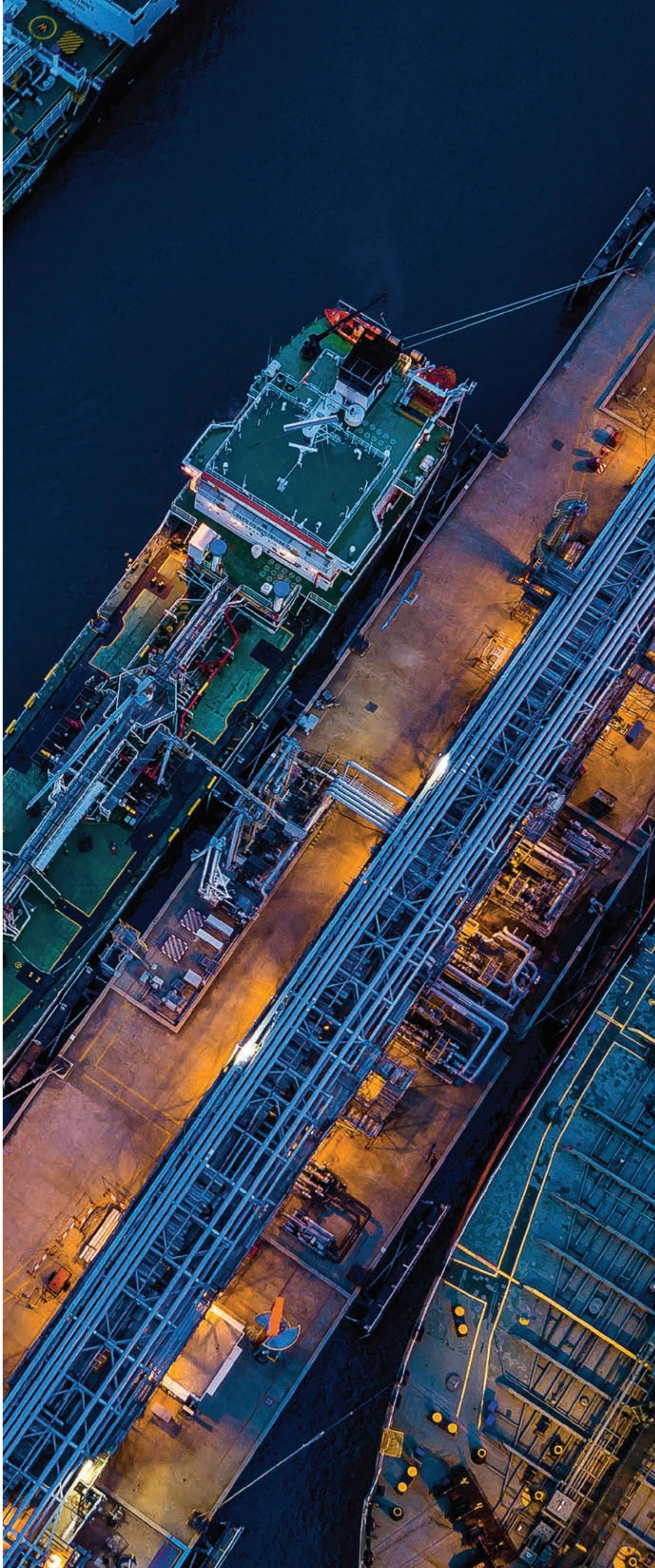
Manulife

ETFs

Multifactor Investing

Seeking to build a better index



Three things to know about active and passive investing

1 Active investing has advantages, but requires both skill and discipline

The premise behind most actively managed strategies is that by using careful analysis to focus on certain securities or segments of the market, a portfolio can outperform the broad-based market over time. The challenge with this approach is that it requires asset managers with the skill set necessary to outperform the market through a variety of conditions over long stretches of time.

2 Passive approaches have inherent benefits and limitations

Passive index-oriented approaches are a convenient and generally low-cost way of introducing market exposure (or beta) into a portfolio. That's one of the main reasons exchange-traded funds (ETFs) have become so popular, but it's an approach that often comes with limitations. Many ETFs, like the indexes they track, are capitalization weighted, meaning they give more weight to large companies than smaller ones. In certain markets, that approach may lag strategies that target smaller companies or those that trade at lower relative prices.

