

Canada Persistence Scorecard

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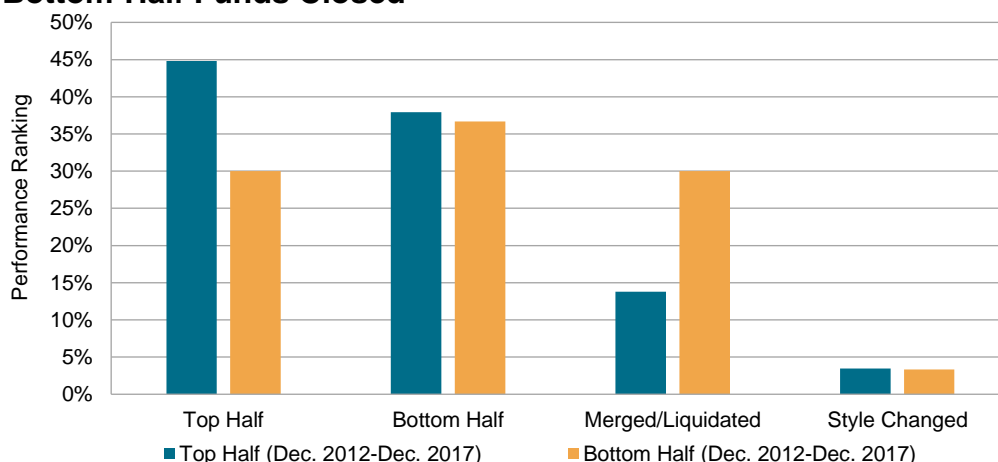
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Summary

Can investment results be attributed to skill or luck? Genuine skill is more likely to persist, while luck is random and fleeting. Thus, one measure of skill is the consistency of a fund's performance relative to its peers. The Persistence Scorecard evaluates consistency and shows that **in every style and geographic focus, active management outperformance diminishes over time**, with few funds consistently outranking their peers.

Canadian equity indices suffered sharp declines in the first half of 2022, followed by fluctuations in the second half before finishing the year slightly negative. Canadian Equity funds fared better than usual, with only 52% underperforming over the one-year period. Among all Canadian domestic equity funds ranked in the top quartile of performance over the 12-month period ending December 2018, **none maintained a top-quartile position for the next four years** (see Report 2).

Exhibit 1: Top-Half Funds Were Unlikely to Persist, While Many Bottom-Half Funds Closed



Source: S&P Dow Jones Indices LLC, Fundata Canada Inc. Data as of Dec. 30, 2022. Chart is provided for illustrative purposes. Past performance is no guarantee of future results.

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Exhibit 1 shows that among Canadian Equity funds ranked in the top half of peer rankings over the five-year period ending December 2017, 45% remained in the top half, while 55% fell to the bottom half, merged/liquidated or changed investment styles (see Report 6).

Report Highlights

- While slightly more than expected actively managed domestic equity funds maintained their top-quartile ranking for a few 12-month periods, **persistence of ranking soon fell below what would be expected by random chance. Over five years, none were able to maintain their top-quartile ranking** (see Report 2).
- Among actively managed **domestic equity** funds with top-quartile performance over the 12-month period ending December 2020, **5.9% of Canada Equity funds and 6.7% of Canada Dividend & Income Equity funds maintained top-quartile performance over the subsequent two 12-month intervals**. In every other category, no funds maintained top-quartile performance over three 12-month periods (see Report 1).
- Across a **five-year horizon**, evidence of persistent active fund outperformance was nonexistent. Within the group of active funds achieving top-quartile performance in their respective categories over the 12-month period ending December 2018, **not a single fund remained in the top quartile through each of the subsequent one-year periods through December 2022** (see Report 2).
- **Over discrete five-year periods, a greater-than-expected proportion of funds in two domestic equity and three international equity categories maintained their relative performance standing compared with their peers**. If performance were purely random in terms of comparing funds to their peers, one would expect 25% of top-quartile funds to remain in the top quartile in a subsequent period. Our scorecard reports an unweighted average of 40% of top-quartile Canadian Equity, 41% of top-quartile Canadian Focused Equity funds, 50% of top-quartile Global Equity funds, 31% of top-quartile International Equity funds and 46% of top-quartile U.S. Equity funds remained in the top quartile over two consecutive five-year periods (see Report 5).
- **Underperformance significantly increased the risk of fund closures**. For example, across all actively managed equity funds in four domestic categories (Canadian Equity, Canadian Focused Equity, Canadian Dividend & Income Equity and Canadian Small/Mid-Cap Equity) that were in the bottom half of performance in the five-year period ending in December 2017, more than 35% were subsequently merged or liquidated over the next five years. In contrast, among all funds in the top half across those same four categories for the five-year period ending December 2017, less than 18% were liquidated or merged in the subsequent five-year period (see Report 6).

