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INDEXING 101

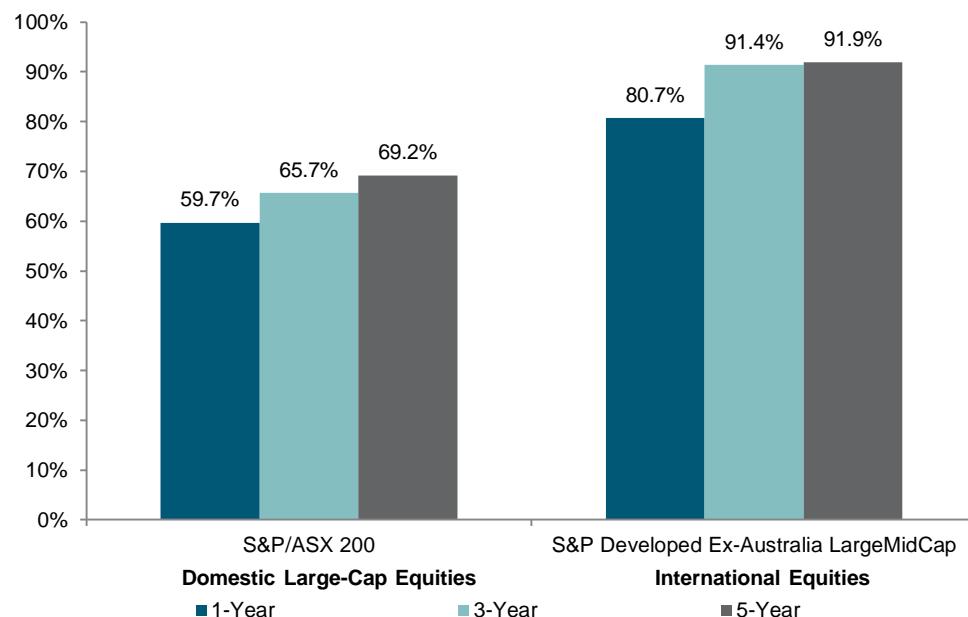
Three Reasons to Consider Index Funds

Index-based investing involves choosing investment products that track or mirror a market or segments of a market, such as the [S&P/ASX 200](#). The goal of investing with an index-linked product is to achieve the same return as the index, thereby achieving pure exposure to chosen market segments. For several reasons, index-based investing may be a viable complement or substitute for actively managed investments.

INDICES OUTPERFORM A MAJORITY OF ACTIVELY MANAGED FUNDS

Twice a year, S&P Dow Jones Indices releases the S&P Indices Versus Active (SPIVA®) Scorecard, which is designed to track the number of actively managed mutual funds that beat their comparable benchmarks over one-, three-, and five-year timeframes. The SPIVA Australia Mid-Year 2016 Scorecard showed that both domestic and international benchmark indices outperformed the majority of their comparable actively managed funds over three- and five-year horizons (see Exhibit 1).

Exhibit 1: Percentage of Active Funds Outperformed by Comparable Index



Source: S&P Dow Jones Indices LLC, SPIVA Australia Mid-Year 2016 Scorecard. Data as of June 30, 2016. Chart is provided for illustrative purposes. Past performance is no guarantee of future results. It is not possible to invest directly in an index.

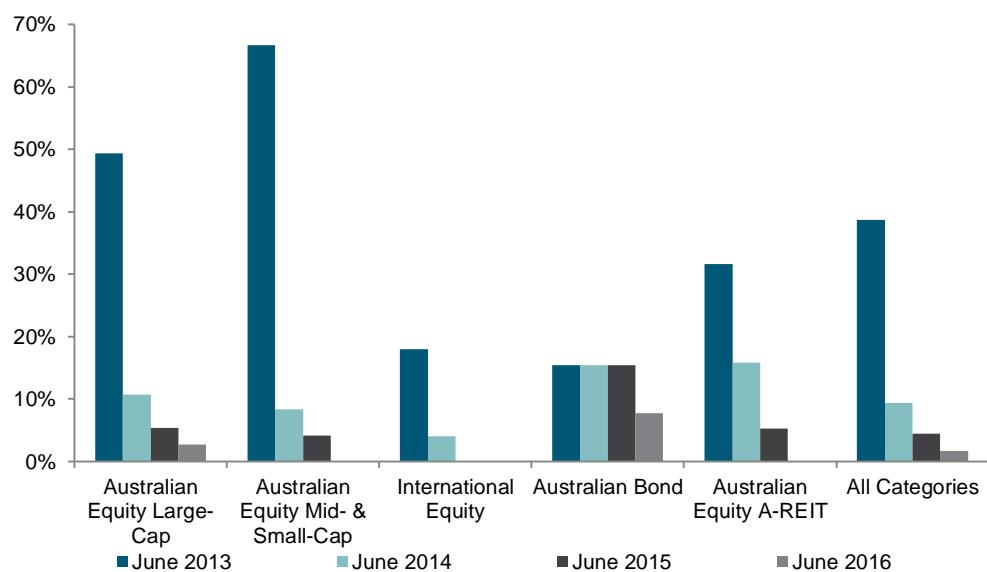
Benchmark indices outperformed the majority of their comparable actively managed funds over the five-year horizon.

