

Monthly Market & Strategy

December 2022

Sébastien Mc Mahon, MA, PRM, CFA

Chief Strategist, Senior Economist and Vice-President,
Asset Allocation & Portfolio Manager

Adil Mahroug, M.Sc.

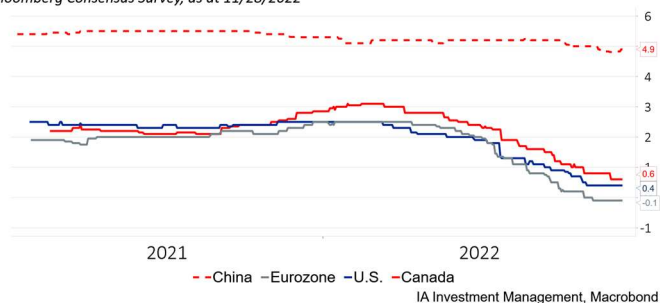
Senior Strategist and Director, Asset Allocation

Where Will Growth Come From?

Expectations for GDP growth in 2023 keep getting revised lower as economists are wrapping their collective heads around the idea that a recession is coming. Case in point, the most recent Bloomberg consensus forecast for the U.S., Canadian, European, and Chinese economies have all been revised lower (again) in the last month.

GDP Growth Forecasts for 2023

Bloomberg Consensus Survey, as at 11/28/2022



This is in large part, of course, caused by the fight that central banks are bringing to inflation.

The U.S. Federal Reserve and the Bank of Canada, for example, have recently shifted away from their original dual mandates of price stability and maximum employment to mainly focusing on inflation. North American central banks have thus become akin to single mandate institutions, not unlike the European Central Bank.

As rates have risen aggressively and balance sheets have started to shrink, economic growth has shifted to below-potential. This is textbook economics: to be successful in curbing inflation, central bankers are slowing the economy down and likely engineering a recession next year.

While we still advocate that recession risks in 2023 are at about 70-80% in both Canada and the U.S., we thought it would be an interesting time to ask the question: are we too pessimistic?

The basic economic equation for GDP, where output is equal to the sum of consumption, investment, government spending

Highlights

- Although GDP growth has held through 2022, next year is shaping up to be more fragile
- The expectations for a coming central bank pivot might be overly optimistic, as history suggests it might not happen until late 2023/early 2024
- We remain careful about calling the end of the current bear market. Our positioning remains tilted away from equities and more towards sovereign bonds

Global Asset Allocation Views (Dec 2022)

	--	-	N	+	++	Δ
Asset Classes						
Money Market				+		
Fixed Income				+		
Equities		-				
Alternatives			N			
Relative Equity						
Canadian Equities		-				
U.S. Equities		-				
International Equities		-				
EM Equities		-				
Relative Fixed Income						
Government Bonds					+	
IG Corporate Bonds				+		
HY Bonds		-				
Other						
Oil				+		
Gold			N			
USD (trade weighted)				+		↓
CAD/USD				+		

and net exports, is a useful yet simple framework through which it is possible to analyze economic dynamics:

$$Y = C + I + G + (X - M),$$

where C stands for consumption, I for investments, G for government spending, X for exports and M for imports. If we go one step further, we can do some growth accounting by differentiating this simple equation. With a little algebra, we can show that:

$$\frac{\Delta Y}{Y} = \frac{\Delta C}{C} \frac{C}{Y} + \frac{\Delta I}{I} \frac{I}{Y} + \frac{\Delta G}{G} \frac{G}{Y} + \left(\frac{\Delta X}{X} \frac{X}{Y} - \frac{\Delta M}{M} \frac{M}{Y} \right)$$

$$\Delta\%Y = \Delta\%C \frac{C}{Y} + \Delta\%I \frac{I}{Y} + \Delta\%G \frac{G}{Y} + \left(\Delta\%X \frac{X}{Y} - \Delta\%M \frac{M}{Y} \right)$$

Thus, GDP growth is explained by the sum of the contributions to growth of the 4 main components (pooling export – imports together into net exports, for simplicity).

Let’s start with a few observations.

First, consumption explains the lion’s share of GDP in every region, with the U.S. a strong first at about 70%. Second, the shares of GDP explained by investment and government spending tend to be close, and similar across countries. Last, net exports have been a negative contributor to GDP (meaning that imports are larger than exports) in North America over the period studied.