- While liquidation was a more likely outcome for lower-ranked funds, **style changes shared no strong relationship with underperformance**. Over five-year horizons for all four domestic equity categories, **the highest rate of style change, at 21%, actually occurred within the top-quartile Canadian Dividend & Income Equity funds**. The average rate of style changes across all categories for top-quartile funds was 8%, while for bottom-quartile funds it was 5% (see Reports 5 and 6).

About the Persistence Scorecard

The phrase “past performance is no guarantee of future results” (or some variation thereof) can be found in the fine print of most mutual fund literature. Yet many investors and advisors consider past performance and related metrics to be important factors in fund selection. So does past performance really matter?

To answer this question, the semiannual S&P Persistence Scorecard tracks the degree to which historical relative performance is predictive of future relative performance. This scorecard highlights performance persistence over three and five consecutive 12-month periods and two non-overlapping three- and five-year periods.

As in our widely followed SPIVA® Scorecards, Fundata Canada serves as our underlying data source. For a more detailed description of the Persistence Scorecard’s allocation of funds to appropriate categories, and how funds are screened and selected for inclusion, please see the corresponding [SPIVA Canada Mid-Year 2022 Scorecard](#).¹

Key features of the S&P Persistence Scorecard include:

- **Historical rankings without survivorship bias:** For anyone making an investment decision, all funds available at the time of that decision are part of the initial opportunity set. Ignoring funds that liquidate or merge during a period of study biases measurements of persistence. Using the Fundata database, the S&P Persistence Scorecard ranks all funds available at each point in time and tracks the top-quartile and top-half performers over time.
- **Clean universe:** The mutual fund universe used in these reports comprises actively managed domestic Canadian equity funds. Index funds, sector funds and index-based dynamic (bull or bear) funds are excluded from the sample. To avoid double counting of multiple share classes, only the share class with the highest previous period return of each fund is used.
- **Transition matrices:** Transition matrices show the movements between quartiles and halves over non-overlapping three- and five-year periods. They also track the percentage of funds that have merged or liquidated. In addition, we monitor movements across capitalization levels. This helps us measure, for example, the conversion of some large-cap funds to mid- and small-cap funds.²
- **Tracking reports of top performers:** The tracking reports show the percentage of funds that remain in the top-quartile or top-half rankings over consecutive three- and five-year periods.

¹ The latest and historical SPIVA Scorecards for each region can be found at <https://www.spglobal.com/spdji/en/research-insights/spiva/>.

² Starting with the Persistence Scorecard Year-End 2019, the style change calculation includes funds that changed fund categories at any point between the relevant start and end dates. Previously, this calculation was only checked if the fund category remained identical at the endpoints.

Reports

Report 1a: Performance Persistence of Canadian Equity Funds over Three Consecutive 12-Month Periods

| Fund Category | Fund Count at Start (December 2020) | Percentage Remaining in Top Quartile | |
|-----------------------------------|--|--------------------------------------|---------------|
| | | December 2021 | December 2022 |
| Top Quartile | | | |
| Canadian Equity | 17 | 11.76 | 5.88 |
| Canadian Focused Equity | 17 | 11.76 | 0.00 |
| Canadian Dividend & Income Equity | 15 | 20.00 | 6.67 |
| Canadian Small-/Mid-Cap Equity | 8 | 25.00 | 0.00 |
| Global Equity | 59 | 16.95 | 0.00 |
| International Equity | 16 | 12.50 | 0.00 |
| U.S. Equity | 37 | 16.22 | 0.00 |
| Fund Category | Fund Count at Start (December 2020) | Percentage Remaining in Top Quartile | |
| | | December 2021 | December 2022 |
| Top Half | | | |
| Canadian Equity | 34 | 44.12 | 20.59 |
| Canadian Focused Equity | 33 | 33.33 | 18.18 |
| Canadian Dividend & Income Equity | 30 | 40.00 | 20.00 |
| Canadian Small-/Mid-Cap Equity | 15 | 26.67 | 6.67 |
| Global Equity | 117 | 44.44 | 9.40 |
| International Equity | 32 | 43.75 | 6.25 |
| U.S. Equity | 74 | 47.30 | 18.92 |

