

Navigating rising inflation and minimizing the impact to your pension plan

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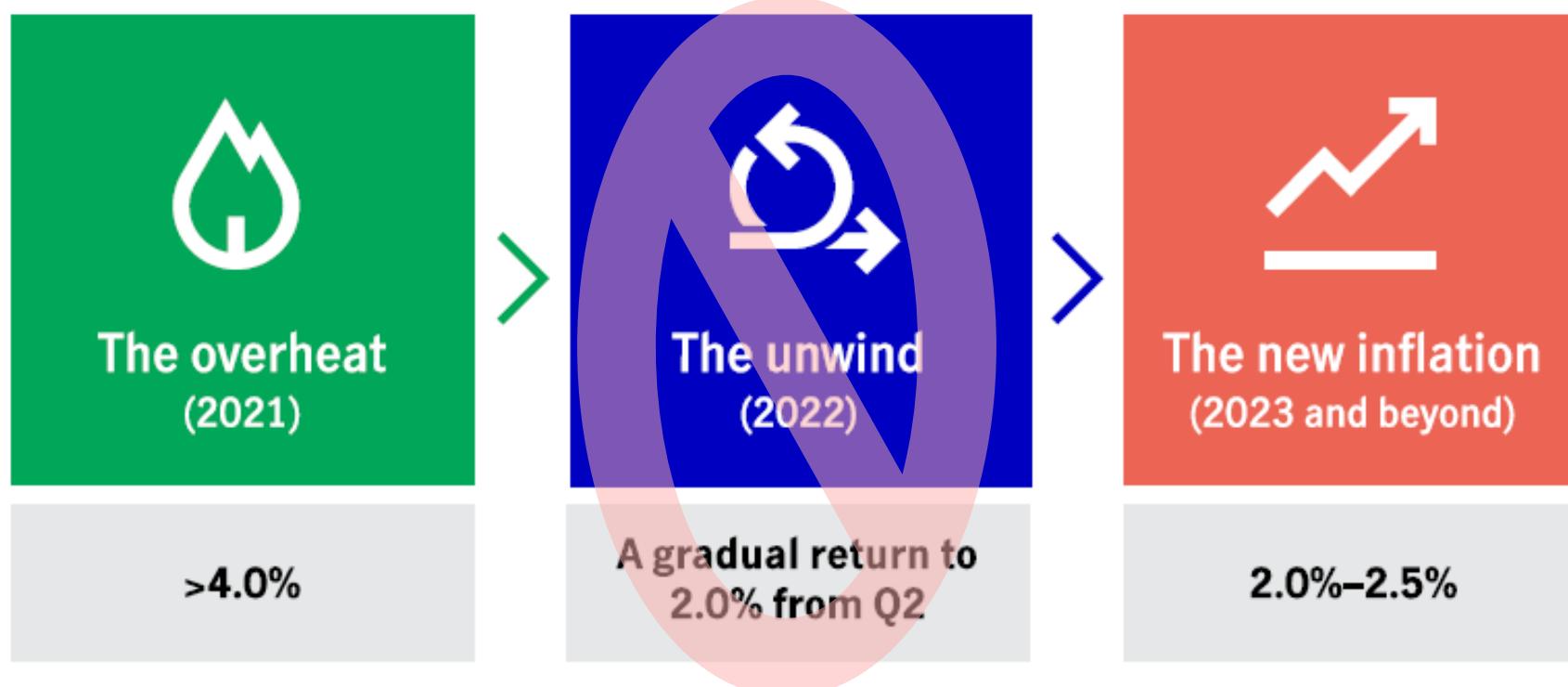
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Inflation's big return

