

What Will "Higher for Longer" Actually Mean?

November 2023



An empowering blend of global financial research and analysis, insights and macrocommentary on a breadth of today's most compelling economic and investing developments, from an international team of WisdomTree thought leaders.

Authors



Kevin Flanagan Head of Fixed Income Strategy, U.S.



Aneeka Gupta Director, Macroeconomic Research, Europe



Nitesh Shah Head of Commodities & Macroeconomic Research, Europe



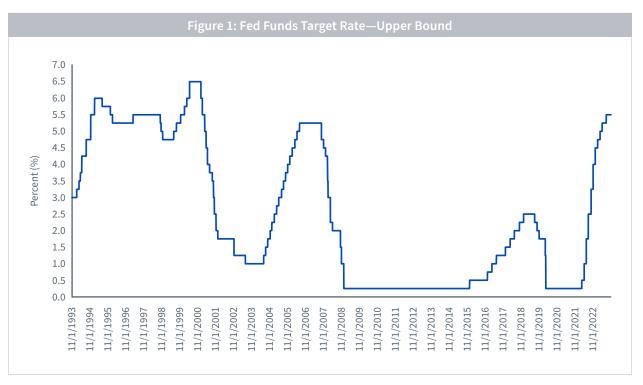
Jeff Weniger, CFA Head of Equity Strategy, U.S.



With the major developed world central banks appearing to be getting ready for the next stage of monetary policy, global investors will be asking themselves the logical question of what comes next. There seems to be a unified front among central bankers that policy rates will remain in restrictive territory and that rate cuts, at least as of this writing, are not on the radar for any time soon. Against this backdrop, perhaps the most important investment factor to weigh for the coming year is what will "higher for longer" actually mean?

FED WATCH

Let's take a look at arguably the central bank that could serve as "leader of the pack": the Federal Reserve (the "Fed"). For the second time in a row, the Fed did what was widely expected and kept the Fed Funds target unchanged at the November Federal Open Market Committee (FOMC) meeting. As a result, the trading range remains at 5.25%–5.50%, still residing at a more than 20-year high watermark. While the policy maker continues to keep its options open for another potential rate hike, we are either at, or very close to, the end of this rate hike cycle.



Source: Bloomberg, as of October 30, 2023. Historical performance is not an indication of future performance, and any investments may go down in value.

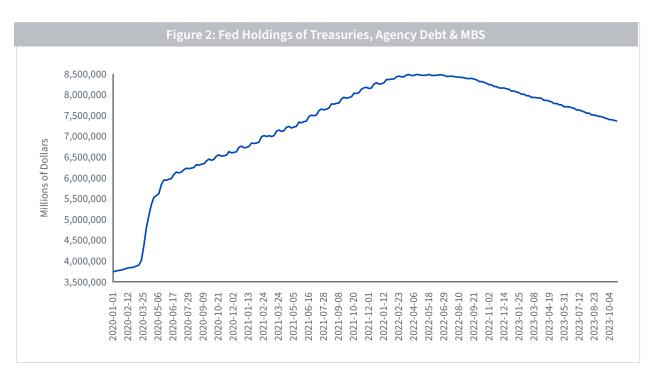


Against the backdrop of 525 basis points' (bps) worth of rate hikes, the Fed has been presented with an economic backdrop that has proven to be far more resilient than anyone expected, but there is a "new" game in town: potentially tighter financial conditions due to the surge in Treasury (UST) yields, where rates all along the yield curve either hit or came close to hitting that 5% threshold.

Powell & Co. have apparently bought into the notion that the aforementioned rise in UST yields may be doing their job for them. However, what we find fascinating is that financial conditions may not have tightened at all. The Chicago Fed's National Financial Conditions Index has actually fallen (loosened) over the last couple of months. Why is this important? Because this Index is very broad and includes 105 underlying components and would theoretically not be skewed by just one or two factors.

Nevertheless, the Committee seems to have elevated a potential tightening in financial conditions as a monetary policy input. As a result, the question may not turn to whether another rate hike is in the offing, but how long the Fed will be "on hold". And, really, when you come right down to it, this is ultimately going to be the key question anyway as we head into 2024 and beyond. With only one more FOMC meeting remaining in this calendar year, the Fed does appear to be united in its stance that rates need to remain in this restrictive territory for the foreseeable future. Hence, the "higher for longer" theme that has been consistently emphasized.

On that front, the expectation for rate cuts has been completely turned on its head. The money and bond markets have gone from discounting the possibility of a rate cut already occurring this summer to now not expecting a decrease in the Fed Funds target until about mid-2024. In addition, as of this writing, the implied probability still has Fed Funds just below 4.50% to begin 2025!



Source: St. Louis Fed, as of October 30, 2023. Historical performance is not an indication of future performance, and any investments may go down in value.



Whether or not another rate hike is "in the cards," quantitative tightening (QT) continues unabated. The Fed continues on its mission to reduce its holdings of Treasuries and mortgage-backed securities (MBS) on its balance sheet. As it stands as of this writing, the Fed has reduced its balance sheet by more than \$1.1 trillion to about \$7.4 trillion since QT began in June of last year. At the November FOMC meeting, the policy maker stated its intention to "continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities, as described in its previously announced plans." In other words, reducing its holdings of Treasuries and agency debt/MBS by \$60 billion and \$35 billion per month, respectively, or \$95 billion/month for those keeping track.

