Update on Modelling US inflation

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Frontier Advisors

About us

Frontier has been at the forefront of institutional investment advice in Australia for over 25 years and provides advice on over $600 billion of assets across the superannuation, charity, public sector, insurance and university sectors.

Frontier's purpose is to empower our clients to advance prosperity for their beneficiaries through knowledge sharing, customisation, technology solutions and an alignment and focus unconstrained by product or manager conflict.

Fisher Yu, PhD

Quantitative Analyst

Fisher joined Frontier Advisors in 2021 and has been conducting quantitative research within the investment strategy team to drive new investment analytics solutions. Prior to joining Frontier, Fisher worked as a finance researcher at RMIT University, where he conducted research on asset pricing and capital markets. Fisher holds a Bachelor's degree in Civil Engineering from Tongji University in China and a PhD in Finance from RMIT University. He has also passed the CFA level three exam.

KC Low, CFA

Senior Consultant

KC joined Frontier Advisors in 2012 and provides analytical support to clients, asset allocation advice, and investment research. KC is a member of Frontier's Capital Markets and Asset Allocation Team. Previously with Fairfax Media as the Head of Research and Valuation Analyst for BRW Magazine, he has also published business articles in print and online for Fairfax's various mastheads. KC also interned in the Advisory division of PricewaterhouseCoopers. KC holds a Bachelor of Commerce, majoring in Accounting and Finance at Monash University with the Dean's Commendation. He also holds a Master of Applied Finance from Monash University. KC is a CFA Charterholder.

INTRODUCTION

Modelling US inflation

Frontier first published a paper on our US bottom-up inflation model in May 2022 to analyse the inflation outlook and showcase our modelling capabilities. Our modelling results at the time identified that although US inflation was high and still rising, it was plausible that it had peaked but there are risks that “inflation may remain ‘sticky’ at an elevated level over the medium-term”.

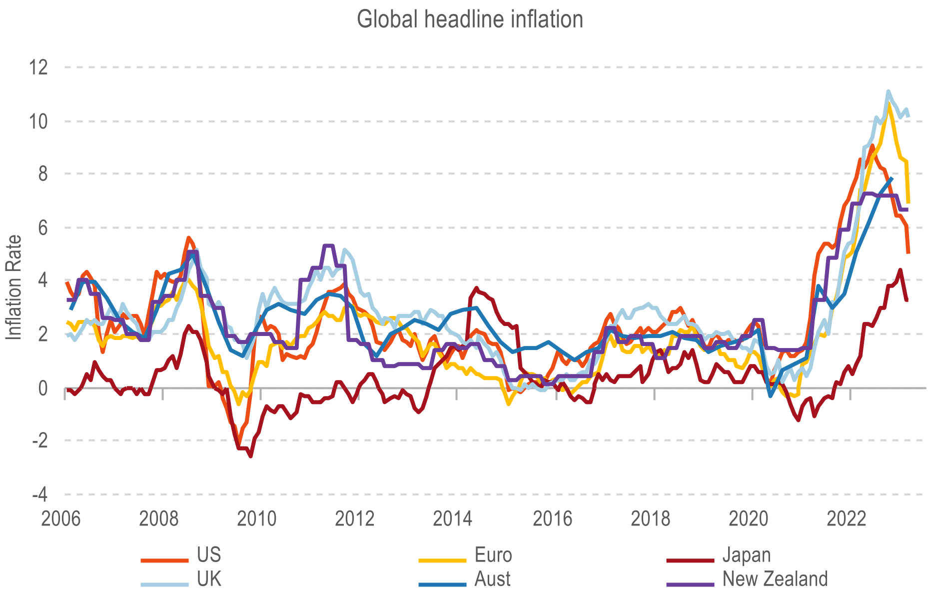
Fast forward to today, our modelling output has proven correct with US inflation peaking around 9% in mid-2022 and has now decelerated to around 5%.