Source: S&P Dow Jones Indices LLC, Fundata Canada Inc. Data as of Dec. 30, 2022. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Report 1b: Alpha Persistence of Canadian Equity Funds over Three Consecutive 12-Month Periods

| Fund Category | Benchmark | Total Fund Count | Funds Outperforming the Benchmark (December 2020) | | Percentage Continuing to Outperform the Benchmark | |
|-----------------------------------|--|------------------|---|------------|---|---------------|
| | | | Count | Percentage | December 2021 | December 2022 |
| Canadian Equity | S&P/TSX Composite Index | 68 | 13 | 19.12 | 15.38 | 7.69 |
| Canadian Focused Equity | 50% S&P/TSX Composite Index + 25% S&P 500 (CAD) + 25% S&P EPAC LargeMidCap (CAD) | 69 | 21 | 30.43 | 42.86 | 0.00 |
| Canadian Dividend & Income Equity | S&P/TSX Canadian Dividend Aristocrats Index | 61 | 32 | 52.46 | 31.25 | 18.75 |
| Canadian Small-/Mid-Cap Equity | S&P/TSX Completion Index | 30 | 23 | 76.67 | 86.96 | 4.35 |
| Global Equity | S&P Developed LargeMidCap (CAD) | 243 | 65 | 26.75 | 12.31 | 0.00 |
| International Equity | S&P EPAC LargeMidCap (CAD) | 68 | 29 | 42.65 | 24.14 | 0.00 |
| U.S. Equity | S&P 500 (CAD) | 148 | 46 | 31.08 | 10.87 | 2.17 |

Source: S&P Dow Jones Indices LLC, Fundata Canada Inc. Data as of Dec. 30, 2022. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Report 2: Performance Persistence of Domestic Equity Funds over Five Consecutive 12-Month Periods

MONTHLY PERIODS

| Fund Category | Fund Count at Start (December 2018) | Percentage Remaining in Top Quartile | | | |
|--------------------------------------|--|--------------------------------------|------------------|------------------|------------------|
| | | December 2019 | December 2020 | December 2021 | December 2022 |
| Top Quartile | | | | | |
| Canadian Equity | 17 | 35.29 | 17.65 | 0.00 | 0.00 |
| Canadian Focused Equity | 19 | 42.11 | 26.32 | 0.00 | 0.00 |
| Canadian Dividend & Income Equity | 16 | 31.25 | 6.25 | 0.00 | 0.00 |
| Canadian Small-/Mid-Cap Equity | 9 | 11.11 | 0.00 | 0.00 | 0.00 |
| Global Equity | 52 | 38.46 | 28.85 | 3.85 | 0.00 |
| International Equity | 15 | 6.67 | 0.00 | 0.00 | 0.00 |
| U.S. Equity | 34 | 44.12 | 38.24 | 8.82 | 0.00 |
| Fund Category | Fund Count at Start (December 2018) | Percentage Remaining in Top Quartile | | | |
| | | December 2019 | December 2020 | December 2021 | December 2022 |
| Top Half | | | | | |
| Canadian Equity | 33 | 45.45 | 39.39 | 24.24 | 9.09 |
| Canadian Focused Equity | 39 | 41.03 | 33.33 | 7.69 | 5.13 |
| Canadian Dividend & Income Equity | 32 | 62.50 | 43.75 | 15.63 | 12.50 |
| Canadian Small-/Mid-Cap Equity | 17 | 41.18 | 29.41 | 11.76 | 5.88 |
| Global Equity | 105 | 50.48 | 40.00 | 20.00 | 5.71 |
| International Equity | 30 | 36.67 | 30.00 | 13.33 | 3.33 |
| U.S. Equity | 69 | 52.17 | 44.93 | 17.39 | 4.35 |

