Mesirow

Capital Markets Brief

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S&P 500
QTD: 7.55% | YTD: -18.13%

Treasury 10Y
QTD: 0.62% | YTD: -16.78%

Muni AAA 10Y
QTD: 6.26% | YTD: -7.68%

DXY
QTD: -7.67% | YTD: 8.21%

Dow
QTD: 16.01% | YTD: -6.86%

NASDAQ
QTD: -0.78% | YTD: -32.51%

Euro Stock 50
QTD: 14.90% | YTD: -8.55%

Bloomberg APAC
QTD: 11.09% | YTD: -17.44%

Introduction

"Knowledge which is acquired under compulsion obtains no hold upon the mind."
– Socrates, *The Republic*, 375 BCE*

"I would like to underscore for the American people that we understand the hardship that high inflation is causing and that we are strongly committed to bringing inflation back down to our 2 percent goal. Over the course of the year, we have taken forceful actions to tighten the stance of monetary policy. We have covered a lot of ground, and the full effects of our rapid tightening so far are yet to be felt. Even so, we have more work to do. Price stability is the responsibility of the Federal Reserve and serves as the bedrock of our economy. Without price stability, the economy doesn't work for anyone. In particular, without price stability, we will not achieve a sustained period of strong labor market conditions that benefit all."
– Federal Reserve Chair Jerome Powell | 12.14.2022

The Federal Reserve Board continued to shake the market landscape in 4Q22. Every step, and importantly, every imagined step by the Open Market Committee tested investor conviction. The Q4 reversal of the US$ trade, the Treasury yield curve inversion, the liquidity drought in the CMO market and the weakness in commercial real estate all responded to perceived Fed signals.

During 1H22, the Fed appeared to be fighting its own data as the Chairman seemed determined to jawbone supply chain and labor costs down in the face of stag-flationary data. The Fed was half right, publishing Q/Q negative GDP data in quarters two and three. But labor markets stayed remarkably robust, while the ill-conceived Russian invasion of Ukraine on February 24 jolted energy markets across the globe, most especially in Europe. The Chinese government's Covid shutdown policy likely impacted global growth, but it further pressured already stressed manufacturing supply chains adding to inflationary pressures. Q4 US GDP came in at +3.2% while the unemployment rate release on 12.2.2022 was a strong 3.7%. Other than a modest increase in productivity, there was not much material data to support an early 2023 Fed pivot.

During 4Q, Federal Reserve language appears to have consciously firmed. Now, the jawboning seemed to focus on the "price stability" pillar of the Fed's dual mission.

* Attributed to Socrates; Plato; The Republic

"The historical record cautions strongly against prematurely loosening policy. We will stay the course, until the job is done.[1] I would say it's our judgement today that we're not at a sufficiently restrictive policy stance yet, which is why we say that we would expect that ongoing hikes would be appropriate."

"It feels like we have a structural labor shortage out there."

"You know, our focus right now is really on moving our policy stance to one that is restrictive enough to ensure a return of inflation to our 2 percent goal over time. It's not on rate cuts. And we think that we'll have to maintain a restrictive stance of policy for some time. Historical experience cautions strongly against prematurely loosening policy. I guess I would say it this way: I wouldn't see us considering rate cuts until the committee is confident that inflation is moving down to 2 percent in a sustained way. So that's the – test I would articulate. And you're correct. *There are not rate cuts in the SEP for 2023*."

– Fed Chairman Jerome Powell 12.14.22

If the number of Jerome Powell lines quoted above reads like overkill, that is our intention, and presumably, that of the Fed Chairman. The FOMC is a strategically opaque institution. The Fed staff very intentionally and tactically stage manages its communication rituals to maximize a sense of institutional mystery, and the Federal Reserve is exceptionally conscious of that powerful mystique.

This column has consistently called out the Fed's 2020 decision to impose a subjective latitude into its FOMC rate-setting process as hubristic. Powell's December comments appear to signal a conspicuously clear intent to hew close to data, leaning hard into The Board's "price stability mission,"

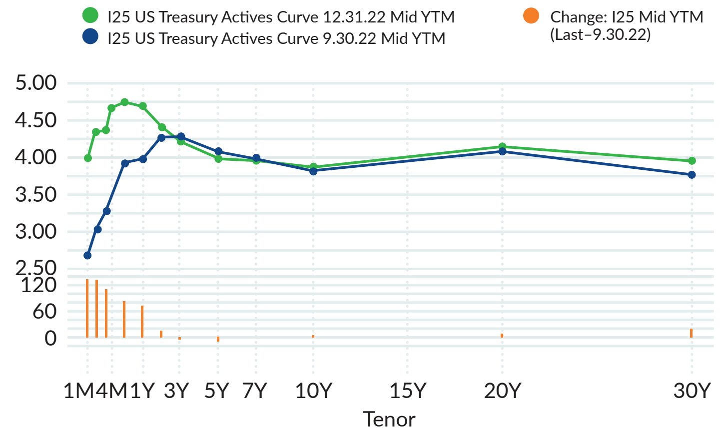
We have consistently been wary of self-pronounced "Fed whisperers" and "dot-plot" savants. They are a dime-a-dozen on Wall Street. We don't claim a special ability to read the minds of those in Washington's political ecosystem. To us, this approach comes across as an infotainment parlor trick, suitable to fill airtime and capture eyeballs for business TV audiences.