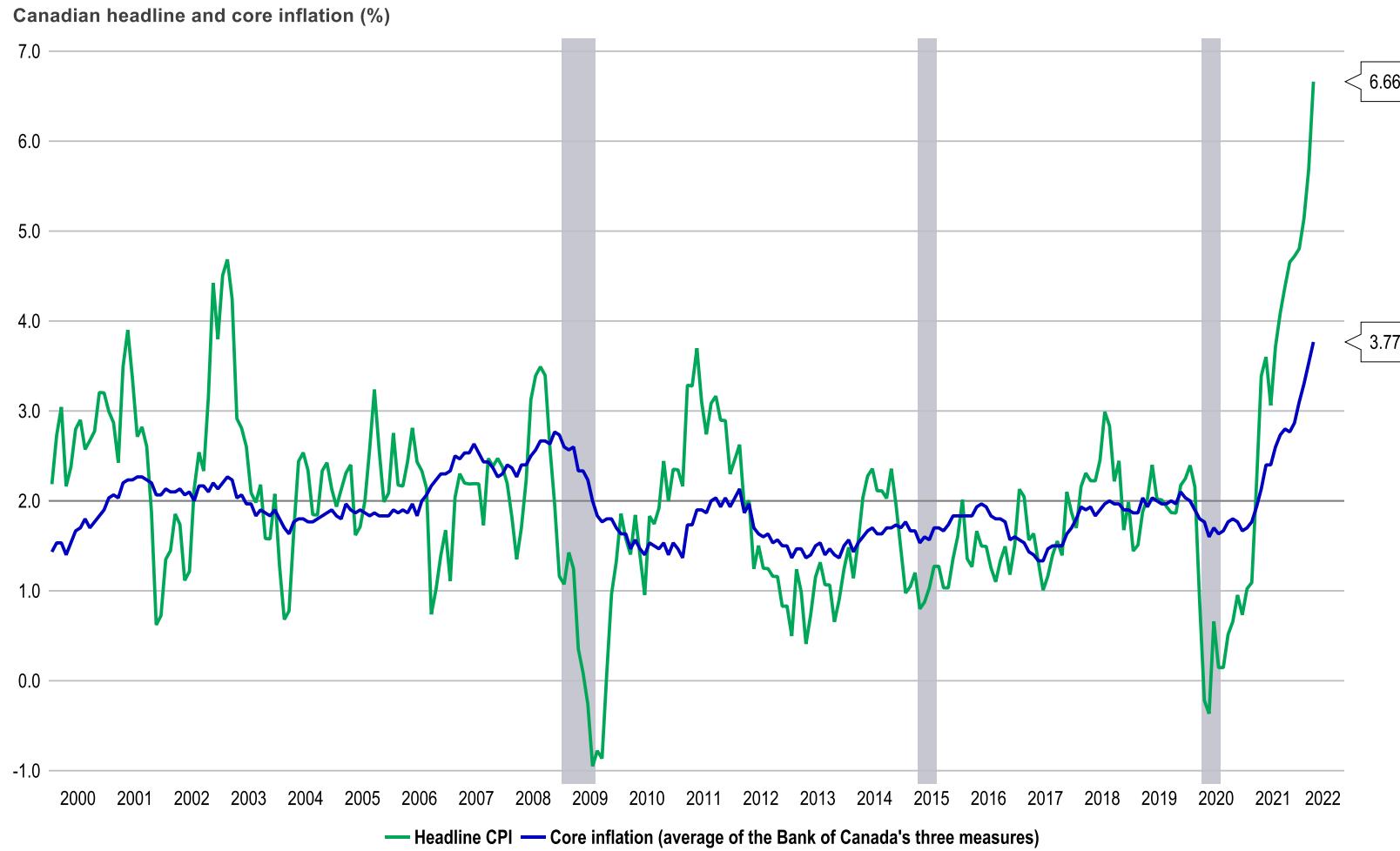
Should defined benefit pension plan sponsors care?

The best laid plans of forecasters and strategists...



