



Tale of two halves doesn't have a happy ending.

- Developed-market equities fell by less than emerging markets in the third quarter, although the relatively small decline (in U.S. dollar terms) posted by the U.S. masked steeper declines by Europe and the U.K.
- Government-bond rates climbed during the quarter. Although the Canadian bond market was modestly positive, globally, fixed-income performance produced a range of losses as yields increased (yields and prices have an inverse relationship).
- A global recession is forming on the horizon, with Europe and the U.K. more vulnerable to a downturn than the U.S. in the months immediately ahead. Short-term gyrations notwithstanding, the primary trend in risk assets still appears negative.

SEI's Domestic View

It's hard having the United States as your neighbour and largest trading partner. When it gets a cold, you might just get pneumonia. The biggest malady in America at the moment is inflation, and Canada has contracted the illness in a big way. Core consumer prices in both countries have soared together.

The U.S. has recorded a year-over-year jump of 6.3% through August, while Canada's increase amounts to 5.7%. Both countries have not only accelerated from their pandemic lows, but both are enduring price gains that are more than triple the averages (1.8% per annum for Canada, 2.0% for the United States) between 2001 and 2020. To be sure, a fair measure of Canada's inflation woes are home grown. The average hourly wage rate and total compensation per hour have been on the rise, with the former exceeding a 5% growth rate on a year-over-year basis. Outside of the distortion caused by the pandemic in the spring and summer of 2020, this is the swiftest rise in wages in at least two decades. As in the U.S, labour productivity (output per hour) has been sagging, aggravating the jump in unit labour costs. At a year-over-year rate of 6.6% through the second quarter, the climb in unit labour costs isn't as bad as it's been in the U.S., but it is still bad. As the economy slows further, we should anticipate more weakness in the productivity numbers and a cyclical rise in unit labour costs.

Again, like the U.S., the labour market is as tight as a drum. There are roughly as many job vacancies in Canada as there are the number of officially unemployed persons. Although the dataset is limited, lack of workers appears far more problematic than it was at any time between 2015 and 2019, just prior to the onset of COVID-19. No wonder the government is trying to encourage more immigration. As long as this situation lasts, wages will probably press higher until an economic downturn materializes.

Canadian import prices are advancing at more than twice the pace of overall inflation, although the rate of change appears to have eased between May and July. Whether that improvement continues essentially depends upon how fast the inflation of goods and services imported from the U.S. declines. Unfortunately, the U.S. dollar has been rising rapidly of late against the Canadian dollar. Over the 12 months ended September, the greenback has rallied 10% against the Canadian currency. During the Global Financial Crisis, the U.S. dollar soared nearly 30% in a year's time; import prices rose almost 25% over the same period, yet Canada's consumer price index hardly budged because the associated recession was deep and deflationary. By contrast, Canadian gross domestic product (GDP) was up 4.6% in inflation-adjusted terms from the year-ago period as of the second quarter. Given the far tighter labour-market conditions that exist today, SEI expects a fuller pass-through of high imported inflation into consumer prices.

If we invert the currency relationship, we can see just how many U.S. dollars the loonie buys. Currently, it's not very much (\$0.73 versus \$0.79 at the end of last year). The currency is cheaper for a good reason: the interest-rate differential between Canadian and U.S. two-year Treasury notes favours the U.S. by 41 basis points (a basis point equals 0.01%), the largest spread in three years and far below the 60 basis-point differential in favour of Canadian yields reached in November 2021. So far, the Bank of Canada has merely kept pace with the Federal Reserve's policy-rate increases.

We note elsewhere that overly bullish positioning in the dollar by speculative (noncommercial) traders suggests that the dollar is vulnerable to at least a temporary decline versus the major currencies. Positioning against the loonie, however, does not seem quite as extreme as it does against the pound, euro or yen. In fact, noncommercial traders currently appear to have a net long position in the Canadian dollar. Canada's role as a major oil and commodities producer, and its strong economic ties to the U.S., may explain why speculators are not enthusiastically shorting the currency.