Our inflation model continues to be useful in exploring various inflation scenarios to inform our investment asset allocation advice to clients. In this paper, we update the model with a plausible inflation scenario to analyse how quickly inflation COULD decelerate and whether it will stay ‘sticky’ at levels that force the US Federal Reserve to retain a tightening monetary policy bias.

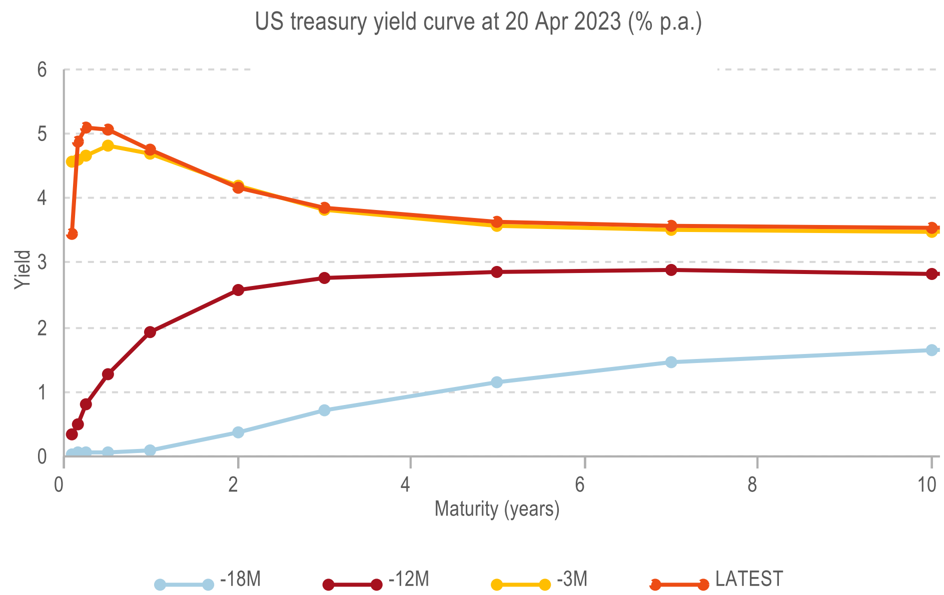
As a reminder, our bottom-up inflation model operates by forecasting individual components of the US headline consumer price index (CPI).

Background

Inflation is slowing but will it slow enough to allow central banks to ease monetary policy?



