Economic outlook.



Third quarter 2022

Hard times

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- Central banks in advanced and emerging economies alike are adopting aggressive policies in order to combat high inflation.
- While the effort to tame inflation may prove successful, a global recession will likely result—with Europe and the U.K. more vulnerable than the US to a downturn.
- Now is the time for investors to stick to an investment discipline and maintain focus on an appropriately long time horizon.

Good news is tough to find these days, while bad news has plenty of company. The litany of ills threatening economic growth and battering financial markets include Russia's war in Ukraine; Russia's energy blackmail against Europe; high global inflation; central banks' aggressive response to rising prices; and China's severe COVID-19related economic slowdown that continues to wreak havoc on the global supply chain. Even Mother Nature has added to the challenges. Drought conditions in large swathes of the US, Europe, China, and the Horn of Africa have placed 22 million people at risk of starvation according to the UN's World Food Programme. At the opposite end of the spectrum, a devastating hurricane season has brought such severe flooding and wind damage to parts of the Caribbean and the US that full recovery will take years.

None of these concerns is exactly new; they have simply increased in intensity. Most important (from an economic perspective) is that monetary-policy makers now must finally acknowledge the major inflation problem on their hands, one that is neither transitory nor resolved without pain. Federal Reserve (Fed) Chair Jerome Powell's speech at Jackson Hole (with its many references to pain) and the Federal Open Market Committee's (FOMC) new economic and rate projections leave no doubt that the US central bank is intent on pushing interest rates to whatever level is needed to bring inflation down. A federal-funds rate that exceeds 5% would not surprise us. Other central banks are following the Fed's lead, talking tough and implementing outsized interest-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.

Reminiscent of the late 1960s and early 1970s, today's labour, energy, agricultural, supply-chain, health, and climate crises present policymakers with an acute dilemma. Supply constraints have been so severe that inflation is outpacing incomes to an extent seldom seen even during recessions. This is especially so in the countries of continental Europe, where wages have been slow to adjust upward even as inflation itself has soared. We show this in Exhibit 1 on the following page.

Among the G-7 countries (the world's largest developed economies), Italy and Germany recorded the steepest declines in inflation-adjusted wages, 7.2% and 5.5%, respectively, over the 12 months ended August. The US and the U.K., by contrast, have both recorded a sharp acceleration in wage growth, mitigating the overall drop in real incomes. The latter two countries, however, are in danger of experiencing a wage-price spiral. With the possible exception of Japan, we expect to see a much sharper rise in nominal wage growth among developed countries in the months ahead as workers clamor for relief.

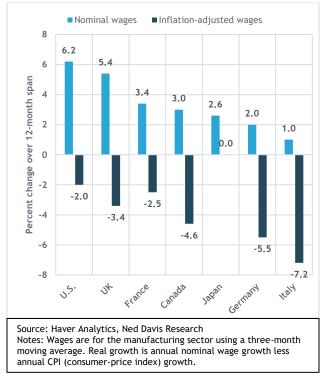


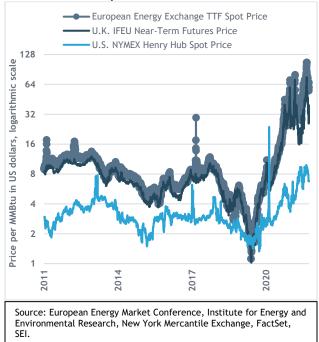
Exhibit 1: I need a raise

Europe will continue to be the area most under pressure due to Russia's suspension of natural gas exports through the Nord Stream 1 pipeline and the recent act of sabotage that has damaged both the Nord Stream 1 and Nord Stream 2 pipelines. Although storage facilities within the European Union (EU) are currently 80% to 90% full, the continent needs to have a steady flow of gas to get through the high-usage winter months. The absence of Russian gas may force governments to impose disruptive restrictions on business users and exhort their populations to comply with energy-saving measures. Heavy users of electricity, from aluminum smelters to glassmakers, have already been shutting down. This will likely badly affect Germany and its supplier-countries in central Europe. Even if Europe manages to keep homes heated this winter, reduced flows of gas will almost certainly make it more difficult to prepare for the 2023-to-2024 winter.

The latest stoppage spurred another intense bout of volatility in European natural gas prices, as seen in Exhibit 2. Converting to million British thermal units (MMBtu), the current EU natural-gas price in US dollar terms equals a stunning \$60 MMBtu versus \$6.67 for the US wholesale price of Henry Hub natural gas and \$39 for the near-term futures contract of the U.K. equivalent as of September 30. European natural gas briefly soared to more than \$100 per MMBtu in late August.

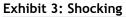
Although there was a substantial easing toward the end of the third quarter, the price of this critical energy feedstock remains extraordinarily high. As recently as May 2020, European natural gas hit a pandemic-influenced low of just \$1.12 per MMBtu.