WINNING STREAKS OFTEN DO NOT LAST

Among the other Australian fund categories studied, none of the funds that began as top-quartile performers in June 2012 managed to stay in the top quartile over the four-year period.

Research suggests that actively managed winning streaks are often short lived. Out of 181 top-quartile Australian active funds (across five examined categories) from June 2012, only 1.7% (three funds) managed to remain in the top quartile by the end of June 2016. Australian large-cap equity and bond funds had 75 and 13 funds, respectively, in the top quartile in June 2012, but just 2.7% (two funds) and 7.7% (one fund) of the respective fund categories remained in the top quartile four years later. Among the other Australian fund categories studied, none of the funds that began as top-quartile performers in June 2012 managed to stay in the top quartile over the four-year period (see Exhibit 4).

Exhibit 4: Performance Persistence of Australian Active Funds Over 5 Consecutive 12-Month Periods



Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2015. Only open-end, unlisted funds are included in the universe. Index and leveraged funds are excluded from the universe. Chart is provided for illustrative purposes. Past performance is no guarantee of future results.

INDEXING GENERALLY OFFERS LOWER COSTS, GREATER TRANSPARENCY, AND PORTFOLIO DIVERSIFICATION

Reduced Investment Costs

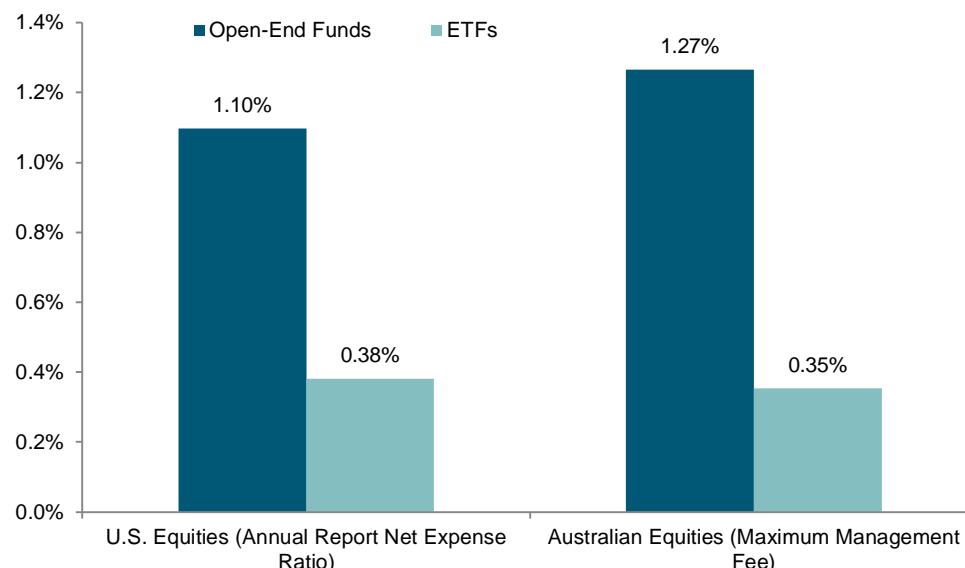
LOWER FEES

Lower management and administration fees and no commissions make investing in an exchange-traded fund (ETF) less expensive than investing in actively managed funds. In the U.S., open-end active equity funds have an average annual net expense ratio of 1.1%, which is much higher than that of equity ETFs. Similarly, open-end active equity funds in Australia charge higher maximum management fees than equity ETFs by 91 bps

(see Exhibit 5). In our report “SPIVA: A Cross-Country Comparison,”¹ we found that the compounding effect of the active fund fees paid by market participants had a material impact on cumulative return, which is an important factor in explaining why the vast majority of active funds underperformed their respective benchmarks over the five-year horizon.

Lower management and administration fees and no commissions make investing in an ETF less expensive than investing in actively managed funds.

Exhibit 5: Average Fees of Open-End Active Funds Versus ETFs



Source: S&P Dow Jones Indices LLC, Morningstar. Data as of Sept. 30, 2016. U.S. equities: Only open-end funds (excluding index and leveraged funds) and ETFs classified in the U.S. large-, mid-, and small-cap categories are included in the universe. Australian equities: Only open-end funds (excluding index and leveraged funds) and ETFs classified in the Australian large- and mid-, & small-cap categories are included in the universe. Figures for the U.S. are averages of funds' latest annual report net expense ratios. Figures for Australia are averages of funds' latest maximum management fees. Chart is provided for illustrative purposes.

TAX EFFICIENT

Turnover in ETFs is also lower than in most actively managed mutual funds.

