U.S. Outlook for Interest Rates, Inflation, and Monetary Policy



Preston Caldwell Head of U.S. Economics

July 22, 2022

This is a summary of our 64-page report.

U.S. OUTLOOK FOR INTEREST RATES, INFLATION, AND MONETARY POLICY

Key Takeaways

Interest Rates

We expect the U.S. Federal Reserve to pivot to easing monetary policy in 2023 as inflation falls back to its 2% target and the need to shore up economic growth becomes paramount. Our 2026 and long-run projection for the federal-funds rate and 10-year Treasury yield is 1.75% and 2.75%, respectively, though we expect rates to dip below these levels in 2024 and 2025 as monetary policy leans accommodative. We're expecting interest rates to fall much more than consensus in the near term, with our projected year-end 2023 federal-funds rate at 1.75% compared with 3.25% for consensus. Likewise, near-term Treasury yields are too high—implying much tighter monetary policy than we're expecting.

► Inflation

We're projecting price pressures to swing from inflationary to deflationary by 2023, owing greatly to the unwinding of price spikes caused by supply constraints in durables, energy, and other areas. This will make the Fed's job of curtailing inflation much easier. In fact, we think the Fed will overshoot its goal with inflation averaging 1.4% over 2023-26. Our inflation analysis is critical to our near-term projections for the gross domestic product and interest rates. If inflation becomes much more entrenched, then the Fed will have to engineer a sharp short-run recession by hiking interest rates much higher than we expect.

GDP and Recession Risk

For now, we think the Fed is slowing the economy enough to help cool off inflation without provoking a major slowdown. We're projecting annual growth rates to remain in positive territory. A technical recession is a possibility, but we don't think it would be a quantitatively significant slowdown. As long as the Fed is allowed to shift to easing in 2023, GDP should continue trending upward and then accelerate in 2024 and 2025. Housing, which is the most interest-rate sensitive major component of the GDP, will drive much of the fluctuation in GDP growth. Lower rates in 2024 and 2025 will be needed to improve housing affordability and thereby resuscitate housing demand.

► Long-Run Interest Rates

Long-term forces (far outside of the control of the Fed) have acted to push down interest rates in the U.S. and other major economies for decades. In economic parlance, the natural rate of interest has shifted downward because of demographics and slower productivity growth, among other factors. These factors will keep interest rates lower for longer.

Monetary Policy Primer

We provide an overview of how monetary policy seeks to calibrate interest rates in order to balance out its goals for GDP and inflation. Such a framework is essential for projecting the course of interest rates.

Forecast Update: Growth Slowdown Is Materializing Sooner Than

Expected

FORECAST UPDATE

Near-Term Headwinds Are Increasing, but Our Long-Term Optimism on GDP and Inflation Is Largely Unchanged

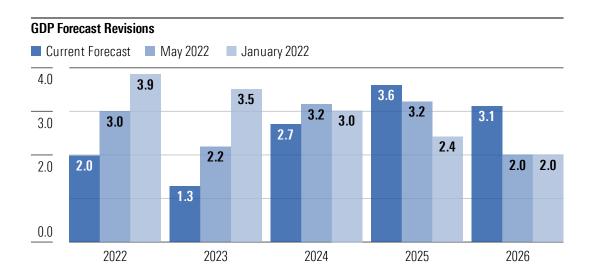
We Expect a More Delayed Recovery Owing to Supply Shocks and the Fed

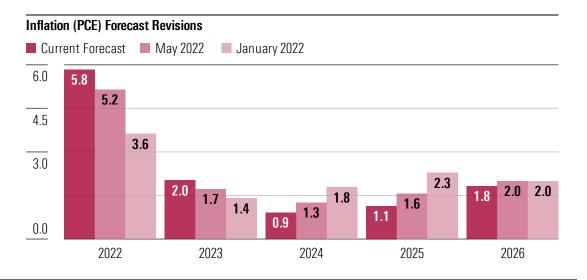
Since our last update, we've further lowered our near-term GDP forecasts. Near-term measures of economic activity have come in weaker than expected in recent months, with the Atlanta Fed's GDPNow currently projecting a sequential decline in secondguarter 2022 real GDP. Altogether since the start of the year, our near-term GDP forecasts have come down substantially owing to supply shocks (especially the Ukraine war) and a heightened determination from the Fed to fight inflation with tighter monetary policy.

We expect GDP growth will bounce back starting in 2024 as the Fed pivots to easing. Resolution of supply constraints should facilitate an acceleration in growth without inflation becoming a concern again. Increases to our GDP growth forecasts for 2025-26 partially make up for our downward revisions for 2022-23.