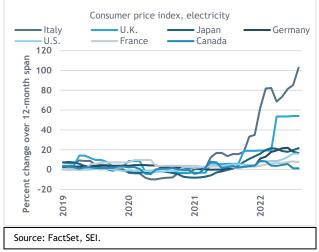
Exhibit 2: Gas explodes



Electricity prices at the consumer level have not risen nearly as furiously as natural gas prices, increasing 40% across the euro area over the past 12 months ended June. In part, the slower rise merely reflects the fact that electricity producers use a variety of energy sources, including petroleum, natural gas, coal, nuclear energy, and renewables. In addition, consumers' electricity bills are adjusted only periodically. Governments also are seeking ways to ease the pain through price caps, consumer subsidies and rebates, and reductions in the electricity tax.

Exhibit 3 on the following page compares the annual rise in electricity prices across the G-7. Italy and the U.K. have endured the sharpest gains in consumer electricity costs over the past year.



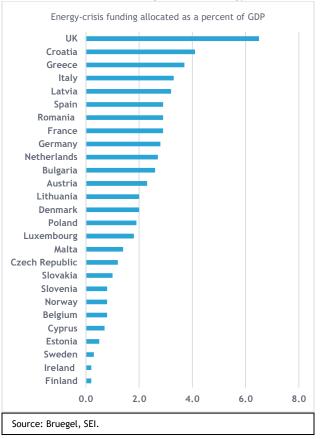


Canada and France, by contrast, have seen relatively mild increases. Canada's position as a fossil-fuel-rich country has shielded it from the electricity price shock, while France gets the bulk of its electricity from nuclear plants and tends to be a net electricity exporter (although drought conditions severely limited nuclear-plant production during the summer of 2022). Canada and France appear best positioned, along with the US, to weather the energy storm as the Northern hemisphere moves into winter.

Exhibit 4 highlights the amount of funds that European countries already allocated to shielding households from the energy crisis. In the U.K., Prime Minister Liz Truss rolled out a plan to cap the cost of residential electricity at £2,500 per year over the next 18 months. Analysts at Brussels-based think tank Bruegel estimate that the package could cost £150 billion over the next 18 to 24 months. Along with measures previously announced, allocated funding thus far totals £180 billion—or 6.5% of gross domestic product (GDP). Other countries that have allocated funds for energyrelated relief in excess of 3% of GDP include Croatia, Greece, Italy, and Latvia. It would not be surprising to see more energy-related fiscal relief.

As far as the U.K. is concerned, fiscal support does not end there. In late September, the new government unveiled a £45 billion "mini-budget" that included the biggest tax cut in 50 years. Although amounting to just 1.6% of GDP, it has spawned tremendous price volatility in gilts and sterling because the cost of the package, along with the far-more expensive energy-relief measures, would be covered almost completely through debt issuance. Countries in the EU, by contrast, are instituting a windfall-profits tax to defray at least partially the cost of energy-support packages. Of course, such a windfall tax on producers could discourage future production while reducing the price of electricity and thereby encouraging higher usage. Whatever the outcome, the fiscal position of all European countries will likely see severe deterioration, reversing the improvement made in the past year.

Exhibit 4: Governments provide energy relief



A reduction in pandemic-related emergency spending programs and the surge in tax revenues associated with the post-COVID economic rebound sharply reduced the size of the economies of European countries over the past year, as shown in Exhibit 5 on the following page. Deficits could balloon much in the same way as they did during the early months of the COVID-19 crisis, depending on the actual emergency packages enacted, the price trajectory of natural gas and other energy inputs, and the extent of economic deterioration.

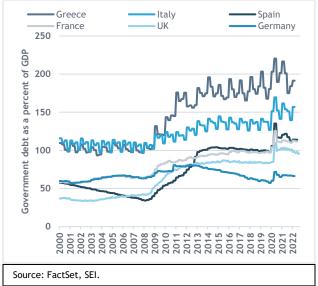


Exhibit 5: The debt balloon is about to re-inflate

Between the second quarter of 2019 and the second quarter of 2020, government debt as a percentage of GDP rose an average of 28 percentage points across the six countries highlighted in the chart above. Even after the economic recovery, debt as a percentage of GDP is still almost 16 percentage points above the level that prevailed at the end of 2019. Energy-crisis expenditures; increased defense spending and financial support programs for Ukraine and its refugees; the typical anti-cyclical spending that kicks in as business activity slows; and sharply rising interest expense all suggest a dark outlook for Europe's aggregate fiscal position.

When monetary and fiscal policy clash

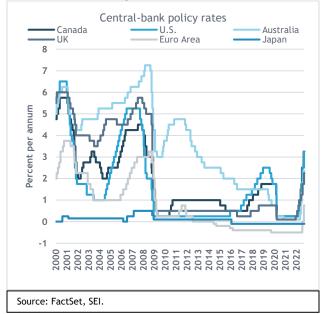
As with the pandemic emergency, the energy crisis will force policy makers to do what they must to protect their populations. Unfortunately, it comes at a time when inflation is already running rampant. Central bankers are mandated to lean hard against the rising trend in prices—even though doing so goes against their own governments' stimulus efforts. European Central Bank (ECB) President Christine Lagarde, for example, now sounds as hawkish as Fed Chair Powell. Following the central bank's decision to boost its three key policy rates by 75 basis points, she emphasized that rate levels are still below what most consider as neutral and are well below the peak rates needed to get inflation under control. A few more "large steps" lie ahead.

