Welcome

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Welcome

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PNC Bank

Our world

Gus Faucher
Chief Economist
PNC Bank
Economic Outlook
Mild Recession Is Most Likely 2023 Outcome as Fed Continues to Aggressively Tighten

Augustine Faucher
Chief Economist
The PNC Financial Services Group

2022 Economic Outlook Luncheon
Westin La Paloma Resort and Spa, Tucson
December 9, 2022

The U.S. Economy Is Expanding…

Length of expansion, months, by starting date of recovery

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...And Small Businesses Are Feeling Optimistic...

Expectations for own company's prospects, next 6 months, %

Source: PNC

...But Interest Rates Are Increasing Across the Board...

Yield, %

Source: Federal Reserve Board
...And the Market Is Nervous

CBOE Volatility Index (R)

S&P 500 (L)

Source: S&P, CEDE

Stimulus of About One-Quarter of GDP

CARES, Paycheck Protection Program and Health Care Enhancement, Consolidated Appropriations Plan, and American Rescue Plan Acts, spending, $ bil

<table>
<thead>
<tr>
<th>Category</th>
<th>Spending ($ bil)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small business loans/grants</td>
<td>1,200</td>
</tr>
<tr>
<td>Stimulus payments</td>
<td>800</td>
</tr>
<tr>
<td>Aid to states</td>
<td>600</td>
</tr>
<tr>
<td>Other</td>
<td>400</td>
</tr>
<tr>
<td>Unemployment insurance</td>
<td>300</td>
</tr>
<tr>
<td>Big business, govt. loans/guarantees</td>
<td>200</td>
</tr>
<tr>
<td>Health</td>
<td>100</td>
</tr>
<tr>
<td>Business tax cuts</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: CBO, Moody's Analytics, PNC

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Employment Has Fully Recovered From the Pandemic

Establishment employment, mil

Source: BLS

Economic Activity Now Above Pre-Pandemic Peak...

Real, index, 2019Q4=100

Source: BEA
...But Consumer Spending on Services Continues to Lag

Real, % change

- Consumer services
- Consumer durables
- Consumer nondurables
- Business fixed investment
- Residential investment
- Government cons./invest.
- Exports
- Imports
- After-tax personal income

Source: JLC

Global Supply Chain Pressures Elevated, But Lower

Global Supply Chain Pressure Index, standard deviations from average value

Source: New York Fed

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Acceleration in Core Services Inflation Is a Big Concern

Consumer price index, % change year ago

Fed Is Shrinking Its Balance Sheet…

Federal Reserve assets, $ tril

Source: Federal Reserve Board
...And the Big Jump in Mortgage Rates Is Already Weighing on the Housing Market

Yield Curve Has Inverted

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The Housing Market Has Been Undersupplied for Years

Single-family housing starts, seasonally-adjusted annualized rate, 6-month moving average, ths

Credit Quality Is in Great Shape...

Delinquency rate, %

Source: Federal Reserve Board
...And Banks Are Well Capitalized

Commercial banks, core capital ratio, %

Source: PNC

Most Likely Outcome Is Mild Recession in 2023

Unemployment rate, % (R)  
Real GDP, % change year ago (L)

Source: BCA, J.P. Morgan
Modest Downturn in the Industrial Sector

Index, pre-recession peak=100

Inflation Will Settle Down

5-year, 5-year forward inflation expectations, %
What I'm Pretty Sure About

- Very steep recession in 2020
- Not in recession now
- Fed will do what's necessary
- Structural shifts
  - Retail, supply chains, commercial real estate

Open Questions

- Recession not inevitable
- What happens with inflation
- Russia/Ukraine
- Path of pandemic
- Longer-run growth
- Housing market
For more information from PNC Economics visit Pnc.com/economicreports

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Our region

George Hammond
Director
Economic and Business Research Center

Key Topics

► Phoenix inflation shows early signs of deceleration
  ► But prices are still rising much faster than nationally
► Tucson housing affordability dismal again
► Arizona’s unemployment rate is low
  ► But labor market churn, wage growth, and open jobs are high
  ► Tucson jobs are still recovering
► Baseline forecast calls for significantly slower growth in Arizona
  ► U.S. forecast assumes a mild recession
Phoenix Inflation Is Outpacing the U.S.

All-Items CPIU, Over the Year

U.S. Phoenix MSA

October 2022
U.S. 7.7%
Phoenix 12.1%

Phoenix Shelter Inflation Far Above U.S.

Shelter CPIU, Over the Year

October 2022
U.S. 6.9%
Phoenix 18.2%
House Prices Have Begun to Drop

Phoenix and Tucson

Median House Price

<table>
<thead>
<tr>
<th></th>
<th>Tucson</th>
<th>Phoenix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 2021</td>
<td>$323,250</td>
<td>$440,000</td>
</tr>
<tr>
<td>Oct. 2022</td>
<td>$360,000</td>
<td>$465,000</td>
</tr>
<tr>
<td>%change</td>
<td>11.4%</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

Phoenix median sales price is down 8.8% from May peak.
Tucson median sales price is down 2.7% from June/July peak.

