Long-term capital markets expectations

MACKENZIE MULTI-ASSET STRATEGIES TEAM

2020

MACKENZIE
Investments

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INTRODUCTION

Mackenzie's Multi-Asset Strategy (MAS) Group's team of 15 manages over $16.8B* in AUM and is led by a core group who joined from the Canada Pension Plan Investment Board over the past 5 years. The team has deep expertise across a broad range of strategies including:

- Multi-asset portfolios
- A suite of dynamic currency hedging approaches based on valuation, sentiment and macro models developed and maintained in-house
- Liquid alternative strategies that include systematic macro, commodities, currencies, CTA, and market neutral equity factor portfolios
- Long only, multi-factors equity portfolios (smart beta)

The MAS Group includes our in-house Chief Economist who has worked with the team members to create our annual Orange Book, which includes key economic data and our long-term capital market assumptions. Members of the group travel across Canada to engage with institutional investors on strategic & tactical asset allocation, academic partnerships, and creation of white papers. The group's pedigree naturally fits with the thinking of institutional investors, and that perspective is reflected in the consideration of risk and return in everything we do.

Christopher Boyle
Senior Vice President, Head of Institutional

*Reported in USD, as of December 31, 2019.

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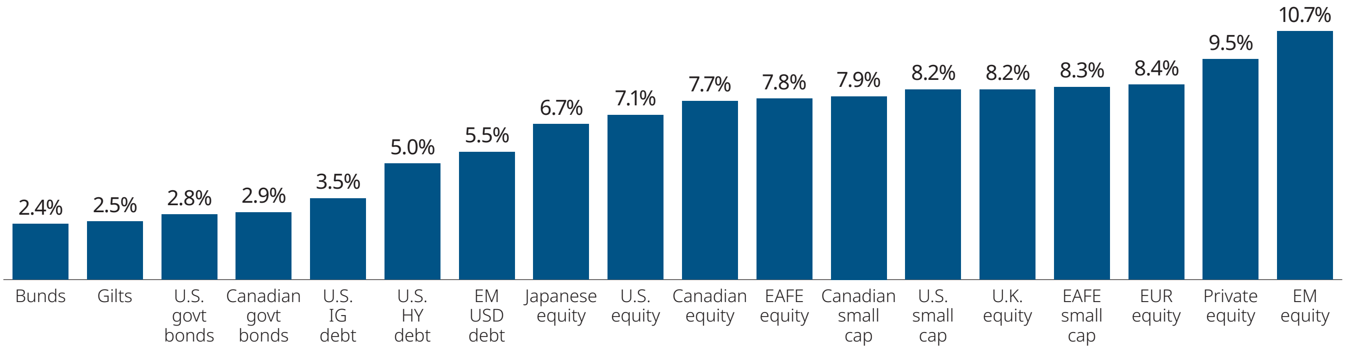
10-YEAR EXPECTED RETURNS

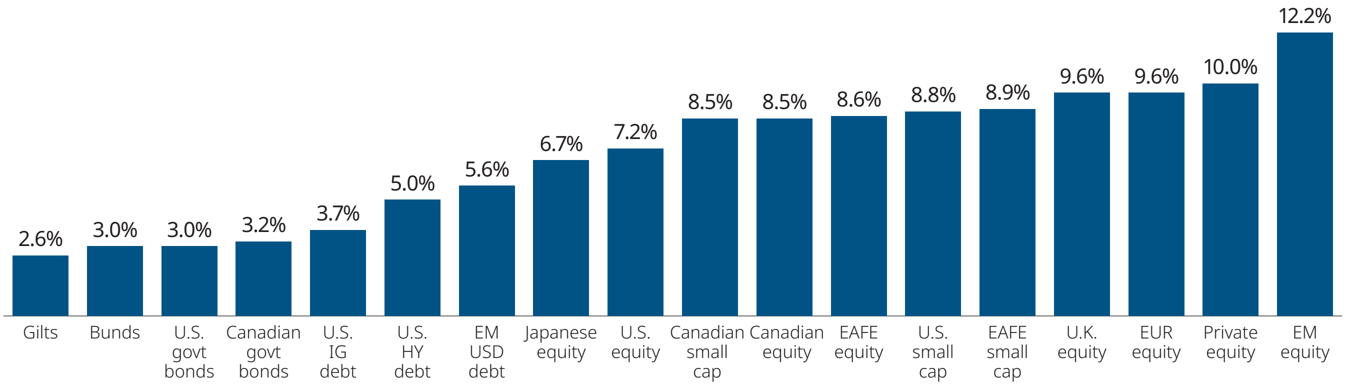
Long-term average expected returns still lower than historical average after a generally positive 2019 for all asset classes



Expected returns are shown on a nominal basis, before fees for all asset classes. Management fees will vary by asset class, with higher fees expected for private assets than for public assets. Please refer to the following page for our five-year expected annual returns, where the active expected return component based on our value, macro and sentiment inputs will play a greater role in shaping returns. Over a 10-year horizon, returns will tend to converge to the combination of the risk-free rate and the asset class risk premium, as active return expectations will gradually decay over time. Developed-market sovereign bond returns shown here reflect the expected return to investing in a constant-maturity, 10-year government bond.

5-YEAR EXPECTED RETURNS

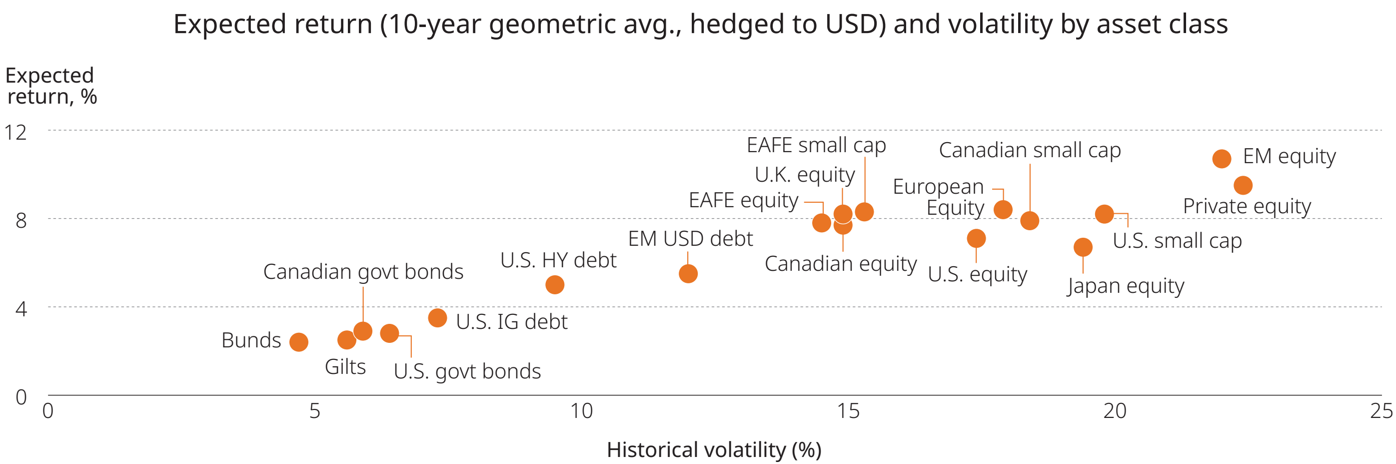
Valuations slightly expensive for most asset classes, but macro conditions (low inflation, central bank support) remain supportive



Expected returns are shown on a nominal basis, before fees for all asset classes. As discussed in our 10-year return expectations, the five-year return expectations have a greater weight in our own active views, which will have more weight over a five-year horizon than over 10 years.

10-YEAR EXPECTED RETURNS VS. HISTORICAL VOLATILITY

Safety comes at a price; low expected returns for "safe assets"



Expected returns are shown on a nominal basis, before fees for all asset classes. As discussed in our 10-year return expectations, the five-year return expectations have a greater weight in our own active views, which will have more weight over a five-year horizon than over 10 years.