But, when we perceive a transparent attempt by the Fed to communicate a fundamental shift in bias, it's worth calling it out, using the Chairman's own words as data. Note the words, the consistency and volume of them, the self-references to the SEP forecast data and consider the institutional intentionality behind this.

"Don't fight the Fed" is invariably good investment advice.

At year end 2022, a plain reading of the Chairman's December comments and the accompanying SEP (Summary of Economic Projections) forecast, suggest that an institutional empirical re-focus has taken place at the FOMC. If so, "Don't fight the Fed" has taken on a different meaning over the course of 4Q22.

CHART 1: **TREASURY ACTIVES CURVES FOR 9.30 & 12.30**

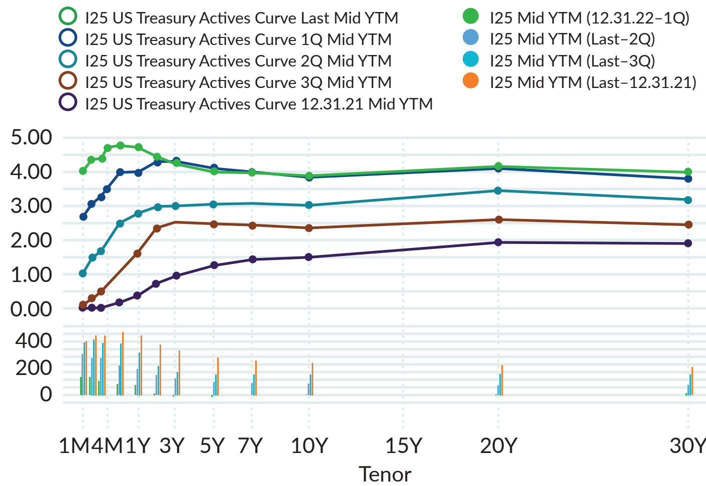


Source: Bloomberg, Mesirow Research.

Over 4Q2022, the US Treasury yield curve remained inverted, flattening modestly 2 years to 10. The 2–30 curve ended the year 50 bp inverted. The 4Q rise in yields was a modest +19 bp on the long bond. Notable was the corresponding +84 bp rise in the 6-month bill rate.

1. Transcript of Chair Powell's Press Conference, December 14, 2022

CHART 2: YIELD CURVES 3.31.22, 6.30.22, 9.30.22, 12.30.22



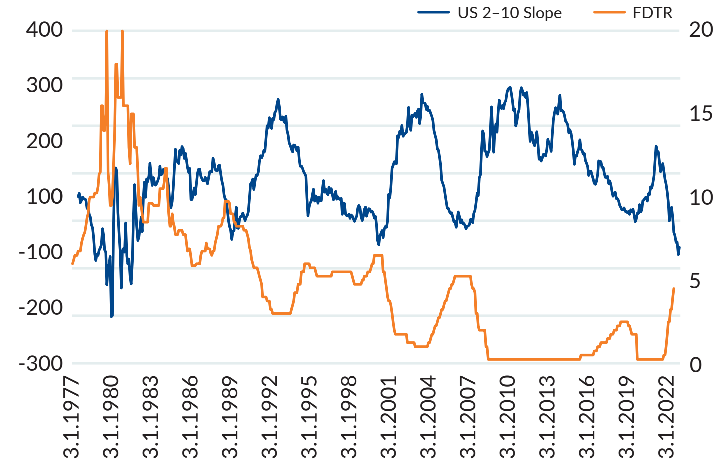
Source: Bloomberg, Mesirow Research.

Over the course of 2022, absolute yields rose across the curve. The sharp increase of short rates drove the curve inversion; 2yr +373 bp, 10 yr +225 bp, 30 yr +194 bp.

The long end of the rates market remains well over its skis; traders focused over the horizon in a desperate search for the long-desired "Fed Pivot." On the front end, labor market and energy price pressures keep short tenor rates high. The markets are talking, wishing, hoping for growth and price signals that herald a Fed policy turn.

However, a plain reading of the Fed Chairman's December 14 comments does not indicate that accommodation is at hand. The Fed's accompanying SEP (Summary of Economic Projections) forecasts softer GDP growth in 2023 at 0.5% but revised the projected Fed Funds rate to +5.1% next year; hardly a strong "pivot" signal.

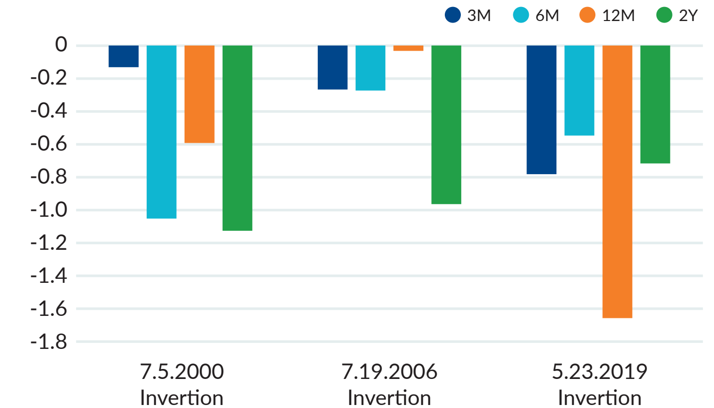
CHART 3: FED TARGET RATE (R) VS. TREASURY 2–10 SLOPE (R)



Source: Bloomberg, Mesirow Research.

Note that the lines are on different scales, but we follow their convergence/divergence over time, as the Fed funds target rises. Median FOMC projection for 2023 is 5.1% in the December 2023 FOMC SEP.

