Citi Global Wealth Investments December 15, 2021

Global Fixed Income Strategy Bulletin

Federal Reserve pivot to hawkish is now official: taper size doubled, rate hike liftoff almost certain by mid-2022

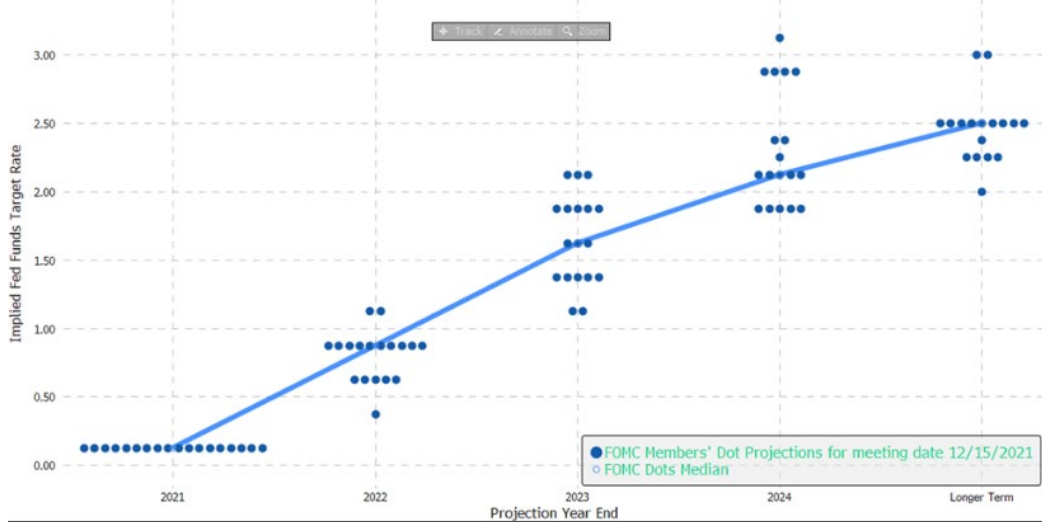
Bruce Harris, Head – Global Fixed Income Strategy
Steven Wieting, Chief Investment Strategist and Chief Economist
Joseph Kaplan, Global Investment Strategy

Announcement summary:

- At their December meeting, the Federal Open Market Committee (FOMC) announced that it left the Fed Funds Target Rate (0-0.25%) unchanged, which was expected.
- The Fed indicated that their current pace of reducing $15bn/mo in monthly asset purchases ("tapering") would be doubled to $30bn (to $20bn/mo in Treasuries and $10bn/mo in MBS). If this pace is maintained, the Fed would end the taper by the end of March 2022 (though it remains "prepared to adjust" this pace if needed). The final size of the Fed balance sheet would top out at just under $9 trillion.
- The "dot plot", or the 18 individual committee members' current expectation for future rate hikes (it is not a "committee forecast"), was adjusted much higher and now implies three rate hikes by the end of 2022 (median 0.875%) and three additional rate hikes in 2023 (median 1.625%). 2024 also shows two additional rate hikes, bringing the Fed funds rate to 2.125% (**Figure 1**). This implies that once the Fed does start raising rates, it will be a 0.25% raise almost every quarter. Initial market reaction in the front end was muted, with Eurodollar futures for Dec 24 remaining flat (**Figure 2**). Three rate hikes instead of two in 2022 was a hawkish surprise, but not exceedingly so.
- From the September meeting, the Fed adjusted 2022 projected median Core PCE inflation up from 2.3% to 2.7%, while 2023 remained flat at 2.3%. Of note, a record number of committee members (15) continued to see inflation risk to the upside.
- The unemployment rate was revised lower from 3.8% to 3.5% for 2022, while real GDP growth was increased from 3.8% to 4%
- The word "transitory" was dropped from describing inflation in the FOMC statement. Additionally, the statement noted: "*The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. In support of these goals, the Committee decided to keep the target range for the federal funds rate at 0 to 1/4 percent. With inflation having exceeded 2 percent for some time, the Committee expects it will be appropriate to maintain this target range until labor market conditions have reached levels consistent with the Committee's assessments of maximum employment."* This phrasing suggests that while acknowledging that inflation is running hot, maximum employment still remains a key goal of the Fed before they begin liftoff of their rate hiking cycle, though Powell later noted that rate hikes could begin prior to reaching maximum employment.