LONG-TERM CORRELATIONS OF MAJOR ASSET CLASSES

Long-term expected returns still attractive for higher volatility assets

	Volatility	U.S. Equities	Cdn. Equities	MSCI EAFE	EM Equities	EM Debt	10yr Can Govt	10yr Treasury	U.S. Corp Credit	U.S. HY	Private Equity	EAFE Small Cap	Canada Small Cap	U.S. Small Cap	Commod-ities
U.S. Equities	17.4%	1.0													
Canadian Equities	14.9%	0.7	1.0												
MSCI EAFE	14.4%	0.7	0.7	1.0											
EM Equities	22.3%	0.7	0.7	0.7	1.0										
EM Debt	11.9%	0.5	0.5	0.5	0.7	1.0									
10yr Canada Govt	5.9%	0.1	0.2	0.0	0.0	0.3	1.0								
10yr Treasury	6.4%	0.1	0.1	-0.1	-0.1	0.2	0.7	1.0							
U.S. Corp Credit	7.3%	0.3	0.3	0.2	0.2	0.5	0.7	0.8	1.0						
U.S. HY	9.4%	0.6	0.5	0.5	0.6	0.6	0.1	0.1	0.5	1.0					
Private Equity	21.9%	0.8	0.6	0.7	0.6	0.4	0.0	-0.1	0.2	0.4	1.0				
EAFE Small Cap	15.2%	0.7	0.7	0.9	0.8	0.5	-0.2	-0.3	0.2	0.6	0.6	1.0			
Canada Small Cap	18.3%	0.6	0.7	0.6	0.7	0.5	0.0	-0.2	0.2	0.5	0.4	0.6	1.0		
U.S. Small Cap	19.8%	0.8	0.7	0.7	0.7	0.5	0.1	0.0	0.2	0.6	0.6	0.7	0.7	1.0	
Commodities	19.2%	0.2	0.3	0.2	0.3	0.2	-0.1	-0.1	0.0	0.2	0.2	0.3	0.5	0.2	1.0

In a low inflation environment, the correlation between sovereign fixed income and equities tends to remain close to zero or negative. As such, sovereign fixed income appears the best diversifier for portfolios with large equity risk components. Several investors have wanted to believe that this assumption, which remains at the core of “risk parity” portfolios, would no longer be true in a late-cycle environment with higher inflationary pressures. In fact, 2019 represented a major validation of this assumption, as government bonds rallied on expectations of lower inflation and central bank easing, protecting equity-centric portfolios at times of higher volatility. The correlations shown here are estimated from historical data going back to January 1997, which has been a largely disinflation period.

ASSET CLASS SENSITIVITIES TO MACROECONOMIC SURPRISES

Understanding macro factor exposures

Asset class return forecasts are inherently uncertain. Therefore, it is useful to consider the possibility of macroeconomic shocks and their impacts on asset returns. This type of scenario analysis enables investors to incorporate uncertainty into their portfolios and to be aware of macroeconomic exposures at the individual asset class level.

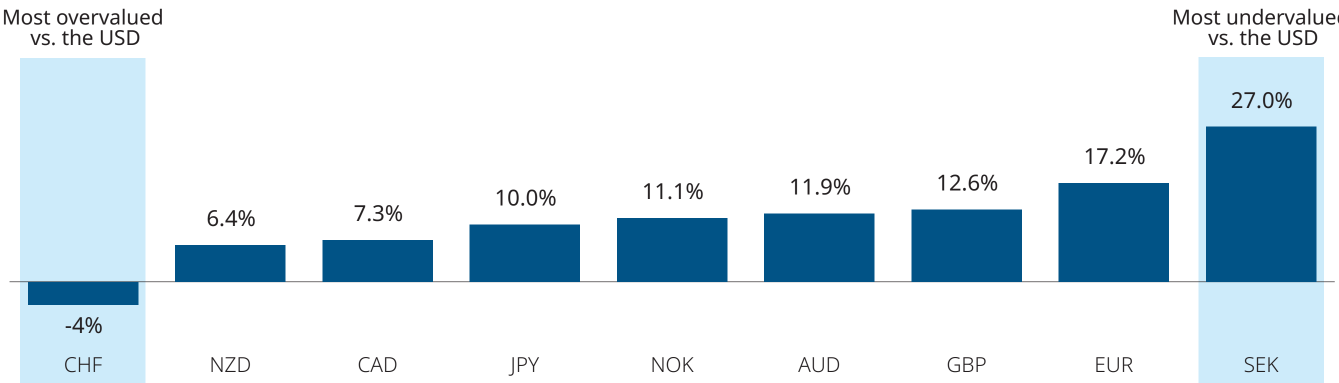
	Shock to Expectations														
Macro Scenario	Growth (std. dev.)	Inflation (std. dev.)	U.S. Equities	Cdn. Equities	MSCI EAFE	EM Equities	EM Debt	10yr Can Govt	10yr Treasury	U.S. Corp Credit	U.S. HY	Private Equity	EAFE Small Cap	Canada Small Cap	U.S. Small Cap	Commo-dities
Positive Growth	+1	no shock	1.5%	1.7%	2.5%	2.4%	0.4%	-0.5%	-0.9%	-0.3%	1.5%	1.7%	3.0%	3.0%	1.6%	3.4%
Positive Inflation	no shock	+1	1.1%	0.7%	0.6%	0.3%	0.4%	-1.2%	-1.2%	-1.3%	-0.1%	0.3%	1.5%	1.5%	0.8%	5.0%
Demand Led Growth	+1	+1	1.8%	1.8%	2.4%	2.1%	0.5%	-1.2%	-1.4%	-1.0%	1.2%	1.6%	3.3%	3.4%	1.8%	5.7%
Stagflation	-1	+1	-1.3%	-2.2%	-3.8%	-4.0%	-0.2%	-0.7%	0.1%	-1.2%	-2.7%	-2.7%	-3.6%	-3.6%	-2.0%	0.5%
Disinflationary Growth	+1	-1	1.3%	2.2%	3.8%	4.0%	0.2%	0.7%	-0.1%	1.2%	2.7%	2.7%	3.6%	3.6%	2.0%	-0.5%
Recession	-1	-1	-1.8%	-1.8%	-2.4%	-2.1%	-0.5%	1.2%	1.4%	1.0%	-1.2%	-1.6%	-3.3%	-3.4%	-1.8%	-5.7%
Deflation	no shock	-1	-1.1%	-0.7%	-0.6%	-0.3%	-0.4%	1.2%	1.2%	1.3%	0.1%	-0.3%	-1.5%	-1.5%	-0.8%	-5.0%

A lower-growth, higher-inflation mix of macroeconomic surprises would have particularly negative implications for most asset prices, hurting returns across the board. At the other end of the spectrum, “disinflationary growth”, likely as a result of higher productivity growth and a positive supply-side effect, would have the most favorable implications for most asset classes, as discount rates would fall but growth prospects would improve.

See Alain Bergeron, Mark Kritzman and Gleb Sivitsky. Asset Allocation and Factor Investing: An Integrated Approach, The Journal of Portfolio Management, Vol 44, Issue 4, Quantitative Special Issue 2018.

CURRENCY VALUATIONS

The U.S. dollar and Swiss franc rank as the most expensive currencies, while the euro and the Swedish krona appear cheap based on valuation metrics



These measures of over or undervaluation incorporate four of our assessments of long-term and medium-term currency valuations. We assess valuations based on purchasing power parity, real effective exchange rates, a behavioral, terms-of-trade adjusted currency valuation model as well as another behavioral model which adjusts balance of payments outcomes based on structural factors.

PMI MANUFACTURING OVERVIEW

Purchasing manager indices have entered contraction territory globally as global goods production and global trade pull back

