
All Large-Cap Funds After-Tax	11.18	21.25	31.81
Large-Cap Core Funds Pre-Tax	19.45	24.01	26.71
Large-Cap-Core Funds After-Tax	15.21	21.96	26.67
3-Year			
All Domestic Funds Pre-Tax	3.25	7.46	9.71
All Domestic Funds After-Tax	0.85	4.76	7.49
All Large-Cap Funds Pre-Tax	5.74	8.12	9.78
All Large-Cap Funds After-Tax	3.76	6.10	7.88
Large-Cap Core Funds Pre-Tax	7.64	8.70	9.91
Large-Cap-Core Funds After-Tax	4.56	6.33	8.03
5-Year			
All Domestic Funds Pre-Tax	10.51	12.50	14.68
All Domestic Funds After-Tax	8.26	10.41	12.78
All Large-Cap Funds Pre-Tax	11.26	13.51	15.70
All Large-Cap Funds After-Tax	9.24	11.58	13.59
Large-Cap Core Funds Pre-Tax	12.91	14.22	15.52
Large-Cap-Core Funds After-Tax	10.22	11.92	13.85
10-Year			
All Domestic Funds Pre-Tax	7.20	8.67	10.62
All Domestic Funds After-Tax	4.95	6.68	8.56
All Large-Cap Funds Pre-Tax	8.37	10.15	11.66
All Large-Cap Funds After-Tax	6.32	7.83	9.52
Large-Cap Core Funds Pre-Tax	9.14	10.43	11.13
Large-Cap-Core Funds After-Tax	6.97	8.36	9.47
20-Year			
All Domestic Funds Pre-Tax	7.47	8.48	9.36
All Domestic Funds After-Tax	6.02	7.04	8.01
All Large-Cap Funds Pre-Tax	7.62	8.60	9.55
All Large-Cap Funds After-Tax	6.22	7.32	8.34
Large-Cap Core Funds Pre-Tax	8.14	8.79	9.47
Large-Cap-Core Funds After-Tax	6.58	7.46	8.41

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Appendix A: Mapping

SPIVA Styles and Fund Classifications

The SPIVA After-Tax Scorecard covers select domestic equity categories. Fund returns are sourced from the CRSP Survivor-Bias-Free US Mutual Fund Database, a complete database of both active and liquidated or merged mutual funds and ETFs[6] created in 1995 and containing fund data from December 1961. Fund classifications are based upon the Lipper fund classification system.

U.S. Equity

The SPIVA After-Tax Scorecard covers major capitalization levels (large-, mid-, small- and multi-cap funds) and investment styles (growth, core and value). S&P Dow Jones Indices relies on the Lipper fund classifications, which determine a fund portfolio's capitalization and investment style assignments.

Lipper assigns a market capitalization to each fund based on the percentages of a fund's three-year weighted equity assets that fall into each of Lipper's three defined market capitalization slices. The market capitalization breakpoints are calculated using all common stocks, excluding all non-U.S. domiciled stocks and ADRs, trading on the NYSE, AMEX and NASDAQ. Funds are assigned to the capitalization level in which they have a 75% or higher weighting. Any fund that has less than 75% of its three-year weighted allocation in any of the three market capitalization ranges is classified as a multi-cap fund.

For investment style selection, the Lipper classification system uses three-year fundamental portfolio characteristics (price/earnings, price/book and three-year sales-per-share growth) and, if necessary, confirms secondary characteristics (price-to-sales and price-to-operating cash flow).

In some cases, S&P Dow Jones Indices combines closely related Lipper fund classifications into one SPIVA category. Exhibit A1 maps the SPIVA U.S. equity fund categories to Lipper classifications.