Growth Accounting (Averages from 2015 to 2019)

Share of Real GDP	United States	Canada	France	Germany
Consumption	69%	57%	55%	53%
Investment	20%	23%	22%	20%
Government	15%	20%	24%	20%
Net Exports (Exports - Imports)	-4%	-1%	-1%	7%

Growth Rate of Each Component

Consumption	2.6%	2.4%	1.5%	1.8%
Investment	3.4%	-0.8%	3.2%	2.7%
Government	1.6%	2.0%	1.1%	2.4%
Net Exports (Exports - Imports)	9.5%	-76.7%	13.2%	-3.8%

Growth Contribution to GDP

Consumption	1.8%	1.4%	0.8%	0.9%
Investment	0.7%	-0.2%	0.7%	0.5%
Government	0.2%	0.4%	0.3%	0.5%
Net Exports (Exports - Imports)	-0.4%	0.5%	-0.2%	-0.3%

Now that we have identified the recent importance of each of these components in explaining growth, we openly ask the question: where will growth come from in 2023?

Let’s start with the first piece of the GDP equation, which is also the largest contributor to growth: **consumption**.

Consumer spending is generally the main driver of growth: its share of GDP reaches 69% in the US, 57% in Canada and 53% in Germany. No surprise that consumer spending is in the cross hairs of central bankers when trying to tame inflation by slowing GDP growth down.

The bad news for central banks is that despite the massive pace of hiking seen this year (more on this in the next section), consumption remains vigorous thus far.

In theory, monetary policy is forward-looking, so central banks should be more concerned with the expected pattern of consumption rather than the current one.

As we look ahead, consumption should be a function of both the willingness and ability of households to spend. Deteriorating consumer confidence hints that willingness to spend is looking less appealing for the coming quarters. The silver lining so far has been the pent-up demand that was accumulated during the COVID restrictions, causing a spending

boom over the past year, but this is likely to fade as savings are dwindling.

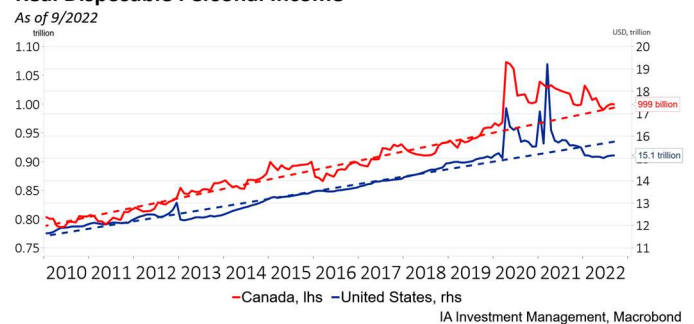
The ability to spend, on the other hand, is a function of wealth and income. Wealth can be viewed broadly as being the equity that households have on their house and their holdings in the financial markets, through mutual funds, pension funds or other direct investments.

For example, the typical American homeowner has approximately 70% or more of their wealth tied up to their primary residence, and recent data show that rising mortgage rates have started to put a dent into the single largest source of wealth of North American households.

Home prices have already contracted by 3.3 and 7.7% respectively in the U.S. and in Canada, and it is reasonable to expect more headwinds in 2023.

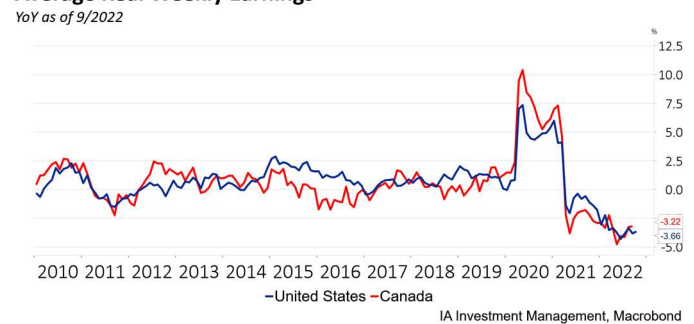
The second driver, which is income, is also no longer able to support consumption. Inflation, especially in food, housing, and transportation, has put a severe dent in most households’ real disposable income as it has dipped below long-term trend.

Real Disposable Personal Income



The picture looks the same for wages, where nominal wages have been going up, but inflation is pushing real wage growth into negative territory.