Inflation in 2022 Staying Hotter for Longer Than Expected

Our inflation forecasts for 2022 have edged higher, mainly because of oil prices shooting up higher in May and June. We're still expecting inflation to come down dramatically in 2023 and later years as supply constraints affecting durables, energy, and other areas are resolved. The downward revisions to our GDP forecast also mean a more negative output gap in the near term than we expected, which will cool off inflation further.





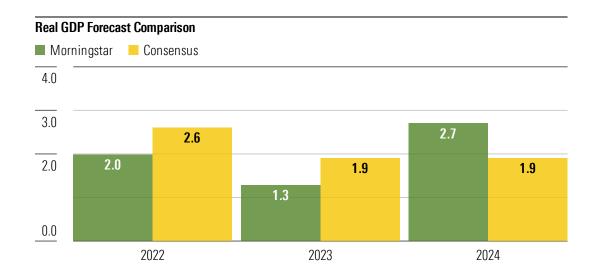
Source: U.S. Bureau of Economic Analysis, Morningstar. Data as of July 6, 2022.

FORECAST UPDATE

We Remain More Optimistic Than Consensus on Strong GDP Growth and Mild Inflation

We're More Bullish Than Consensus on Long-Run GDP

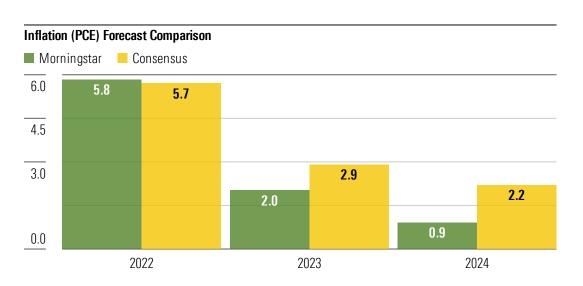
Our GDP forecasts for 2022 and 2023 are slightly more bearish than current consensus, although we expect consensus forecasts to be revised down soon. In the longer run, we're far more bullish than consensus. Based on available long-run forecasts, we're expecting about 2.5% more cumulative GDP growth than consensus through 2026. Consensus remains overly pessimistic on recovery in the labor supply and has generally overreacted to near-term headwinds. Our five-year GDP forecasts are driven by our detailed analysis of the labor market and the other supply-side building blocks of the economy. See our U.S. Economic Outlook: Second-Quarter 2021 for more details.



We Expect Inflation to Fall Much Faster Than Consensus

On inflation, our views diverge sharply from consensus after 2022. Bond market breakevens imply a similar view as consensus on inflation.

While consensus has greatly given up on the "transitory" story for inflation, we still think most of the sources of today's high inflation will abate (and even unwind in impact) over the next few years. This includes energy, autos, and other durables. Combining these factors with monetary policy tightening, we expect inflation to undershoot 2% in 2023 and 2024. Worries about inflation broadening out into the rest of the economy (including via high wage growth) look overblown.



Source: U.S. Bureau of Economic Analysis, Bloomberg, Morningstar. Data as of July 6, 2022.

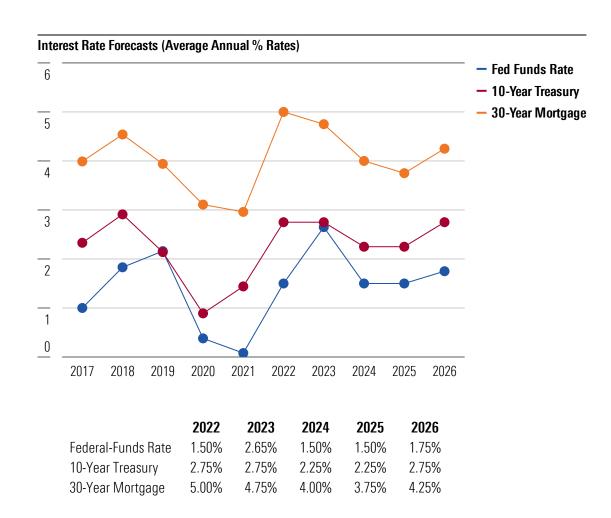
FORECAST UPDATE

Interest-Rate Forecast Summary

We Expect the Fed to Shift Back to Easing in 2023

Interest rates have soared over the past year as expectations of monetary policy tightening have built up and begun to play out. However, we think the Fed will receive the green light from falling inflation to pivot back to easing in mid-2023. GDP growth will be running up against severe headwinds into 2023, owing especially to a sharp drop in housing activity in response to housing affordability deteriorating to its worst since 2007. The Fed will need to lower interest rates to avert a greater fall in housing activity and eventually lead to a rebound. Monetary easing should also provide for more benign financial conditions, supporting the broader economy. This should allow GDP growth to reaccelerate in 2024 and 2025, as we expect. By 2026, we expect monetary policy with a neutral stance, with the federal-funds rate and the 10-year Treasury yield in line with our assessment of their long-run natural levels.