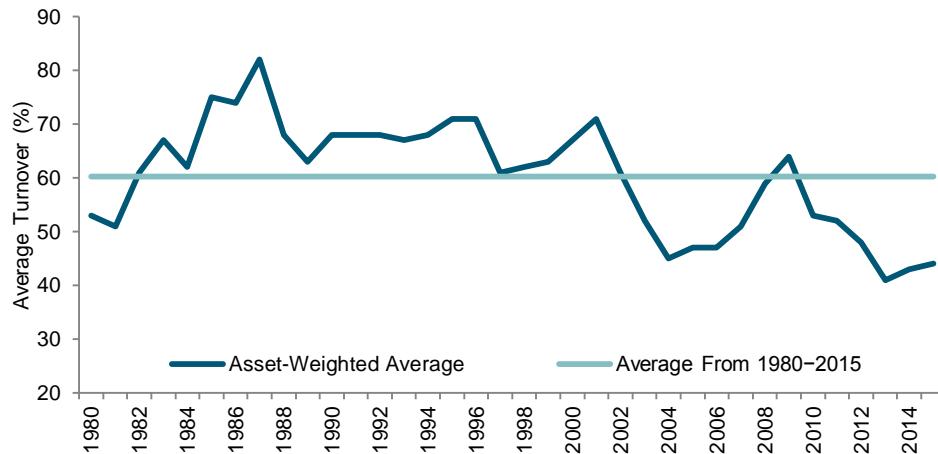
Less trading means fewer taxable events, such as capital gains distributions. Fewer taxes mean more of a portfolio's returns stay in market participants' pockets. For taxable accounts, this could mean substantial savings over time. Additionally, with traditional mutual funds, buying and selling activities can trigger capital gains distributions for all of the fund's unitholders, not just for those who are trading. In order to meet redemptions, a fund must sell securities and give cash to those unitholders that are redeeming. Any related capital gains as a result of these sales are distributed to all remaining investors in the fund. In contrast, ETF unitholders buy and sell units from one another on an exchange; thus, their tax consequences result primarily from their decision to buy and sell, rather than from the trading activity of other individual unitholders.

¹ For details, please see report [“SPIVA®: A Cross-Country Comparison,”](#) September 2015.

REDUCED TURNOVER

Turnover in ETFs is also lower than in most actively managed mutual funds. The average turnover of U.S. equity funds weighted by assets was 60% between 1980 and 2015 (see Exhibit 6). Although the rate was well below average in 2015 (44%), it was still well above the turnover of the S&P 500, which averaged 4.5% between 1992 and 2015.

Exhibit 6: Asset-Weighted Average Turnover Rates of U.S. Equity Funds



Source: S&P Dow Jones Indices LLC, Investment Company Institute 2016 Investment Company Fact Book (<https://www.ici.org/research/stats/factbook>). Data from 1980 to 2015. The rate is calculated by dividing the lesser of purchases or sales (excluding those of short-term assets) in a fund's portfolio by average net assets. Chart is provided for illustrative purposes.

GREATER TRANSPARENCY

Most ETF providers update fund performance, price changes, and constituent lists every trading day on their websites. Investments such as actively managed funds only publish a selection of their holdings on a monthly basis. When market participants know what is in their portfolio at all times, they can see how closely their money is tracking the objectives and style of a fund, where security overlaps exist, and what exposures are driving performance. If their situation or the markets change suddenly, they have the updated information to change their investments in response. Constituent data for S&P Dow Jones Indices is also available at <http://www.spindices.com/>.

MORE DIVERSIFICATION

ETFs also reduce a portfolio's dependence on single investments.

ETFs also reduce a portfolio's dependence on single investments. Buying an ETF puts money in the same group of investments that an index follows. Each index can track hundreds—even thousands—of securities, which means results do not depend on one investment.

Geographic, sector, and asset class exposure also provide variety when selecting investments for a portfolio. Indices can even grant access to

asset classes that were only available to institutional investors in the past, such as commodities, as well as difficult-to-research spaces, such as emerging markets.

CONCLUSION

As revealed by SPIVA reports across different regions, including the U.S., Canada, Europe, Mexico, Chile, Brazil, South Africa, Australia, Japan, and India, the vast majority of active funds underperformed their respective benchmarks over the five-year horizon. Results from S&P Dow Jones Indices' Persistence Scorecard also suggest that actively managed winning streaks are often short lived in the U.S. In our study on Australian actively managed equity funds, we also observed that only a few of them were consistent top performers.

Index-based investing can offer lower costs, greater transparency, and portfolio diversification. Lower management fees and no commissions can make investing in ETFs less expensive than investing in actively managed funds. There also tends to be less turnover in ETFs that track conventional benchmarks than in most actively managed funds, potentially resulting in lower trading costs and fewer taxable events, such as capital gains distributions. The compounding effect of saving on fees had a material impact on cumulative return.

Compared with active funds, ETFs are typically more transparent, as most ETF providers update fund performance and constituent lists every trading day on their websites, whereas most actively managed funds only publish a selection of their holdings on a monthly basis. Indexing also provides more portfolio diversification, as each index can track hundreds—or even thousands—of securities, which reduces a portfolio's dependence on single investments.

Index-based investing is an investment approach that simply tracks an index to provide exposure to a market or segment of a market. But for the reasons listed above, it may be a viable complement to or substitute for actively managed investments.

Index-based investing can offer lower costs, greater transparency, and portfolio diversification.

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