CHART 4: TREASURY 10Y YIELD CHANGE AFTER 3M – 10Y YIELD INVERSION



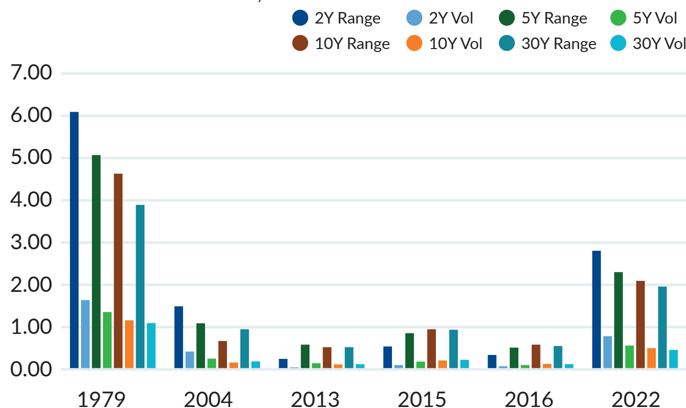
Source: Bloomberg, Mesirow Research.

Based upon prior curve inversion events, consider the average change in the T10 rate in each period.

Three months after inversion the average change is -39bp, at six months the change is -62bp, at 12 months the average change is -76bp, at 24 months the average change in the 10-year Treasury is -94 bp. The Treasury Yield curve inverted on November 8, so we are early in the cycle. The yield change from 11.8.2022 through 12.30.2022 was -25bp.

CHART 5: **TREASURY YIELD RANGE & VOLATILITY ACROSS CURVE**

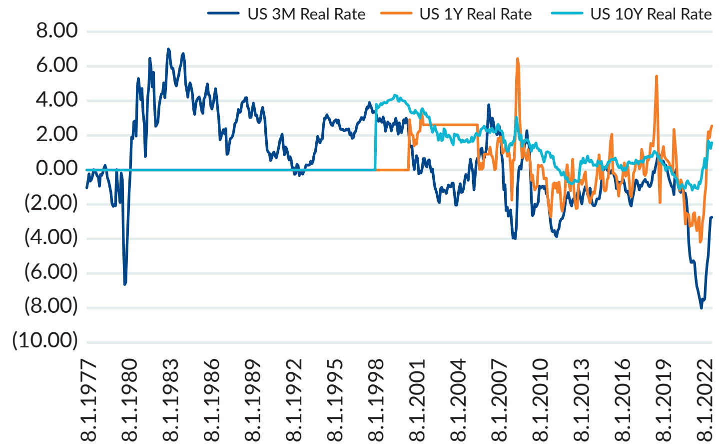
(9 Month Post 1st Hike)



Source: Bloomberg, Mesirow Research.

Our current rate cycle began at *much* lower absolute rate levels than the past cycles illustrated here, and the Fed interventions have been accordingly less extreme. That said, note that the range and volatility metrics continue to reflect the 1979 Volker rate cycle most closely, as they did when we published the 6-month data in 3Q.

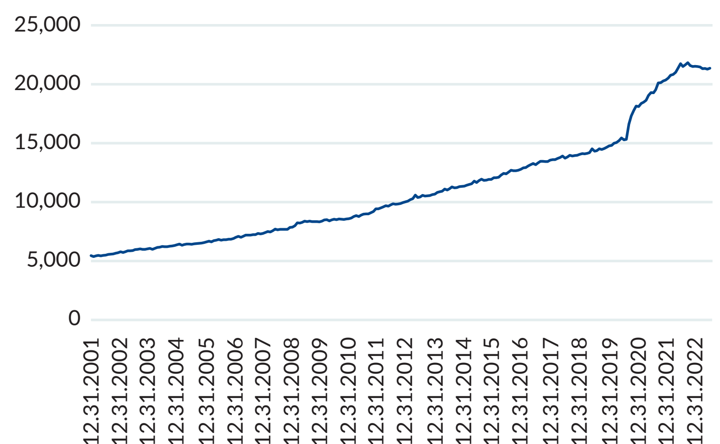
CHART 6: **US 3M, 1Y & 10Y REAL RATES**



Source: Bloomberg, Mesirow Research.

Real rates are rising, but still accommodative. The three-month real rate is still negative at -2.76%. The one-year real rate is +2.55% and the ten-year real rate is +1.58%.

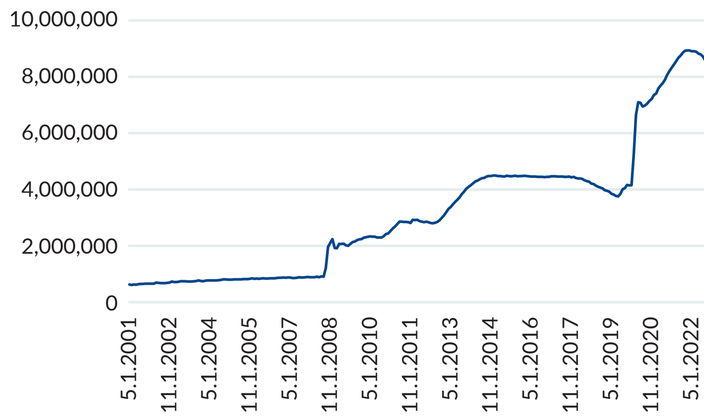
CHART 7: **US M2 (BN)**



Source: Bloomberg, Mesirow Research.

