



# EMD Investing from a Canadian Perspective

April 2022

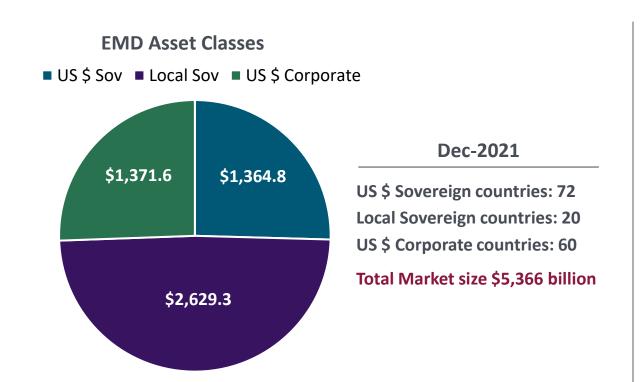
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### Why Emerging Markets Debt?

Composition and size of investable universe



EMD USD Sovereign	EMD Local Sovereign	EMD USD Corporates
5.29	5.72	4.58
7.95	5.21	4.66
367		272
51.3	77.7	55.5
BB+	BBB+	BBB-
	5.29 7.95 367 51.3	Sovereign         Sovereign           5.29         5.72           7.95         5.21           367            51.3         77.7

Source: J.P. Morgan; US \$ sovereign = J.P. Morgan EMBI Global, US \$ Corporate = J.P. Morgan CEMBI Broad Diversified, Local sovereign = J.P. Morgan GBI-EM Global Diversified. Data is as of 31 December 2021, except for local sovereign investment grade % which is as of 23 March 2022.. Credit quality based on an equally weighted average of Moody's, Fitch and S&P ratings.

#### The EMD universe has continued to grow

#### **Diversification Benefits of EMD**

Low correlation with many other asset classes

## 10-year Correlations (CAD) for the period 12/31/2011-12/31/2021

	EMD local currency	EMD hard currency (CAD hedged)		Cash	Global equities	Canadian equities	Canadian bonds	Global bonds (CAD hedged)
EMD local currency	1.00	0.56		0.05	0.41	0.18	0.49	0.45
EMD Hard Currency (CAD Hedged)	0.56	1.00	_	-0.33	0.44	0.59	0.40	0.52

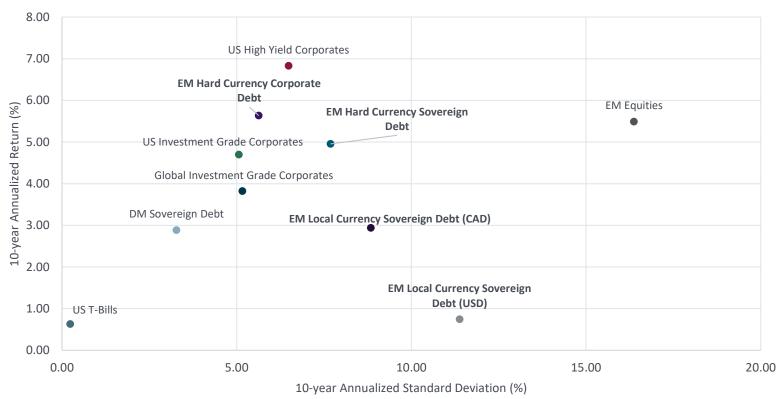
Source: FactSet SPAR. Correlations based on data for the period 12/31/2011-12/31/2021 for the following indices: Cash – FTSE Canada 91 day Treasury Bill,, Canadian Fixed Income – FTSE Canada Universe Bond Index, Global Fixed Income – Bloomberg Barclays Global Aggregate Index (CAD hedged), Canadian Equities – MSCI Canada, Global Equities – MSCI ACWI Index (net), EMD Local Currency – J.P. Morgan GBI-EM Diversified Index, EMD Hard Currency – J.P. Morgan EMBI Global Diversified Index (CAD hedged). Returns are in CAD.

Please refer to appendix for more information on the methodology used for forward looking assumptions. Projections are for illustrative purposes only and are not promises or estimates of actual returns.

