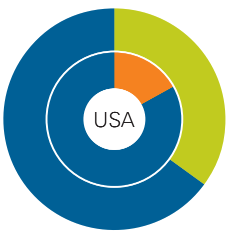
The case for indexing

Indexing involves an investment methodology that attempts to track the returns of a specific market or market segment as closely as possible after accounting for all expenses incurred to implement the strategy. This objective differs substantially from that of traditional investment managers, whose objective is to outperform their targeted benchmark even after accounting for all expenses.

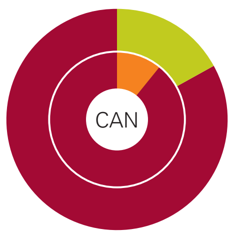
Assets in index mutual funds and exchange-traded funds (ETFs)



38% equity

19% fixed income

57% other investments



18% equity

12% fixed income

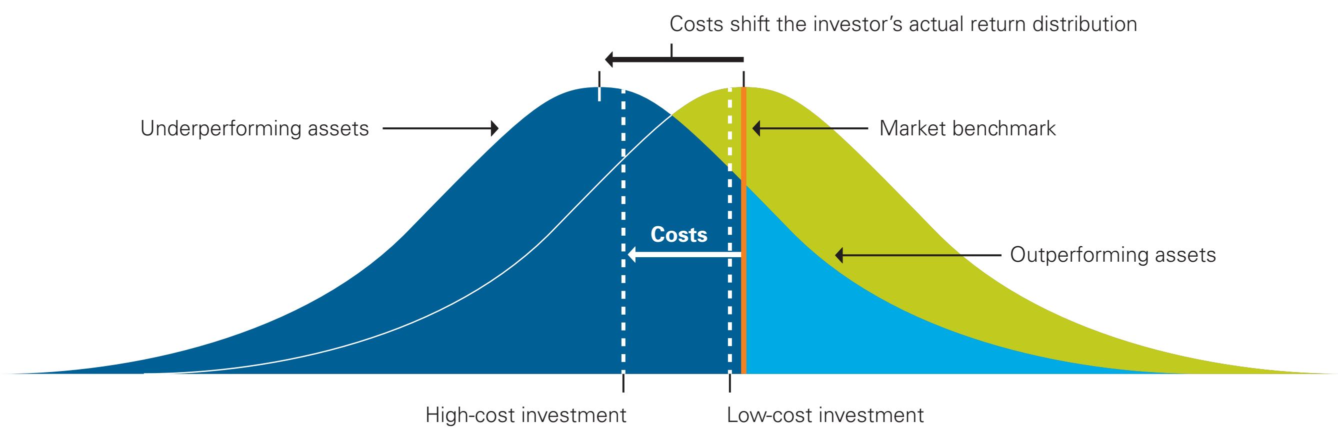
70% other investments

Although indexing as an investment strategy has grown tremendously in both the U.S. and Canada over the past four decades, equity and fixed income percentages invested within mutual funds and ETFs is still marginal. Looking forward, we expect growth to accelerate in most markets as awareness grows with respect to cost, performance and the ancillary benefits of an indexed strategy.

Source: Morningstar, Inc., as of December 31, 2014.

Investing is a zero-sum game

Half of all dollars invested will outperform the market return before costs (green curve). After costs (dark blue curve), a much smaller portion (light blue) outperforms the market return.



Although a portion of the after-cost*, dollar-weighted performance continues to lie to the right of the market return, as represented by the light blue region, a much larger portion is now to the left of the market line, meaning that, after costs, most of the dollar-weighted performance of investors falls short of the aggregate market return.

* Unless indicated, "costs" do not account for taxes.

Minimizing costs can provide investors with the opportunity to outperform those investors who incur higher costs.

Notes: For illustrative purposes only. This illustration does not represent the return on any particular investment.
Source: The Vanguard Group, Inc.

Traditional active management

vs.