Money supply measured by M2 is stable. The minimal 2022 reduction at -1.7% is not material monetary restraint.

CHART 8: **FED BALANCESHEET (MM)**



Source: Bloomberg, Mesirow Research.

The Fed Balance sheet reduction for 2022 is a minimal -2.2%. The $8.551 trillion outstanding at 12.31.2022 is very far from the Fed's stated target and does not represent a significant contribution to quantitative tightening.

CHART 9: **PPI YOY**

Source: Bloomberg, Mesirow Research.

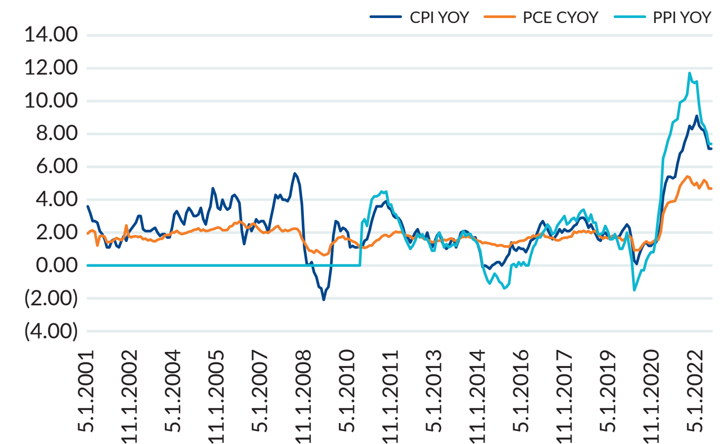
12.9.2022 Y/Y +7.4%. Still orders of magnitude above the Fed's stated inflation target.

CHART 10: **CPI YOY**

Source: Bloomberg, Mesirow Research.

12.13.2022 Y/Y +7.1%, still orders of magnitude above the Fed's stated inflation target.

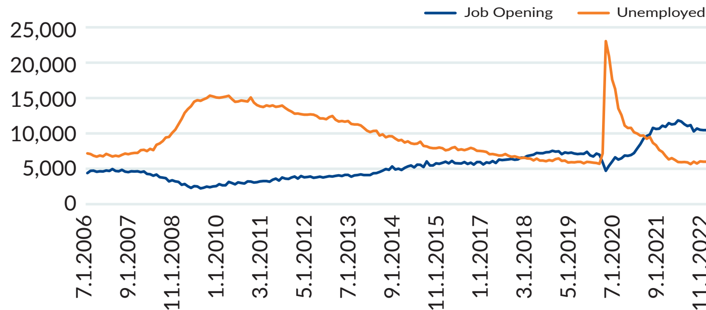
CHART 11: **CPI YOY, PCE CORE YOY & PPI FINAL DEMAND YOY**



Source: Bloomberg, Mesirow Research.

PCE Core — the Chairman's preferred measure of inflation — is showing lower values (but minimal progress) while remaining well above the Board's stated 2% goal. The Chairman's December 14 comments regarding the labor pressure embedded in non-housing services data demonstrate that they have eyes on this metric.

CHART 12: UNEMPLOYED & JOB OPENINGS (000)



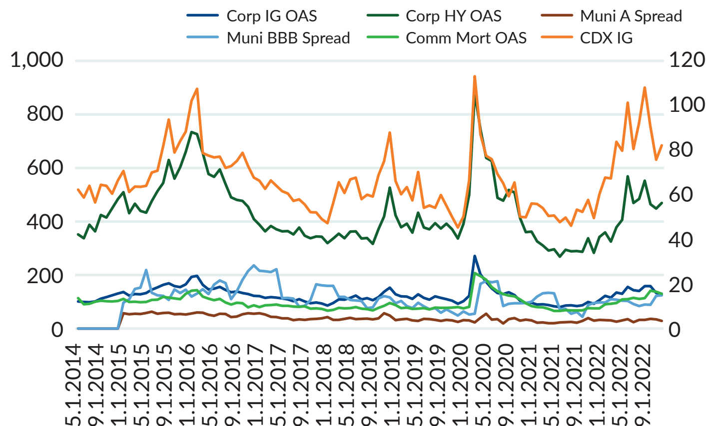
Source: Bloomberg, Mesirow Research.

There is still a structural employment gap at 4.4 million too few workers. Chairman Powell recognized this explicitly in his December 14 comments:

"it feels like we have a structural labor shortage out there, you know, 4 million fewer people, a little more than 4 million who were in the workforce available to work than there's demand for workforce."

The Chairman is struggling to express his new self here. His next sentence is, "so the fact that there's a strong labor market, you know, means that companies will hold on to workers."[2] This is NOT a disinflationary observation.

CHART 13: CASH BOND CREDIT SPREADS (L) & CDX IG SPREAD (R)

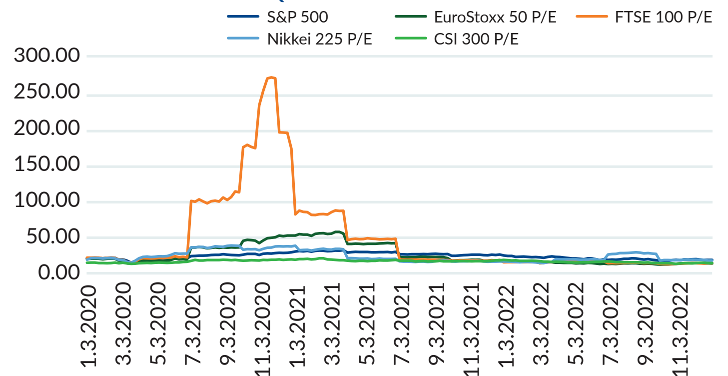


Source: Bloomberg, Mesirow Research.