In all, SEI is not convinced that the Bank of Canada can deviate from the monetary policy path the Fed is taking. To do so risks weakening the Canadian currency and adding to inflationary pressures. This is a particular problem for the housing market. Residential fixed investment as a percentage of GDP is considerably higher in Canada than it is in the United States. Housing activity soared in 2020, with the volume of residential fixed capital formation reaching 8.7% of GDP in the first quarter of 2021. The share of economic activity accounted for by the housing sector has since fallen back but it is still above the peaks of past cycles. During the Global Financial Crisis, the volume of gross fixed capital formation fell in Canada but quickly bounced back. By contrast, residential investment slid precipitously as a share of overall business activity in the United States between 2005 and 2009; it has recovered only tepidly since.

Mortgage rates in Canada have taken a leap this year. They may move higher still in the months ahead as the Bank of Canada strives to bring inflation down and maintain a stable currency against the U.S. dollar. Home prices, which were up 14% year-over-year as of July, will almost certainly moderate further, perhaps sinking into negative territory before all is said and done. Although the economy is in a good position to weather the harder times that might lie ahead, the housing market could prove to be a major drag on overall household consumption and wealth in 2023.

SEI's Global View

The war in Ukraine and Russia's energy blackmail against Europe, high global inflation and central banks' aggressive response to it, and a severe COVID-related slowdown in China are not exactly new; they have simply increased in intensity. Most important, they have forced monetary policy makers to finally admit that they have a major inflation problem on their hands, one that is neither transitory nor likely to be resolved without pain.

In our opinion, investors should be prepared to see a federal funds rate that could exceed 5%. Other central banks are following the Fed's lead, talking tough and following up with outsized policy-rate increases. In the U.K., the bond market has gone haywire and the country's currency has come under intense downward pressure. To use a newly popular phrase among economists and financial-market participants, things are starting to break.

Europe will continue to be the area most under the gun owing to Russia's suspension of natural gas exports. Although storage facilities within the European Union are now 80%-to-90% full, the continent still needs to have a steady flow of gas to get through the high-usage winter months. Governments may be forced to impose disruptive energy-saving restrictions on businesses and citizens. Heavy users of electricity, from aluminum smelters to glassmakers, have already been shutting down.

The U.K.'s new Prime Minister, Liz Truss, has rolled out a plan to cap the cost of residential electricity at £2,500 per year over the next 18 months. Along with other measures previously announced, funding totals £180 billion, or 6.5% of GDP. Other countries that have allocated funds for energy-related relief in excess of 3% of GDP include Croatia, Greece, Italy and Latvia.

It would not be surprising to see more energy-related relief come down the pike. Deficits could balloon in the same way they did during the early months of the COVID crisis as policy makers do what they must to protect their populations.

Central bankers are forced by their mandates to lean hard against the rising trend in prices, although they are essentially working at cross purposes against their own governments' stimulus efforts. Unfortunately, they're running just to keep up with the Fed. Interest-rate differentials versus the U.S. are still wide, with only Canada on par with the U.S.

The large differential in favour of the U.S., along with the perception that it's better positioned economically, are two major reasons behind the U.S. dollar's extraordinary appreciation this year. Although a declining currency may give a competitive boost to domestic firms that export goods and services to the U.S. market, it exacerbates the inflationary pressures stemming from imports that are priced in dollars, most importantly, oil and liquefied natural gas.

Several large U.S. multinational companies have warned that dollar strength is beginning to exert a negative impact on revenues, suggesting that the currency's value has risen well beyond its purchasing power parity (PPP) level. But discrepancies can last for a long time between PPP and market-based exchange rates.

That noted, it would not be surprising to see at least a temporary reversal in the dollar's trend. Given a catalyst—coordinated government action to weaken the dollar or a surprisingly weak U.S. unemployment report, for example—traders might cover their long positions in a major way, causing the dollar to fall abruptly.

The rise in U.S. hourly compensation has been extensive, with annualized gains exceeding 6% even when measured over a three-year span. This is the sharpest increase in almost four decades. Similar to the 1970s experience, compensation gains have been accelerating even as productivity growth has slowed. This divergence is concerning. The difference between the change in compensation and the change in productivity equals the change in unit labour costs. Although unit labour costs are more volatile than inflation, there is still a strong positive correlation between the two.

