

SPIVA[®] India Scorecard

Contributor

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[Experience](#) the active vs. passive debate on a global scale.

SUMMARY

- S&P Dow Jones Indices has been the de facto scorekeeper of the ongoing active versus passive debate since the first publication of the S&P Indices versus Active Funds (SPIVA) U.S. Scorecard in 2002. Over the years, we have built on our experience publishing the report by expanding scorecard coverage into Australia, Canada, Europe, India, Japan, Latin America, the Middle East and North Africa, and South Africa.
- The SPIVA India Scorecard compares the performance of actively managed Indian mutual funds with their respective benchmark indices over 1-, 3-, 5-, and 10-year investment horizons. In this scorecard, we studied the performance of three categories of actively managed equity funds and two categories of actively managed bond funds over the 1-, 3-, 5-, and 10-year periods ending in June 2021.
- Despite a strong run up in Indian equities in the first half of 2021, the majority of active funds in the large-cap and mid-/small-cap fund categories lagged their respective benchmarks whereas active funds in the ELSS fund category fared better, in which only 36.59% of active funds underperformed the [S&P BSE 200](#) (see Exhibit 1).
- The mid-/small-cap fund category was the best performing among equity funds covered in this scorecard, with the [S&P BSE 400 MidSmallCap Index](#) returning 90.56% over the one-year period ending in June 2021. Investors in this category may have witnessed a wide spread in fund returns (the difference in the first and third quartile funds was 27.87%), posing investors with fund selection risks and challenges.

Exhibit 1: H1 2021 Average Fund and Index Performance

FUND CATEGORY	COMPARISON INDEX	INDEX RETURN (%)	AVERAGE FUND RETURN (%)		PERCENTAGE OF FUNDS OUTPERFORMED BY THE INDEX (%)
			EQUAL-WEIGHTED	ASSET-WEIGHTED	
Indian Equity Large-Cap	S&P BSE 100	14.27	13.87	14.70	53.13
Indian ELSS	S&P BSE 200	16.24	18.11	17.02	36.59
Indian Equity Mid-/Small-Cap	S&P BSE 400 MidSmallCap Index	33.72	32.32	29.91	58.00
Indian Government Bond	S&P BSE India Government Bond Index	0.75	0.28	0.59	66.67
Indian Composite Bond	S&P BSE India Bond Index	1.09	0.55	1.56	39.10

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. Index performance based on total return in INR. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

- **Indian Equity Large-Cap Funds:** Over the one-year period ending in June 2021, the [S&P BSE 100](#) was up 55.96%, with 86.21% of funds underperforming the benchmark. Over H1 2021, 53.13% of the funds underperformed the S&P BSE 100. Over longer horizons, the majority of the actively managed large-cap equity funds in India underperformed the large-cap benchmark, with 65.93% of large-cap funds underperforming over the 10-year period ending in June 2021. Over the same period, Indian large-cap funds witnessed a low survivorship rate of 70.37%. The asset-weighted fund return was 8 bps higher than the equal-weighted fund return over the 10-year period, and the return spread between the first and third quartile breakpoints of fund performance was 2.61% for the same period.
- **Indian ELSS Funds:** Over the one-year period ending in June 2021, the S&P BSE 200 ended in the green, returning 58.77%, with 53.66% of funds underperforming the benchmark. During the first half of 2021, 36.59% of the funds underperformed the benchmark. Over the 3-, 5-, and 10-year periods ending in June 2021, 76.19%, 76.19%, and 48.57% of funds underperformed the benchmark, respectively. Over the 10-year horizon, the return spread between asset-weighted and equal-weighted returns was -69 bps. The return spread between the first and third quartile breakpoints of fund performance was 2.45%.
- **Indian Equity Mid-/Small-Cap Funds:** The benchmark for Indian Equity Mid-/Small-Cap funds, the S&P BSE 400 MidSmallCap Index, was up 90.56% over the one-year period ending in June 2021. Over H1 2021, 58% of the funds underperformed the benchmark. Among all the categories evaluated in the SPIVA India Scorecard, the Indian Equity Mid-/Small-Cap category fared the best for active funds, with the majority of them managing to beat the S&P BSE 400 MidSmallCap Index over the 10-year period ending in June 2021. Though over the same period, the survivorship rate was low, at 76.12%. For the same period, the asset-weighted fund return was 107 bps lower than the equal-weighted fund return, and the return spread between the first and third quartile breakpoints of fund performance was 3.54%, which was the highest among the equity categories.
- **Indian Government Bond Funds:** The [S&P BSE India Government Bond Index](#) returned 4.59% over the one-year period ending in June 2021. Over the 6-month, and 1-, 3-, 5-, and 10-year periods ending in June 2021, 66.67%, 70.83%, 51.85%, 71.43%, and 86.00% of the actively managed funds in this category lagged the benchmark, respectively. Over the 10-year period ending in June 2021, survivorship rate was only 42.00%. For the same period, the asset-weighted fund return was 116 bps higher than the equal-weighted fund return, and the return spread between the first and third quartile breakpoints of fund performance was 1.32%.
- **Indian Composite Bond Funds:** In the 12-month period ending in June 2021, the [S&P BSE India Bond Index](#) closed in the black, with a gain of 5.05%. Across 3-, 5-, and 10-year periods ending in June 2021, more than 90% of the funds underperformed the benchmark. Over the 10-year period, survivorship rate was 79.55%. For the same period, the asset-weighted fund return was 144 bps higher than the equal-weighted fund return, and the return spread between the first and third quartile breakpoints of fund performance was 1.75%.

