Quarterly Market Commentary
Fourth Quarter 2022

Central banks and inflation slow the pace.

- Most equity markets finished the fourth quarter of 2022 in positive territory, trimming their losses for the full calendar year, despite significant volatility in December. Regionally, developed-market stocks marginally outperformed their emerging-market counterparts for the quarter[1]; advanced countries generally produced favourable economic data, and major central banks indicated intentions to slow the pace of interest-rate hikes.
- Fixed-income asset classes generally posted modest gains over the quarter, but the direction of bond yields was mixed (yields and prices have an inverse relationship).
- We anticipate a less robust global economy in 2023 than that of the past year. "Stagnation" is probably the best word for it, while "recessionary" almost certainly will apply in some countries and regions.

SEI's Domestic View

Like most advanced western economies, Canada's domestic labour market remains extremely tight. At the end of the year, the unemployment rate hovered just above the all-time lows set in mid-2022. Unsurprisingly, wage pressures are still strong. This is a key concern for the Bank of Canada (BoC) when it comes to inflation, especially service sector prices. These worries were well-reflected in the bank's public remarks in 2022.

While a tight labour market and pressure to raise wages can be favourable for workers (though wage gains have been outpaced by inflation thus far), they can impose additional economic costs beyond inflation. For example, a survey of over 500 Canadian manufacturers estimated that labour shortages and skills mismatches would cost roughly CAD$13 billion in 2022 due to lost sales, late delivery penalties and postponed or cancelled capital investment projects.[2] The tight labour market is also one of the key factors behind the government's ambitious program to attract immigrants, and according to a recent Bloomberg report, recent growth in Canada's workforce has been driven almost entirely by immigration gains. However, it's likely to take some time for immigration measures to have a meaningful impact on labour market pressures, and the BoC will likely need to keep its policy rate elevated in order to bring inflation down to more acceptable levels.

In the meantime, record immigration exacerbates another challenge facing the Canadian economy—housing. Many advanced western economies find themselves struggling with chronically undersupplied residential real estate along with overextended households and sharply higher mortgage rates. Because mortgages in Canada tend to be shorter in term and/or have variable rates, the effects of BoC interest rate hikes are more immediate than in the U.S, where mortgages are largely long term at fixed interest rates. While U.S. households are still on relatively firm footing, having recovered from the financial crisis of 2008-2009, high real estate prices have swamped Canadian households with debt.

With home prices falling for a ninth consecutive month in November 2022, the housing bubble may have finally popped. This should be welcome news to prospective home buyers but it does pose a potential difficulty for current mortgagees, especially those who find their homes worth less than the amount for which they were financed.

This all puts the Bank of Canada in a precarious position. In the U.S., businesses and households appear to be far less interest-rate sensitive than they were in the global financial crisis (thus far at least) while Canadian households are clearly more exposed given high debt levels. And yet, it's critically important to get inflation under control. Like most advanced economy central banks, the BoC is using rate hikes to try to dampen overall demand and loosen the labour market enough to bring inflation down. But the potential inflation sensitivity of Canadian households means the BoC is walking a tightrope when it comes to getting monetary policy right. The ongoing inversion of the 10-year, 2-year yield spread reflects the BoC's tightening efforts at the short end of the yield curve as well as the bond market's concern that these could ultimately cause a recession and, at some point, lower interest rates. (Economists are predicting a shallow, two-quarter recession to

[1] According to the MSCI World and MSCI Emerging Markets indexes.
[2] "Canada leaving almost $13 billion on the table due to labour and skills shortages in manufacturing," Canadian Manufacturers & Exporters, https://cme-mec.ca/blog/canada-leaving-almost-13-billion-on-the-table-due-to-labour-and-skills-shortages-in-manufacturing/.

start the year, according to a recent Bloomberg survey, and the latest Ivey Purchasing Managers Index lends some support to this outlook.)