3 Many investors blend active and passive strategies

The good news is that using active and passive strategies isn't an either/or proposition. Passive strategies can achieve market exposure cheaply and efficiently in certain markets, while active strategies can extend a portfolio's reach, actively manage risk, and find new sources of return.

Potential applications for active and passive strategies

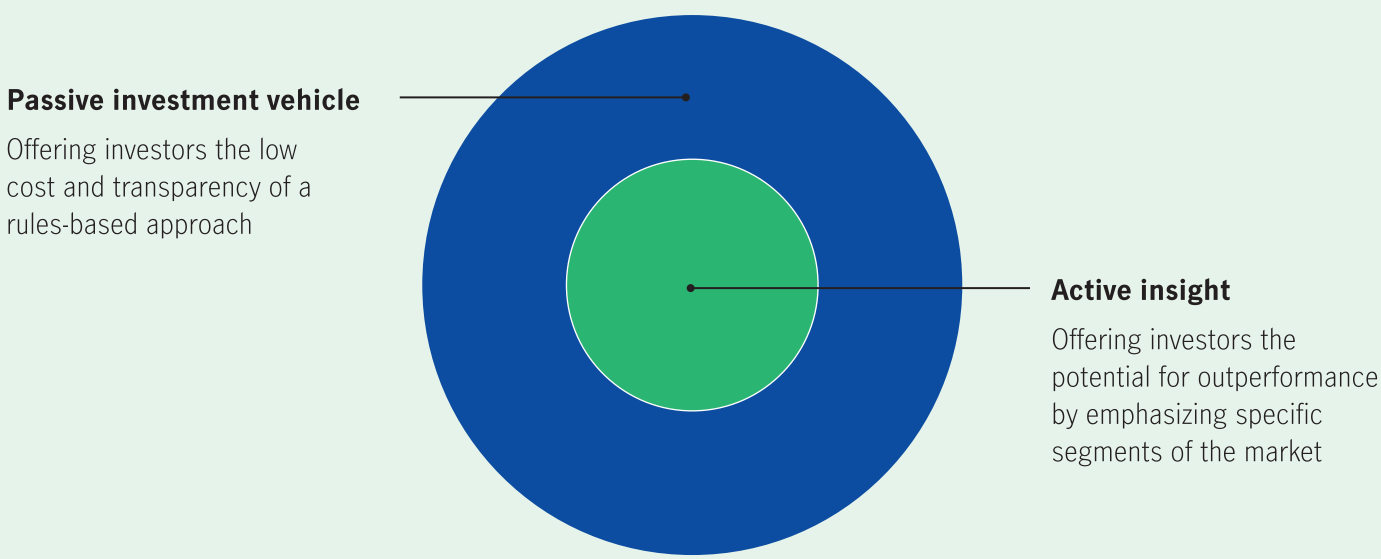
Active
Core, flexible holding
Noncorrelated sources of return
Active risk management

Passive
Low-cost exposure to efficient markets
Precise, tactical exposure to certain asset classes
Overall portfolio cost reduction

Strategic beta strategies leverage the goals of active and passive management

Strategic beta investment strategies seek to improve on traditional market-capitalization-weighted indexes in order to achieve better returns or mitigate risk—goals shared by many actively managed funds. But unlike active funds, strategic beta indexes and the portfolios that track them follow rules-based, highly transparent, and lower-cost approaches to investing.

Strategic beta: seeking to build a better index



For illustrative purposes only.

A time-tested approach from Dimensional Fund Advisors, a leader in multifactor investing

Dimensional's systematic approach to investing is backed by insight gained from decades of academic research and experience implementing rules-based strategies in competitive markets. Today, the company is one of the most well-respected managers of factor-based investment portfolios in the industry.

Dimensional Fund Advisors has been a leader in the development and evolution of systematic, rules-based investing

1973

First index fund developed

Dimensional co-founders David Booth and Rex Sinquefield (both students of Eugene Fama) were involved in the launch of the **first index funds** for institutional investors, two years before the founding of Vanguard.

1981

Small cap

Booth and Sinquefield founded Dimensional to deliver solutions that capture the **small-cap premium**.