### Why Emerging Markets Debt?

Emerging markets have historically exhibited favorable risk-adjusted returns

#### 10-year Historical Risk and Return as of 31 December 2021

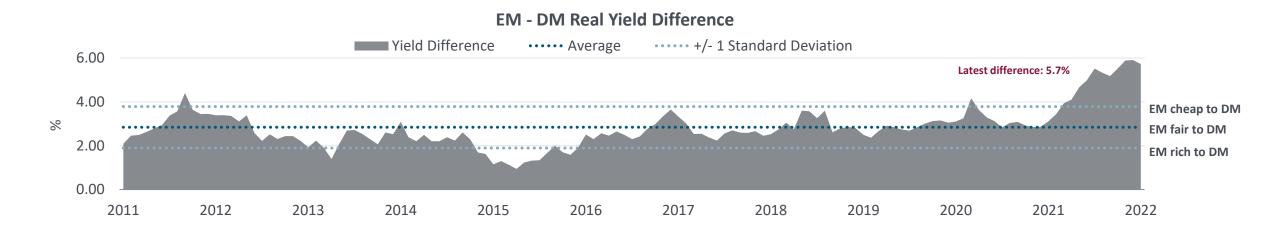


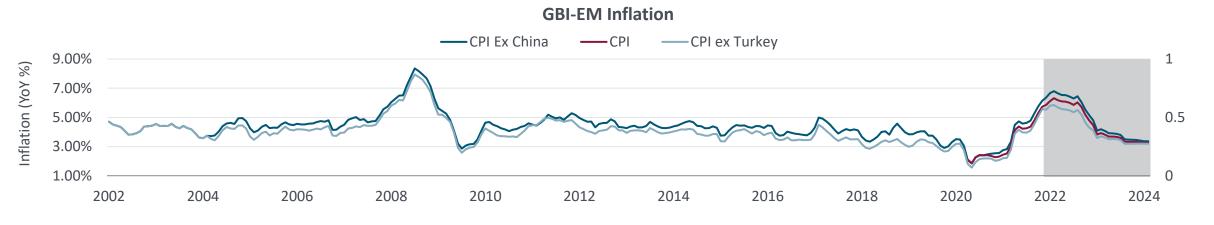
Source: FactSet. Data as of 31 December 2021. EM Hard Currency Sovereign Debt = J.P. Morgan EMBI Global Index. DM Sovereign Debt = J.P. Morgan GBI Global Index. US Investment Grade Corporates = Bloomberg US Aggregate Corporate Index. US High Yield Corporates = Bloomberg US Corporate High Yield Index. US T Bills = ICE BofA US Treasury 1-3M Index. Global Investment Grade Corporates = Bloomberg Global Aggregate Corporate Index (USD Unhedged). EM Equities = MSCI Emerging Markets Equity - Net Return Index. EM Hard Currency Corporates = J.P. Morgan CEMBI Broad Diversified. Local Currency EMD = J.P. Morgan GBI-EM Global Diversified. Fixed Income returns are gross and in USD, except for EM Local Currency Sovereign Debt (CAD) whose returns and volatility are in CAD. Past performance is no guarantee of future results. It is not possible to invest in an index.

Historically, EMD offered attractive risk-adjusted performance over time and through market cycles

