Sintonía

Regional Innovation Cluster and Economic Competitiveness

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What is Sintonía?

A regional competitiveness initiative that was formed by UPAEP in January 2012

- State competitiveness ranking in 2001 placed Puebla 28th out of 32 states, ten years later neighboring states move from the lower ranking to the top ten.

- Puebla is ranked fifth in terms of population. 5'383,133 inhabitants.

- Contributes 3.7% of the GDP

- 95% of economic organization rank of SME's

The Journey up to now

Sintonía´s Kickoff
•Feb. 13th 2012

Convening Stakeholders

- 3 Conferences with International speakers
- Industry Workshops
- Plenary sessions

Clustering Workshops

- General sessions with all organizations
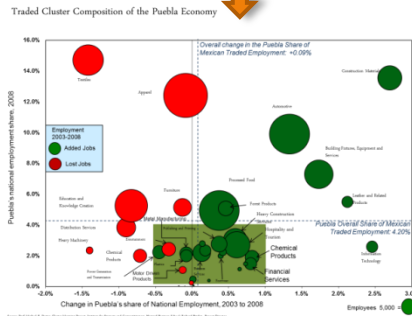- Breakups by cluster
- cluster individual sessions
- Shared Value

In paralell

Mexico and Puebla Mapping Project

At Harvard, with Dr. Porter´s team,
Rick Bryden, Niels Ketelhöhn,
Alfonso Mendoza and Pablo Nuño

Cluster Map

Drivers

MOC Graduate Ph.D and M.S.

- **55 students**
- **46 decided to work their final cluster project related to Sintonia´s needs**
- **The students joined Sintonia groups**
- **Clusters are formed by business, government, universities, and MOC students**
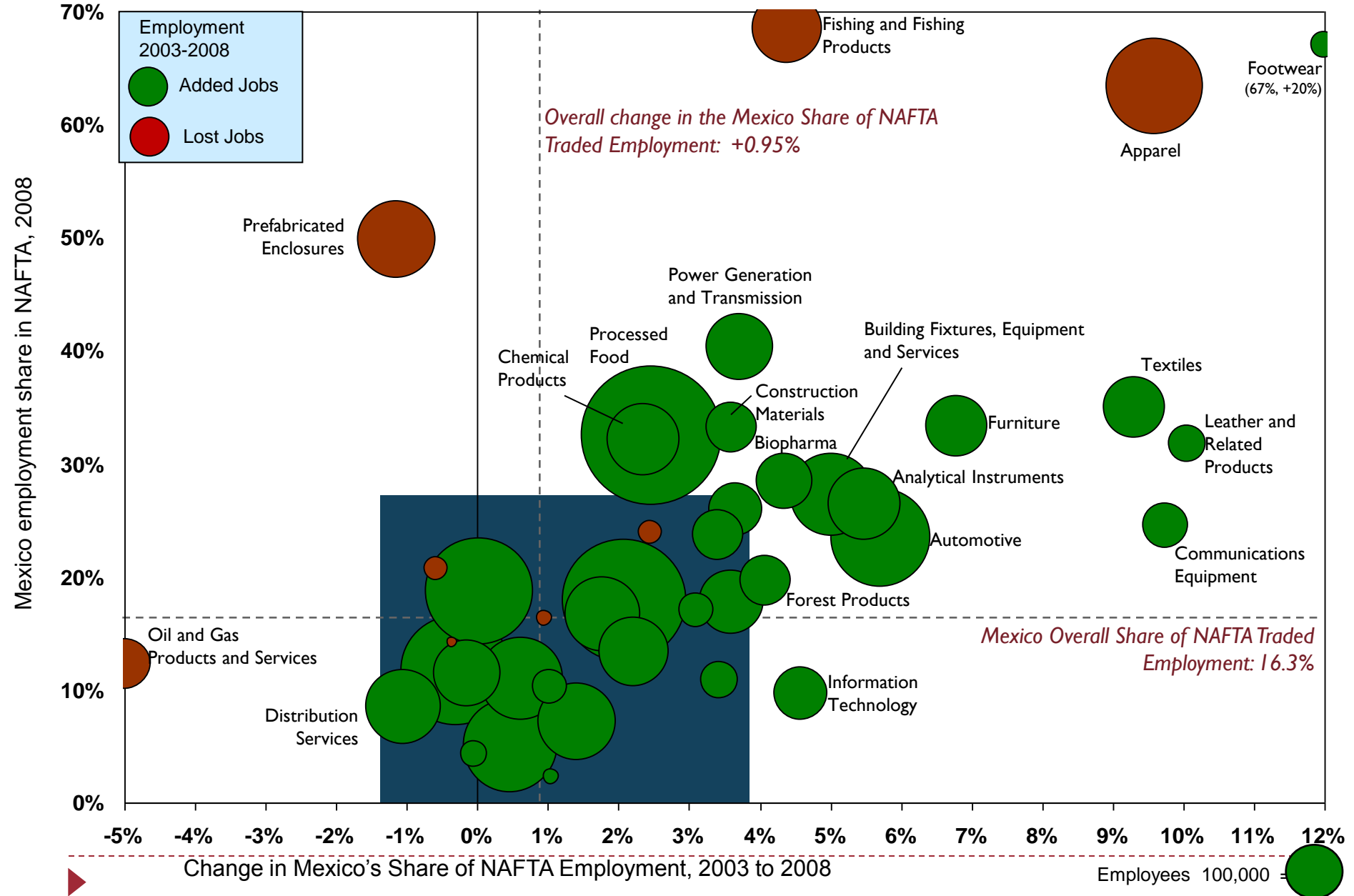
Clustering workshops

- **General sessions with all organizations**
- **Breakups by cluster**
- **Several individual sessions by cluster**

Competitiveness in Mexican States

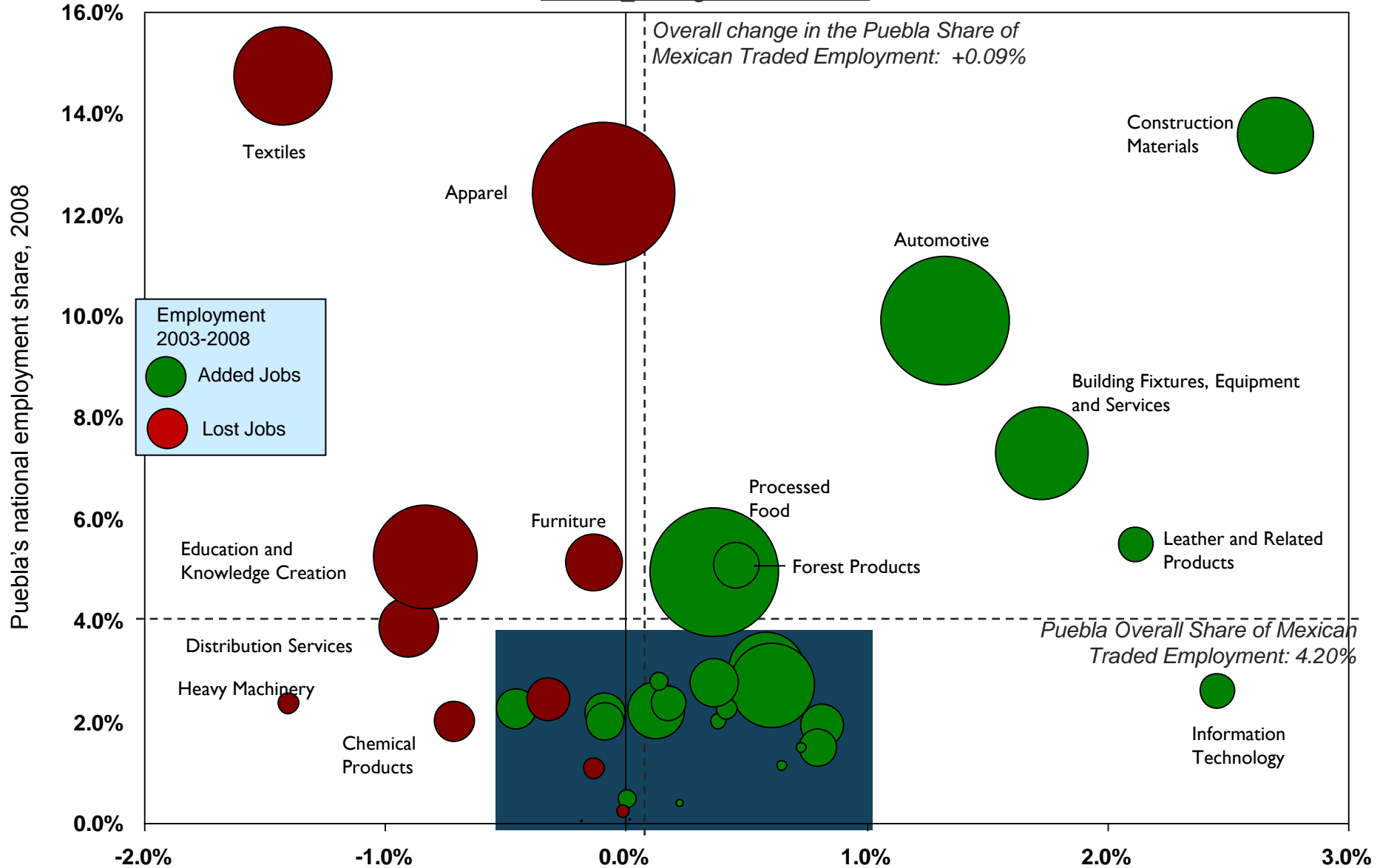Source: INEGI. Sistema de Cuentas Nacionales de México.