1992

Size and value

Dimensional directors Eugene Fama and Ken French developed the **Fama/French model**, which identified market, size, and price factors as principal drivers of equity premiums.

2006

Strategy enhancements

Dimensional enhanced strategies, incorporating momentum by delaying buying securities exhibiting negative **momentum** and delaying selling securities exhibiting positive momentum.

2012

Profitability

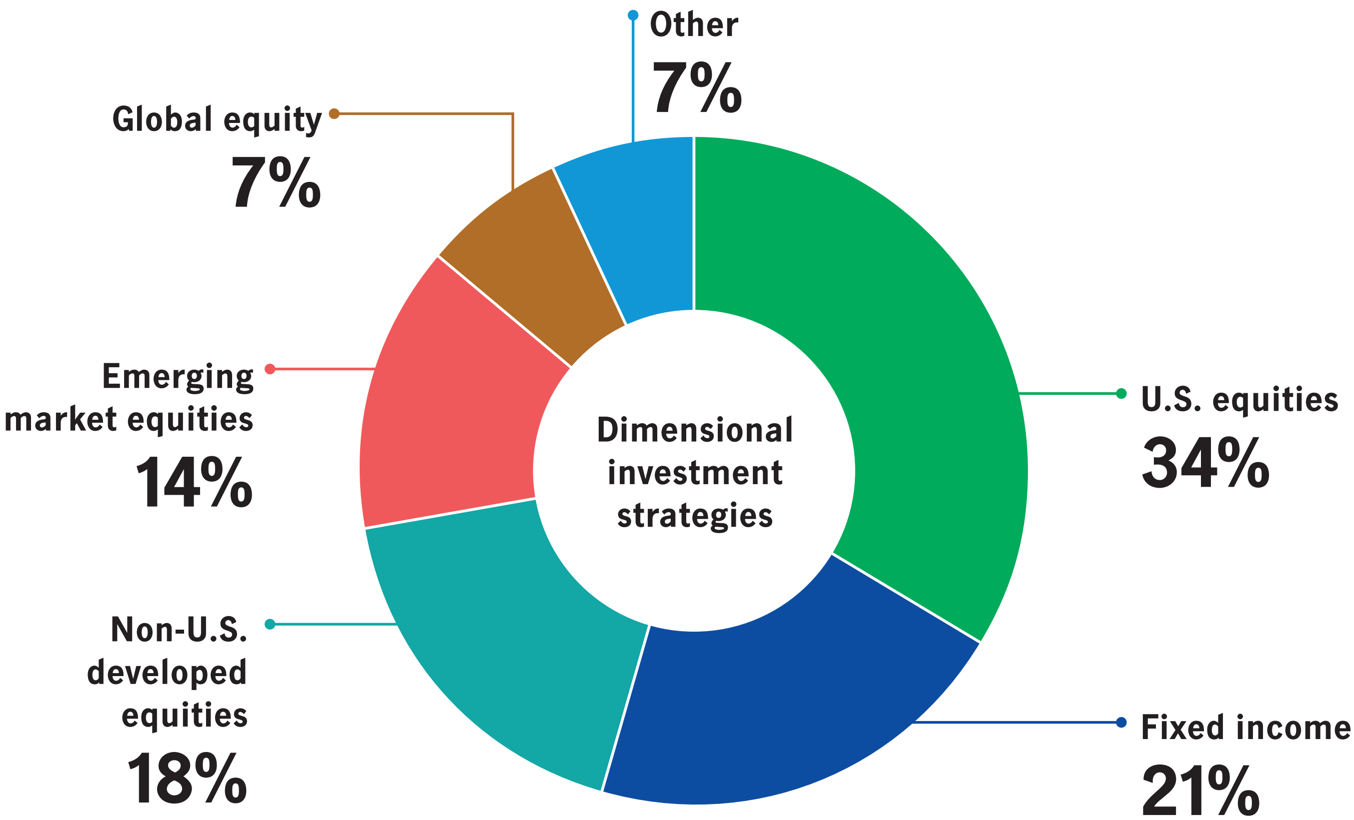
Dimensional consultant Robert Novy-Marx documented the persistence of higher profitability in performance. As a result, the **profitability factor** was incorporated into Dimensional's investment approach.