A UNIQUE SCORECARD FOR THE ACTIVE VERSUS PASSIVE DEBATE

There is nothing novel about the index versus active debate. It has been a contentious subject for decades, and there are few strong believers on both sides, with the vast majority of market participants falling somewhere in between. The SPIVA India Scorecard provides a semiannual update on the active versus index debate in India. It shows the performance of actively managed Indian mutual funds compared with S&P DJI indices in their respective categories.

Beyond the SPIVA Scorecard's widely cited headline numbers is a rich data set that addresses issues related to measurement techniques, universe composition, and fund survivorship that are far less frequently discussed, but are often much more fascinating. These data sets are rooted in the following fundamental principles of the SPIVA Scorecard, with which regular readers will be familiar.

- **Survivorship Bias Correction:** Many funds might be liquidated or merged during a period of study. However, for someone making an investment decision at the beginning of the period, these funds are part of the opportunity set. Unlike other commonly available comparison reports, SPIVA Scorecards account for the entire opportunity set—not just the survivors—thereby eliminating survivorship bias.
- **Apples-to-Apples Comparison:** Fund returns are often compared with a popular benchmark regardless of their investment category. The SPIVA India Scorecard makes an appropriate comparison by measuring a fund's returns against the returns of a benchmark that reflects the fund's investment category.
- **Asset-Weighted Returns:** Average returns for a fund group are often calculated using only equal weighting, which results in the returns of an INR 10 billion fund affecting the average in the same manner as the returns of an INR 10 million fund. However, the SPIVA India Scorecard shows both equal- and asset-weighted averages. Equal-weighted returns are a measure of average fund performance, while asset-weighted returns are a measure of the performance of the average invested dollar.
- **Style Consistency:** SPIVA Scorecards measure consistency for each style category across different time horizons. Style consistency is an important metric, because style drift (the tendency of funds to diverge from their initial investment categorization) can have an impact on asset allocation decisions.
- **Data Cleaning:** SPIVA Scorecards avoid double counting multiple share classes in all count-based calculations, using only the share class with greater quarterly average assets at the start of the measurement period. Since this is meant to be a scorecard for active managers, index funds, leveraged and inverse funds, and other index-linked products are excluded.

Please note that neither S&P Dow Jones Indices nor any of its affiliates make any assurance or provide any investment recommendation on the appropriateness of investing in either index or active investing. S&P Dow Jones Indices does not sponsor, endorse, sell, or promote 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. The SPIVA India Scorecard simply provides semiannual statistics according to the SPIVA methodology and a brief analysis of those statistics. Further, S&P Dow Jones Indices does advise anyone reading this report to also read the SPIVA methodology in the report to understand how the data were derived.

REPORTS

Report 1a: Percentage of Funds Outperformed by the Index (Based on Absolute Return)

FUND CATEGORY	COMPARISON INDEX	1-YEAR (%)	3-YEAR (%)	5-YEAR (%)	10-YEAR (%)
Indian Equity Large-Cap	S&P BSE 100	86.21	86.67	82.72	65.93
Indian ELSS	S&P BSE 200	53.66	76.19	76.19	48.57
Indian Equity Mid-/Small-Cap	S&P BSE 400 MidSmallCap Index	57.14	48.65	69.57	40.30
Indian Government Bond	S&P BSE India Government Bond Index	70.83	51.85	71.43	86.00
Indian Composite Bond	S&P BSE India Bond Index	50.00	97.90	97.87	100.00

