Not the Fed Tealbook, March 2023

Angela Papikyan, Vahe Avagyan, and Hayk Avetisyan*

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*Additional authors include Edgar Hovhannisyan, Haykaz Igityan, Martin Galstyan, Hayk Karapetyan, Asya Kostanyan, Douglas Laxton, Jared Laxton, Armen Nurbekyan, and Nerses Yeritsyan

Not the Fed Tealbook

The Central Bank of the Republic of Armenia

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Abstract

“Not the Fed Tealbook” simulates a state-of-the-art macroeconomic analysis and streamlined monetary policy note with limited resources. This provides a simple and accessible application of the Forecasting and Policy Analysis (FPAS) Mark II framework that incorporates uncertainty, nonlinearities, and Alan Greenspan’s 2004 formulation of “monetary policy as a risk management exercise.” This conceptual and analytical approach is applied to the US, given its importance in the global macroeconomy and the ready accessibility of data and analysis. The analysis features the key aspects of current stage monetary policy discussions, namely important nonlinearities in economic behaviors and the significance of endogenous policy credibility. The report also highlights the importance for central banks to be transparent about how they are effectively managing the inflation-output (employment) tradeoff in calibrating monetary policy.

Authors

Angela Papikyan, Vahe Avagyan, Hayk Avetisyan, Edgar Hovhannisyan, Haykaz Igityan, Martin Galstyan, Hayk Karapetyan, Asya Kostanyan, Douglas Laxton, Jared Laxton, Armen Nurbekyan, and Nerses Yeritsyan

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Monetary Policy as Risk Management Framework

Policy Analysis

What follows is an explanation of the scenario-based approach that uses Case A and Case B as an analytical framing device for discussing the role of policy under uncertainty. We utilize a macroeconomic model to produce the scenarios that incorporates non-linearities that are important for policymakers to consider; otherwise, they would be remiss in their role as risk managers of the macroeconomy. However, the model is still a simple workhorse model that effectively illustrates the short-run output inflation tradeoff and does not attempt to explicitly incorporate all the analysis embedded in a full-fledged Monetary Policy Report. This framework allows a central bank to better simulate and streamline the concerns which surround a policymaker's worst fears when the economy approaches dark corners and begins exhibiting non-linear dynamics and enter bad equilibriums.

Market narrative/scenario: To do this risk management exercise, we still need to have reference point from which to produce relative scenarios. The conduct of monetary policy must address what is priced in financial markets and therefore the market pricing of the future path of the policy rate presents a perfect jumping off point. Of course, associated with this futures curve is a narrative about the broader economy related to output, the labor market and inflation which we try to imbue in the analysis on those topics.

Case A-type narrative/scenario: A case A-type scenario reflects a development in the economy that would require a higher interest rate path than what is currently priced in financial markets that is consistent with guiding the economy back to its long-run equilibrium. Typical shocks in a Case A-type scenario include positive demand shocks (where the economy is overheating and monetary policy needs to tighten to slow consumer demand and consequently cool inflation) or persistent negative supply shocks (such as a shock to oil prices, where the Bank may want to respond in a manner that limits second-round effects that may ultimately lead to a wage-price spiral forming, in which case the delayed response would ultimately require significantly higher interest rates). The worst fear or dark corner associated with a Case A-type scenario is when the economy gets into a persistently high inflation environment, where inflation becomes entrenched. We will sometimes categorize such cases as Case X when necessary to better communicate a policy of least regrets when the possibility becomes more plausible.

Case B-type narrative/scenario: A case B-type scenario reflects a development in the economy that would require a lower interest rate path than what is currently priced in financial markets that is consistent with guiding the economy back to its long-run equilibrium. Typical shocks in a Case B-type scenario include negative demand shocks (which cause slack in the economy to form monetary policy needs to loosen to help support the recovery in demand) or a positive supply shock in a high inflation environment (which results in both higher growth and lower inflation and an opportunity for policy to normalize policy faster).

The policy discussion now focuses on which direction policymakers are leaning towards relative to what the market expects and, in this manner, can help guide markets on what to better expect from policy based on how the economy ultimately evolves following the policy meeting.

Statement of the Mock Monetary Policy Committee

The Mock Monetary Policy Committee (MMPC) has decided to raise the target range of the federal funds rate by 25 basis points to 4.75-5.00%.

This decision comes at a time of elevated inflationary pressure and heightened financial instability in the form of multiple bank failures. This mix of issues really gets at the heart of where monetary policy meets financial stability. In the view of the MMPC, we believe that, given the strength of the real economy, it must take primacy when thinking about setting monetary policy and achieving long-run macroeconomic stability. In the meantime, there are other tools to deal with backstopping the financial system to prevent contagion from forming. Giving up on our macroeconomic objectives too soon may present an even greater threat to the financial system if not dealt with in a timely manner.