Of course, a return to healthier global trade and economic growth can provide a measure of support to the Canadian economy, and on that front, the news has been more encouraging. Canada's trade balance improved significantly during the COVID-19 era, returning to a surplus in 2021 that continued to improve into mid 2022 before trailing off precipitously in the second half of 2022 and finishing flat at the end of the year. While there are still concerns about the global economic outlook, it is encouraging that Europe has experienced a mild winter thus far, that China has made a definitive break with its "Zero-COVID" policy and taken steps to support its troubled real estate sector, and that U.S. economic activity is expected to prove resilient in the first half of 2023 (although there are concerns about the second half of the year or early 2024).

The outlook for commodities, which struggled in the middle quarters of 2022, seems favourable, which would also provide some economic support. Higher commodity prices would likely be favourable for the Canadian dollar as well, although the full outlook will also depend heavily on how growth and central bank expectations unfold at home and elsewhere in 2023.

Taken together, the economic challenges are significant but not insurmountable. If the BoC is able to get inflation under some semblance of control, and if economists' projections of a shallow recession prove accurate, we may hear plenty of talk about a "technical" or "rolling" recession in 2023 without much in the way of serious or lasting economic damage. Let's hope for calmer times ahead.

SEI's Global View

First, the good news for investors: 2022 is over. Now for the bad news: 2023 is shaping up to be another challenging year. Further volatility is expected across asset classes as investors face familiar headwinds: inflation rates exceeding the targets of major central banks; interest-rate increases potentially continuing throughout the first half of the year; quantitative easing shifting to quantitative tightening; and, for many countries, stagnant or recessionary economies through 2023, and perhaps, into 2024.

We are projecting a less robust global economy in 2023 than the one witnessed in the past year. "Stagnation" is probably the best word for it, while "recessionary" almost certainly will apply in some countries and regions. It is not at all clear to us whether the U.S. will be one of those countries, although surveys of economists published by the Federal Reserve (Fed) Bank of Philadelphia, the Wall Street Journal, and the National Association of Business Economics suggest a greater than 50% chance of recession. It's unusual for economists to be so bearish—we're only half-joking when we say that this is the most anticipated recession in the history of recessions. Wages are down in inflation-adjusted terms, the housing market is suffering a severe contraction, and some industries (notably within technology) are now losing a significant number of jobs. However, the overall economy still isn't declining in a pronounced, pervasive, and persistent manner—the so-called "three Ps"—that characterize a typical recession.

With regard to inflation, there is good reason to believe that inflation rates have peaked for most countries. Still, we view it as a mistake to assume that prices will fall as precipitously as they have risen, or that they will make their way back to the 2% target that central banks of advanced economies set for themselves. This is especially true in the U.S. and other countries challenged by exceptionally tight labour markets and already-high wage inflation.

Moving on to monetary policy, even though Fed Chair Jerome Powell and other members of the Federal Open Market Committee retired the reference to "transitory" from the Fed's lexicon when describing inflation, the central bank's own (and investors') forecasts still held onto the assumption that inflation pressures would ease substantially in 2022. Consequently, the Fed's projections of the federal-funds rate issued in December 2021 were well below the actual rate increases that the central bank implemented in the past year. Further Fed monetary policy tightening is expected in 2023, with a year-end median prediction of 5.1% and a central-tendency forecast (incorporating the majority of FOMC decision-makers) of 5.1% to 5.4%. The obvious question is whether this unexpectedly forceful approach taken by the Fed this past year and, presumably, in the year ahead, will be sufficient to bring inflation down. Or will it still prove insufficient, thereby forcing the central bank to keep raising its policy rate beyond its current expectations?

On the geopolitical front, although the war in Ukraine rages on, energy prices have posted surprisingly sharp declines. Natural-gas prices in Europe are the exception. With the war in Ukraine appearing likely to drag on well into 2023 at the very least; the possibility exists for more surprises that will keep energy prices quite volatile, with current prices likely now at the low end of a wide trading range.

It appears that the Chinese government has decided to ease the most onerous COVID-19 restrictions that have derailed economic growth in that country and disrupted global supply chains. We had suggested that, once the Communist Party Congress was out of the way and President Xi Jinping received an unprecedented third term as the party's General Secretary, he would seek an exit from his zero-COVID policy. The government has moved even faster than we had expected, and we expect China's economy to reaccelerate in the year ahead from last year's very tepid 3% performance. This should help offset at least partially the impact of a global slowdown in advanced countries. It also could exert upward pressure on commodity prices, especially for energy and metals. This would benefit commodity-oriented exporters in Latin America and the Middle East, along with South Africa, Indonesia and Malaysia.