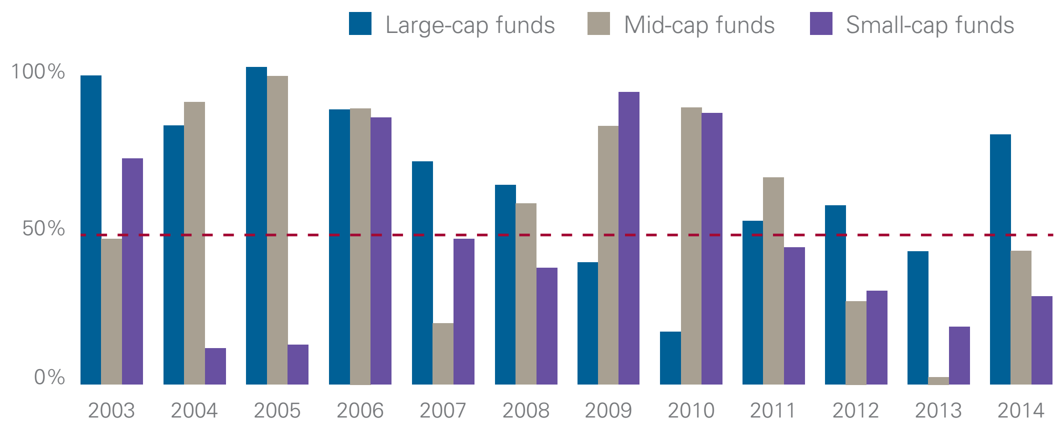
Index benchmarking strategy

The clear objective of actively managed portfolios is to outperform a given benchmark. Depending on the active strategy, the target benchmark could be a traditional market index such as the S&P/TSX Composite Index or the Barclays Global Aggregate Canadian Float Adjusted Bond Index, or the objective could be to generate a positive return in excess of government bills (that is, an absolute-return strategy), with the government bill as the benchmark.

The average actively managed fund underperforms various benchmarks

Active manager outperformance is possible; however, historically, it's been difficult to achieve.

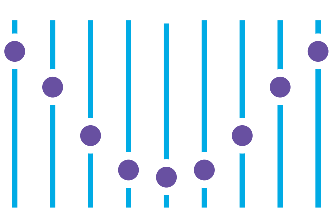
% of actively managed funds underperforming style benchmark year over year.



Sources: The Vanguard Group, Inc. calculations, using data from Morningstar, Inc. Fund classifications provided by Morningstar.

Survivorship bias deteriorates performance statistics

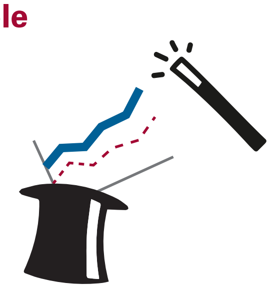
Funds with poor performance are often dropped from a performance database, generally because of poor results or low asset accumulation, resulting in an overestimation of the past returns.



By not accounting for survivorship bias, results dramatically skew active/passive studies in favour of active managers.

Persistence of performance among past winners is unpredictable

All managers experience times when their investing style is out of favour, but over a reasonably long period, a skilled active manager should be able to deliver positive excess returns versus the targeted benchmark for the full period.



The actual track record of actively managed funds is underwhelming, suggesting that such skill is difficult to find.

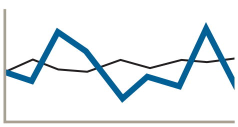
Comparison of record [continued]

Implications for investors

Investors building portfolios of active funds may be subject to both lower returns and higher volatility than the market benchmark.

When considering active funds, investors should ask themselves: “Do I have the ability to pick a winning fund in advance? Will the winning fund continue to be so for the entire life of my portfolio?”

Higher volatility



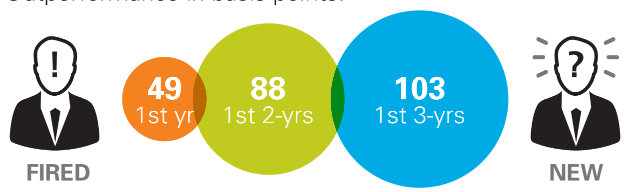
Lower returns

Higher turnover can lead to higher costs

High turnover with respect to outperformance and market leadership is one reason the temptation to change managers because of poor performance can simply lead to more disappointment.

Fired managers outperformed new managers.

Outperformance in basis points.



Notes: These figures relate to underperforming managers for U.S. institutional pension plans.
Source: Goyal and Wahal study (2008)

Impact of market cycles

Relative performance of actively managed funds can be volatile over time and in shorter evaluation windows.