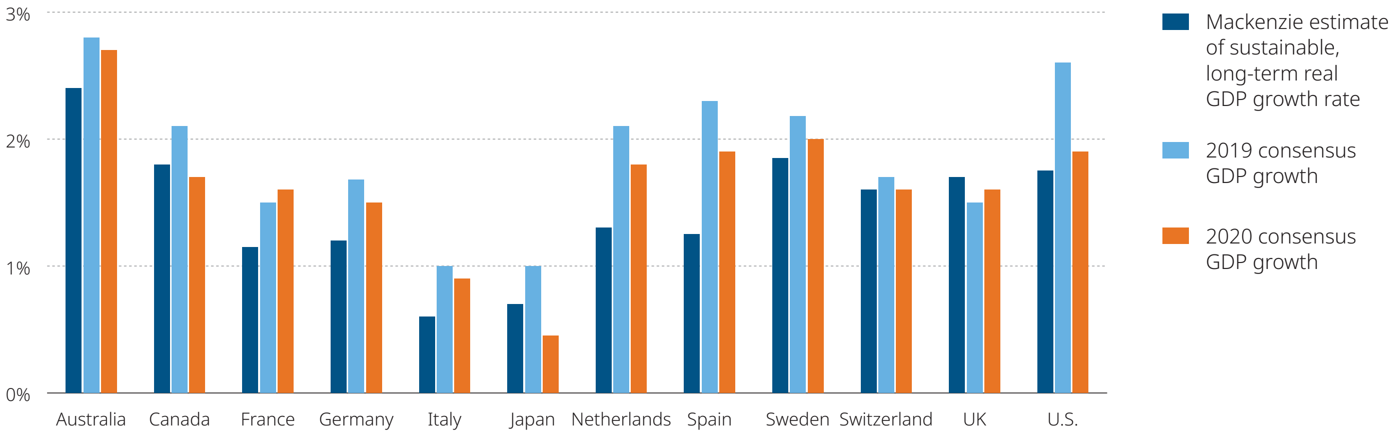
	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19
Australia	44.8	57.9	55.6	53.2	52.1	55.0	50.8	53.6	55.9	57.0	57.2	57.9	44.7	55.2	53.3	48.6	50.6	53.1	48.9	49.7	52.3
Brazil	51.2	53.2	53.4	52.3	50.7	49.8	50.5	51.1	50.9	51.1	52.7	52.6	52.7	53.4	52.8	51.5	50.2	51.0	49.9	52.5	53.4
Canada	55.9	55.6	55.7	55.5	56.2	57.1	56.9	56.8	54.8	53.9	54.9	53.6	53.0	52.6	50.5	49.7	49.1	49.2	50.2	49.1	51.0
China	51.5	51.6	51.0	51.1	51.1	51.0	50.8	50.6	50.0	50.1	50.2	49.7	48.3	49.9	50.8	50.2	50.2	49.4	49.9	50.4	51.4
Denmark	66.9	65.1	60.6	53.1	52.0	51.9	57.0	60.0	53.9	66.5	57.7	57.6	50.1	61.3	55.4	57.8	48.8	44.0	49.1	48.7	50.2
Emerging Markets	51.8	51.9	51.3	51.3	51.1	51.2	51.0	50.8	50.3	50.5	50.7	50.2	49.5	50.6	51.0	50.5	50.4	49.9	50.1	50.4	51.0
Eurozone	59.6	58.6	56.6	56.2	55.5	54.9	55.1	54.6	53.2	52.0	51.8	51.4	50.5	49.3	47.5	47.9	47.7	47.6	46.5	47.0	45.7
Hong Kong	51.1	51.7	50.6	49.1	47.8	47.7	48.2	48.5	47.9	48.6	47.1	48.0	48.2	48.4	48.0	48.4	46.9	47.9	43.8	40.8	
India	52.4	52.1	51.0	51.6	51.2	53.1	52.3	51.7	52.2	53.1	54.0	53.2	53.9	54.3	52.6	51.8	52.7	52.1	52.5	51.4	51.4
Indonesia	49.9	51.4	50.7	51.6	51.7	50.3	50.5	51.9	50.7	50.5	50.4	51.2	49.9	50.1	51.2	50.4	51.6	50.6	49.6	49.0	49.1
Japan	54.8	54.1	53.1	53.8	52.8	53.0	52.3	52.5	52.5	52.9	52.2	52.6	50.3	48.9	49.2	50.2	49.8	49.3	49.4	49.3	48.9
Malaysia	50.5	49.9	49.5	48.6	47.6	49.5	49.7	51.2	51.5	49.2	48.2	46.8	47.9	47.6	47.2	49.4	48.8	47.8	47.6	47.4	47.9
New Zealand	55.5	53.2	53.5	58.7	54.6	52.5	51.8	52.4	52.0	53.6	53.3	54.6	52.8	53.3	51.7	52.7	50.2	51.1	48.1	48.4	
Norway	58.5	56.7	54.7	56.1	56.0	56.0	48.1	60.2	56.2	56.4	55.9	55.6	57.9	56.0	56.0	53.7	53.9	51.6	48.6	53.9	50.4
Russia	52.1	50.2	50.6	51.3	49.8	49.5	48.1	48.9	50.0	51.3	52.6	51.7	50.9	50.1	52.8	51.8	49.8	48.6	49.3	49.1	46.3
S. Korea	50.7	50.3	49.1	48.4	48.9	49.8	48.3	49.9	51.3	51.0	48.6	49.8	48.3	47.2	48.8	50.2	48.4	47.5	47.3	49.0	48.0
Sweden	56.4	59.7	55.3	55.1	55.4	54.8	56.2	54.7	55.8	55.3	55.7	52.3	52.1	52.8	52.7	50.8	52.9	51.6	51.4	51.8	46.3
Switzerland	64.6	65.1	61.4	62.8	62.8	61.8	61.7	64.6	59.9	57.8	57.7	57.5	54.3	55.4	50.3	48.5	48.6	47.7	44.7	47.2	44.6
United Kingdom	55.2	55.3	54.8	53.8	54.3	54.0	53.9	52.9	53.7	51.1	53.3	54.3	52.8	52.1	55.1	53.1	49.4	48.0	48.0	47.4	48.3
United States	55.5	55.3	55.6	56.5	56.4	55.4	55.3	54.7	55.6	55.7	55.3	53.8	54.9	53.0	52.4	52.6	50.5	50.6	50.4	50.3	51.1

Source: Markit. An index reading of 50.0 means that the Purchasing Manager Index (PMI) is unchanged; a number over 50.0 indicates an improvement, while a figure below 50.0 suggests a decline. PMIs track growth in the manufacturing sector and provide investors with a monthly coincident indicator of growth momentum in global goods production.

GDP GROWTH EXPECTATIONS

Slowdown in global growth is bringing growth closer to long-term sustainable levels

Consensus GDP growth estimates for 2019 and 2020 versus our estimates of sustainable growth



Source: Bloomberg as of October 2019
An index reading of 50.0 means that the Purchasing Manager Index (PMI) is unchanged; a number over 50.0 indicates an improvement, while a figure below 50.0 suggests a decline. PMIs track Consensus represents average forecast of sell-side economists, as calculated by Bloomberg.

United States

Mackenzie Investments

OVERVIEW

United States

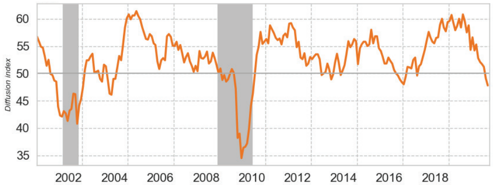
- The U.S. economy appears to be in a soft landing, having slowed down from 2018, but without heading into outright contraction.
- Consumers appear to remain strong enough to support the expansion.
- Persistently low inflation is likely to become the dominant policy concern; expect the Federal Reserve to implement a new inflation targeting framework in the coming months.

U.S. MANUFACTURING

Manufacturing has entered contraction territory

U.S. ISM Index

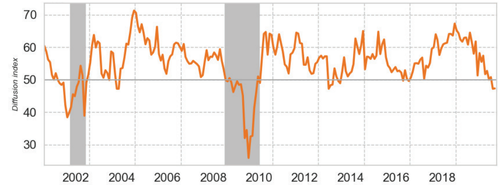
ISM Manufacturing Index: composite



Source: Mackenzie Investments (ISM data via Datastream)
Shaded areas = U.S. Recession

ISM: New Orders

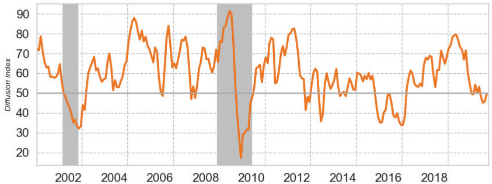
ISM Manufacturing Index: new orders



Source: Mackenzie Investments (ISM data via Datastream)
Shaded areas = U.S. Recession

ISM: Prices Paid

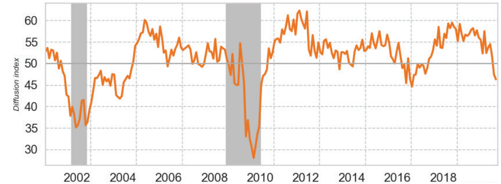
ISM Manufacturing Index: prices paid



Source: Mackenzie Investments (ISM data via Datastream)
Shaded areas = U.S. Recession

ISM: Employment

ISM Manufacturing Index: employment



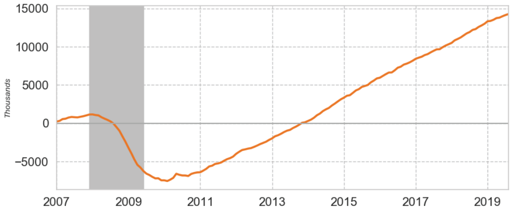
Source: Mackenzie Investments (ISM data via Datastream)
Shaded areas = U.S. Recession

U.S. EMPLOYMENT IN CURRENT CYCLE

Growth in employment has been steady, no signs of overheating yet

Cumulative Employment Gains Since 2007

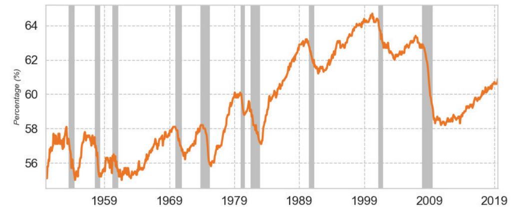
Change in employees on non-farm payrolls, cumulative since 2007



Source: Mackenzie Investments (BLS data via Bloomberg)
Shaded areas = U.S. Recession

U.S. Employment-to-Population Ratio

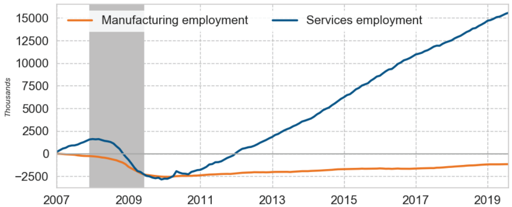
Population of working age: employed as a % of total



Source: Mackenzie Investments (BLS data via Bloomberg)
Shaded areas = U.S. Recession

U.S. Cumulative Employment by Sector Since 2007

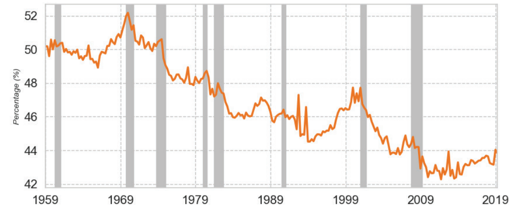
U.S. cumulative net change in employment in manufacturing vs. services



Source: Mackenzie Investments (BLS data via Bloomberg)
Shaded areas = U.S. Recession