Bank of England (BOE) Governor Andrew Bailey faces an even more complicated task. Not only do inflation pressures seem more embedded in the U.K. than elsewhere, but the central bank must also navigate choppier political seas. Truss is on record saying that she plans to review the BOE's mandate; while her comments came at a campaign rally, they have obviously resonated with the rankand-file in the Conservative Party. Less clear is what a change in mandate might imply. Perhaps lifting the 2% inflation target to a higher level to take some pressure off the central bank to raise rates to even more painful levels? Establishing a dual inflation and employment mandate as exists in the US? Switching to a nominal GDP growth target instead of one focused solely on inflation?

In the near term, such questions will not prevent additional increases in the BOE's bank rate, especially since the latest tightening move has done nothing to keep the pound's latest skid from hitting a new all-time low. The most recent 50 basis-point increase brought the bank rate to 2.25%; by comparison, the Fed's 75 basis-point hike brought the federal-funds rate to the 3%-to-3.25% range. Given the weakness in sterling and the inflationary pressures facing the country, markets are pricing in a far steeper bank-rate hike of 100to-150 basis points at the BOE policy next meeting in early November. During the panic at the end of the guarter, market-based estimates of the peak bank rate soared to nearly 6%, a full percentage point higher than what the US futures market indicates for the federal fund rate.

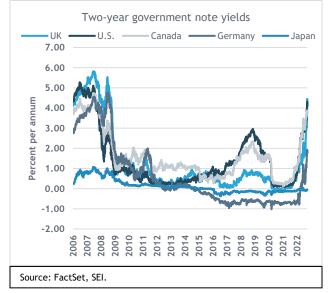
Exhibit 6 highlights the trajectory of policy-rate movements of the world's major central banks.

Exhibit 6: More to go



Two-year government benchmark yields have taken another sharp leg higher as investors anticipate the additional policy rate increases that are on their way. As we show in Exhibit 7, the U.K. has leapfrogged all other countries in response to its currency crisis, vaulting more than 250 basis points in only two months' time. Near the end of the quarter, the U.K. two-year note peaked at 4.45% before moving lower on the BOE's emergency intervention into the market.

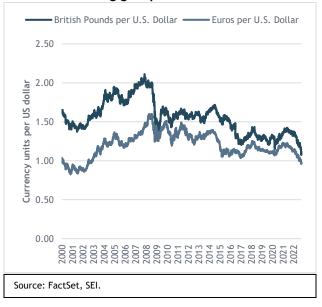
Exhibit 7: Tight, tighter, and tightest



In the closing days of September, the US two-year note broke through the 4% level for the first time since 2008. Canada's two-year sovereign-note yield is following close behind. The two-year note in Germany, which was still negative as recently as March, was 1.8% at the end of September. Japan is now the only country left in the world with a negative two-year note.

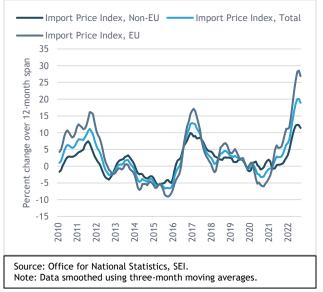
The large interest-rate differential in favor of the US versus most other countries, along with the perception that the US is in a better position economically, are two major reasons behind the US dollar's extraordinary appreciation over the past year. Sterling has fallen almost 17% over the past year 12 months, while the euro has depreciated 16%. Exhibit 8 shows that sterling fell past the lows hit during the pandemic-related panic of March 2020. It is now at levels against the US dollar last seen in 1985. The euro, meanwhile, is trading at levels last seen in 2002.

Exhibit 8: Sterling gets pounded



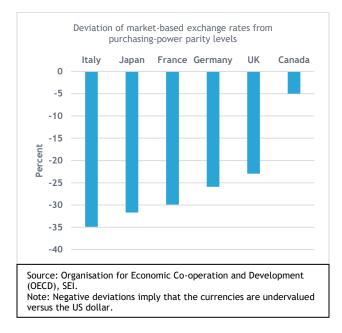
Although a declining currency may give a competitive boost to domestic firms that export goods and services to the US market, it exacerbates the inflationary pressures stemming from imports priced in US dollars—most importantly, oil and liquefied natural gas. Focusing on the U.K., the three-month moving average of non-EU import prices have soared nearly 27% over the year ended September. By contrast, import prices on goods from the EU have climbed a relatively smaller 11.4%, as shown in Exhibit 9.