Mexico Traded Cluster Specialization within NAFTA

Employment 2003-2008

- 🟢 Added Jobs
- 🔴 Lost Jobs

Overall change in the Mexico Share of NAFTA Traded Employment: +0.95%

Mexico employment share in NAFTA, 2008 (y-axis: 0% to 70%)

Fishing and Fishing Products

Footwear (67%, +20%)

Apparel

Prefabricated Enclosures

Power Generation and Transmission

Processed Food

Chemical Products

Building Fixtures, Equipment and Services

Construction Materials

Textiles

Biopharma

Furniture

Leather and Related Products

Analytical Instruments

Automotive

Communications Equipment

Forest Products

Oil and Gas Products and Services

Information Technology

Mexico Overall Share of NAFTA Traded Employment: 16.3%

Distribution Services

Change in Mexico's Share of NAFTA Employment, 2003 to 2008 (x-axis: -5% to 12%)

Employees 100,000 = 🟢

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director. Contributions by Prof. Niels Ketelhohn.
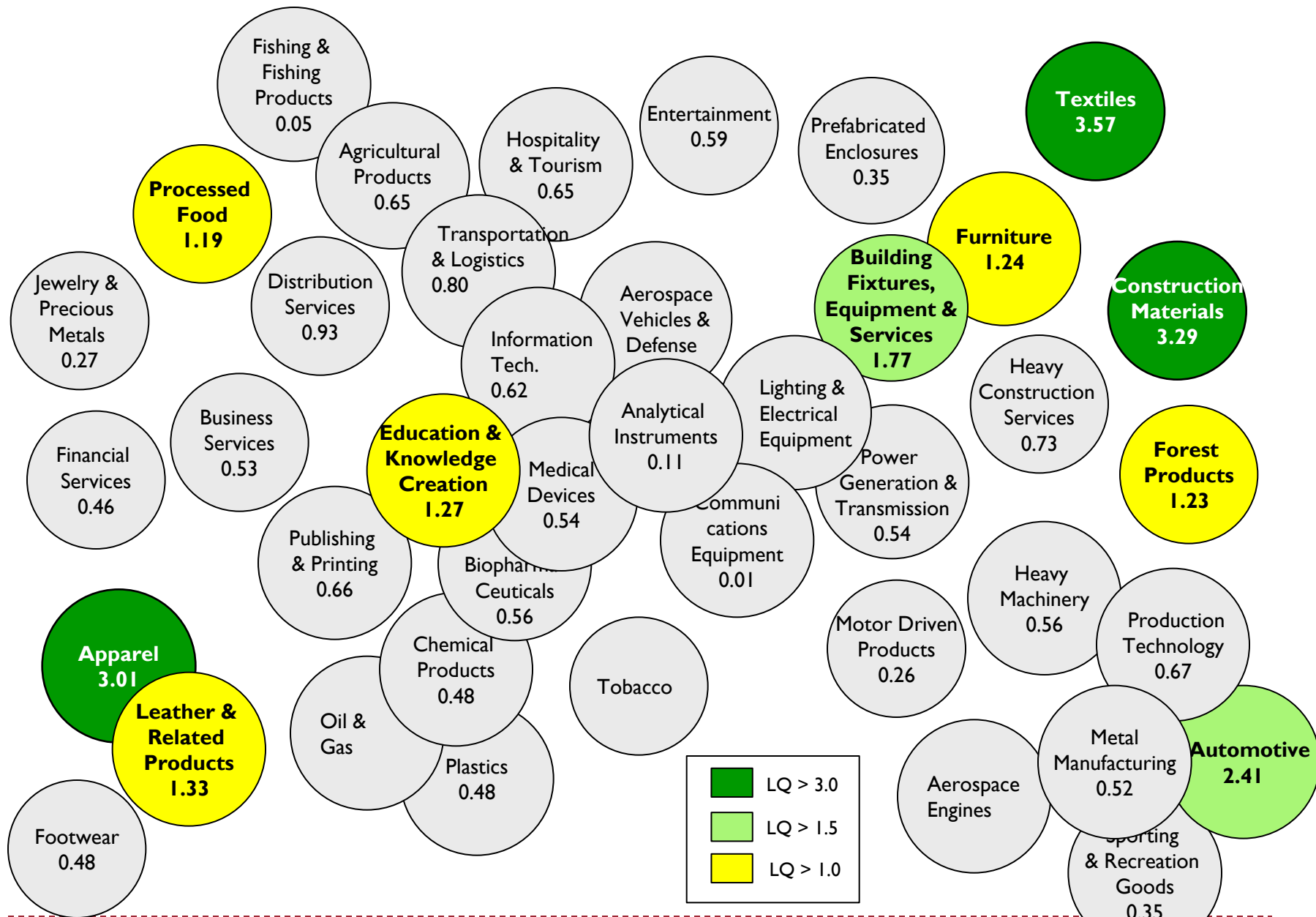
Traded Cluster Composition of the Puebla Economy Employement

Overall change in the Puebla Share of Mexican Traded Employment: +0.09%

Puebla's national employment share, 2008

Employment 2003-2008
- Added Jobs (green)
- Lost Jobs (red)