2017

ETF expansion

Manulife Investments selects Dimensional Fund Advisors Canada ULC as subadvisor to the **Manulife ETFs**.

Dimensional Fund Advisors at a glance



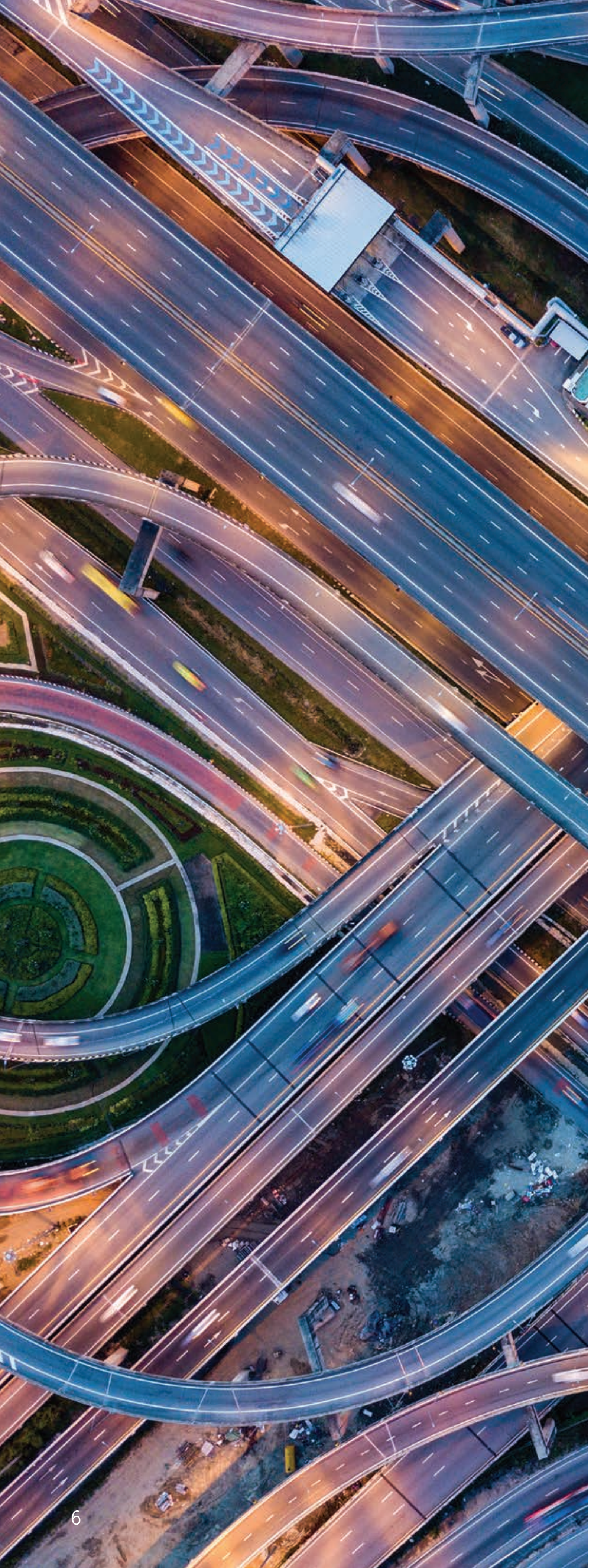
Dimensional

- Founded in 1981
- $617 billion in global assets under management
- 9th largest US fund family by AUM[1]
- Clients in more than 45 countries
- Twelve offices in eight countries; portfolio management and trading on four continents
- Over 1,100 employees

All data is as of 12/31/2016.

Investment risks include loss of principal and fluctuating value. Small-cap securities are subject to greater volatility than those in other asset categories. Profitability is a measure of current profitability, based on information from individual companies' income statements. Relative price is the price of a security as it compares with another.

[1] Morningstar, as of 12/31/2016.



Isolating the factors that drive higher expected returns

A landmark 1992 study by University of Chicago Professor Eugene Fama and Dartmouth College Professor Kenneth French argued that, based on history, focusing on smaller stocks and those with lower relative prices[2] may improve a portfolio's expected return.[3] Subsequent research conducted by University of Rochester Professor Robert Novy-Marx identified profitability[4] as another factor that enhances expected returns.[5]

Today, Dimensional offers investment solutions built on the idea that combining specific factors, borne out by years of rigorous research, may produce better outcomes for investors over the long term.

