Efficiency and Competitiveness on the Border

Introduction: Denise Moreno Ducheny
Moderator: Marney Cox
A Unique Collaborative

- Cali-Baja Bi-National Mega Region Initiative
- Center for U.S.-Mexican Studies, IRPS/UCSD
- Colegio de la Frontera Norte
- San Diego Association of Governments
- Key industry and organizational advisors throughout the process
CALIBAJA
What is the CaliBaja Bi-National Mega-Region

Michael Combs
About Our Mega-Region

- San Diego County, Imperial County and Baja California
- 6.5 million people live in the CaliBaja Region
- Two major international airports, three land ports of entry and two major seaports
Economic Development

Attraction

Retention

Expansion

Economic Prosperity & Global Competitiveness
Economic Development Implications

- Tell our story
- Identify and reinforce our competitive advantages
- Illuminate new opportunities and connections
CALIBAJA
Understanding the Importance of the CaliBaja Region

Alejandro Díaz-Bautista
GDP Growth Since NAFTA

Surface trade increased significantly during the last 20 years, but recession and post-9/11 border delays have hampered NAFTA’s potential.

http://www.businessweek.com/articles/2013-12-30/nafta-20-years-after-neither-miracle-nor-disaster
A Revolving Door Trade Model

Trade is highly integrated between Mexico and the United States, with **40% U.S. content** in Mexico’s exports to the United States.

### Top Imports from Mexico in 2013*
- Transportation Equipment: $73B/28%
- Computer & Electronic Products: $49B/19%
- Oil & Natural Gas: $29B/11%
- Electrical Equipment: $20B/8%
- Machinery: $14B/6%
- Primary Metal Manufacturing: $10B/4%
- Agricultural Products: $8B/3%
- Miscellaneous Manufactured Commodities: $7B/3%
- Fabricated Metal Products: $7B/3%
- Food Products: $6B/2%

### Top Exports to Mexico in 2013*
- Computer & Electronic Products: $37B/18%
- Transportation Equipment: $28B/14%
- Chemicals: $22B/11%
- Machinery: $19B/9%
- Petroleum & Coal Products: $17B/8%
- Electrical Equipment: $11B/5%
- Primary Metal Manufacturing: $10B/5%
- Food Products: $9B/4%
- Fabricated Metal Products: $9B/4%
- Plastics & Rubber Products: $9B/4%

*January through November 2013

Source: U.S. Census Bureau, Foreign Trade Division | www.census.gov/trade
TRADED INDUSTRY CLUSTERS

Introduction

Daniel Flyte
Traded Industry Clusters

• Groups of interrelated, export-oriented industries that drive wealth creation in a region
  – Export-oriented: Industries with high LQ whose exports are a large share of total output
  – Wealth Creation: Areas of regional strength, competitive advantage; market not limited by size of local economy
  – Interrelated: Strength of inter-industry buying and selling transactions

• Emerged in mid-1990s as San Diego’s economic development driver following aerospace downturn

• Made possible by NAICS industry classification detail
Prior SANDAG Studies
Cluster Analysis Process

1. Employment Data
   - San Diego County
   - Imperial County
   - U.S.
   - Baja California
   - Mexico

2. Location Quotient
   - Export-oriented industries

Next Steps

3. Core Groupings
   - Core cluster 1
   - Core cluster 2
   - Core cluster 3
   - Etc...

4. Input/Output Analysis
   - Core cluster 1
   - Input/Output linkages

5. Cluster 1
   - Strong buyer/supplier linkages
Next Steps: Input-Output Model

- Describes the buying and selling transactions between industries within an economy
- Determines industries with high levels of economic interaction, consistent with clusters definition
- Helps identify additional industries in a cluster
SANDAG’s Role

• Reliable source for objective, theoretically sound analysis
  – Define clear methods and standards
  – Perform empirically-driven research

• Enable broad use of data for planning and decision making
  – Distill complex data and methods into clear, concise reports

• Identify common strengths and opportunities
  – Plan innovative solutions to enhance regional mobility and economic prosperity
Data Limitations

- Different countries and reporting
- Latest concurrent data from 2008
- Concurrent data every five years
- NAICS helpful, but still challenging
- 4-digit NAICS the most detailed
JOBS WITHOUT BORDERS
Bi-National Employment Concentrations in CaliBaja
Key Findings

David Shirk
Measuring Employment Concentrations

Study uses **Location Quotient (LQ)** analysis to determine concentrations of employment to identify export oriented industries.

\[
LQ = \frac{e_i / e}{E_i / E}
\]

<table>
<thead>
<tr>
<th>Classification</th>
<th>LQ Level</th>
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<tbody>
<tr>
<td>Group A</td>
<td>1.5-1.9</td>
</tr>
<tr>
<td>Group B</td>
<td>2.0-2.4</td>
</tr>
<tr>
<td>Group C</td>
<td>2.5-2.9</td>
</tr>
<tr>
<td>Group D</td>
<td>&gt; 3</td>
</tr>
</tbody>
</table>

*Note: This is a relative scale created by the authors for the purpose of this report.*
Top 10 Industries in CaliBaja Mega Region by Employment Concentration, 2008