Textiles

Apparel

Construction Materials

Automotive

Building Fixtures, Equipment and Services

Education and Knowledge Creation

Furniture

Processed Food

Forest Products

Leather and Related Products

Distribution Services

Heavy Machinery

Chemical Products

Puebla Overall Share of Mexican Traded Employment: 4.20%

Information Technology

Change in Puebla's share of National Employment, 2003 to 2008

Employees 5,000 =

Puebla Cluster Portfolio, 2008

Fishing & Fishing Products 0.05

Agricultural Products 0.65

Hospitality & Tourism 0.65

Entertainment 0.59

Prefabricated Enclosures 0.35

Textiles 3.57

Processed Food 1.19

Transportation & Logistics 0.80

Building Fixtures, Equipment & Services 1.77

Furniture 1.24

Construction Materials 3.29

Jewelry & Precious Metals 0.27

Distribution Services 0.93

Information Tech. 0.62

Aerospace Vehicles & Defense

Heavy Construction Services 0.73

Business Services 0.53

Education & Knowledge Creation 1.27

Analytical Instruments 0.11

Lighting & Electrical Equipment

Forest Products 1.23

Financial Services 0.46

Medical Devices 0.54

Power Generation & Transmission 0.54

Publishing & Printing 0.66

Biopharma Ceuticals 0.56

Communications Equipment 0.01

Heavy Machinery 0.56

Production Technology 0.67

Apparel 3.01

Chemical Products 0.48

Tobacco

Motor Driven Products 0.26

Leather & Related Products 1.33

Oil & Gas

Plastics 0.48

Metal Manufacturing 0.52

Automotive 2.41

Footwear 0.48

Aerospace Engines

Sporting & Recreation Goods 0.35

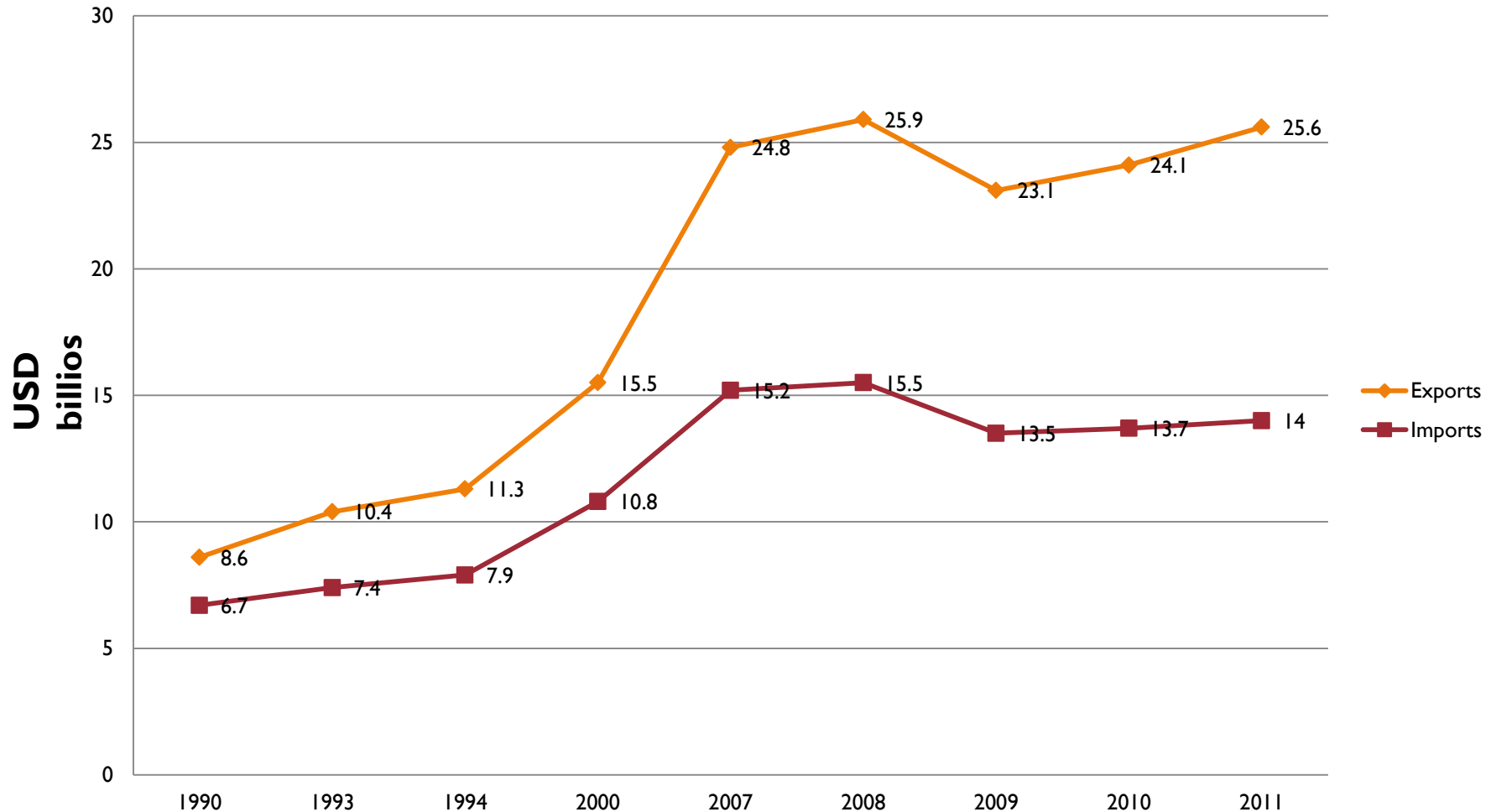|	Legend
■ (dark green)	LQ > 3.0
■ (light green)	LQ > 1.5
■ (yellow)	LQ > 1.0

LQ, or Location Quotient, measures the state's share in cluster employment relative to its overall share of Mexican employment. An LQ > 1 indicates an above average employment share in a cluster.
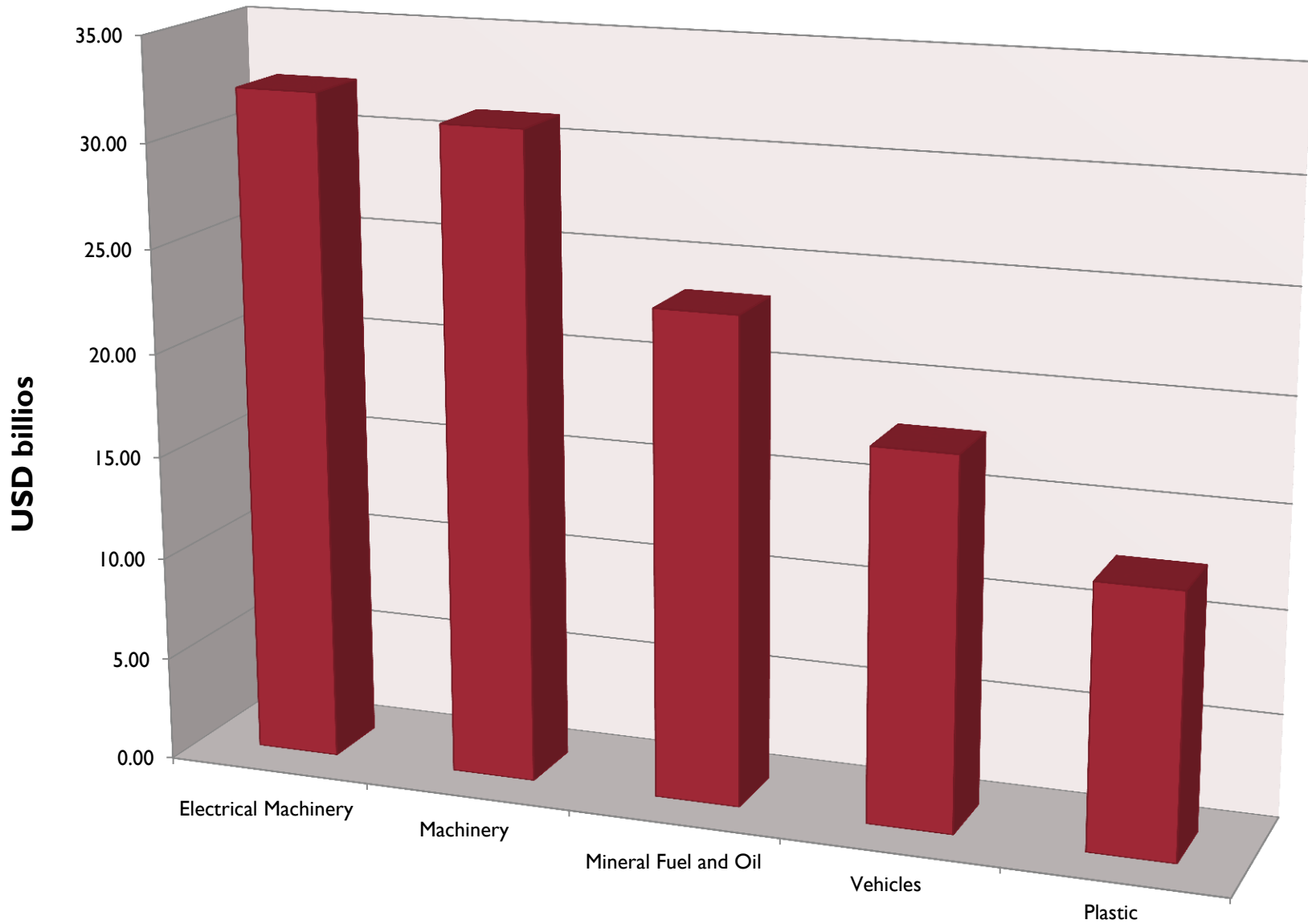
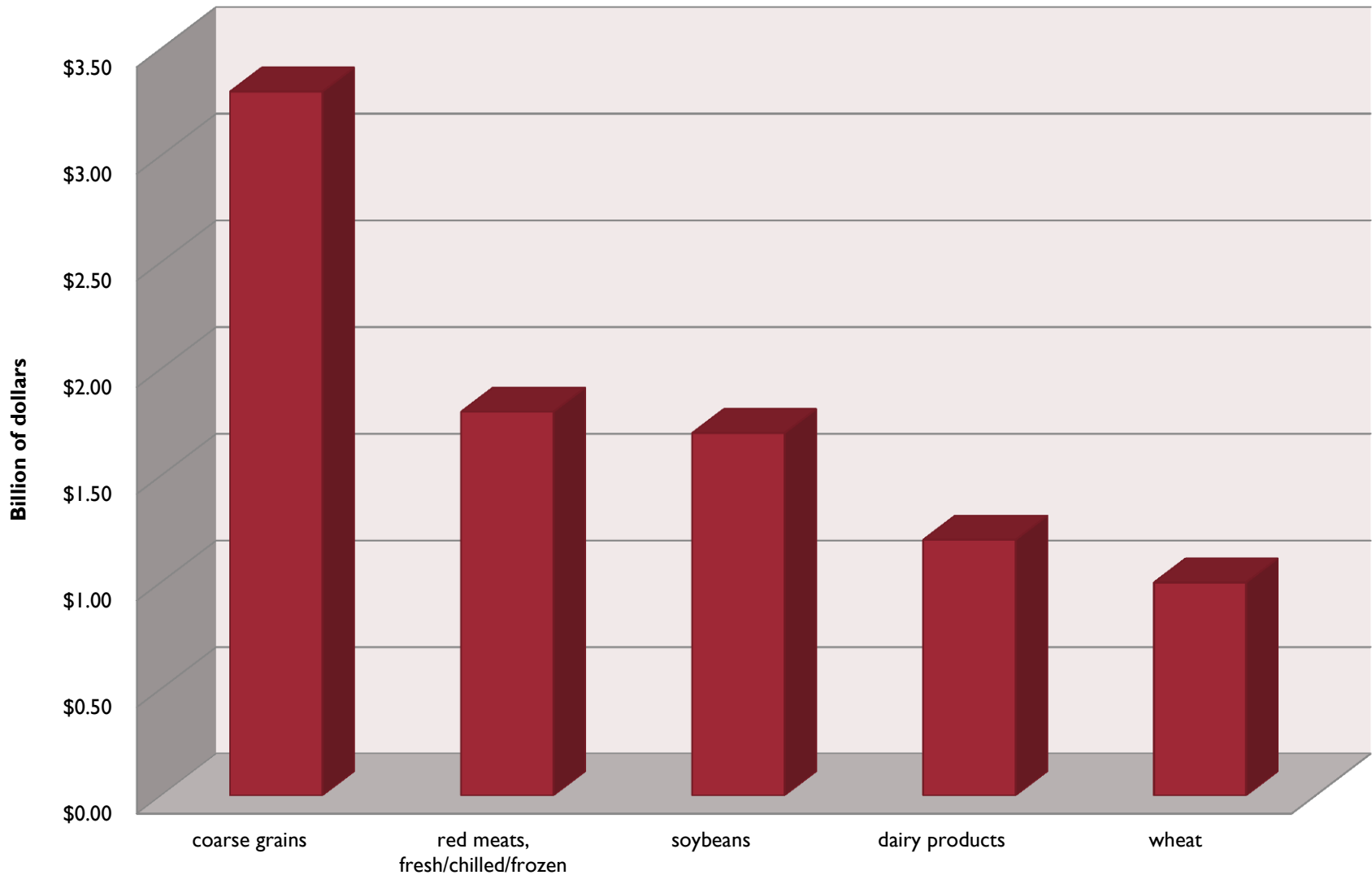# U.S. Goods Traded with Mexico billions USD