- In that respect, the FOMC statement also acknowledged the risk of the COVID virus to the economy: "*The path of the economy continues to depend on the course of the virus. Progress on vaccinations and an easing of supply constraints are expected to support continued gains in economic activity and employment as well as a reduction in inflation. Risks to the economic outlook remain, including from new variants of the virus.*"
- In explaining the hawkish shift in policy, Chairman Powell noted in his press conference after that price increases have now spread to a "*broader range of goods and services*", as well as "*supply and demand imbalances related to the pandemic and the reopening of the economy have continued to contribute to elevated levels of inflation*", and that price increases have been "*larger and longer lasting*" than expected.
- In addition to the flat market moves in the front end, market reaction in the longer end was similarly muted, with the curve slightly flattening as it has every time this year that the Fed has sent hawkish messages. The 2yr traded up from 0.67% to 0.70%, while the 10yr traded up from 1.45% to 1.46%, a level that the Fed Funds ("FF") rate will surpass by the end of 2023 if the "dot plot" forecast rate hikes proves accurate. That would result in an inverted FF/10yr yield curve, something that in the past 30 years have only happened just prior to recessions (**Figure 3**).

Figure 1: Fed's median projections for Fed Funds



Source: Haver Analytics as December 15, 2021. Note: Blue line is the FOMC Members' median projection. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Figure 2: Fed Funds Curve, implied by Eurodollars

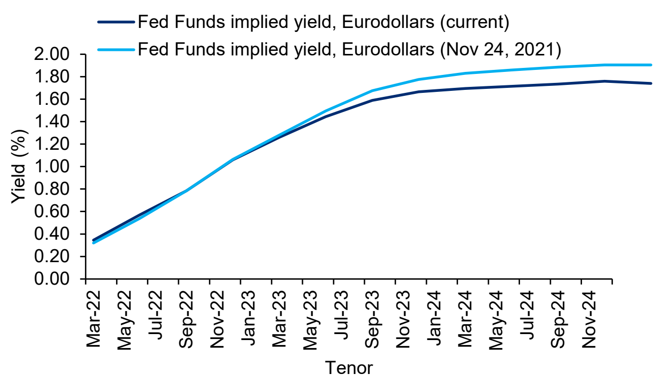
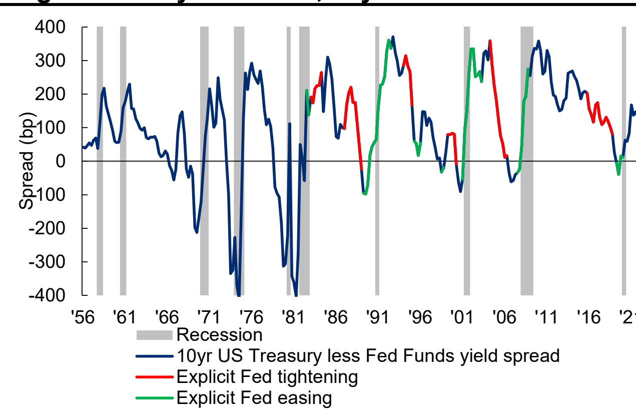


Figure 3: US yield curve, 10yr less Fed Funds



Source: Bloomberg as December 15, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Our takeaway:

Our sense from the low level of US real and nominal long-term yields is that markets believe high inflation is incompatible with expansion. (Low global yields are a concurrent issue that has been with us for a long time). If the Fed doesn't help stabilize inflation at a lower level, the US recovery may terminate early. What this also means, is that an improvement in supply (and normalization in demand) would extend the expansion's longevity. Therefore, lower inflation would in fact be compatible with rising real and nominal long-term yields (re-steepening the curve).

Powell may have delivered his first bearish policy headline. To paraphrase, he said a very different economic outlook than prevailed in 2018 argues for a different balance sheet approach now. He argues against the "long wait" of the last cycle. We would view rate hikes and asset sales as interchangeable, so doing both would substantially augment tightening. At the same time, Powell noted a need to be gentle with markets now, arguing against an immediate end to bond purchases, preferring a "methodical approach" to taper rather than shock markets.

We believe the supply side of the world economy has been impaired by COVID but has the potential to recover. Looking forward, we will not be treating the economy with new rounds of demand stimulus. Our path to higher nominal and real rates is one of higher confidence in the longevity of the expansion, which requires supply and demand to grow at more similar rates in the next two years. Inflation is the enemy of growth.