#### CB Hikes Have Restored Value in EM Local Rates

*Inflation forecasted to peak mid-2022* 

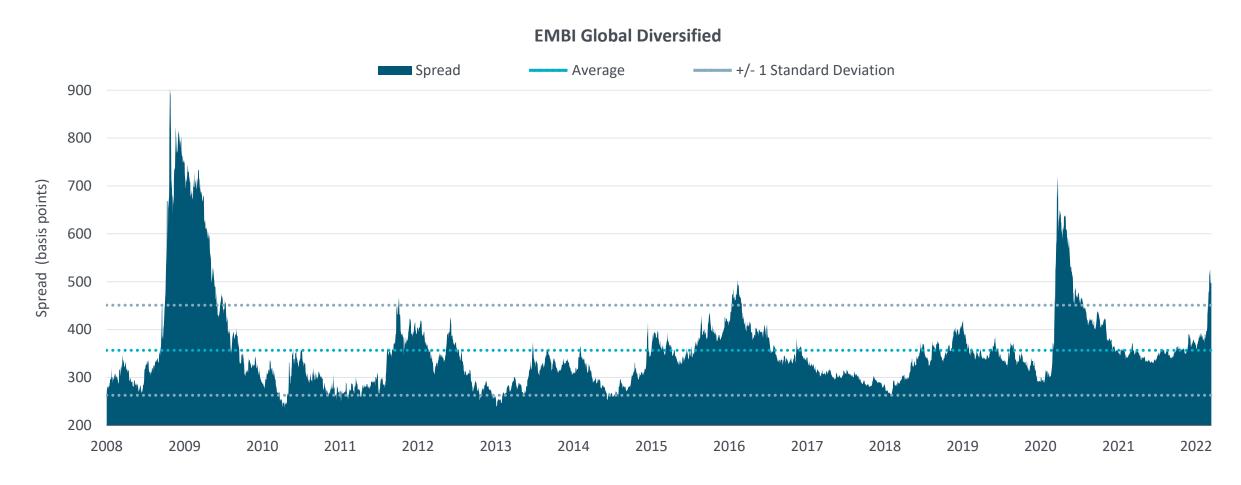




Source: Top: Bloomberg. Monthly data from 31 January 2011 through 31 January 2022. DM Real Yield = 70% US 5-year Treasury minus US CPI, 30% German 5-year Bund minus German CPI. EM Real yield = GBI-EM GD Yield minus GBI-EM GD weighted CPI. Bottom: Bloomberg, MFS Research. Monthly data from 31 January 2002 through 31 January 2022. EM Inflation = YoY average inflation for GBI-EM countries weighted by their respective GBI weights. Data in grey shading for 2022 and beyond represents MFS forecasts.

#### EM Valuations – Hard Currency

EM spreads still at elevated levels, relatively cheap to history



Source: Bloomberg. Daily data from 1 January 2008 through 14 March 2022. EMBI Global Diversified = J.P. Morgan EMBI Global Diversified.

EM debt is relatively attractive based on historical valuation

## Efficient Frontier – Comparing With and Without EMD

A 50/50 blend improves efficiency of a range of Canadian portfolios

Forward Looking Long - Term Sharpe Ratio Scenario 1, as of 12-31/2021

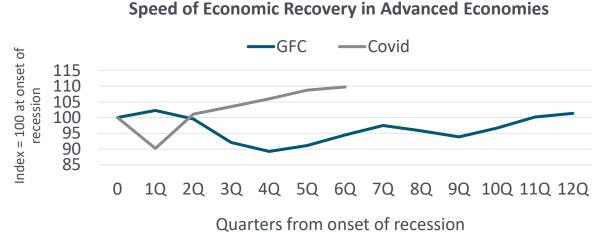
Index	EMD local cu	ırrency	EMD hard currency (CAD hedged)				
stimated annual return	5.2%		4.2%				
Estimated volatility	8.8%		7.9%				
stimated Sharpe ratio	0.47		0.39				
4.5	Frontier	with EMD					
4.0				-			
3.5	Fronti	er without EMD					
3.0							
3.0							
2.5 4.0 4.5	5.0 5.5	6.0 6.5	7.0 7.5	8.0			
7.0	5.5	Volatility (%)	7.0	0.0			

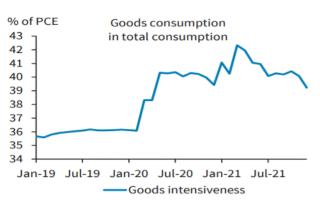
Source: Bloomberg, FactSet, S&P Global Ratings Research, S&P Global Market Intelligence. EMD hard currency = J.P. Morgan EMBI Global Diversified Index, EMD local currency = J.P. Morgan GBI-EM Global Diversified. Estimated cost of hedging hard currency index, and additionally adjusted by 116 basis points to reflect long term historical average of default and recovery. Estimated default rate based on weighted average sovereign net annual foreign currency credit rating default for AA, A and BAA rated securities from 1975 to 2020. Estimated local currency returns are based on index yield as of 12/31/2021 adjusted by 50 basis points to reflect long term historical average of default and recovery. Estimated default for AA, A and BAA rated securities from 1975 to 2020. Estimated local currency returns are based on index yield as of 12/31/2021 adjusted by 50 basis points to reflect long term historical average of default and recovery. Estimated default for AA, A and BAA rated securities from 1975 to 2020. Estimated local currency returns are based on index yield as of 12/31/2021 adjusted by 50 basis points to reflect long term historical average of default and recovery. Estimated default for AA, A and BAA rated securities from 1975 to 2020. Estimated local currency returns are based on index yield as of 12/31/2021 adjusted by 50 basis points to reflect long term historical average of default and recovery. Estimated default rate based on weights as of 3/31/2021. Estimated local currency returns are based on index yield as of 12/31/2021 adjusted by 102/31/2021. Possible for the projected by 1975 to 2020. Estimated local currency returns are based on index yield as of 12/31/2021 adjusted by 102/31/2021. Estimated local currency adjusted by 102/31/2021. Estimated local currency adjusted by 102/31/2021. Estimated local currency and index period by 102/31/2021. Estimated local currency and transactions be realized by 3/31/2021. Estimated local currency and transactions have been made for modeling purposes and are undit for a

