Welcome.

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Dean, Eller College of Management

Welcome.

Noreen Bishop
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Our region
Outlook for Tucson

George W. Hammond, Ph.D.
Director, Economic and Business Research Center
What You Need To Know

- Arizona’s job growth was steady last year
  - Phoenix jobs rose rapidly
  - Tucson employment gains accelerated
- Arizona’s wage growth is gaining momentum
  - And will likely accelerate further
- House prices and permits increased last year
  - But real house prices are well below the peak
- Dollar/Peso exchange rate has declined a little
  - But is still elevated
- Arizona exports to Mexico and Canada are down
- Arizona and Tucson are well positioned to continue to grow

Tucson MSA Job Growth

Over The Year

Arizona Regional Job Growth

Over The Year
### Tucson MSA Job Growth By Industry

#### Over-The-Year Growth, First Quarter 2017

<table>
<thead>
<tr>
<th>Industry</th>
<th>Over-The-Year Growth</th>
<th>Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leisure and Hospitality</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>Education and Health Services</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Financial Activities</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Other Services</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Natural Resources and Mining</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Trade, Transportation and Utilities</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Professional and Business Services</td>
<td>1.0</td>
<td></td>
</tr>
</tbody>
</table>

#### Avg Wages per Worker

- Leisure and Hospitality: $66,157
- Education and Health Services: $55,282
- Manufacturing: $51,702
- Financial Activities: $43,851
- Construction: $35,282
- Information: $33,535
- Other Services: $31,905
- Natural Resources and Mining: $21,299
- Trade, Transportation and Utilities: $20,972
- Government: $18,398
- Professional and Business Services: $18,398

### Job Replacement Rates

#### Through March 2017

- Phoenix MSA: 131.8%
- Tucson MSA: 60.2%
- Rest of State: 57.9%
- Arizona: 117.0%
- US: 185.3%

### Arizona And U.S. Wage Growth

#### Wages Per Worker, Over-The-Year, Smoothed

- Arizona: Red line
- U.S.: Dotted line

### Occupational Wages

#### Median Wage For All Occupations

- 2016 Median Wage for All Occupations in Arizona:
  - Manufacturing: $68,000
  - Education and Health Services: $80,000
  - Financial Activities: $75,000
  - Construction: $65,000
  - Information: $60,000
  - Other Services: $50,000
  - Natural Resources and Mining: $40,000
  - Trade, Transportation and Utilities: $35,000
  - Government: $30,000
  - Professional and Business Services: $25,000
- 2016 Median Wage for All Occupations in U.S.:
  - Manufacturing: $72,000
  - Education and Health Services: $84,000
  - Financial Activities: $79,000
  - Construction: $69,000
  - Information: $64,000
  - Other Services: $54,000
  - Natural Resources and Mining: $44,000
  - Trade, Transportation and Utilities: $39,000
  - Government: $34,000
  - Professional and Business Services: $30,000
Educational Attainment
Bachelor’s Degree Or Better, Age 25+

Educational Attainment
Bachelor’s Degree Or Better, Working Age

Real House Prices Remain Below Peak
FHFA House Prices Deflated By The U.S. CPIU

Arizona Exports To Mexico
Merchandise Exports and Northbound Border Crossings
Arizona-Mexico Tourism Cost Index

Tucson MSA: Lodging, Gasoline, Food Away From Home

Policies of the New Administration?

- International trade
  - Retreat from free trade, renegotiate NAFTA, tariffs, etc.
- Immigration
  - The Wall, deport undocumented immigrants
- Fiscal Stimulus
  - Restructure tax policy, increase infrastructure investment and defense spending
- Regulation
  - Roll back ACA and Dodd-Frank
  - Spur energy development

U.S. Real GDP And Unemployment

IHS Markit, April 2017

Tucson MSA And U.S. Job Growth

Annual Percent Change
### Tucson MSA Job Growth By Industry

#### Change From 2016-2019

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

![Graph showing job growth by industry](image)

### Tucson MSA Alternative Scenarios

#### Job Growth Rates

- Optimistic
- Pessimistic

![Graph showing alternative scenarios](image)

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**Eller College of Management**

**University of Arizona**

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- Arizona's Economy smartphone app: available free at the App Store and Google Play