Wages and Salaries vs. Profits

Wage and salaries vs. corporate profits as a % of GDP



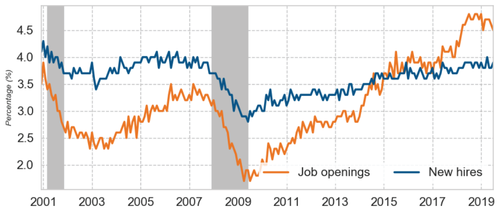
Source: Mackenzie Investments (BEA data via Bloomberg)
Shaded areas = U.S. Recession

CYCLICAL STATE OF U.S. JOB MARKET

Cyclical indicators remain solid, suggesting manufacturing slowdown has not hurt labor market yet

Job Openings and New Hires

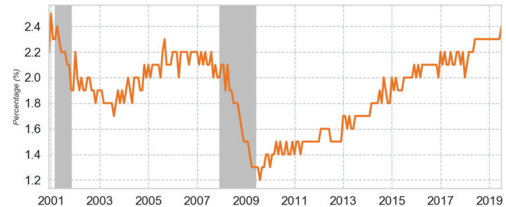
JOLTS: openings and hires rates



Source: Mackenzie Investments (BLS JOLTS data via Datastream)
Shaded areas = U.S. Recession

U.S. Quits Rate

JOLTS: quits rate



Source: Mackenzie Investments (BLS JOLTS data via Datastream)
Shaded areas = U.S. Recession

U.S. Layoffs and Discharge Rate

JOLTS: layoffs and discharge rate

Source: Mackenzie Investments (BLS JOLTS data via Datastream)
Shaded areas = U.S. Recession

U.S. Jobless Claims

Jobless claims: weekly and 4-week moving avg.

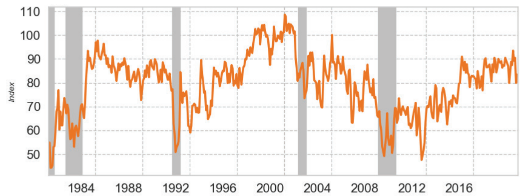
Source: Mackenzie Investments (BLS JOLTS data via Datastream)
Shaded areas = U.S. Recession

HEALTH OF U.S. HOUSEHOLDS

The trade war has hurt confidence, but financial position remains robust

U.S. Consumer Confidence

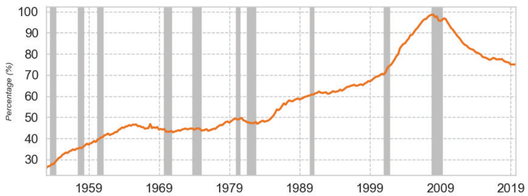
University of Michigan Consumer Confidence



Source: Mackenzie Investments (University of Michigan data via Datastream)
Shaded areas = U.S. Recession

Household Debt-to-GDP

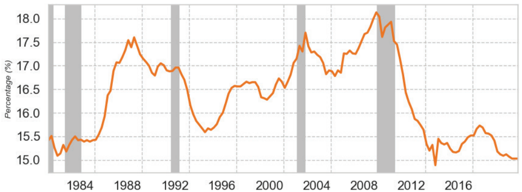
U.S. household: debt as a % of GDP



Source: Mackenzie Investments (Federal Reserve data via Datastream)
Shaded areas = U.S. Recession

U.S. Household Financial Obligations Ratio

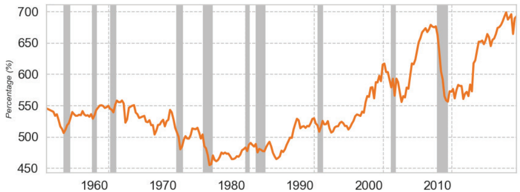
Financial obligations as a % of disposable income



Source: Mackenzie Investments (Federal Reserve data via Datastream)
Shaded areas = U.S. Recession

U.S. Household Net Worth

Households: net worth as a % of disposable income



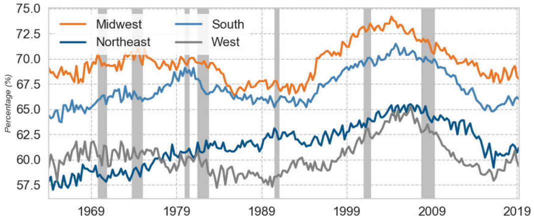
Source: Mackenzie Investments (Federal Reserve data via Datastream)
Shaded areas = U.S. Recession

U.S. HOUSING MARKET

Housing supported by fall in interest rates; homeownership rates bottoming out after decade-long decline

U.S. Homeownership Rates Across Regions

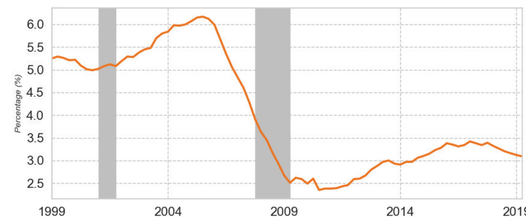
Homeownership rates by region



Source: Mackenzie Investments (Census Bureau data via Bloomberg)
Shaded areas = U.S. Recession

Residential Investment as a % of GDP

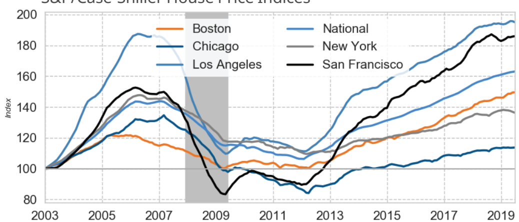
U.S. residential construction as a % of GDP



Source: Mackenzie Investments (BEA data via Bloomberg)
Shaded areas = U.S. Recession

U.S. House Prices

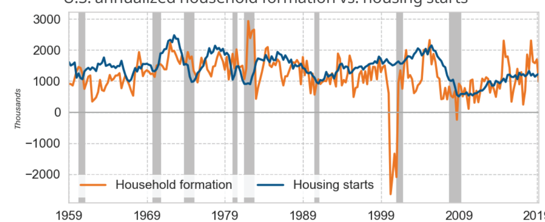
S&P/Case-Shiller House Price Indices



Source: Mackenzie Investments (S&P data via Bloomberg)
Shaded areas = U.S. Recession

Household Formation vs. Housing Starts

U.S. annualized household formation vs. housing starts



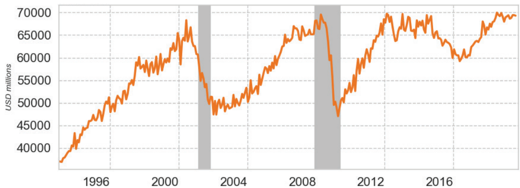
Source: Mackenzie Investments (BEA, Census Bureau data via Bloomberg)
Shaded areas = U.S. Recession

U.S. CYCLICAL, INTEREST RATE-SENSITIVE SECTORS

Manufacturing and durable goods slowing down, but housing is rebounding

Capital Goods Orders

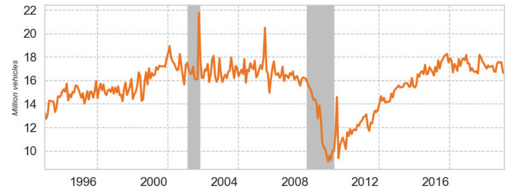
U.S. Capital Goods Orders, ex-Defense, ex-Aircraft



Source: Mackenzie Investments (Census Bureau data via Datastream)
Shaded areas = U.S. Recession

U.S. Annualized Auto Sales

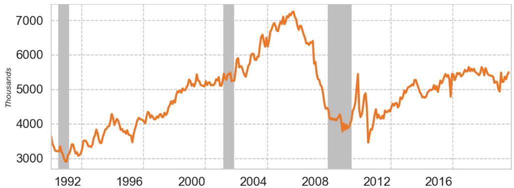
U.S. vehicle sales SAAR



Source: Mackenzie Investments (Autodata data via Datastream)
Shaded areas = U.S. Recession

U.S. Housing Starts

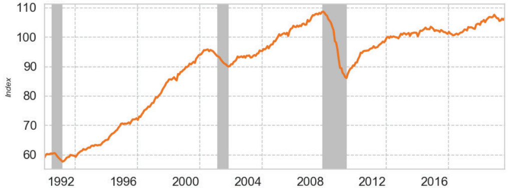
Housing starts



Source: Mackenzie Investments (National Assoc. of Realtors data via Datastream)
Shaded areas = U.S. Recession

Industrial Production, Manufacturing

U.S. index of industrial production, manufacturing

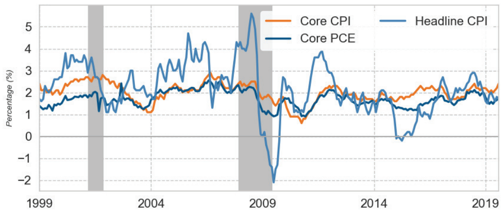


Source: Mackenzie Investments (Federal Reserve data via Datastream)
Shaded areas = U.S. Recession