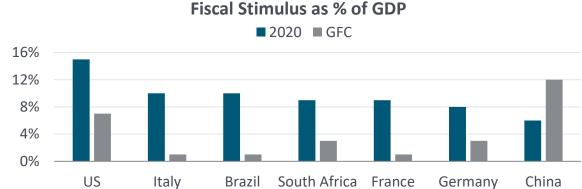
# Appendix

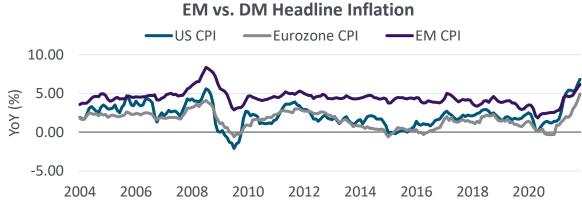
#### Global Backdrop

Stimulus and substitution effects have created inflationary pressures





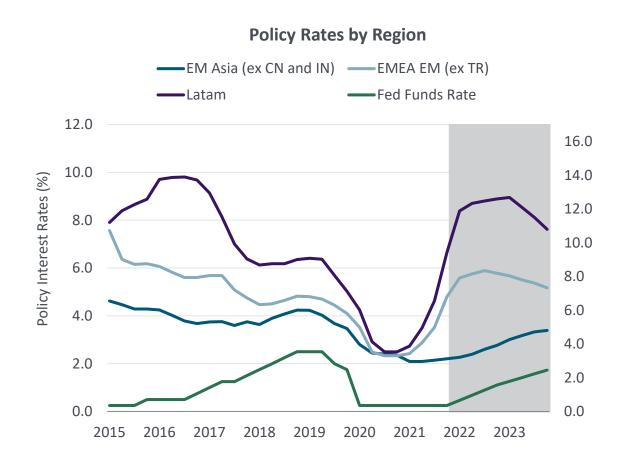




Source: Top LHS: NBER, Haver Analytics. Quarterly data from 30 September 2007 through 30 September 2021. Advanced economy GDP levels rebased to 100 at the start of each recession, 31 March 2008 for GFC and 31 March 2020 for Covid. NBER US recession indicator used as advanced economy recession proxy. Top RHS: 2020 figures – MFS Research as of October 2020 and Goldman Sachs Economics Research "Global Coronavirus Policy Response: October 9 Update," 9 October 2020. GFC figures - Ned Davis Research and Haver. Report as of 25 March 2020. GFC = Global Financial Crisis. GFC data for Brazil and South Africa reflect data published by International Monetary Fund in March 2009; incudes discretionary measures announced for 2008-10. Bottom LHS: BEA, Haver Analytics, Barclays Research. "US Econobytes: Is consumer spending shifting back to services?" as of 3 February 2022. Bottom RHS: Source: Bloomberg, MFS Research. Monthly data from 31 January 2004 through 30 November 2021. EM Inflation = YoY average inflation for GBI-EM countries weighted by their respective GBI weights.