Recent U.S. Treasury market comments:

Continuing low nominal and real yields have been a puzzle for fixed income markets in 2021. Even with headline CPI inflation at almost 7%, the 10y bond yield has only briefly traded at the 1.70-1.75% yield level a few times this year (**Figure 4**). As we have detailed elsewhere (see our Outlook 2022), the "cash thief" of inflation has wreaked havoc on the purchasing power of fixed income investments, and yet investors in aggregate have refused to sell Treasuries to a yield high enough to at least partially compensate them for this higher inflation. In fact, the 10yr Treasury yield at 1.46% is only about 50bps higher than where it started 2021 (0.92% - just as COVID vaccines were first being introduced to the world), and a full 45 bps lower than at the beginning of 2020 pre-COVID (1.91%). The result of this low nominal yield is that the real CPI-adjusted yield for a holder of 10yr Treasuries - currently at about -5.3% (based on the November CPI print of 6.8%) - is at its lowest level ever since before 1982 (**Figure 5**).

Figure 4: Nominal 10yr US Treasury yield

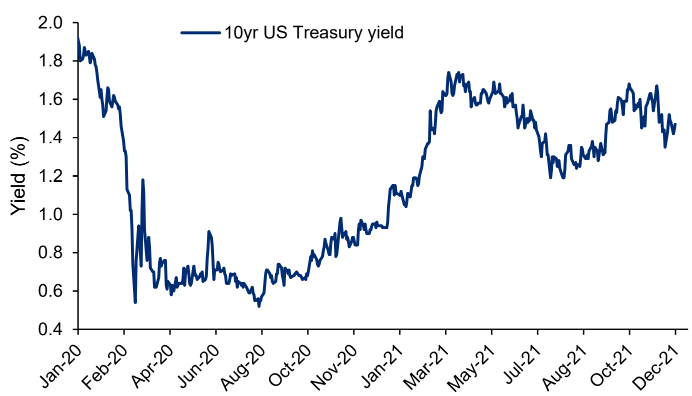
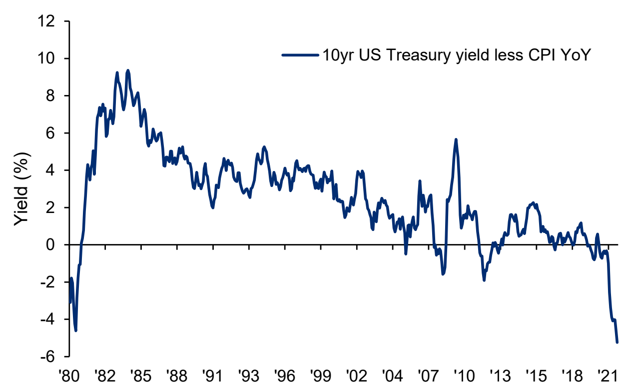


Figure 5: 10yr US Treasury yield less CPI



Source: Haver Analytics as December 15, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

There are many possible explanations for these persistent low nominal and negative real yields, and they are not mutually exclusive.

The simplest rational may be that some investors decided that inflation is temporary. Under this reasoning each month of recent higher highs in monthly CPI is considered as "the peak", and as 2022 approaches those peak inflation readings will become more difficult to beat, resulting in a lower trend rate of future inflation simply because prices have already increased so much. This view on why longer yields haven't increased has great merit, but even if inflation is expected to cool down (and we believe it will, to 3% by the end of 2022), it is likely to still run significantly above the past decade's average (pre-Covid) of 1.8% (we expect 2.5% average inflation post-2022). In part, this is because the Fed wants higher inflation through its "average inflation target" of 2%. If that proves to be the case, bond investors who expect inflation to cool will still likely realize negative real inflation-adjusted returns, so it's not entirely clear why they would still be invested at this yield level (although portfolio asset diversification may be part of the reason).