Unfortunately, history shows that it usually takes an outright recession to beat down inflation, especially when it gets this intense. Fed Chairman Powell's hope for a soft landing appears to be an exercise in wishful thinking. Unit labour costs have run far ahead of inflation, and we see no reason to expect a major reversal in the near term, even if the economy stumbles into a bona fide recession.

U.S. companies have been able to push higher employment and supply costs onto the consumer. There hasn't been much of a decline in profit margins yet—they've remained above all the previous cyclical peaks going back to 1947. But we suspect that margins are on the cusp of a substantial erosion. It's typical for profit margins to decline well before an economic recession materializes.

If the economy does fall into recession and profits decline, analysts will probably be forced to mark down earnings estimates aggressively to catch up with reality. Investors aren't waiting for those earnings revisions. They have been pushing equities lower in reaction to the Fed's aggressive shift and in anticipation of a recession, both in the U.S. and globally.

A funds rate in the 4.4%-to-4.9% range next year, as projected by Fed policymakers, might still be lower than the actual out-turn. But unless the Fed is truly ready to engineer a severe recession, we think PCE price inflation could settle in a 3%-to-4% range instead of the sub-2% pace recorded over much of the past 25 years.

Several asset classes look sharply oversold again, including equities, bonds, currencies and commodities. The dollar's sharp climb has reversed most of this year's appreciation in the commodities complex. If the dollar breaks to the downside, commodities should break to the upside.

We are still bullish on commodities despite the demand destruction that is occurring in Europe and other parts of the globe. Years of underinvestment in fossil fuels and metals mines will likely lead to periodic shortages over the next few years.

In recent weeks, the Chinese central government has allowed Hong Kong and Macau to open up. This might be a preview of what will happen on the Mainland once the Communist Party National Congress installs President Xi Jinping for an unprecedented third term as General Secretary of the party in October.

President Xi's position may seem unassailable, but we bet he's looking for a way out of his zero-COVID policy. The loosening of restrictions and return to stronger economic growth is the only logical way out.

Other emerging economies would be big beneficiaries of a revival in Chinese economic activity. Yet dollar strength is a central factor for investors in emerging market equities. The relative performance of the MSCI Emerging Market Total Return Index versus the MSCI World Index peaked in 2010, more-or-less concurrent with the trough in the trade-weighted value of the dollar. EM equity has now given up almost all of its relative gains versus advanced-country stock markets achieved between 2000 and 2010 as the dollar has grown stronger.

The rate-hiking cycle actually began far sooner in less-developed economies, during the latter months of 2020. Interest-rate hikes in the emerging world have accelerated significantly this year, in both frequency and magnitude. Three-month government bonds are in double digits in Brazil (14.3%), Colombia (10.4%), Hungary (10.0%) and Turkey (17.8%). Among these four, only Brazil's rate is comfortably above the inflation rate. Turkey, by contrast, is facing an inflation rate of close to 80%. Little wonder that the Brazilian real has maintained its value against the dollar this year, while the Turkish lira has declined by almost 30%.

The bottom line is that a global recession is forming on the horizon, with Europe and the U.K. more vulnerable to a downturn than the U.S. in the months immediately ahead. Short-term gyrations notwithstanding, the primary trend in risk assets still appears negative. Inflation in the U.S. has probably peaked, but we do not expect it to fall as rapidly or as far as the Fed projects. The central bank may still be underestimating the extent to which it needs to tighten policy in order to slow the economy and produce slack in the labour markets.

Economic Backdrop

A line chart of global equity market performance during the third quarter looks remarkably like a mirror image: climbing higher toward mid-quarter, then tumbling downward thereafter.

The relationship between signs of softening economic activity in late spring and the presumption that it would enable central banks to increase rates by less than feared spurred a rally across equity and fixed-income markets from June to August. Federal Reserve (Fed) Chair Jerome Powell shattered this complacency by explaining that lower growth and softer labour markets will likely be the unfortunate costs of hiking rates to fight inflation, and that expectations for a premature pivot to looser policy will probably be disappointed. His remarks sent markets reeling through the end of the quarter.