Exhibit 9: The U.K. imports inflation



One piece of good news for the U.K. is that importprice inflation might be peaking. The bad news is that overall consumer-price inflation will likely stay uncomfortably high well into 2023, even if importprice inflation subsides. It is tempting to say that the US dollar will soon peak. Several large US multinational companies including IBM, Microsoft, Johnson & Johnson, PepsiCo, and Netflix have warned that the currency's strength is beginning to exert a negative impact on their revenues, suggesting that the value of the US dollar is now well beyond its purchasing-power parity level (PPP).¹ Exhibit 10 highlights the deviation of market-based exchange rates of the major advanced economies versus the US dollar.

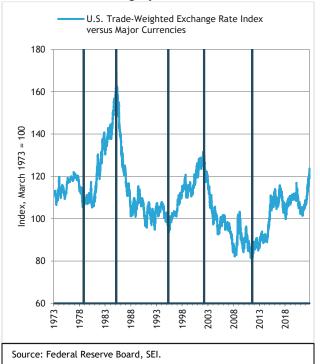
Exhibit 10: The dollar is too strong for comfort



All currencies listed in the chart appear undervalued—although the Canadian dollar is near its PPP equilibrium level against the US dollar, mainly because Canada trades most with its southern neighbor. It also has been a major beneficiary of the commodities price boom.

Discrepancies can last for a long time between PPP and market-based exchange rates. Exhibit 11 tracks the trade-weighted exchange value of the US dollar since 1973. It is easy to see that the greenback's movements are subject to long bull and bear cycles, with ups and down proving remarkably similar in magnitude and duration. During the most recent up-cycle, now 11 years old and up 50% from its 2011 low, there have been two major declines that later reversed. The first occurred between December 2016 and February 2018 as the Trump administration ratcheted up trade tensions with China and other trading partners. The second came in March 2020 during the early months of the pandemic and extended into May 2021. More recently, the US dollar pushed into new-high territory following a strong August reading of the consumer-price index and after Fed Chair Powell indicated at Jackson Hole that further interest-rate increases are on the way. (Fed rate hikes attract investment in US dollar-denominated assets.)

Exhibit 11: The almighty USD



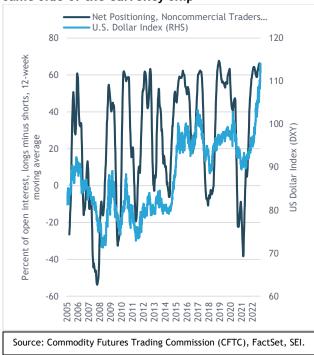
Still, it would not be surprising to see at least a temporary reversal in the US currency's trend. Exhibit 12 tracks the net positioning (longs minus shorts) of noncommercial traders (so-called speculators) in the futures and options markets. Speculators have been extremely long the US dollar throughout 2022 (a profitable position) and anticipate further strength. However, we believe the currency is susceptible to an abrupt fall—perhaps triggered by a catalyst such as a coordinated government action to weaken the US dollar that's reminiscent of the Plaza Accord of 1985, for example, or a surprisingly weak US employment report. Investors should remember that currency volatility is usually a two-way street.

another country to buy the same amount of goods and services in each country.

¹ Purchasing power parity is the exchange rate at which the currency of one country would have to be converted into that of

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Exhibit 12: Passengers are all on the same side of the currency ship



Waiting for more things to break

Throughout 2022, market participants have consistently underestimated US inflation because they have underestimated the resiliency of the US economy. Growth is clearly slowing, and the economy appears on track to experience some sort of outright recession in response to the Fed's aggressive interest-rate moves. By some measures, the US economy is already stagnating. Exhibit 13 shows that purchasing managers around the world are reporting significant deceleration in growth.

The US, Germany, and the euro area fell below the 50 level (more purchasing managers reporting a decline in output versus those citing an improvement) as of September. Overall business activity in the US has also been looking weak, as measured by inflation-adjusted GDP, falling slightly in the first and second guarters of this year. The sluggishness in GDP has been feeding into other economic indicators, notably productivity. Even when measured over a three-year period as we do in Exhibit 14, the slowdown has been dramatic. The tight labour market may have encouraged businesses to hoard staff despite weakening demand for products and services. Also, the retirement of baby boomers (persons born between 1946-1964) means that companies are losing a large group of experienced workers.

Exhibit 13: Purchasing managers see a downturn

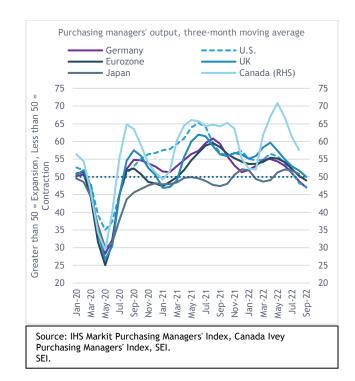
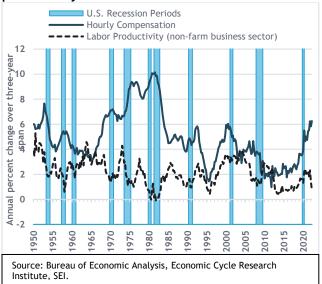


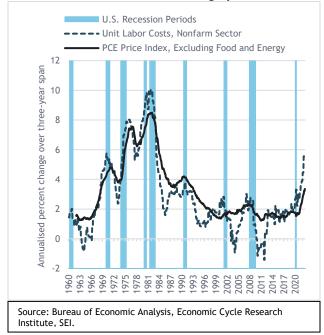
Exhibit 14 also shows the extensive rise in hourly compensation since 2018. Again measured over a three-year span, the annualised gain exceeds 6% (the sharpest increase in almost four decades). As in the 1970s, gains have been accelerating even as productivity growth has slowed. In more recent cycles, the two series have tended to rise and fell together. The recent divergence is concerning.