USD billions

- Exports
- Imports

Year	Exports	Imports
1980	15.1	
1990	28.3	
1993	41.6	
1994	50.8	
2000	111.3	135.9
2008	151.2	215.9
2009	128.9	176.7
2010	163.5	229.9
2011	197.5	263.1
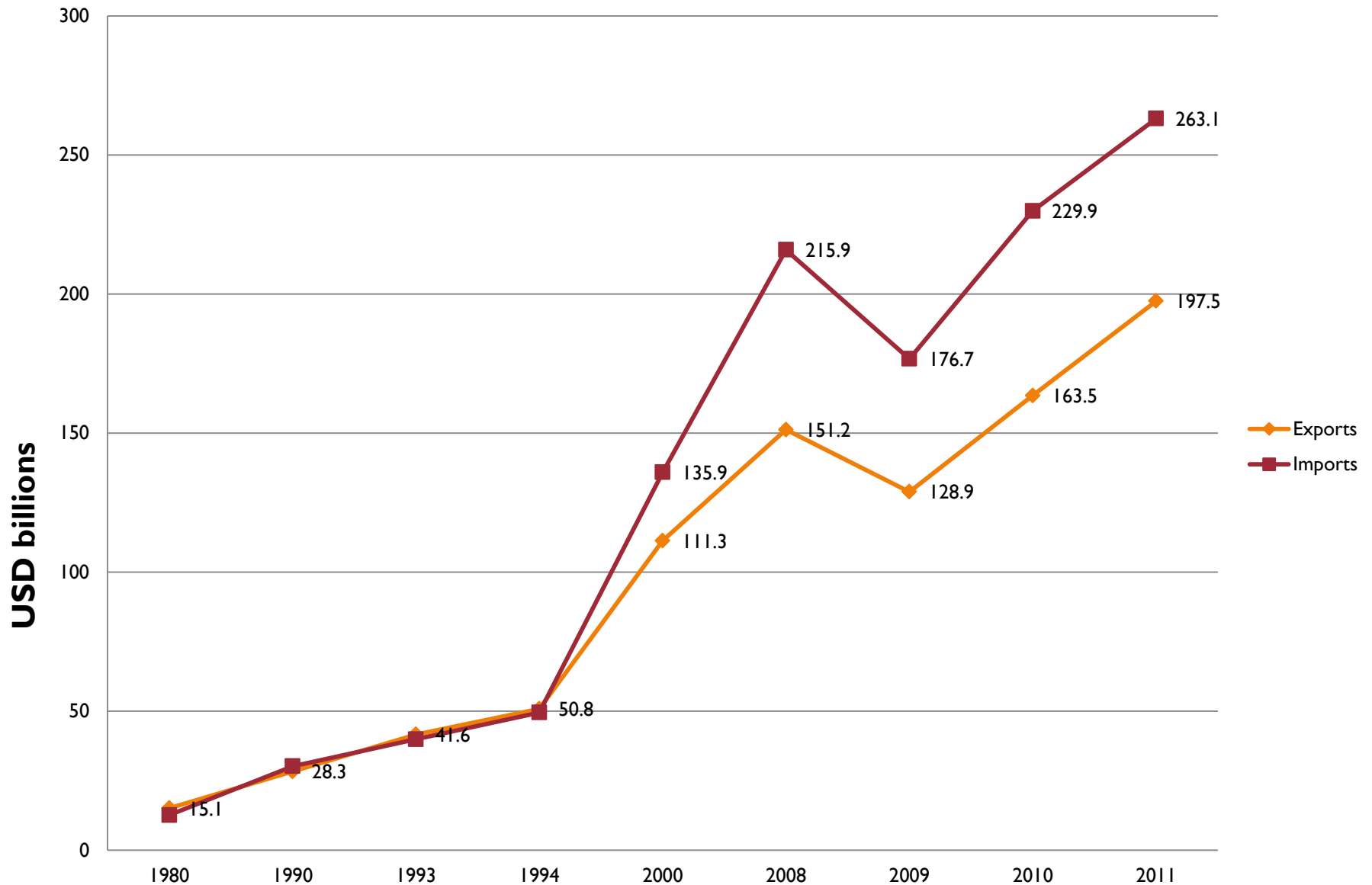
U.S. Services Traded with Mexico
(billions USD)

Chart showing Exports and Imports (USD billions):

Year	Exports	Imports
1990	8.6	6.7
1993	10.4	7.4
1994	11.3	7.9
2000	15.5	10.8
2007	24.8	15.2
2008	25.9	15.5
2009	23.1	13.5
2010	24.1	13.7
2011	25.6	14

Y-axis: USD billios

US Exports to México (billions USD)

Source: Sintonía-UPAEP University, Puebla, México based on data from Office the United States Trade Representative, 2011

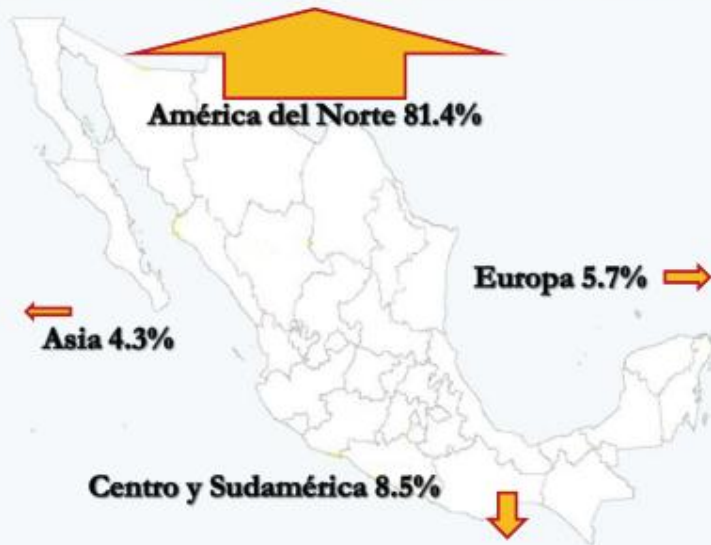U.S. exports of agricultural products to Mexico

