Welcome.

Paulo Goes
Dean, Eller College of Management

Our region

Outlook for Tucson

George Hammond, Ph.D.
Director, Economic and Business Research Center

A Look Ahead

- Revised Arizona job data show stronger growth
  - Particularly for Tucson
- Federal procurement spending in Arizona is on the rise
  - Which matters for defense/aerospace/Tucson
- Arizona exports to Mexico have declined significantly
  - But there are signs of stabilization
- Interest rates and gas prices are moving up
  - Increasing risks to the expansion
- Continued growth is on the horizon, but keep an eye on risks
Arizona And U.S. Real House Prices

Federal Housing Finance Agency
forecast.eller.arizona.edu

Tucson Ranks High On Affordability

Single-Family Housing Affordability

Housing Affordability Is Declining

But Still Much Higher Than During The Boom

Housing Cost Burden Varies By Income

Housing Affordability: Low Income Residents Struggle

mapazdashboard.arizona.edu
Tucson MSA Income And Sales Growth

Annual Growth Rates

Tucson MSA Job Growth

Baseline And Alternative Scenarios

Explore data for border economies.

Arizona-Mexico Economic Indicators

New features now available!
The Arizona’s Economy App
Real-time data at your fingertips.

Free at the Apple App Store and Google Play.

Economic and Business Research Center
Eller College of Management
University of Arizona
Benefits and Challenges of Trade under NAFTA

Breakfast with the Economists, 2018
University of Arizona
June 2018

Jesus Cañas and Pia Orrenius
Federal Reserve Bank of Dallas

A Historic Agreement -1-
- Canada and U.S. already had an agreement
- Adding Mexico broke the mold
- NAFTA's stated objectives
  - Eliminate barriers to trade & investment
  - Remove tariffs and non-tariff barriers
  - Facilitate cross border movement
  - Resolve disputes

Average tariffs fell most in Mexico following NAFTA

<table>
<thead>
<tr>
<th>Year</th>
<th>Mexican Tariffs</th>
<th>U.S. Tariffs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>10.0</td>
<td>2.1</td>
</tr>
<tr>
<td>1996</td>
<td>2.9</td>
<td>0.7</td>
</tr>
</tbody>
</table>


A Historic Agreement -2-
- U.S. fears: Massive job losses, falling wages
  "There will be a giant sucking sound going south"
  -Ross Perot; October 15, 1992
- Fears unrealized, but so were aspirations
  - Elusive Mexican economic development
U.S. trade with NAFTA partners more than doubled since 1993

<table>
<thead>
<tr>
<th></th>
<th>1993</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>166.9</td>
<td>266.8</td>
<td>59.9</td>
</tr>
<tr>
<td>Mexico</td>
<td>69.1</td>
<td>231.0</td>
<td>234.3</td>
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</table>

Imports

<table>
<thead>
<tr>
<th></th>
<th>1993</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>184.8</td>
<td>278.1</td>
<td>50.5</td>
</tr>
<tr>
<td>Mexico</td>
<td>66.3</td>
<td>294.2</td>
<td>343.7</td>
</tr>
</tbody>
</table>

Total

<table>
<thead>
<tr>
<th></th>
<th>1993</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>351.7</td>
<td>544.9</td>
<td>54.9</td>
</tr>
<tr>
<td>Mexico</td>
<td>135.4</td>
<td>525.2</td>
<td>287.9</td>
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</tbody>
</table>

NOTE: Data is in billions of 2016 U.S. dollars.
SOURCE: U.S. Census Bureau.

Foreign direct investment higher after NAFTA

<table>
<thead>
<tr>
<th></th>
<th>Bills., real 2016 $</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual average pre-NAFTA</td>
</tr>
<tr>
<td>US to Mexico</td>
<td>1.6</td>
</tr>
<tr>
<td>Mexico to US</td>
<td>0.3</td>
</tr>
</tbody>
</table>

SOURCE: Bureau of Economic Analysis.

Aggregate effects of NAFTA tariff reductions

<table>
<thead>
<tr>
<th>Country</th>
<th>Volume of Trade</th>
<th>Terms of Trade</th>
<th>Real Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>++</td>
<td>-</td>
<td>++</td>
</tr>
<tr>
<td>Canada</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>United States</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>


Aggregate gains mask winners, losers

- Recent research identifies losers from trade
- Manufacturing workers, whose industries have been most affected by Mexican imports—including along the border—experienced substantially lower wage growth than their counterparts in other industries
- Limitations on the mobility of workers both geographically and across industries appear to be very important

U.S. and Mexico business cycle synchronicity grows post-NAFTA

NOTE: Monthly changes in manufacturing component of industrial production.
SOURCES: INEGI; Federal Reserve Board.