U.S. PRODUCT AND WAGE INFLATION

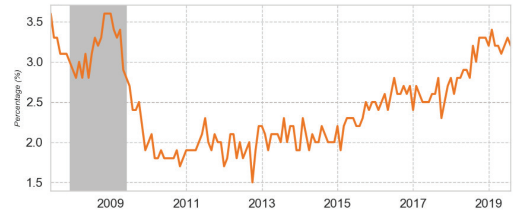
Wage growth increasing gradually, but no significant underlying inflationary pressures

U.S. Realized Inflation
U.S. Consumer price inflation



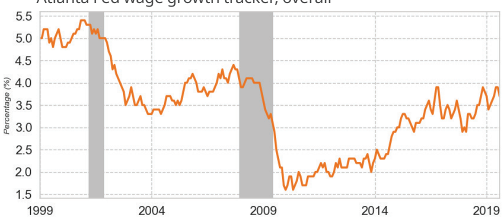
Source: Mackenzie Investments (BLS data via Bloomberg)
Shaded areas = U.S. Recession

U.S. Average Hourly Earnings Growth
U.S. growth in average hourly earnings



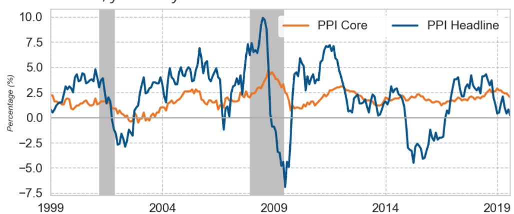
Source: Mackenzie Investments (BLS data via Bloomberg)
Shaded areas = U.S. Recession

Atlanta Fed Wage Growth Tracker
Atlanta Fed wage growth tracker, overall



Source: Mackenzie Investments (Atlanta Fed data via Bloomberg)
Shaded areas = U.S. Recession

U.S. Producer Price Inflation
U.S. PPI, year-on-year

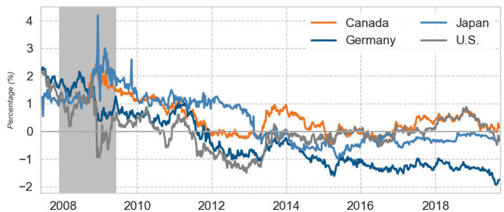


Source: Mackenzie Investments (BLS data via Datastream)
Shaded areas = U.S. Recession

The disinflationary story remains intact

10y Ex-Ante Real Yields

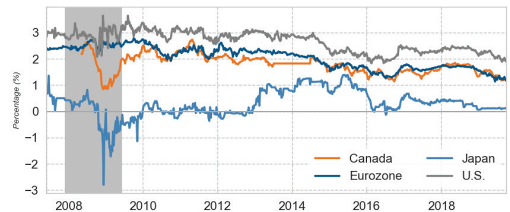
10y nominal yield minus 5y5y inflation swap



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Inflation Expectations

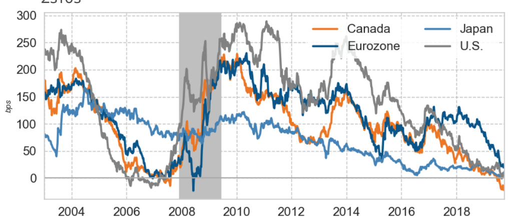
5y5y inflation swaps (10y breakeven for Canada)



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Yield Curve Steepness: 10y Yield Minus 2y Yield

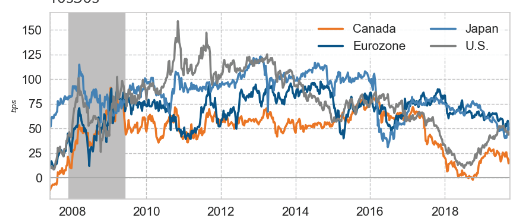
2s10s



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Yield Curve Steepness: 30y Yield Minus 10y Yield

10s30s



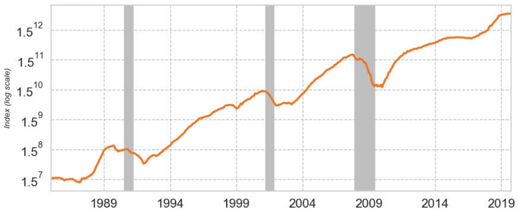
Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

GLOBAL CORPORATE EARNINGS

Only the S&P 500 has experienced strong earnings growth in this cycle; EAFE, EM and Canada have lagged

S&P 500 Earnings

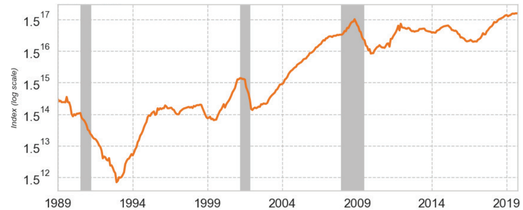
S&P 500 EPS



Source: Mackenzie Investments (IBES data via Datastream)
Shaded areas = U.S. Recession

S&P/TSX Earnings

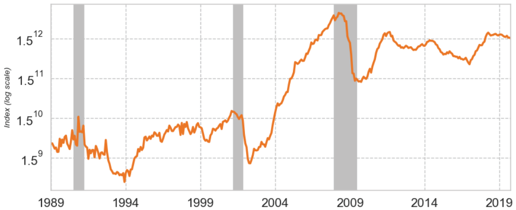
S&P/TSX EPS



Source: Mackenzie Investments (IBES data via Datastream)
Shaded areas = U.S. Recession

MSCI EAFE Earnings

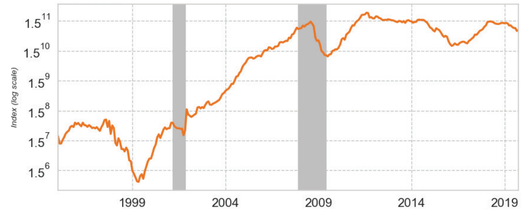
MSCI EAFE EPS



Source: Mackenzie Investments (IBES data via Datastream)
Shaded areas = U.S. Recession

MSCI Emerging: Earnings

MSCI Emerging EPS



Source: Mackenzie Investments (IBES data via Datastream)
Shaded areas = U.S. Recession

MEASURES OF GLOBAL CREDIT RISK

The credit markets remain calm; easy monetary policy helps; watch for signs of credit quality deterioration in the lower segments of the market

U.S. High Yield Spreads

Bloomberg Barclays HY index, spread over 10y U.S. Treasuries

Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

U.S. Investment Grade Spreads

Bloomberg Barclays IG index, spread over 10y U.S. Treasuries

Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

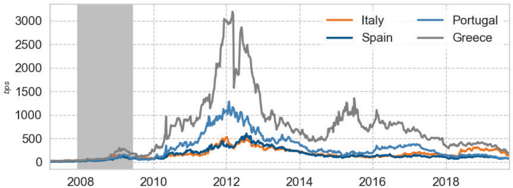
USD – Denominated Sovereign Spreads over U.S. Treasuries

JPM EMBI index, spread over 10y U.S. Treasuries

Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

European Sovereign Debt Spreads

10y yield spreads over Germany



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Canada

Mackenzie Investments

OVERVIEW

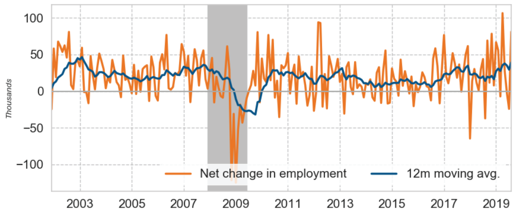
Canada

- Canadian economy vulnerable to U.S. slowdown, persistent energy industry slump.
- However, domestic picture appears stable, supported by soft landing in housing market and low rates.
- Bank of Canada unlikely to match the full extent of the Federal Reserve's easing.

CANADIAN LABOUR MARKET

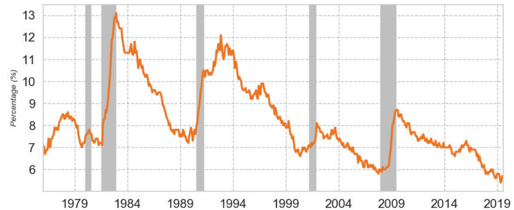
Canadian labour market, if geographically uneven, remains solid

Net Monthly Change in Employment
Canada: monthly job growth



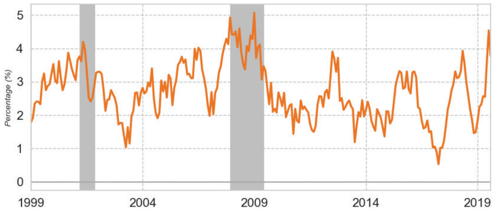
Source: Mackenzie Investments (StatsCan data via Bloomberg)
Shaded areas = U.S. Recession

Unemployment Rate
Canada: unemployment rate



Source: Mackenzie Investments (StatsCan data via Bloomberg)
Shaded areas = U.S. Recession

Wage Growth
Year-on-year growth in average hourly earnings



Source: Mackenzie Investments (StatsCan data via Bloomberg)
Shaded areas = U.S. Recession