The five largest México exports to US in 2011

USD billion (y-axis): $0.00, $10.00, $20.00, $30.00, $40.00, $50.00, $60.00

Categories (x-axis): Electrical Machinery; Vehicles (cars, trucks and parts); Mineral Fuel and Oil (crude); Machinery; Precious Stones (gold and silver)
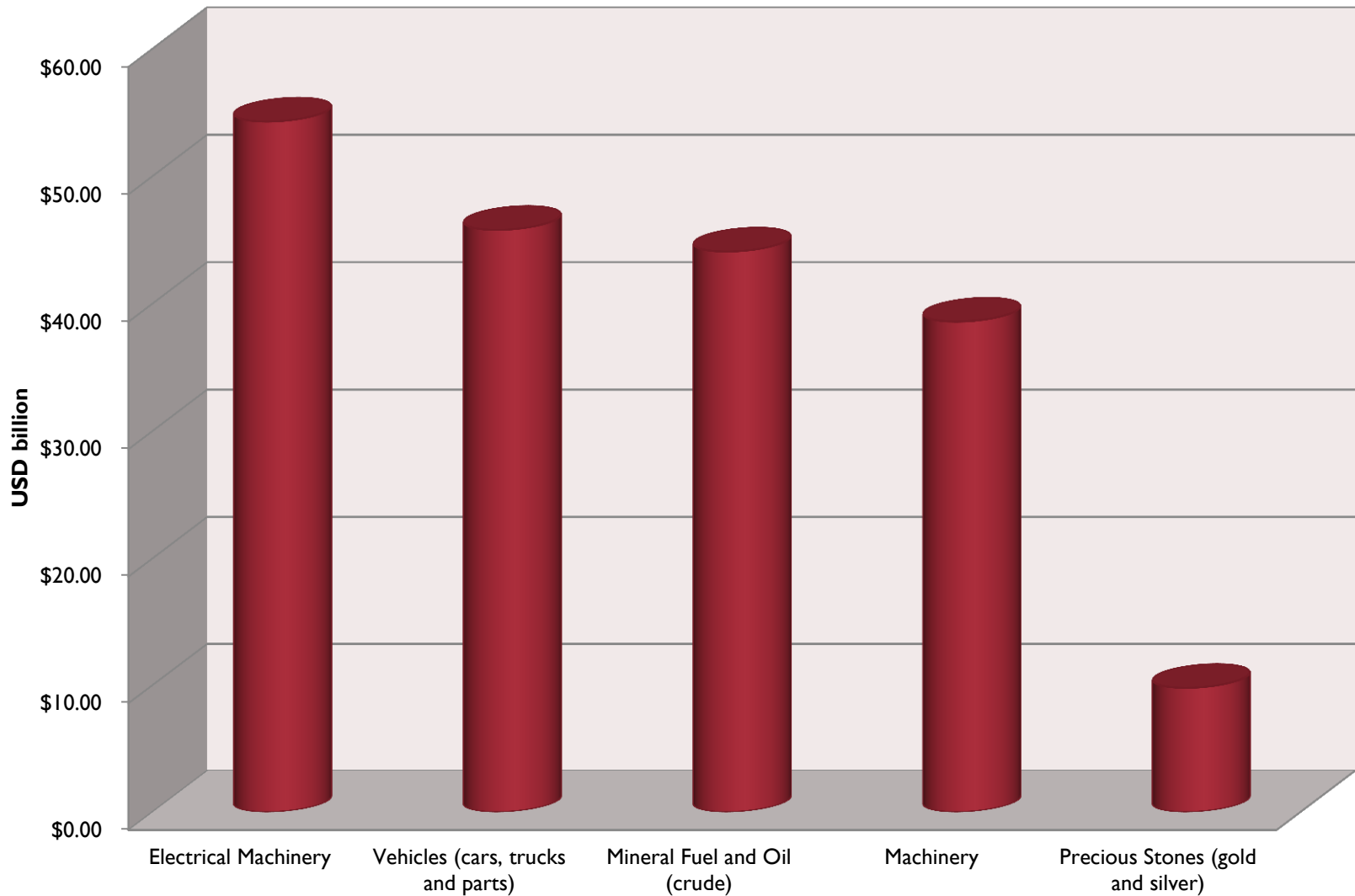
México exports of agricultural products to US
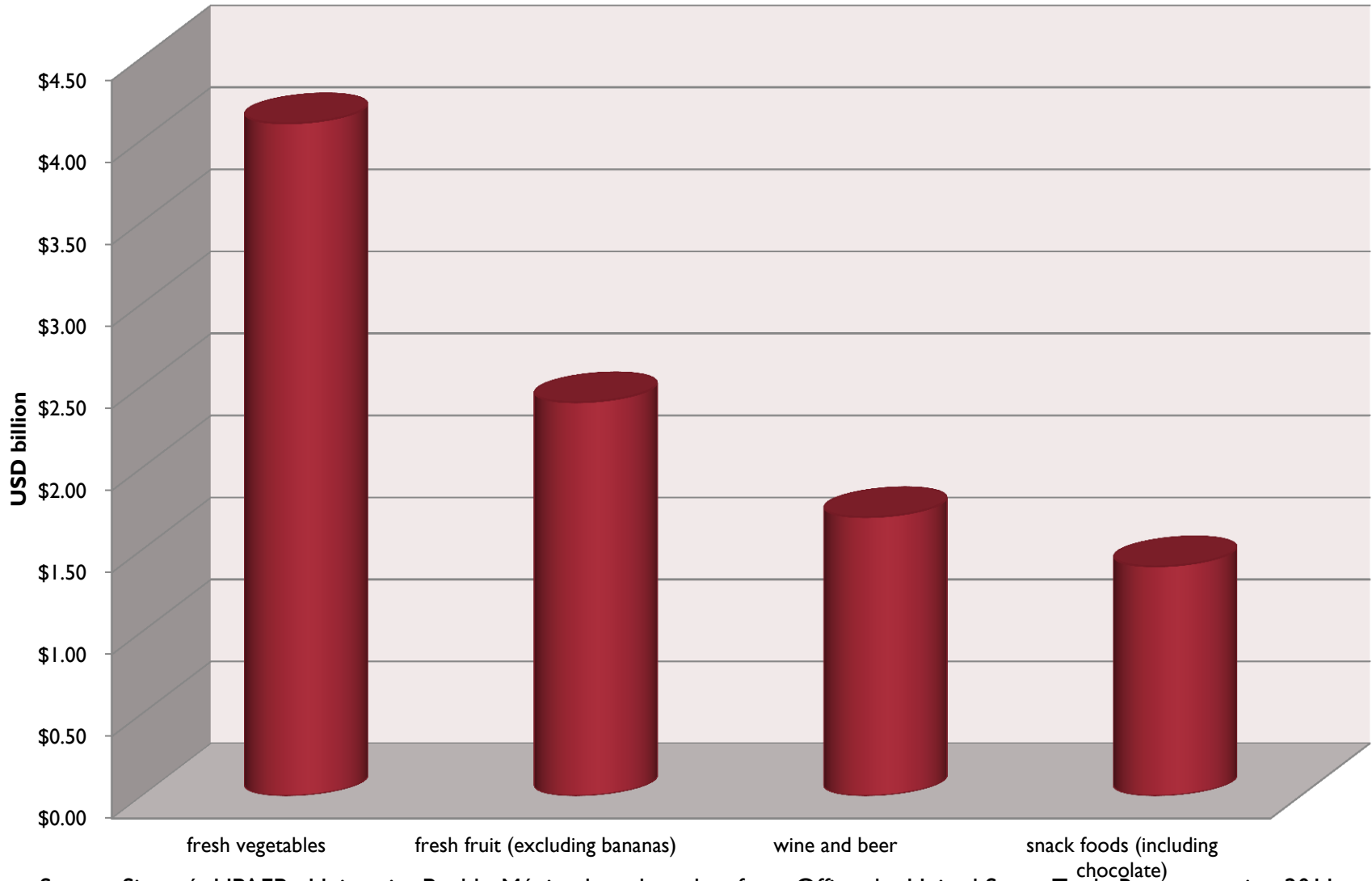
Source: Sintonía-UPAEP   University, Puebla, México based on data from Office the United States Trade Representative, 2011

México one of the open economies
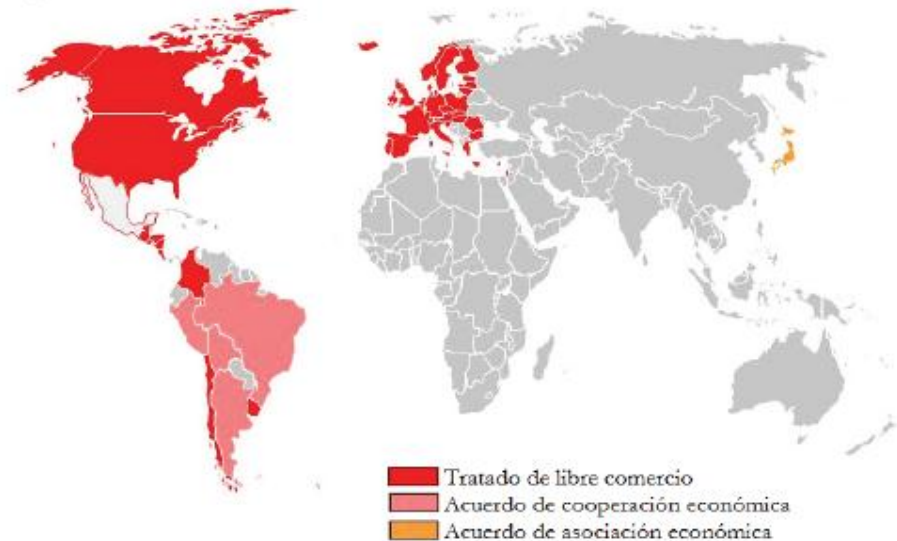
Mexico has 42 free trade agreements.