Source: S&P Dow Jones Indices LLC, Fundata Canada Inc. Data as of Dec. 30, 2022. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Report 3: Three-Year Transition Matrix – Performance over Two Non-Overlapping Three-Year Periods (Based on Quartiles)

| Year Percentages (Based on Quartiles) | | | | | | | |
|---|--|--|------------------|------------------|------------------|-----------------------|-------------------|
| Quartile | Fund Count at Start (December 2016-2019) | Three-Year Percentages at End (December 2019-2022) | | | | | Style Changed (%) |
| | | 1st Quartile (%) | 2nd Quartile (%) | 3rd Quartile (%) | 4th Quartile (%) | Merged/Liquidated (%) | |
| Canadian Equity Funds | | | | | | | |
| 1st Quartile | 15 | 20.00 | 20.00 | 33.33 | 20.00 | 6.67 | 0.00 |
| 2nd Quartile | 15 | 20.00 | 33.33 | 13.33 | 20.00 | 6.67 | 6.67 |
| 3rd Quartile | 15 | 26.67 | 13.33 | 26.67 | 33.33 | 0.00 | 0.00 |
| 4th Quartile | 15 | 20.00 | 13.33 | 13.33 | 20.00 | 33.33 | 0.00 |
| Canadian Focused Equity Funds | | | | | | | |
| 1st Quartile | 17 | 17.65 | 41.18 | 17.65 | 11.76 | 11.76 | 0.00 |
| 2nd Quartile | 16 | 18.75 | 12.50 | 25.00 | 25.00 | 6.25 | 12.50 |
| 3rd Quartile | 17 | 17.65 | 11.76 | 35.29 | 23.53 | 11.76 | 0.00 |
| 4th Quartile | 17 | 23.53 | 17.65 | 5.88 | 17.65 | 17.65 | 17.65 |
| Canadian Dividend & Income Equity Funds | | | | | | | |
| 1st Quartile | 15 | 13.33 | 26.67 | 6.67 | 26.67 | 6.67 | 20.00 |
| 2nd Quartile | 14 | 35.71 | 21.43 | 28.57 | 0.00 | 0.00 | 14.29 |
| 3rd Quartile | 15 | 26.67 | 20.00 | 6.67 | 33.33 | 13.33 | 0.00 |
| 4th Quartile | 15 | 20.00 | 20.00 | 20.00 | 26.67 | 13.33 | 0.00 |
| Canadian Small-/Mid-Cap Equity Funds | | | | | | | |
| 1st Quartile | 8 | 25.00 | 25.00 | 12.50 | 25.00 | 12.50 | 0.00 |
| 2nd Quartile | 7 | 28.57 | 28.57 | 14.29 | 14.29 | 0.00 | 14.29 |
| 3rd Quartile | 7 | 14.29 | 28.57 | 28.57 | 28.57 | 0.00 | 0.00 |
| 4th Quartile | 8 | 25.00 | 0.00 | 37.50 | 25.00 | 0.00 | 12.50 |
| Global Equity Funds | | | | | | | |
| 1st Quartile | 49 | 30.61 | 26.53 | 14.29 | 20.41 | 8.16 | 0.00 |
| 2nd Quartile | 49 | 22.45 | 30.61 | 24.49 | 14.29 | 8.16 | 0.00 |
| 3rd Quartile | 49 | 20.41 | 22.45 | 28.57 | 20.41 | 6.12 | 2.04 |
| 4th Quartile | 49 | 18.37 | 12.24 | 24.49 | 26.53 | 10.20 | 8.16 |
| International Equity Funds | | | | | | | |
| 1st Quartile | 13 | 53.85 | 23.08 | 7.69 | 15.38 | 0.00 | 0.00 |
| 2nd Quartile | 13 | 23.08 | 7.69 | 7.69 | 46.15 | 15.38 | 0.00 |
| 3rd Quartile | 13 | 7.69 | 15.38 | 53.85 | 7.69 | 7.69 | 7.69 |
| 4th Quartile | 13 | 7.69 | 30.77 | 23.08 | 23.08 | 15.38 | 0.00 |
| U.S. Equity Funds | | | | | | | |
| 1st Quartile | 32 | 25.00 | 12.50 | 21.88 | 31.25 | 3.13 | 6.25 |
| 2nd Quartile | 31 | 25.81 | 25.81 | 29.03 | 12.90 | 6.45 | 0.00 |
| 3rd Quartile | 31 | 25.81 | 22.58 | 19.35 | 16.13 | 16.13 | 0.00 |
| 4th Quartile | 32 | 12.50 | 28.13 | 18.75 | 21.88 | 18.75 | 0.00 |