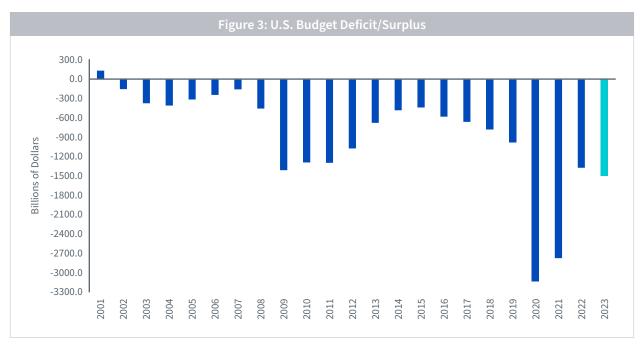
Although this means the tightening policy has essentially gone under the radar (much like the Fed had hoped), it is a part of the policy maker's toolkit that should not be ignored.

U.S. RATE OUTLOOK

Regardless of whether the Fed is now officially done or not from a rate hike perspective, the end result of this cycle will be that interest rates are now at levels a generation of investors has not witnessed before, potentially ushering in a rate regimen that harkens back to pre-financial crisis times.

This latest increase in Treasury yields that investors are witnessing is really more of a "normal" scenario for the U.S. bond market. To be sure, the post-financial crisis through COVID-19 world was not truly representative of where the UST 10-Year yield should reside. Factors such as the Fed's zero interest rate policy, quantitative easing (QE) and negative rates abroad all helped to create a rate environment that was, in our opinion, abnormal. So, what we are seeing now is what happens when the pendulum ultimately swings back.

Really, the root cause of this most recent uptick in the 10-Year yield begins with the fundamentals. Yes, inflation has cooled off, but the U.S. economy has not. The recession that everyone was expecting to have reared its ugly head by now actually saw third-quarter real GDP come in at +4.9% instead.



Source: St. Louis fed, as of October 30, 2023. **Historical performance is not an indication of future performance, and any investments may go down in value.**



Obviously, a more restrictive Fed policy than expected (plus ongoing quantitative tightening) has combined with the resilient economy to give the bond market a one-two punch. But what else is the Treasury market looking at? Certainly, burgeoning U.S. budget deficits have been gaining a lot of attention. Indeed, the U.S. Treasury Department released its final tally for fiscal year 2023, where the annual budget deficit rose by \$320 billion to nearly \$1.7 trillion. Outside of the red-ink totals that were COVID-19-related, this represents the highest deficit on record. To provide some perspective, the federal government's shortfall reached as high as \$3.1 trillion in FY 2020 and \$2.8 trillion in FY 2021. Typically, this factor is not necessarily a primary driver for rate action, but it can be a secondary force to reckon with. In fact, one has to wonder if investors are finally waking up to the premise of baseline trillion-dollar deficits for the foreseeable future and what that means for the supply of Treasury securities that will be needed to fund these enormous shortfalls.

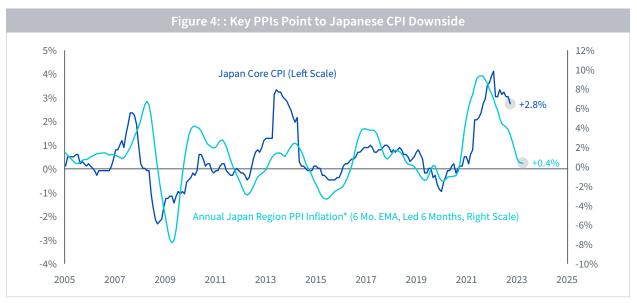
Finally, what about those foreign sovereign debt yields? Government bond yields throughout Europe are now no longer at or below zero, where countries such as the UK and Germany recently witnessed their own 10-year rates of more than 4.50% and nearly 3%, respectively. Now, you can even add Japan to the mix, where the 10-year Japanese government bonds (JGB) yield was approaching 1.00%. In other words, the UST 10-Year is not the only "game in town" anymore.

Against this backdrop, investors have a whole new dynamic to consider. The rise in U.S. bond yields is arguably a positive development from an investor's perspective because it returns fixed income to its more traditional role in the asset allocation process.

DECLINING PPIS PERPETUATE JAPAN'S TINA TRADE

Sometimes, central banks simply get lucky. Things were looking tough for the Bank of Japan as recently as this summer, when the country's core Consumer Price Index (CPI) bolted north of 4%, far beyond the 2% inflation target that the major central banks view as ideal.

At least for now, those CPI prints from a few months ago look like they marked the worst of it. Since peaking, Japan's core CPI has tapered down to a not-outlandish +2.8% YoY growth rate. If we have it right on our producer price inflation (PPI) push thesis, there is more downside coming to that figure. Using Japan's own PPI, along with the PPIs of major trade partners China, Korea and the U.S., the reality is that factory gate prices from this collective are downright disinflationary. Using our smoothed series, the PPI basket is barely positive over the last year. We would not be surprised in the slightest if Japan witnesses sub-2% core CPI within the next few months.