When the committee began raising interest rates in March 2022, we were hopeful that by this time we would start to see a material slowdown in broad economic activity that is consistent with bringing inflation back to 2%; i.e., below potential growth. Even though interest rates have clearly impacted sectors such as housing, the broader domestic economy continues to grow above potential, led by a resilient consumer that continues to hold savings in excess to their pre-pandemic levels which we believe is complicating the task of monetary policy to slow the economy than we would have expected in previous cycles.

The labor market remains secularly tight with a current unemployment rate of 3.6%. Wage inflation continues to post strong gains especially among job switchers at 7.3%, which suggests sustained upward pressure on wages, especially in an environment when there are about two job vacancies for every unemployed person. We find it hard to believe that wages can fall without a corresponding cooling of the labor market.

The disinflationary forces in goods and commodity markets in the second half of 2022 served as a strong motivating factor for being optimistic about lower underlying inflation and the belief that the Fed Funds rate was positioned sufficiently tight. However, some evidence in early 2023 shows that these forces might be unwinding, placing upward risks on the inflation outlook and therefore likely requiring a higher policy rate than what is priced in financial markets (barring any systemic risk to the banking sector that goes beyond the recent troubles at Silicon Valley Bank and Signature Bank). Long-term inflation expectations remain anchored; however, the longer inflation remains elevated, the greater the risk of de-anchoring becomes.

We must address the issue of labor bottlenecks from getting out of control. This is much more relevant today than before the COVID pandemic, given the strength of household balance sheets, which has fed into consumption remaining stronger than expected. This is key to bringing down broad-based inflation in a smooth and timely fashion in a high inflation environment.

The MMPC considers a host of different scenarios and is guided by a policy strategy of least regrets that avoids more punitive interest rate increases in the future that would jeopardize our ability to engineer a smooth return of output and inflation back to their long-run objectives. Weighing the risks between inflation becoming entrenched or wide-scale banking sector failures, the MMPC has voted to move policy in a tighter direction to reach the terminal rate that is priced-in markets sooner rather than later and will re-evaluate policy based on the scenarios presented in this report whether rates need to continue to rise or not.

Monetary Policy Outlook in a Nutshell

Global Economy: Although pessimism about the global economy has receded, the GDP growth outlook for advanced economies remains poor, as the specter of the conflict in Ukraine remains ever-present. However, China ending its zero-COVID policy does apply some upward risk to global growth and consequently global commodity prices such as oil, which was a major contributing factor to the disinflation process in the second half of 2022.

Domestic Economy: GDP growth measured 2.9% in 2022Q4 and is currently on pace to exceed potential in 2023Q1 at 3.2%, driven by extremely strong consumption (5.0%). Residential fixed investment has been the major drag on the economy since tightening policy, but the magnitude of such declines is unlikely to continue without further increases in mortgage rates. Meanwhile, consumer spending remains the engine of the economy and has not shown signs of slowing down, which we attribute to strong household balance sheets and high wage growth.

Labor Market: Wage growth is between 6-7% over than past several months, which, if sustained, would present a problem for monetary policy to bring inflation back to target. An historically low unemployment rate and high job vacancies to unemployed persons make it reasonable to expect wage inflation to remain elevated until the labor market cools either through announced layoffs materializing or more restrictive monetary policy.

Inflation: Food and energy prices are expected to level off meaning large disinflation on the horizon where the shock from the war in Ukraine peters out. The major concern at this point is that the response to wages from the initial shocks from COVID and Ukraine have begun to enter service sector inflation and are well above 2%. Meanwhile, we have a good sense that rent prices will continue to rise as new people adjust to the new price level on the market. This leaves goods inflation, which was a shining light in the second half of 2022 and reason for optimism that policy was positioned appropriately. However, these forces may have reaccelerated in early 2023, suggesting core inflation could remain elevated in the near-term and settle above the current policy path for interest rates.

Financial Markets: In the wake of the Silicon Valley Bank collapse, rumors of a larger banking contagion began to foment within financial markets, reflected in a rapid decline of the expected path of the Fed Funds rate. However, steps taken by authorities to backstop the banking system have certainly helped allay these fears and the expected path has rebounded somewhat. That said, we are not out of the woods yet, and issues connected to whether the economy is prepared for higher interest rates now populate policymakers' worst fears.

Monetary Policy: Given our macroeconomic framework, many signs point to the need for tighter monetary policy (Case A), especially considering important non-linearities within a high inflation, high output environment. Although we recognize that these are unprecedented times and a lot of these shocks that we have observed could revert/unwind quite quickly (larger disinflation, faster slowdown in growth than the Case A scenario), to endorse such a case, we would have to observe a combination of corroborating factors to be confident that we are in a Case B world. However, due to the recent turmoil on financial markets on account of the Silicon Valley Bank collapse, monetary policy must be prudent to achieve its macroeconomic objectives while maintaining financial stability.

