Business Forecast 2021
January 29, 2021
11:30 a.m. - 1:30 p.m.

11:30 a.m. - Recognition of Sponsors & 2020 Economic Forecast Contest Awards
Mervin Jebaraj
Center for Business and Economic Research
University of Arkansas

11:35 a.m. - Welcome
Matt Waller
Dean, Sam M. Walton College of Business
University of Arkansas

11:40 a.m. - Global Forecaster
Catherine Mann
Global Chief Economist
Citibank

12:00 a.m. - Domestic Forecaster
Mark Palim
Vice President and Deputy Chief Economist
Fannie Mae

12:25 a.m. - Regional Forecaster
Mervin Jebaraj

12:45 a.m. - Panel Discussion
Catherine Mann
Mark Palim
Mervin Jebaraj

Business Forecast 2021 is in association with the National Association for Business Economics (NABE).
Please use Twitter hashtag #BF2021 for this event.
Catherine Mann is the Global Chief Economist at Citibank, responsible for thought leadership, research guidance of a global team of economists, and cross-fertilization of research across macroeconomics, fixed-income, and equities. Prior to this position, Mann was Chief Economist at the OECD, where she also was Director of the Economics Department and was Finance Deputy to the G20 (2014-2017). Prior to the OECD, she held the Barbara ’54 and Richard M. Rosenberg Professor of Global Finance at the International Business School, Brandeis University, where she directed the Rosenberg Institute of Global Finance (2006-2014). She spent 20-plus years in Washington, DC. Her positions included Senior Fellow at the Peter G. Peterson Institute for International Economics; Economist, Senior Economist, and Assistant Director in the International Finance Division at the Federal Reserve Board of Governors; Senior International Economist on the President’s Council of Economic Advisers; and Adviser to the Chief Economist at the World Bank. Her written work includes more than 85 scholarly articles and seven books primarily on the topics of US external imbalances, trade, international capital flows and the dollar; and information technology and services trade in global markets. Mann received her PhD in Economics from the Massachusetts Institute of Technology and her undergraduate degree is from Harvard University.

Mark Palim is Vice President and Deputy Chief Economist at Fannie Mae, responsible for overseeing the Economic and Strategic Research Group’s forecasting functions. Prior to working at Fannie Mae, Mark was an economic consultant at PricewaterhouseCoopers and LECG. His practice focused on applying economic and financial theory to a variety of business disputes and policy questions. He worked as a consulting and testifying expert in antitrust cases and disputes in the financial services industry. In addition, Palim led a team of 75 adjudicators charged with valuing claims for the Department of Justice and the Special Master administering the Federal September 11th Victim Compensation Fund. Mark was first involved with economic forecasting and mortgage securities in 1988 when he was a portfolio manager and reported to the Chief Economist at Mercantile Safe Deposit and Trust Company. Subsequently, he continued his work on macroeconomic and policy issues as a staff economist for the National Association of Federal Credit Unions (NAFCU). Currently, Palim serves on the Board of Directors of the National Association for Business Economics (NABE). His research has been published in peer reviewed economic journals and professional handbooks. Palim has a Ph.D. in economics from George Mason University and a B.A. in international studies from the Johns Hopkins University and is a Chartered Financial Analyst charter holder (CFA).

Mervin Jebaraj is the Director of the Center for Business and Economic Research. During his time at the center, he has been instrumental in creating and executing economic studies for clients such as the Arkansas Economic Development Commission, the Northwest Arkansas Council, the Walton Family Foundation, Arvest Bank, the University of Arkansas and many others. He has contributed to economic thinking and public policy discussion that journalists, business people, and community leaders alike rely on to understand how national and regional issues impact Northwest Arkansas and Arkansas as a whole. Arkansas Business and the Northwest Arkansas Business Journal recognized Mervin in their 40 Under 40 lists and on the Arkansas 250 list. He makes presentations that share the center’s expertise directly to over 5,000 individuals annually and tens of thousands more hear and see his economic analysis and commentary through TV, radio and print media. Jebaraj serves on the Community Development Advisory Council of the Federal Reserve Bank of St. Louis, on the Board of Directors of the Association for University Business and Economic Research and on the Board of Directors of the Walton Arts Center. He is also a member of the National Association for Business Economics.
Economic and Housing Outlook

