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Quarterly Market Review

First Quarter 2022

III Manulife Securities

This report features world capital market performance and a timeline of events for the past quarter. It begins with a global overview, then features the returns of stock and bond asset classes in the Canadian, US, and international markets.

The report also illustrates the impact of globally diversified portfolios and features a quarterly topic.

Overview:

Market Summary

World Stock Market Performance

Canadian Stocks

US Stocks

International Developed Stocks

Emerging Markets Stocks

Country Returns

Real Estate Investment Trusts (REITs)

Fixed Income

Global Fixed Income

Impact of Diversification

Quarterly Topic: Is It Time to Sell Stocks?

Appendix



Quarterly Market Summary

Index returns



	Canadian Stock Market	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	Canadian Bond Market	Global Bond Market
Q1 2022			STOCKS			BON	IDS
	3.82%	-6.34%	-6.96%	-8.01%	-4.89%	-6.97%	-4.96%

Since Jan. 2001							
Average Quarterly Return	2.0%	2.6%	1.2%	2.3%	2.2%	1.2%	1.1%
Best	20.0%	16.8%	15.8%	27.9%	22.2%	5.9%	4.4%
Quarter	2009 Q2	2020 Q2	2009 Q2	2001 Q4	2009 Q3	2020 Q2	2008 Q4
Worst	-22.7%	-13.2%	-16.8%	-23.5%	-25.8%	-7.0%	-5.0%
Quarter	2008 Q4	2020 Q1	2008 Q3	2008 Q3	2008 Q4	2022 Q1	2022 Q1

In CAD

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.

Market segment (index representation) as follows: Canadian Stock Market (S&P/TSX Composite Index), US Stock Market (Russell 3000 Index [net of tax]), International Developed Stocks (MSCI EAFE Index [net dividends]), Emerging Markets (MSCI Emerging Markets Index [net dividends]), Global Real Estate (S&P Global REIT Index [net dividends]), Canada Bond Market (FTSE Canada Universe Bond Index), and Global Bond Market (Bloomberg Global Aggregate Bond Index [hedged to CAD]). S&P/TSX data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2022, all rights reserved. FTSE fixed income indices © 2022 FTSE Fixed Income LLC, all rights reserved. Bloomberg data provided by Bloomberg.



Long-Term Market Summary

Index returns as of March 31, 2022

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	Canadian Stock Market	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	Canadian Bond Market	Global Bond Market
1 Year			STOCKS			ВОМ	NDS
	20.19%	11.23%	0.54%	-11.92%	18.23%	-4.52%	-3.90%
5 Years							
	10.34%	13.89%	5.33%	4.60%	5.71%	1.58%	1.84%
10 Years							
	9.08%	16.86%	8.67%	5.69%	9.91%	2.55%	2.90%

In CAD

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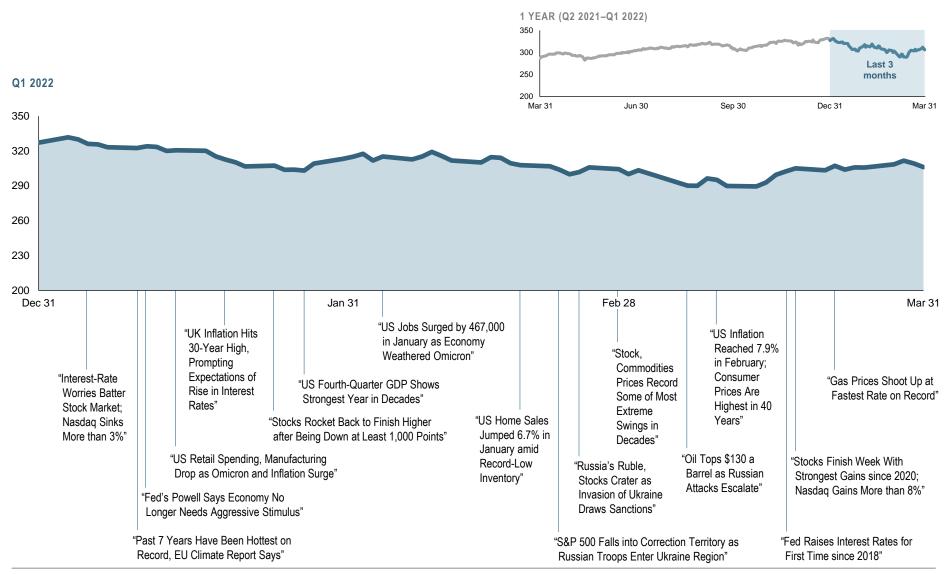
Market segment (index representation) as follows: Canadian Stock Market (S&P/TSX Composite Index), US Stock Market (Russell 3000 Index [net of tax]), International Developed Stocks (MSCI EAFE Index [net dividends]), Emerging Markets (MSCI Emerging Markets Index [net dividends]), Global Real Estate (S&P Global REIT Index [net dividends]), Canada Bond Market (FTSE Canada Universe Bond Index), and Global Bond Market (Bloomberg Global Aggregate Bond Index [hedged to CAD]). S&P/TSX data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2022, all rights reserved. FTSE fixed income indices © 2022 FTSE Fixed Income LLC, all rights reserved. Bloomberg data provided by Bloomberg.





World Stock Market Performance

MSCI All Country World Index with selected headlines from Q1 2022



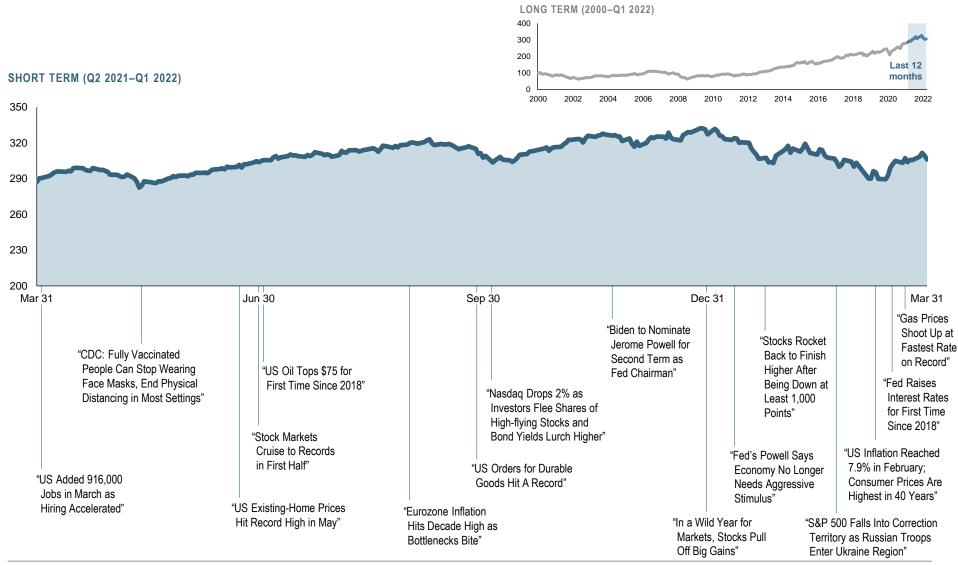
These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.





World Stock Market Performance

MSCI All Country World Index with selected headlines from past 12 months



These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.