Perceived credit quality drives the story on this graph. Credit spreads generally widened throughout 2022. HY Corporate spreads ended the year at +469 bp, +131 wider than in January. However, the YE value is tighter than the peak in spreads in May, early in the Fed tightening regime. Quality was rewarded in 2022.

However, neither credit-focused Fixed Income or Equity investors dare sleep soundly. This Fed tightening cycle has tapped the brakes on economic growth, but the path to the Chairman's own 2% PCE Core talisman likely runs through several quarters of disappointing Corporate earnings releases. The ongoing earnings pressure from wage and supply-chain inflation, on top of the Fed-imposed economic constraints are likely to drive more widening pressure on credit spreads.

CHART 14: MAJOR EQUITY INDICES P/E RATIOS

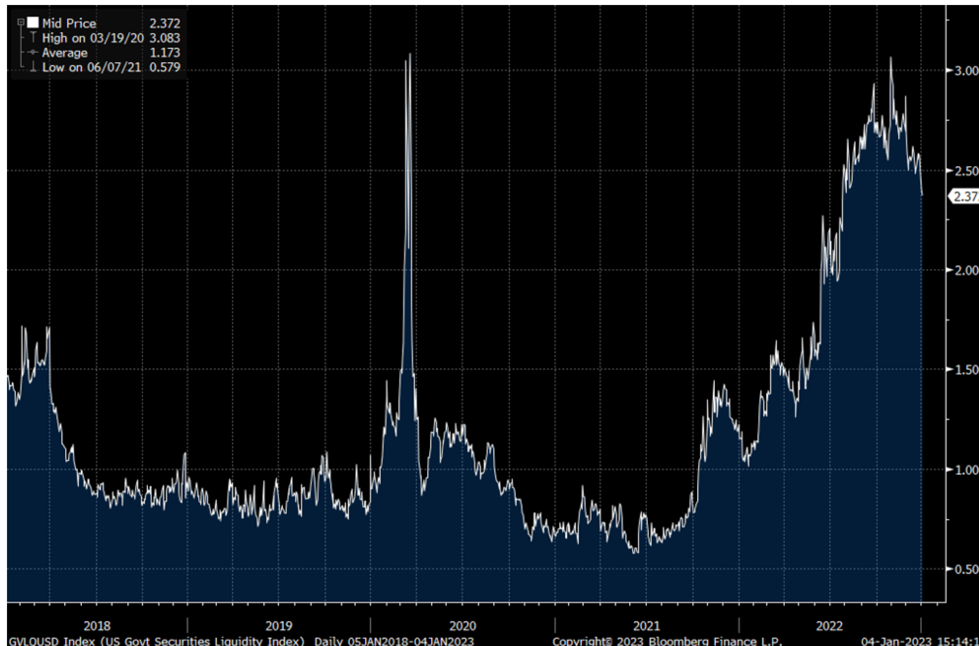


Source: Bloomberg, Mesirow Research.

Based upon Bloomberg one-year P/E ratio data, there is not strong divergence between global equity markets. However, forward earnings models dramatically effect long-term P/E valuations. FTSE P/E volatility has been very time dependent, as both domestic and geopolitics have rocked UK earnings forecasts. As noted above, the Fed's tightening cycle will restrain economic growth. The Chairman's 2% PCE Core target will, if pursued with diligence, impose a strong headwind against 2023–4 corporate profits. We expect downward revisions on earnings forecasts in the next two quarters.

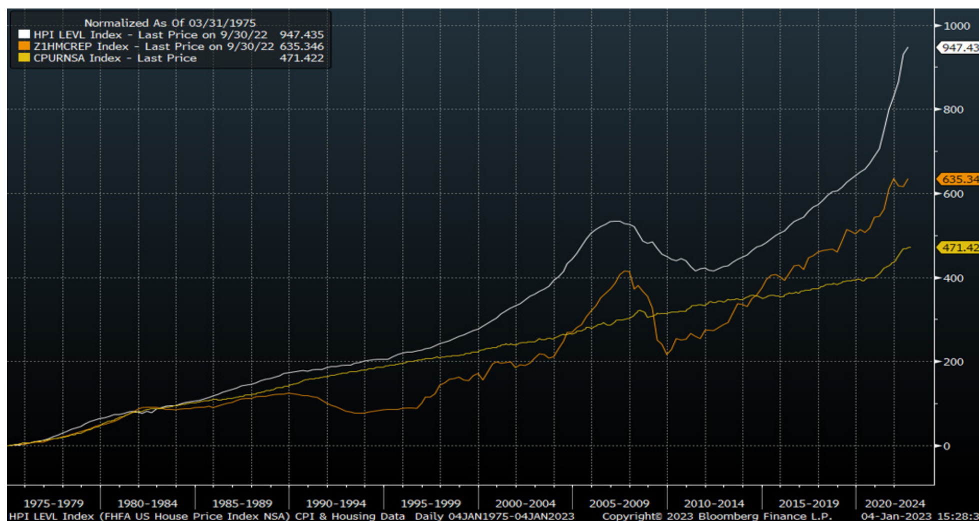
2. Jerome Powell- Chairman's Press Conference 12/14/22

CHART 15: **BLOOMBERG US GOVERNMENT SECURITIES LIQUIDITY INDEX**



Source: Bloomberg, Mesirow Research.