*PPI Basket Weights = 50% Japan, 25% China, 12.5% each U.S. and Korea. Sources: Refinitiv, U.S. BLS, Dept. of Labor, National Statistics Bureau China, Bank of Korea, Japan Statistics Bureau, Ministry of Internal Affairs & Communication. Data as of September 2023. **Historical performance is not an indication of future performance, and any investments may go down in value.**



The Bank of Japan (BoJ) is being reactive to an inflation threat that may very well be in the rearview mirror. For many years, its yield curve control (YCC) policy set a band of +/- 25 bps around zero percent for 10-year JGBs. As the global inflation scare sent debt yields spiraling higher in places like the U.S. and Germany, the BoJ's hand got pushed into widening the band to +/-50 bps around the zero bound. But if you pulled a quote at random in this year's first half, it was common to see the 10-year JGB yield in the 0.30%–0.40% range. It wasn't as if the 0.50% ceiling was being strongly threatened by bond vigilantes.

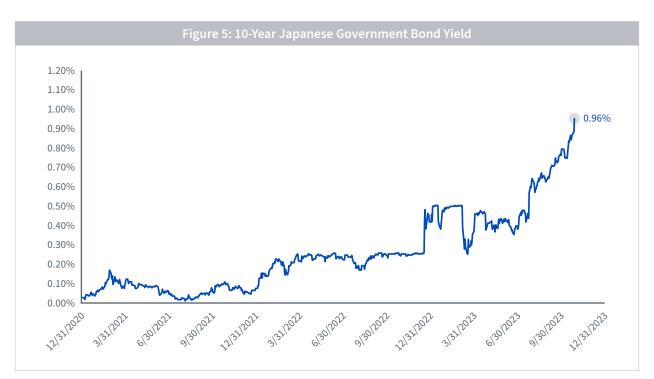
But then global bonds sold off even more, so the BoJ tightened policy once again. That policy move had the central bank putting emphasis not on a 0.50% yield but on a new 1% quasi-cap that it would seemingly defend if the bond market remained in bear mode.

That was where things stood until late October, when the BoJ changed policy yet again. This most recent change is ambiguous and open to interpretation.

Here is what we think the BoJ is now saying.

The central bank is "promising" to treat 1% as something of a target rate on 10-year JGBs, with a relatively hard vow to defend that level if trades start coming across around 1.10%, maybe 1.20%. We are admittedly pulling those numbers from the sky because they are based on an intentionally ambiguous bar chart that the BoJ just released. We are guessing their leeway for intervention is 10–20 bps beyond the 1% level.

Fortunately, because we anticipate downside in Japan's consumer price inflation, the bond market may luck into a situation where 1% yields are about as high as they get anytime soon. As of now, the 1% bound has not been breached or really threatened for that matter. The yield is still 0.96%, and we will call that roughly four percentage points south of the yield on same-maturity U.S. Treasuries in any given session, give or take (figure 5).



Source: Refinitiv, as of October 31, 2023. Historical performance is not an indication of future performance, and any investments may go down in value.



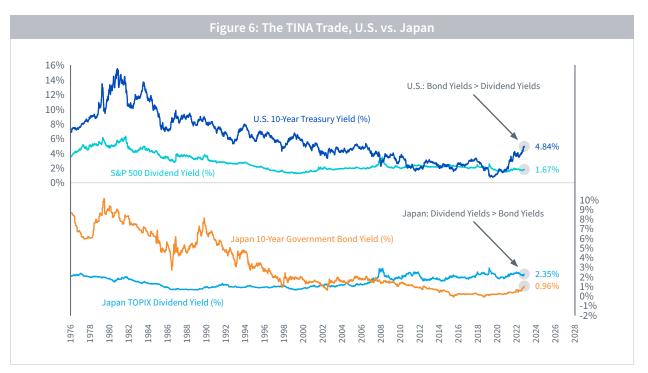
We write this amid the S&P 500's correction from the July 27 high, ostensibly as the bears pounce on the death of the USD TINA Trade. TINA said we should buy stocks because "there is no alternative" in a world where bonds yielded nothing.

In the U.S., Canada and Europe, TINA should really be renamed TWNA, as we change "is" to "was." The zero-yielding world is long gone. There was no alternative to buying so-called risk assets...until the bond market rolled over and started giving us a viable asset class once again.

Some are now questioning U.S. equity valuations when they can clip something in the mid-5s in the money markets. We started calling this TAMMY, which stands for "there are money market yields." We cite money markets, but there are plenty of people using some variation of TAMMY as it applies to intermediate and long-term bonds, too.

The argument: if TINA is dead in the U.S., it remains alive and well in Japan. Using dividend yields, the 4.84% on offer in 10-Year t-notes is 317 bps north of the S&P 500's proverbial "coupon." That is a complete upending of the TINA trade that persisted since the days of Ben Bernanke's Lehman-era firehose.