Developed-market equities fell by less than emerging markets during the third quarter, although the relatively small decline posted by the U.S. masked steeper declines by Europe and the U.K. Latin American shares had the only positive regional performance for the period, while China and Hong Kong had the steepest declines.

Government-bond rates climbed in the U.S., U.K., and eurozone for the full third quarter—declining during July in the U.K. and eurozone while the U.S. yield curve flattened as short-term rates rose and long-term rates fell; rates then climbed through August and September across all three jurisdictions. The U.S. and U.K. yield curves grew more inverted (that is, when shorter-term rates are higher than longer-term rates) as the quarter progressed.

Fixed-income performance produced a range of losses during the quarter as yields increased around the globe (yields and prices have an inverse relationship). Global government bonds had the deepest losses, while U.S. high-yield bonds had a comparably modest decline.

Commodity markets were mixed during the third quarter. The Bloomberg Commodity Index fell by 4.75% as West-Texas Intermediate and Brent crude-oil prices plummeted 24.84% and 21.91%, respectively. However,

natural gas prices jumped 25.60% for the full quarter (including a decline after skyrocketing by 79.59% thru mid-to-late August) and wheat prices increased by 4.24%.

Liz Truss was chosen as leader of the Conservative Party and became U.K. prime minister in early September, promising tax cuts to stimulate economic growth and relief for mounting electricity bills over the next two years. The tax program was detailed in a “mini-budget” by Kwasi Kwarteng, the new chancellor of the exchequer, on September 23. Totaling roughly £45 billion, the tax cuts were perceived as irresponsible; long-term gilt rates spiked to their highest levels in 20 years and sterling fell to its lowest-ever exchange rate versus the U.S. dollar. The disruption strained pension funds, which depend heavily on the long-term gilt market, and forced the Bank of England to offer open-ended gilt purchases to restore order. The new government partially reversed course in early October, announcing that it would scrap its tax-cut plans for top earners.

The German government announced in late September it would nationalize Uniper, a major European electricity producer with heavy dependence on natural gas, after seeking to rescue the company with a recapitalization in July. At the end of the quarter, Germany announced a €200 billion package intended to cap gas and electricity prices for businesses and consumers amid the energy crisis.

Russia’s pipeline-supplied natural gas flows to Europe via Nord Stream 1 completely ceased by late August. The pipeline and its never-operational counterpart Nord Stream 2 were sabotaged in late September, rendering their future use questionable.

Ukraine mounted a counteroffensive against Russia’s invasion as summer progressed, targeting Kherson in the south and Kharkiv in the east. Its eastern initiative produced a string of successes, enabling defense forces to push south into the northern Donbas region. Russia announced plans to mobilize 300,000 citizens in late September, prompting at least as many draft-eligible Russian men to flee the country. Vladimir Putin also threatened to use nuclear weapons against any outside power that sought to intervene in its invasion of Ukraine. At the end of the quarter, Putin presided over a ceremony to annex four south-east regions of Ukraine based on sham referendums despite limited control over the regions.

Hong Kong concluded its three-day hotel quarantine requirement for foreigners in late September, allowing visitors to travel freely aside from a three-day ban from restaurants, bars, and entertainment venues. Japan also announced looser travel restrictions will begin in early October, with plans to let individual tourists return (as opposed to tour groups), the removal of a cap on daily visitors, and the resumption of visa-free short-term travel. Taiwan entered the fray as well, with plans to end three-day quarantine in October and a return to visa-free entry.