Housing Affordability Trends

The share of homes sold that are affordable to a family making the median income.

<table>
<thead>
<tr>
<th></th>
<th>Phx</th>
<th>Tus</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019Q4</td>
<td>64.9</td>
<td>71.2</td>
<td>63.2</td>
</tr>
<tr>
<td>2020Q4</td>
<td>65.7</td>
<td>74.2</td>
<td>63.3</td>
</tr>
<tr>
<td>2022Q1</td>
<td>43.9</td>
<td>66.0</td>
<td>56.9</td>
</tr>
<tr>
<td>2022Q2</td>
<td>22.3</td>
<td>40.6</td>
<td>42.8</td>
</tr>
<tr>
<td>2022Q3</td>
<td>22.5</td>
<td>40.2</td>
<td>42.2</td>
</tr>
</tbody>
</table>
Housing Affordability

NAHB-Wells Fargo

<table>
<thead>
<tr>
<th>City</th>
<th>2019Q4</th>
<th>2022Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>11.3</td>
<td>3.7</td>
</tr>
<tr>
<td>San Francisco</td>
<td>12.3</td>
<td>8.9</td>
</tr>
<tr>
<td>San Jose</td>
<td>20.6</td>
<td>11.6</td>
</tr>
<tr>
<td>Seattle</td>
<td>44.3</td>
<td>21.4</td>
</tr>
<tr>
<td>U.S.</td>
<td>63.2</td>
<td>42.2</td>
</tr>
</tbody>
</table>

The share of homes sold that are affordable to a family making the median income.

Tucson MSA Housing Permits

Seasonally Adjusted Annual Rate

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Arizona’s Labor Market Is Tight

Arizona and U.S. Unemployment Rates, Seasonally Adjusted, Through October 2022

Arizona’s preliminary unemployment rate in May was the lowest on record since 1976.

U3 is the official rate. U6 is a broad measure including marginally attached workers and those working part-time for economic reasons.

Arizona’s Quit and Hire Rates Still Elevated

Twelve-Month Moving Average, Seasonally Adjusted, Through September 2022

Tucson Jobs Are Still Recovering

Thousands, Seasonally Adjusted

As of October, Tucson recovered 95.4% of the jobs lost from February to April of 2020.

Tucson MSA Jobs by Industry

Change from February 2020 to October 2022

Thousands, Seasonally Adjusted

<table>
<thead>
<tr>
<th>Industry</th>
<th>Change (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade, Transportation, and Utilities</td>
<td>6.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1.9</td>
</tr>
<tr>
<td>Educational and Health Services</td>
<td>1.5</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>0.4</td>
</tr>
<tr>
<td>Other Services</td>
<td>0.1</td>
</tr>
<tr>
<td>Natural Resources and Mining</td>
<td>0.1</td>
</tr>
<tr>
<td>Construction</td>
<td>-0.0</td>
</tr>
<tr>
<td>Information</td>
<td>-0.9</td>
</tr>
<tr>
<td>Leisure and Hospitality</td>
<td>-1.6</td>
</tr>
<tr>
<td>Government</td>
<td>-3.8</td>
</tr>
<tr>
<td>Professional and Business Services</td>
<td>-6.3</td>
</tr>
</tbody>
</table>
Employment Cost Index

Total Private-Sector Compensation for U.S. and Phoenix MSA

Year-Over-Year Percent Change

<table>
<thead>
<tr>
<th></th>
<th>Arizona</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021Q1</td>
<td>3.6</td>
<td>2.8</td>
</tr>
<tr>
<td>2021Q2</td>
<td>3.7</td>
<td>3.1</td>
</tr>
<tr>
<td>2021Q3</td>
<td>4.6</td>
<td>4.1</td>
</tr>
<tr>
<td>2021Q4</td>
<td>4.9</td>
<td>4.4</td>
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Tucson MSA and U.S. Job Growth

Annual Job Growth in Percent
**Tucson MSA Income and Sales Growth**

Before Adjustment for Inflation

Retail sales includes retail plus remote, restaurants and bars, food, and gas.

**Tucson MSA Housing Permits**

And Population Change

Permits, Population Change

28,000

24,000

20,000

16,000

12,000

8,000

4,000

0

-4,000

2005 2010 2015 2020 2025 2030
Three Scenarios for Tucson MSA Jobs

Thousands, Seasonally Adjusted

Key Takeaways

► Inflation is still rapid but the slowdown may have begun
► Housing affordability is down massively
  ► Which has put downward pressure on sales and prices
► Arizona’s labor market remains tight
  ► But will loosen as the economy slows next year
► The baseline forecast calls for Tucson growth to slow significantly
  ► But to outperform the nation

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