Average Real Weekly Earnings

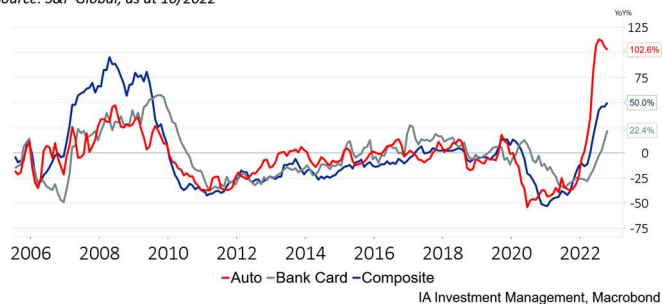


To continue to finance their spending habits, consumers are saving less, and turning more towards credit. This option is, of course, not sustainable and consumer credit defaults (car loans and credit cards) are already on the rise in the U.S.

So, while we do not expect consumption to fall off a cliff, it is not easy to make the case for consumption to lead the way in 2023.

United States: Consumer Credit Defaults, % YoY

Source: S&P Global, as at 10/2022



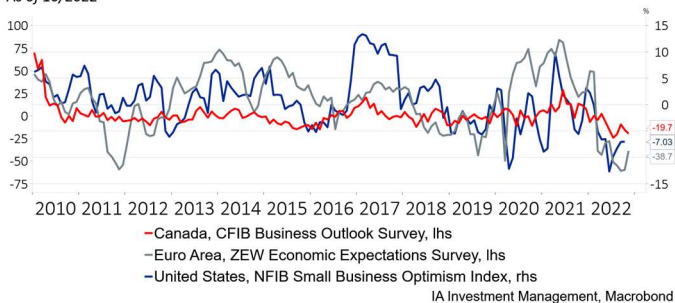
The second piece of the GDP equation is **investment**, which includes both business capital expenditure as well as housing.

We know that the hurdle rate for private investments increases with rising rates. When interest rates are rising, and uncertainty remains around how high rates will rise, and how long they'll stay elevated, businesses tend to delay capital expenditures. Thus, the current global macroeconomic uncertainty makes for a very challenging investment climate.

As a matter of fact, the following chart shows that business confidence surveys are currently pointing to very little appetite for expansion over the coming 12-18 months.

Business Outlook Surveys

As of 10/2022

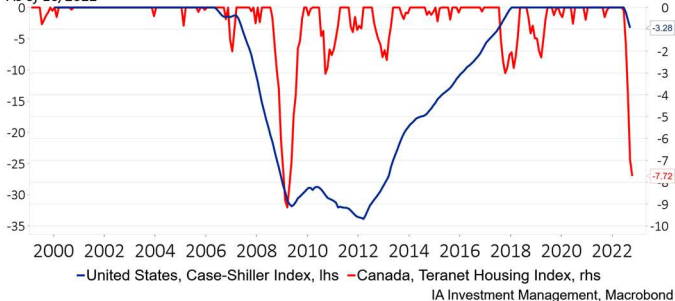


The story for residential investment is also a challenging one. The swift rise in mortgage rates should act as a massive headwind to new construction and renovation spending, as well as resale activity.

After a good stretch in 2020 and 2021 (low rates, change of habits from telework, ...), housing is quite likely headed for a healthy correction in 2023.

Housing Price Drawdown

As of 10/2022

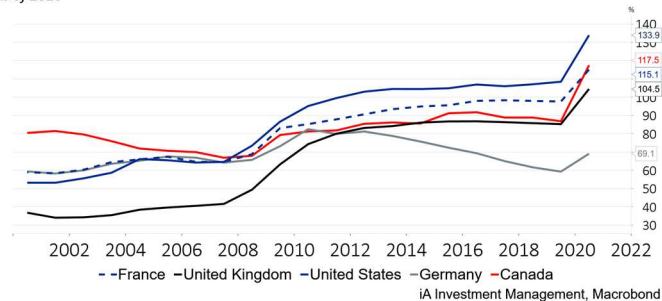


The third piece of the GDP equation, **government spending**, is limited by both a rising cost of debt service and the

accumulated stock of debt. Indeed, rising rates make it more expensive for governments to issue new debt on top of the already massive amounts accumulated during the COVID crisis.

Government Debt as a Percentage of GDP

As of 2020



Also, the recent experiment in the U.K., where Premier Liz Truss was forced out after only 44 days, is a clear warning to any government that fiscal and monetary policy must work hand in hand, and not in opposition.