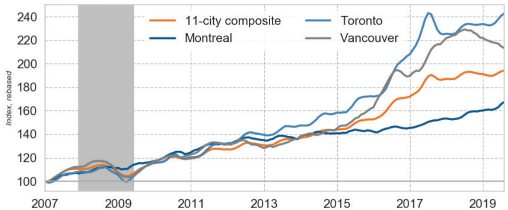
Labour Force Participation Rate
Canada: labour force participation rate

Source: Mackenzie Investments (StatsCan data via Bloomberg)
Shaded areas = U.S. Recession

HEALTH OF CANADIAN HOUSEHOLDS

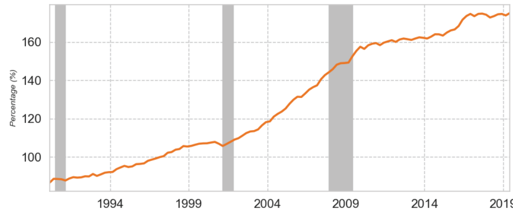
House prices are resilient, but the rise in the household debt service ratio is worth watching

Canadian House Prices
Teranet – National Bank House Price Indices



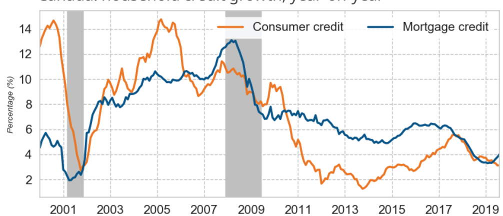
Source: Mackenzie Investments (National Bank-Teranet data via Bloomberg)
Shaded areas = U.S. Recession

Household Debt
Canada: household debt-to-disposable income



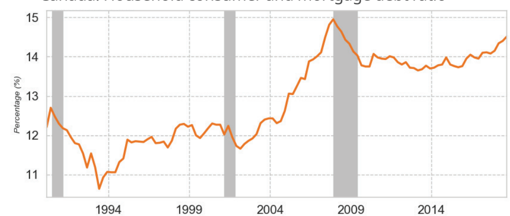
Source: Mackenzie Investments (StatsCan data via Bloomberg)
Shaded areas = U.S. Recession

Household Credit Growth
Canada: household credit growth, year-on-year



Source: Mackenzie Investments (StatsCan data via Bloomberg)
Shaded areas = U.S. Recession

Household Debt Service Ratio
Canada: Household consumer and mortgage debt ratio



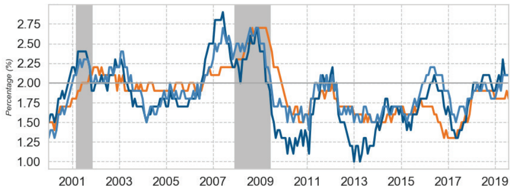
Source: Mackenzie Investments (StatsCan data via Bloomberg)
Shaded areas = U.S. Recession

CANADIAN INFLATION AND INTEREST RATES

Inflation remains on target, but the gravitational pull of Fed rate cuts is pushing the market to price in easing

Bank of Canada Core Inflation Measures

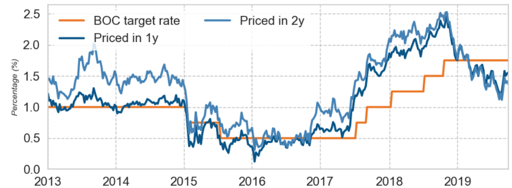
Canada: core inflation



Source: Mackenzie Investments (Bank of Canada data via Bloomberg)
Shaded areas = U.S. Recession

Policy Interest Rates

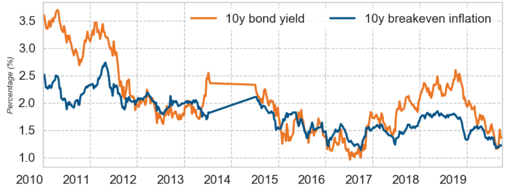
Canada: BOC target and market pricing



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

10y Bond Yields vs. Inflation Expectations

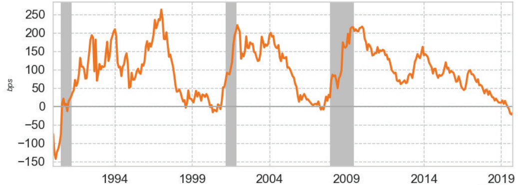
Canada: 10y bond yield & 10y breakeven inflation



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Shape of Yield Curve

Canada: 10y bond yield minus 2y bond yield

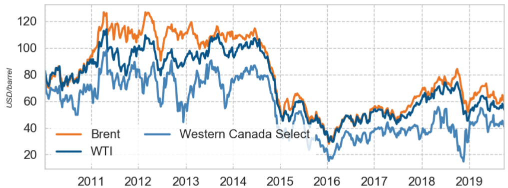


Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

CANADIAN BALANCE OF PAYMENTS AND CURRENCY DRIVERS

CAD is slightly undervalued; Canadian oil prices continue to trade at a discount

Crude Oil Prices
Western Canada Select vs. WTI and Brent

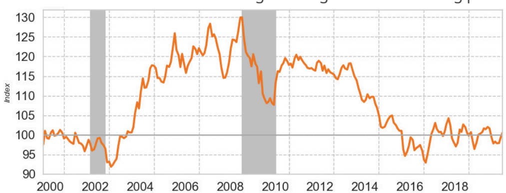


Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Export Growth
Canada: year-on-year export growth

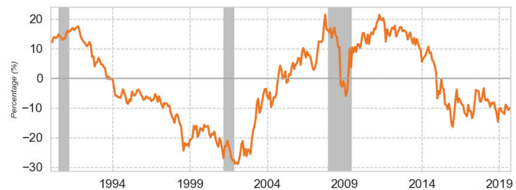
Source: Mackenzie Investments (StatsCan data via Bloomberg)
Shaded areas = U.S. Recession

CAD Real Effective Exchange Rate
Canada: real effective exchange rate against main trading partners



Source: Mackenzie Investments (Bank of Canada data via Bloomberg)
Shaded areas = U.S. Recession

Over/Undervaluation vs. PPP
Canada: Over/Undervaluation of CAD vs. PPP

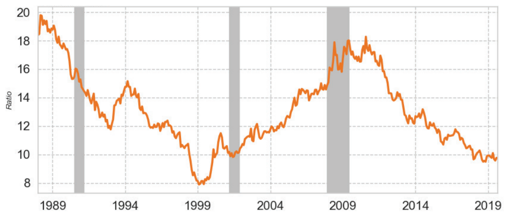


Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Large underperformance vs. U.S. equities in current cycle

Ratio S&P/TSX over S&P 500

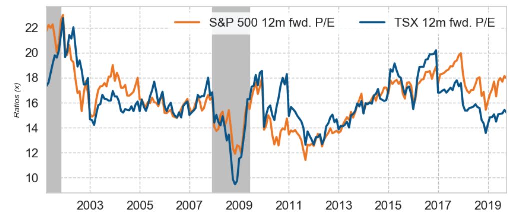
Ratio of S&P/TSX to S&P 500 over time



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

12m Forward P/E Ratios: S&P/TSX and S&P 500

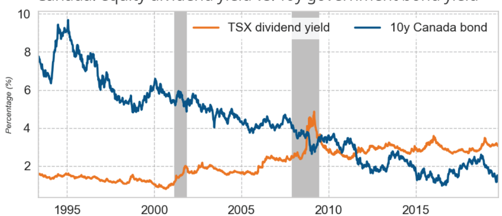
12m fwd. P/E ratios



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

S&P/TSX Dividend Yield vs. 10y Bond Yield

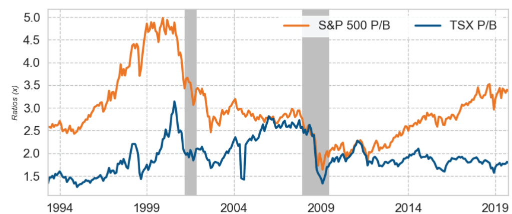
Canada: equity dividend yield vs. 10y government bond yield



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Price-to-Book Ratios: S&P/TSX and S&P 500

Price-to-book ratios



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Europe

Mackenzie Investments

OVERVIEW

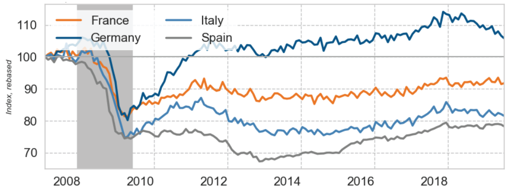
Europe

- Eurozone economy hit by global slowdown and trade wars.
- Heavy export exposure has weighed on Germany in the absence of strong domestic demand.
- Economic data appears to be stabilizing at a weak level, but significant stimulus likely to be needed going forward.