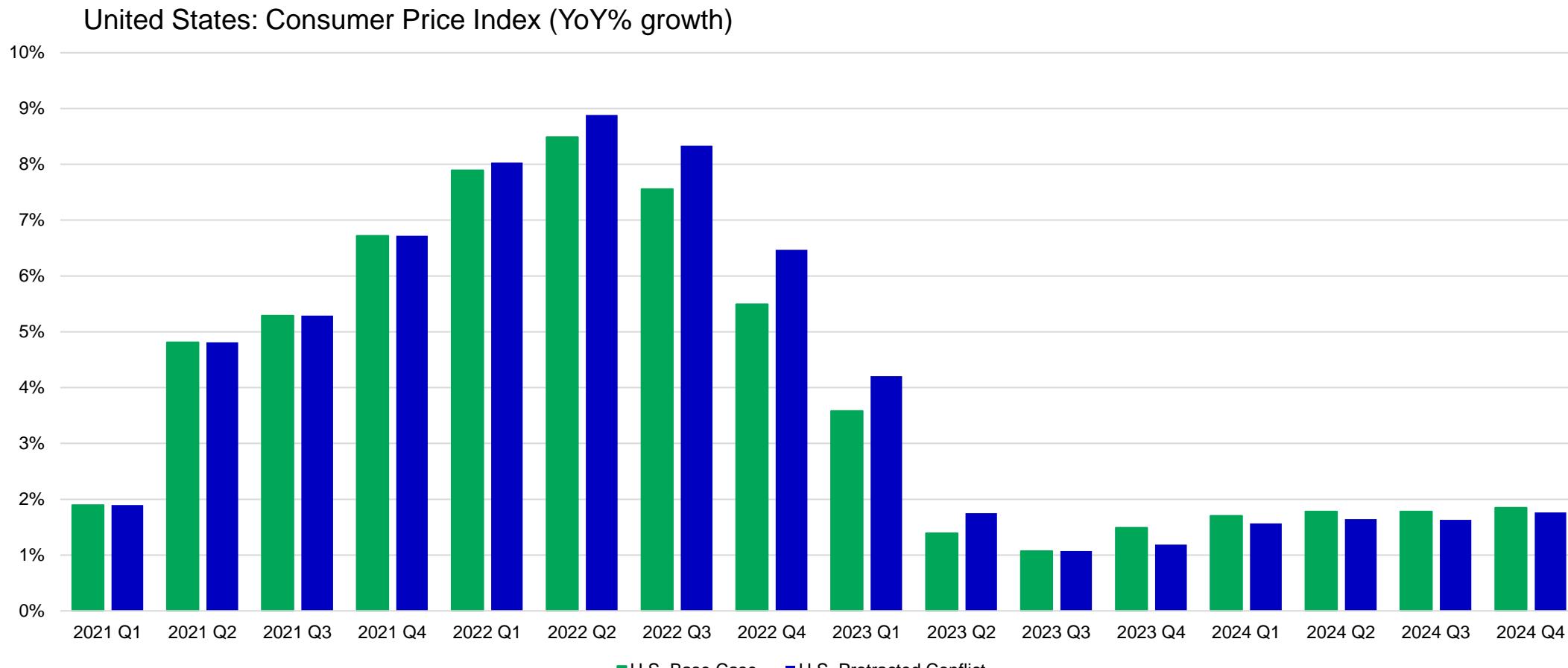
Source: Macrobond, Manulife Investment Management, as of December 6, 2021.

On the rise: Canadian headline and core inflation



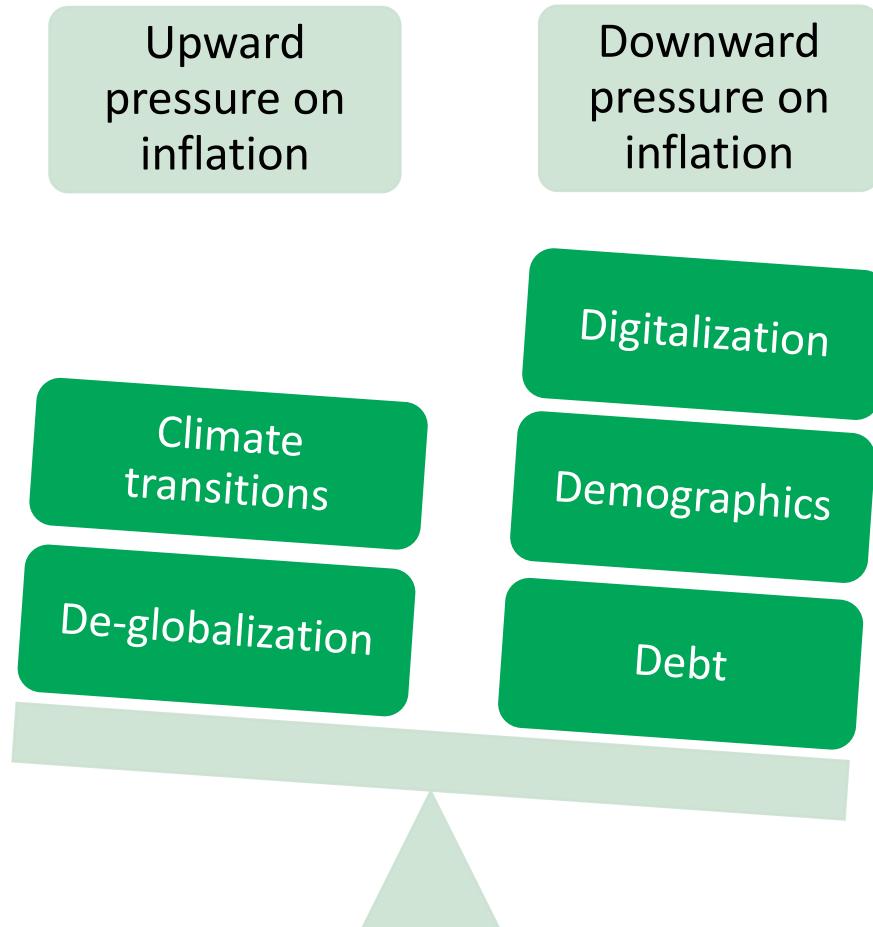
The Consumer Price Index (CPI) is a comprehensive measure used for estimation of price changes in a basket of goods and services representative of consumption expenditure in an economy. It is not possible to invest directly in an index