Source: Refinitiv Datastream

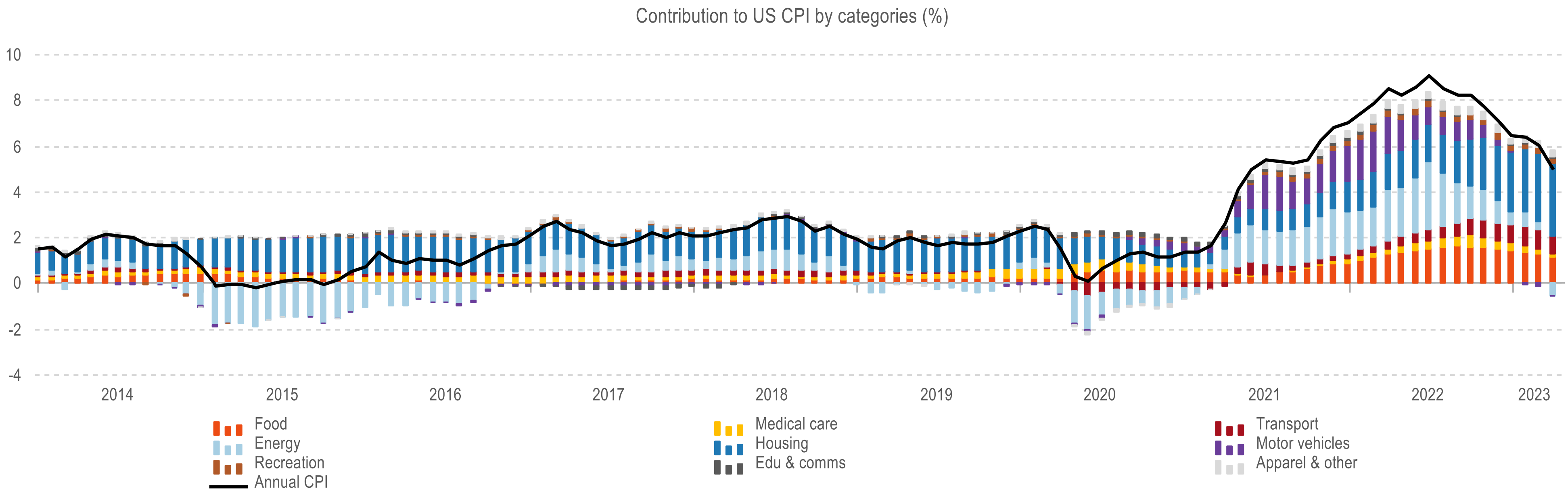


Source: Refinitiv Datastream

- The macroeconomic environment has changed markedly compared to 12 months ago.
  - US headline inflation was around 8% and accelerating when we first published our US bottom-up inflation model. Today, US headline inflation is around 5% and slowing.
  - Market expectations were for monetary policy to tighten to combat inflation 12 months ago. The US Federal Reserve has exceeded market expectations by tightening monetary policy even more aggressively (one of the sharpest rate hiking cycles in US history) over the last year. Market expectations are now for the Federal Reserve to cut interest rates given its high level and the strains emerging in the economy.
- The key questions for investors today are centred around “how fast will inflation decelerate” and “will inflation stay elevated above levels central banks will be comfortable with”. The outlook for inflation is critical for asset allocation decisions as it will determine both the economic environment and the flexibility afforded to central banks in terms of their policy response.

Key factors behind the easing of US inflation

Analysing the components of US inflation has been important in understanding the inflation outlook



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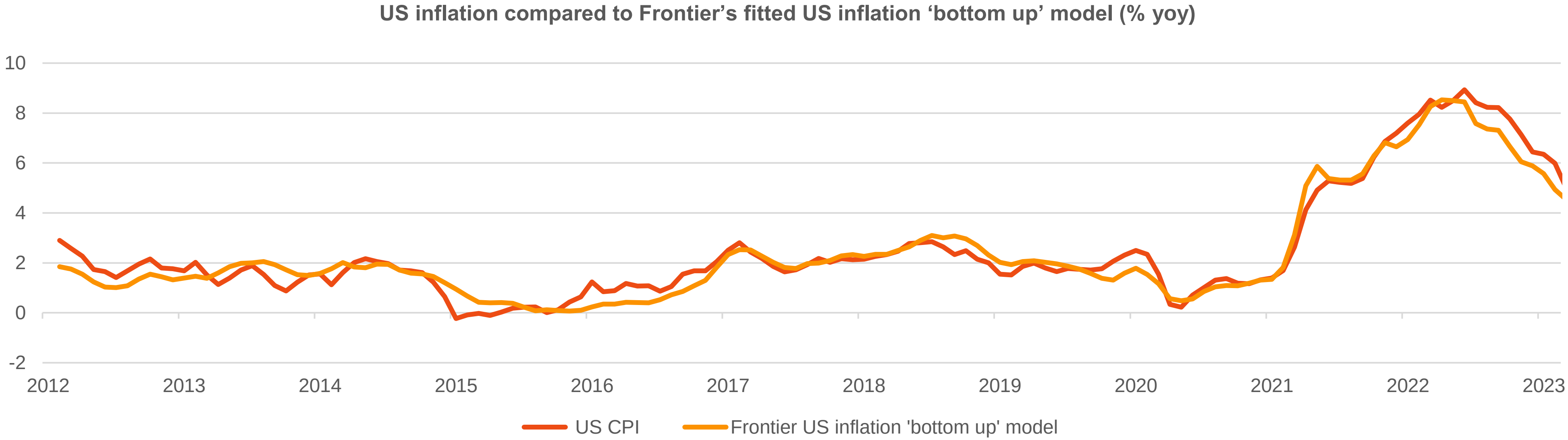
- Specific components of inflation have substantially contributed to the overall increase in inflation over recent years with a peak in Q3 2022. By understanding these key components, it will better inform the overall outlook on inflation.
  - **Energy:** Previously a major inflation driver, energy prices have been declining after peaking in Q1 2022. As a result, energy's contribution to overall inflation has diminished. Factors such as easing of supply chains and the high base effect from the previous year have contributed to this moderation of energy prices. However, energy prices are volatile and geopolitical risks remain heightened.
  - **Shelter:** The shelter component has consistently risen throughout the observed period, albeit with a slight deceleration in growth rate most recently. Shelter costs are a crucial factor in overall inflation, but the slowdown in growth suggests pressures from the housing market are beginning to alleviate, as house price falls ease rental cost pressures.
  - **Food:** Food inflation peaked in Q3 2022 and has been gradually declining. The food sector's inflationary pressures, driven by factors such as elevated energy transportation costs, have begun to subside, contributing to the overall easing of inflation in this component.