### EM Central Banks Have Led This Tightening Cycle

And EM External positions in better shape than 2013

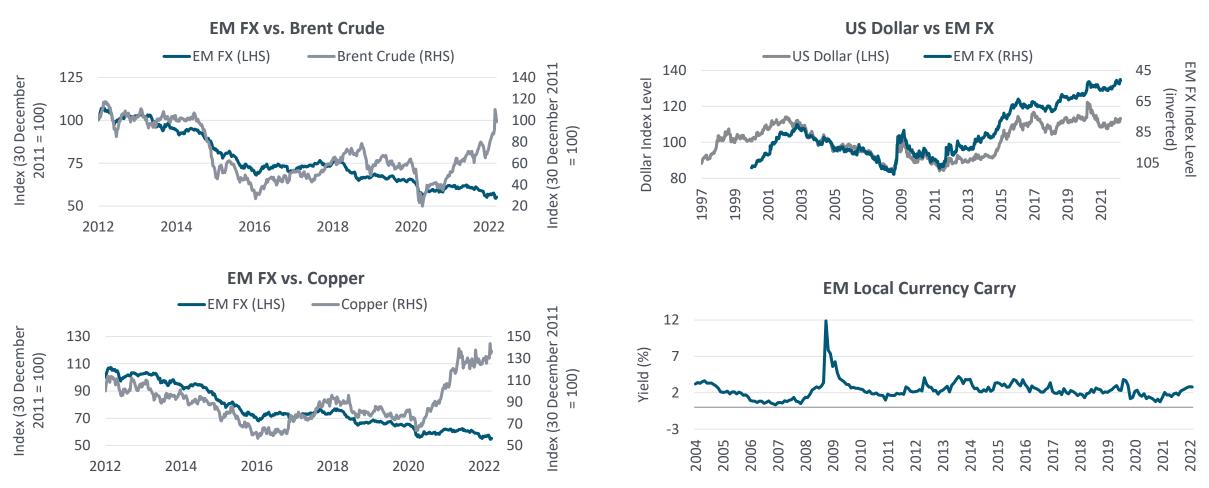




Source: LHS: J.P. Morgan. Quarterly data from 31 March 2015 through 31 December 2021. Grey bars for 2022 and beyond represent J.P. Morgan forecasts. Federal Funds rate beyond 2022 represented by annual year end Federal Funds futures pricing as of 20 January 2022.CN = China. IN = India. TR = Turkey. RHS: EIU, MFS Research. Annual data from 31 December 2012 through 31 December 2021 with 2022 based on forecasted estimates. Basic Balance = Current account + foreign direct investment. EM = China, India, Indonesia, Malaysia, Philippines, Thailand, Russia, Czech Republic, Hungary, Poland, Romania, South Africa, Turkey, Brazil, Chile, Colombia, Mexico, Peru and Uruguay.

#### Supportive Factors for EM FX

EMFX has lagged commodities and the US dollar while carry has improved



US Dollar = Federal Reserve US Trade-Weighted Broad Dollar Index. EM FX = JP Morgan Emerging Market Currency Index.

Source: Top - LHS - Bloomberg. Weekly data from 6 January 2012 through 18 March 2022. Bottom LHS - Bloomberg. Weekly data from 6 January 2012 through 18 March 2022. Top RHS - Bloomberg. Weekly data from 1 January 1997 through 18 March 2022. Bottom RHS - J.P. Morgan, Bloomberg. Monthly data from 1 January 2004 through 28 February 2022. EM Local Currency = J.P. Morgan ELMI Plus Index excluding Turkey and Russia. Yield is measured as index average yield, minus a blended rate of 80% 3-month LIBOR and 20% 3-month Euribor.

## Historical Volatility for EMD Indices

Local currency EMD has exhibited lower volatility for Canadian investors than US investors

in USD Terms As at: 12/31/2021	<b>1</b> Y	3 <b>Y</b>	5Y	<b>10</b> Y	15Y
Cash	0.0%	0.3%	0.3%	0.2%	0.4%
EMD local currency (Unhedged)	7.3%	11.5%	10.6%	11.4%	12.4%
JP Morgan EMBI Global Diversified (Hedged)	5.3%	10.8%	8.8%	7.8%	8.9%

in CAD Terms As at: 12/31/2021	1Y	3Y	5Y	10Y	15Y
Cash	0.0%	0.3%	0.2%	0.2%	0.4%
EMD local currency (Unhedged)	7.3%	7.4%	8.3%	8.8%	9.1%
JP Morgan EMBI Global Diversified (Hedged)	5.3%	11.2%	9.1%	7.9%	9.3%

Source: FactSet SPAR. Monthly data used to calculate statistics for each time period specified. EMD hard currency = J.P. Morgan EMBI Global Diversified Index, EMD local currency = J.P. Morgan GBI-EM Global Diversified Index, Cash = FTSE Canada 91-day Index.