Global Economy

Global Growth

2022 was marred by the war in Ukraine and zero COVID policy in China.

Global growth is expected to continue to slow in 2023 after fast tightening of monetary conditions in 2022. However, the removal of those shocks could pose upside potential to global growth in 2023.

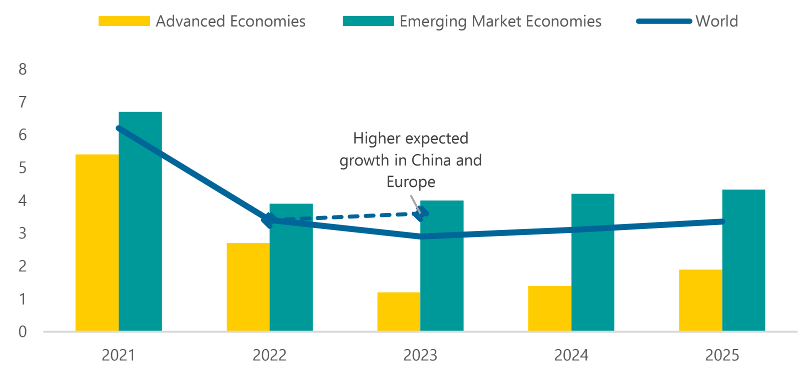
This is particularly concerning, given central banks' resolve to bring inflation down before inflation becomes entrenched. If this would materialize, then the need to further tighten would likely be the case.

Global Inflation

Oil prices are expected to moderate, which would help the disinflation process back to the target, but the risks currently are geared towards higher oil prices than lower, driven by the impact of a stronger global economy and the potential for stronger demand to start outstripping supply.

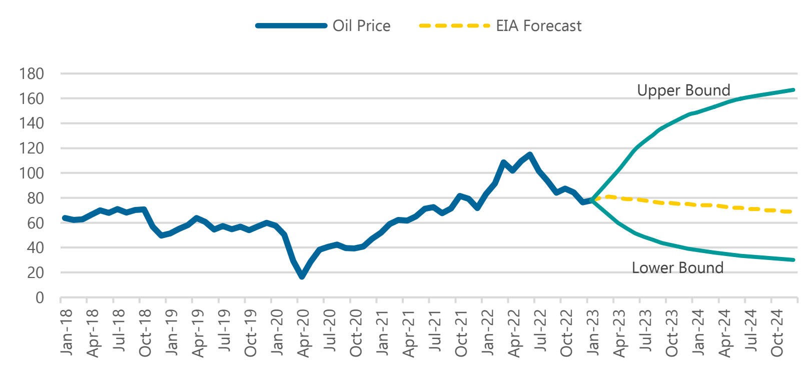
Furthermore, the current constraints on supply such as OPEC's spare capacity is hovering around the inflection point between a tight and loose oil market at around 2 mln barrels per day in spare capacity. The highly inelastic nature of demand and supply curves for oil suggests the current position of the market that prices are more sensitive to the upside than the downside.

Figure 1: A More Resilient Global Growth Environment Could Complicate the Speed of Disinflation



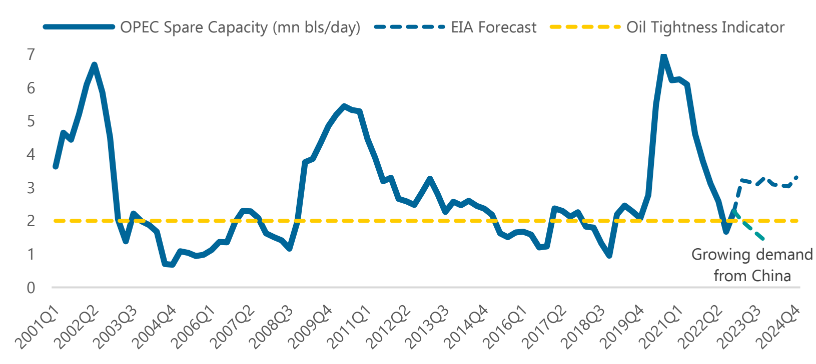
Source: IMF WEO January 2023

Figure 2: Oil Prices Expected to Moderate But Risks to the Upside are More Pronounced Given the Concerns About Growth