Canadian Stocks

First quarter 2022 index returns

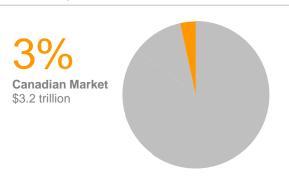
III Manulife Securities

The Canadian equity market posted positive returns for the quarter and outperformed US, international developed, and emerging markets.

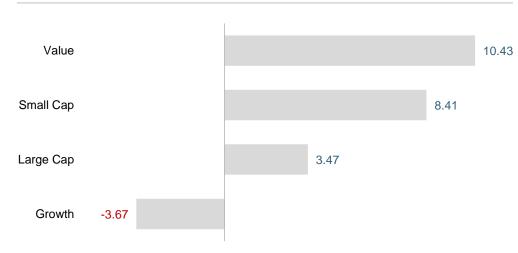
Value outperformed growth.

Small caps outperformed large caps.

World Market Capitalization—Canada



Ranked Returns (%)



Period Returns (%)

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Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
Value	10.43	29.47	12.69	9.21	8.56
Small Cap	8.41	18.82	15.48	7.15	5.25
Large Cap	3.47	21.78	14.86	11.05	9.79
Growth	-3.67	9.40	11.29	8.36	7.34

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.

Market segment (index representation) as follows: Large Cap (S&P/TSX 60 Index), Small Cap (S&P/TSX Small Cap Index), Value (MSCI Canada Value Index), and Growth (MSCI Canada Growth Index). All index returns are net of withholding tax on dividends. World Market Cap represented by S&P/TSX Composite Index, Russell 3000 Index, MSCI EAFE IMI Index, MSCI Emerging Markets IMI Index. S&P/TSX data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. MSCI data © MSCI 2022, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.



US Stocks

First quarter 2022 index returns

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The US equity market posted negative returns for the quarter and outperformed developed markets outside the US and Canada as well as emerging markets.

Value outperformed growth.

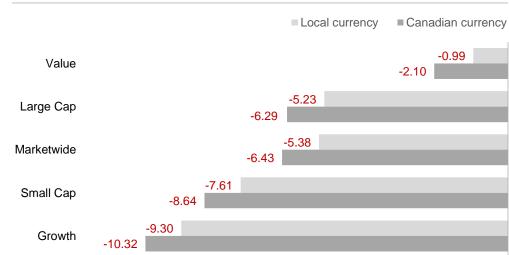
Small caps underperformed large caps.

REIT indices outperformed equity market indices.

World Market Capitalization—US



Ranked Returns (%)



Period Returns (%)

		lize

Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
Value	-2.10	9.77	9.72	7.96	13.31
Large Cap	-6.29	12.12	15.52	13.72	16.46
Marketwide	-6.43	10.79	15.07	13.32	16.22
Small Cap	-8.64	-6.66	8.88	7.92	13.10
Growth	-10.32	11.92	19.63	18.21	18.81

In CAD.

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Market segment (index representation) as follows: Marketwide (Russell 3000 Index), Large Cap (Russell 1000 Index), Small Cap (Russell 2000 Index), Value (Russell 3000 Value Index), and Growth (Russell 3000 Growth Index). Russell 3000 Index is used as the proxy for the US market. All index returns are net of withholding tax on dividends. World Market Cap represented by S&P/TSX Composite Index, Russell 3000 Index, MSCI EAFE IMI Index, and MSCI Emerging Markets IMI Index. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2022, all rights reserved.



International Developed Stocks

III Manulife Securities

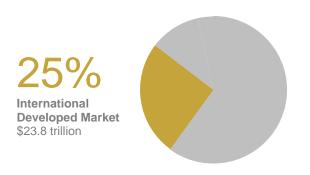
First quarter 2022 index returns

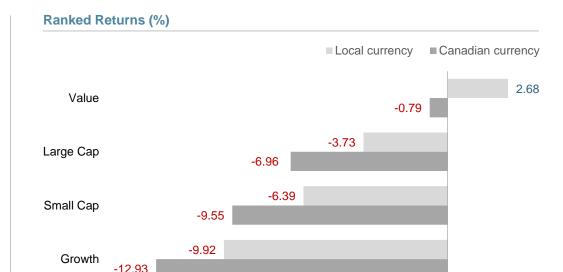
Developed markets outside of the US and Canada posted negative returns for the quarter and underperformed US and Canadian equities but outperformed emerging markets.

Value outperformed growth.

Small caps underperformed large caps.

World Market Capitalization—International Developed





Period Returns (%)

*	Αı	nr	11	10	ルフ	0	^

Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
Value	-0.79	2.91	2.90	2.83	7.23
Large Cap	-6.96	0.54	5.39	5.33	8.67
Small Cap	-9.55	-4.23	6.11	6.02	10.75
Growth	-12.93	-2.09	7.34	7.52	9.88

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Market segment (index representation) as follows: Large Cap (MSCI EAFE Index [net dividends]), Small Cap (MSCI EAFE Small Cap Index [net dividends]), Value (MSCI EAFE Value Index [net dividends]), and Growth (MSCI EAFE Growth Index [net dividends]). All index returns are net of withholding tax on dividends. World Market Cap represented by S&P/TSX Composite Index, Russell 3000 Index, MSCI EAFE IMI Index, MSCI Emerging Markets IMI Index. S&P/TSX data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. MSCI data © MSCI 2022, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.



Emerging Markets Stocks

First quarter 2022 index returns

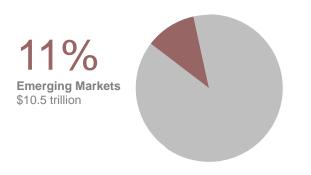
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Emerging markets posted negative returns for the quarter, underperforming the US and non-US developed equity markets.

Value outperformed growth.

Small caps outperformed large caps.

World Market Capitalization—Emerging Markets



Value Value -2.50 -4.50 Small Cap -5.40 -6.11

-8.01

-9.45

Period Returns (%)

Large Cap

Growth

*	Δ	n	n	1	a	11	7	Δ	М

Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
Value	-4.50	-4.13	0.93	2.89	3.87
Small Cap	-5.40	4.86	9.45	6.41	7.69
Large Cap	-8.01	-11.92	2.61	4.60	5.69
Growth	-11.27	-18.80	4.06	6.11	7.37

In CAD.

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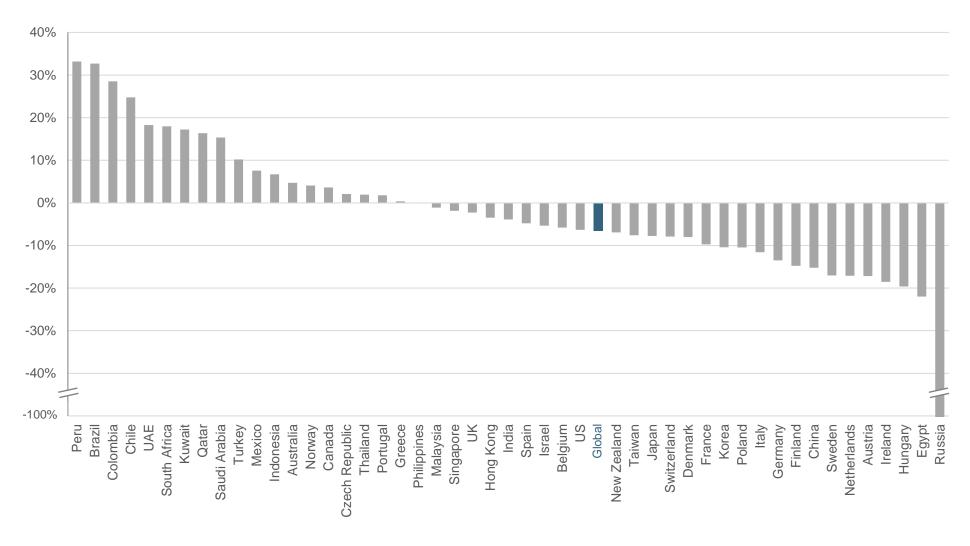
Market segment (index representation) as follows: Large Cap (MSCI Emerging Markets Index [net dividends]), Small Cap (MSCI Emerging Markets Small Cap Index [net dividends]), Value (MSCI Emerging Markets Value Index [net dividends]), and Growth (MSCI Emerging Markets Growth Index [net dividends]). All index returns are net of withholding tax on dividends. World Market Cap represented by S&P/TSX Composite Index, Russell 3000 Index, MSCI EAFE IMI Index, MSCI Emerging Markets IMI Index. S&P/TSX data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. MSCI data © MSCI 2022, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

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Country Returns

First quarter 2022 index returns

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In CAD.