So, it is highly unlikely that government spending becomes an engine of growth over the coming year.

Finally, the last piece of the GDP equation, **net exports**, remains a big question mark as global trade is facing a tough environment.

The story in the U.S. is simple: the strength of the USD has reached historical highs and has therefore reduced the competitiveness of US-produced goods and services.

The situation in Canada and Europe is slightly different, as currency weakness acts as a competitive advantage on global trade, but the overall weakness of the global economy limits the demand for exported goods and services.

World: Manufacturing PMI

JPMorgan Global Manufacturing PMI, as at 10/31/2022



So, we ask again: where will growth come from in 2023?

While we do not foresee a deep recession, we do expect a pause in economic growth, which should lead to a shallow recession. Whether we look at consumption, investment, fiscal support, or global trade, it is hard to make a case for any of these components to lead the way in the coming 12 months.

Strategy: About that pivot...

The key to the markets moving forward will undoubtedly be the eventual central banks pivot. But what do we mean by pivot? And what have pivots looked like in the past?

Well, we are of the opinion that the bar must be set high to call any central bank move a “pivot”. Thus, in the current context, we define “pivot” as a central bank starting to effectively *cut* its leading rate, not merely stopping to hike (or suggesting that the pace of hiking is set to slow down).

As November ended, we believe the eventual pivot from either the Federal Reserve (the Fed) or the Bank of Canada (BoC) is still far into the future, and likely a 2024 story.

Now, let’s start with the first aspect of the question: what is the likely process from now until the eventual central bank pivot?

The message from both the Fed and BoC is that monetary policy needs to tighten further to break the back of inflation. After all, ultra loose financial conditions brought us here, with leading rates close to zero in most regions of the world, while the injection of liquidity into the global economy and financial markets in the pandemic era was historic.

So, there are two important moving pieces here. The first one is the leading rate and the second is the balance sheet.

Most central banks publish their own estimate of where their “neutral rate” sits, meaning at which levels their leading rate is neither stimulative nor restrictive to their own economy. While not all estimates coincide, we can generalize by saying that the neutral rate for developed countries sits somewhere between 2.0 and 3.0%.

As leading rates in North America were sitting between 0.0 and 0.25% at the start of the year, and inflation was taking off quite quickly, some decisive actions were needed to 1) get to neutral as quickly as possible and stop blowing on the ashes of inflation and then 2) to get sufficiently far into restrictive territory to actually act against inflation. The first part was completed this summer, and we are still in the second act.

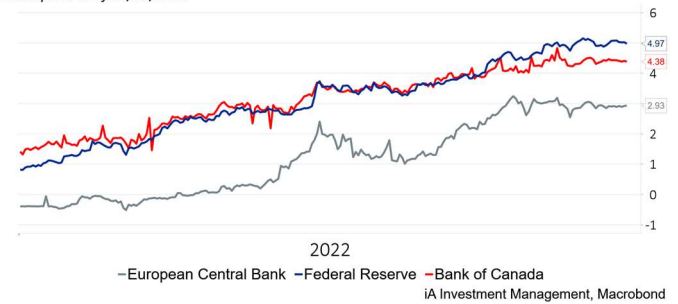
According to current market pricing of terminal rates, the Fed should hike a little bit higher, and for longer than the BoC. Pricing from the OIS market suggests that the Fed will hike until its leading rate touches about 5.0% (currently sitting at 4.0%) while the BoC could hike to somewhere between 4.25 and 4.5% (currently at 3.75%). Basically, the good news is that we are almost done with this historically aggressive tightening cycle.

Anyone following markets will thus understand why risk sentiment improved so quickly on the back of the October CPI print: slowing inflation means the terminal rate is in view, removing the tail risk that it was further down the road.

The next question about leading rates is: when central banks are done hiking, how long will it take before they start cutting again?

Terminal Rates

OIS Implied as of 11/28/2022



An interesting statistic is that, in the previous 13 hiking cycles, dating to 1953, both the median and average gap between the last hike and the first cut was only 5 months. This is somewhat shorter than we expect, for multiple reasons.