Source: EIA STEO March 2023

Figure 3: A Measure of Supply Oil Tightness Also Presents Upside Risks to Prices



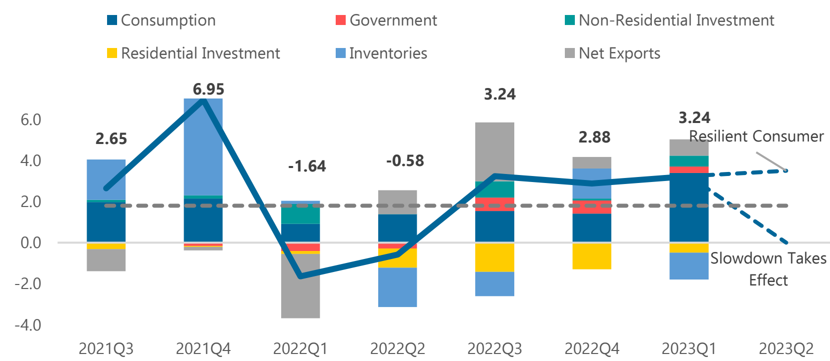
Source: EIA STEO March 2023, Illustrative staff projections

Domestic Output

Real GDP

When first embarking on tighter monetary policy in early 2022, we would have ideally begun to see signs in slower broad-based economic activity. As it stands, the only major contributor to lower growth has been residential fixed investment. Meanwhile, consumption is tracking swiftly at 4.4% growth in 2023Q1. The Case A-type world reflects consumption remaining strong and the inventory drag reverts and residential fixed investment bottoms in 2023Q1.

Figure 4: GDPNow Expects Above Potential Growth in 2023Q1, Hindering the Case of Moderating Growth

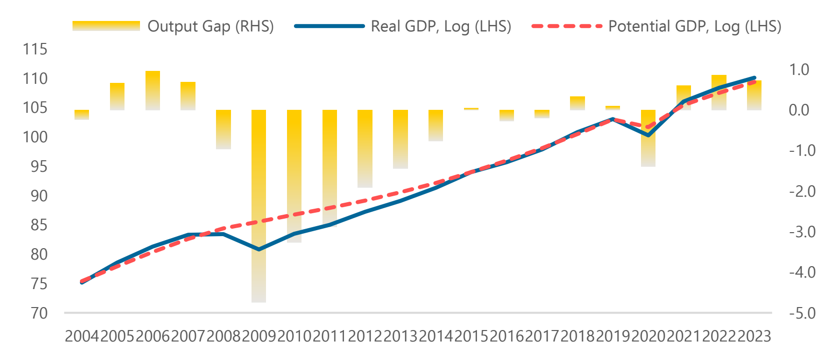


Source: FRED, Atlanta Fed GDPNow, Illustrative staff projections

Output Gap

A major concern for monetary policy at this juncture is the initial position of the economy remaining in a relatively hot position with aggregate demand continuing to outstrip aggregate supply well into 2023 and applying upward pressure on prices.

Figure 5: The Output Gap is Estimated to be Positive and Is Expected to Persist as Long as Growth Remains Above 2%

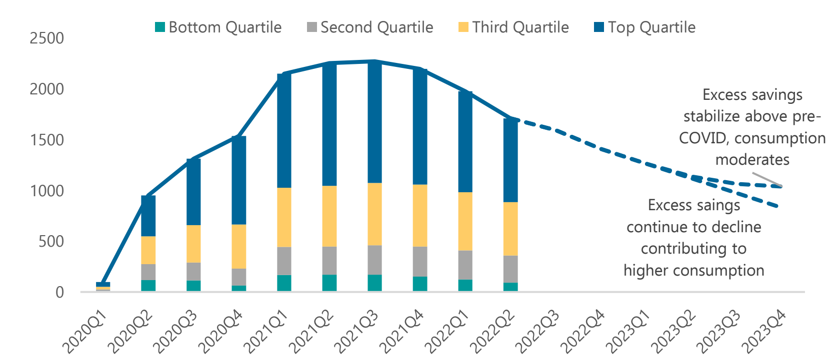


Source: Staff projections, MPMOD Case A, January 2023

Excess Savings

As long as excess savings remain materially above pre-pandemic levels, then it may imply that we will see a persistently low savings rate and consequently strong consumption that would hinder the Fed's ability to slow the economy down. On the other hand, households may have a structurally higher desired stock of savings post-pandemic, which has contributed to the recent rebound in the personal savings rate.

Figure 6: Excess Savings Are Declining but Still Above Their Pre-Pandemic Levels Contributing to Resilient Consumer Demand



Source: Aladangady, Aditya, David Cho, Laura Feiveson, and Eugenio Pinto (2022), Illustrative staff projections

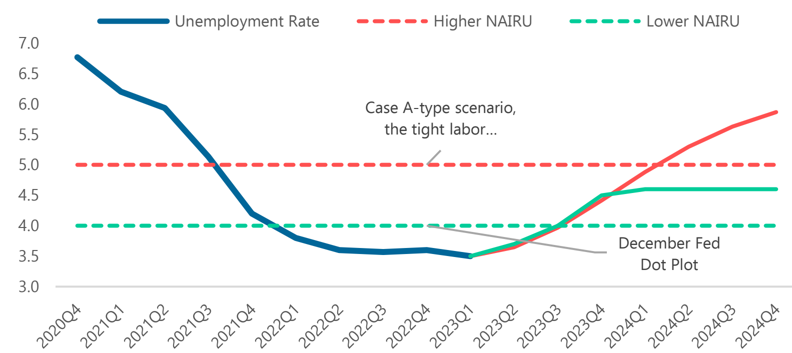
Labor Market

Unemployment Rate

While estimates of NAIRU vary, an unemployment rate of 3.6% is well below most estimates. This presents a key risk to the forecast and policy if the NAIRU is indeed much higher than is currently judged.