Central Banks

- The Bank of Canada (BoC) raised the policy interest rate by 0.75%, to 3.25%, on September 7. This was the fifth consecutive rate hike, bringing the cumulative increase for 2022 to 3.0%. The BoC’s Governing Council noted that while headline inflation eased some, core measures of inflation (those that exclude more volatile items, such as fuel) actually increased, indicating that upward price pressures remained broad based. Given this outlook, the BoC has signaled more rate hikes to come, along with continued quantitative tightening (that is, the reduction of its balance sheet). The next scheduled BoC meeting is on October 26.
- The Federal Reserve’s (Fed) Federal Open Market Committee (FOMC) increased the federal-funds rate by 0.75% toward the end of July, and again in late September, raising the benchmark rate’s target range to 3.0%-3.25%. The central bank also began to accelerate balance sheet reduction in September, doubling the amount of monthly Treasury and mortgage holdings that mature without being replaced to maximum respective paces of \$60 billion and \$35 billion.
- At its early August meeting, the Bank of England’s (BoE) Monetary Policy Committee hiked its benchmark rate by 0.50%, the largest individual increase in 27 years, and then issued another increase of the same size at its late September meeting, bringing the bank rate to 2.25%. The BoE was compelled to intervene with temporary gilt purchases toward the end of the quarter over concerns about financial stability as long-term rates skyrocketed in response to the new government’s mini-budget.

- The European Central Bank (ECB) increased its three benchmark rates by 0.50% at its July meeting for the first time in 11 years, surprising investors who were expecting hikes of 0.25%. At the same meeting, the ECB approved the establishment of a Transmission Protection Instrument (TPI) to ensure the smooth transmission of monetary policy normalization across eurozone countries. At its early September meeting, the ECB raised rates by 0.75%. ECB President Christine Lagarde emphasized that rates were well below the levels likely needed to get inflation under control and that a few more "large steps" lie ahead.
- The Bank of Japan (BOJ) earned the distinction of being the last major central bank with a negative interest-rate target during the third quarter as the ECB began to lift rates. Its short-term interest rate remained at -0.1%, and the 10-year Japanese government-bond (JGB) yield target held near 0% at both its July and September meetings. The central bank continued to offer purchases of 10-year JGBs at 0.25% in order to keep its yield within the BOJ's acceptable range. It also announced its first intervention in currency markets since 1998 to limit the yen's slide.

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 7.0% for the year ending August, and fell by 0.3% for the month. This was the largest monthly decline in consumer prices since early in the COVID-19 pandemic. Despite consecutive monthly declines exceeding 9%, gasoline prices remained robust and were up 22.1% versus a year ago. Groceries rose 10.8%—the largest 12-month increase since 1981. Producer prices also declined in August, but remained sharply higher than a year ago. The Industrial Product Price Index (IPPI) fell 1.2% in August, while the Raw Materials Price Index (RMPI) was down 4.2%. On a year-over-year basis the IPPI increased 10.6% and the RMPI jumped 17.6%. Energy prices were lower for the one-month period, but continued to drive elevated inflation over the past 12 months. The Labour Force Survey revealed a mixed bag—the unemployment rate dipped 0.2% to 5.2%, but this was primarily due to fewer people searching for work as the economy added a meager 21,000 jobs in September.
- U.S. manufacturing growth ended with a mild acceleration in September, remaining otherwise modest throughout the third quarter after slowing sharply in June. A contraction in U.S. services activity that began in July started to ease back toward breakeven levels at the end of the third quarter. The U.S. labour market remained quite healthy during the third quarter. New claims for unemployment benefits declined throughout the quarter, falling back below 200,000 per week in late September for the first time since the spring. The U.S. Personal Consumption Expenditures (PCE) Price Index (the Federal Reserve's preferred inflation gauge) slid to 6.3% in the year through July and 6.2% in August (from 6.8% in June). The core PCE Index, however, climbed to 4.9% in August, its highest level since April, on a monthly increase of 0.6%.
- U.K. manufacturing activity contracted in August after a few months of softening growth, but the slowdown eased in September. U.K. services sector activity tipped into contraction during September after growing at a modest-to-healthy pace through the summer. Broad U.K. consumer price inflation peaked at 10.1% in the year through July before edging down to 9.9% during August. Core consumer prices, however, continued to accelerate through August, peaking at 6.3% year over year. Improvement in the U.K. claimant count (which calculates the number of people claiming Jobseeker's Allowance) levelled off during the third quarter—declining by roughly 14,500 from June to July, and then increasing by 6,300 in August—with total claimants holding at 3.9% of the population during the time frame.
- Manufacturing conditions steadily deteriorated in the eurozone during the third quarter. Growth ground to a standstill in July and began to contract modestly through August, before the slowdown accelerated in September. Activity in the eurozone services sector contracted during September. Growth in services slowed abruptly beginning in June from a relatively robust pace in May, then continued to cool throughout the third quarter. The eurozone consumer price index jumped to 10.0% in September, from 9.1% in August, hitting an all-time high and essentially doubling the inflation rate from the beginning of the calendar year, as consumer prices increased in September at a 1.2% monthly pace. Eurozone unemployment held at a 6.6% rate in August for the third straight month, remaining at a record low (since Eurostat began tracking the dataset in 1998).