CHART 16: **NORMALIZED CPI, RESIDENTIAL & COMMERCIAL REAL ESTATE PRICES**



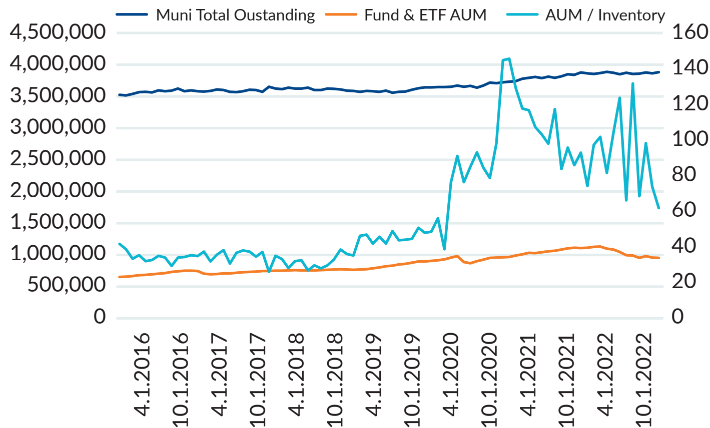
Source: Bloomberg, Mesirow Research.

For this Bloomberg US Government Securities Index chart (Chart 15), a rising spike in the index is bad. Notice the peaks in 2020 and in summer 2022. By this metric, liquidity has improved in 4Q but it is still well below the 200-day moving average and far below a “stable” market reading.

Note on Chart 16 that the Bloomberg Commercial Real Estate Index tracks the CPI index over a long time horizon, while the Bloomberg Residential Real Estate Index significantly outperformed the same CPI index.

By inference, commercial real estate prices respond efficiently to inflation signals. Residential real estate appears to have decoupled from long-term inflation signals, suggesting overvaluation and poor real-time price efficiency.

CHART 17: **MUNICIPAL TOTAL OUTSTANDING, FUND & ETF AUM (L) & AUM / INVENTORY (R)**



Source: Bloomberg, Mesirow Research.

Our proprietary Mesirow municipal market liquidity chart may be giving a false signal. Year-end market liquidity has felt “tight” to traders, while municipal market technicals have been supported by minimal new issue supply despite relentless mutual fund redemptions totaling $145B. Bid-wanted activity was generally 3X higher in 2022 over 2021.

The institutional market has been thin enough that major institutional investors must trade with care; one major investor can move markets (see below). High Yield municipals are at particular risk to market conditions. Municipal BBB spreads (+130) appear to offer limited value to Corporate HY.

Granular analysis of fund flows complicates but confirms this assessment. Traditional LONG municipal mutual fund structures and traditional HY municipal mutual funds experienced the bulk of selling pressure. Short and Intermediate Exchange Traded Fund assets were up more than +20% as a group, as investors traded into the newer and lower duration structures. Separately Managed Accounts also harvested assets from the traditional long fund structures.

Retail distribution reach is now more important than ever. Assets are becoming concentrated in the largest and most effective marketing-savvy fund complexes. This concentration represents a potential liquidity risk in a period of market disruption. Neither “the Street’ nor the shrinking traditional fund groups are likely to have the liquidity firepower to smoothly address hard selling by the major asset managers.

It is reasonable to be concerned about municipal overvaluation, especially in lower tier credits. Note that the municipal credit market did not get hit with a headline credit story or consistent rating pressure from the three major agencies; events that often drive a credit spread widening cycle.

Conclusion

As always, we conclude this Brief with a review of the fundamental questions facing US and global capital markets.

The effect of the Covid-19 pandemic

Covid, and any future mutations, will remain with us. The pandemic has altered private, business, and educational life across this planet. It is likely to continue to extract high future social and economic costs.

Global governments and Central Banks, including the US Federal Reserve, have made large, late, and incorrect policy moves throughout the pandemic and may continue to do so. The economic cost of these government leadership and service delivery failures is enormous. The staffing-challenged healthcare system remains strained to the breaking point while it gobbles an ever-increasing percentage of our GDP. Most people do not feel healthier, in spite of an economic commitment to healthcare that dwarfs the percentage of GDP invested in health by other developed nations...

The most disturbing legacy of Covid-19 may be the civic cost of the pandemic. Public belief in our great institutions is at record lows. Disapproval of Congress is nothing new, but trust in critical pillars of civic life — the military, public education and public health institutions — has been damaged by pandemic stress.

Covid-19 is still with us and will continue to exact its costs into the foreseeable future.

Are markets working to price risk efficiently?

At the close of 2022, we believe that wise investors should, as always, consider the data presented above in the context of market valuation and perceived risk. As always, we caution investors to be mindful of leverage, often deeply hidden, sometimes hiding in plain sight. We remain concerned about (il)liquidity.

We are deeply concerned about the one-sided herd mentality straining liquidity in several specific markets: mortgage derivatives like MBO's, the significant bid-side weakness in commercial real estate, the slow-motion roll-over in US residential housing, low pension fund cash balances (especially at large pension funds), and episodic (il)liquidity events in the Treasury market (note chart 15). Are these markets all simultaneously off-sides around a Fed pivot bet?