In contrast, Japan's TINA situation may not be as robust as it was before the JGB sell-off, but the picture is much rosier than it is elsewhere. The TOPIX throws off an admittedly non-exciting 2.35%. But the alternative is 0.96% in JGBs, so the spread is 139 bps in favor of stocks. That is a far cry from the three-plus percentage point gap in the other direction in the U.S.



Source: Refinitiv, as of October 31, 2023. Historical performance is not an indication of future performance, and any investments may go down in value.

PBOC: A NEW ERA OF CLOSENESS AFTER PRESIDENT XI'S VISIT?

In contrast to some of the other regions in this report, China's government and central bank work very closely together, so we believe there is less potential for monetary policy to contradict fiscal policy. In recent months, China has been pulling on both levers to stimulate the economy and avoid recession. In a sign that the relationship is consolidating further, President Xi made an unprecedented trip to the People's Bank of China (PBoC) on October 24, 2023.



SLOW OFF THE MARK

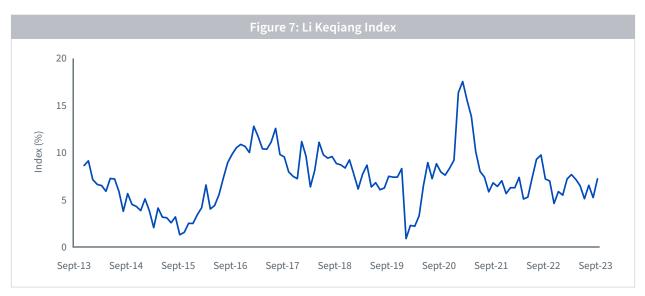
However, China's reaction to an economic slowdown has been belated. When we published <u>China Re-opens: What It</u> <u>Means for Global Investors</u>, we (and the greater part of the consensus) expected China's reopening to be a boon for the economy, in a way similar to every other major nation's reopening. Unfortunately, as China was so fearful of the inflationary prospects of the reopening, it remained restrained. Furthermore, a real estate crash acted as a colossal drag on the economy, and only in recent months has the government attempted to stem the issue.

China's stimulus in recent months is best described as "piecemeal." In contrast to the "bazooka" stimulus offered after the 2008 global financial crisis and any of the relatively minor downturns since, China, this time, has chosen small, highly targeted measures. Each act of stimulus on its own has failed to be headline-worthy, but in aggregate, the stimulus has been meaningful, and we are now starting to see the measures bearing fruit.

IMPROVING DATA

China's third-quarter GDP rose 1.3% quarter-on-quarter and 4.9% year-on-year, beating consensus forecasts and putting the nation on track for its target 5% growth for this year. We have also seen industrial production and retail sales rebound and beat consensus estimates.

While sceptics are suspicious of official Chinese GDP data, the so-called Li Keqiang Index—named after the late Premier Li Keqiang,¹ who suggested a combination of bank lending, rail freight and electricity consumption are the best ways of measuring strength in the Chinese economy—has risen markedly in September.



Sources: WisdomTree, Bloomberg, as of September 2023. Historical performance is not an indication of future performance, and any investments may go down in value.

The key danger at this point is if the government and central bank act like the job is done and take a foot off the accelerator. Indeed, the latest official Manufacturing Purchasing Managers Indices numbers for October serve as a reminder that the job is far from done. The reading dropped below 50 again after an above-50 reading in September, following five consecutive months below that demarcation between expansion and contraction.

¹ Li Keqiang, Chinese premier, 1955–2023, passed away while we were drafting this edition of Global Edge. An avid proponent of structural reform and the second-ranked member of the Politburo Standing Committee from 2012 to 2022, he was in his later career sidelined from the Politburo. He sadly passed away from a heart attack a few months after leaving office.



RARE BUDGET REVISION

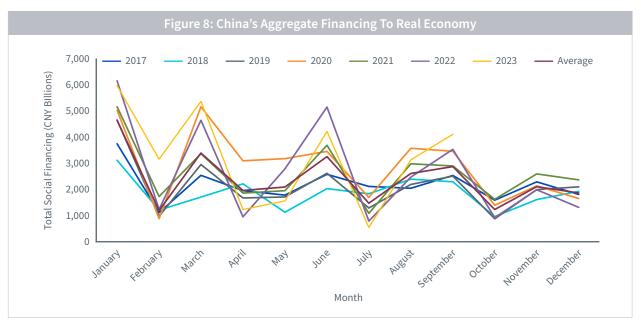
While there is a realistic risk that policy makers are being too complacent, we believe that the government's focus on the economy is sharpening rather than blunting at this stage. In October, the legislature increased the fiscal debt ratio to about 3.8% of GDP, well above the 3% level set in March, in a rare move. The only other times China has increased the budget mid-year were in the aftermath of the Sichuan earthquake (2008) and in the wake of the Asian Financial Crisis (late 1990s). The plan includes issuing additional sovereign debt worth 1 trillion yuan (\$137 billion) in the fourth quarter to support disaster relief and construction. In reality, the new budget will be used to bring local government debts out of the shadow with a central government backstop.