Exhibit 14: Higher compensation + lower productivity = trouble



The difference between the change in compensation and the change in productivity equals the change in unit labour costs, which we view as a key component of underlying inflationary pressures. Exhibit 15 compares the three-year change in US nonfarm unit labour costs against the core personal-consumption expenditures (PCE) price index, the Fed's primary inflation measure. which the central bank targets at 2% over the course of an entire business cycle. 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 tame inflation, especially when it gets this intense. Fed Chair Powell's hope for a soft landing appears to be an exercise in wishful thinking. Core PCE price inflation averaged 3.4% over the three years ended August—and it appears set to move above 4%, with the year-over-year rate through August having reached 4.9% and unit labour costs jumping a stunning 9.5% as of the second quarter. We see no reason to expect a major reversal in the near term, even if the economy stumbles into a bona fide recession.

Exhibit 15: US unit labour costs go parabolic



During the first half of the year, US companies have been able to push their higher costs onto consumers. Exhibit 16 highlights corporate profit margins on an economy-wide basis. While down from the pandemic-recovery peak registered during the second quarter of 2021, they were still above almost all previous cyclical peaks going back to 1947. However, we believe that margins are on the cusp of a substantial erosion. It is typical for profit margins to decline well before an economic recession materializes. While the precise extent of a margin decline is impossible to predict, it often involves a peak-to-trough decline of several percentage points.

The chart also shows that cyclical peaks in profit margins coincide with peaks in after-tax operating profits. The subsequent decline may or may not be associated with an economic recession. There was no recession in the mid-1980s, for example; margins fell from a peak of 9.4% to a low of 6.4%, and operating earnings contracted by 25%. In the late 1990s all the damage was done before recession hit in 2001, with margins declining nearly five percentage points and overall profits dropping a cumulative 20% over three years. In the 2012-to-2015 period, margins fluctuated erratically from one guarter to the next, ebbing by three percentage points peak-to-trough; after-tax profits merely flattened out. On the other hand, both margins and the absolute level of profits collapsed during the global financial crisis in 2008 and in the pandemic lockdown of 2020. After-tax operating profits declined 31% over a two-year period during the global financial crisis and 18% in just two quarters during the COVID-19 lockdown period.

Exhibit 16: Profits are peaking



While akin to comparing apples with oranges, we think it is interesting that economy-wide profits, as measured in the National Income and Product Accounts (NIPA), and analysts' estimates of forward earnings for the S&P 500 Index tend to track each other closely. To be sure, there are times when these two series disconnect. During the tech bubble

of 1999 to 2000, S&P earnings estimates shot up despite the negative trend in NIPA profits. In similar fashion, GDP-based profits began to fall in the 2006 run-up to the global financial crisis—a full year before Wall Street figured out that a severe downturn was about to hit. Over the course of 2022, another gap has opened up in favor of the S&P, although it is not nearly as wide as the one that developed during the late-90s tech bubble. Nonetheless, if the economy does fall into recession and GDP-base profits begin to decline, it will probably force analysts to mark down their S&P 500 Index earnings estimates rather aggressively in order to catch up with reality.

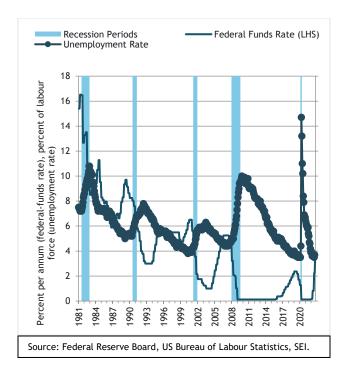
Investors are not waiting for those downward earnings revisions. They have been pushing equities lower in reaction to the Fed's aggressive shift to a more hawkish policy stance and in anticipation of a recession, both in the US and globally. Fed Chair Powell said repeatedly during his post-decision press conference that beating inflation will involve pain. The Fed has adopted a "raise and hold" strategy—meaning it intends to hike its policy rate to a restrictive level and hold at that higher rate until inflation takes a sustained downward slide.

In its September projections, the FOMC called for an increase in the unemployment rate next year to 4.4% versus the current 3.7% level. Whether or not this is consistent with its forecast of modest real GDP growth in 2023 and 2024 is debatable. As we highlight in Exhibit 17, the central bank generally stops raising its policy rate when the unemployment rate stops falling.