Monetary Policy Cycles

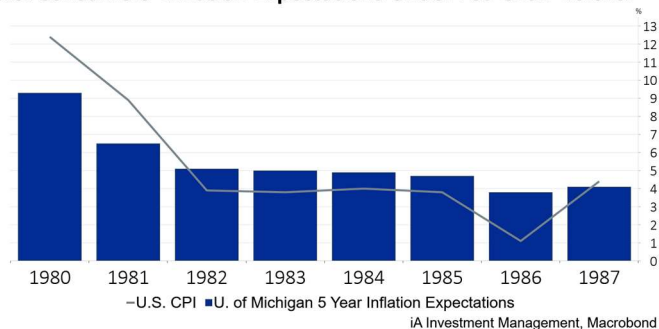
Last Rate Hike	First Rate Cut	Time Inbetween
1/53	1/54	12 months
9/57	11/57	2 months
10/59	5/60	7 months
10/66	12/66	2 months
7/69	2/70	7 months
7/74	8/74	1 month
3/80	4/80	1 month
8/84	9/84	1 month
3/89	5/89	2 months
2/95	7/95	5 months
6/00	1/01	7 months
6/06	7/07	13 months
12/18	6/19	6 months

Median	5.0
Average	5.1

First and foremost, the lessons from the early 1980s tell us that once inflation expectations become de-anchored, central banks need to fight to the end. Once the inflation genie is out of the bottle, it generally takes a while for households and business owners to get their expectations back in line with the central bank targets.

The best illustration of this is to look at what happened when Paul Volcker took the reins at the Fed in 1979 and brought the fight to inflation. After almost a decade of stubbornly high price growth, the Fed was finally successful in taming the beast, but household expectations took multiple years to finally fall in line with the new reality.

U.S. Consumers' Inflation Expectations Under Fed Chair Volcker



The next few years could echo this period if central banks are not careful. The risk is that expectations remain elevated for longer than we might think, leading to inflationary pressures that become self-feeding, especially in a context of labour scarcity and wage pressures. Bottom line, until inflation is back to target in a convincing way, the fight will go on.

The second reason is that, to ensure that inflation does come down from the current elevated levels, it will likely take ample resolve from central banks.

Monetary policy is known to act on the economy with a lag: while there has been ample research on the topics, seminal and recent papers¹ tend to agree that it takes around 6 to 8 quarters before the full effect of rate hikes are felt on economic output, and price levels. So, the first hikes from March 2022 will start impacting inflation directly in late 2023, and the last hike (likely in the first quarter of 2023) should be felt by late-2024.

In the meantime, the sequence should look like this: 1) housing weakens first, because of higher mortgage rates and falling consumer confidence, 2) consumer demand should slow because of the wealth effect, leading to 3) slowing industrial production and investment, as demand weakens, before eventually 4) jobs are lost. While the tightness of the labour market might change the picture this time around, it will take time before the Fed and the BoC finally see the impact of their measures on labour market indicators.

Of course, central bankers will eventually act pre-emptively and start cutting before the economy is at its worst, but we believe the odds are that leading rates will stay elevated for all of 2023, and that the first rate cut will fall somewhere in 2024. This is likely when signs have become amply clear that it has become safe to, finally, pivot.

In fact, a historical study from Bridgewater suggests that the Fed pivot tends to happen *before* the ultimate bottom in the stock market. The reason is that central banks get moving when the risks to the economy are becoming evident, and the

lag effect means that the economic data continues to deteriorate for about 6 quarters after the first cut.

While the stock market is typically a leading economic indicator (meaning that it tends to look at the economy 12 months in the future), the lag of monetary policy effects is a bit longer than the look-ahead window of stock investors. Thus, the bottom tends to happen 1 or 2 quarters after the pivot. The moral of this story: it might be different this time, but history suggests that patience could pay off.



Turning briefly to the balance sheets of central banks (we'll cover this topic in more detail over the coming months), we believe this is where we could see some adjustments along the way to make sure the fight against inflation does not create an eventual liquidity squeeze.

The idea is to go through the process of draining the needed amount of liquidity from the economy and financial system and, by doing so, bringing inflation back to target. While both the Fed and the BoC are already at work in normalizing the size of their balance sheets, it is likely that there will be adjustments along the way (no talk of auto-pilot this time around, we would guess). These adjustments should be supportive of risk sentiment and even lead to some good rallies along the way.

So, it will take some time to normalize the liquidity conditions; financial conditions need to stay tight for a while, and it would be surprising to see central banks tolerate any significant loosening of conditions along the way. This means, evidently, that the idea of a "Fed put" should be put to bed for now, and that to the opposite, central banks could lean against any stock market rally until it feels the job is done.