THE PBOC'S POLICY STANCE

In a report to the Standing Committee (21 October 2023), People's Bank of China Governor Pan Gongsheng vowed to make policy "more" targeted and forceful. Pan also underscored a longer-term view on the economy while indicating easing is still on the cards, saying that policy would make good counter-cyclical and cross-cyclical adjustments. At the recent International Monetary and Financial Committee meeting in Morocco (14 October 2023), Pan said the PBoC would continue its efforts in using monetary policy instruments to expand domestic demand, boost confidence and support the real economy.

CLEAR SIGNS OF PBOC POLICY EASING FINANCING CONDITIONS

Total social financing (TSF), also known as aggregate financing to the real economy, rose to a seasonal high in September 2023, bouncing from what was a seasonal low in July 2023². Should the PBoC and government keep the current policy setting, we should see TSF maintain strength, offering a boost to households and firms.



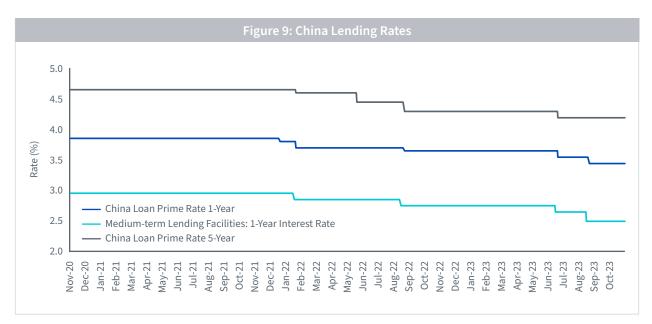
Sources: WisdomTree, Bloomberg, as of 31 October 2023. Historical performance is not an indication of future performance, and any investments may go down in value.

² The modern measure of TSF dates back to 2017 and exhibits strong seasonal patterns. July 2023 was the lowest July reading and September 2023 was the highest September reading on record.



SHIFTING FOCUS

While the PBoC had lowered key policy rates—the Loan Prime Rate and Medium-Term Lending Facilities—in June and August, the central bank chose to hold fire in September and October. Additionally, while dropping the one-year Loan Prime rate in August, it failed to mirror the move with five-year rates, departing from past trends when the two have moved in tandem.



Sources: WisdomTree, Bloomberg, as of 31 October 2023. Historical performance is not an indication of future performance, and any investments may go down in value.

PBOC TO HELP MARKETS SWALLOW NEW DEBTS

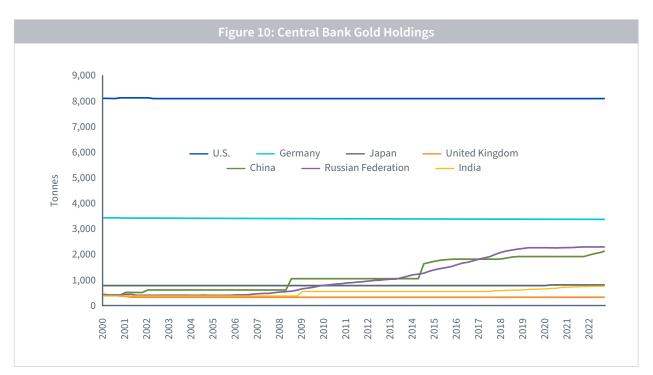
The PBoC today is more preoccupied with accommodating the sustained rapid issuance of government bonds by injecting funds into the banking system. The central government is in the process of implementing a "package of debt-resolving plans" for local governments. Local governments have the go-ahead to issue 1.8 trillion yuan in special bonds based on the gap between the cumulative special-bond quota and outstanding bonds. This spare capacity stems from unused quotas in previous years plus bond repayments. This cumulative quota is different from the 3.8 trillion yuan annual quota for 2023, which has largely been used up. The refinancing bonds are likely to be used to replace local government financing vehicles' hidden debts, improving financial risk. The PBoC has shifted focus from interest policy to accommodating high government debt issuance by injecting liquidity support.



PBOC AND FX RESERVE MANAGEMENT

The events of 2022 spooked many central banks, the PBoC included. When the Federal Reserve and central banks of G7 currencies froze Russia's foreign currency reserve assets, many central banks realised that G7 currencies could easily be weaponised. In the pursuit of alternatives, gold as a pseudo-currency is ranking as one of the most popular for central bankers to diversify with.

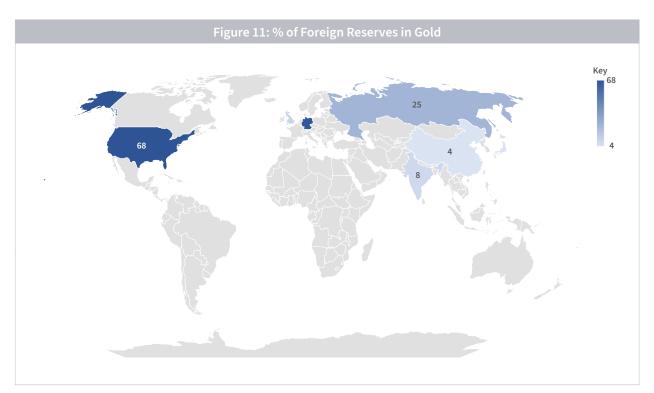
Between 2019 and October 2022, the PBoC had not reported any gold purchases. However, since November 2022, the central bank has reported 11 straight months of buying. China has been one of the most aggressive buyers this year. At 2,165 tonnes in October 2023, China's gold holdings are approaching the level of Russia's (the latter, however, is likely to be underreported).