A lower estimate of the NAIRU reflects the Fed's view based on the latest dot plot. The view largely depends on slack forming in the labor market via reduced demand for labor instead of higher joblessness.

Figure 7: The Future Unemployment Rate is Dependent on Where the NAIRU is Which is Highly Uncertain

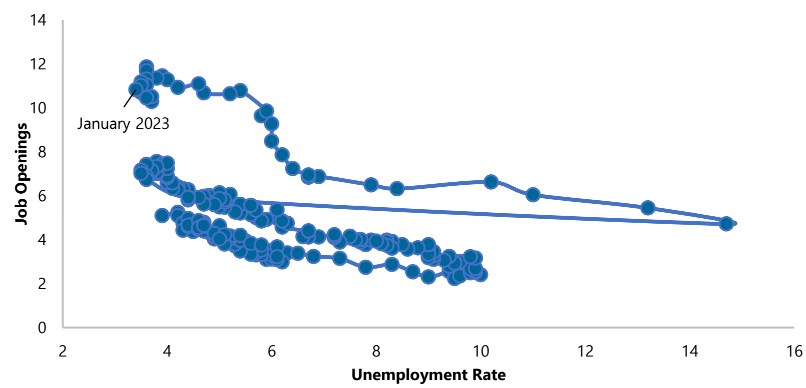


Source: FRED, Illustrative staff projections

Beveridge Curve

The case for a higher NAIRU in part reflects developments in the labor market associated with the ratio of job openings and unemployed or the Beveridge curve. A noticeable outward shift occurred during the COVID-pandemic. Although it is known that BC's tend to shift out during recovery phases, we also know that they can become stuck, which under a Case A-type scenario would be associated with a higher NAIRU and unemployment to bring the economy to equilibrium.

Figure 8: The Beveridge Curve Has Yet to Make Any Real Progress Back to its Pre-Pandemic Position

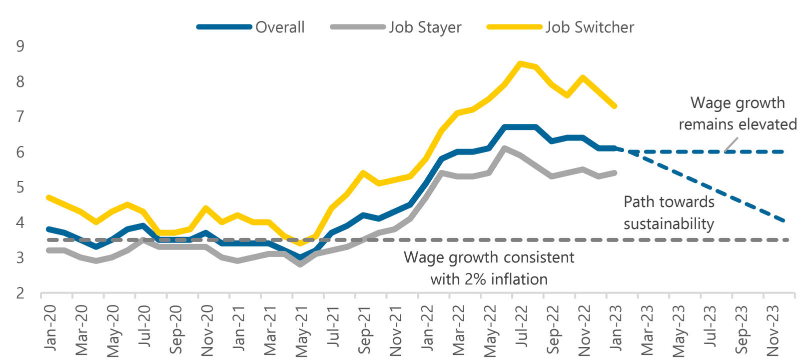


Source: FRED

Wages

Wages have slowly but clearly reacted to the initial COVID-related commodity price shock and now are seen as a driving force behind future price pressures (namely the service sector) and commonly referred to as the early throes of a wage-price spiral. If wage inflation remains elevated at current levels, then one measure of underlying inflation would be well above the 2% objective and reflective of a Case A-type scenario.

Figure 9: Several Months of Elevated Wage Growth. Critical for Wages to Moderate to More Sustainable Levels



Source: Atlanta Fed Wage Tracker, Illustrative staff projections

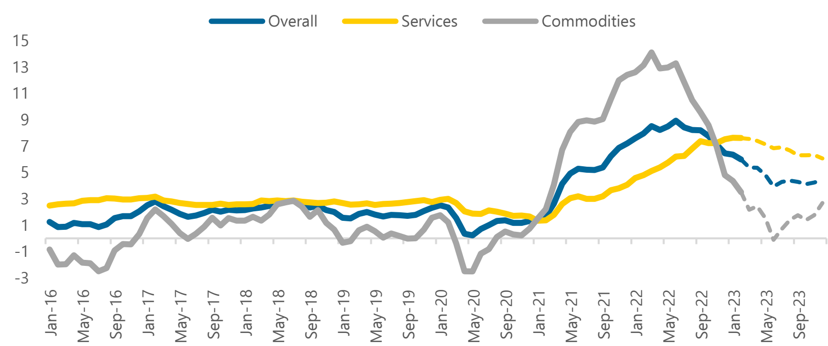
Inflation

Overall Inflation

Food and energy shocks from the Ukraine conflict are likely to continue to disinflate. As long as wage growth persists, however, then service sector inflation would also be expected to remain elevated.