Economic Backdrop

Most equity markets finished in positive territory during the fourth quarter of 2022, trimming their losses for the full calendar year. Developed-market stocks marginally outperformed their emerging-market counterparts. Regionally, emerging markets in Europe generated the world's strongest equity gains over the quarter, while developed markets in Europe and the Asia-Pacific region also performed well.[3] Conversely, the North American market lagged as U.S. stocks posted relatively smaller gains.[4]

Despite the upturn in the fourth quarter, both fixed-income and equity markets chalked up big losses for the full 2022 calendar year—almost regardless of region or style. U.S. long-duration bonds, as represented by the Bloomberg Long U.S. Government/Credit Index, endured a stunning decline of 27%, exceeding the sharp losses sustained by U.S. and international equities. While emerging-market equities and bonds fared relatively better, the only asset class to post a positive absolute return for the year was commodities.

Yields on U.S. Treasury securities rose in the short and long parts of the curve over the quarter and declined modestly in the intermediate segment (yields and prices have an inverse relationship). Short-term yields increased by a larger margin than long-term yields. Consequently, the 2-to-10-year yield curve inverted further (short-term yields exceeded long-term yields), widening by 0.14% to 0.53%. U.K. gilt yields decreased across the curve during the reporting period. Eurozone government bond yields increased for all maturities, particularly at the short end of the curve.

U.S. fixed-income asset classes garnered positive returns in the fourth quarter as intermediate-term bond yields declined. High-yield bonds led the rally, while investment-grade corporate bonds also performed well.[5]

There was mixed performance in the global commodities markets during the quarter, The West Texas Intermediate crude-oil spot price was up 1.2% for the period due to continued strength in the U.S. dollar, while the Brent crude-oil price fell by 2.3% on investors' worries about recession. The NYMEX natural gas price declined nearly 34% during the period as forecasts for relatively warmer winter weather in the U.S. spurred concerns of weakening demand. Wheat prices decreased by 14%, hampered by larger-than-expected shipments by Russia.[6]

Liz Truss resigned as U.K. prime minister in late October after the disastrous reception of her fiscal program sent gilt and sterling markets reeling, collapsing her support within the Conservative Party. Her departure cleared the way for Rishi Sunak to ascend as Conservative leader and prime minister. Sunak was forced to deal with his first domestic crisis as prime minister just weeks after succeeding Truss, when members of trade unions representing National Health Service (NHS) nurses, ambulance workers and rail and Border Force employees staged targeted strikes over compensation and working conditions.[7] Negotiations with the unions have proven especially challenging given that U.K. Chancellor Jeremy Hunt is seeking to reduce the government's £55 billion (roughly US$66 billion) deficit through tax increases and drastic spending cuts. Under the government's current deficit-reduction plan, a gross domestic product (GDP) growth rate of 2% would result in savings of approximately £23 billion (about US$27.6 billion) for the U.K. government by the 2027-to-2028 fiscal year.[8],[9]

In November, Ukraine's military regained control of the southern city of Kherson as Russian Defense Minister Sergei Shoigu ordered his troops to retreat from what had been sole regional Ukrainian regional capital that Moscow had held since invading the country in late February of this year. This was a major setback for Russia's Vladimir Putin. Ukraine's president, Volodymyr Zelenskyy, addressed a joint session of the U.S. Congress in late December in an effort to secure additional financial aid from the U.S. and its allies. President Joe Biden reiterated the U.S. government's support for Ukraine in its conflict with Russia. In late December, the U.S. Congress approved $US45 billion in additional financial assistance to Ukraine.