Past performance is no guarantee of future results.

Country returns are the country component indices of the MSCI All Country World IMI Index for all countries except Canada, where the S&P/TSX Composite is used, and the United States, where the Russell 3000 Index (net of tax) is used instead. Global is the return of the MSCI All Country World IMI Index. MSCI index returns are net dividend. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. S&P/TSX data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. MSCI data © MSCI 2022, all rights reserved.

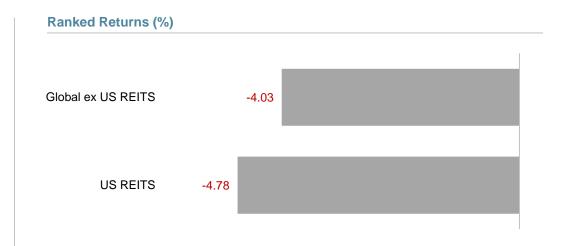


Real Estate Investment Trusts (REITs)

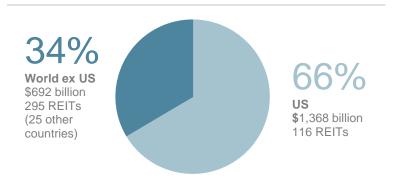
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First quarter 2022 index returns

US real estate investment trusts underperformed non-US REITs during the quarter.



Total Value of REIT Stocks



Period Returns (%)		* Annualized						
Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*			
Global ex US REITS	-4.03	6.33	0.57	3.30	8.10			
US REITS	-4.78	26.93	7.46	7.47	11.63			

In CAD.

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.

Number of REIT stocks and total value based on the two indices. All index returns are net of withholding tax on dividends. Total value of REIT stocks represented by Dow Jones US Select REIT Index and the S&P Global ex US REIT Index. Dow Jones US Select REIT Index used as proxy for the US market, and S&P Global ex US REIT Index used as proxy for the World ex US market. Dow Jones and S&P data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.



Fixed Income

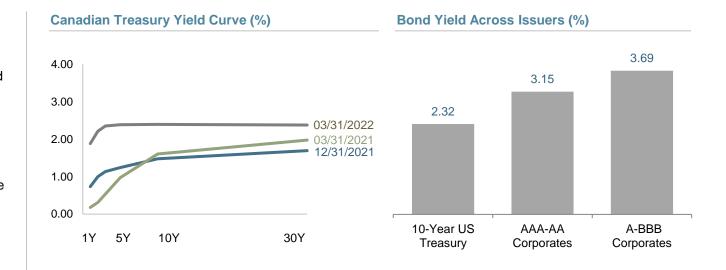
First quarter 2022 index returns

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Interest rates increased across all maturities in the Canadian government bond market during the quarter. The Canadian government yield curve ended the quarter steep in the short-term segment and flat to inverted in the intermediate- to long-term segment.

Realized term premiums in Canadian dollar-denominated bonds were negative during the quarter as longer-term bonds underperformed their shorter-term counterparts. Realized term premiums were also negative across the broader global developed market.

Realized credit premiums were generally negative during the quarter as corporate bonds underperformed their government counterparts.



Period Returns (%)

*Annualized

Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
FTSE Canada 30 Day T-Bill	0.05	0.12	0.68	0.85	0.80
FTSE World Government Bond Index 1-5 Years (hedged to CAD)	-2.37	-2.81	0.66	0.96	1.42
FTSE Canada Short-Term Bond Index	-2.98	-3.31	0.84	1.12	1.66
FTSE World Government Bond Index 1-5 Years (CAD)	-4.64	-6.17	-2.17	-0.57	1.60
Bloomberg Global Aggregate Bond Index (hedged to CAD)	-4.96	-3.90	1.06	1.84	2.90
FTSE Canada Universe Bond Index	-6.97	-4.52	0.45	1.58	2.55



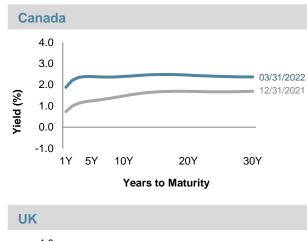


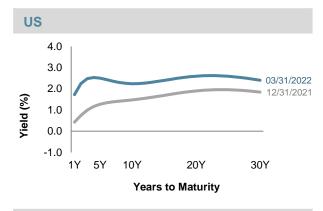
Global Fixed Income

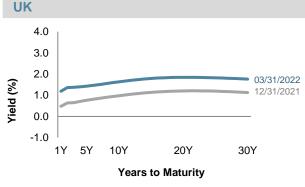
First quarter 2022 yield curves

Interest rates generally increased across the global developed markets for the quarter.

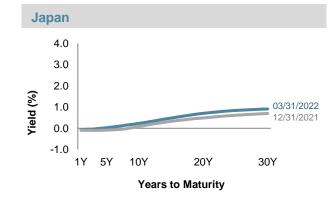
In Japan and Germany, intermediateterm nominal interest rates became positive during the quarter. However, short-term nominal interest rates remained negative in these markets.













Changes in Yields (bps) Since 12/31/2021

	1Y	5Y	10Y	20Y	30Y
Canada	115.0	114.3	91.8	76.7	68.0
US	130.0	123.0	76.4	69.5	55.5
UK	70.7	66.5	65.5	64.2	63.2
Germany	21.3	84.4	71.4	58.3	48.4
Japan	1.6	11.5	14.1	21.3	21.2
Australia	70.3	124.1	116.9	89.0	86.7



Impact of Diversification

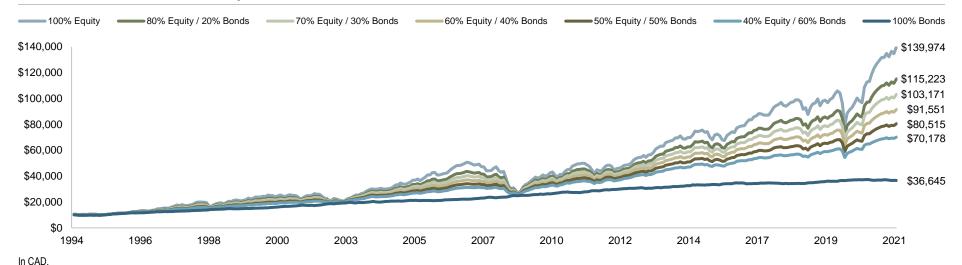
As of December 31, 2021

III Manulife Securities

These indices illustrate the performance of different global stock/bond mixes and highlight the benefits of diversification. Mixes with larger allocations to stocks are considered riskier but have higher expected returns over time.