Source: S&P Dow Jones Indices LLC, Funddata Canada Inc. Data as of Dec. 30, 2022. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Report 4: Three-Year Transition Matrix – Performance over Two Non-Overlapping Three-Year Periods (Based on Halves)

| Half | Fund Count at Start (December 2016-2019) | Three-Year Percentages at End (December 2019-2022) | | | |
|---|---|--|-----------------|-----------------------|-------------------|
| | | Top Half (%) | Bottom Half (%) | Merged/Liquidated (%) | Style Changed (%) |
| Canadian Equity Funds | | | | | |
| Top Half | 30 | 46.67 | 43.33 | 6.67 | 3.33 |
| Bottom Half | 30 | 36.67 | 46.67 | 16.67 | 0.00 |
| Canadian Focused Equity Funds | | | | | |
| Top Half | 33 | 45.45 | 39.39 | 9.09 | 6.06 |
| Bottom Half | 34 | 35.29 | 41.18 | 14.71 | 8.82 |
| Canadian Dividend & Income Equity Funds | | | | | |
| Top Half | 29 | 48.28 | 31.03 | 3.45 | 17.24 |
| Bottom Half | 30 | 43.33 | 43.33 | 13.33 | 0.00 |
| Canadian Small-/Mid-Cap Equity Funds | | | | | |
| Top Half | 15 | 53.33 | 33.33 | 6.67 | 6.67 |
| Bottom Half | 15 | 33.33 | 60.00 | 0.00 | 6.67 |
| Global Equity Funds | | | | | |
| Top Half | 98 | 55.10 | 36.73 | 8.16 | 0.00 |
| Bottom Half | 98 | 36.73 | 50.00 | 8.16 | 5.10 |
| International Equity Funds | | | | | |
| Top Half | 26 | 53.85 | 38.46 | 7.69 | 0.00 |
| Bottom Half | 26 | 30.77 | 53.85 | 11.54 | 3.85 |
| U.S. Equity Funds | | | | | |
| Top Half | 63 | 44.44 | 47.62 | 4.76 | 3.17 |
| Bottom Half | 63 | 44.44 | 38.10 | 17.46 | 0.00 |

Source: S&P Dow Jones Indices LLC, Fundata Canada Inc. Data as of Dec. 30, 2022. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Report 5: Five-Year Transition Matrix – Performance over Two Non-Overlapping Five-Year Periods (Based on Quartile)

| Fund Count at Start (December 2012-2017) | | Five-Year Percentages at End (December 2017-2022) | | | | | |
|--|----|---|------------------|------------------|------------------|-----------------------|-------------------|
| Quartile | | 1st Quartile (%) | 2nd Quartile (%) | 3rd Quartile (%) | 4th Quartile (%) | Merged/Liquidated (%) | Style Changed (%) |
| Canadian Equity Funds | | | | | | | |
| 1st Quartile | 15 | 40.00 | 20.00 | 6.67 | 13.33 | 13.33 | 6.67 |
| 2nd Quartile | 14 | 14.29 | 14.29 | 21.43 | 35.71 | 14.29 | 0.00 |
| 3rd Quartile | 15 | 6.67 | 13.33 | 33.33 | 20.00 | 20.00 | 6.67 |
| 4th Quartile | 15 | 13.33 | 26.67 | 13.33 | 6.67 | 40.00 | 0.00 |
| Canadian Focused Equity Funds | | | | | | | |
| 1st Quartile | 22 | 40.91 | 9.09 | 13.64 | 13.64 | 13.64 | 9.09 |
| 2nd Quartile | 21 | 4.76 | 0.00 | 23.81 | 14.29 | 52.38 | 4.76 |
| 3rd Quartile | 21 | 4.76 | 14.29 | 4.76 | 23.81 | 33.33 | 19.05 |
| 4th Quartile | 22 | 0.00 | 31.82 | 4.55 | 9.09 | 54.55 | 0.00 |
| Canadian Dividend & Income Equity Funds | | | | | | | |
| 1st Quartile | 14 | 21.43 | 28.57 | 7.14 | 7.14 | 14.29 | 21.43 |
| 2nd Quartile | 14 | 42.86 | 21.43 | 21.43 | 7.14 | 0.00 | 7.14 |
| 3rd Quartile | 14 | 7.14 | 7.14 | 21.43 | 28.57 | 21.43 | 14.29 |
| 4th Quartile | 14 | 0.00 | 7.14 | 21.43 | 35.71 | 35.71 | 0.00 |
| Canadian Small-/Mid-Cap Equity Funds | | | | | | | |
| 1st Quartile | 9 | 22.22 | 33.33 | 11.11 | 33.33 | 0.00 | 0.00 |
| 2nd Quartile | 9 | 22.22 | 11.11 | 33.33 | 11.11 | 11.11 | 11.11 |
| 3rd Quartile | 9 | 33.33 | 11.11 | 11.11 | 22.22 | 22.22 | 0.00 |
| 4th Quartile | 9 | 0.00 | 22.22 | 11.11 | 11.11 | 44.44 | 11.11 |
| Global Equity Funds | | | | | | | |
| 1st Quartile | 38 | 50.00 | 23.68 | 7.89 | 15.79 | 2.63 | 0.00 |
| 2nd Quartile | 38 | 23.68 | 26.32 | 15.79 | 18.42 | 15.79 | 0.00 |
| 3rd Quartile | 38 | 7.89 | 21.05 | 39.47 | 23.68 | 5.26 | 2.63 |
| 4th Quartile | 39 | 7.69 | 15.38 | 23.08 | 23.08 | 23.08 | 7.69 |
| International Equity Funds | | | | | | | |
| 1st Quartile | 13 | 30.77 | 15.38 | 7.69 | 23.08 | 7.69 | 15.38 |
| 2nd Quartile | 12 | 0.00 | 33.33 | 33.33 | 16.67 | 8.33 | 8.33 |
| 3rd Quartile | 12 | 41.67 | 16.67 | 16.67 | 16.67 | 8.33 | 0.00 |
| 4th Quartile | 13 | 15.38 | 15.38 | 7.69 | 15.38 | 30.77 | 15.38 |
| U.S. Equity Funds | | | | | | | |
| 1st Quartile | 24 | 45.83 | 20.83 | 8.33 | 20.83 | 0.00 | 4.17 |
| 2nd Quartile | 24 | 16.67 | 37.50 | 12.50 | 25.00 | 8.33 | 0.00 |
| 3rd Quartile | 24 | 8.33 | 12.50 | 33.33 | 12.50 | 29.17 | 4.17 |
| 4th Quartile | 25 | 12.00 | 12.00 | 24.00 | 20.00 | 28.00 | 4.00 |