Soon thereafter, Fed policy pivots dramatically toward ease as it becomes clear that a recession is underway. Today, unfortunately, even as interest rates are rising, we do not yet feel the bulk of the recession or the hit to employment. This cyclical pattern is quite different from the Fed's current game plan. One thing is clear: The Fed wants to see the labour market loosen up and wage inflation to moderate before easing its monetary stranglehold on the US economy.

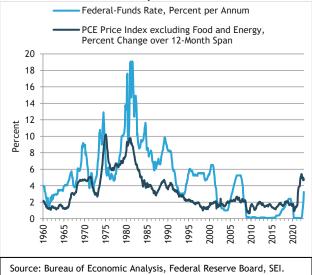
Fed policymakers project a federal funds rate in the 4.1%-to-4.4% range by the end of this year and 4.4%-to-4.9% next year, but the actual result may still be higher. Of course, these figures look a lot more reasonable than those provided at the end of last year. In December 2021, the median projection for the federal-funds rate was only 0.9% for 2022, 1.6% for 2023, and 2.1% for 2024.

Exhibit 17: Interest rates stop rising when unemployment stops falling



As we show in Exhibit 18, the federal funds rate historically has traded above the core inflation rate. This relationship was turned upside down during the decade following the global financial crisis (GFC). We would argue that the post-COVID period has ushered in a new regime, where labour and product markets remain tight and inflation stays stubbornly above target. Unless the Fed is ready to engineer a severe recession, we think PCE price inflation could run in a 3%-to-4% range versus the sub-2% pace much of the past 25 years.

Exhibit 18: Back to the pre-GFC future?



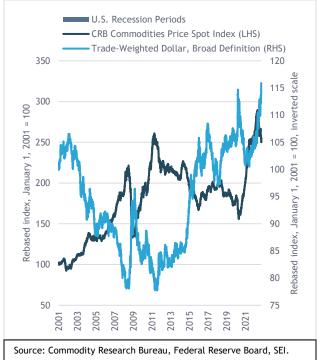
Currency, commodities, COVID, and conundrums

In our last quarterly economic outlook, we commented that investor sentiment had become pessimistic and that the selling pressure in equities had reached such intense levels that a rally could develop at any time. And it did. Between mid-June and mid-August, the S&P 500 Index posted a price rise of more than 17%, led by the consumer discretionary (+29%), information technology (+23%) and utilities (+19%) sectors. That rally did not last, with the S&P 500 Index dropping to a new cyclical low in late September. By the end of the third quarter several asset classes, including equities, bonds, currencies, and commodities, looked sharply oversold once more.

As we previously noted, the fundamental overvaluation of the US dollar and the extremely long position of traders suggest that the currency also is ripe for some sort of near-term reversal. A weaker-than-expected employment report or a benign inflation result might be all that is needed. A downturn in the US dollar probably would help halt the slide in commodities that picked up steam in late August. Exhibit 19 tracks the Commodity Research Bureau's index of spot prices against the trade-weighted value of the US dollar. The two series typically move in harmony in inverse fashion (when the dollar appreciates, commodity prices tend to decline). Therefore, the currency's sharp climb has resulted in a reversal of appreciation in the commodities complex for most of this year.

We maintain a positive outlook on commodities despite the demand destruction that has occurred 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. The US Strategic Petroleum Reserve (SPR), which President Joe Biden's administration has used to deliver more than one million barrels per day of crude to the market, will see its inventory cut in half by the end of 2022 versus the year-ago period (the Biden administration recently extended the flow through November). There is a danger that inventory is now too low to deal adequately with a weather-related disruption to oil production in the Gulf of Mexico. The war in Ukraine and global drought conditions could also lead to further price spikes for agricultural products, while the shortage of fertilizer promises to keep global food production constrained.

Exhibit 19: If the US dollar falls, commodities should rise



It is not just the rampaging US dollar and the specter of a severe European recession that has hurt commodity pricing. The extremely sluggish growth in China this year also has had an impact. Exhibit 20 on the following page highlights how restrictive the country's zero-COVID-19 policy is relative to the major developed countries in Europe and North America. China's COVID-19 stringency index is as bad now as it was during the early stages of the pandemic; other countries have eased their regulations considerably. In recent weeks, the Chinese central government has allowed Hong Kong and Macau to open up. This might be a harbinger of what will happen on mainland China once the National Congress of the Chinese Communist Party installs President Xi Jinping for an unprecedented third term as its general secretary in October.

The Organisation for Economic Co-operation and Development's leading economic index (LEI) for China, a measure of the country's future economic activity, has posted month-to-month declines since peaking in January 2021. It fell below the 100 mark by October of that year, pointing to below-trend growth, and has subsequently dropped to a level that prevailed just before the pandemic hit the country in full force. The LEI has been lower only twice before—during the early stages of China's 2001 integration into the global economy, and during the 2008 global financial crisis. This may still understate the extent of the hardship currently facing the country, especially in the real estate sector.