#### Historical 10-Year Correlation

EMD LC and HC have relatively low correlation to each other

in USD Terms As at: 12/31/2021	Cash	EMD local currency (Unhedged)	JP Morgan EMBI Global Diversified (Hedged)
Cash	1.00	0.02	-0.04
EMD local currency (Unhedged)	0.02	1.00	0.80
JP Morgan EMBI Global Diversified (Hedged)	-0.04	0.80	1.00

in CAD Terms As at: 12/31/2021	Cash	EMD local currency (Unhedged)	JP Morgan EMBI Global Diversified (Hedged)
Cash	1.00	0.05	-0.33
EMD local currency (Unhedged)	0.05	1.00	0.56
JP Morgan EMBI Global Diversified (Hedged)	-0.33	0.56	1.00

Source: FactSet SPAR. Monthly data used to calculate statistics for each time period specified. EMD hard currency = J.P. Morgan EMBI Global Diversified Index, EMD local currency = J.P. Morgan GBI-EM Global Diversified Index, Cash = FTSE Canada 91-day index.

## A Blended Approach to EMD May Be More Efficient

Objectives	0% HC 100% LC	10% HC 90% LC	20% HC 80% LC	30% HC 70% LC	40% HC 60% LC	50% HC 50% LC	60% HC 40% LC	70% HC 30% LC	80% HC 20% LC	90% HC 10% LC	100% HC 0% LC
Expected nominal return over 10 years (gross)	5.25%	5.17%	5.10%	5.03%	4.96%	4.85%	4.77%	4.65%	4.54%	4.41%	4.28%
Expected annual volatility (gross)	8.84%	8.43%	8.07%	7.78%	7.56%	7.42%	7.36%	7.39%	7.49%	7.68%	7.94%
Sharpe ration over 10 years (gross)	0.47	0.48	0.49	0.50	0.51	0.51	0.50	0.48	0.46	0.43	0.40

Source: Source: Bloomberg, FactSet, S&P Global Ratings Research, S&P Global Market Intelligence. EMD hard currency = J.P. Morgan EMBI Global Diversified Index, EMD local currency = J.P. Morgan GBI-EM Global Diversified. Estimated hard currency returns are based on index yields as of 12/31/2021 adjusted by xx basis points to reflect estimated cost of hedging hard currency index, and also adjusted by 116 basis points to reflect long term historical average of default and recovery. Estimated default rate based on weighted average sovereign net annual foreign currency credit rating default for AA, A and BAA rated securities from 1975 to 2020. Estimated local currency returns are based on index yield as of 9/30/2021 adjusted by 50 basis points to account for projected differential in inflation between Canada and countries in the J.P. Morgan GBI-EM Global Diversified Index, based on weights as of 3/31/2021. Estimated volatility for EMD local currency unhedged is based on period 12/31/2011-12/31/2021. Returns shown are geometric returns.

Expectations are for informational purposes only and any general commentary on market activity, industry or sector trends, or other broad based economic or political conditions does not constitute a recommendation or investment advice. References to future expected returns and performance are not promises or estimates of actual performance that may be realized by an investor and should not be relied upon. The forecasts are for illustrative purposes only and are not to be relied up on as advice, interpreted as a recommendation, or be guarantees of performance. The forecasts are based on highly speculative and subjective estimates and assumptions that have yet to take place or may occur. The projections have limitations because they are not based on actual transactions but are based on models and data compiled by MFS. The results do not represent nor are indicative of actual results that may be achieved in the future. Individual investor performance may vary significantly.

The expected returns presented are hypothetical in nature and are not representative of an actual account. The information presented is based upon hypothetical assumptions. Certain assumptions have been made for modeling purposes and are unlikely to be realized. No representation or warranty is made as to the reasonableness of the assumptions used in calculating returns have been stated or fully considered. Hypothetical performance is developed with the benefit of hindsight (i.e., actual knowledge of market conditions, results of similar strategies) and thus has many inherent limitations. Projections and forward-looking assumptions are no guarantees of future performance.

PLEASE SEE DISCLOSURES AT THE END OF THIS PRESENTATION FOR IMPORTANT INFORMATION REGARDING THE ASSUMPTIONS USED IN THESE MATERIALS.