Exports and imports as a percentage of GDP is:
- 58.6% in Mexico
- 18.5% in Brazil
- 51.7% in Canada

Exportaciones no petroleras de México en 2011*

América del Norte 81.4%

Europa 5.7%

Asia 4.3%

Centro y Sudamérica 8.5%

Mapa comercial de México*

Tratado de libre comercio
Acuerdo de cooperación económica
Acuerdo de asociación económica

Competitiveness trend

Companies are beginning to set aside the outsourcing, and beginning to use near sourcing

China is losing competitiveness
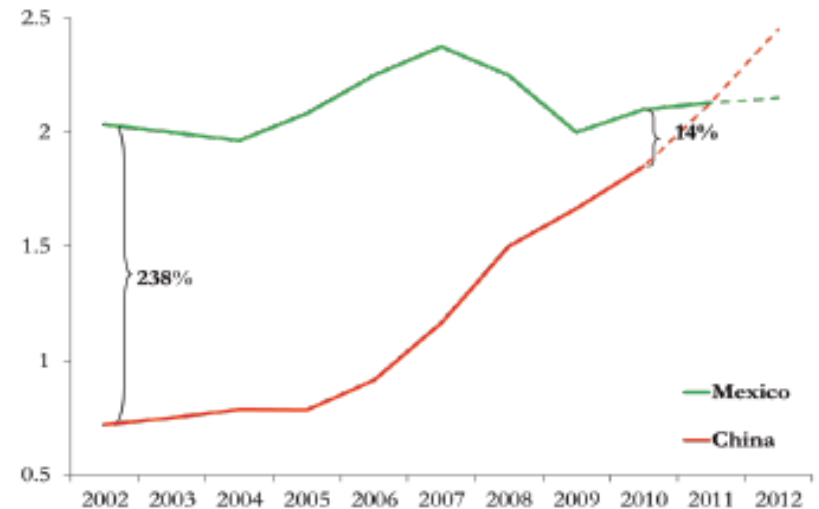
Global Context Automotive Sector

Global Vehicle Production 2011: 75 million units (56 million are light vehicles), with global sales of USD 2400 billion.

World Producer Market
Place (2011)
8th

World Export Market
Place (2011)
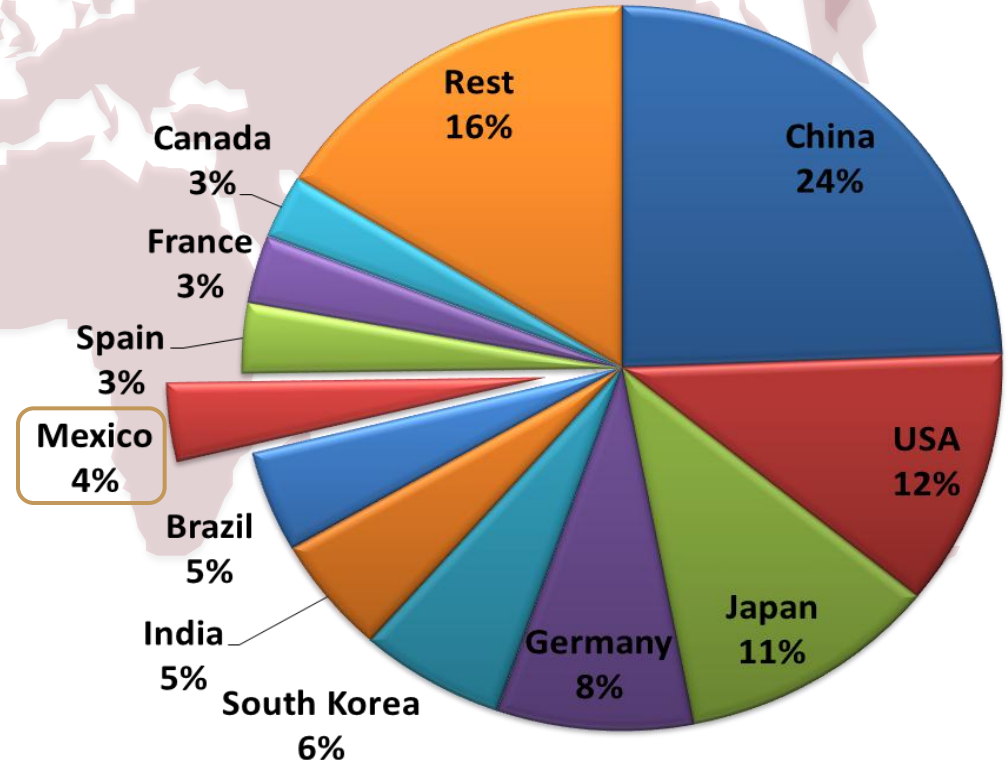**5th**

World Producer Market
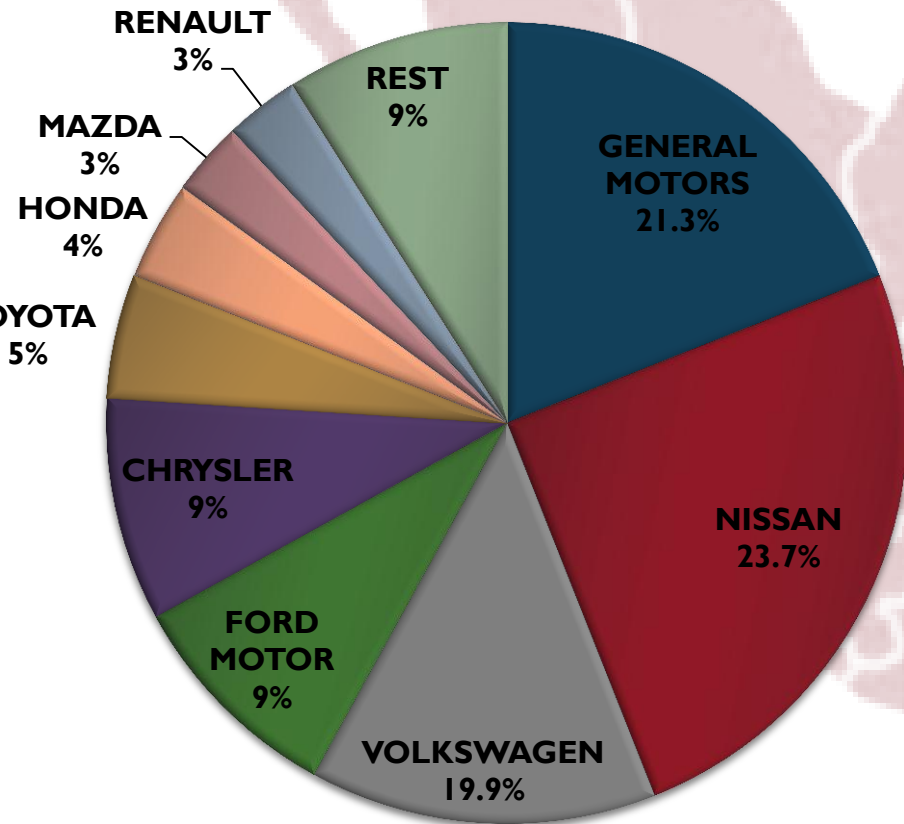Total Production (2011)
2.55 million cars

% Automotive World Production 2011 (Units)

- China 24%
- USA 12%
- Japan 11%
- Germany 8%
- South Korea 6%
- India 5%
- Brazil 5%
- Mexico 4%
- Spain 3%
- France 3%
- Canada 3%
- Rest 16%

Mexico's Automotive Sector

% Market Share by Brand Mexico (1Q 2012)