<table>
<thead>
<tr>
<th>Industry Description</th>
<th>Location Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>3343 - Audio and video equipment mfg.</td>
<td>10.06</td>
</tr>
<tr>
<td>3391 - Medical equipment and supplies mfg.</td>
<td>7.63</td>
</tr>
<tr>
<td>3325 - Hardware mfg.</td>
<td>6.17</td>
</tr>
<tr>
<td>3342 - Communications equipment mfg.</td>
<td>4.99</td>
</tr>
<tr>
<td>3344 - Semiconductor and electronic component mfg.</td>
<td>4.60</td>
</tr>
<tr>
<td>5172 - Wireless telecommunications carriers</td>
<td>4.16</td>
</tr>
<tr>
<td>3366 - Ship and boat building</td>
<td>3.59</td>
</tr>
<tr>
<td>3379 - Other furniture related product mfg.</td>
<td>3.24</td>
</tr>
<tr>
<td>3169 - Other leather product mfg.</td>
<td>3.16</td>
</tr>
<tr>
<td>3399 - Other miscellaneous mfg.</td>
<td>3.13</td>
</tr>
</tbody>
</table>

Labor Source Breakdown

CaliBaja Mega Region, 2008

- 3353 - Electrical equipment mfg. (94% Baja California, 6% San Diego & Imperial)
- 3325 - Hardware mfg. (92% Baja California, 8% San Diego & Imperial)
- 3343 - Audio and video equipment mfg. (91% Baja California, 9% San Diego & Imperial)
- 3391 - Medical equipment and supplies mfg. (87% Baja California, 13% San Diego & Imperial)
- 3169 - Other leather product mfg. (84% Baja California, 16% San Diego & Imperial)
- 3344 - Semiconductor and electronic component (82% Baja California, 18% San Diego & Imperial)
- 3379 - Other furniture related product mfg. (81% Baja California, 19% San Diego & Imperial)
- 3399 - Other miscellaneous mfg. (69% Baja California, 31% San Diego & Imperial)
- 3342 - Communications equipment mfg. (63% Baja California, 37% San Diego & Imperial)
- 5172 - Wireless telecommunications carriers (11% Baja California, 89% San Diego & Imperial)
- 3366 - Ship and boat building (100% Baja California, 0% San Diego & Imperial)

Evolution of Employment Concentration (Location Quotients) in Leading 2008 Industries in CaliBaja Mega-Region Over Time, 1998-2008


Note: The industries in this graph were chosen because they were the top 10 employed industries in the reference year. This graph then plots the evolution of those industries over time.
Top 10 Industries by 2008 Employment Concentration Over Time, 1998-2008 (Excluding Audio & Video Equipment Manufacturing)


Note: The industries in this graph were chosen because they were the top 10 employed industries in the reference year. This graph then plots the evolution of those industries over time.
Cali-Baja is a Hub for Manufacturing

- **Audio and video equipment manufacturing**
  - 40% of total US-Mexico employment
  - LQ of 28.8 in 2008; top industry in each sub-economy

- **Medical equipment and supplies manufacturing**
  - Employed largest number of people in 2008
  - LQ doubled from 3.4 in 1998 to 7.6 in 2008

- **Hardware Manufacturing**
  - Steady increase: 1998 LQ of 4.2 to 2008 LQ of 6.17

- **Semi-conductor and electronic component manufacturing**
  - Ave LQ of 4.5 from 1998-2008
CONCLUDING REMARKS

Marney Cox
HONORARY CHAIRS:
Andrew Erickson, U.S. Consul General in Tijuana
Remedios Gómez Arnau, Mexican Consul General in San Diego

TECHNICAL COMMITTEE:
Alejandro Brugues, COLEF
Michael Combs, San Diego Regional EDC
Marney Cox, SANDAG
Alejandro Díaz-Bautista, COLEF
Daniel Flyte, SANDAG
Noé Arón Fuentes, COLEF
Christina Luhn, CaliBaja Mega Region
Cheryl Mason, SANDAG
David A. Shirk, Center for U.S.-Mexican Studies
Tim Wright, Center for U.S.-Mexican Studies

ADVISORY PANEL:
James Clark, Director, Smart Border Coalition
Denise Ducheny, Senior Policy Fellow, UCSD
Center for U.S.-Mexican Studies

ADVISORY PANEL (CONT.)
Rafael Fernandez de Castro, Professor, Instituto Tecnológico Autónomo de México
Paul Ganster, Director, SDSU Institute for the Regional Study of the Californias
Alan Gin, Professor, School of Business, USD
Cindy Gompper-Graves, South County EDC
Richard Kiy, President & CEO, International Community Foundation
Francisco Larroque, Attorney, Baker & MacKensie; Co-Chair, Smart Border Coalition
David Mayagoitia, Chairman, Tijuana Economic Development Corporation (DEITAC)
Gustavo Vega, Professor/Researcher, Colegio de México
Mary Walshok, Vice Chancellor, Public Programs; Dean, UCSD Extension
Christopher Wilson, Associate, Mexico Institute, Woodrow Wilson Center