¹ See, for example, <https://www.frbsf.org/economic-research/wp-content/uploads/sites/4/el1995-05.pdf> or this

more recent study : <https://www.ijcb.org/journal/ijcb13q4a2.pdf>

Bottom Line

Equities

Following the new lows reached in mid-October, the U.S. stock market remains in what we qualify as the sixth rally of this bear market. While every market is different, we do note that history suggest that there are, on average, between 8 and 10 rallies before we find the ultimate low of any bear market.

November was another positive month for markets and risk sentiment, with the S&P 500 posting its fifth positive month of the year, closing higher by about 5%, but remains firmly on a downward trajectory and down close to 15% since the January peak.

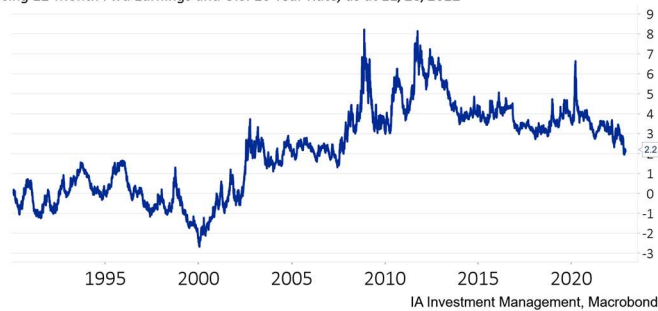
Valuations continue to favour global ex-US equities, and especially Canada, where the S&P/TSX, despite the recent rebound, still appears cheap on both a historical and relative basis.

After a full 11 months of this bear market, it remains interesting to note that the S&P 500 is still trading at valuations that are roughly in line with the average of the last 20 years, meaning that Wall Street is not cheap yet in terms of P/E ratio. The fact that we are only beginning to see downward revisions to expected 2023 earnings makes us even less comfortable with the current valuations.

One interesting alternative to price markets would be to look at the equity risk premium (ERP), which looks at the earnings yield (E/P, or the inverse of the P/E ratio) and subtracts the U.S. 10-year rate, thus the yield on the most direct alternative to equities. As we can see below, the ERP is somewhat middle-of-the-road, meaning that equities look neither rich nor cheap compared to bonds.

S&P 500: Equity Risk Premium

Using 12-Month Fwd Earnings and U.S. 10 Year Rate, as at 11/28/2022



Thus, as we concluded last month, we continue to advocate prudence regarding equities, as the lengthy process of the bear market continues to unfold.

In the short-run, a slowing pace of monthly inflation could very well keep some momentum on the latest equity rally (bear market rallies can in fact reach 20 to 25%), but we still believe that, odds are, the ultimate low in stocks remains in our future.

Fixed income



The October U.S. CPI numbers brought some comfort to the bond market, as the terminal rate now seems to be within reach at about 5.0% for the Fed, and likely around 4.5% for the BoC. The market reaction was massive on the publication of the inflation figure, but Fed speakers still warn that too much enthusiasm remains risky and are clearly pushing against any easing of financial conditions.

The focus now needs to turn to the other important questions. First, how high will the Fed and the BoC hold the leading rate at elevated levels before they have to eventually cut again? And second, how will they manage the downsizing of their balance sheets? These two questions are both complex and important and should drive the behaviour of interest rates over the coming quarters.

In the shorter-term, the level of inversion of the yield curve and the behaviour of credit spreads in a likely recessionary environment will be key. For now, we continue to advocate long duration positions on sovereign bonds, and short duration, high-quality positions in credit.

Commodities and FX

The U.S. dollar remains in a secular uptrend until we see enough evidence that the top is in. As is well known, the USD tends to find its peak when the global economy finds its footing.

U.S. Dollar: DXY Index

As of 11/28/2022

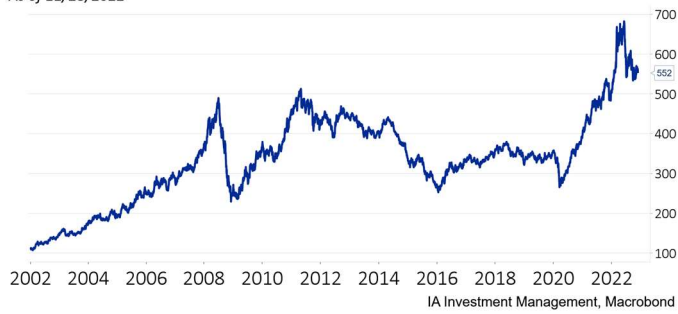


The picture remains recessionary on the global economy, especially with Europe standing on shaky foundations. We did hear marginally good news from China this month, with baby steps towards an eventual end of its strict Covid-zero policy as well as more financing support for its beaten down property sector. Considering the Chinese news, we decided to downgrade by one notch our view on the trade-weighted USD, from maximum overweight to overweight.