Period Returns (%)					* <i>F</i>	\nnualized
Dimensional Core Plus Wealth Index Model	3 Months	1 Year	3 Years*	5 Years*	10 Years*	10-Year STDEV ¹
100% Equity	5.83	24.07	16.88	10.87	12.19	12.02
80% Equity/20% Bonds	4.54	18.57	14.40	9.41	10.70	9.80
70% Equity/30% Bonds	3.88	15.87	13.04	8.61	9.88	8.67
60% Equity/40% Bonds	3.22	13.23	11.64	7.75	9.00	7.54
50% Equity/50% Bonds	2.55	10.64	10.17	6.85	8.07	6.42
40% Equity/60% Bonds	1.88	8.10	8.65	5.89	7.08	5.31
100% Bonds	-0.84	-1.93	1.76	1.41	2.34	1.94

Growth of Wealth: The Relationship Between Risk and Return



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1. STDEV (standard deviation) is a measure of the variation or dispersion of a set of data points. Standard deviations are often used to quantify the historical return volatility of a security or portfolio.

Diversification does not eliminate the risk of market loss. For illustrative purposes only. Past performance is no guarantee of future results. The index models are unmanaged and the model's performance does not reflect advisory fees or other expenses associated with the management of an actual portfolio. In particular, Model performance may not reflect the impact that economic and market factors may have had on the advisor's decision making if the advisor were actually managing client money. The models are not recommendations for an actual allocation. Indices are not available for direct investment. All performance results are based on performance of indexes with model/back-tested asset allocations; the performance was achieved with the benefit of hindsight; it does not represent actual investment strategies. Backtested performance results assume the reinvestment of dividends and capital gains. The performance reflects the growth of a hypothetical \$10,000. Assumes all models have been rebalanced monthly. See appendix for allocation information. See "Sources and Descriptions of Data" in the appendix for descriptions of Dimensional Index data. Sources: Dimensional Fund Advisors LP for Dimensional Indices. Copyright 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.



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Is It Time to Sell Stocks?

First Quarter 2022

Weston Wellington Vice President

After touching record highs in early January, US stocks¹ have slumped, and investors have been confronted with worrisome headlines² in the financial press:

"Inflation Hits Fastest Clip Since '82"

-Gwynn Guilford, Wall Street Journal, January 13, 2022

"Economists Cut Back Growth Forecasts as Threats Pile Up"

—Harriett Torry and Anthony DeBarros, Wall Street Journal, January 18, 2022

"Giant Stock Swings Send Some Into Bear Territory"

—Gunjan Banerji and Peter Santilli, Wall Street Journal, January 18, 2022

"Markets Drop as Turbulent Trading Persists"

—Gunjan Banerji and Will Horner, Wall Street Journal, January 26, 2022

"Fed Set to Start Increasing Rates by Mid-March"

—Nick Timiraos, Wall Street Journal, January 27, 2022

Some stocks that attracted intense interest last year have fallen sharply from their previous highs, as **Exhibit 1** shows.³

Is rising inflation a negative for equity investors? Do large losses in a handful of popular stocks signal a downturn ahead for the broad market?

Invariably, the question behind the question is, "Should I be doing something different in my portfolio?" This is just another version of the market timing question dressed in different clothes. Should I sell stocks and wait for a more favorable outlook to buy them back? More precisely, can we find clear trading rules that will tell us when to buy or hold stocks, when to sell, when to admit our mistakes, and so on?

EXHIBIT 1

Stock Slump

Name	Ticker	Return through 12/31	Return through 1/31
Robinhood Markets Inc. Class A	HOOD	-79.1%	-83.4%
AMC Entertainment Holdings Inc. Class A	AMC	-62.5%	-77.9%
GameStop Corp. Class A	GME	-69.3%	-77.4%
Tesla Inc.	TSLA	-15.0%	-24.7%

Past performance is no guarantee of future results. Performance may increase or decrease as a result of currency fluctuations.

Source: Bloomberg.

Named securities may be held in accounts managed by Dimensional. This information should not be considered a recommendation to buy or sell a particular security.

The lure of successful trading strategies is seductive. If only we could find them, our portfolios would do so much better.

Consider Felicity Foresight. She is gifted with the ability to identify patterns in the champagne bubbles floating to the top of her glass on New Year's Eve, enabling her to predict the best performer between S&P 500 stocks and US Treasury bills over the subsequent 12 months. How would her hypothetical portfolio have performed over the past 50 years following this simple annual readjustment strategy?

^{1.} As of January 31, the S&P 500 was down 5.17% for the year.

^{2.} Headlines are sourced from publicly available news outlets and are provided for context, not to explain the market's behavior.

^{3.} While these stocks were selected based on newsworthiness and the high level of attention they received in the media in 2021, their returns may not be reflective of all high-profile stocks over the period.



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Is It Time to Sell Stocks?

(continued from page 16)

Rather well. Following a Perfect Timing strategy by investing in the best performer each year, she turned \$1,000 into \$1.8 million, nearly 10 times the wealth produced using a buy-and-hold strategy for the S&P 500 Index (see **Exhibit 2**).

EXHIBIT 2

Past Perfect?

Growth of \$1,000, January 1972–December 2021	
Perfect Timing Strategy	\$1,811,565
S&P 500 Index	\$197,063
One-Month US Treasury Bills	\$8,727
Perfectly Awful Timing Strategy	\$949

Past performance is no guarantee of future results. Performance may increase or decrease as a result of currency fluctuations.

Source: One-Month US Treasury Bills is the IA SBBI US 30 Day TBill TR USD. S&P data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Treasury bills data provided by Ibbotson Associates via Morningstar Direct.

In USD. Data presented in the Growth of \$1,000 exhibit is for illustrative purposes only and is not indicative of any investment. The examples assume that the hypothetical portfolio fully divested its holdings of stocks (or bonds) at the end of the last trading day of any year when a switch was indicated, held the other asset for the subsequent year, and performed the exercise again at year's end. The examples are hypothetical and assume reinvestment of income and no transaction costs or taxes. There is no guarantee strategies will be successful. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

But also consider Hapless Harry. He was never a fan of New Year's and manages to get it wrong each and every year. His Perfectly Awful strategy winds up losing money over the same 50-year period.

Motivated by the substantial payoff associated with successful timing, researchers over the years have examined a wide range of strategies based on analysis of earnings, dividends, interest rates, economic growth, investor sentiment, stock price patterns, and so on.

One colorful example, known as the Hindenburg Omen, had a brief moment of fame in 2010. Developed by a blind mathematician and former physics teacher, this stock market indicator took its name from the German airship disaster of 1937. The Omen signaled a decline only when multiple measures of 52-week high/low prices and moving averages all turned negative. This indicator had correctly foreshadowed major downturns in 1987 and 2008. When it flashed a "sell" signal on Thursday, August 12, 2010, internet chat rooms and Wall Street trading desks were buzzing the next day, Friday the 13th, with talk of a looming crash, according to the *Wall Street Journal*.⁴ But no crash occurred, and the S&P 500 had its highest September return since 1939.⁵

The money management industry is highly competitive, with more stock mutual funds and ETFs available in the US than listed stocks.⁶ If someone could develop a profitable timing strategy, we would expect to see some funds employing it with successful results. But a recent Morningstar report suggests investors should be wary of those claiming to do so. The report examined the results of two types of funds⁷, each holding a mix of stocks and bonds:

- · Balanced: Minimal change in allocation to stocks
- Tactical Asset Allocation: Periodic shifts in allocation to stocks

^{4.} Steven Russolillo and Tomi Kilgore, "'Hindenburg Omen' Flashes," Wall Street Journal, August 14, 2010.