[2] Relative price as measured by the price-to-book ratio; value stocks are those with lower price-to-book ratios.

[3] "The Cross-Section of Expected Stock Returns," Eugene F. Fama, Kenneth R. French, Journal of Finance, June 1992.

[4] Profitability is a measure of current profitability, based on information from individual companies' income statements.

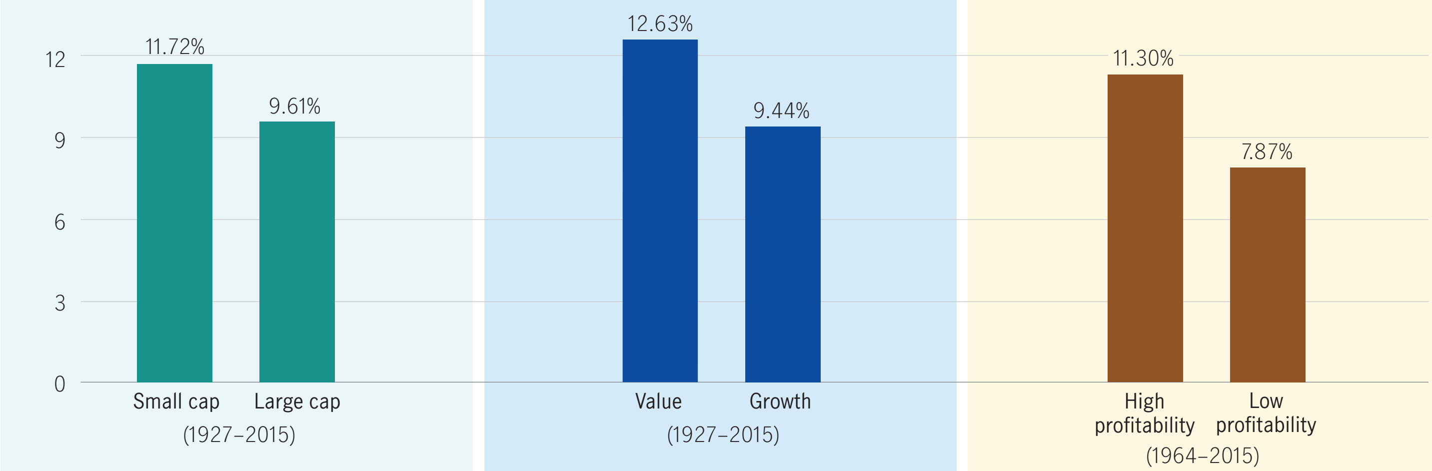
[5] Robert Novy-Marx provides consulting services to Dimensional Fund Advisors LP.

A multifactor approach: stocks characterized by smaller capitalizations, lower relative valuations, and higher profitability have outperformed over time

Company size

Relative price

Profitability



Small-cap premium

Small company stocks over large company stocks

Value premium

Value stocks over growth stocks

Profitability premium

Stocks of highly profitable companies over stocks of less profitable companies

To be considered a true factor, a premium must be:

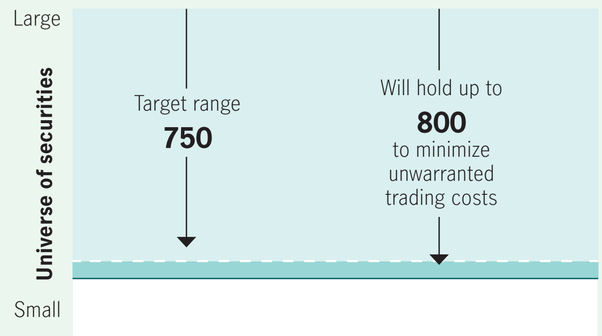
- Sensible
- Persistent across time periods
- Pervasive across markets
- Robust in the data
- Cost-effective, to capture in a diversified portfolio