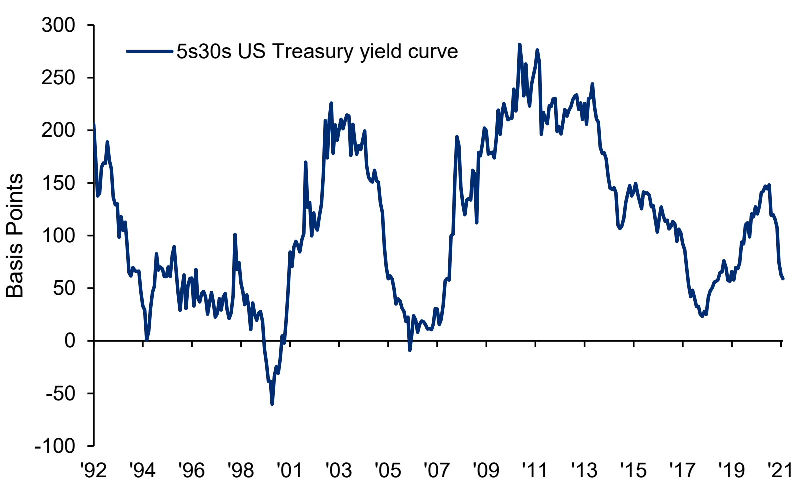
Fundamental and technical factors may provide a second possible broad explanation. Concerns over slowing growth momentum due to COVID variant resurgence, as well as the deceleration of the Chinese economy affecting global growth are fundamental issues, while an ongoing technical factor is the Fed's ownership of an ever-growing percentage of US Treasuries combined with continuing foreign demand due to negative yields in Japan and the Eurozone. We have discussed these factors extensively in previous bulletins (see our July 8th and August 27th Strategy Bulletins), but it is worth highlighting again how strong this technical factor might be. Per the most recent U.S. Treasury data (as of June 2021) almost 75% of the entire public Treasury market ($22.3T) is owned by the Federal Reserve, state and local governments, banks, and "foreign and international" owners (a little over half of which are foreign government entities). This ownership share of the total market is up almost 10% from the end of 2019. As these entities are almost entirely insensitive to "purchasing power" considerations, a surge in inflation for a year or two isn't going to lead them to sell, as their most important consideration is just "being invested". The remaining ~25% doesn't leave much "tradable float" available for everyone else, so this may be a significant factor as to why the long end of the curve is very slow to re-price to inflation.

Finally, as described in "Our takeaway" above, a third possible explanation for the low long-end of the yield curve is that yields are pricing to some extent the Fed's "reaction function" policies to higher inflation versus the impact of those policies on the economy. The "reaction function" is basically a given policy path that the Fed may take in respect to economic data trends that it wants to correct. The Fed has made clear previously and again today that it will take actions to contain inflation, but the market may be concerned that with inflation readings so "volatile" due to pandemic distortions, inflation may run either "too hot" or "too cold" after the Fed "reacts", and neither would be good for the economy. The challenge for the Fed is to plot a policy path that helps achieve an outcome in between these scenarios, wherein they contribute to a deceleration of inflation without stalling growth in the process.

Our 2022 US Rates Outlook

We think the Fed is well aware of these possible scenarios, and additionally of the historical context in which it will be initiating its rate hike cycle. The 10yr yield is at the lowest nominal level it has ever been in history (pre-pandemic), the yield curve is already extremely flat (**Figure 6**), and negative real rates are also near their lowest in history (as measured by both realized inflation and forward-looking TIPS yields). In our view, and specifically because we see inflation trending lower than the market currently expects, when the Fed starts raising rates but in order to avoid "over-hiking", it will be patient and take a more incremental approach as declining inflation readings lessen the pressure to raise rates. These more measured hikes should steepen the curve slightly both by reducing the yield in the intermediate space and by increasing the yield in the long end as the market decides it needs more term premium to compensate for a possibly more dovish Fed and less severe –but more stable - inflation run rate in the mid 2% range.

Figure 6: Spread between 30yr Treasury and 5yr Treasury



Source: Haver Analytics as December 15, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Accordingly, we expect the rate hike cycle to commence by mid-2022, with three rate hikes for next year and three for 2023, taking the FF rate to 1.50%. However, the Fed may pause during this cycle if the economy shows any signs of stress, or exogenous factors such as the omicron COVID variant or other fundamental events imperil the recovery. After that, the Fed may continue raising in 2024 if warranted. Currently, the futures market is not pricing in the 2024 rate hikes.

This scenario of a measured rate hike pace within a slowing inflation environment would allow for real GDP and employment growth, which in turn may result in a moderate increase in the 10yr yield to about 2% by the end of 2022 as “inflation volatility” subsides.