We are witnessing a complete re-valuation of the US technology sector, our most dynamic market. While the increasingly squalid fraud case of FTX/Alameda captures headlines, Tesla, as one large-cap market example, has relentlessly destroyed two-thirds of its shareholder value. Twitter's perceived impact on Tesla's business outlook is business TV ear-candy. More important, for serious investors, is the return to traditional valuation disciplines and consumer-market product demand analysis in tech-world. Once boring "bottleneck" real world considerations have taken on new importance: power grid capacity to support vehicle charging; charging station distribution, maintenance and reliability; 40% +- battery efficiency and range reduction in cold climates; materials cost/ availability/ environmental impact and emerging competition from legacy auto manufacturers. All have brought Tesla valuation magical thinking much closer to earth. There are hundreds of other corporate valuation parallels in tech world. Accordingly, this will be a treacherous market transition, but one ripe with opportunity for tech savvy investors.

State and local government mischief during the Covid pandemic will reveal itself. Pension fund problems were re-buried for several years under the wave of Federal cash largess. Some chronic offenders used the federal money to extend more generous retirement benefits to special interest groups rather than to improve actuarial funding.

The significant "Blue States to Sunbelt States" population migration trend remains strong and appears to correlate with inefficiently managed, tax-burdened and business unfriendly state governments. The political and financial implications of this regional wealth and talent transfer are issues Mesirow will continue to monitor closely.

The evolving US House Speakership drama is another feature of the political landscape. A frozen and dysfunctional Congress may be the dream of a small group of dystopian commentators. But wise and sophisticated investors, whatever their political orientation, value a well-led and high-functioning government. They generally have assets to protect.

The short-term risk to those assets from market volatility in the context of Federal debt ceiling authorization is worthy of investor recognition. At 12/30/22 the Federal debt stood at $31,419,689,421,557.90, approximately 124% at US FYE 9/30 (Debt to the Penny, US Treasury).

The potential for Congressional gridlock over the Federal Debt Ceiling has likely been elevated by the political gamesmanship that impeded the election of House Speaker McCarthy.

The timeline of the approaching Federal Debt Ceiling Congressional battle is unclear, as US economic performance and "extraordinary measures" on the part of The US Treasury can affect the drop-dead date by weeks.

Secretary Yellen fired a hard and carefully directed shot over the House Seakers bow this week:

"I am writing to inform you that beginning on Thursday, **January 19, 2023**, the outstanding debt of the United States is projected to reach the statutory limit. Once the limit is reached, Treasury will need to start taking certain extraordinary measures to prevent the United States from defaulting on its obligations."

"The period of time that extraordinary measures may last is subject to considerable uncertainty due to a variety of factors, including the challenges of forecasting the payments and receipts of the U.S. government months into the future. While Treasury is not currently able to provide an estimate of how long extraordinary measures will enable us to continue to pay the government's obligations, it is unlikely that cash and **extraordinary measures will be exhausted before early June**." (Treasury Secretary Yellen)[3]

3. https://home.treasury.gov/news/press-releases/jy1188

The US Treasury website does not sugar-coat the importance of debt authorization:

"Failing to increase the debt limit would have catastrophic economic consequences. It would cause the government to default on its legal obligations – an unprecedented event in American history. That would precipitate another financial crisis and threaten the jobs and savings of everyday Americans – putting the United States right back in a deep economic hole, just as the country is recovering from the recent recession." (US Treasury)

At the very least, the markets are likely to be exposed to headline risk as the Debt Ceiling limit approaches. As always, we recommend that wise investors remain mindful or this potential intermediate-term risk, while maintaining sufficient liquidity to capitalize on any accompanying market turbulence.

Are Central Bank and government policy responses balanced and proportionate?

Federal Reserve policy changes and FOMC market actions bear heavily on Capital and Equity markets. Fed Governors understand this. As the "soft-landing" runway narrows, The Fed's December language appears to be directed toward gently talking these markets down after more than a year of downplaying inflationary data.

The institutional language employed appears to have changed, from signaling incremental rate moves to a focus on "terminal rate." The hubristic August 2020 Fed mission shift has been publicly walked back in a much overdue reemphasis on the price stability pillar of the Fed's dual mission. Even the full employment goal, ever beloved by incumbent politicians, was enlisted as a direct beneficiary of price stability.

This tone shift, backed by a significantly more "conservative" December SEP ("***There are not rate cuts in the SEP for 2023***") strongly suggests that wise investors consider reducing their exposures to an "early" pivot.

The US government is facing multiple global and domestic challenges. The Federal Reserve Board will be attuned to all of them. Expedient course corrections are their stock in trade.

But, in fairness, the Fed had a better 4Q as they walked back their discredited 2020 excursion into "subjective" policy setting analysis.

On balance, wise investors will choose not to fight the Fed, especially a Federal Reserve that was unusually explicit in December. Chairman Powell is transparently concerned about labor markets as reflected in PCE Core inflation.

He went out of his way to call out "non-housing related core services," representing 55+% of his favorite index. It is a "*Big Piece*." The "*Biggest cost by far in that sector is labor. And we do see a very, very strong labor market*"…"*one where we haven't seen much softening*." We reemphasize that the Chairman specifically stated that, "*There are not rate cuts in the SEP for 2023*."

In the wake of the December 14, 2022 Fed releases, wise investors will consider market data in the context of the FOMC's clearly revised and intentional inflation posture.

Are the impacts of policy responses creating market distortions or masking unrealized risk?

A well-led Congress able to pass timely budgets, responsible appropriation and defense bills and federal debt limit adjustments is a pillar of market stability. Investors do not need a return to the debt limit drama of 2011 and the subsequent S&P downgrade of the US Government. We note that a weakly led Congressional response to these issues is likely to bring direct market pressure on US$ and US equity markets, given their current global overweights. Wise investors will prepare for a coming Federal debt limit showdown playing out between now and June 2023.

