Presented by the Center for Business and Economic Research

BUSINESS FORECAST

2022

UNIVERSITY OF ARKANSAS
Sam M. Walton College of Business
Welcome and Contest Awards  Mervin Jebaraj
director, Center for Business and Economic Research
Sam M. Walton College of Business
University of Arkansas

Special Remarks  Matt Waller
dean, Sam M. Walton College of Business
University of Arkansas

Introduction of Moderator  Matt Waller

Special Remarks and Introduction of Panelists  Brett Biggs
executive vice president and chief financial officer
Walmart

Global Forecaster  Juhi Dhawan
senior managing director, partner, and macro strategist
Wellington Management

Domestic Forecaster  David Altig
executive vice president and director of research
Federal Reserve Bank of Atlanta

Regional Forecaster  Mervin Jebaraj

Panel Discussion  Juhi Dhawan, David Altig, Mervin Jebaraj

Recognitions and Announcements  Matt Waller

Business Forecast 2022 is in association with the National Association for Business Economics (NABE). Please use Twitter hashtag #BF2022 for this event.
**Brett Biggs** is the executive vice president and chief financial officer for Walmart. He is responsible for Walmart Enterprise Solutions, which includes all finance functions as well as Global Procurement. Prior to his current role, Brett has held the roles of chief financial officer for Walmart International, Walmart U.S. and Sam’s Club. He has also served as senior vice president of international strategy, mergers and acquisitions, and as senior vice president of corporate finance. Brett was also the senior vice president of operations for Sam's Club. Prior to joining Walmart in 2000, Brett held various M&A and corporate finance positions with Leggett & Platt, Phillips Petroleum Co., and Price Waterhouse. Brett serves on the American Red Cross Board of Governors, the Walton Arts Center Board and the Board of Trustees of the National Urban League. Brett also serves on the Board of Regents at Pepperdine University and is Walmart’s corporate representative on the McCombs School of Business Advisory Council at the University of Texas. Within Walmart, he serves on the Walmart Foundation Board as well as being an executive sponsor for the Hispanic/Latino Resource Group. Brett graduated from Harding University with a bachelor’s degree in accounting and received a Master of Business Administration with Honors from Oklahoma State University.

**Juhi Dhawan** is the senior managing director, partner, and macro strategist for Wellington Management. As a member of the firm’s Global Macro Strategy Group, Juhi leads Wellington Management’s analysis of the US economy. Her work on growth, inflation, interest rates, and economic policy is a core input to portfolio managers and analysts across the firm. She is an active participant in investment strategy groups and works closely with investors to translate her work into investment ideas and themes. Prior to joining Wellington Management in 1995, Juhi held positions at the International Monetary Fund (1991 – 1992) and the World Bank (1992). Juhi received her PhD (1995) and AM (1991) in economics at Brown University. She also holds a BA from the University of Delhi (1989).

**David Altig** is executive vice president and director of research at the Federal Reserve Bank of Atlanta, overseeing the Bank’s Research Division leading the research and engagement portfolio on benefits cliffs. He serves as a member of the Management and Discount Committees and is the executive cosponsor of the Working Families Employee Resource Network. Dr. Altig is an adjunct professor of economics in the Booth School of Business at the University of Chicago. He is currently the vice president-elect of the National Association for Business Economics, for which he served as director from 2016 to 2019. He is also a member of the advisory council of the Global Interdependence Center and serves on the board of the Konstanz Seminar on Monetary Theory and Policy. His research includes articles in the American Economic Review, the Journal of Econometrics, the Journal of Monetary Economics, and the National Tax Journal. Prior to joining the Atlanta Fed, Dr. Altig served as vice president and associate director of research at the Federal Reserve Bank of Cleveland. Previously, Dr. Altig was a faculty member in the department of business economics and public policy at Indiana University. Dr. Altig graduated from the University of Iowa with a bachelor’s degree in business administration. He earned his master’s and doctoral degrees in economics from Brown University.