Post-conflict inflation dynamics have evolved

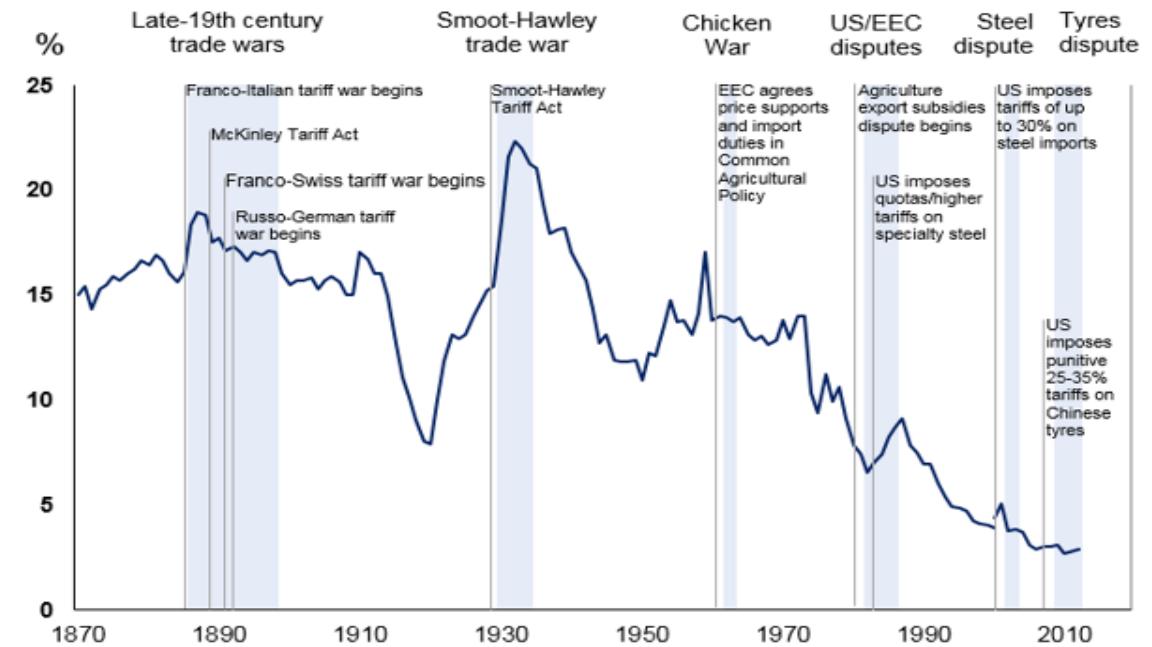


Source: Manulife Investment Management, Oxford Economics, as of March 23rd, 2022

New Inflation is supply-side and global: De-globalization + ESG trends

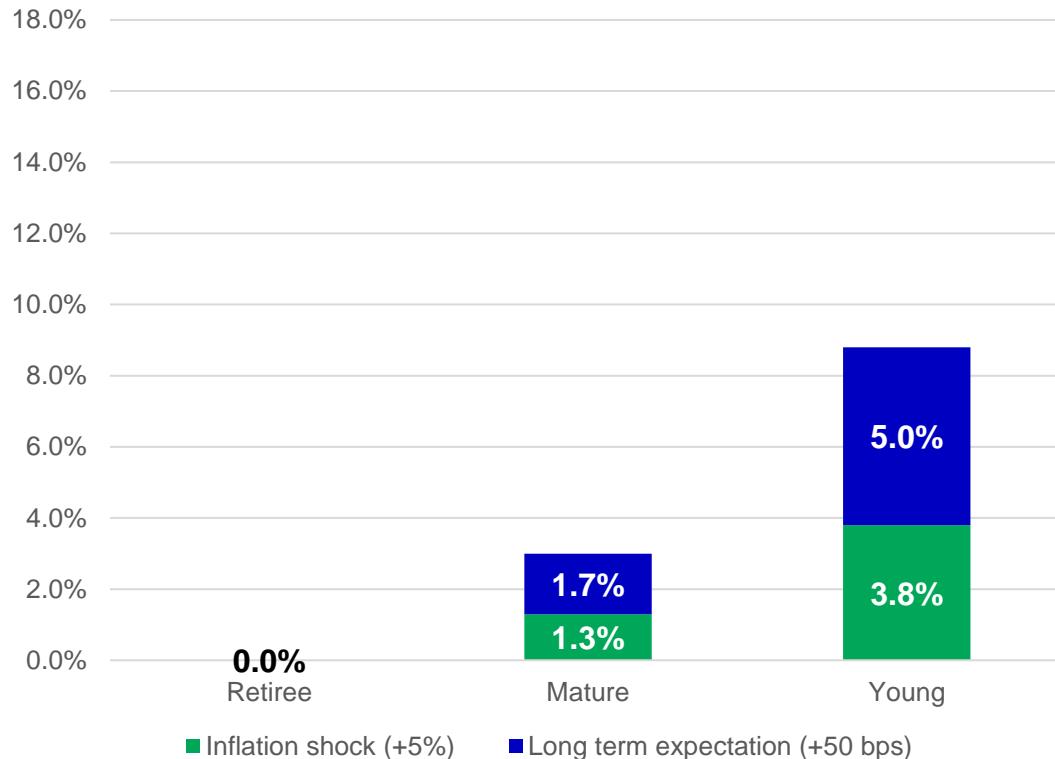


Trade Conflicts and the World Average Tariff Rate*

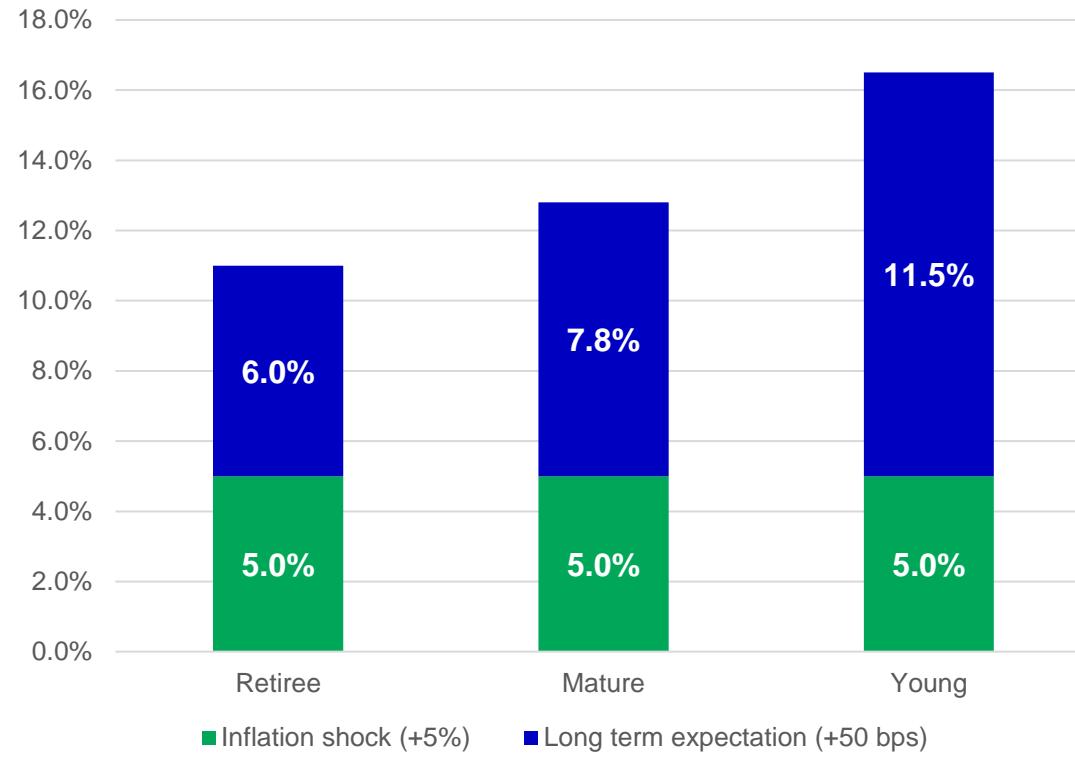


How sensitive are defined benefit plan liabilities to rising inflation?

Change in liability - Final salary pension plan
Without cost of living increases



Change in liability - Final salary pension plan
With cost of living increases based on the CPI



For illustrative purposes only. Source: Manulife Investment Management, 2% CPI used in base case scenario calculation.