Chart source: Professor Kenneth R. French, mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html, 2016. The chart above shows historical geometric mean performance for different groupings of stocks within the broad equity universe. This universe, or market, includes stocks listed on the NYSE, AMEX, and NASDAQ exchanges. The research does not portray results of indexes. T-bill data is from Morningstar/Ibbotson. In order to assess returns of stocks with different characteristics, researchers Eugene Fama and Kenneth French grouped stocks according to size, relative price, and profitability. For groupings based on company size, stocks were ranked by market capitalization, where small cap represents stocks of companies in the bottom 30% of the universe and large cap represents stocks of companies in the top 30% of the universe. For groupings based on relative price, stocks were ranked by book-to-market equity ratios, where value represents stocks of companies in the top 30% of the universe and growth represents stocks of companies in the bottom 30% of the universe. For groupings based on profitability, stocks were ranked by operating profitability (annual revenues minus the cost of goods sold, interest expense, and selling, general, and administrative expenses, divided by book equity), where high profitability represents stocks of companies in the top 30% of the universe and low profitability represents stocks of companies in the bottom 30% of the universe. Fama and French are directors of and provide consulting services to Dimensional Fund Advisors LP. Diversification does not guarantee a profit or eliminate the risk of a loss. Selection of other periods may produce different results, including losses. Past performance does not guarantee future results.

An index approach designed to pursue higher expected returns while minimizing unnecessary costs

Market exposure: capturing broad exposure to avoid trying to outguess the market

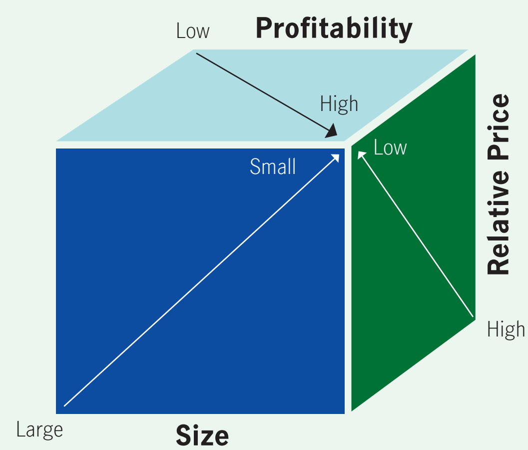
The first step in constructing each index is to identify the securities eligible for inclusion. For all indexes, the eligible universe is ranked, from biggest to smallest. Certain illiquid securities or securities with multiple share classes may be excluded from consideration; after this initial screen, the indexes each define their target segment of the universe, resulting in a broad range of stocks per index—for example, the U.S. Large Cap Index will target 750 U.S. large cap stocks.



Example shown is for John Hancock Dimensional Large Cap Index. (which is tracked by Manulife Multifactor U.S. Large Cap Index ETF) Hold range could include up to 800 securities.[6]

Portfolio structure: emphasizing premiums associated with higher expected returns

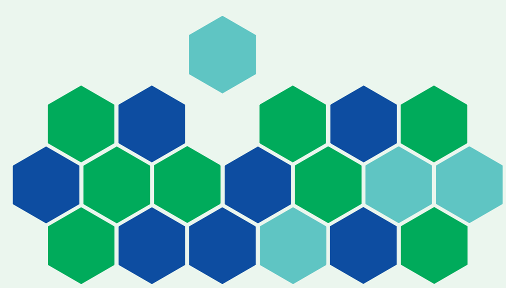
Once the target portfolio is identified, weightings are assigned to each security to be included. While the large-cap index, for example, will hold roughly 750 stocks, the weights of those securities may vary from market-cap-weighted indexes. That's because academic research suggests that certain factors—smaller capitalization, lower relative price, and higher profitability[7]—are linked to higher expected returns, so the securities in the index are weighted to place greater emphasis on stocks that exhibit those characteristics.



Implementation: maintaining focus on an asset class while minimizing unnecessary trading costs

Each of the indexes is reconstituted—or rebalanced—twice a year. The indexes use a feature called Index Memory™ to help mitigate trading costs. If a security was included in an index before reconstitution and if keeping it in the index does not meaningfully change the overall characteristics of the index, that security will continue to be held and any change in weighting is minimized. The goal is to avoid making trades that do not meaningfully improve the expected return and risk profile of the overall portfolio.