**Mervin Jebbaraj** 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. Jebbaraj serves on the Community Development Advisory Council of the Federal Reserve Bank of St. Louis and on the Board of Directors of the National Association for Business Economics. Regionally, he serves on the Board of Directors for both the Northwest Arkansas National Airport and the Walton Arts Center.
2022 Global Macro Outlook
The Year of Normalization?

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Global Economic Outlook

Vaccinations "win" the battle over Covid during the course of the year
Normalizing growth and inflation as supply chains ease
Europe and Asia recover as lockdowns ease and activity normalizes
Less accommodative central banks and fiscal policy in the west
China eases as growth slows and concerns over property slump linger
Evolution of supply chains is an ongoing theme
Energy transition and climate change is a multi-decade theme
Risks: Covid, geopolitics, Fed mistake
2022: Uneven global recovery gets less divergent

Source: Markit Economics, data as of December 2021
US: Service economy has room to recover further

Source: Bureau of Economic Analysis, data as of Dec 2021
US: Flexible CPI will slow as bottlenecks ease

Source: Federal Reserve Bank of Atlanta, data as of November 2021
Europe has room to recover as COVID recedes

Source: Oxford University, data as of January 11, 2022.
Europe: Financial conditions are exceptionally loose

Source: Refinitive Datastream, as of December 2021.
China's property market slump is a drag on growth

Source: China National Bureau of Statistics, data as of Nov 2021
China: Property slump prompts easier monetary policy

US: Wage growth catches the Fed's attention

Unwinding of Fed's easy stance is just at the beginning ... the Fed remains accommodative

1 Unlike the observed federal funds rate, the shadow rate does not have a zero lower bound (ZLB). Whenever the Wu-Xia shadow rate is above 1/4 percent, it is exactly equal to the model implied one month interest rate by construction.

Sources: Federal Reserve Board, Cynthia Wu. Data as of November 2021
Central bank balance sheet expansion set to end

The Dollar features long cycles; the end may be near

Currencies included in the MAJOR index are Euro (36.6%), Canadian dollar (30.2%), Japanese yen (17.0%), British pound, Swiss franc, Australian dollar, and Swedish krona.

Source: Federal Reserve Board, data as of December 2021.
US: Tight labor markets & infrastructure raise investment

Source: Bureau of Economic Analysis, data as of Q3 2021.
Private infrastructure investment share steady globally; Government could increase momentum

This includes both debt and equity in primary and secondary markets.

This includes both debt and equity in primary markets.

Source: Global Infrastructure Hub based on IJ Global data as of 2020
Evolution of supply chains is likely to be an ongoing theme

Building resilience = diversification & reducing concentration risks

Regional supply chains are gaining momentum

“Critical supplies” onshoring is possible in strategic areas such as health care and smart technologies for national security purposes

US/China decoupling likely continues due to strategic & security factors

Investments into China remain high for local market access

Service trade growing faster than mfg. especially digital services at 50% share

Risks in services are cyber security, antitrust, digital taxes, or data sharing limits

Government spending and policy will increasingly influence corporate decisions
Expect shift from traditional supply chain to digital supply network

Services supply chains can be disrupted by restrictions on data, people, ideas, and taxes. Networked supply chains leading to complex impact of protectionism.

1Source: Deloitte analysis | 2Source: Deloitte University press, dupress.deloitte.com
The imperative: Global warming has accelerated

18 of the 19 warmest years on record (looking at global average temperatures since 1880) have occurred since 2000.

Source: National Oceanic and Atmospheric Administration
US: An inflection point on energy mix

Source: EIA Monthly Energy Outlook March 2021 | Data as of 2019
Decarbonization will require increased commodity consumption

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<th>Wind</th>
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Source: World Bank: Minerals for Climate Action
Global Economic Outlook

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"The path of the economy continues to depend on the course of the virus."