Goods inflation was expected to contribute to the disinflation process in 2023, but an earlier than expected rebound in demand for durables could be problematic for policy getting ahead of underlying inflation.

Figure 10: YoY Inflation Decomposition with Short-term Outlook that Assumes Service Inflation Reflects Current Wage Inflation

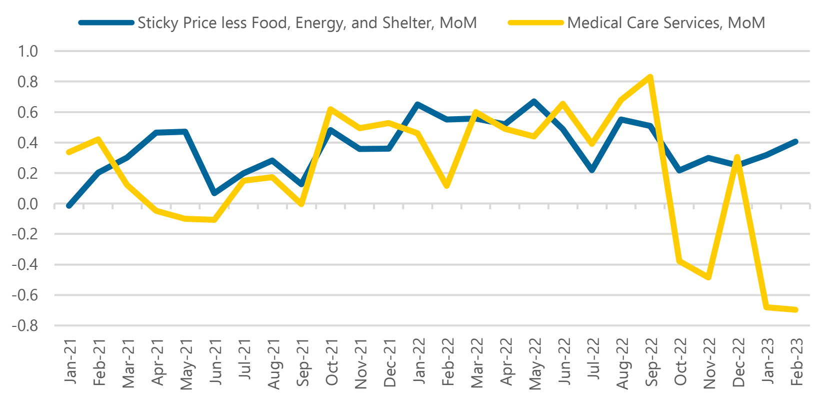


Source: FRED, Illustrative staff projections

Sticky Price Inflation

Sticky prices are changed infrequently and therefore include some component of forward-looking expectations about where prices may be headed. These types of prices help us better understand in real-time the inflation mentality pervasive in the economy that contributes to a wage and price spiral forming and inflation becoming entrenched. These prices have been ticking up recently and the deflationary drag observed in medical services could mean sticky prices are understated moving forward.

Figure 11: Core Sticky Price Inflation Less Shelter Ticking Up and Might Be Understated by the Recent Drag from Medical Services

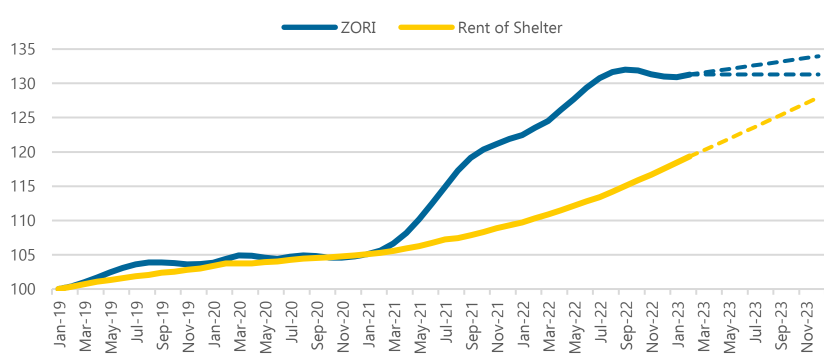


Source: FRED

Rent Inflation

The level of rent prices as observed in the CPI still has a significant gap to catch up to observed rents on the market. These two series are expected to converge at some point but without a material decline in the current market price, we would expect rent inflation in the CPI to remain high. A major concern forming is that rental prices reaccelerating, putting upward pressure on CPI rent that has yet to converge.

Figure 12: Rent of Shelter Still Has a Way to Go Until It Converges with the Current Market Price Level



Source: FRED, Illustrative staff projections

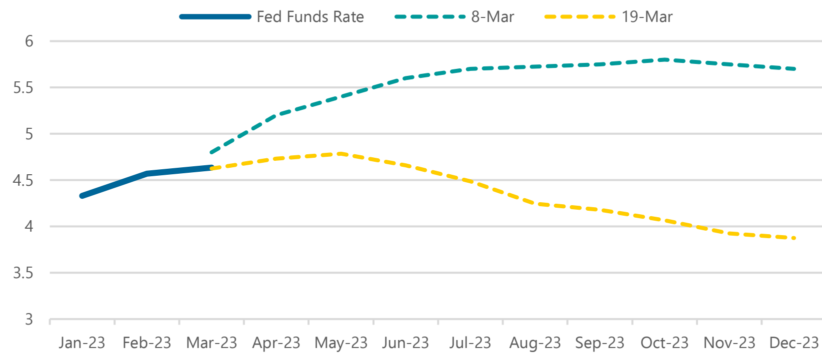
Financial Markets

Fed Funds Path

The market pricing of the Fed Funds rate has experienced substantial volatility over the past two weeks, with a near 200 bp difference between expectations by end-2023.