Chinese President Xi Jinping's administration faced anti-government demonstrations across the country in November in response to its zero-tolerance policy regarding COVID-19. Local police forces moved quickly to diffuse the protests, which

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[3] According to the MSCI Emerging Markets Europe, MSCI Europe and MSCI Pacific indexes.
[4] According to the MSCI North America and MSCI USA indexes.
[5] According to data from FactSet and Lipper.
[6] According to market data from *The Wall Street Journal*.
[7] "U.K. Nurses, Emergency Responders and Rail Workers Walk Out." *New York Times*. 20 December 2022.
[8] "Jeremy Hunt unveils £55bn fiscal squeeze as UK economic outlook darkens." *Financial Times*. 17 November 2022.
[9] "UK's Next Budget Will Take Place on March 15, Jeremy Hunt Says." *Reuters*, 19 December 2022.

China's National Health Commission (NHC) blamed on local governments; a spokesperson for the NHC stated that some local authorities "take a one-size-fits-all approach, and take excessive policy steps that have neglected the demands of the public." [10] Xi's administration announced an initiative to accelerate vaccinations for elderly citizens in an effort to ease the COVID-19-induced restrictions. The government subsequently announced that it will end all quarantine requirements and permit international travelers to enter the country beginning in early January.

In Latin America, Luiz Inácio Lula da Silva (Lula) of the progressive Workers' Party won Brazil's presidential election in November by a narrow margin over the conservative incumbent, President Jair Bolsonaro. Lula, who previously served two terms as Brazil's president from 2003 to 2011, returned to office on January 1 amid political tensions and a foggy economic outlook due to concerns about high interest rates, fiscal uncertainty, and the broader global slowdown.[11]

Central Banks

- The BoC raised the policy interest rate by 0.50%, to 4.25%, on December 7 and continued reducing the amount of bonds it holds on its balance sheet—a policy known as quantitative tightening. This was the seventh consecutive rate hike, bringing the cumulative increase for 2022 to 4.00%. The BoC's Governing Council noted that core inflation levels appeared to be easing but were still too high. Further, the council reiterated its commitment to bring inflation down to 2%. The next scheduled BoC meeting is on January 25.

- The Fed raised the federal-funds rate by 0.50% in December following a 0.75% increase in November—bringing its benchmark rate to a range of 4.25% to 4.50%. This has resulted in higher borrowing costs for consumers and businesses. In a December statement, the U.S. central bank's policy makers said they expect further increases in an effort to reduce inflation to the Fed's 2% target over time and will adjust monetary policy, as necessary, in order to meet its objectives.

- The Bank of England (BOE) raised its benchmark interest rate by 0.75% to 3.0% in early November before increasing by 0.5% to 3.5% in December. After the December hike, the BOE noted that global supply- chain constraints have eased, but global inflation is still elevated. Although labour demand has begun to ease, the labour market remains tight. [12]

- The European Central Bank (ECB) boosted its benchmark interest rate to 2.0% after implementing increases of 0.75% and 0.5% in October and December, respectively. Following its most recent hike, the ECB commented, that interest rates will still need to rise significantly at a steady pace to reach its 2% medium-term target.[13] Additionally, the central bank's applicable rates for its third targeted longer-term refinancing operation (TLTRO III) aligned with its deposit-facility rate on November 23. The lending facility was originally established to foster credit availability but has essentially enabled bank subsidies as interest rates have risen, prompting the ECB's action.

- At its meeting in December, the Bank of Japan (BOJ) unexpectedly announced that it would allow the 10-year Japanese government bond yield to move 0.5% below or above the central bank's 0% target, doubling the previous 0.25% limit. After the announcement, BOJ Governor Haruhiko Kuroda said, "Today's step is aimed at improving market functions, thereby helping enhance the effect of our monetary easing. It's therefore not an interest rate hike. This change will enhance the sustainability of our monetary policy framework. It's absolutely not a review that will lead to an abandonment of [yield curve control] or an exit from easy [monetary] policy."[14]

Economic Data (unless otherwise noted, data sourced to Bloomberg)