Pie chart segments:
- GENERAL MOTORS 21.3%
- NISSAN 23.7%
- VOLKSWAGEN 19.9%
- FORD MOTOR 9%
- CHRYSLER 9%
- TOYOTA 5%
- HONDA 4%
- MAZDA 3%
- RENAULT 3%
- REST 9%

National Manufacturing GDP (2011)
20%

Employees (2011)
Approx. 550,000

World´s leading OEMs assembly plant (2011)
8 companies producing light vehicles

Export Quantity (2011)	Growth Domestic Production (2011)	Growth Domestic Mkt (2011)
2.14 million cars	**14.4%**	**10.4%**

Puebla's Automotive share

State Manufacturing GDP
(2011)
25.6%

Total export value
(2011)
USD$ 611 Million

Population
(2011)
5th

Tier 1 purchasing share 2011

Puebla
39%

Rest of Mexico
61%
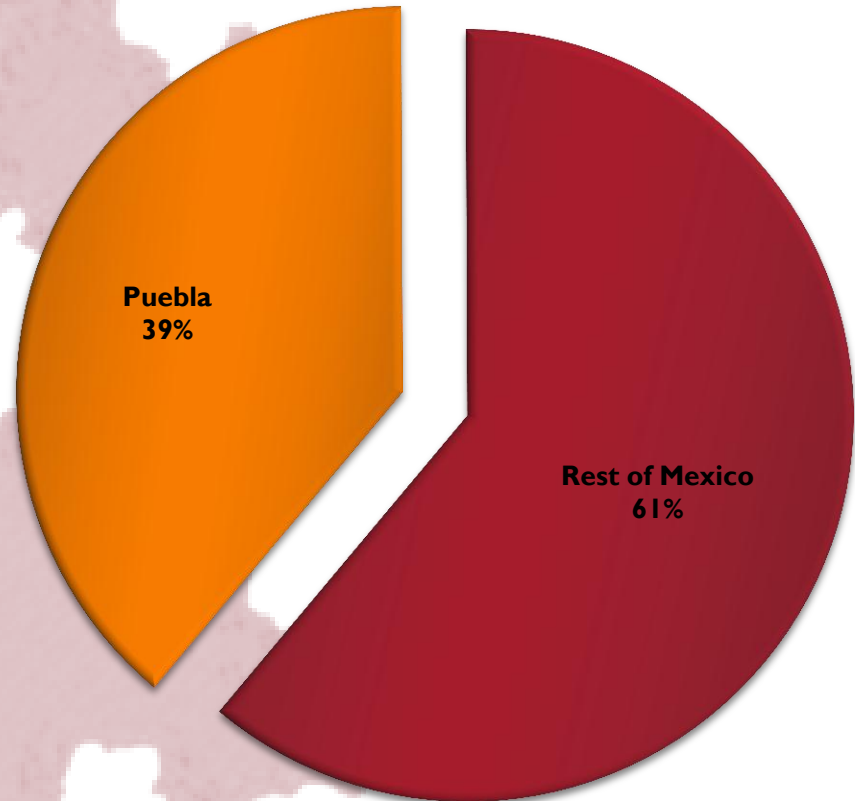
Puebla's Automotive Cluster Map

Source: MOC-UPAEP University, Puebla, México.
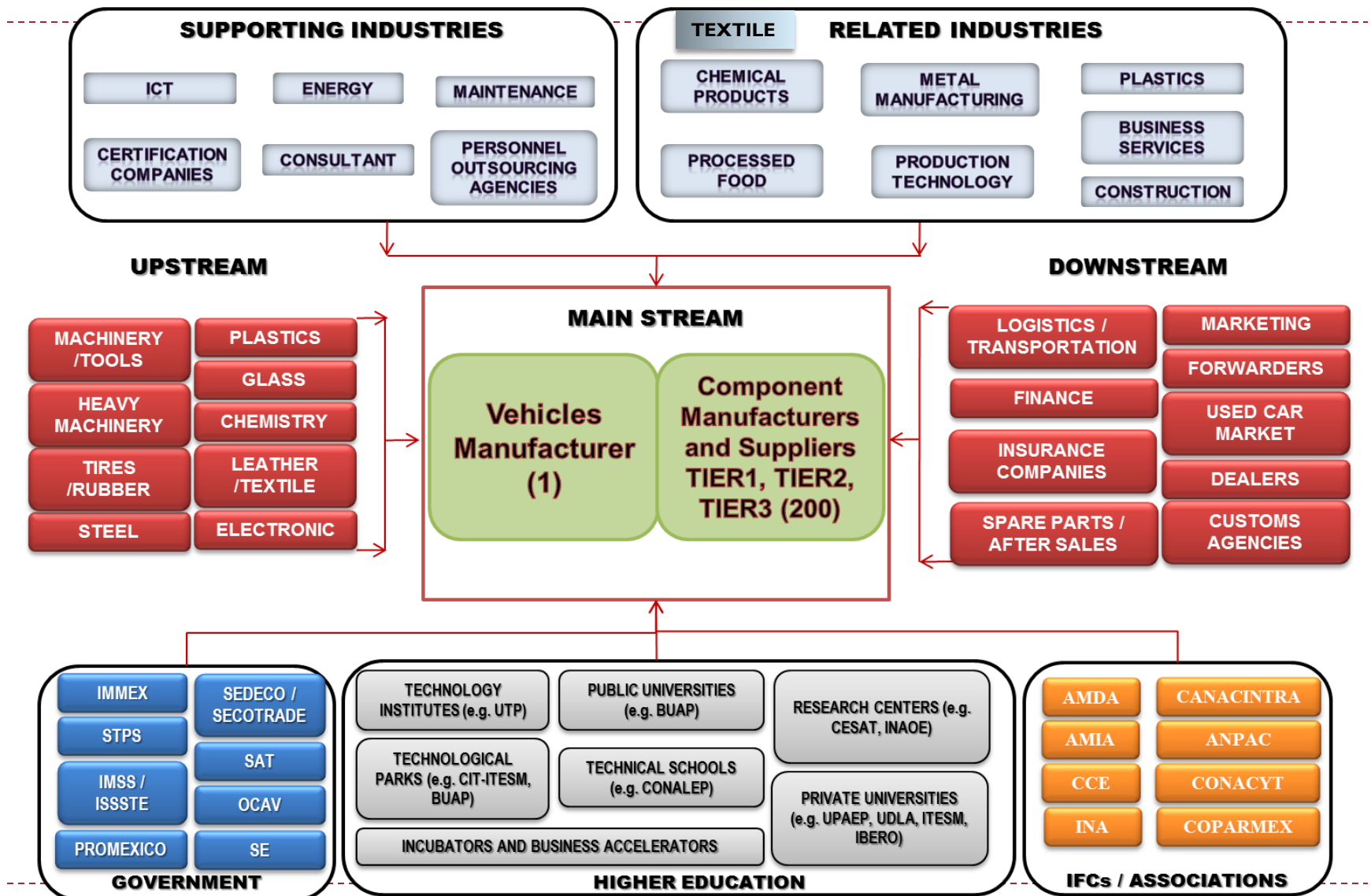
VW de Mexico largest automotive plant in North America >403k during first 8 months of 2012

Puebla 115 companies in auto supply chain

Agricultural Products and Processed Food

World Exports of the clusters in 2010:
USD $ 1.12 Billions

World Exports by Subcluster 2010

Legend:
- Others
- Vegetables and Fruits
- Meat and Related Products
- Grains
- Sugars, Molasses and Honey
- Packaged Cereal Foods
- Candy and Chocolate
- Spirits and Miscellaneous Fermented Beverages
- Metal and Glass Containers
- Paper Containers and Boxes
- Non-alcoholic Beverages
- Malt Beverages
- Miscellaneous Vegetable Materials