This obviously on the heels of the Silicon Valley Bank and Signature Bank collapse. Prior to the collapse, however, the market was pricing a much higher terminal Fed Funds rate, on the back of strong real economic activity and inflation.

Figure 13: The Market Pricing of the Fed Funds Rate. Strong Real Economy or Looming Banking Crisis?

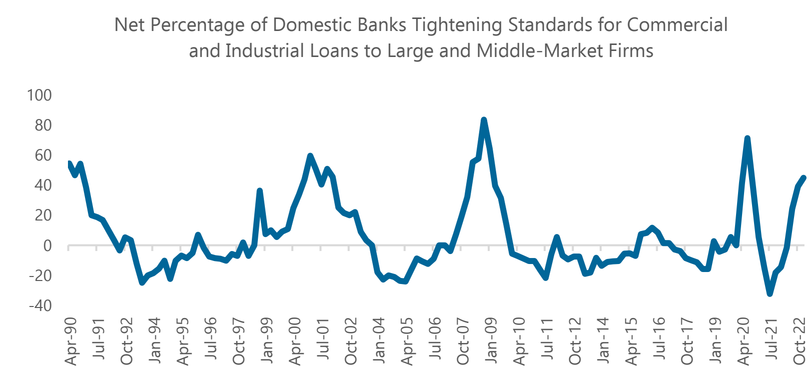


Source: FRED, CME Fututres

Bank Lending Tightness

The banking fragilities that have surfaced could exacerbate a financial system that was already tightening lending conditions at a fairly rapid pace.

Figure 14: Banks are Tightening Lending Standards, Could the Recent Banking Turmoil Exacerbate the Current Situation?

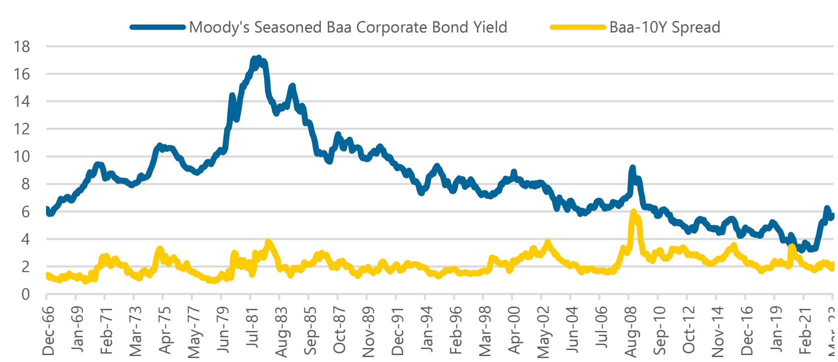


Source: FRED

Corporate Bond Market

Silicon Valley Bank has shown that some banks are ill-prepared for a higher interest rate environment. What about private corporates? Based on Moody's Baa, it does not appear that a recession has been fully priced-in, which has the potential to prompt a cascade of bankruptcies once rates adjust higher.

Figure 15: Are Financial Markets Pricing in a Recession? High Yield Corporate Bond Rate Still Relatively Low by Historical Standards



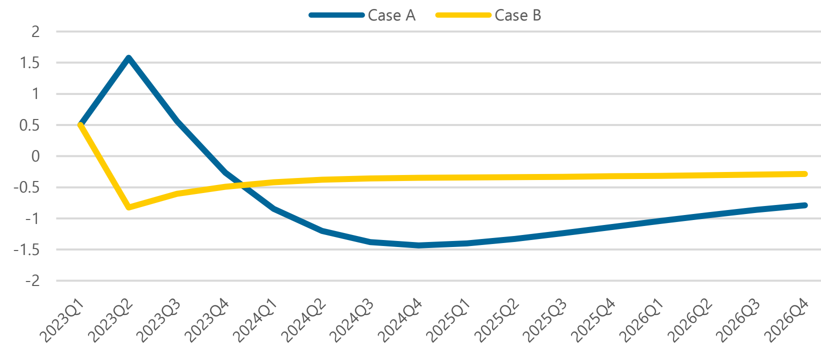
Source: FRED

Monetary Policy Outlook

Case A-type scenarios depend on real growth staying at or above potential, mainly driven by strong consumer demand (in part fueled by excess savings). As a result, inflation remains stubbornly high and labor market conditions do not materially cool and remain inconsistent with the inflation objective. This mix would likely require a higher path for interest rates to ensure policy gets ahead of inflation once and for all. In many respects this type of scenario reflects the market pricing for the Fed Funds path prior to the collapse of Silicon Valley Bank. If the recent turmoil blows over and a strong real economy reasserts itself, then we could easily move back to that pricing and perhaps higher to compensate for a less aggressive policy stance in the short term.