The recent rally on the loonie vs the USD was a welcome development, given our bullish positioning on our currency. While we remain with an overweight on the loonie vs the USD, we are also of the belief that some profit taking might be warranted in the short run given the strength of the recent rebound.

Bloomberg Commodity Spot Index

As of 11/28/2022



IA Investment Management, Macrobond

Commodity prices seemed to have been forming a foundation pattern in the last few months, as the gloomy economic picture goes head-to-head with supply imbalances. Although we could see some volatility over the coming months, we continue to be positive on the prospects for oil. Regarding gold, although recent price action has been positive, the lack of clear trend makes us play the waiting game until we see clear signs that the yellow metal reacts consistently with the movements in real rates and the USD.

Market Performance

(Total return, in local currency)

As of November 30, 2022	MTD%	QTD%	YTD%	Δ1Y%
Equity				
S&P 500	5.6%	14.1%	-13.1%	-9.2%
S&P/TSX	5.5%	11.4%	-1.0%	2.0%
NASDAQ	5.5%	9.7%	-26.3%	-25.4%
MSCI World	5.7%	13.2%	-11.5%	-8.0%
MSCI EAFE	6.4%	12.1%	-4.1%	0.0%
MSCI EM	11.7%	8.8%	-13.5%	-12.2%
Commodities				
Gold	8.3%	6.5%	-3.3%	-0.3%
CRB	2.7%	0.9%	-2.4%	0.0%
WTI	-6.9%	1.3%	7.1%	21.7%
Fixed Income				
FTSE Canada Universe Bond Index	2.8%	1.8%	-10.2%	-8.7%
FTSE Canada Long Term Bond Index	5.7%	2.7%	-18.8%	-15.8%
FTSE Canada Corporate Bond Index	2.9%	2.0%	-8.9%	-7.6%
Currency				
DXY	-5.0%	-5.5%	10.7%	10.4%
USDCAD	-1.6%	-3.0%	6.1%	5.0%
USDEUR	-5.0%	-5.8%	9.3%	9.0%
USDJPY	-7.2%	-4.6%	20.0%	22.0%
USDGBP	-4.9%	-7.4%	12.2%	10.3%

As of November 30, 2022	MTD%	QTD%	YTD%	Δ1Y%
S&P/TSX Sectors				
Financials	6.2%	9.5%	-4.0%	1.9%
Energy	1.4%	15.5%	38.1%	41.7%
Industrials	6.4%	13.9%	7.6%	7.4%
Materials	11.0%	10.2%	3.6%	7.2%
Information Technology	9.5%	21.4%	-48.3%	-51.7%
Utilities	-0.6%	-3.0%	-6.3%	-0.8%
Communication Services	3.7%	9.3%	N/A	N/A
Consumer Staples	4.9%	10.6%	12.3%	22.6%
Consumer Discretionary	5.2%	13.8%	-1.8%	5.4%
Real Estate	6.9%	10.0%	-19.4%	-14.1%
Health Care	-0.1%	7.1%	-53.8%	-56.4%
S&P 500 Sectors				
Information Technology	5.8%	14.0%	-22.4%	-19.8%
Health Care	4.7%	14.7%	-1.5%	7.2%
Consumer Discretionary	0.8%	1.0%	-29.6%	-29.8%
Financials	6.8%	19.4%	-7.3%	-4.4%
Communication Services	6.8%	6.7%	-35.3%	-33.7%
Industrials	7.6%	22.5%	-4.1%	0.9%
Consumer Staples	6.2%	15.6%	-0.1%	9.9%
Energy	0.6%	25.7%	64.2%	69.1%
Utilities	6.5%	8.6%	-0.7%	8.6%
Real Estate	6.8%	8.8%	-24.3%	-16.9%
Materials	11.5%	21.5%	-8.8%	-2.1%

12-Month Market Scenarios (As of November 2022)