Frontier’s US inflation bottom up model

Overall US inflation is derived from our model which focusses on individual components of US CPI

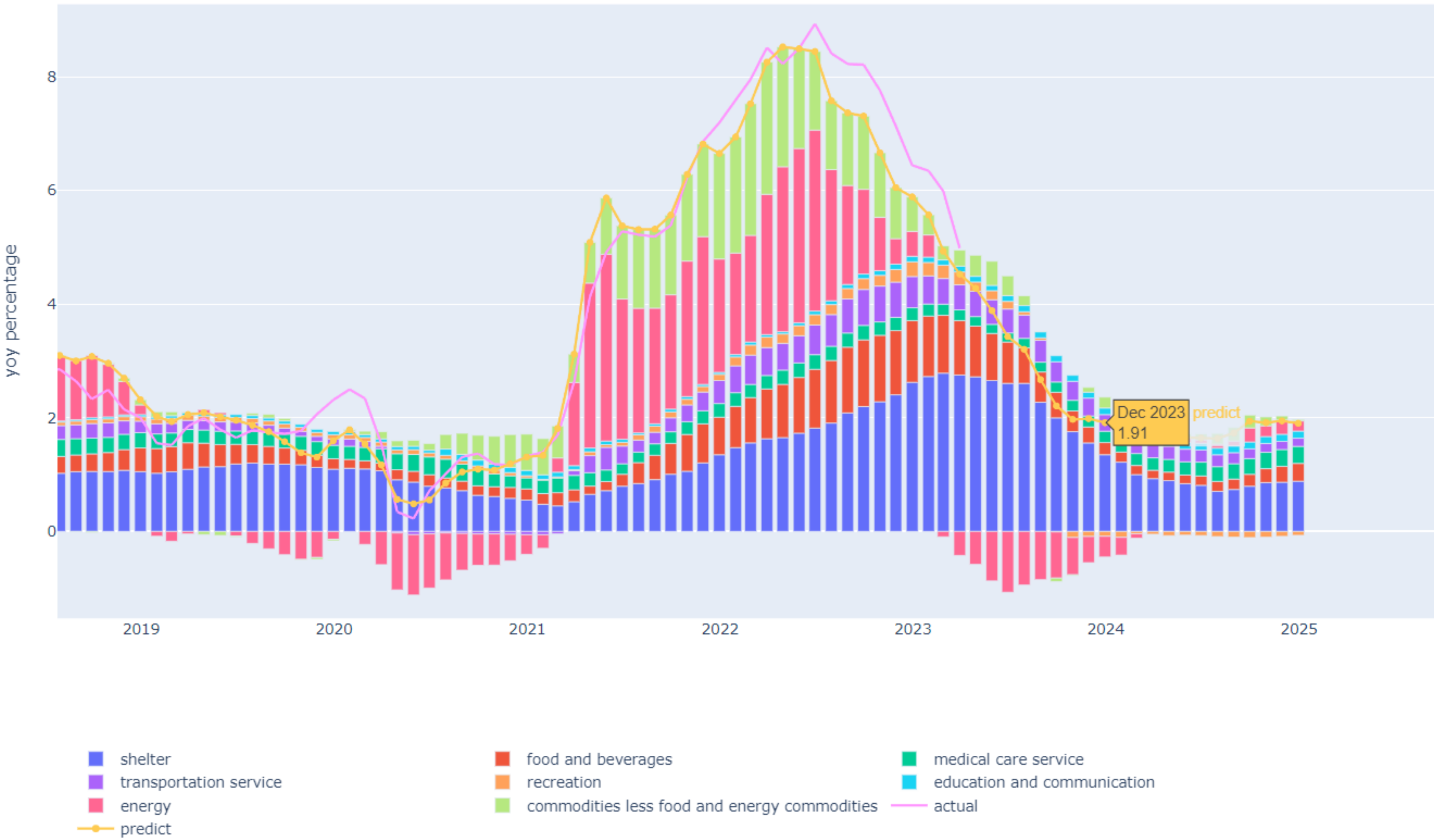


Source: Frontier Advisors, Refinitiv Datastream

- Given the importance of how individual components of US inflation can impact on the overall level of inflation, we have developed an econometric model for estimating each component of US headline CPI. This in turn can be used to analyse overall changes in US inflation.
  - For example, we use a range of indicators, including changes in the oil price, to estimate the expected moves in CPI components like ‘energy’ and ‘transportation service’.