Mark Palim, Fannie Mae Deputy Chief Economist

January 29, 2021
Disclaimer

Opinions, analyses, estimates, forecasts and other views of Fannie Mae's Economic and Strategic Research (ESR) Group included in these materials should not be construed as indicating Fannie Mae's business prospects or expected results, are based on a number of assumptions, and are subject to change without notice. How this information affects Fannie Mae will depend on many factors. Although the ESR group bases its opinions, analyses, estimates, forecasts and other views on information it considers reliable, it does not guarantee that the information provided in these materials is accurate, current or suitable for any particular purpose. Changes in the assumptions or the information underlying these views could produce materially different results. The analyses, opinions, estimates, forecasts and other views published by the ESR group represent the views of that group as of the date indicated and do not necessarily represent the views of Fannie Mae or its management.
### Macroeconomic outlook

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP annual growth (Q4-over-Q4)</td>
<td>2.3%</td>
<td>-2.7%</td>
<td>5.3%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Unemployment rate (year-end)</td>
<td>3.5%</td>
<td>6.8%</td>
<td>4.9%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Core CPI (year-end, % year-over-year)</td>
<td>2.3%</td>
<td>1.7%</td>
<td>2.1%</td>
<td>2.6%</td>
</tr>
<tr>
<td>10-year Treasury bond yield (annual average)</td>
<td>2.1%</td>
<td>0.9%</td>
<td>1.0%</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

Source: Fannie Mae Economic & Strategic Research January 2021 Forecast – Data in Forecast as of 1/11/2021
Technically, the shortest recession ever

Employment recovery path highly uncertain with potential downside risk to housing
Consumption likely to boost growth in the latter half of 2021
Home sales expected to pull back but remain elevated, while home price growth remains strong in the near-term

Quarterly change in real GDP and real personal consumption expenditures (SAAR, Bil.$2012)

New and Existing Home Sales and FHFA: Purchase Only Home Price Index
Current hospitalizations pull back from record levels

New daily cases trending downwards, potentially due to the pass-through of holiday-related infections

Source: Johns Hopkins University CSSE, COVID Tracking Project
Relief programs help keep bankruptcies low in Q3
Share of firms planning on further capital expenditures falls sharply in December
Transfer payments have helped bolster the economy so far

Macro policy has been supportive, and many consumers have the firepower to consume

Source: Bureau of Economic Analysis
Debt as a share of GDP expected to surge following increase in expenditures in effort to combat the effects of the coronavirus

Debt held by the public as a share of GDP (FY, %)

Source: Congressional Budget Office
Monetary policy: Where do we go from here?

Monetary policy at full-speed, and a slowing in the near-future is unlikely

Current Total Federal Reserve Assets (Tril. $)

Current Total Fed Assets: ~$7.4T

- Treasury securities
- Agency MBS
- Other assets

Source: Federal Reserve
Interest rates at historic lows

Fed funds rate, treasury rates, and mortgage rates

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fed Funds</td>
<td>2.3%</td>
<td>1.6%</td>
<td>0.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>10-Yr</td>
<td>2.8%</td>
<td>1.9%</td>
<td>0.9%</td>
<td>1.1%</td>
</tr>
<tr>
<td>30-Yr FRM</td>
<td>4.6%</td>
<td>3.7%</td>
<td>2.7%</td>
<td>2.8%</td>
</tr>
</tbody>
</table>
Single-family starts continue climbing past pre-pandemic levels

Acceleration in pace of increase in permits suggests pace of construction may rise over the coming months

Source: Census Bureau
New home sales pull back sharply in November
While existing home sales remain elevated, large downward revisions to new home sales suggest weaker sales

New home sales pull back sharply in November
While existing home sales remain elevated, large downward revisions to new home sales suggest weaker sales

New & existing home sales (SAAR, Mil. of Units)