### Assumptions and Methodologies

Return, risk, and correlation

		Cash	Emerging market equities	Global equities	Canadian equities	Canadian Universe Bonds	US High Yield bonds	US Investment Grade bonds	Global Aggregate	EMD local currency (Unhedged)	EMD Hard Currency (Hedged)
	Forward looking return (%)	1.1%	7.8%	2.6%	5.1%	2.2%	2.9%	2.1%	1.8%	5.2%	4.2%
	Historical Risk (%)	0.2%	12.7%	10.1%	11.4%	4.0%	6.6%	5.1%	2.7%	8.8%	7.9%
	Cash	1.00									
	Emerging market equities	-0.18	1.00								
uc	Global equities	-0.20	0.70	1.00							
Correlation	Canadian equities	-0.41	0.56	0.72	1.00						
Cor	Canadian Universe Bonds	0.15	0.28	0.30	0.16	1.00					
	US high yield bonds	-0.41	0.60	0.60	0.78	0.24	1.00				
	US investment grade bonds	-0.16	0.44	0.35	0.47	0.72	0.67	1.00			
	Global Aggregate	0.13	0.18	0.10	0.11	0.82	0.28	0.83	1.00		
	EMD local currency (Unhedged)	0.05	0.65	0.41	0.18	0.49	0.37	0.49	0.45	1.00	
	EMD Hard Currency (Hedged)	-0.33	0.56	0.44	0.59	0.40	0.83	0.78	0.52	0.56	1.00

Source: FactSet. Correlations based on data from 31 December 2011 to 31 December 2021 for the following indices in CAD: Cash —FTSE Canada 91-day Treasury Index, Emerging market equities = MSCI EM Index, Global equities = MSCI AC World Index, Canadian equities = MSCI EM Index, Global Endex, EMD Index, EMD Ind

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Information in this section describes the source data, methodologies and assumptions used by MFS ISG to prepare the attached analysis. Different source data, methodologies and assumptions would result in differing analysis.

## Forward-Looking Efficient Frontier Constraints

#### **Constraints**

Asset Classes	Illustrative Allocation	Min	Max
Cash	0%	0%	0%
Canadian Universe Bonds	28.8%	0%	40%
Global Fixed Income	0%	0%	20%
US Investment Grade Bonds	5.4%	0%	5%
US High Yield Bonds	1.8%	0%	3%
EMD- Hard Currency (Hedged)	5%	0%	5%
EMD- Local Currency (Unhedged)	5%	0%	5%
Emerging Markets Equity	0%	0%	5%
Canadian Equities	27%	0%	35%
Global Equities	27%	0%	35%

Source: Constraints are subjective based on MFS analysis. Constraints are for illustrative purposes only and are not intended to be a recommendation of any particular asset allocation.

## MFS® Long Term Capital Market Expectations

#### *Important Disclosures*

Information in this slide describes the source data, methodologies and assumptions used by MFS Investment Solutions Group to prepare the attached analysis. Different source data, methodologies and assumptions would result in differing analysis.

The MFS Long-Term Capital Markets Expectations (LTCME) for 2022 includes return and risk expectations for equity, fixed income and alternative asset classes across country, regional and global markets. The focus of these expectations is to provide a strategic, long-term, forward-looking view of various global markets. We use a proprietary top-down approach by employing quantitative, country based models as the foundation for our expectations and then integrating bottom-up fundamental views from our global equity and fixed income investment teams to inform our final expectations.

Our expectations are developed across 26 countries comprising 18 developed countries and 8 emerging market countries.

#### **Equity expectations**

MFS equity market expectations are displayed in unhedged, nominal total return and are developed using a building-blocks approach. Elements of market history and mean reversion are incorporated into our models. Reversion speed and target levels are calibrated based on our analysis of historical data and forward looking expectations. Any return figure should be viewed as the mid-point in that range of outcomes.

#### Fixed income expectations

MFS fixed income market expectations are displayed in nominal total return, hedged to the investor's home currency. As with our equity model, our fixed income model employs a building-blocks approach. And, again like the equity model, the fixed income model derives its reversion speed and target level parameters from careful historical research as well as forward looking expectations. In our forecast, we focus on the returns from carry, yield change, roll-down and credit loss (where appropriate). Using this framework, we develop expectations across a range of sovereign, global credit and regional credit markets, while being careful to tune our models in accordance with the unique attributes of the various fixed income markets.

#### **Alternative Expectations**

Due to the unique characteristics and varying drivers of return in alternatives, we vary our approach for each category. Our equity and fixed income capital market expectations serve as key variables in our alternatives models.

#### **Currency Expectations**

We use a mean reversion approach to calculate currency expectations. Currency expectations represent the nominal excess returns which are nominal total return less domestic carry. Nominal total return is calculated as nominal prices change plus foreign currency carry. Domestic and foreign currency carry comes from the MFS Long Term Capital Expectations cash forecasting model. Nominal price change is real price change plus inflation differential between currencies.

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## Thank You

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