In our 3Q Brief we considered, admittedly esoterically, that the Fed's new R** model, focused on the concept that market dislocation potentially precedes, and perhaps preempts, a smooth return to stable prices. If the Fed reverses policy emphasis back to an accommodative stance in the face of market volatility, they can say, "we told you so."

Geopolitics will continue to command focus from investors. The self-serving but clearly developing Russia/China/Iran axis will challenge Western political will and economic commitment, at least through the tenures of their three current rulers.

Energy market shock is the stepchild of geopolitical disruption. Europe has learned the (formerly) unrealized price of unrealistic energy policies. The US economy is gagging on the expensive and bitter taste of petroleum or, more succinctly, the aftertaste of our renouncing energy independence and security just as we had achieved it.

Residential housing risk, and the various knock-on effects of precipitate weakness, is well described on Chart 16.

The risks of stubborn labor and supply-chain inflation as a direct threat to prosperity are becoming well understood, and the Federal Reserve Chairman now appears to be taking note. Implementation risk based upon this rediscovered understanding abounds.

The Fed's to-do list: managing inflation downward, managing Fed balance sheet deleveraging, managing the political relationship between wage inflation, immigration and unemployment — is fraught with execution risk.

Liquidity, especially unrealized pockets of leverage, remains a key concern for wise investors (Chart 16). We live in a world of unbalanced Federal budgets, increasing demand for defense spending, structurally broken entitlement and government pension programs and a residential real estate market that has been distorted by decades of government policy intervention. The Federal Debt Ceiling looms large on the horizon.

All that said, Americans still enjoy the gift of the world's strongest republican constitutional tradition, the world's largest and strongest economy, the world's reserve currency, and the strongest military in the history of mankind.

Wise investors will count their many blessings while intentionally considering the numerous outstanding risks in this environment. They will maintain strong personal liquidity and price thoughtful liquidity premia into their asset purchases. They will focus on quality assets in markets that provide strong real-time price discovery. They will understand the risks and opportunities inherent in a strong labor market. They will treat FOMC policy action with respect, not fear. They will recognize that a chastened Fed will continue a gradual tightening policy bias regarding Fed Funds in recognition of their stated acknowledgement of an **upward risk bias toward inflation**.

They will recognize, with humility, that the FOMC can and will ignore select truths under extreme political pressure and may reverse economic course if the political winds blow hard across the Chairman's bow.

Wise investors will acknowledge the increased potential for a recession as we head into 2023, and trim their sails as needed. They will not expect a meaningful Fed pivot until PCE Core is posting 2-handle data (carefully watching the "non-housing related core services component" which makes up a majority of PCE Core).

Wise investors will know that opportunity emerges from dislocation and that renting surplus liquidity to dislocated markets can be a very profitable investment strategy when directed at high-quality assets.

About Mesirow

Mesirow is an independent, employee-owned financial services firm founded in 1937. Headquartered in Chicago, with offices around the world, we serve clients through a personal, custom approach to reaching financial goals and acting as a force for social good. With capabilities spanning Global Investment Management, Capital Markets & Investment Banking, and Advisory Services, we invest in what matters: our clients, our communities and our culture. To learn more, visit mesirow.com and follow us on LinkedIn.

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M2 Money Supply – M2 is the U.S. Federal Reserve's estimate of the total money supply including all of the cash people have on hand plus all of the money deposited in checking accounts, savings accounts, and other short-term saving vehicles such as certificates of deposit (CDs). Retirement account balances and time deposits above $100,000 are omitted from M2.

PPI Index – The Producer Price Index (PPI) program measures the average change over time in the selling prices received by domestic producers for their output. The prices included in the PPI are from the first commercial transaction for many products and some services.

CPI Index – The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. Indexes are available for the U.S. and various geographic areas. Average price data for select utility, automotive fuel, and food items are also available.

FTSE – The Financial Times Stock Exchange (FTSE)

PCE Core – The "core" PCE price index is defined as personal consumption expenditures (PCE) prices excluding food and energy prices. The core PCE price index measures the prices paid by consumers for goods and services without the volatility caused by movements in food and energy prices to reveal underlying inflation trends.

S&P 500 – The S&P 500 (also known as the Standard & Poor's 500) is a stock index that consists of the 500 largest companies in the U.S. and is generally considered the best indicator of how U.S. stocks are performing overall.

DXY – measures the value of the US Dollar versus a basket of global currencies. The basket of currencies essentially consists of nations that have significant trading relationship with the US and are also hard floating currencies.

DOW – The Dow Jones Industrial Average, Dow Jones, or simply the Dow, is a stock market index of 30 prominent companies listed on stock exchanges in the United States.

NASDAQ - The Nasdaq Stock Market (National Association of Securities Dealers Automated Quotations Stock Market) is an American stock exchange based in New York City.

Euro Stock 50 - The EURO STOXX 50 is a stock index of Eurozone stocks designed by STOXX, an index provider owned by Deutsche Börse Group. The index is composed of 50 stocks from 11 countries in the Eurozone. EURO STOXX 50 represents Eurozone blue-chip companies considered as leaders in their respective sectors.

Bloomberg APAC - Bloomberg APAC Large & Mid Cap Price Return Index is a float market-cap-weighted equity benchmark that covers 85% market cap of the measured market.

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