This email contains promotional materials. If you do not wish to receive any further promotional emails from Citi Private Bank, please email donotspam@citi.com with "UNSUBSCRIBE" in the subject line. Email is not a secure environment; therefore, do not use email to communicate any information that is confidential such as your account number or social security number.

Announced in January 2021, Citi Global Wealth ("CGW") is comprised of the wealth management businesses of Citi Private Bank and Citi's Global Consumer Bank. Through these businesses, CGW delivers Citi's wealth solutions, products and services globally. The unified management and delivery of CGW's wealth strategy represents a further commitment by Citi to become a leading global wealth business. Citi Global Wealth Investments ("CGWI") is comprised of the Investments and Capital Markets capabilities of Citi Private Bank, Citi Personal Wealth Management and International Personal Bank U.S.

Citi Private Bank and Citi Personal Wealth Management are businesses of Citigroup Inc. ("Citigroup"), which provide clients access to a broad array of products and services available through bank and non-bank affiliates of Citigroup. Not all products and services are provided by all affiliates or are available at all locations. In the U.S., investment products and services are provided by Citigroup Global Markets Inc. ("CGMI"), member FINRA and SIPC, and Citi Private Advisory, LLC ("Citi Advisory"), member FINRA and SIPC. CGMI accounts are carried by Pershing LLC, member FINRA, NYSE, SIPC. Citi Advisory acts as distributor of certain alternative investment products to clients of Citi Private Bank. Insurance is offered by Citi Personal Wealth Management through Citigroup Life Agency LLC ("CLA"). In California, CLA does business as Citigroup Life Insurance Agency, LLC (license number 0G56746). CGMI, Citi Advisory, CLA and Citibank, N.A. are affiliated companies under the common control of Citigroup.

Outside the U.S., investment products and services are provided by other Citigroup affiliates. Investment Management services (including portfolio management) are available through CGMI, Citi Advisory, Citibank, N.A. and other affiliated advisory businesses. These Citigroup affiliates, including Citi Advisory, will be compensated for the respective investment management, advisory, administrative, distribution and placement services they may provide.

International Personal Bank U.S. ("IPB U.S."), is a business of Citigroup Inc. ("Citigroup") which provides its clients access to a broad array of products and services available through Citigroup, its bank and non-bank affiliates worldwide (collectively, "Citi"). Through IPB U.S. prospects and clients have access to the Citigold® Private Client International, Citigold® International, International Personal, Citi Global Executive Preferred, and Citi Global Executive Account Packages. Investment products and services are made available through either Citi Personal Investments International ("CPII"), a business of Citigroup Inc., which offers securities through Citigroup Global Markets Inc. ("CGMI"), member FINRA and SIPC, an investment advisor and broker–dealer registered with the Securities and Exchange Commission; or Citi International Financial Services, LLC ("CIFS"), member FINRA and SIPC, and a broker–dealer registered with the Securities and Exchange Commission that offers investment products and services to non–U.S. citizens, residents, or non–U.S. entities. CGMI and CIFS investment accounts are carried by Pershing LLC, member FINRA, NYSE, and SIPC. Insurance is offered by CPII through Citigroup Life Agency LLC ("CLA"). In California, CLA does business as Citigroup Life Insurance Agency, LLC (license number 0G56746). Citibank N.A., CGMI, CIFS, and CLA are affiliated companies under common control of Citigroup Inc.

Read additional Important Information

Past performance is not indicative of future results. Real results may vary.

Citi and its employees are not in the business of providing, and do not provide, tax or legal advice to any taxpayer outside Citi. Any statement in this Communication regarding tax matters is not intended or written to be used, and cannot be used or relied upon, by any taxpayer for the purpose of avoiding tax penalties. Any such taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements.

Important information, including information relating to risk considerations can be found in the link above.

Views, opinions and estimates expressed herein may differ from the opinions expressed by other Citi businesses or affiliates, and are not intended to be a forecast of future events, a guarantee of future results, or investment advice, and are subject to change without notice based on market and other conditions. Citi is under no duty to update this presentation and accepts no liability for any loss (whether direct, indirect or consequential) that may arise from any use of the information contained in or derived from this presentation.

INVESTMENT PRODUCTS: NOT FDIC INSURED · NOT CDIC INSURED · NOT GOVERNMENT INSURED · NO BANK GUARANTEE · MAY LOSE VALUE

www.citiprivatebank.com