^{5.} Weston Wellington, "Hindenburg Omen Flames Out," Down to the Wire (blog), Dimensional Fund Advisors, October 8, 2010.

^{6.} The Russell 3000 Index contains the stocks of 3,000 US companies and represented about 97% of the investable US equity market as of Dec. 31, 2021. According to the Investment Company Institute, there were 2,997 domestic equity funds and 1,032 US equity exchange-traded funds at the end of 2020.

^{7.} Morningstar described the risk profile of the Tactical Asset allocation as generally in line with that of Morningstar's 50%–70% equity category. The narrower "balanced" category used here was a subset of Morningstar's 50%–70% category that has a fairly static mix of about 60% stocks and 40% bonds.



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Is It Time to Sell Stocks?

(continued from page 17)

As a group, funds that sought to enhance results by opportunistically shifting assets between stocks and fixed income underperformed funds that simply held a relatively static mix (see **Exhibit 3**). Morningstar further pointed out that if the performance of

EXHIBIT 3

Scare Tactics

% Annualized Return through August 31, 2021	3 Year	5 Year	10 Year
Tactical Asset Allocation	8.36	8.38	6.18
Balanced	10.49	9.89	8.93
Tactical Underperformance	-2.13	-1.51	-2.75

Past performance, including hypothetical performance, is no guarantee of future results. Performance may increase or decrease as a result of currency fluctuations.

Source Morningstar. Morningstar defines Tactical Allocation portfolios as those that "seek to provide capital appreciation and income by actively shifting allocations across investments. These portfolios have material shifts across equity regions and bond sectors on a frequent basis. To qualify for the tactical allocation category, the fund must have minimum exposures of 10% in bonds and 20% in equity. Next, the fund must historically demonstrate material shifts in sector or regional allocations either through a gradual shift over three years or through a series of material shifts on a quarterly basis. Within a three-year period, typically the average quarterly changes between equity regions and bond sectors exceeds 15% or the difference between the maximum and minimum exposure to a single equity region or bond sector exceeds 50%."

non-surviving tactical funds were included, the numbers would be even worse. Its conclusion: "The failure of tactical asset allocation funds suggests investors should not only stay away from funds that follow tactical strategies, but they should also avoid making short-term shifts between asset classes in their own portfolios."

We should not be surprised by these results. Successful timing requires two correct decisions: when to pare back the allocation to stocks and when to increase it again. Watching a portfolio shrink in value during a market downturn can be discomforting. But investors seeking to avoid the pain by temporarily shifting away from their long-term strategy may wind up trading one source of anguish for another. The initial upsurge in prices from their lows often takes many investors by surprise, and they find it extraordinarily difficult to buy stocks that were available at sharply lower prices a few weeks earlier. The opportunity cost can be substantial: Over the 25-year period ending in 2021, a hypothetical \$100,000 invested in the stocks that make up the Russell 3000 Index would have grown to \$1,036,694.9 But during this quarter-century, missing just the best consecutive 90-trading-day period (which ended June 22, 2020) shaved the ending wealth figure by an alarming 33%.10

Add to this the likelihood of increased transaction costs and the potential tax consequences of a short-term trading strategy, and the odds of adding value through market timing grow even slimmer.

As a thoughtful financial advisor once observed, "A portfolio is like a bar of soap. The more you handle it, the less you have."

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^{8.} Amy C. Arnott, "Tactical Asset Allocation: Don't Try This at Home," Morningstar, September 20, 2021.

^{9.} Data presented in the Growth of \$100,000 example is hypothetical and assumes reinvestment of income and no transaction costs or taxes. The exhibit is presented for illustrative purposes only and is not indicative of any investment.

^{10.} Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. The example of an investor missing the best consecutive 90 trading days assumes that the hypothetical portfolio fully divested its holdings at the end of the day before the 90-day period began, held cash for the period, then reinvested the entire portfolio in the Russell 3000 Index at the end of the period.

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Appendix





Dimensional Core Plus Wealth Index Models

Weights (%)

Equity Total	0%	40%	50%	60%	70%	80%	100%
Dimensional Canadian Core Equity Index	0	9	11	13	16	18	22
Dimensional Canadian Vector Equity Index	0	4	5	6	7	8	10
Dimensional US Core Equity Index (Canada)	0	5	7	8	10	11	14
Dimensional US Core Equity Index (Canada) (Hedged to CAD)	0	5	7	8	10	11	14
Dimensional US Vector Equity Index (Canada)	0	5	5	6	6	6	6
Dimensional US Vector Equity Index (Canada) (Hedged to CAD)	0	0	1	1	2	4	6
Dimensional International Core Equity Index (Canada)	0	4	4	5	6	7	9
Dimensional International Core Equity Index (Canada) (Hedged to CAD)	0	4	4	5	6	7	9
Dimensional International Vector Equity Index (Canada)	0	3	3	4	4	4	4
Dimensional International Vector Equity Index (Canada) (Hedged to CAD)	0	0	0	1	2	2	4
S&P Global REIT Index	0	2	2	2	3	3	4
Fixed Income Total	100%	60%	50%	40%	30%	20%	0%
Dimensional Global Short-Term Government Variable Maturity Index (Hedged to CAD)	85	30	23	16	11	6	0
Dimensional Global Adjusted Investment Grade Index (Hedged to CAD)	15	15	15	14	12	9	0
Dimensional Global Targeted Credit Index (Hedged to CAD)	0	15	13	10	8	5	0



Dimensional Core Plus Wealth Index Models

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Period Returns as of December 31, 2021 (%)

	1 Year	3 Years	5 Years	10 Years
Equity Total				
Dimensional Canadian Core Equity Index	28.43	16.62	8.77	8.28
Dimensional Canadian Vector Equity Index	32.03	17.13	7.97	7.82
Dimensional US Core Equity Index (Canada)	25.51	21.75	15.62	18.55
Dimensional US Core Equity Index (Canada) (Hedged to CAD)	26.02	23.15	15.54	15.30
Dimensional US Vector Equity Index (Canada)	27.72	16.93	10.81	16.59
Dimensional US Vector Equity Index (Canada) (Hedged to CAD)	28.03	17.94	10.52	13.25
Dimensional International Core Equity Index (Canada)	9.69	10.74	8.99	11.01
Dimensional International Core Equity Index (Canada) (Hedged to CAD)	15.68	13.37	9.68	11.20
Dimensional International Vector Equity Index (Canada)	11.00	9.47	8.02	10.81
Dimensional International Vector Equity Index (Canada) (Hedged to CAD)	16.94	11.96	8.64	10.95
S&P Global REIT Index	31.37	11.92	8.11	12.57
Fixed Income Total				
Dimensional Global Short-Term Government Variable Maturity Index (Hedged to CAD)	-2.00	1.06	0.89	1.72
Dimensional Global Adjusted Investment Grade Index (Hedged to CAD)	-1.55	5.75	4.35	5.87
Dimensional Global Targeted Credit Index (Hedged to CAD)	-0.24	4.22	3.13	4.40