We're expecting easing to proceed far more rapidly than consensus, with our expectation of a year-end 2023 federal-funds rate of 1.75% compared with consensus at 3.25%. Likewise, near-term interest rates implied by bond markets look too high. The five-year Treasury yield is at 3% as of July 2022, implying an average federal-funds rate of 2.5%-3%, depending on one's term premium assumption. By contrast, we're expecting an average federal-funds rate of about 1.75% over the next five years. On the other hand, the long end of the yield curve looks more reasonable. The current 10-year Treasury yield is at 3%, which is close to our long-run projection of 2.75%.



General Disclosure

Unless otherwise provided in a separate agreement, recipients accessing this report may only use it in the country in which the Morningstar distributor is based. Unless stated otherwise, the original distributor of the report is Morningstar Research Services LLC, a LLS A domiciled financial institution.

This report is for informational purposes only and has no regard to the specific investment objectives, financial situation, or particular needs of any specific recipient. This publication is intended to provide information to assist institutional investors in making their own investment decisions, not to provide investment advice to any specific investor. Therefore, investments discussed and recommendations made herein may not be suitable for all investors; recipients must exercise their own independent judgment as to the suitability of such investments and recommendations in the light of their own investment objectives, experience, taxation status, and financial position.

The information, data, analyses, and opinions presented herein are not warranted to be accurate, correct, complete, or timely. Unless otherwise provided in a separate agreement, neither Morningstar, Inc. nor the Equity Research Group represents that the report contents meet all of the presentation and/or disclosure standards applicable in the jurisdiction the recipient is located.

Except as otherwise required by law or provided for in a separate agreement, the analyst, Morningstar, Inc. and the Equity Research Group and their officers, directors and employees shall not be responsible or liable for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions within the report. The Equity Research Group encourages recipients of this report to read all relevant issue documents for example, prospectus) pertaining to the security concerned, including without limitation, information relevant to its investment objectives, risks, and costs before making an investment decision and when deemed necessary, to seek the advice of a legal, tax, and/or accounting professional.

The Report and its contents are not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country, or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject Morningstar, Inc. or its affiliates to any registration or licensing requirements in such jurisdiction.

Where this report is made available in a language other than English and in the case of inconsistencies between the English and translated versions of the report, the English version will control and supersede any ambiguities associated with any part or section of a report that has been issued in a foreign language. Neither the analyst, Morningstar, Inc., nor the Equity Research Group guarantees the accuracy of the translations.

This report may be distributed in certain localities, countries and/or jurisdictions ("Territories") by independent third parties or independent intermediaries and/or distributors ("Distributors"). Such Distributors are not acting as agents or representatives of the analyst. Morningstar, Inc. or the Equity Research Group. In Territories where a

Distributor distributes our report, the Distributor is solely responsible for complying with all applicable regulations, laws, rules, circulars, codes, and guidelines established by local and/or regional regulatory bodies, including laws in connection with the distribution third-party research reports.

Conflicts of Interest

► No interests are held by the analyst with respect to the security subject of this investment research report.

Morningstar, Inc. may hold a long position in the security subject of this investment research report that exceeds 0.5% of the total issued share capital of the security. To determine if such is the case, please click http://msi.morningstar.com and http://mdi.morningstar.com.

- ► Analysts' compensation is derived from Morningstar, Inc.'s overall earnings and consists of salary, bonus and in some cases restricted stock.
- ► Neither Morningstar, Inc. nor the Equity Research Group receives commissions for providing research nor do they charge companies to be rated.
- ▶ Neither Morningstar, Inc. nor the Equity Research Group is a market maker or a liquidity provider of the security noted within this report.
- ► Neither Morningstar, Inc. nor the Equity Research Group has been a lead manager or colead manager over the previous 12 months of any publicly disclosed offer of financial instruments of the issuer
- ▶ Morningstar, Inc.'s investment management group does have arrangements with financial institutions to provide portfolio management/investment advice some of which an analyst may issue investment research reports on. However, analysts do not have authority over Morningstar's investment management group's business arrangements nor allow employees from the investment management group to participate or influence the analysis or oninion prepared by them.
- ► Morningstar, Inc. is a publicly traded company (Ticker Symbol: MORN) and thus a financial institution the security of which is the subject of this report may own more than 5% of Morningstar, Inc.'s total outstanding shares. Please access Morningstar, Inc.'s proxy statement, "Security Ownership of Certain Beneficial Owners and Management" section http://investorrelations.morningstar.com/sec.cfm?doctype=Proxy@year=@ex=12
- ► Morningstar, Inc. may provide the product issuer or its related entities with services or products for a fee and on an arms' length basis including software products and licenses, research and consulting services, data services, licenses to republish our ratings and research in their promotional material, event sponsorship and website advertising.