Statement of the FOMC, December 135, 2021
“The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run”

Statement of the FOMC, December 135, 2021

We have to go back to the 1980s to find (year-over-year) core inflation at current levels.

Source: Bureau of Economic Analysis
We have to go back to the 1970s to find inflation as high percentage of prices rising at a 3% annual rate...

... or 5% (!), for that matter.
Inflation measures have been hot across the board.

### The Atlanta Inflation Dashboard

<table>
<thead>
<tr>
<th>Inflation Measure (12-month) Growth Rate</th>
<th>1-year window</th>
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<tbody>
<tr>
<td>Core PCE Index</td>
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<td>Market-Based PCE Index</td>
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<td>FRB Dallas Trimmed-Mean Index</td>
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<td>FRB San Francisco Cyclical Core PCE Index</td>
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<td>Stock and Watson Cyclically Sensitive Inflation</td>
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<td>FRB Cleveland Median CPI</td>
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<td>FRB Cleveland 16% Trimmed-Mean CPI</td>
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<td>FRB Atlanta Sticky-Price CPI</td>
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**Color code:**
- **On target:** Within 0.25 percentage points (ppts) of target
- **Below target:** Between 0.25 and 0.50 ppt below target
- **Above target:** Between 0.25 and 0.50 ppt above target

**Source:** See the Federal Reserve Bank (FRB) of Atlanta Underlying Inflation Dashboard: [https://www.frbaltanta.org/research/inflationproject/underlying-inflation](https://www.frbaltanta.org/research/inflationproject/underlying-inflation).

...the Committee seeks to achieve inflation that averages 2 percent over time, and therefore judges that, following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time.”

**Statement on Longer-Run Goals and Monetary Policy Strategy,**
Adopted effective January 24, 2012; as reaffirmed effective January 26, 2021
Inflation indicators are on-target-to-hot over a 5-year window.

**The Atlanta Inflation Dashboard**

<table>
<thead>
<tr>
<th>Inflation Measure (12-month) Growth Rate</th>
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- **On target:**  
  - Within 0.25 ppt of target
- **Below target:**  
  - Between 0.25 and 0.50 ppt below target
  - More than 0.50 ppt below target
- **Above target:**  
  - Between 0.25 and 0.50 ppt above target
  - More than 0.50 ppt above target

Over a 5-year window, the sub-2% inflation picture has been more than offset by recent price-level growth.

**PCE Inflation**

Annualized 60-month moving average

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Sources: Bureau of Economic Analysis; Haver Analytics
“...if these high levels of inflation get entrenched in our economy and people’s thinking, then inevitably that will lead to much higher monetary policy from this,” [Chair Powell] said. “That could lead to a recession and that will be bad for workers.”


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**Labor markets are substantially improved...**

As of December 2021, the unemployment rate is about 11 percentage points above the April 2020 level.

... and the recovery has been reasonably broad based.

**Employment Recovery**
(Percent recovery from job loss over Feb to Apr 2020 period)


Firms are trying to hire a lot of workers. But the shortfall of hires over vacancies is extremely large.

**Job Openings (million)**

Source: Job Openings and Labor Turnover Survey (through Nov. 2021)

**Hiring Balance (million)**

1.5 million more hires than vacancies in Jan 2010

4.5 million more vacancies than hires in Nov 2021

Source: Job Openings and Labor Turnover Survey. Data through Nov. 2021. Hiring Balance is the number of hires in a month less the stock of posted job openings at the end of the prior month.
The size of labor market remains much smaller than before COVID.

Prime-age participation is much closer to “normal” than overall participation.
Aging of the population potentially accounts more than half of the participation rate “gap.”

The LFP rate is 1.6% percentage points lower than in Feb 2020.

But the age-adjusted Feb 2020 LFP rate is 0.9% percentage points lower.

A decline in immigration has been adding to labor supply problems.

Source: CPS, staff calculations. Population aged 18-65
On the watch list.