- The model can explain and estimate how changes in economic factors (like oil price) can impact on inflation, but it still relies on forecasts of these factors which can be highly uncertain. For example, our model can use oil and gas futures to predict energy inflation, however there is considerable uncertainty in forecasting oil and gas prices given factors such as geopolitical risk.
  - For this reason, we see the major use of this model being in scenario analysis for understanding how different paths of important macroeconomic variables can flow through into US inflation.

Baseline inflation scenario

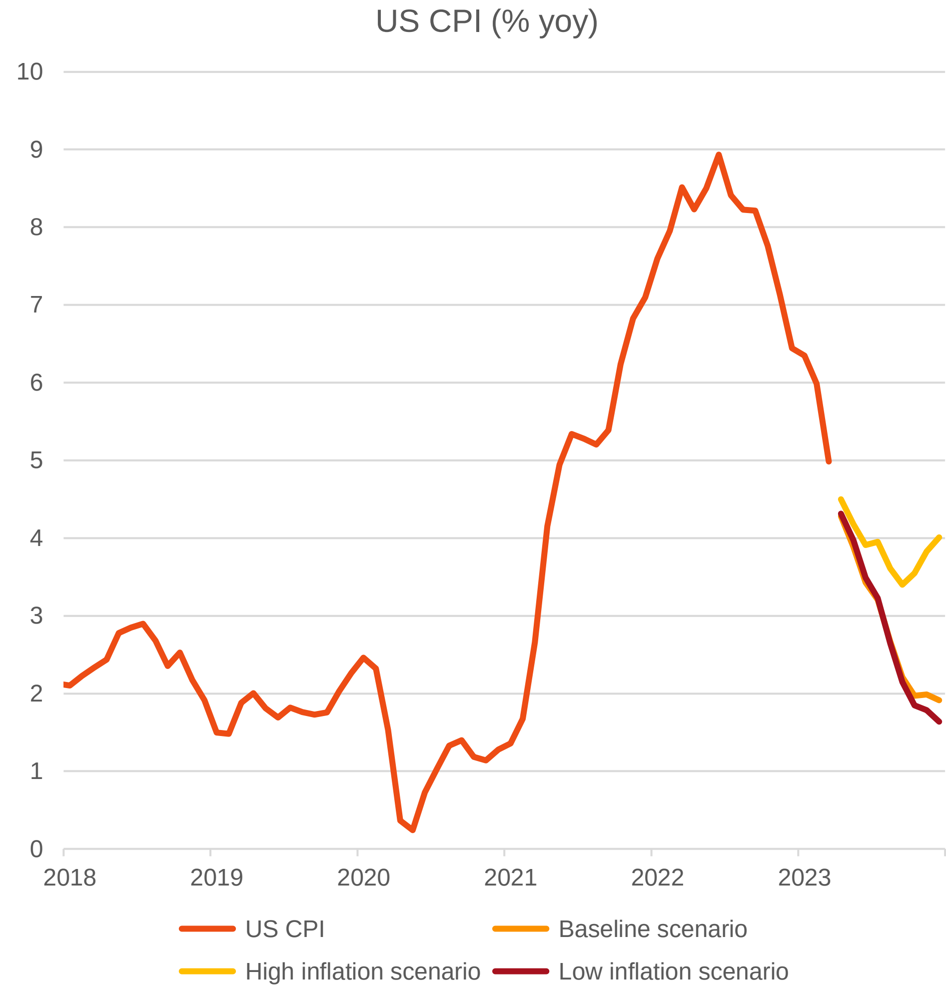
Baseline US inflation scenario and underlying forecasted components