Market Impact (Referenced Index Returns are in CAD)

Most equity markets staged a relief rally to start the quarter, but this quickly gave way to more selling pressures as stocks slumped to end the quarter. Despite poor overall domestic stock performance, a number of groups posted gains including industrials, materials and the consumer sectors. Conversely, communication services, health care and energy were the most notable laggards. U.S. equities posted modest gains; however, we'd note this was due to currency translation gains on the back of an exceptionally strong U.S. dollar. Other foreign developed markets fared poorly, especially the U.K. and Europe. Emerging markets also slid as China's struggles wiped out impressive gains from Brazil and India.

Fixed-income markets got a bit of a reprieve as most sectors had modest gains for the quarter. Real-return bonds remained volatile but were the top domestic performer. Government debt outperformed corporate bonds, while residential mortgages were also positive. Short-term bonds fell as BoC rate hikes continue to push the front-end of the yield curve higher. Riskier U.S. high-yield bonds were down in currency-hedged terms, but benefited from U.S. dollar strength on an unhedged basis.

Index Data (Q3 2022)

- The S&P/TSX Composite Index fell 1.41%.
- The FTSE Canada Universe Bond Index returned 0.52%.
- The S&P 500 Index, which measures U.S. equities, gained 1.32%.
- The MSCI ACWI (Net) Index, used to gauge global equity performance, lost 0.74%.
- The ICE BofA U.S. High Yield Constrained Index, representing U.S. high-yield bond markets, returned -0.93% (currency hedged) and 5.81% (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," climbed from 28.71 to 31.62.
- WTI Cushing crude-oil prices, a key indicator of movements in the oil market, moved from US\$105.76 to US\$79.49 a barrel to end the quarter.
- The Canadian dollar weakened to C\$1.37 per U.S. dollar. The U.S. dollar was considerably stronger versus the world's other major currencies as well. It ended June at US\$0.98 versus the euro, US\$1.12 against sterling and at 144.75 yen.