Sources: WisdomTree, World Gold Council, IMF, as of October 2023. Historical performance is not an indication of future performance, and any investments may go down in value.



However, as a percentage of total foreign exchange (FX) reserves, China's holdings are rather low at 4% versus 8% for India, 25% for Russia and north of 68% for the U.S. and Germany. We believe that the PBoC will continue to purchase gold and diversify from G7 currencies, especially in an era of fragmented geopolitics.



Sources: WisdomTree, World Gold Council, IMF, as of October 2023. Historical performance is not an indication of future performance, and any investments may go down in value.

The PBoC's delivery of monetary policy is likely to be shaped by the government's desire (or lack thereof) to stimulate the economy and escape the real estate rout. One of the central government's priorities is to unencumber local governments from the shackles of their shadow debt burdens. Centralising those debts will require the PBoC's assistance in injecting plenty of liquidity into the financial system.

The central bank will also be busy accumulating more gold as it de-dollarizes.



EUROPEAN CENTRAL BANKS DIVERGE ON RATE DECISIONS AS INFLATION SLOG GRIPS BOE

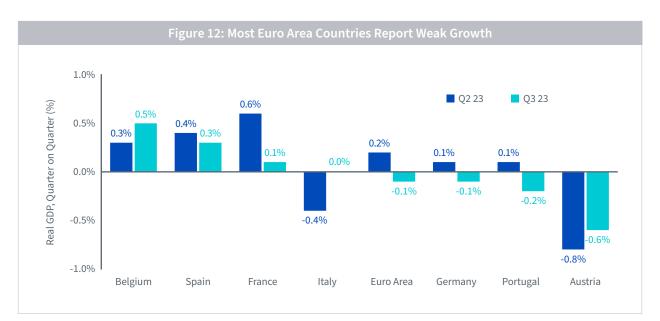
Higher policy rates often take time to find their way into the real economy. In the eurozone, 450 bps of European Central Bank (ECB) interest rate hikes since July 2022 have only pushed the 10-year German bund yield by 154 bps,³ while in the past two weeks alone, eurozone bond yields surged by around 50 bps. The increase in long-dated interest rates has historically had a much bigger impact on growth than a similar-sized increase in policy rates.

Fears that inflation might be stickier than hoped alongside renewed debt sustainability issues have been responsible for the latest surge in bond yields. In addition, the backdrop of rising geopolitical tensions between Israel and Hamas has also created a more complex setup for markets in recent weeks.

As markets embrace the higher for longer interest rate scenario, evident from the rise in long-dated interest rates, the eurozone economy faces a higher likelihood of a recession. Ironically, this subsequently raises the likelihood for the ECB to actually cut rates.

GLOBAL MANUFACTURING DOWNTURN HURTS EUROZONE

The downturn in global trade and manufacturing has hit the Eurozone economy hard. In sharp contrast to the strength of the U.S. economy, euro area GDP contracted 0.1% QoQ in the third quarter of 2023. Germany stood out as the worst performer amongst the big four economies to contract over the quarter. Survey data such as Purchasing Managers Indices (PMIs) suggest that momentum heading into the fourth quarter of 2023 will be weak. Softening employment expectations also suggest that the labour market's resilience so far is beginning to fade. The balance of risks for the eurozone economy is now shifting to the downside.



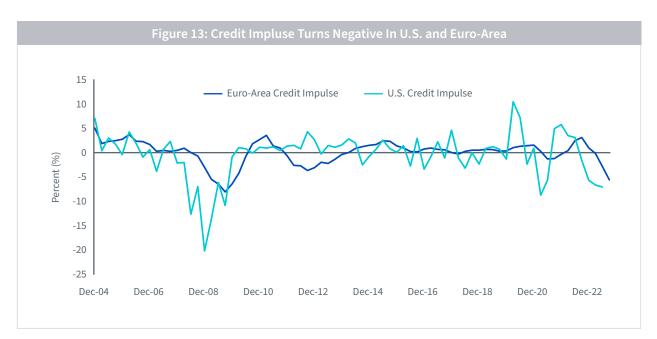
Sources: Eurostat, WisdomTree, as of 27 October 2023. Historical performance is not an indication of future performance, and any investments may go down in value.

³ Bloomberg from 1 July 2022 to 31 October 2023.



TIGHT CREDIT STANDARDS, DOWNSIDE RISK FOR INVESTMENTS

The ECB's quarterly bank lending survey continued to show a tight environment for lending across most categories. Credit standards were tightened further and by more banks than expected in the third quarter. Loan demand fell strongly for both households and firms. Demand for credit remains weak, with 45% of banks reporting weaker demand than in the prior quarter.⁴ While the net number of banks tightening credit standards has declined slightly since the peak in 2022, the tightening continues to persist. The credit impulse—that is, the annual change in the growth of credit relative to GDP—in the euro area is fast approaching levels last obtained at the depth of the financial crisis in 2009.