Intra-industry trade high within NAFTA: U.S. content highest in imports from Mexico, Canada

NOTE: Data is from 2004.

U.S. Exports Highly Correlated with Intermediate Imports from Mexico

SOURCES: Bureau of Economic Analysis and Haver Analytics.

Cross-border manufacturing has been able to mitigate some of the impact of economic shocks

- China’s entry to the World Trade Organization in 2002
- Great Recession

U.S.–Mexico integrated processes help reduce volatility in U.S. manufacturing

Texas Border Cities: On the Front Lines of Trade

Texas exports grow faster in post-NAFTA period

Texas exports to Mexico quite diverse

NOTES: Mexico's employment combines maquiladora and IMMEX. Shading is for manufacturing recession and the great recession. SOURCES: Bureau of Labor Statistics and INEGI.

SOURCES: Bureau of Labor Statistics and INEGI.

NOTES: Data from 2015. "Other" includes all categories under 2 percent. SOURCE: U.S. Trade Database, Census Bureau.
Texas becomes top exporter in 2002

![Graph showing export growth for Texas, California, Washington, New York, Illinois, and Michigan from 1998 to 2016.](image)

SOURCES: WISERTRADE; Census Bureau; BLS.

Costs of opening up to trade

- 50,000 Texas jobs lost due to NAFTA, according to BLS
- More than 45 percent of Texas job losses were concentrated along the Texas–Mexico border
  - El Paso textile and apparel industry
  - Trade Adjustment Assistance (TAA)
  - Low educational levels and limited English proficiency
  - Levi-Strauss (3,369 displaced workers)

Displaced workers concentrated along the border

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Maquiladora activity boosts employment in Texas border cities

<table>
<thead>
<tr>
<th>Estimation method: IV</th>
<th>El Paso</th>
<th>Laredo</th>
<th>McAllen</th>
<th>Brownsville</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>2.77*</td>
<td>4.62</td>
<td>6.58*</td>
<td>2.21</td>
</tr>
<tr>
<td>Construction</td>
<td>0.20</td>
<td>3.19</td>
<td>4.04*</td>
<td>1.29*</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>-1.28</td>
<td>1.02</td>
<td>1.64</td>
<td>0.66</td>
</tr>
<tr>
<td>Transportation</td>
<td>5.30*</td>
<td>7.21*</td>
<td>6.63*</td>
<td>4.6*</td>
</tr>
<tr>
<td>Wholesale</td>
<td>0.43</td>
<td>1.96</td>
<td>4.01*</td>
<td>0.84</td>
</tr>
<tr>
<td>Retail</td>
<td>1.31</td>
<td>0.66</td>
<td>3.21*</td>
<td>1.34*</td>
</tr>
<tr>
<td>FIRE</td>
<td>2.12*</td>
<td>8.23*</td>
<td>4.63*</td>
<td>0.64</td>
</tr>
<tr>
<td>Services</td>
<td>1.84*</td>
<td>5.93*</td>
<td>7.38*</td>
<td>3.89*</td>
</tr>
</tbody>
</table>

* indicates significant at the 10% level.

Unemployment rates declined along the border after NAFTA

Texas border cities narrowing the income gap with nation

What’s left to be done

Still unequal trading partners…


SOURCE: Bureau of Economic Analysis.

SOURCE: OECD.
Inequality, poverty persist in Mexico

- **Northern**
  - Per capita income: $12,827
  - Informal labor: 43% of LF
  - Poverty rate: 30%

- **Central**
  - Per capita income: $10,415
  - Informal labor: 63% of LF
  - Poverty rate: 49%

- **Southern**
  - Per capita income: $6,597
  - Informal labor: 69% of LF
  - Poverty rate: 57%

Future calls for more NAFTA, not less

- Mexico: manufacturing sector has boomed, but spillovers have been limited
  - Will reforms spread the gains from trade to rest of sectors and reduce inequality?

- U.S. labor market effects
  - Need for programs to identify and assist displaced workers
  - Ability to adjust, diversify and grow
  - Border cities overcame initial job losses, went on to thrive

A special thank you to JPMorgan Chase & Co. for sponsoring today's event.