- According to Statistics Canada, the rate of inflation moderated (as measured by the change in the Consumer Price Index (CPI)) to 6.8% for the year ending November, and increased by 0.1% for the month. Gasoline prices were up 13.7% on a yearly basis, driving a significant portion of the headline inflation number. When excluding food and energy costs, prices were up 5.4% year over year. Producer prices declined in November, but remained sharply higher than a year ago. The Industrial Product Price Index (IPPI) fell 0.4% in November, while the Raw Materials Price Index (RMPI) was down 0.8%. On a year-over-year basis the IPPI jumped 9.7% and the RMPI increased 8.0%. Energy prices were a mixed bag as natural gas prices rocketed higher by a monthly record of 30.3%; meanwhile prices for crude oil saw modest declines. The Labour Force Survey was largely positive—the unemployment rate dipped 0.1%, to 5.0%, as the economy added 104,000 jobs in December.

[10] "China blames local officials for outbreaks as Beijing sticks to zero-COVID plan," *Financial Times*. 29 November 2022.
[11] "Brazil faces economic headwinds as Lula prepares to take office." *Financial Times*. 27 December 2022.
[12] "Monetary Policy Summary, December 2022." Bank of England. 15 December 2022.
[13] "Monetary policy decisions." European Central Bank. 15 December 2022.
[14] "BOJ jolts markets in surprise change to yield curve policy." Reuters, 20 December 2022.

- The Commerce Department's Personal Consumption Expenditures (PCE) Index—the Federal Reserve's (Fed) preferred inflation measure as it excludes volatile food and energy prices—continued to slow in November, to 0.1% from 0.3% for the month and to 6.0% from 6.3% for the 12-month period. Overall inflation (as measured by the Department of Labor's consumer-price index) also improved in November; it eased to a lower-than-expected 0.1% after increasing by 0.4% for the second straight month in October, and it registered the slowest year-over-year increase since December 2021 with an annualized 7.1% rate versus 7.7% for the previous month. The U.S. employment situation remained robust. The Department of Labor reported that nonfarm payrolls gained 263,000 in November—beating the 200,000 estimate, but slowing from October's upwardly revised 284,000. The unemployment rate ticked up 0.2 percentage points to 3.7%, while the labour-force participation rate (the percentage of the population aged 16 or older and employed or actively seeking employment) dipped by 0.2% to 62.1%. Average hourly earnings increased by 0.6% in November and 5.1% over the 12-month period. The U.S. economy continued to improve in the third quarter, expanding at an annualized rate of 3.2% (up sharply from the Commerce Department's initial estimate of 2.6%)—after contracting at annualized rates of 1.6% in the first quarter and 0.6% in the second quarter. The Institute for Supply Management's Purchasing Managers' Index (PMI) of U.S. manufacturing activity was down 0.6 to 48.4 in December—its second straight monthly decline following 29 consecutive months of expansion. A PMI reading below 50 indicates contraction in the manufacturing sector in the U.S.[15]

- Consumer prices in the U.K. increased in November, but decelerated by 0.3% to 0.4% for the month and by 0.4% to 10.7% for the 12-month period.[16] According to the Office for National Statistics, U.K. GDP decreased by 0.3% in the third quarter of 2022 (revised slightly lower from the initial estimate of a 0.2% decline). Growth in education, professional, scientific and technical activities, and public administration and defense were offset by declines in wholesale and retail trade, other services activities, and arts, entertainment and recreation. U.K. manufacturing activity contracted for the fifth consecutive month in November.[17] The contraction resulted from reduced inflows of new business, supply-chain disruptions, and ongoing shortages of numerous components in international markets. Activity in the U.K. services sector increased in December, with the Flash UK Services PMI Business Activity Index rising 1.1% to 49.9%, after falling sharply in October and remaining steady in November.[18] Nonetheless, a reading below 50% indicates contraction in the service sector of the economy.