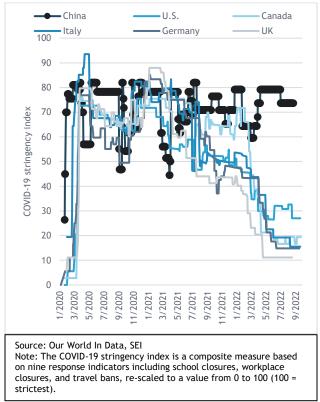
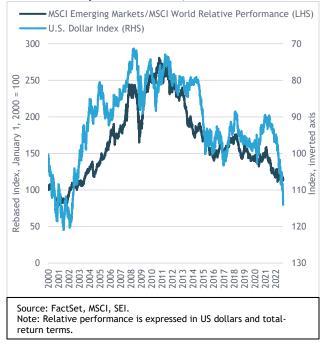


Exhibit 20: Please release me

However, even in authoritarian China there is a social compact between the people and the government. The Communist Party rules over all without question. In return, it has promised to improve the lives of its citizens. That compact worked fairly well in the 1980s and 1990s, and it was turbocharged by China's 2001 accession to the World Trade Organization and its transformation into a global manufacturing behemoth. The compact held together in the years following the global financial crisis, although growth downshifted significantly. The government's response to COVID-19, however, has stressed this social compact to a degree not seen since the Tiananmen Square protests of 1989. President Xi's position may seem unassailable, but we suspect he is looking for a way out of the corner he has painted himself into with his zero-COVID-19 policy. The loosening of restrictions and the return to stronger economic growth appears to be the only logical way out.

Other emerging economies would be big beneficiaries of a revival in Chinese economic activity. However, Exhibit 21 underscores the primary importance of the US dollar for investors in emerging-market equities. The relative performance of the MSCI Emerging Markets Index versus the MSCI World Index peaked in 2010, moreor-less concurrent with the trough in the tradeweighted value of the US dollar. (Trade-weighting measures the value of the dollar versus other major currencies.) As the US currency grew stronger (depicted as a falling line in the chart), emerging stock markets lagged further behind. Emerging equities have now given up almost all of their relative gains versus advanced-country stock markets achieved between 2000 and 2010.

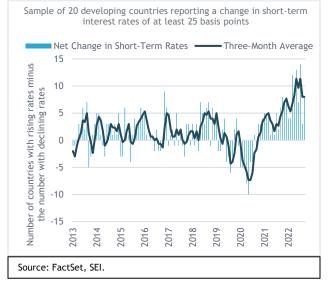
Exhibit 21: Up the escalator, then down



As advanced countries adopt more-restrictive monetary policies, emerging economies have no choice but to follow. As show in Exhibit 22, the rate-hiking cycle began far sooner in lessdeveloped economies (beginning in late 2020). It was not until this year that a general up-cycle in policy rates began among the advanced economies. Interest-rate hikes in the emerging world have accelerated significantly this year in response, in both frequency and magnitude. Three-month government bonds yields were in double digits in Brazil (14.3%), Colombia (11.2%), Hungary (11.3%), and Turkey (15.6%) in September, with only Brazil's sitting comfortably above its inflation rate. Turkey, by contrast, is facing an inflation rate of close to 80%. Little wonder that the Brazilian real has

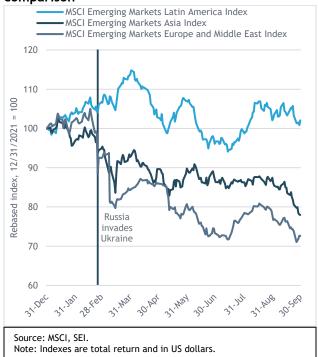
maintained its value against the US dollar this year while the Turkish lira declined by almost 30%.

Exhibit 22: A painful time



As with other risk assets, emerging-market stocks and bonds are likely to remain on the defensive until developed central banks stop raising interest rates. Latin America is the only region to post positive year-to-date equity performance (2.1%), as highlighted in Exhibit 23. European emerging stock markets, not surprisingly, have been the weakest, posting a 27.4% decline in US dollar terms.

Exhibit 23: Latin America looks great by comparison



What actions are our portfolio managers taking?

In US large caps, our value positioning is primarily strategic and, despite a relief rally in July that mostly benefited growth stocks, has performed well vear-to-date relative to indexes and peer groups. While there are many attractively priced companies out there, we also see plenty of risks-including margin compression and credit risk, as well as periods of pain (like the one in July) when value stocks go unloved by investors. An area of the market that we believe investors are overlooking is banks and financials; they have been generating strong profits, and we view them as especially attractive given rising interest rates. Our momentum positioning is meaningfully diverse by industry and has occasionally had higher correlation with value as value stocks are showing longer-term outperformance. Quality is less expensive than it has been, but is also, in our view, less compelling than value in terms of long-term return generation. Most changes to our large-cap portfolios have been at the margins, with managers adding and trimming around the edges. Healthcare and financials remain prominent overweights, while information technology is underweight.