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DIMENSIONAL CORE PLUS 100/0 WEALTH INDEX MODEL (CANADA)

January 1994-Present: Dimensional Core Plus 100/0 Index Model. The index model combines the following indexes: Dimensional Canadian Core Equity Index, Dimensional Canadian Vector Equity Index, Dimensional US Core Equity Index, Dimensional US Vector Equity Index, Dimensional International Core Equity Index, Dimensional International Vector Equity Index, and the S&P Global REIT Index (gross div). The weight of the REIT index is based on the market capitalization weight of equity REITs within the global universe of eligible stocks and equity REITs, rounded to the nearest 1%. Within the remaining non-REIT allocation, Canadian equities are held at 33.33%, then rescaled and rounded to the nearest 1%. The weights of US and International equities are held at their respective market capitalization weights and then rescaled to sum to the total non-REIT, non-Canada weight of the Index Model, rounded to the nearest 1%. Regional weights are determined at each guarter-end and held constant for next three months. Within the Canadian allocation, each month the weights are allocated to the core and vector indexes at 70% and 30%, respectively. Within each of the US and International allocations, each month the weights are allocated to the core, core (hedged to CAD), vector and vector (hedged to CAD) indexes at 35%, 35%, 15% and 15%, respectively. The Index Model returns are calculated monthly as a weighted average of the returns of the underlying indexes. The Dimensional Core Plus 100/0 Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 80/20 WEALTH INDEX MODEL (CANADA)

January 1994-Present: Dimensional Core Plus 80/20 Index Model: 80% of the weight is allocated to global equity indexes (described below) and 20% of the weight is allocated to the following fixed income indexes: Dimensional Global Short-Term Government Variable Maturity Index (hedged to CAD) (6%), Dimensional Global Adjusted Investment Grade Index (hedged to CAD) (9%), and Dimensional Global Targeted Credit Index (hedged to CAD) (5%). The equity allocation combines the following indexes: Dimensional Canadian Core Equity Index, Dimensional Canadian Vector Equity Index. Dimensional US Core Equity Index. Dimensional US Vector Equity Index, Dimensional International Core Equity Index, Dimensional International Vector Equity Index, and the S&P Global REIT Index (gross div). The weight of the REIT index is based on the market capitalization weight of equity REITs within the global universe of eligible stocks and equity REITs, rounded to the nearest 1%. Within the remaining non-REIT allocation, Canadian equities are held at 33.33%, then rescaled and rounded to the nearest 1%. The weights of US and International equities are held at their respective market capitalization weights and then rescaled to sum to the total non-REIT, non-Canada weight of the Index Model, rounded to the nearest 1%. Regional weights are determined at each quarterend and held constant for next three months. Within the Canadian allocation, each month the weights are allocated to the core and vector indexes at 70% and 30%, respectively. Within each of the US and International allocations, each month the weights are allocated to the core, core (hedged to CAD), vector and vector (hedged to CAD) indexes at 35%, 35%, 18% and 12%, respectively. The Index Model returns are calculated monthly as a weighted average of the returns of the underlying indexes. The Dimensional Core Plus 80/20 Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 70/30 WEALTH INDEX MODEL (CANADA)

January 1994-Present: Dimensional Core Plus 70/30 Index Model: 70% of the weight is allocated to global equity indexes (described below) and 30% of the weight is allocated to the

following fixed income indexes: Dimensional Global Short-Term Government Variable Maturity Index (hedged to CAD) (10.5%), Dimensional Global Adjusted Investment Grade Index (hedged to CAD) (12%), and Dimensional Global Targeted Credit Index (hedged to CAD) (7.5%). The equity allocation combines the following indexes: Dimensional Canadian Core Equity Index, Dimensional Canadian Vector Equity Index, Dimensional US Core Equity Index, Dimensional US Vector Equity Index, Dimensional International Core Equity Index, Dimensional International Vector Equity Index, and the S&P Global REIT Index (gross div). The weight of the REIT index is based on the market capitalization weight of equity REITs within the global universe of eligible stocks and equity REITs, rounded to the nearest 1%. Within the remaining non-REIT allocation. Canadian equities are held at 33.33%, then rescaled and rounded to the nearest 1%. The weights of US and International equities are held at their respective market capitalization weights and then rescaled to sum to the total non-REIT, non-Canada weight of the Index Model, rounded to the nearest 1%. Regional weights are determined at each guarterend and held constant for next three months. Within the Canadian allocation, each month the weights are allocated to the core and vector indexes at 70% and 30%, respectively. Within each of the US and International allocations, each month the weights are allocated to the core. core (hedged to CAD), vector and vector (hedged to CAD) indexes at 35%, 35%, 18% and 12%, respectively. The Index Model returns are calculated monthly as a weighted average of the returns of the underlying indexes. The Dimensional Core Plus 70/30 Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 60/40 WEALTH INDEX MODEL (CANADA)

January 1994-Present: Dimensional Core Plus 60/40 Index Model: 60% of the weight is allocated to global equity indexes (described below) and 40% of the weight is allocated to the following fixed income indexes: Dimensional Global Short-Term Government Variable Maturity Index (hedged to CAD) (16%), Dimensional Global Adjusted Investment Grade Index (hedged to CAD) (14%), and Dimensional Global Targeted Credit Index (hedged to CAD) (10%), The equity allocation combines the following indexes: Dimensional Canadian Core Equity Index. Dimensional Canadian Vector Equity Index, Dimensional US Core Equity Index, Dimensional US Vector Equity Index, Dimensional International Core Equity Index, Dimensional International Vector Equity Index, and the S&P Global REIT Index (gross div). The weight of the REIT index is based on the market capitalization weight of equity REITs within the global universe of eligible stocks and equity REITs, rounded to the nearest 1%. Within the remaining non-REIT allocation. Canadian equities are held at 33.33%, then rescaled and rounded to the nearest 1%. The weights of US and International equities are held at their respective market capitalization weights and then rescaled to sum to the total non-REIT, non-Canada weight of the Index Model, rounded to the nearest 1%. Regional weights are determined at each quarterend and held constant for next three months. Within the Canadian allocation, each month the weights are allocated to the core and vector indexes at 70% and 30%, respectively. Within each of the US and International allocations, each month the weights are allocated to the core, core (hedged to CAD), vector and vector (hedged to CAD) indexes at 35%, 35%, 24% and 6%, respectively. The Index Model returns are calculated monthly as a weighted average of the returns of the underlying indexes. The Dimensional Core Plus 60/40 Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. The returns of indices presented herein reflect hypothetical performance and do not represent returns that any investor actually attained. Changes in the assumptions upon which such performance is based may have a material impact on the hypothetical returns presented. Hypothetical backtested returns have many inherent limitations. Unlike actual performance, it does not represent actual trading. Since trades have not actually been executed, results may have under- or overcompensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Hypothetical backtested performance also is developed with the benefit of hindsight. Other periods selected may have different results, including losses. There can be no assurance that Dimensional Fund Advisors will achieve profits or avoid incurring substantial losses.