- Inflation in the eurozone slowed in the 12-month period ending November by 0.6% to 10.0%.[19] Energy and food prices saw the largest increases for the month. Eurozone manufacturing activity remained in contraction territory during the fourth quarter, although the S&P Global Eurozone Manufacturing PMI reached a three-month high of 47.8 in December.[20] Services activity in the eurozone declined for the fifth consecutive month in December after expanding for 17 straight months from March 2021 to July 2022.[21] However, the S&P Global Eurozone Services PMI improved in December by 0.6 points to 49.1—its highest reading in four months. Eurozone economic growth slowed in the third quarter to 0.4% from 0.8% over the three-month period and to 2.3% from 4.3% year over year.[22]

Market Impact (Referenced Index Returns are in CAD)

Despite a December dip, most equity markets notched remarkably strong gains for the quarter. Foreign developed markets were the top performers, led by Europe. Emerging markets also performed well as China's stock market rallied after the government announced a significant easing in the country's "Zero COVID" policy. The U.S. and Canada trailed other markets, but still posted noteworthy gains. Canadian stocks were led higher by information technology, but the gains were broad based with only healthcare and utilities declining during the quarter.

Although central bank policies continue to represent a headwind, most fixed-income sectors were positive for the quarter. Real-return bonds were a standout performer as inflation concerns remain. Corporate bonds notably outperformed government debt, while short-term bonds have began to benefit from higher rates. Riskier U.S. high-yield bonds also produced solid gains in the quarter.

[15] December 2022 Manufacturing ISM® Report On Business. 3 January 2023.
[16] According to the UK Office of National Statistics. December 2022.
[17] S&P Global/CIPS U.K. Manufacturing PMI. 1 December 2022.
[18] S&P Global/CIPS Flash U.K. Composite PMI. 16 December 2022.
[19] According to Eurostat. 16 December 2022.
[20] S&P Global Eurozone Manufacturing PMI. 16 December 2022.
[21] S&P Global Flash Eurozone Services PMI. 16 December 2022.
[22] According to Eurostat. 7 December 2022.

Index Data (Q4 2022)

- The S&P/TSX Composite Index gained 5.96%.
- The FTSE Canada Universe Bond Index returned 0.10%.
- The S&P 500 Index, which measures U.S. equities, gained 6.07%.
- The MSCI ACWI (Net) Index, used to gauge global equity performance, was up 8.24%.
- The ICE BofA U.S. High Yield Constrained Index, representing U.S. high-yield bond markets, returned 3.87% (currency hedged) and 2.53% (unhedged).
- The Chicago Board Options Exchange Volatility Index, a measure of implied volatility in the S&P 500 Index that is also known as the "fear index," fell from 31.62 to 21.67.
- WTI Cushing crude-oil prices, a key indicator of movements in the oil market, moved from US$79.49 to US$80.26 a barrel to end the quarter.
- The Canadian dollar strengthened to C$1.35 per U.S. dollar. The U.S. dollar was weaker versus the world's other major currencies as well. It ended December at US$1.07 versus the euro, US$1.20 against sterling and at 131.95 yen.

Glossary of financial terms

Stagnation is a prolonged period of little or no growth in an economy.

Duration is a measure of a security's price-sensitivity to changes in interest rates. Specifically, duration measures the potential change in value of a bond that would result from a 1% change in interest rates.

Gilts are sovereign debt securities issued by the U.K. government.

Mortgage-backed securities (MBS) are pools of mortgage loans packaged together and sold to the public. They are usually structured in tranches (a slice or portion of a structured security) that vary by risk and expected return.

Gross domestic product (GDP) is the total monetary or market value of all the goods and services produced in a country during a certain period.

The **federal funds rate** is the interest rate charged to lending institutions on unsecured overnight loans. It is set by the U.S. Federal Reserve's Federal Open Market Committee. The rate is increased when the Federal Reserve wants to discourage borrowing and slow the economy and decreased when the Federal Reserve wants to spur economic growth.

Yield curve represents differences in yields across a range of maturities of bonds of the same issuer or credit rating (which is used to assess the risk of default of companies or countries). A steeper yield curve represents a greater difference between the yields. A flatter curve indicates the short- and long-term yields are closer together.

Monetary policy refers to decisions by central banks to influence the amount of money and credit in the economy by managing the level of benchmark interest rates and the purchase or sale of securities. Central banks typically make policy decisions based on their mandates to target specific levels or ranges for inflation and employment.

Fiscal policy relates to government revenue, taxation or public debt.