Source: S&P Dow Jones Indices LLC, Morningstar, and Association of Mutual Funds in India. Data as of June 30, 2021. Returns are shown in INR. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 1b: Percentage of Funds Outperformed by the Index (Based on Risk-Adjusted Return)

FUND CATEGORY	COMPARISON INDEX	1-YEAR (%)	3-YEAR (%)	5-YEAR (%)	10-YEAR (%)
Indian Equity Large-Cap	S&P BSE 100	68.97	80.00	72.84	65.19
Indian ELSS	S&P BSE 200	46.34	76.19	80.95	51.43
Indian Equity Mid-/Small-Cap	S&P BSE 400 MidSmallCap Index	55.10	43.24	50.00	32.84
Indian Government Bond	S&P BSE India Government Bond Index	87.50	100.00	90.48	92.00
Indian Composite Bond	S&P BSE India Bond Index	38.67	68.53	60.99	68.18

Source: S&P Dow Jones Indices LLC, Morningstar, and Association of Mutual Funds in India. Data as of June 30, 2021. Returns are shown in INR. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 2: Survivorship of Indian Equity Funds		
FUND CATEGORY	NO. OF FUNDS AT START	SURVIVORSHIP (%)
1-YEAR		
Indian Equity Large-Cap	29	100.00
Indian ELSS	41	100.00
Indian Equity Mid-/Small-Cap	49	100.00
Indian Government Bond	24	100.00
Indian Composite Bond	150	94.00
3-YEAR		
Indian Equity Large-Cap	30	96.67
Indian ELSS	42	92.86
Indian Equity Mid-/Small-Cap	37	94.59
Indian Government Bond	27	92.59
Indian Composite Bond	143	88.81
5-YEAR		
Indian Equity Large-Cap	81	88.89
Indian ELSS	42	88.10
Indian Equity Mid-/Small-Cap	46	93.48
Indian Government Bond	42	61.90
Indian Composite Bond	141	85.11
10-YEAR		
Indian Equity Large-Cap	135	70.37
Indian ELSS	35	85.71
Indian Equity Mid-/Small-Cap	67	76.12
Indian Government Bond	50	42.00
Indian Composite Bond	88	79.55

Source: S&P Dow Jones Indices LLC, Morningstar, and Association of Mutual Funds in India. Data as of June 30, 2021. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 3: Average Fund Performance (Equal Weighted)

INDEX/PEER GROUP	1-YEAR (%)	3-YEAR ANNUALIZED (%)	5-YEAR ANNUALIZED (%)	10-YEAR ANNUALIZED (%)
S&P BSE 100	55.96	14.85	15.16	12.47
Indian Equity Large-Cap	50.83	12.99	13.32	12.07
S&P BSE 200	58.77	15.43	15.64	12.96
Indian ELSS	58.30	13.94	14.31	13.92
S&P BSE 400 MidSmallCap Index	90.56	16.36	16.82	14.37
Indian Equity Mid-/Small-Cap	88.26	18.32	16.97	17.39
S&P BSE India Government Bond Index	4.59	10.31	8.59	9.07
Indian Government Bond	3.34	8.71	7.16	7.50
S&P BSE India Bond Index	5.05	10.19	8.62	9.12
Indian Composite Bond	3.72	4.70	5.07	6.53

Source: S&P Dow Jones Indices LLC, Morningstar, and Association of Mutual Funds in India. Data as of June 30, 2021. Returns are shown in INR. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 4: Average Fund Performance (Asset Weighted)