**Join the Forecasting Project!**

- forecast.eller.arizona.edu

- Benefits of membership include:
  - In-depth economic forecasts, models, and analysis provided on a quarterly basis for the US, Arizona, Phoenix, and Tucson regions long on 30-year forecasts each quarter.
  - Four meetings per year with Eller College economists, other users, and modelers.
  - Quarterly report containing analysis and summaries of hundreds of scans and local indicators.
  - Access to the Forecasting Project website for easy downloading of data, reports, presentations, and model data.
  - National, state, and local datasets and cloud-based data management system to better use and visualize economic data for your organization.
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**University of Arizona**
Presentation outline

- GDP and the near-term outlook (5 slides)
- Employment & labor market conditions (8 slides)
- Inflation and monetary policy (3 slides)

Near-term outlook remains positive

Past expansions have tended to be stronger

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The dollar remains very strong relative to other currencies

TRADE-WEIGHTED U.S. DOLLAR INDEX: MAJOR CURRENCIES
Nominal (NBA): Minimum and last observation labeled.

Major

TRADE-WEIGHTED U.S. DOLLAR INDEX: MAJOR CURRENCIES (March 1973 = 100)

69.1 (August 2011)

Source: Federal Reserve Board via Haver Analytics

MONTHLY PLOTTED: Jan 1973 - Apr 2017

But household balance sheets remain healthy

HOUSEHOLD DEBT-TO-INCOME RATIOS
Maximum and most recent values are labeled


Financial Obligations Ratio

18.1%

Debt Service Ratio

15.4%

18.2%

10.0%

Share of disposable income (seasonally adjusted)

Source: Board of Governors via Haver Analytics

MONTHS PLOTTED: 1980:Q1 - 2016:Q4

Confidence is up across the board

CONFIDENCE INDEXES
Consumer and small businesses

CONFIDENCE INDEXES

Univ of Michigan

Conference Board

Small Business Optimism

Conference Board

INDEX 100 (August 2016 = 100)


120.3

108.5

97

120.3

108.5

97

Source: University of Michigan, Conference Board, and NFIB via Haver Analytics

MONTHS PLOTTED: Jan 2000 to Apr 2017

Conference Board

Univ of Michigan

NFIB:

Small Business Optimism

Employment & Labor
Market Conditions
Payroll employment rebounded in April

MONTHLY CHANGE IN U.S. PAYROLL EMPLOYMENT
Black lines indicate annual averages (in thousands)

Payroll employment growth remains strong in most of the states

U3 and U6 are well-below pre-Great Recession averages

UNEMPLOYMENT RATE, U3 vs. U6
Monthly, seasonally adjusted (most recent and last year's values labeled)

Labor Market Conditions Index
From FRB Kansas City

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Conditions look very strong nationally...

FRB Kansas City Labor Market Conditions Index
Monthly, seasonally adjusted (most recent values labeled)

Relative to long-run trend
(> 0 above historical trend)

Level of Activity
Momentum

Source: FRB Kansas City
Months plotted: Jan 1992 to Apr 2017

But compensation seems to be lagging some

Employer Cost Index: Benefits
FRB Atlanta: Prime Age (25-54)
FRB Atlanta: Overall

Employer Cost Index: Wages & Salaries

Source: FRB Atlanta and BLS via Haver Analytics
Last month plotted (FRB Atlanta): Apr 2017
Last quarter plotted (ECI): 2017:Q1

What should we make of the low productivity estimates?

January 1968 - April 2016

REVISIONS TO PRODUCTIVITY GROWTH
Average annualized growth, 25-quarter rolling window

Past revisions suggest productivity is underestimated

RELATIONSHIP BETWEEN REAL-TIME AND REVISIONS

Source: Bognanni and Zito, Economic Commentary, December 21, 2016
Months plotted: Jan 1968 – April 2016

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Inflation and Monetary Policy

Inflation expectations have risen over the past year

Most market participants expect only one additional hike
## Summary

- GDP forecasts have improved of late
  - Weak 2017:Q1 estimates appear to be transitory
  - Household balance sheets remain very healthy

- Broadly speaking, labor market conditions are better than pre-Great Recession conditions
  - However, wage growth has been lagging some
  - Weaker than normal productivity may be the culprit

- Latest guidance from the FOMC points to two additional rate hikes this year
  - A majority of fed funds futures participants expect only one additional hike