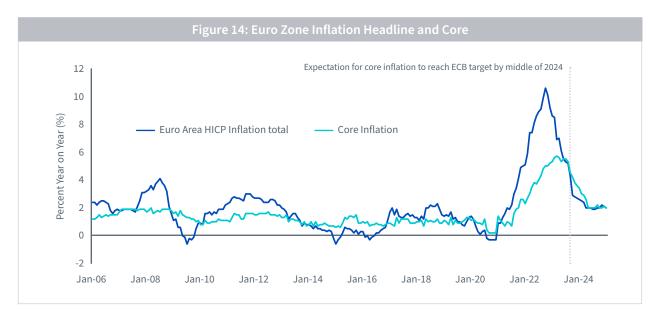
Sources: Bloomberg, WisdomTree, as of 30 September 2023. Historical performance is not an indication of future performance, and any investments may go down in value.



⁴ Euro area Bank Lending Survey (BLS) – Q3 2023.

THE DECLINE IN INFLATION IS ACCELERATING

Disinflation in the euro area is well on its way. The fall in energy prices has driven the bulk of the decline in headline inflation. Looking ahead, we expect all other main components of inflation to weaken towards year-end and in the first half of 2024. Recent survey results and monthly labour market reports from individual countries have indicated labour market conditions in the eurozone are deteriorating on the back of continued economic weakness. As a result, unemployment should move higher in the coming quarters, which is likely to limit wage growth and the parts of inflation that are most sensitive for wages, mainly in the services sector.



Sources: Bloomberg, WisdomTree, as of 27 October 2023. **Historical performance is not an indication of future performance, and any investments may go down in value.**

THE HURDLE FOR ECB TO HIKE REMAINS HIGH

ECB President Lagarde, at the governing council meeting, acknowledged the weakness of the eurozone economy and the labour market. Other dovish signals at the October meeting were in the message that credit dynamics had weakened further and longer-term interest rates have risen markedly, setting the scene for further downgrades at the December growth forecast. While President Lagarde ruled out any discussion of rate cuts, we believe that the ECB will likely pivot earlier (by Q1 2024) than market expectations as growth and inflation decline further.

UK RATES TO REMAIN HIGH FOR SUFFICIENTLY LONG

Unlike the eurozone, there have been structural shifts in the UK economy driven by COVID-19, Brexit and a decade of supply shocks, rendering inflation expectations modestly deanchored. The impact of interest rate hikes has been delayed. This was confirmed by Swati Dhingra, a member of the Bank of England's (BOE) Monetary Policy Committee, estimating that only 20%–25% of the BOE's interest rate hikes have so far fed through to the economy.



The impact of interest rate hikes has also been reduced by changes in the housing market. This is partly due to the changing structure of the mortgage market, with more people having fully paid off their loans and a larger proportion owning longer-term loans, resulting in interest rates having to stay higher for longer to bear the same impact on inflation. Further complicating matters, the labour market is now structurally tighter than before, owing to the sharp rise in sickness and lower workforce following Brexit, which implies wage growth and services inflation are likely only to fall gradually. The latest money and credit data show that demand for credit among UK households has remained fundamentally weak, driven by the fall in housing transactions and mortgage lending.

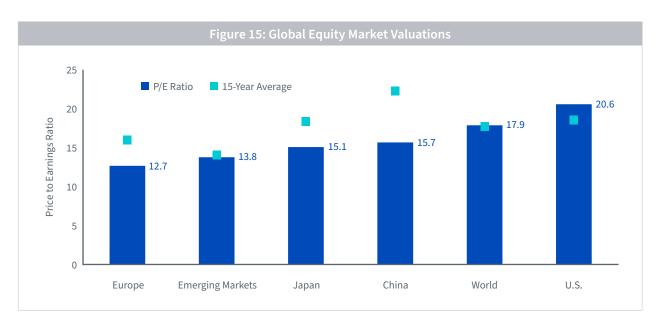
A DICHOTOMY BETWEEN GOODS AND SERVICE INFLATION

A clear dichotomy is emerging between goods and services inflation. While the six-month annualised rate of nonenergy goods inflation is down to 3.4%, services inflation (driven by wage growth) remains sticky at 8%. Slowing goods inflation should cut headline inflation further, and services inflation will fall as passthrough fades, but the question remains where it settles. At the same time, the UK economy is stagnating, with growth coming in at -0.1% QoQ third-quarter GDP growth, below the Bank of England's forecast of 0.1%.⁵

Against this backdrop, the BOE is likely to keep rates on hold at 5.25% until September next year. Our expectation remains for the first cuts to come next September and for policy rates to be around 4.5% by the end of next year and 3.5% by the end of 2025.

EUROPEAN EQUITIES ARE ATTRACTIVELY VALUED

Despite all the doom and gloom on the macro front, European equities remain attractively valued versus global equity markets on comparing the price-to-earnings ratio.



Sources: Bloomberg, WisdomTree, as of 31 October 2023. Historical performance is not an indication of future performance, and any investments may go down in value.



⁵ Bloomberg, as of 12 October 2023.