<p>Baseline (55%)</p>	<p>Global inflation is more persistent than expected by the consensus.</p> <p>Central banks continue to tighten through rate hikes and quantitative tightening. When peak rates are achieved, monetary authorities take a pause.</p> <p>Growth is affected by rising rates and China's zero-Covid policy and advanced economies enter a recession.</p> <p>The recession is deeper in Europe and with fiscal space being limited governments have less room to stimulate the economy.</p> <p>The premium on energy prices remains even though the global slowdown puts downward pressure on energy demand.</p> <p>The war in Ukraine, the global droughts and high fertilizer prices are putting upward pressure on food prices.</p> <p>The bear market in equities continues to its resolution in the form of a capitulation event.</p> <p>Sovereign yield curve continues to be inverted before rates plateau. Long rates have risen substantially and present an interesting value proposition given the growth and monetary policy outlook.</p> <p>Overweight duration and USD and underweight equity.</p>
<p>Bearish Higher Inflation (20%)</p>	<p>Inflation expectations become de-anchored from central bank targets.</p> <p>Terminal policy rates are pushed further up and additional tightening is needed.</p> <p>The economic downturn leads to a significant rise in unemployment.</p> <p>The recession is deeper in Europe and, with fiscal space being limited, governments have less room to stimulate the economy.</p> <p>The bear market continues but drawdowns are larger and deeper.</p> <p>The bond market continues its bear markets as market participants are forced to reprice bonds in the wake of higher terminal rates.</p> <p>Underweight equities and underweight bonds. Overweight cash and USD.</p>
<p>Bullish Slower Tightening (10%)</p>	<p>Inflation returns to target quicker than expected.</p> <p>Less monetary tightening is necessary and terminal rates are lower than expected.</p> <p>Advanced economies avoid a recession.</p> <p>Energy prices should buoy by strong demand.</p> <p>Decades of low capex have put upward pressure on base metals (i.e. copper and nickel). Prices should experience a secular positive trend as they are essential to the energy transition.</p> <p>Stock and bond markets rebound as a recession is avoided.</p> <p>Overweight equities, base metals, and bonds. Underweight cash and USD.</p>
<p>Other (15%)</p>	<p>End of China zero-Covid policy.</p> <p>Escalation or resolution of the conflict in Ukraine.</p> <p>Resurgence of Covid.</p> <p>Escalation of tensions between China and the US.</p> <p>Faster than expected global economic slowdown.</p>

About iAIM

A magnet for top investment talent, iA Investment Management is one of Canada's largest asset managers, with over \$100 billion under management across institutional and retail mandates. We help investors achieve their long-term wealth creation goals through innovative investment solutions designed for today's complex markets. We are building upon our historic success, supporting the growth of our core strengths, and exploring innovative ways to meet investor needs. We are rooted in history and innovating for the future. Our experienced portfolio managers use a proprietary investment methodology, rooted in iAIM's unifying commitment to strong risk management, analytical rigor a disciplined, process-driven approach to asset allocation and security selection.

Rooted in history. Innovating for the future.

General Disclosures The information and opinions contained in this report were prepared by Industrial Alliance Investment Management Inc. ("iAIM"). iAIM is owned by Industrial Alliance Insurance and Financial Services Inc. a subsidiary of iA Financial Corporation Inc. ("iA Financial Corporation"). iA Financial Corporation is a TSX Exchange listed company and as such, iAIM is related to iA Financial Corporation. The opinions, estimates and projections contained in this report are those of iAIM as of the date of this report and are subject to change without notice. iAIM endeavours to ensure that the contents have been compiled or derived from sources that we believe to be reliable and contain information and opinions that are accurate and complete. However, iAIM makes no representations or warranty, express or implied, in respect thereof, takes no responsibility for any errors and omissions contained herein and accepts no liability whatsoever for any loss arising from any use of, or reliance on, this report or its contents. There is no representation, warranty or other assurance that any projections contained in this report will be realized. There is no representation, warranty or other assurance that any projections contained in this report will be realized. The pro forma and estimated financial information contained in this report, if any, is based on certain assumptions and analysis of information available at the time that this information was prepared, which assumptions and analysis may or may not be correct. This report is not to be construed as an offer or solicitation to buy or sell any security. The reader should not rely solely on this report in evaluating whether or not to buy or sell securities of the subject company. The reader should consider whether it is suitable for your particular circumstances and talk to your investment advisor.