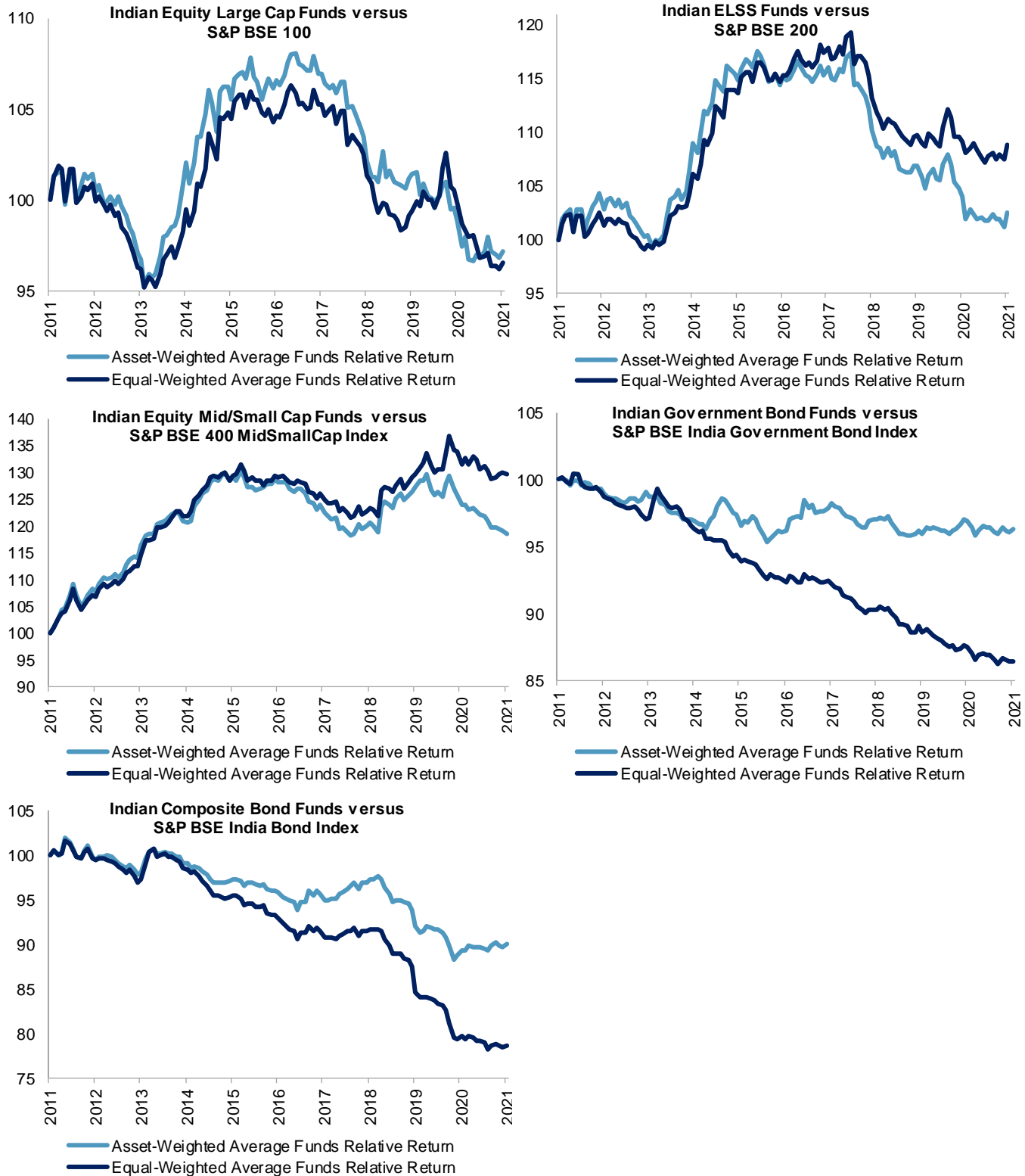
INDEX/PEER GROUP	1-YEAR (%)	3-YEAR ANNUALIZED (%)	5-YEAR ANNUALIZED (%)	10-YEAR ANNUALIZED (%)
S&P BSE 100	55.96	14.85	15.16	12.47
Indian Equity Large-Cap	53.42	12.96	13.06	12.15
S&P BSE 200	58.77	15.43	15.64	12.96
Indian ELSS	56.26	12.68	12.94	13.23
S&P BSE 400 MidSmallCap Index	90.56	16.36	16.82	14.37
Indian Equity Mid-/Small-Cap	82.16	15.61	14.99	16.32
S&P BSE India Government Bond Index	4.59	10.31	8.59	9.07
Indian Government Bond	3.93	10.02	8.61	8.66
S&P BSE India Bond Index	5.05	10.19	8.62	9.12
Indian Composite Bond	5.77	7.35	7.25	7.97