US inflation outlook

Although there is a realistic path for inflation to moderate, risks remain to inflation staying elevated

- Scenario analysis is essential for forecasting inflation given the difficulty in projecting the underlying factors.
- In our new baseline scenario, we forecast a realistic path for US headline inflation to moderate to around 2% by the end of this year.
  - The crux of this scenario is driven by slowing shelter inflation driven by weakness in the US housing sector; a moderate slowdown in economic growth and the labour market given the scale and pace of rate hikes over the last 12 months; energy prices rising modestly; and commodity prices remaining around current levels.
  - If this scenario does eventuate, it may allow the Federal Reserve to pivot to ease monetary policy to support economic growth if needed.
- In our 'high inflation' scenario, we highlight risks associated where energy prices increases materially, perhaps due to escalation of the impacts of the Ukraine invasion, or heightened tension between China and the US over Taiwan, leading to a more sustained period of supply chain dislocations.
  - In this scenario, it is assumed oil prices reach $140 per barrel, rapid price increases in core commodities, but the labour market remains tight.
  - Under these conditions, the model forecasts headline inflation to only slow to 4% by the end of this year.
- In aggregate, there are still risks to inflation remaining elevated given ongoing labour market constraints could continue to place upward pressure on services inflation and the uncertainty of future energy prices (perhaps triggered by China demand rebound).



Source: Frontier Advisors, Refinitiv Datastream

Conclusion

Frontier Advisors has updated our US bottom-up inflation model as inflation has moved markedly since our initial paper in May 2022. Lower energy costs, easing supply chain issues and goods disinflation have driven the decline in headline CPI.

Our new baseline scenario forecasts that inflation can realistically moderate quickly back to around 2% by the end of this year. The scenario is driven by shelter cost inflation declining given weakness in the housing market; a moderate slowdown in economic growth and the labour market given the scale and pace of rate hikes over the last 12 months; energy prices rise modestly; and commodity prices remaining around current levels.

If this scenario were to occur, it would likely provide the Federal Reserve flexibility to ease monetary policy to support economic growth if needed, i.e. if a recession occurs. This has implications for asset allocation decisions, particularly as the impact on financial markets are likely to be very different from a scenario where the Federal Reserve does not have room to ease monetary policy even if economic growth declines considerably.

However, we still see risks to inflation remaining elevated given ongoing labour market constraints could continue to place upward pressure on services inflation and the uncertainty of future energy prices (perhaps triggered by China demand rebound).

Want to learn more?

Please reach out to Frontier if you have any questions or visit frontieradvisors.com.au for more information.

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