Pension plan without cost of living increases liability duration: retiree(10.2), mature (13.4), young(19.9)

Pension plan with cost of living increases liability duration: retiree(11.5), mature (14.8), young(21.3)

Looking ahead: some investment strategies for an inflationary environment

Inflation protected securities

- Simplest solution
- To provide an adequate inflation hedge needs to match the duration with expected payments and holding them until maturity
- Yield offered on inflation protected securities is usually lower than most fixed-income bonds without an inflation adjustment

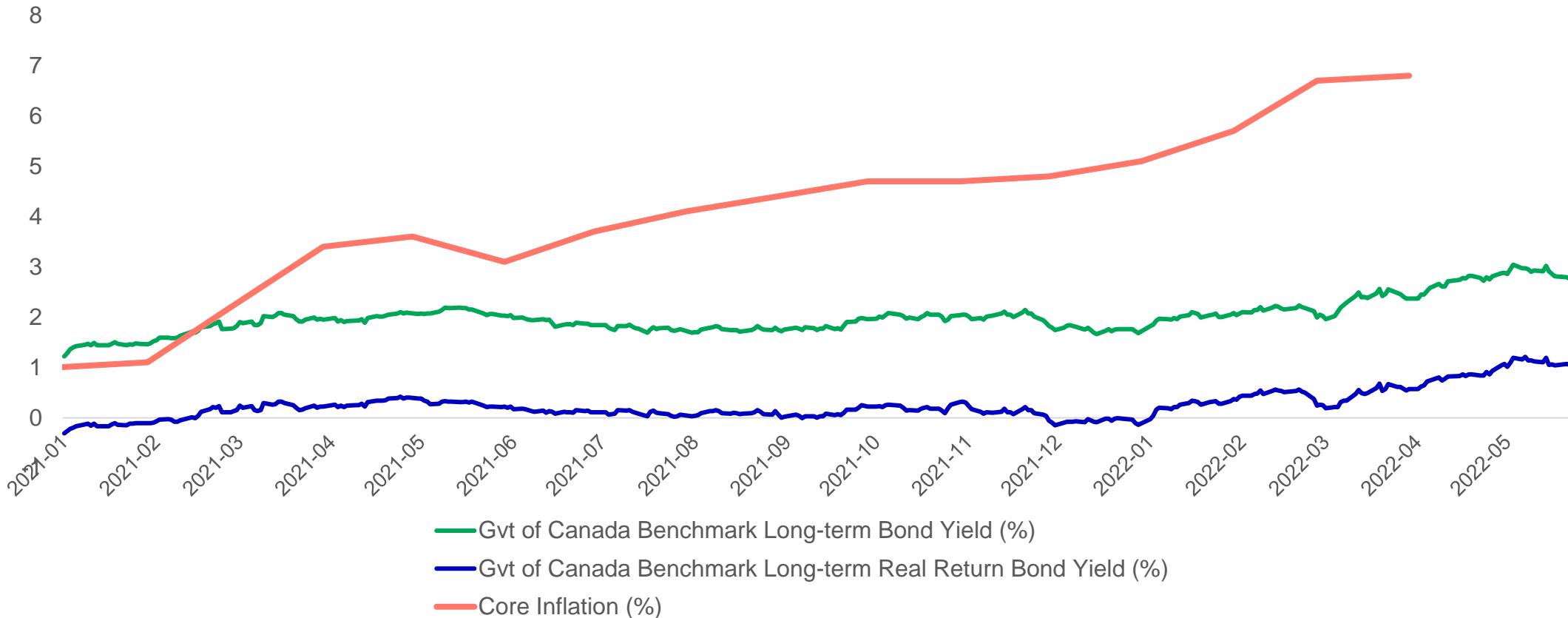
Real assets

- In rising inflation regimes, real assets have provided a strong hedge against inflation, outperforming traditional asset classes such as equities and fixed income
- Real assets without a direct link to inflation often have the pricing power to pass on the impact of inflation to customers
- Liquidity risk needs to be considered

Growth assets

- Can be used in combination with others solutions to compensate for higher inflation
- Over a long term, growth assets should provide for additional returns than other asset classes
- Portfolio diversification is key for long-term success