Glossary of Financial Terms

- **Anti-fragmentation tool:** An anti-fragmentation tool refers to the ECB's plans to mitigate widening spreads between German government bond yields and those of economically weaker EU members.
- **Asset Purchase Programme (APP):** The ECB's APP is part of a package of non-standard monetary policy measures that also includes targeted longer-term refinancing operations, and which was initiated in mid-2014 to support the monetary policy transmission mechanism and provide the amount of policy accommodation needed to ensure price stability.
- **Bull market:** A bull market refers to a market environment in which prices are generally rising (or are expected to rise) and investor confidence is high.
- **Commercial paper:** Commercial paper is a type of short-term loan that is not backed by collateral and does not tend to pay interest.
- **European Commission:** The European Commission is the executive branch of the European Union. It operates as a cabinet government, with 27 members of the Commission headed by a President.
- **Fiscal policy:** Fiscal policy relates to decisions about government revenues and outlays, like taxation and economic stimulus.
- **Gilt:** Gilts are sovereign debt securities issued by the U.K. government.
- **Group of 7 (G7):** The G7 is an inter-governmental forum for the leaders of major advanced democratic nations that includes Canada, France, Germany, Italy, Japan, the U.K. and the U.S.
- **Hawk:** Hawk refers to a central-bank policy advisor who has a negative view of inflation and its economic impact, and thus tends to favor higher interest rates.
- **Inflation:** Inflation refers to rising prices.
- **Monetary policy:** Monetary policy relates 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.
- **Mortgage-Backed Securities:** Mortgage-backed securities (MBS) are pools of mortgage loans packaged together and sold to the public. They are usually structured in tranches that vary by risk and expected return.
- **NATO:** The North Atlantic Treaty Organization (NATO) is an intergovernmental military alliance among 28 European countries and 2 North American countries.
- **Pandemic Emergency Purchase Programme (PEPP):** PEPP is a temporary asset-purchase program of private and public sector securities established by the European Central Bank to counter the risks to monetary-policy transmission and the outlook for the euro area posed by the COVID-19 outbreak.
- **Price-to-earnings (PE) ratio:** The PE ratio is equal to the market capitalization of a share or index divided by trailing (over the prior 12 months) or forward (forecasted over the next 12 months) earnings. The higher the PE ratio, the more the market is willing to pay for each dollar of annual earnings.
- **Purchasing power parity (PPP):** Purchasing power parity is the exchange rate at which the currency of one country would have to be converted into that of another country to buy the same amount of goods and services in each country.
- **Quantitative easing:** Quantitative easing refers to expansionary efforts by central banks to help increase the supply of money in the economy.
- **Recession:** Recession refers to a period of economic decline and is generally defined by a drop in GDP over two successive quarters.
- **Summary of Economic Projections:** The Fed's Summary of Economic Projections (SEP) is based on economic projections collected from each member of the Fed Board of Governors and each Fed Bank president on a quarterly basis.
- **Transmission Protection Instrument (TPI):** The European Central Bank established the TPI to ensure the smooth transmission of monetary policy normalization across eurozone countries. According to the ECB, the TPI "can be activated to counter unwarranted, disorderly market dynamics" by making "secondary market purchases of securities issued in jurisdictions experiencing a deterioration in financing conditions."
- **Yield:** Yield is a general term for the expected return, in percentage or basis points (one basis point is 0.01%), of a fixed-income investment.
- **Yield curve:** The yield curve represents differences in yields across a range of maturities of bonds of the same issuer or credit rating (likelihood of default). A steeper yield curve represents a greater difference between the yields. A flatter curve indicates the yields are closer together.

Index Definitions

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 Bloomberg Commodity 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 Index is an unmanaged market-capitalization-weighted benchmark that tracks the performance of investment-grade fixed-income securities denominated in 13 currencies. The Index reflects reinvestment of all distributions and changes in market prices.

The MSCI ACWI Index is a market-capitalization-weighted index composed of over 2,000 companies, and is representative of the market structure of 46 developed- and emerging-market countries in North and South America, Europe, Africa and the Pacific Rim. The Index is calculated with net dividends reinvested in U.S. dollars.

The MSCI Emerging Markets Index is a free float-adjusted market-capitalization-weighted index designed to measure the performance of global emerging-market equities. Total return indexes reflect the price performance of index constituents and the income from constituent dividend payments.

The MSCI World Index is a free float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of developed markets.

The U.S. Personal Consumption Expenditures (PCE) Price Index is the primary inflation index used by the Federal Reserve when making monetary-policy decisions

The S&P 500 Index is a market-capitalization-weighted index that consists of 500 publicly-traded large U.S. companies that are considered representative of the broad U.S. stock market.

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There are risks involved with investing, including loss of principal. Diversification may not protect against market risk. There may be other holdings which are not discussed that may have additional specific risks. In addition to the normal risks associated with investing, international investments may involve risk of capital loss from unfavourable fluctuation in currency values, from differences in generally accepted accounting principles or from economic or political instability in other nations. Emerging markets involve heightened risks related to the same factors, in addition to those associated with their relatively small size and lesser liquidity. Bonds and bond funds will decrease in value as interest rates rise.

Index returns are for illustrative purposes only, and do not represent actual performance of an SEI Fund. Index returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.

Commissions, trailing commissions, management fees and expenses all may be associated with mutual fund investments. Please read the prospectus before investing. Mutual funds are not guaranteed, their values change frequently and past performance may not be repeated.