Further information on Morningstar, Inc.'s conflict of interest policies is available from http://global.morningstar.com/equitydisclosures. Also, please note analysts are subject to the CFA Institute's Code of Ethics and Standards of Professional Conduct.

For a list of securities which the Equity Research Group currently covers and provides written analysis on please contact your local Morningstar office. In addition, for historical analysis of securities covered, including their fair value estimate, please contact your local office.

For Recipients in Hong Kong: The Report is distributed by Morningstar Investment Management Asia Limited, which is regulated by the Hong Kong Securities and Futures Commission to provide services to professional investors only. Neither Morningstar Investment Management Asia Limited, nor its representatives, are acting or will be deemed to be acting as an investment advisor to any recipients of this information unless expressly agreed to by Morningstar Investment Management Asia Limited. For enquiries regarding this research, please contact a Morningstar Investment Management Asia Limited Licensed Representative at https://global.morningstar.com/equitydisclosures.

For Recipients in India: This Investment Research is issued by Morningstar Investment Adviser India Private Limited. Morningstar Investment Adviser India Private Limited is registered with the Securities and Exchange Board of India (Registration number INA000001g57) and provides investment advice and research. Morningstar Investment Adviser India Private Limited has not been the subject of any disciplinary action by SEBI or any other legal/regulatory body. Morningstar Investment Adviser India Private Limited is a wholly owned subsidiary of Morningstar Investment Management LLC. In India, Morningstar Investment Adviser India Private Limited has one associate, Morningstar India Private Limited, which provides data related services, financial data analysis and software development. The Research Analyst has neither served as an officer, director or employee of the fund company within the last 12 months, nor has it or its associates engaged in market making activity for the fund company.

*The Conflicts of Interest disclosure above also applies to relatives and associates of Manager Research Analysts in India. The Conflicts of Interest disclosure above also applies to associates of Manager Research Analysts in India. The terms and conditions on which Morningstar Investment Adviser India Private Limited offers Investment Research to clients, varies from client to client, and are detailed in the respective client agreement.

For recipients in Japan: The Report is distributed by Ibbotson Associates Japan, Inc., which is regulated by Financial Services Agency. Neither Ibbotson Associates Japan, Inc., nor its representatives, are acting or will be deemed to be acting as an investment advisor to any recipients of this information.

For recipients in Singapore: For Institutional Investor audiences only. Recipients of this report should contact their financial adviser in Singapore in relation to this report. Morningstar, Inc., and its affiliates, relies on certain exemptions (Financial Advisers Regulations, Section g2B and g2C) to provide its investment research to recipients in Singapore.



22 West Washington Street Chicago, IL 60602 USA

About Morningstar® Institutional Equity ResearchTM
Morningstar Institutional Equity Research provides independent, fundamental equity research differentiated by a consistent focus on sustainable competitive advantages, or Economic Moats.

For More Information +1 312 696-6869 equitysupport@morningstar.com

©2022 Morningstar. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses, and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete, or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages, or other losses resulting from, or related to, the information, data, analyses, or opinions or their use. References to "DBRS Morningstar credit ratings" refer to credit ratings issued by one of the DBRS group of companies or Morningstar Credit Ratings, LLC. The DBRS group of companies consists of DBRS, Inc. (Delaware, U.S.) (NRSRO, DRO affiliate); DBRS Limited (Ontario, Canada)(DRO, NRSRO affiliate); DBRS Ratings GmbH (Frankfurt, Germany)(CRA, NRSRO affiliate). Morningstar Credit Ratings, LLC is a NRSRO affiliate of DBRS, Inc. For more information on regulatory registrations, recognitions and approvals of DBRS group of companies and Morningstar Credit Ratings, LLC, please see: http://www.dbrsmorningstar.com/research/highlights.pdf.

The DBRS group and Morningstar Credit Ratings, LLC are wholly-owned subsidiaries of Morningstar, Inc.

All DBRS Morningstar credit ratings and other types of credit opinions are subject to disclaimers and certain limitations. Please read these disclaimers and limitations at http://www.dbrsmorningstar.com/about/disclaimer and https://ratingagency.morningstar.com/mcr. Additional information regarding DBRS Morningstar ratings and other types of credit opinions, including definitions, policies and methodologies, are available on https://www.dbrsmorningstar.com/mcr.

Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. To license the research, call +1 312 696-6869.