Source: Census Bureau, National Association of REALTORS®
Inventories of existing homes falls to record low in December

Inventories of new homes increased again in December

Homes available for sale (Thousands of units, EOP)

Source: Census Bureau, National Association of REALTORS®
Home price growth continues to accelerate

FHFA Purchase-Only Home Price Index shows annual price growth of 11% in November as inventories remain low.
Multifamily Market

Effective rent change by property class

% Change from Previous Year

Source: RealPage, Inc.
The move away from density may have plateaued

Pickup post-COVID in New York and San Francisco in net moves to lower density

*High-density is defined as zip codes within the top 20th percentile of people per square mile for each CBSA.

Source: Desktop Underwriter, Fannie Mae ESR Analysis
Serious delinquencies rise sharply in Q3
FHA delinquencies remain well above VA and conventional delinquencies

Serious delinquency rate (90+ Days Late)*

*Includes loans in forbearance and foreclosure as delinquent loans

Source: Mortgage Bankers Association
# Housing and mortgage market outlook

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Housing Starts</strong></td>
<td>1.290 million</td>
<td>1.383 million</td>
<td>1.450 million</td>
<td>1.504 million</td>
</tr>
<tr>
<td>(Percent Change Year-Over-Year)</td>
<td>3.2%</td>
<td>7.2%</td>
<td>4.9%</td>
<td>3.7%</td>
</tr>
<tr>
<td><strong>New Single-Family Home Sales</strong></td>
<td>683 thousand</td>
<td>818 thousand</td>
<td>858 thousand</td>
<td>880 thousand</td>
</tr>
<tr>
<td>(Percent Change Year-Over-Year)</td>
<td>10.7%</td>
<td>19.8%</td>
<td>4.8%</td>
<td>2.6%</td>
</tr>
<tr>
<td><strong>Total Existing Home Sales</strong></td>
<td>5.340 million</td>
<td>5.652 million</td>
<td>5.862 million</td>
<td>5.671 million</td>
</tr>
<tr>
<td>(Percent Change Year-Over-Year)</td>
<td>0.0%</td>
<td>5.8%</td>
<td>3.7%</td>
<td>-3.3%</td>
</tr>
<tr>
<td><strong>FHFA Purchase-Only Index</strong></td>
<td>5.4%</td>
<td>10.3%</td>
<td>4.2%</td>
<td>2.3%</td>
</tr>
<tr>
<td>(Annual Percent Change Q4/Q4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Purchase Mortgage Originations</strong></td>
<td>$1,326 billion</td>
<td>$1,605 billion</td>
<td>$1,751 billion</td>
<td>$1,766 billion</td>
</tr>
<tr>
<td>(Percent Change Year-Over-Year)</td>
<td>7.4%</td>
<td>21.0%</td>
<td>9.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Refinance Mortgage Originations</strong></td>
<td>$1,136 billion</td>
<td>$2,806 billion</td>
<td>$2,155 billion</td>
<td>$1,447 billion</td>
</tr>
<tr>
<td>(Percent Change Year-Over-Year)</td>
<td>113.5%</td>
<td>147.0%</td>
<td>-23.2%</td>
<td>-32.9%</td>
</tr>
<tr>
<td><strong>30-Year Fixed-Rate Mortgage</strong></td>
<td>3.9%</td>
<td>3.1%</td>
<td>2.7%</td>
<td>2.9%</td>
</tr>
<tr>
<td>(Annual Average)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10-Year Treasury</strong></td>
<td>2.1%</td>
<td>0.9%</td>
<td>1.0%</td>
<td>1.2%</td>
</tr>
<tr>
<td>(Annual Average)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Fannie Mae Economic & Strategic Research January 2021 Forecast – Data in Forecast as of 1/11/2021
Change in Arkansas Employment by Sector
2019-2020

Source: Bureau of Labor Statistics, CBER Calculations
Overall, how has this business been affected by the Coronavirus pandemic?

Arkansas Average

Note: No data collected between 6/27 and 8/9. No data collected between 10/12 and 11/9.

In your opinion, how much time do you think will pass before this business returns to its normal level of operations relative to one year ago?