While economic data in 2023 showed a minor technical recession, European corporate balance sheets remain strong, holding low levels of debt. Company earnings reports have provided evidence of the manufacturing sector being hit hardest by the recent economic weakness alongside cyclical destocking, while the services and consumer sides have held up better, helped by strong savings, employment and wage growth. As the outlook looks to be shaping up for a hard landing scenario in Europe, we favour dividend-yielding, value-oriented stocks owing to the higher margin of safety and income they offer.

Appendix

Glossary

Agency debt: A debt security issued by a U.S. government-sponsored entity such as FNMA, FHLB or SLMA. Balance sheet: Refers to the cash and cash equivalents part of the current assets on a firm's balance sheet and cash available for purchasing new positions. Basis point: 1/100th of 1 percent. <u>Central bank</u>: An institution that manages the currency and monetary policy of a state or formal monetary union and oversees its commercial banking system. <u>Coupon</u>: The annual interest rate stated on a bond when it's issued. The coupon is typically paid semi-annually. This is also referred to as the "coupon rate" or "coupon percent rate." Consumer Price Index (CPI): A measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care. The CPI is calculated by taking price changes for each item in the predetermined basket of goods and averaging them; the goods are weighted according to their importance. Changes in CPI are used to assess price changes associated with the cost of living. Core CPI excludes food and energy costs. Disinflation: Term used to describe instances of slowing inflation. It's different from deflation in that price levels are still increasing overall, just at a slower rate. Dividend yield: A financial ratio that shows how much a company pays out in dividends each year relative to its share price. Exponential moving average (EMA): A type of moving average that places a greater weight and significance on the most recent data points. Federal Open Market Committee (FOMC): The branch of the Federal Reserve Board that determines the direction of monetary policy. Foreign sovereign debt: A debt security issued or guaranteed by the government of a foreign country, any political subdivision of a foreign country or a supranational entity. Gross domestic product (GDP): The sum total of all goods and services produced across an economy. Japan TOPIX 500 Index: A capitalization-weighted index designed to measure the performance of the 500 most liquid stocks with the largest market capitalization that are members of the TOPIX. TOPIX is a free float-adjusted market capitalization-weighted index that is calculated based on all the domestic common stocks listed on the Tokyo Stock Exchange First Section. Li Keqiang Index: An economic measurement index created to measure China's economy using three indicators, as reportedly preferred by Li Kegiang, formerly the Premier of the People's Republic of China, as a better economic indicator than official numbers of GDP. Manufacturing Purchasing Managers Indices: Economic indicators derived from monthly surveys of private sector companies. Monetary policy: Actions of a central bank or other regulatory committee that determine the size and rate of growth of the money supply, which in turn affects interest rates. Mortgage-backed securities (MBS): A type of asset-backed security that is secured by a mortgage or collection of mortgages. National Financial Conditions Index: An index that provides a comprehensive weekly update on U.S. financial conditions in money markets, debt and equity markets, and the traditional and "shadow" banking systems. Producer Price Index (PPI): A weighted index of prices measured at the wholesale or producer level. Price-to-earnings (P/E) ratio: Share price divided by earnings per share. Lower numbers indicate an ability to access greater amounts of earnings per dollar invested. Purchasing Managers Index (PMI): Compiled by S&P Global for more than 40 economies worldwide, the dataset indicates the overall health of an economy and sub-indices that provide insights into other key economic drivers such as GDP, inflation, exports, capacity utilization, employment and inventories. <u>Quantitative easing (QE):</u> A government monetary policy occasionally used to increase the money supply by buying government securities or other securities from the market. Quantitative easing increases the money supply by flooding financial institutions with capital in an effort to promote increased lending and liquidity. Quantitative tightening (QT): The reverse process of quantitative easing whereby securities are either sold or the proceeds of maturing securities are not reinvested with the goal of tightening economic conditions to prevent the economy from overheating. Real GDP: A macroeconomic statistic that measures the value of the goods and services produced by an economy in a specific period, adjusted for price changes. S&P 500 Index: A market capitalization-weighted benchmark of 500 stocks selected by the Standard and Poor's Index Committee, designed to represent the performance of the leading industries in the United States economy. TINA: An acronym for "there is no alternative." It is often used by investors to justify a lackluster performance by stocks on the grounds that other asset classes offer even worse returns. T-note: A debt obligation issued by the United States government that matures in less than 30 years. Total social financing (TSF): A broad measure of credit and liquidity in the Chinese economy, including bank loans, corporate bonds, entrusted loans and trust loans. U.S. Treasury (UST): UST is the abbreviation for the United States Treasury, the federal government division that manages U.S. finances. UST is commonly used to reference debt that is issued by the United States. Valuations: Refers to metrics that relate financial statistics for equities to their price levels to determine if certain attributes, such as earnings or dividends, are cheap or expensive. Yield: The income return on an investment. Refers to the interest or dividends received from a security that is typically expressed annually as a percentage of the market or face value. Yield curve: Graphical depiction of interest rates on government bonds, with the current yield on the vertical axis and the years to maturity on the horizontal axis. Yield curve control (YCC): A monetary policy action whereby a central bank purchases variable amounts of government bonds or other financial assets in order to target interest rates at a certain level. Zero interest rate policy: A monetary policy whereby interest rates, such as Fed Funds, are kept close to or at zero.



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