Targeted longer-term refinancing operations (TLTRO) are Eurosystem operations that provide financing to credit institutions. By offering banks long-term funding at attractive conditions, they preserve favorable borrowing conditions for banks and stimulate bank lending to the real economy.

Yield curve control comprises the targeting of a longer-term interest rate by a central bank, which then buys or sells as many bonds as necessary to hit that rate target.

Quantitative easing refers to expansionary efforts by central banks to help increase the supply of money in the economy. These actions include the purchase of long-term government bonds and mortgage-backed securities (pools of mortgage loans packaged together and sold to the public).

Quantitative tightening refers to efforts by central banks to decrease the supply of money in the economy.

Index Definitions

The **MSCI Emerging Markets Index** is a free float-adjusted (i.e., including only shares that are available for public trading) market capitalization-weighted index that tracks the performance of emerging-market equities.

The **MSCI World Index** tracks the performance of the large- and mid-cap segments of equity markets across 23 developed-market countries. The index's 1,517 constituents comprise approximately 85% of the free float-adjusted (i.e., including only shares that are available for public trading) market capitalization in each country.

The **MSCI Emerging Markets Europe Index** is a free float-adjusted (i.e., including only shares that are available for public trading) market capitalization-weighted index that tracks the performance of large- and mid- cap representation across 14 developed-market countries in Europe.

The **MSCI Europe Index** tracks the performance of large- and mid-cap stocks across 15 developed-market countries in Europe.

The **MSCI Pacific Index** tracks the performance of large- and mid-cap stocks across five developed-market countries in the Pacific region.

The **MSCI North America Index** tracks the performance of the large- and mid-cap segments of the U.S. and Canada markets.

The **MSCI USA Index** tracks the performance of the large- and mid-cap segments of the U.S. market. With 624 constituents, the index covers approximately 85% of the free float-adjusted (i.e., including only shares that are available for public trading) market capitalization in the U.S.

The **Bloomberg Long U.S. Government/Credit Index** tracks the performance of all medium and larger public issues of U.S. Treasury, agency, investment-grade (rated BBB- or higher by S&P Global Ratings/Fitch Ratings or Baa3 or higher by Moody's Investors Service) corporate, and investment-grade international dollar-denominated bonds with a remaining maturity longer than 10 years.

The **Bloomberg Commodity Total Return Index** is composed of futures contracts and reflects the returns on a fully collateralized investment in the Index. This combines the returns of the Index with the returns on cash collateral invested in 13-week (3-month) U.S. Treasury bills.

The **Bloomberg Global Aggregate Bond Index** is a market capitalization-weighted index that tracks the performance of investment-grade (rated BBB- or higher by S&P Global Ratings/Fitch Ratings or Baa3 or higher by Moody's Investors Service) fixed-income securities denominated in 13 currencies. The index reflects reinvestment of all distributions and changes in market prices.

Consumer price indexes measure changes in the price level of a weighted-average market basket of consumer goods and services purchased by households. A consumer price index is a statistical estimate constructed using the prices of a sample of representative items whose prices are collected periodically.

The **Personal Consumption Expenditures (PCE) Price Index** measures the prices that consumers pay for goods and services to reveal underlying inflation trends. The Core PCE Price Index, the primary inflation monitor used by the Federal Reserve, excludes volatile food and energy prices.

A **purchasing managers' index (PMI)** tracks the prevailing direction of economic trends in the manufacturing and service sectors.

The **S&P 500 Index** is a market-weighted index that tracks the performance of the 500 largest publicly traded U.S. companies and is considered representative of the broad U.S. stock market.

The **Flash UK Services PMI Business Activity Index** measures the activity level of purchasing managers in the services sector. A reading above 50 indicates expansion in the sector; a reading below 50 indicates contraction.

The S**&P Global Eurozone Manufacturing PMI** measures the activity level of purchasing managers in the manufacturing sector of the eurozone. A reading above 50 indicates expansion in the sector; below 50 indicates contraction.

The **S&P Global Flash Eurozone Services PMI** measures the activity level of purchasing managers in the services sector of the eurozone. A reading above 50 indicates expansion in the sector; below 50 indicates contraction.

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