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DIMENSIONAL CORE PLUS 50/50 WEALTH INDEX MODEL (CANADA)

January 1994-Present: Dimensional Core Plus 50/50 Index Model: 50% of the weight is allocated to global equity indexes (described below) and 50% of the weight is allocated to the following fixed income indexes: Dimensional Global Short-Term Government Variable Maturity Index (hedged to CAD) (22.5%), Dimensional Global Adjusted Investment Grade Index (hedged to CAD) (15%), and Dimensional Global Targeted Credit Index (hedged to CAD) (12.5%). The equity allocation combines the following indexes: Dimensional Canadian Core Equity Index. Dimensional Canadian Vector Equity Index, Dimensional US Core Equity Index, Dimensional US Vector Equity Index, Dimensional International Core Equity Index, Dimensional International Vector Equity Index, and the S&P Global REIT Index (gross div). The weight of the REIT index is based on the market capitalization weight of equity REITs within the global universe of eligible stocks and equity REITs, rounded to the nearest 1%. Within the remaining non-REIT allocation. Canadian equities are held at 33.33%, then rescaled and rounded to the nearest 1%. The weights of US and International equities are held at their respective market capitalization weights and then rescaled to sum to the total non-REIT, non-Canada weight of the Index Model, rounded to the nearest 1%. Regional weights are determined at each quarter-end and held constant for next three months. Within the Canadian allocation, each month the weights are allocated to the core and vector indexes at 70% and 30%, respectively. Within each of the US and International allocations, each month the weights are allocated to the core, core (hedged to CAD), vector and vector (hedged to CAD) indexes at 35%, 35%, 24% and 6%, respectively. The Index Model returns are calculated monthly as a weighted average of the returns of the underlying indexes. The Dimensional Core Plus 50/50 Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 40/60 WEALTH INDEX MODEL (CANADA)

January 1994-Present: Dimensional Core Plus 40/60 Index Model: 40% of the weight is allocated to global equity indexes (described below) and 60% of the weight is allocated to the following fixed income indexes: Dimensional Global Short-Term Government Variable Maturity Index (hedged to CAD) (30%), Dimensional Global Adjusted Investment Grade Index (hedged to CAD) (15%), and Dimensional Global Targeted Credit Index (hedged to CAD) (15%). The equity allocation combines the following indexes: Dimensional Canadian Core Equity Index, Dimensional Canadian Vector Equity Index, Dimensional US Core Equity Index, Dimensional US Vector Equity Index, Dimensional International Core Equity Index, Dimensional International Vector Equity Index, and the S&P Global REIT Index (gross div). The weight of the REIT index is based on the market capitalization weight of equity REITs within the global universe of eligible stocks and equity REITs, rounded to the nearest 1%. Within the remaining non-REIT allocation, Canadian equities are held at 33.33%, then rescaled and rounded to the nearest 1%. The weights of US and International equities are held at their respective market capitalization weights and then rescaled to sum to the total non-REIT, non-Canada weight of the Index Model, rounded to the nearest 1%. Regional weights are determined at each quarter-end and held constant for next three months. Within the Canadian allocation, each month the weights are allocated to the core and vector indexes at 70% and 30%, respectively. Within each of the US and International allocations, each month the weights are allocated to the core, core (hedged to CAD), and vector indexes at 35%, 35% and 30%, respectively. The Index Model returns are calculated monthly as a weighted average of the returns of the underlying indexes. The Dimensional Core Plus 40/60 Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 0/100 WEALTH INDEX MODEL (CANADA)

January 1994-Present: Dimensional Core Plus 0/100 Index Model: Dimensional Global Short-Term Government Variable Maturity Index (hedged to CAD) (85%) and Dimensional Global Adjusted Investment Grade Index (hedged to CAD) (15%). The Index Model returns are calculated monthly as a weighted average of the returns of the underlying indexes. The Dimensional Core Plus 0/100 Index Model has been retrospectively calculated by Dimensional Fund Advisors and did not exist prior to March 2020.

DIMENSIONAL CANADIAN CORE EQUITY INDEX

Compiled by Dimensional from Bloomberg securities data. Targets all the securities in the eligible markets with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Maximum index weight of any one company is capped at 10%. The country currently included is Canada. Exclusion: investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to April 2008. Accordingly, the results shown during the periods prior to April 2008 do not represent actual returns of the index. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

DIMENSIONAL CANADIAN VECTOR EQUITY INDEX

Compiled by Dimensional from Bloomberg securities data. Targets all the securities in the eligible markets with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Maximum index weight of any one company is capped at 10%. The country currently included is Canada, Exclusions: REITs and investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to April 2008. Accordingly, the results shown during the periods prior to April 2008 do not represent actual returns of the index. The calculation methodology for the index was amended in January 2014 to include direct profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. The returns of indices presented herein reflect hypothetical performance and do not represent returns that any investor actually attained. Changes in the assumptions upon which such performance is based may have a material impact on the hypothetical returns presented. Hypothetical backtested returns have many inherent limitations. Unlike actual performance, it does not represent actual trading. Since trades have not actually been executed, results may have under-or overcompensated for the impact since trades have not actually been executed, results may have under-or overcompensated for the impact since trades have not actually been executed, results may have under-or overcompensated for the impact since trades have not actually been executed, results may have under-or overcompensated for the impact since trades have not actually been executed, results may have an actually been executed, results may have actually act



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DIMENSIONAL US CORE EQUITY INDEX (CANADA)

January 1975-present: Compiled by Dimensional from CRSP and Compustat data. Targets all the securities in the eligible market with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within the small cap universe. The index also excludes those companies with the highest asset growth within the small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdag Global Market, Exclusions; non-US companies, REITs. UITs, and investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to November 2007. Accordingly, the results shown during the periods prior to November 2007 do not represent actual returns of the index. Other periods selected may have different results, including losses. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in December 2019 to include asset growth as a factor in selecting securities for inclusion in the index. Prior to January 1975: Targets all the securities in the eligible market with an emphasis on companies with smaller capitalization and lower relative price. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market. Exclusions: non-US companies, REITs, UITs, and investment companies.

DIMENSIONAL US CORE EQUITY INDEX (CANADA) (HEDGED TO CAD)

January 1975-present: Compiled by Dimensional from CRSP and Compustat data. Targets all the securities in the eligible market with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within the small cap universe. The index also excludes those companies with the highest asset growth within the small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The returns are hedged to CAD. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdag Global Market. Exclusions: non-US companies, REITs, UITs, and investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to November 2007. Accordingly, the results shown during the periods prior to November 2007 do not represent actual returns of the index. Other periods selected may have different results, including losses. The index monthly returns are computed as the simple average of the monthly returns of 12 sub-indices, each one reconstituted once a year at the end of each month of the year. The index is unmanaged and is not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly in an index. Past performance is no guarantee of future results. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in December 2019 to include asset growth as a factor in selecting securities for inclusion in the index. Prior to January 1975: Targets all the securities in the eligible market with an emphasis on companies with smaller capitalization and lower relative price. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market.

DIMENSIONAL US VECTOR EQUITY INDEX (CANADA)

January 1975-present: Compiled by Dimensional from CRSP and Compustat data. Targets all the securities in the eligible market, excluding securities with the largest market capitalization and highest relative price. The index emphasizes companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within the small cap universe. The index also excludes those companies with the highest asset growth within the small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdag Global Market, Exclusions; non-US companies, REITs, UITs, and investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to November 2009. Accordingly, the results shown during the periods prior to November 2009 do not represent actual returns of the index. Other periods selected may have different results, including losses. The index monthly returns are computed as the simple average of the monthly returns of 12 sub-indices, each one reconstituted once a year at the end of each month of the year. The index is unmanaged and is not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly in an index. Past performance is no guarantee of future results. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in December 2019 to include asset growth as a factor in selecting securities for inclusion in the index. Prior to January 1975: Targets all the securities in the eligible market excluding securities with the largest market capitalizations and highest relative price with an emphasis on companies with smaller capitalization and lower relative price. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market. Exclusions: non-US companies, REITs, UITs, and investment companies.