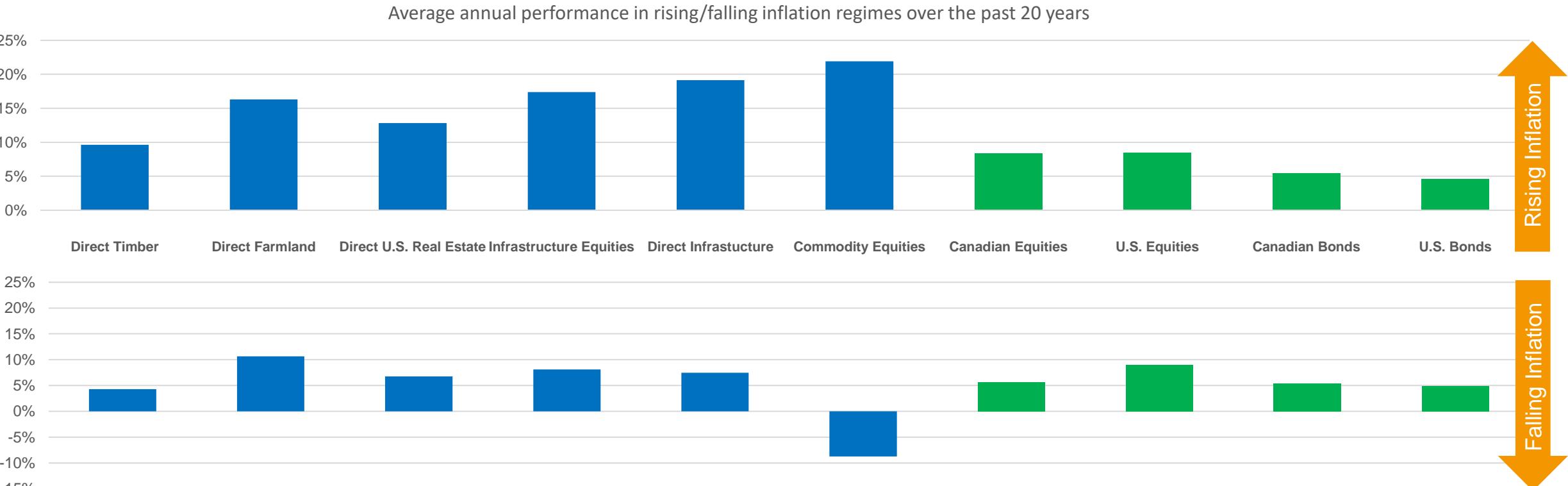
Just because inflation is high and rising doesn't mean that inflation protected securities will be making money



Source: Bank of Canada as of May 25th, 2022

The Consumer Price Index (CPI) is a comprehensive measure used for estimation of price changes in a basket of goods and services representative of consumption expenditure in an economy. It is not possible to invest directly in an index

Real assets offered stronger returns when inflation was rising



Real assets have provided a strong hedge against inflation

Past performance does not guarantee future results.

Source: Morningstar Direct, Average 12-month rolling annualized returns from June 30, 2001, to June 30, 2021. Returns in USD for representative indexes: Farmland: NCREIF Farmland; U.S. Real Estate: NCREIF US Real Estate; Infrastructure Equities: S&P Global Infrastructure TR Index; Timberland: NCREIF Timberland; Commodities: S&P GSCI TR Index; U.S. Bonds: Bloomberg U.S. Agg. Bond Index; U.S. Equities: S&P 500 TR Index; Direct Infrastructure: Burgiss Global Infrastructure Pooled Composite. Returns in CAD for representative indexes; Canadian Equities: S&P/TSX Composite TR Index; Canadian Bonds: FTSE Canada Universe Bond Index. U.S. CPI data from Bureau of Labor Statistics. Rising Inflation defined as periods when annual U.S. CPI >2.5% and falling inflation defined as periods when annual U.S. CPI <2.5%

Keeping up with inflation

Real Estate

- ✓ Ability to control the length of leases
- ✓ Shorter lease terms to allow rents mark-to-market opportunistically
- ✓ Allows for some degree of expense pass through

Infrastructure

- ✓ Contracts and regulation offer an explicit link to inflation
- ✓ Exposure to long term contracts with annual resets linked to inflation
- ✓ Typically have fixed operating and maintenance costs

Attractive attributes of Real Assets in an inflationary environment

Commodities

- ✓ Commodities like crude oil and natural gas are components of CPI – offering an explicit link to inflation
- ✓ Commodities also impact the costs many businesses bear to produce goods and services

Timber and Farmland

- ✓ Similar attributes as commercial real estate
- ✓ Core inputs in the global economy with favorable market fundamentals

Diversification benefits of private real assets

Correlations for period 1/1/2011 - 3/31/22

	Canadian Equity	Canadian Bonds	Canadian Real Estate	Global Infrastructure	Farmland	Timberland
Canadian Equity	1.00					
Canadian Bonds	-0.01	1.00				
Canadian Real Estate	-0.15	-0.19	1.00			
Global Infrastructure	-0.10	0.68	-0.06	1.00		
Farmland	-0.01	0.05	0.46	0.04	1.00	
Timberland	-0.11	0.09	0.26	0.16	0.71	1.00

Source: Manulife Investment Management as of July 22nd, 2022. Quarterly returns in base currency (excludes currency impact) for period 1/1/2011 - 3/31/22 (longest common period):

Canadian Equity: S&P/TSX Composite Index

Canadian Bonds: FTSE Canadian Universe Bond Index

Canadian Real Estate: MSCI Canadian Property Index

Global Infrastructure: Burgiss Global Infrastructure Index (USD)

Farmland: NCREIF Farmland (USD)

Timberland: NCREIF Timberland (USD)

Call to Action!!