Source: S&P Dow Jones Indices LLC, Funddata Canada Inc. Data as of Dec. 30, 2022. Table is provided for illustrative purposes. Past performance is no guarantee of future results

Report 6: Five-Year Transition Matrix – Performance over Two Non-Overlapping Five-Year Periods (Based on Halves)

| Half | Fund Count at Start (December 2012-2017) | Three-Year Percentage at End (December 2017-2022) | | | |
|---|---|---|-----------------|-----------------------|-------------------|
| | | Top Half (%) | Bottom Half (%) | Merged/Liquidated (%) | Style Changed (%) |
| Canadian Equity Funds | | | | | |
| Top Half | 29 | 44.83 | 37.93 | 13.79 | 3.45 |
| Bottom Half | 30 | 30.00 | 36.67 | 30.00 | 3.33 |
| Canadian Focused Equity Funds | | | | | |
| Top Half | 43 | 27.91 | 32.56 | 32.56 | 6.98 |
| Bottom Half | 43 | 25.58 | 20.93 | 44.19 | 9.30 |
| Canadian Dividend & Income Equity Funds | | | | | |
| Top Half | 28 | 57.14 | 21.43 | 7.14 | 14.29 |
| Bottom Half | 28 | 10.71 | 53.57 | 28.57 | 7.14 |
| Canadian Small-/Mid-Cap Equity Funds | | | | | |
| Top Half | 18 | 44.44 | 44.44 | 5.56 | 5.56 |
| Bottom Half | 18 | 33.33 | 27.78 | 33.33 | 5.56 |
| Global Equity Funds | | | | | |
| Top Half | 76 | 61.84 | 28.95 | 9.21 | 0.00 |
| Bottom Half | 77 | 25.97 | 54.55 | 14.29 | 5.19 |
| International Equity Funds | | | | | |
| Top Half | 25 | 40.00 | 40.00 | 8.00 | 12.00 |
| Bottom Half | 25 | 44.00 | 28.00 | 20.00 | 8.00 |
| U.S. Equity Funds | | | | | |
| Top Half | 48 | 60.42 | 33.33 | 4.17 | 2.08 |
| Bottom Half | 49 | 22.45 | 44.90 | 28.57 | 4.08 |

Source: S&P Dow Jones Indices LLC, Fundata Canada Inc. Data as of Dec. 30, 2022. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

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