EUROZONE CYCLICAL DEVELOPMENTS

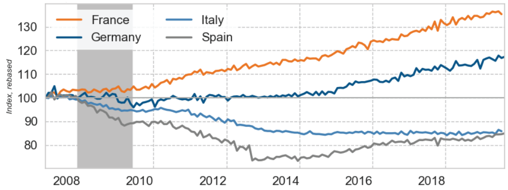
In the absence of strong global growth, the Eurozone lacks strong internal demand

Eurozone Industrial Production
Industrial production, manufacturing, rebased



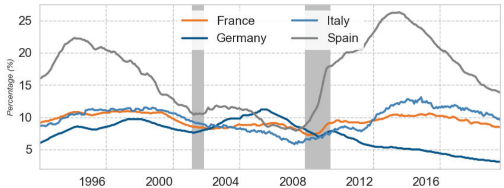
Source: Mackenzie Investments (Eurostat data via Datastream)
Shaded areas = U.S. Recession

Eurozone Retail Sales
Retail sales excluding motor vehicles, rebased



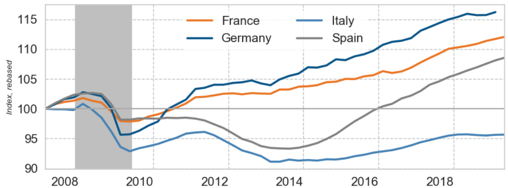
Source: Mackenzie Investments (Eurostat data via Datastream)
Shaded areas = U.S. Recession

Eurozone Unemployment Rates
Unemployment rate



Source: Mackenzie Investments (Eurostat data via Datastream)
Shaded areas = U.S. Recession

Eurozone Real GDP
Real GDP, rebased pre-crisis



Source: Mackenzie Investments (Eurostat data via Datastream)
Shaded areas = U.S. Recession

Japan

Mackenzie Investments

OVERVIEW

Japan

- Significant improvements on corporate profitability and balance sheets.
- Inflation still far from Bank of Japan's goal.
- Exposure to a slowing China proving to be difficult for the country's export sector.

JAPANESE CYCLICAL DEVELOPMENTS

Japanese growth has been hurt by global downturn, but internal dynamics have improved

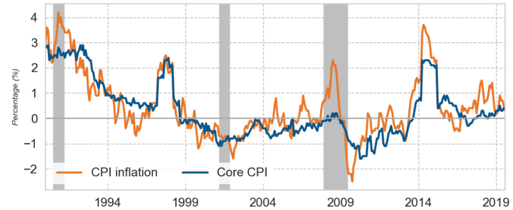
Japanese Industrial Cycle

Industrial production and machine tool orders

Source: Mackenzie Investments (Cabinet Office data via Bloomberg)
Shaded areas = U.S. Recession

Japanese Inflation

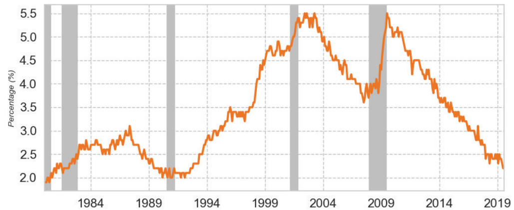
Consumer price inflation



Source: Mackenzie Investments (Cabinet Office data via Bloomberg)
Shaded areas = U.S. Recession

Unemployment Rate

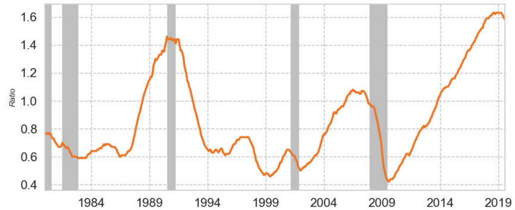
Japan: unemployment rate



Source: Mackenzie Investments (Ministry of Internal Affairs Office data via Bloomberg)
Shaded areas = U.S. Recession

Available Jobs-to-Applicants Ratio

Number of available jobs per applicant



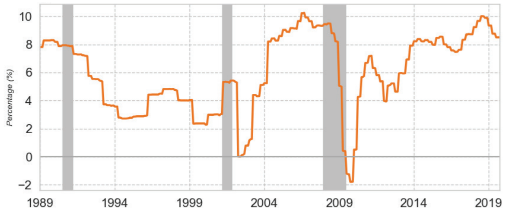
Source: Mackenzie Investments (MInistry of Health, Labor and Welfare data via Bloomberg
Shaded areas = U.S. Recession

JAPANESE EQUITY MARKETS

Japanese deleveraging has been helped by the great BOJ QE experiment

Japanese Equity Market: ROE

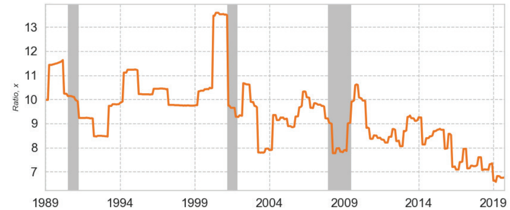
Return on Equity, Datastream Japan Equity Index



Source: Mackenzie Investments (data via Datastream)
Shaded areas = U.S. Recession

Japanese Equity Market: EV/EBITDA

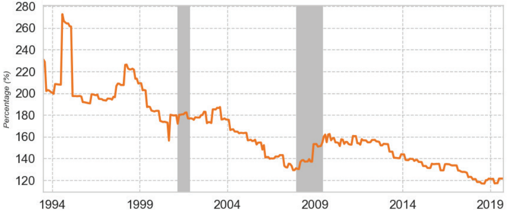
Enterprise Value-to-EBITDA: Datastream Japan Index



Source: Mackenzie Investments (data via Datastream)
Shaded areas = U.S. Recession

Japan: Total Debt-to-Equity

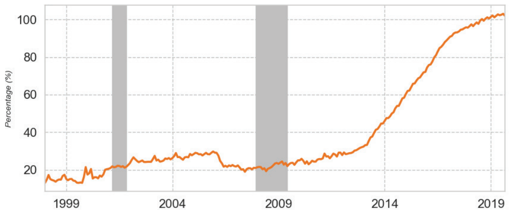
Total debt-to-equity on Topix index



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Size of BOJ Balance Sheet as a % of GDP

Bank of Japan total assets as a % of GDP



Source: Mackenzie Investments (BOJ data via Bloomberg)
Shaded areas = U.S. Recession

China

Mackenzie Investments

OVERVIEW

China

- Trade war has hurt country's export performance.
- However, slowdown is far more impacted by internal decision to deleverage and derisk economy and financial system.
- Policy makers retain the ability to stimulate, but seem unwilling to do so in order to avoid exacerbating internal imbalances.
- Economic growth should continue to decelerate in a controlled, gradual way.

CHINESE GROWTH INDICATORS

Growth continues to decelerate

Chinese Retail Sales

China: retail sales growth

Source: Mackenzie Investments (NBS data via Bloomberg)
Shaded areas = U.S. Recession

Chinese Industrial Production

China: industrial production growth

Source: Mackenzie Investments (NBS data via Bloomberg)
Shaded areas = U.S. Recession

Chinese Fixed Asset Investments

China: fixed asset investment growth

Source: Mackenzie Investments (NBS data via Bloomberg)
Shaded areas = U.S. Recession

Li Keqiang Index

China: Li Keqiang Index (rail freight, electricity consumption, bank loans)

Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

CHINESE MONEY AND CREDIT GROWTH

The shadow banking crackdown continues; no visible, significant stimulus is being applied to counter the slowdown

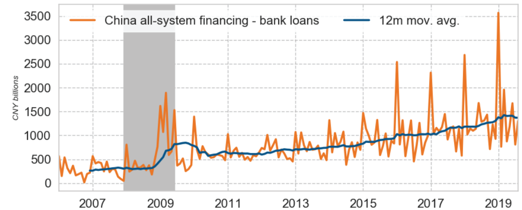
Chinese M2 Money Supply Growth

China: year-on-year growth in M2 money supply

Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

Chinese Bank Loan Growth

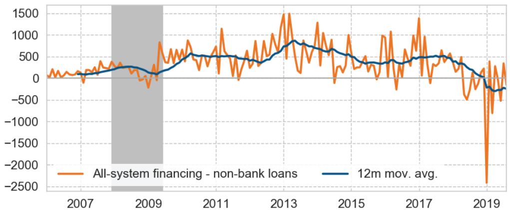
China: new RMB bank loans



Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

China: Non-Bank Credit Growth

China: monthly issuance of non-bank credit



Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

Domestic Portion of PBOC Balance Sheet

China: PBOC total assets minus FX reserves

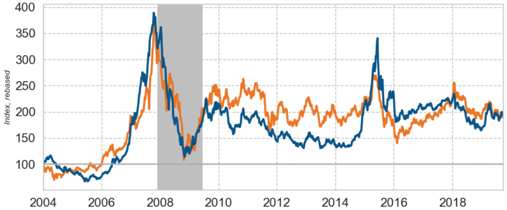
Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

CHINESE MARKETS

Chinese equities rally in 2019, but remain well below past peaks

Chinese Equity Prices

Shanghai Composite and Hang Seng China Enterprises indices, rebased



Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

Chinese Equity Valuations

Shanghai Composite and Hang Seng China Enterprises indices, 12m fwd. P/E ratios

Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

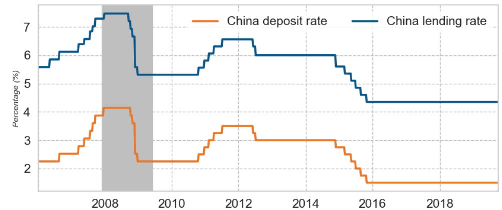
Chinese Government Bond Yields

China: RMB-denominated bond yields

Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

China: Policy Rates

China: 1yr lending and deposit rates



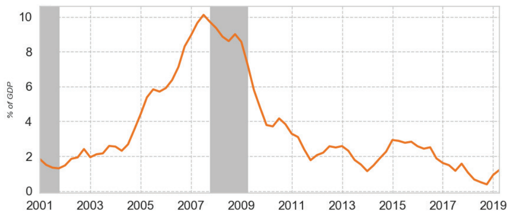
Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