- Start thinking about your plan's sensitivities to inflation
- Review your plans mix between growth and hedging assets to determine of adjustments are needed based on the changing rate and inflationary environment
- Consider the impacts of including real assets as a diversifier to traditional equity and fixed income and as an inflation hedge in the portfolio.

Q&A

Benchmark definitions

Name	Definition
S&P TSX Composite Index	The S&P/TSX Composite Index contains stocks of the largest companies of the Toronto Stock Exchange (TSX). The index is calculated by Standard and Poor's, and contains both common stock and income trust units.
FTSE Canada Universe Bond Index	The FTSE Canada Universe Bond Index consists of a diversified selection of investment-grade Government of Canada, provincial, corporate and municipal bonds issued domestically in Canada and denominated in Canadian dollars.
FTSE Canada Long Bonds Index	The FTSE Canada Long Bonds Index consists of long term bonds with higher yields than short-term bonds and they are designed to be a long-term core holding.
Bloomberg U.S. Agg. Bond Index	The Bloomberg Barclays Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets.
REALpac/IPD Canada Quarterly Property Index	The REALpac/IPD Canada Quarterly Property Index is an annual rolling index measuring unlevered total returns to directly held standing property investments from one open market valuation to the next.
S&P 500 TR CAD	The S&P 500 Total Return Index is a basket of 500 Canadian stocks that are considered to be widely held. The index measures the performance of a group of components by assuming that all cash distributions are reinvested, in addition to tracking the components' price movements.
S&P Global Infrastructure Index	The S&P Global Infrastructure Index is designed to track 75 companies from around the world chosen to represent the listed infrastructure industry while maintaining liquidity and tradability. To create diversified exposure, the index includes three distinct infrastructure clusters: energy, transportation, and utilities.
S&P GSCI	The S&P GSCI is the first major investable commodity index. It is one of the most widely recognized benchmarks that is broad-based, and production weighted to represent the global commodity market beta. The index is designed to be investable by including the most liquid commodity futures and provides diversification with low correlations to other asset classes.
NCREIF Farmland	The NCREIF Farmland Index is a quarterly time series composite return measure of investment performance of a large pool of individual farmland properties acquired in the private market for investment purposes only.
NCREIF Timberland	The NCREIF Timberland Index is a quarterly time series composite return measure of investment performance of a large pool of individual timber properties acquired in the private market for investment purposes only.
CPI	CPI is defined as the Consumer Price Index (Source : Statistics Canada for Canadian CPI, Bureau of Labor Statistics for U.S. CPI)
FTSE CMBS	A broad class of Canadian bonds whose cash flows are either i) secured or "backed" by, or ii) provided directly by other assets or securities. Asset Backed Securities (ABS), Mortgage Backed Securities (MBS) and Covered bonds are examples of securitized bonds.
NCREIF US Real Estate	The NCREIF Property Index (NPI) is a quarterly, unleveraged composite total return for private commercial real estate properties held for investment purposes only. All properties in the NPI have been acquired, at least in part, on behalf of tax-exempt institutional investors and held in a fiduciary environment.
Burgiss Global Infrastructure Pooled Composite	The Burgiss Global Infrastructure Pooled Composite is based on the Burgiss Manager Universe. The composite presents top-line quarterly returns of the global infrastructure funds in the Burgiss Manager Universe. The Burgiss Manager Universe is the largest of its kind, a research-quality database that includes the complete transactional history for over 11,200 private capital funds representing more than \$8.6 trillion in private capital. (Source: The Burgiss Group, LLC, as of June 30, 2021)

Important Information

A widespread health crisis such as a global pandemic could cause substantial market volatility, exchange-trading suspensions and closures, and affect portfolio performance. For example, the novel coronavirus disease (COVID-19) has resulted in significant disruptions to global business activity. The impact of a health crisis and other epidemics and pandemics that may arise in the future, could affect the global economy in ways that cannot necessarily be foreseen at the present time. A health crisis may exacerbate other pre-existing political, social and economic risks. Any such impact could adversely affect the portfolio's performance, resulting in losses to your investment.

Investing involves risks, including the potential loss of principal. Financial markets are volatile and can fluctuate significantly in response to company, industry, political, regulatory, market, or economic developments. These risks are magnified for investments made in emerging markets. Currency risk is the risk that fluctuations in exchange rates may adversely affect the value of a portfolio's investments.

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