[6] Mutual funds are classified as retail, while ETFs are classified as either retail or institutional

Exhibit A1: U.S. Equity Category Mappings

SPIVA Category	Lipper Fund Classification
Large-Cap Growth Equity	Large-Cap Growth Funds
Large-Cap Core Equity	Large-Cap Core Funds
Large-Cap Value Equity	Large-Cap Value Funds
	Equity Income Funds
Mid-Cap Growth Equity	Mid-Cap Growth Funds
Mid-Cap Core Equity	Mid-Cap Core Funds
Mid-Cap Value Equity	Mid-Cap Value Funds
Small-Cap Growth Equity	Small-Cap Growth Funds
Small-Cap Core Equity	Small-Cap Core Funds
Small-Cap Value Equity	Small-Cap Value Funds
Multi-Cap Growth Equity	Multi-Cap Growth Funds
Multi-Cap Core Equity	Multi-Cap Core Funds
Multi-Cap Value Equity	Multi-Cap Value Funds

Source: S&P Dow Jones Indices LLC, Lipper. Table is provided for illustrative purposes.

Appendix B: Glossary

Percentage of Funds Underperforming the Index

To correct for survivorship bias, we use the opportunity set available at the beginning of the period as the denominator. We determine the count of funds that have survived and beat the index. We then report the index outperformance percentage.

Equal-Weighted Performance

Equal-weighted returns for a particular style category are determined by calculating a simple average return of all active managers in that category in a particular month.

Quartile Breakpoints

The p^{th} percentile for a set of data is the value that is greater than or equal to p% of the data but is less than or equal to (100-p)% of the data. In other words, it is a value that divides the data into two parts: the lower p% of the values and the upper (100-p)% of the values. The first quartile is the 75^{th} percentile, the value separating the elements of a population into the lower 75% and the upper 25%. The second quartile is the 50^{th} percentile and the third quartile is the 25^{th} percentile.

Survivorship Bias

Many funds might liquidate or merge during a period of study. This usually occurs due to continued poor performance by the fund. Therefore, if index returns were compared to fund returns using only surviving funds, the comparison would be biased in favor of the fund category. These reports remove this bias by (a) using the entire investment opportunity set, made up of all funds in that particular category at the outset of the period, as the denominator for outperformance calculations, (b) explicitly showing the survivorship rate in each category and (c) constructing peer average return series for each category based on all available funds at the outset of the period.

Fees

The fund returns used are net of fees, excluding loads.

Indices[7]

A benchmark index provides an investment vehicle against which fund performance can be measured.

U.S. Equity

S&P 500

Widely regarded as the best single gauge of the U.S. equities market, this market-capitalization-weighted index includes a representative sample of 500 leading companies in the foremost industries of the U.S. economy and provides over 80% coverage of U.S. equities.

S&P Composite 1500

This is a broad, market-capitalization-weighted index of 1500 companies formed by combining the S&P 500, S&P MidCap 400 and S&P SmallCap 600. The index represents approximately 90% of U.S. equities.

[7] For more information on S&P Dow Jones Indices, please visit www.spglobal.com/spdji.

General Disclaimer

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. Index performance does not reflect trading costs, management fees or expenses. S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. S&P Dow Jones Indices is not an investment adviser, commodity trading advisor, commodity pool operator, broker dealer, fiduciary, promoter" (as defined in the Investment Company Act of 1940, as amended), "expert" as enumerated within 15 U.S.C. § 77k(a) or tax advisor. Inclusion of a security, commodity, crypto currency or other asset within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, commodity, crypto currency or other asset, nor is it considered to be investment advice or commodity trading advice.

Closing prices for S&P Dow Jones Indices' US benchmark indices are calculated by S&P Dow Jones Indices based on the closing price of the individual constituents of the index as set by their primary exchange. Closing prices are received by S&P Dow Jones Indices from one of its third party vendors and verified by comparing them with prices from an alternative vendor. The vendors receive the closing price from the primary exchanges. Real-time intraday prices are calculated similarly without a second verification.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.

The Global Industry Classification Standard (GICS®) was developed by and is the exclusive property and a trademark of S&P and MSCI. Neither MSCI, S&P nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.