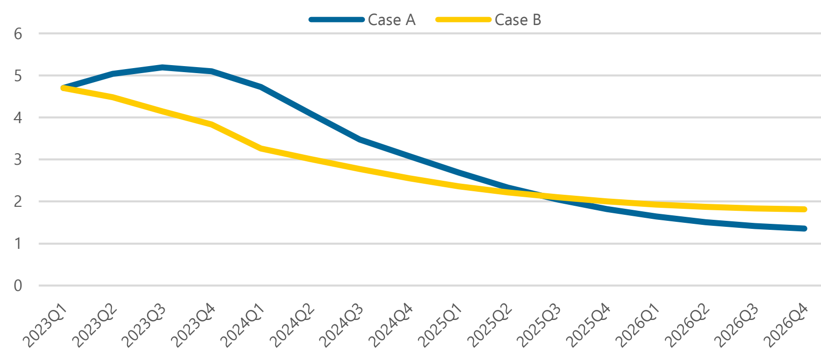
Case B-type scenarios reflect the argument that recent fragilities in the banking sector would begin to feed through into the real economy, generating significant slowdown in activity that helps further the disinflation process back to the 2% target with some undershooting.

Figure 16: Output Gap Dynamics, Resilient Consumer or Crisis in Confidence?



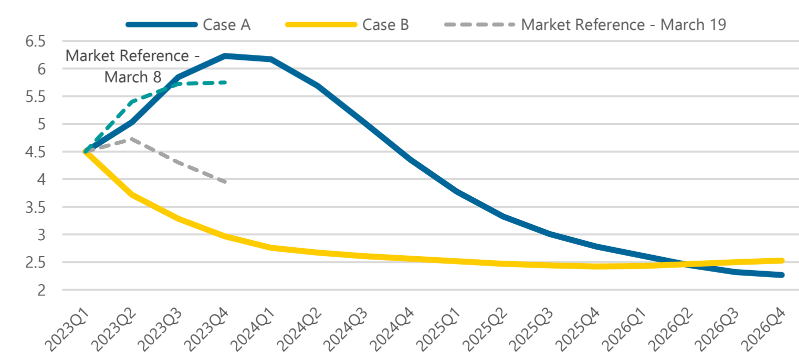
Source: Staff projections, ENDOCRED US March 2023

Figure 17: Core PCE Inflation, YoY. Inflation Gets Stuck at 5% or Disinflation Continues as Real Economy Drag Takes Hold



Source: Staff projections, ENDOCRED US March 2023

Figure 18: The Endogenous Interest Rate Path for Both Case A and Case B Scenarios Relative to Market Pricing



Source: Staff projections, ENDOCRED US March 2023

Appendix

Summary of Risk Issues

Case A-type Scenarios	Case B-type Scenarios
Global Economy	
China and European economies grow faster than expected in 2023, due to zero-COVID policy and Ukraine-related energy shortfall headwinds being removed.	We are underestimating the effects that monetary policy tightening will have on major advanced economies in 2023, leading to a more abrupt slowdown in growth.
Domestic Output	
Consumers prove to be more resilient on account of a large stock of excess savings, where consumption continues to grow at elevated levels.	
Labor Market	
Labor bottlenecks persist well into 2023 with no material softening of the labor market, putting upward pressure on wage inflation.	The spike in layoff announcements is at a magnitude where, if they materialize, they could be sufficient to cool the labor market and put wage inflation on a path that is more consistent with the inflation target.
Inflation	
The rental price level as calculated by the BLS still needs to catch-up to the market which indeed have decelerated. However, if rent inflation were to reaccelerate than that would seriously hinder optimism regarding official rent price inflation.	
Financial Markets	
The Silicon Valley Bank collapse has been addressed through financial stability policies, but this experience may push policymakers to place less emphasis on their price stability objectives by opting to choose a more gradual approach for policy interest rate increases.	The Silicon Valley Bank collapse is a sign of larger vulnerabilities to the banking sector that could prove more systemic, causing a series of bank runs starting with other regional banks to begin to foment.

Appendix

Table 1: US Core Economic Projections

- Case A | Case B -

	2022	2023		2024		2025	
		Case A	Case B	Case A	Case B	Case A	Case B
Real GDP Growth	2.1	2.3	1.7	0.2	1.0	0.9	1.8
Output Gap	0.5	0.6	-0.4	-1.2	-0.4	-1.3	-0.3
Unemployment Rate	3.6	3.9	4.4	5.4	5.2	6.1	5.3
Core PCE Inflation	5.0	5.0	4.3	3.8	2.9	2.2	2.2
Fed Funds Rate	1.7	5.4	3.6	5.3	2.7	3.2	2.5

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