Index Memory™ helps minimize unwarranted trading costs



[6] John Hancock Dimensional Large Cap Index is a rules-based index of large-cap U.S. stocks that have been selected based on sources of expected returns. Securities eligible for inclusion in the index are classified according to their market capitalization, relative price, and profitability, and are weighted accordingly in favor of smaller, less expensive, more profitable companies. The index is reconstituted and rebalanced on a semiannual basis. Index performance assumes reinvestment of dividends and, unless otherwise indicated, does not reflect the management fees, operating expenses, transaction costs, and other expenses that apply to an ETF. It is not possible to directly invest in an index. Past performance does not guarantee future results. Index Memory is a trademark of Dimensional Fund Advisors LP.

[7] Profitability is a measure of current profitability, based on information from individual companies' income statements.

Manulife ETFs

We offer a range of Manulife ETFs with indexes designed by Dimensional Fund Advisors, a company regarded as one of the pioneers in strategic beta investing. Combining multiple factors may better enable a portfolio to smooth out the variability of returns and improve the likelihood of outperformance across different types of markets.

ETF	Ticker	Management Expense Ratio*
Manulife Multifactor Canadian Large Cap Index ETF	MCLC	0.43%
Manulife Multifactor Canadian SMID Cap Index ETF	MCSM	0.68%
Manulife Multifactor U.S. Large Cap Index ETF	MULC.B	0.38%
Manulife Multifactor U.S. Large Cap Index ETF – Hedged	MULC	0.42%
Manulife Multifactor U.S. Mid Cap Index ETF	MUMC.B	0.50%
Manulife Multifactor U.S. Mid Cap Index ETF – Hedged	MUMC	0.56%
Manulife Multifactor U.S. Small Cap Index ETF	MUSC.B	0.57%
Manulife Multifactor U.S. Small Cap Index ETF – Hedged	MUSC	0.62%
Manulife Multifactor Developed International Index ETF	MINT.B	0.53%
Manulife Multifactor Developed International Index ETF – Hedged	MINT	0.63%
Manulife Multifactor Emerging Markets Index ETF	MEME.B	0.65% (Management Fee)

*Includes operating expenses as of December 31, 2017

Ask your advisor

Ask your advisor how strategic beta ETFs can help you better position your portfolio for the long term.

Data is as of 12/31/2016.
The intraday net asset value (iNAV) is a symbol representing estimated fair value based on the most recent intraday price of underlying assets.
Investing involves risks, including the potential loss of principal. There is no guarantee that a fund's investment strategies will be successful. Large company stocks could fall out of favor. The stock prices of midsize and small companies can change more frequently and dramatically than those of large companies, and value stocks may decline in price. A portfolio concentrated in one industry or sector or that holds a limited number of securities may fluctuate more than a diversified portfolio. Shares may trade at a premium or discount to their NAV in the secondary market, and a fund's holdings and returns may deviate from those of its index. These variations may be greater when markets are volatile or subject to unusual conditions. Errors in the construction or calculation of a fund's index may occur from time to time. Please see the funds' prospectuses for additional risks.
Manulife Exchange-Traded Fund (ETF) shares are bought and sold at market price (not NAV), and are not individually redeemed from the fund. Brokerage commissions will reduce returns.
Dimensional Fund Advisors LP receives compensation from Manulife Asset Management Limited in connection with licensing rights to the John Hancock Dimensional Indices.

About Manulife Investments

Manulife Investments, a division of Manulife Asset Management Limited, provides a broad range of mutual funds managed by asset managers around the globe with a strong local market presence.

These asset managers have broad and deep access to ideas, intelligence, local knowledge and leading indicators and know how to uncover global investment opportunities.

In addition, Manulife Investments benefits from its relationship with Manulife, which is among the highest rated life insurers in the world, with more than 125 years of history, a $36.5 billion market capitalization[8] and $966 billion in funds under management.[8]

[8] Q4 2016 Global Company Factsheet

The strength of Manulife

With Manulife, investors can feel confident that their trust is well placed.

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34,000
employees worldwide[11]

125+
years of history

$36.5 billion
market capitalization[10]

Ranked in the top
15%
of the world's 500 largest asset managers[9]

$966 billion
in funds under management[11]

$38.4 million
in charitable donations (2016)

[9] Source: P&I Towers Watson, year end 2016.
[10] As at September 30, 2016.
[11] Q4 2016 Global Company Factsheet

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For more information, please contact your advisor or visit **manulife.ca**

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