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DIMENSIONAL US VECTOR EQUITY INDEX (CANADA) (HEDGED TO CAD)

January 1975-present: Compiled by Dimensional from CRSP and Compustat data. Targets all the securities in the eligible market, excluding securities with the largest market capitalization and highest relative price. The index emphasizes companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within the small cap universe. The index also excludes those companies with the highest asset growth within the small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The returns are hedged to CAD. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdag Global Market. Exclusions: non-US companies, REITs, UITs, and investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to November 2009. Accordingly, the results shown during the periods prior to November 2009 do not represent actual returns of the index. Other periods selected may have different results, including losses. The index monthly returns are computed as the simple average of the monthly returns of 12 sub-indices, each one reconstituted once a year at the end of each month of the year. The index is unmanaged and is not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly in an index. Past performance is no guarantee of future results. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in December 2019 to include asset growth as a factor in selecting securities for inclusion in the index. Prior to January 1975: Targets all the securities in the eligible market, excluding securities with the largest market capitalizations and highest relative price with an emphasis on companies with smaller capitalization and lower relative price. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdag Global Market. Exclusions: non-US companies, REITs, UITs, and investment companies.

DIMENSIONAL INTERNATIONAL CORE EQUITY INDEX (CANADA)

Compiled by Dimensional from Bloomberg securities data. Targets all the securities in the eligible markets with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current

fiscal year. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Maximum index weight of any one company is capped at 5%. Countries currently included are Australia, Austria, Belgium, Brazil, Chile, China, Colombia, the Czech Republic, Denmark, Finland, France, Germany, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Peru, the Philippines, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, and the UK. Exclusion: investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to April 2008. Accordingly, the results shown during the periods prior to April 2008 do not represent actual returns of the index. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

DIMENSIONAL INTERNATIONAL CORE EQUITY INDEX (CANADA) (HEDGED TO CAD)

Compiled by Dimensional from Bloomberg securities data. Targets all the securities in the eligible markets with an emphasis on companies with smaller capitalization, lower relative price. and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The returns are hedged to CAD. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Maximum index weight of any one company is capped at 5%. Countries currently included are Australia, Austria, Belgium, Brazil, Chile, China, Colombia, the Czech Republic, Denmark, Finland, France, Germany, Hong Kong, Hungary, India. Indonesia, Ireland, Israel, Italy, Japan, Korea, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Peru, the Philippines, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, and the UK. Exclusion: investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to April 2008. Accordingly, the results shown during the periods prior to April 2008 do not represent actual returns of the index. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. The returns of indices presented herein reflect hypothetical performance and do not represent returns that any investor actually attained. Changes in the assumptions upon which such performance is based may have a material impact on the hypothetical backtested returns have many inherent limitations. Unlike actual performance, it does not represent actual trading. Since trades have not actually been executed, results may have under- or overcompensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Hypothetical backtested performance also is developed with the benefit of hindsight. Other periods selected may have different results, including losses. There can be no assurance that Dimensional Fund Advisors will achieve profits or avoid incurring substantial losses.



III Manulife Securities

DIMENSIONAL INTERNATIONAL VECTOR EQUITY INDEX (CANADA)

Compiled by Dimensional from Bloomberg securities data. Targets all the securities in the eligible markets with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Maximum index weight of any one company is capped at 5%. Countries currently included are Australia, Austria, Belgium, Brazil, Chile, China. Colombia, the Czech Republic, Denmark, Finland, France, Germany, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Peru, the Philippines, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, and the UK, Exclusions; REITs and investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to April 2008. Accordingly, the results shown during the periods prior to April 2008 do not represent actual returns of the index. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

DIMENSIONAL INTERNATIONAL VECTOR EQUITY INDEX (CANADA) (HEDGED TO CAD)

Compiled by Dimensional from Bloomberg securities data. Targets all the securities in the eligible markets with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The returns are hedged to CAD. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Maximum index weight of any one company is capped at 5%. Countries currently included are Australia, Austria, Belgium, Brazil, Chile, China, Colombia, the Czech Republic, Denmark, Finland, France, Germany, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Peru, the Philippines, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, and the UK. Exclusions: REITs and investment companies. The index has been retrospectively calculated by Dimensional and did not exist prior to April 2008. Accordingly, the results shown during the periods prior to April 2008 do not represent actual returns of the index. The calculation methodology for the index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

S&P GLOBAL REIT INDEX

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DIMENSIONAL GLOBAL SHORT-TERM GOVERNMENT VARIABLE MATURITY INDEX (HEDGED TO CAD)

Compiled by Dimensional using FTSE data. Includes securities in the FTSE World Government Bond 1–3 Years and 3–5 Years indices. Countries: Austria, Australia, Belgium, Canada, France, Germany, Japan, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, the UK, and the US. Countries with the steepest yield curves are overweight with respect to their market cap weight. For countries included, duration corresponds to the steepest segment of that country's yield curve. Currency exposure is hedged to CAD. Rebalanced monthly. The index has been retroactively calculated by Dimensional and did not exist prior to January 2019.

DIMENSIONAL GLOBAL ADJUSTED INVESTMENT GRADE INDEX (HEDGED TO CAD)

February 1999–present: Compiled by Dimensional using data provided by Bloomberg. Based on securities in the universe of Bloomberg Global Aggregate Index, and includes global investment grade government bonds and global investment grade corporate bonds. Eligible currencies: AUD, CAD, CHF, EUR, GBP, JPY, and USD. Within the universe, the index identifies the yield curves that offer higher expected returns, and the duration ranges on those yield curves offering higher expected returns, and assesses the increased expected returns associated with allocation to bonds with different credit qualities. It then overweights (with respect to their market cap weight) bonds of yield curves, duration ranges, and credit qualities that offer higher expected returns. It also employs credit quality, currency, and duration requirements relative to the eligible market. Currency exposure is hedged to CAD. Rebalanced monthly. Prior to February 1999: Bloomberg Global Aggregate Index (Hedged to CAD). The index has been retroactively calculated by Dimensional and did not exist prior to January 2018.

DIMENSIONAL GLOBAL TARGETED CREDIT INDEX (HEDGED TO CAD)

January 2003–present: Compiled by Dimensional using data provided by Bloomberg. Based on securities in the universe of Bloomberg Global Aggregate Index and Global High Yield Index, and includes global investment grade corporate bonds and global BB corporates only. Eligible currencies: AUD, CAD, CHF, EUR, GBP, JPY, and USD. Within the universe, the index identifies the yield curves that offer higher expected returns, and the duration ranges on those yield curves offering higher expected returns, and assesses the increased expected returns associated with allocation to bonds with different credit qualities. It then overweights (with respect to their market cap weight) bonds of yield curves, duration ranges, and credit qualities that offer higher expected returns. It also employs credit quality, currency, and duration requirements relative to the eligible market. Currency exposure is hedged to CAD. Rebalanced monthly. Prior to January 2003: Bloomberg US Credit 1–3 Year Index (Hedged to CAD). The index has been retroactively calculated by Dimensional and did not exist prior to January 2020.

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