Wages are rising, but not when adjusting for inflation.

Source: Bureau of Labor Statistics/Haver Analytics
Global supply chain pressures on goods remain elevated.

Global Supply Chain Pressure Index

Source: New York Fed. The index is constructed from 27 measures of supply chain pressure, including delivery times, backlogs, purchased stocks, and various freight costs. Data through December 2021

Longer-run inflation expectations have ticked up, but much less so than near-term measures.

Prof Forecasters: Median: Yr/Yr PCE Inflation Rate Over the Next 10 Years (%)

Expected Change to Unit Costs per year Over Next 5 to 10 Years: Mean (%)

University of Michigan: Expected Inflation Rate, Next 5 Years (%)

Sources: Federal Reserve Bank of Atlanta, Federal Reserve Bank of Philadelphia, University of Michigan, Haver Analytics
The U.S. Macroeconomic Outlook
The Arkansas Economy in 2022

Mervin Jebaraj, Director
Center for Business and Economic Research
January 28, 2022

Twitter: #BF2022
@uawaltoncollege @MervinJebaraj

Arkansas Non-Farm Employment

Source: Bureau of Labor Statistics
Change in Arkansas Employment by Sector
November 2020 - November 2021

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

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: 06/20/2020 - 08/28/2020, 10/13/2020 - 11/8/2020, 01/11/2021 - 02/14/2021, 04/19/2021 - 05/16/2021, 07/19/2021 - 08/15/2021 and 10/18/2021 - 11/14/2021.
Job Openings, Hires, Quits and Layoffs in Arkansas

Source: Bureau of Labor Statistics

- Quits
- Layoffs & Discharges
- Job Openings
- Hires

In the next 6 months, do you think this business will have business travel expenditures for air, rail, car rental, or lodging?

**National Average**

Note: No data collected between 06/26/2020 - 08/08/2020, 10/13/2020 - 11/6/2020, 01/11/2021 - 02/14/2021, 04/19/2021 - 05/16/2021, 07/16/2021 - 08/15/2021 and 10/18/2021 - 11/14/2021.

In the next 6 months, do you think this business will have business travel expenditures for air, rail, car rental, or lodging?

**Arkansas Average**

Note: No data collected between 06/26/2020 - 08/08/2020, 10/13/2020 - 11/6/2020, 01/11/2021 - 02/14/2021, 04/19/2021 - 05/16/2021, 07/16/2021 - 08/15/2021 and 10/18/2021 - 11/14/2021.

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

**Arkansas Average**

Note: No data collected between 06/26/2020 - 08/08/2020, 10/13/2020 - 11/6/2020, 01/11/2021 - 02/14/2021, 04/19/2021 - 05/16/2021, 07/16/2021 - 08/15/2021 and 10/18/2021 - 11/14/2021.
Little Rock-North Little Rock-Conway MSA
Non-Farm Employment

Thousands

Source: Bureau of Labor Statistics

Change in Little Rock-North Little Rock-Conway MSA Employment by Sector,
November 2020 - November 2021

Financial Activities | -1.7%
Education and Health Services
Leisure and Hospitality
Other Services
Professional and Business Services
Non-Farm
Manufacturing
Information
Government
Trade, Transportation, and Utilities
Mining, Logging, and Construction

Source: Bureau of Labor Statistics, CBER Calculations
Change in Northwest Arkansas MSA Employment by Sector, November 2020 - November 2021

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

Source: Bureau of Labor Statistics, CBER Calculations
Unemployment Rates, Not Seasonally Adjusted

Source: Bureau of Labor Statistics

United States  Arkansas
Employment-Population Ratio

United States
Arkansas

Source: Bureau of Labor Statistics

Arkansas Population Change between 2010 and 2020 Census by County

Population Change %
-20% to -30%
-10% to -20%
0% to 10%
10% to 20%
20% to 30%

NOTE: Data comes from the Census Bureau's 2010 and 2020 Decennial Census