Arkansas Average

Note: No data collected between 6/27 and 8/9. No data collected between 10/12 and 11/9.
Percent Change in Number of Small Businesses Open

Chetty, Friedman, Hendren, Stepner, and the OI Team (2020)
Percent Change in Number of Small Businesses Open

Chetty, Friedman, Hendren, Stepner, and the OI Team (2020)
Percent Change in Number of Small Businesses Revenue

-18% Arkansas
-31.1% USA

Chetty, Friedman, Hendren, Stepner, and the OI Team (2020)
Chetty, Friedman, Hendren, Stepner, and the OI Team (2020)
Select Counties of Arkansas - Year-over-Year Changes in Monthly Bar & Liquor Store Tax Revenue

Month - 2020 vs. 2019

- January, 2%
- February, 10%
- March, 14%
- April, 31%
- May, 32%
- June, 32%
- July, 22%
- August, 30%
- September, 35%
- October, 38%
- November, 12%

- January, 0%
- February, -24%
- March, -26%
- April, -57%
- May, -48%
- June, -34%
- July, -25%
- August, -24%
- September, -16%
- October, -17%
- November, -52%
Select Counties of Arkansas - Year-over-Year Changes in Monthly Restaurant Tax Revenue

Month - 2020 vs. 2019

Full-Service Restaurants
Limited-Service Restaurants
Little Rock-North Little Rock-Conway MSA
Non-Farm Employment

Source: Bureau of Labor Statistics
Change in Little Rock-North Little Rock-Conway MSA Employment by Sector, 2019-2020

Source: Bureau of Labor Statistics, CBER Calculations
Percent Change in Number of Small Businesses Open

Chetty, Friedman, Hendren, Stepner, and the OI Team (2020)
Central Arkansas - Year-over-Year Changes in Monthly Bar & Liquor Store Tax Revenue

Month - 2020 vs. 2019

- January, -6%
- February, -21%
- March, -25%
- April, -48%
- May, -52%
- June, -41%
- July, -34%
- August, -30%
- September, -17%
- October, -22%
- November, -52%

YoY Change in Tax Revenue

January February March April May June July August September October November
Central Arkansas - Year-over-Year Changes in Monthly Restaurant Tax Revenue

Month - 2020 vs. 2019

- Full-Service Restaurants
- Limited-Service Restaurants
Fayetteville-Springdale-Rogers MSA
Non-Farm Employment

Source: Bureau of Labor Statistics
Change in Northwest Arkansas MSA Employment by Sector, 2019-2020

-1.3%

Professional and Business Services
Mining, Logging and Construction
Trade, Transportation and Utilities
Financial Activities
Government
Non-Farm
Other Services
Manufacturing
Education and Health Services
Information
Leisure and Hospitality

Source: Bureau of Labor Statistics, CBER Calculations
Percent Change in Number of Small Businesses Open

Chetty, Friedman, Hendren, Stepner, and the OI Team (2020)
January: 4.7%
February: -1.0%
March: -20.5%
April: -33.3%
May: -22.8%
June: -19.2%
July: -1.9%
August: -7.7%
September: -1.8%
October: -3.8%
November: -11.0%

January: 3.1%
February: -6.7%
March: -20.6%
April: -25.6%
May: -22.8%
June: -11.0%
July: -3.1%
August: -1.3%
September: -2.2%
October: -1.7%
November: 10.4%

Northwest Arkansas - Year-over-Year Changes in Monthly Restaurant Tax Revenue

Month - 2020 vs. 2019

- Full-Service Restaurants
- Limited-Service Restaurants
Percent Change in Number of Small Businesses Open

Chetty, Friedman, Hendren, Stepner, and the OI Team (2020)
Four Metro Areas of Arkansas - Year-over-Year Changes in Monthly Tax Revenue from Full-Service Restaurants

Month - 2020 vs. 2019

- Fort Smith
- Hot Springs
- Jonesboro
- Pine Bluff
Unemployment Rate, Seasonally Adjusted

Source: Bureau of Labor Statistics