Source: S&P Dow Jones Indices LLC, Morningstar, and Association of Mutual Funds in India. Data as of June 30, 2021. Returns are shown in INR. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 5: Quartile Breakpoints of Fund Performance			
FUND CATEGORY	THIRD QUARTILE	SECOND QUARTILE	FIRST QUARTILE
1-YEAR			
Indian Equity Large-Cap	47.26	50.87	54.56
Indian ELSS	53.58	58.41	63.17
Indian Equity Mid-/Small-Cap	73.23	87.65	101.09
Indian Government Bond	2.69	3.61	4.67
Indian Composite Bond	3.89	5.14	6.27
3-YEAR			
Indian Equity Large-Cap	11.96	12.93	13.47
Indian ELSS	10.82	12.60	15.55
Indian Equity Mid-/Small-Cap	12.98	16.69	19.33
Indian Government Bond	8.48	10.51	10.84
Indian Composite Bond	5.51	8.18	9.07
5-YEAR			
Indian Equity Large-Cap	12.50	13.31	14.78
Indian ELSS	11.74	13.03	15.77
Indian Equity Mid-/Small-Cap	12.77	15.48	17.47
Indian Government Bond	7.19	8.27	9.58
Indian Composite Bond	6.08	7.21	8.07
10-YEAR			
Indian Equity Large-Cap	10.98	12.34	13.59
Indian ELSS	12.12	13.49	14.57
Indian Equity Mid-/Small-Cap	14.48	16.29	18.02
Indian Government Bond	8.08	8.68	9.40
Indian Composite Bond	6.44	7.43	8.18

Source: S&P Dow Jones Indices LLC, Morningstar, and Association of Mutual Funds in India. Data as of June 30, 2021. Returns are shown in INR. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

CUMULATIVE AVERAGE FUND RETURN RELATIVE TO BENCHMARK



Source: S&P Dow Jones Indices LLC, Morningstar, and Association of Mutual Funds in India. Data as of June 30, 2021. Returns are shown in INR. Past performance is no guarantee of future results. Charts are provided for illustrative purposes and reflect hypothetical historical performance. Please see Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

APPENDIX A: GLOSSARY

Data

Data from Morningstar is obtained for all managed funds domiciled in India for which month-end data are available during the performance period. The data include the most comprehensive Indian fund data on active and finalized (merged or liquidated) funds over the chosen period.

Quarterly average assets for all managed funds are sourced from the Association of Mutual Funds in India for every quarter-end during the performance period.

SPIVA Styles and Morningstar Fund Classifications

Funds are classified based on the Morningstar fund classification system, and the SPIVA India Scorecard covers Indian Equity Large-Cap, Indian ELSS, Indian Equity Mid-/Small-Cap, Indian Government Bond, and Indian Composite Bond categories.

The Morningstar classification system produces narrow, style-based classifications for Indian funds. S&P Dow Jones Indices has consolidated the style-based categories in order to generate a larger sample size and develop a broad-market comparison to market-based benchmarks. A narrow, style-based comparison would yield a limited sample size, given that value and growth style segments are not consistently discernible over the previous five-year period.

Morningstar categories have been mapped to SPIVA peer groups in the following manner.

Exhibit 1 a: Indian Funds – SPIVA and Current Morningstar Categories	
SPIVA CATEGORY	MORNINGSTAR CATEGORY
Indian Equity Large-Cap	India Fund Large-Cap
Indian ELSS	India Fund ELSS (Tax Savings)
Indian Equity Mid-/Small-Cap	India Fund Mid-Cap
	India Fund Small-Cap
Indian Government Bond	India Fund Government Bond
	India Fund 10 yr Government Bond
	India Fund Short Duration
	India Fund Medium Duration
	India Fund Medium to Long Duration
Indian Composite Bond	India Fund Long Duration
	India Fund Dynamic Bond
	India Fund Banking & PSU
	India Fund Corporate Bond
	India Fund Credit Risk

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

Exhibit 1b: Indian Funds – SPIVA and Historical Morningstar Categories	
SPIVA CATEGORY	MORNINGSTAR CATEGORY
Indian Equity Large-Cap	India CE Large Cap
	India OE Large Cap
	India OE Large-Cap
Indian ELSS	India OE ELSS (Tax Saving)
Indian Equity Mid-/Small-Cap	India CE Small/Mid Cap
	India OE Small/Mid Cap
	India OE Small/Mid-Cap
	India Fund Small/Mid-Cap
Indian Government Bond	India OE Long Government
	India OE Long-Term Government Bond
	India OE Intermediate Government Bond
	India OE Intermediate Government
	India OE Short Government
	India OE Short-Term Government Bond
	India Fund Long-Term Government Bond
	India Fund Intermediate Government Bond
	India Fund Short-Term Government Bond
Indian Composite Bond	India OE Intermediate Bond
	India OE Short-term Bond
	India OE Long-Term Bond
	India OE Fixed Maturity Multisector Bond
	India OE Fixed Maturity Short-term Bond
	India OE FMP Multisector Bond
	India OE Multisector Bond
	India OE Corporate Credit
	India Fund Long-Term Bond
	India Fund Intermediate Bond
	India Fund Short-Term Bond
India Fund Corporate Credit	

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

Benchmarks

The chosen benchmarks are shown in Exhibit 2. All index returns are total returns (i.e., include dividend reinvestment) in Indian rupees. There has been no deduction from index returns to account for fund investment expenses. It is important to note that active fund returns are after expenses, but they do not include loads and entry fees.