CHINESE BALANCE OF PAYMENTS AND RMB DRIVERS

Current account surplus has narrowed considerably; there are slight downward pressures on the RMB

China: Current Account Balance

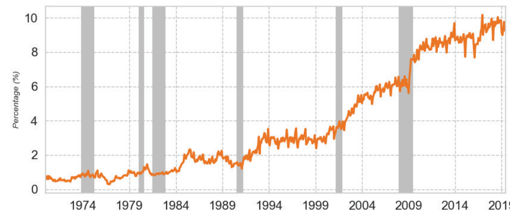
Chinese current account as a % of GDP



Source: Mackenzie Investments (IMF data via Bloomberg)
Shaded areas = U.S. Recession

Chinese Global Export Market Share

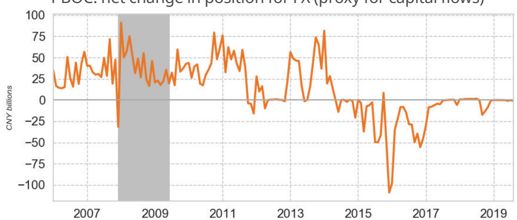
China: share of global exports



Source: Mackenzie Investments (IMF data via Bloomberg)
Shaded areas = U.S. Recession

PBOC Net Change in Funds for FX Purchase

PBOC: net change in position for FX (proxy for capital flows)



Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

U.S. Dollar vs. Renminbi

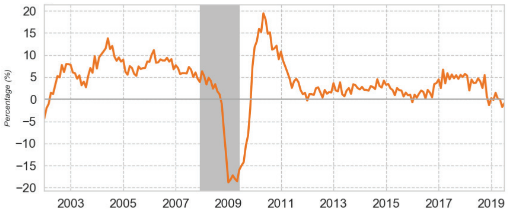
USD/CNY

Source: Mackenzie Investments (data via Bloomberg)
Shaded areas = U.S. Recession

CYCLICAL TRENDS IN GLOBAL TRADE

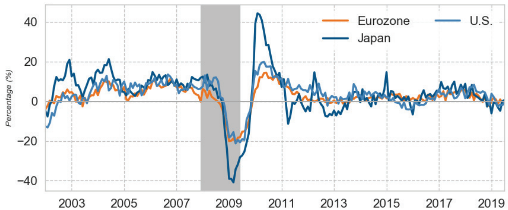
Global goods production and global trade are near contraction territory

Growth in Global Trade Volumes
World exports, year-on-year growth



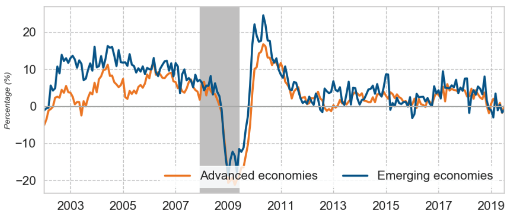
Source: Mackenzie Investments (CPB data via Bloomberg)
Shaded areas = U.S. Recession

Export Growth in Large Developed Economies
Year-on-year growth in exports



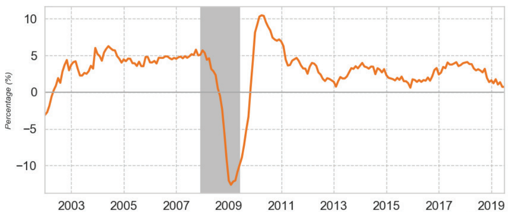
Source: Mackenzie Investments (CPB data via Bloomberg)
Shaded areas = U.S. Recession

Export Growth in Emerging and Developed Economies
Year-on-year change in export volumes



Source: Mackenzie Investments (PBOC data via Bloomberg)
Shaded areas = U.S. Recession

Global Industrial Production Growth
Year-on-year in global industrial production



Source: Mackenzie Investments (CPB data via Bloomberg)
Shaded areas = U.S. Recession

METHODOLOGY

Our approach to estimating a 10-year annualized return for various asset classes is based on a “building blocks” approach. Expected returns reflect both a long-term equilibrium-based asset pricing component as well as a shorter-term component conditioned on the current environment. The long-term component includes risk-free rates and asset class-specific risk premia. The shorter-term component captures the additional expected returns over the forecast period based on our systematic assessment of fundamental inputs (described below).

The base country of the investor determines the appropriate risk-free rate. Since we are estimating currency-hedged returns for US-based investors, we construct the term structure of risk-free rates using zero-coupon US government bonds.

Several inputs are used to estimate the risk premia of each asset class.

- In line with financial market theory, we use a proxy of the global capital market portfolio and asset class betas to this market portfolio;
- We infer risk premia based on long-term estimates of asset class volatility and expected Sharpe ratios;
- We also use academic literature documenting historical risk premia by asset class. Among others, we use the insights of Frazzini and Pedersen (2014)[1], which helps to inform our estimates our asset class-specific risk premia.

Our return expectations are then supplemented with our own active views on the attractiveness of each asset class, based on three fundamental insights:

- Valuations;
- Expected macroeconomic conditions;
- Behavioral models of investor sentiment.

METHODOLOGY *(continued)*

The predictive horizon varies according to each type of input, which is reflected in our capital market expectations. For example, valuation as an input tends to be realized over the long term, while investor sentiment changes more quickly. For this reason, we allow for varying decaying rates for each type of model, with investor sentiment decaying over a six-month period, but valuation maintaining a predictive horizon of up to seven years. We also incorporate uncertainty by correlating predicted and actual outcomes for each active signal via an “Information Coefficient”, which is used to calibrate uncertainty in our active returns based on the “Fundamental Law of Active Management”[2].

1 Andrea Frazzini and Lasse Heje Pederssen. Betting Against Beta, Journal of Financial Economics, Vol 111, Issue 1, January 2014. The authors showed that in a leverage-constrained world, high-beta assets tend to exhibit lower Sharpe ratios than low-beta.

2 Richard Grinold. The Fundamental Law of Active Management, The Journal of Portfolio Management, Vol. 15, Issue 3, Spring 1989.

Mackenzie Investments

About Us

Mackenzie Investments was founded in 1967 and is a leading diversified asset management solutions provider, headquartered in Toronto with additional investment teams in Boston, Dublin and Hong Kong. As part of IGM Financial Inc., a subsidiary of Power Financial Corporation with a history dating back to 1925, Mackenzie benefits from the financial stability of a deep corporate structure while maintaining a boutique investment management profile. Mackenzie Investments has approximately $108B* in assets under management that includes institutional and sub-advised mandates that total $52B*.

POWER FINANCIAL CORPORATION

IGM Financial

MACKENZIE Investments

* Reported in USD, as of December 31, 2019.

Mackenzie Investments

Our Institutional Approach

Boutique Structure

& Distinct Investment Philosophies

Proven Investment Strategies

& Customized Solutions

Backed by the Strength of
a Powerhouse

We identify and encourage each team's performance edge. Our firm's autonomous boutique structure allows each investment team to have their expertise and views fully reflected in their portfolios.

We think beyond products. Our consultative approach allows us to develop innovative customized solutions, along with traditional strategies for clients, delivering an exceptional level of personalized service.

Our firm benefits from the financial stability of a global diversified management and holding company, while maintaining our entrepreneurial culture and independent thinking.

BIOGRAPHIES

Nelson Arruda, MFin, M.Sc., CFA

Senior Vice President, Portfolio Manager
Mackenzie Multi-Asset Strategies Team

Nelson Arruda, Senior Vice President, Investment Management, is a Portfolio Manager on the Mackenzie Multi-Asset Strategies Team.

Nelson has experience in investment research and portfolio management of multi-asset strategies, including equities, foreign exchange, sovereign debt and commodities. Prior to joining Mackenzie in 2017, Nelson spent seven years at the Canada Pension Plan Investment Board where he performed various roles, including head portfolio manager of the active commodities portfolio, covering energy, agriculture and metals. Nelson has Bachelor of Science and Master of Science degrees in computer science from the University of Toronto and also graduated from the Rotman School of Business with a Master of Finance. He is a CFA charterholder.

Keith Wosneski,

Vice President
Head of U.S. Institutional & Global Consultant Relations

Keith Wosneski, Head of U.S. Institutional & Global Consultant Relations, is responsible for U.S. business development and building consultant relationships globally. He started his financial services industry experience in 1994. Prior to joining Mackenzie Investments in April 2018, he served as a Consultant Relations Officer at a well-known U.S. asset management firm.

Mr. Wosneski holds the Series 7, 6 and 63 securities licenses with FINRA. Mr. Wosneski earned an MBA from the University of Notre Dame, Mendoza College of Business and holds a BSBA in International Business from the University of Denver. He sits on the Board of Directors at the Association of Investment Management Sales Executives (AIMSE).

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