The percentage of large-cap funds that under-performed the large-cap benchmark ranged from 98% for the 5-years ended 2007 to just 30% for the 5-years ended 2013.

Percent of actively managed mutual funds underperforming benchmark over 5-year periods ended

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Large	91%	**98%**	93%	94%	70%	49%	41%	**30%**	45%
Mid	81%	91%	98%	**98%**	91%	85%	80%	35%	**26%**
Small	44%	59%	**20%**	57%	**92%**	63%	63%	39%	24%

Sources: The Vanguard Group, Inc. calculations, using data from Morningstar, Inc. and Thomson Reuters Datastream. Equity benchmarks represented by the following indexes: Large—MSCI Canada Large-Cap Index; mid—MSCI Canada Mid-Cap Index; small—MSCI Canada Small-Cap Index. Non-Canadian equity benchmarks represented by the following indexes: International equity—MSCI EAFE Index; U.S. equity—MSCI USA Investable Market Index. Bond benchmarks represented by the following Barclays indexes: Intermediate—Barclays Global Aggregate Canadian Float Adjusted Bond Index; short—Barclays Global Aggregate Canadian Gov/Credit 1–5 year Float Adjusted Bond Index. Data reflects periods through December 31, 2014.

Effective indexing

Considerable evidence indicates that a fund’s expense ratio is the most reliable predictor of its future performance, with low-cost funds delivering above-average performances in all of the periods examined.

Other factors that might contribute to the effectiveness of mimicking a targeted benchmark include:

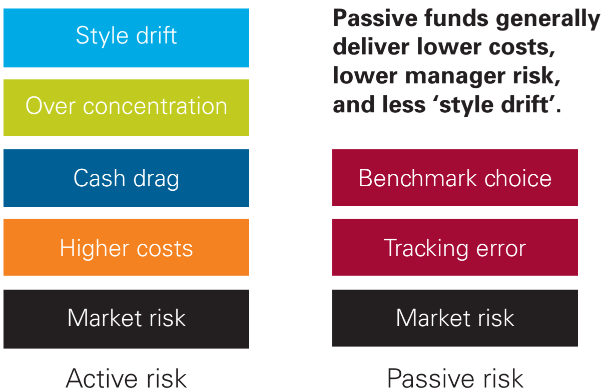
- Portfolio size
- Liquidity of the targeted market
- Number of securities in the benchmark
- Provider’s portfolio- and risk-management processes
- Nature and size of the portfolio’s cash-flow profile

The net result of the factors is that an ideal index fund or ETF would have:

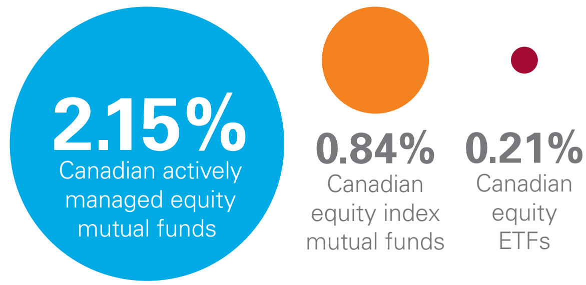
- Low costs
- High level of index replication
- Efficient and risk-controlled portfolio management process

Together, these factors could permit an index fund or ETF to deliver returns very close to, if not identical to, the targeted benchmark consistently over time.

Better core building blocks for tactical asset allocation



Average annual management expense ratio



Less trading reduces the brokerage, commission and other expenses associated with trading securities and results in overall lower trading costs.

Source: The Vanguard Group, Inc., calculations using data from Morningstar, Inc. Data as of December 31, 2014.

Key reasons why incorporating index funds can benefit your portfolios

Diversification
Broad range holdings accurately track targeted benchmark

Competitive performance
Competitive returns over the long run

Simplification
Precise and easily understood

Lower volatility
Lower risk of severe underperformance

Lower costs
Lower management expense ratios and transaction costs

Tax efficiency
Greater value of overall portfolio. Generally, lower turnover and reduced capital gains distributions

Lower manager risks
Purity and portfolio control without 'style drift'

Better building blocks
Reduces risk factors

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