Within smaller US companies, the momentum, quality, and value alpha sources are all attractive, in our view. However, value and quality are somewhat more expensive than they were to start the year given their strong performance. The smallcap portfolios remain defensively positioned with an overweight to quality and less risk than the market in terms of beta. In our view, there has been a significant amount of bad news priced into small caps. Given this, we expect to begin reducing the overweight to defensive stocks in favor of cyclicals. In general, small-cap earnings have held up well—especially for consumer and leisure stocks—but we are concerned about whether this trend can continue.

International equity markets are another area of concern—especially the U.K. and Europe, with high inflation, Russia's war in Ukraine, natural-gas supply shortages, evolving central-bank policies, and a changing political landscape. Despite the obstacles, European banks appear more attractive due to their cheapness. Pharmaceuticals within healthcare also look attractive. From a positioning perspective, we are looking to add more value exposure as our higher value exposure has proven beneficial due to elevated dispersions. From a quality perspective, the US generally appears more attractive than most other regions while Europe, Australasia, and the Far East quality are not as attractive.

Emerging markets are facing a number of headwinds. Although there are signs that China's response to COVID-19 may be easing, the government has continued to enforce strict lockdowns; the country's real estate market in is also of concern. High global inflation and the subsequent interest-rate hikes global central banks are making to combat it are impediments to global growth-particularly in emerging markets. The Fed's aggressive rate hike has resulted in a stronger US dollar and contributed to capital outflows for emerging markets. In Latin America, a region with numerous energy exporters, expectations for commodity prices drive the story. We still think value is attractive. Quality is not cheap but is no longer as expensive it was a year ago owing to a price correction. Momentum has shifted more to financials and commodities; it is not as expensive as it was two years ago.

As should be expected, low-volatility stocks failed to keep pace with the growth-oriented relief rally in July. Still, low volatility has helped significantly to mitigate year-to-date losses for investors. Like other areas of the market, value remains attractive. It also helps to offset some of the other risks associated with a low-volatility strategy, such as duration (interest rate) risk.

In factor-based portfolios, diversification worked and should continue to do so as mega-cap stocks lagged. Diversification has been a tailwind to actively managed strategies. Value remains attractive given its defensive attributes although it remains exposed to consumer and inflation risks. Quality is less attractive, but inflation has not yet hit earnings-we are less constructive on quality as it generally underperforms in rising-rate environments. Our positioning favors momentum on the margin: it distinguishes between inflation winners and losers. Value performance was marginally negative for the quarter and strong for the year to date. Communication services and industrials have underperformed in the threemonth period, while utilities, energy, and financials outperformed. Growth is a major laggard year to date. Managed- and low-volatility strategies performed well year to date. Value is becoming increasingly defensive, while momentum is more diverse and less exposed to growth.

Core fixed-income portfolios have generally performed in line with market indexes, but we note that the nominal returns are among the worst on

record. Fed Chair Powell made clear that the central bank intends to keep rates high as he emphasized that inflation cannot come down without inflicting pain on the economy. He also acknowledged that a soft landing is now a low probability given that the more restrictive a monetary policy becomes, the higher the odds of a hard landing. Mortgage rates have more than doubled, reaching over 6%, which will likely pressure housing prices and demand. On a positive note, we have seen cash balances grow as shortterm yields exceeded 4%-an attractive level for income-seeking investors. We are interested in adding to duration on the short end of the yield curve and favor non-government issues (corporate bonds and mortgage-backed securities). While credit fundamentals look solid, we have selectively decreased our exposure to industrials and added to utilities.

The high-yield market has held up relatively well, benefitting from the performance of energy and floating-rate securities. However, the new-issuance market had only \$15 billion coming to market for the third guarter (as of this writing). Fund flows have been negative as well, totaling about \$4 billion this quarter. Default rates remain historically low at 1.5%. Moody's expects defaults to increase slowly to an August 2023 peak of 4.5%, approximately amounting to the average rates over the past 5 and 10 years. In terms of credit rating, we preferred B and CCC rated bonds to higher rated BB bonds. Our portfolios were overweight basic industry on relative values; underweight telecommunications and services; and short duration given the rising-rate environment. Our outlook has not changed, with our primary concerns still being interest rates, inflation, possible recession, and geopolitical tensions. As such, there were no material changes in portfolio construction.

Our emerging-markets debt strategies continued to overweight high-yield and hard-currency debt. This positioning largely drove performance for the quarter. We remained roughly neutral to the US dollar and were marginally short US dollardenominated bonds.

Our view: Don't panic when markets are manic

The list of economic, geopolitical, and pandemicrelated concerns is certainly long. Market volatility has been high throughout 2022, and it appears unlikely to change as we enter the final quarter of the year. Investors may be nervous or even fearful about what this means for their investment goals, but making major portfolio decisions with such a mindset only creates additional risks. To that end, we think the best thing an investor can do in a manic market is remember to not panic—and remain calm, diversified, and committed to their long-term plans.

We believe that active investment managers are well positioned to do this and, therefore, should fare better during these tumultuous times. Likewise, broadly diversified portfolios should perform relatively better overall than portfolios that are highly concentrated.

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