The benchmarks chosen are the most commonly adopted benchmarks for funds that fall into the respective fund peer groups. In some instances, a fund may not adopt the benchmarks stipulated in Exhibit 2. However, a vast majority do set their performance hurdle based on the assigned benchmarks in this report, ensuring that the study is robust and fair.

Exhibit 2: SPIVA Categories and Their Benchmarks	
SPIVA CATEGORY	BENCHMARK INDEX
Indian Equity Large-Cap	S&P BSE 100
Indian ELSS	S&P BSE 200
Indian Equity Mid-/Small-Cap ¹	S&P BSE 400 MidSmallCap Index
Indian Government Bond	S&P BSE India Government Bond Index
Indian Composite Bond	S&P BSE India Bond Index

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

¹ The benchmark for the SPIVA category India Equity Mid-/Small-Cap in SPIVA India scorecards prior to the SPIVA India Mid-Year 2018 scorecard was the [S&P BSE MidCap](#).

APPENDIX B: GLOSSARY

Percentage of Funds Outperformed by 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 beaten the index. We then report the index outperformance percentage.

Survivorship (%)

This measure represents the percentage of funds in existence at the beginning of the time period that is still active at the end of the time period.

Equal-Weighted Fund Performance

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

Asset-Weighted Fund Performance

Asset-weighted returns for a particular style category are determined by calculating a weighted average return of all funds in that category in a particular month, with each fund's return weighted by its latest quarterly average assets available as of that month from the Association of Mutual Funds in India. Asset-weighted returns are a better indicator of fund category performance because they more accurately reflect the returns of the total money invested in that particular style category.

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 it 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 75th percentile, the value separating the elements of a population into the lower 75% and the upper 25%. The second quartile is the 50th percentile and the third quartile is the 25th percentile. For fund category quartiles in a particular time horizon, the data used are the return of the largest share class of the fund net of fees, excluding loads.

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

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

S&P BSE 100

The S&P BSE 100 is designed to measure the performance of the top 100 companies in India based on size and liquidity. It is a highly liquid and investable index that is designed to address investment managers' needs to benchmark against a large-cap equity portfolio.

S&P BSE 200

The S&P BSE 200 is designed to represent the top 200 large, liquid, well-established, and financially sound companies listed at BSE Ltd. across sectors.

S&P BSE 400 MIDS SMALLCAP INDEX

The S&P BSE 400 MidSmallCap Index is designed to track the performance of the 400 companies within the [S&P BSE 500](#) that are not part of S&P BSE 100.

S&P BSE INDIA GOVERNMENT BOND INDEX

The S&P BSE India Government Bond Index is designed to track the performance of local-currency-denominated government bonds from India.

S&P BSE INDIA BOND INDEX

The S&P BSE India Bond Index is designed to track the performance of local-currency-denominated government and corporate bonds from India.

ABOUT ASIA INDEX PRIVATE LIMITED

Asia Index Pvt. Ltd is a 50-50 partnership between S&P Dow Jones Indices LLC, the world's largest provider of financial market indices, and BSE Ltd, Asia's oldest stock exchange and home to the iconic SENSEX index - a leading indicator of Indian equity market performance. Asia Index Pvt. Ltd, which combines the benchmarks, market intelligence, and insights of both parent companies, each established more than 115 years ago, aims to provide a full array of indices enabling global and domestic investors to participate in South Asia's vibrant economies. The Company is best known for calculating, publishing, and maintaining a diverse family of Asian indices under the umbrella brand, S&P BSE Indices. To learn more about our company, please visit www.asiaindex.co.in.

PERFORMANCE DISCLOSURE/BACK-TESTED DATA

The S&P BSE 400 MidSmallCap Index was launched November 30, 2017. The S&P BSE India Government Bond Index and the S&P BSE India Bond Index were launched December 31, 2013. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at <http://www.spglobal.com/spdji/>. Past performance of the Index is not an indication of future results. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results. Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations. Back-tested performance is for use with institutions only; not for use with retail investors.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate S&P DJI's ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the [FAQ](#). The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used.

Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices maintains the index and calculates the index levels and performance shown or discussed but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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