Pie chart values: 48%, 16%, 13%, 7%, 3%, 3%, 3%, 2%, 2%, 1%, 1%, 1%, 0%
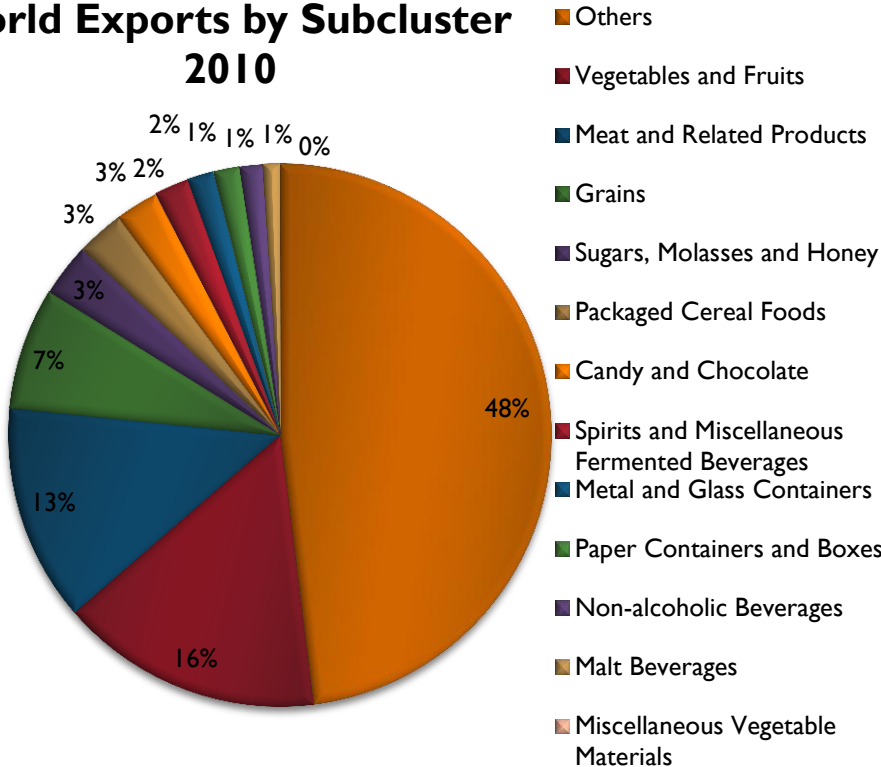
Export Value by Nation, 2010

Nations (top to bottom): 18° Mexico, Argentina, Belgium, Canada, Italy, China, Brazil, France, Germany, Netherlands, 1° USA

Millons $0.00 $0.05 $0.10 $0.15

- Agricultural Products Cluster — $ 12,125.95
- Processed Food Cluster — $ 6,345.29
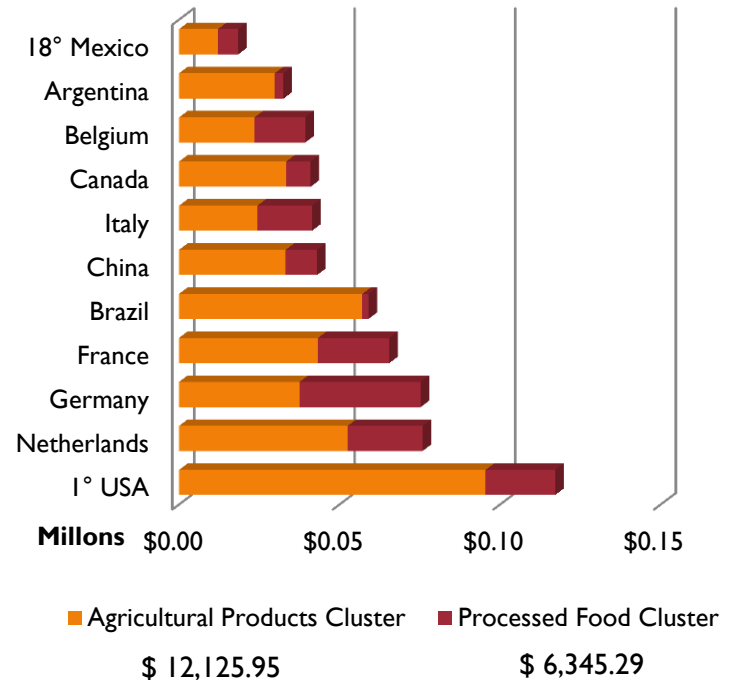
Mexico: 1.64% of World Exports   ## Mexico Ranking: 18 | USD $ 18,471.23

Source: MOC-UPAEP University, Puebla, México based on data from Harvard

Sintonía cluster workshops

Collaboration index

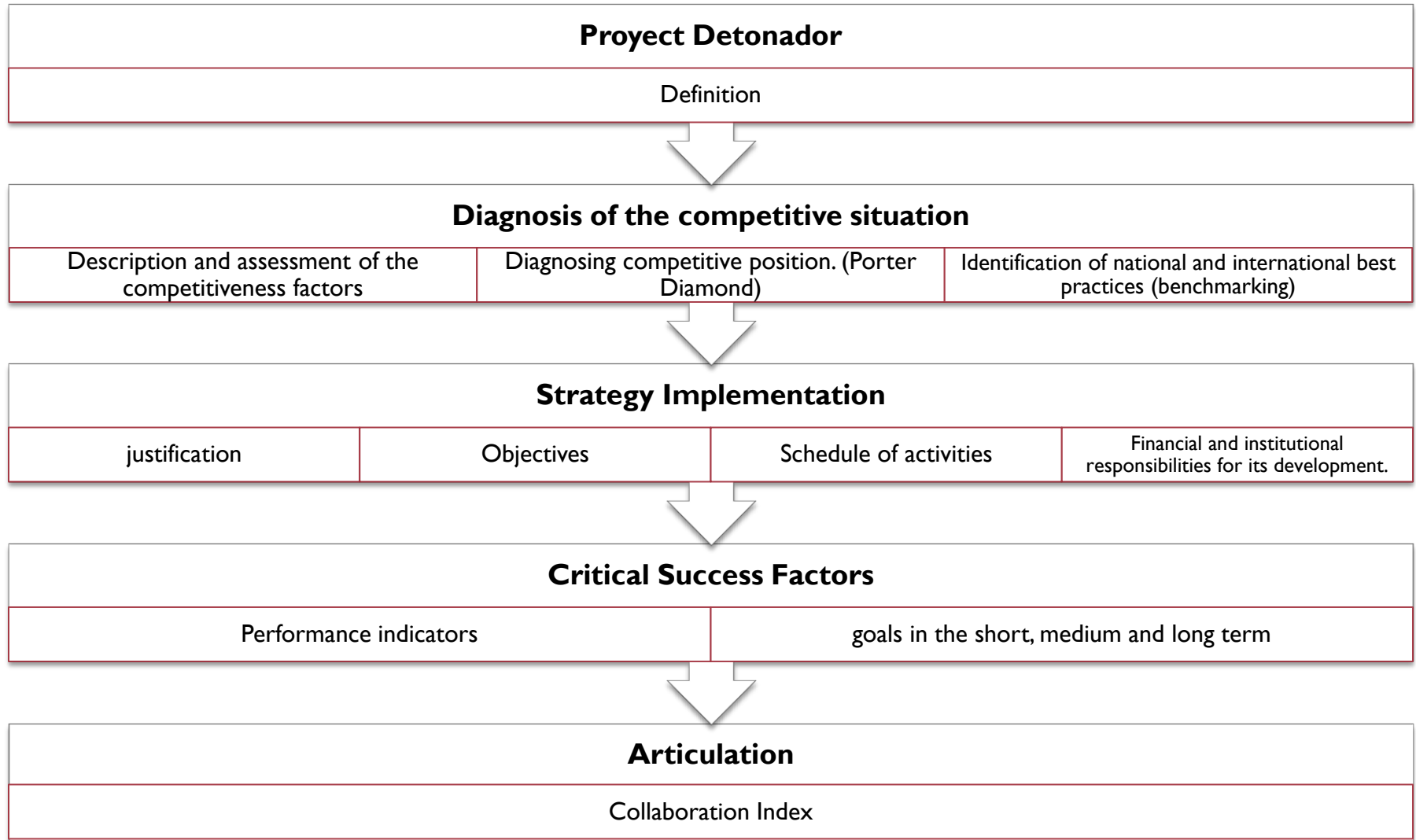| Clusters	Share information/Knowledge	Cooperate			Share work	Share investment	Collaboration (sustainability)							
Health	→													
Finance	→													
Turism	→													
Energy	→													
Textil	→													
Education	→													
Automotive	→													
Proceced Food	→													
Furniture	→													
Biopharmaceutical/Chemical	→													
IT	→													
Cunstruction	→													
Indicators of value preposition of a cluster initiative	Beginning of the network	Shift interested	Agreement	Consistent attendance	Proyecto Detonador	Increase revenue	Relevant talent development	Increase health outcome	Industry demand driven Education	Environmental impacts	Global competitiveness			

Project detonator framework

Proyect Detonador
Definition

⬇

Diagnosis of the competitive situation		
Description and assessment of the competitiveness factors	Diagnosing competitive position. (Porter Diamond)	Identification of national and international best practices (benchmarking)

⬇

Strategy Implementation			
justification	Objectives	Schedule of activities	Financial and institutional responsibilities for its development.

⬇

Critical Success Factors	
Performance indicators	goals in the short, medium and long term

⬇

Articulation
Collaboration Index

Source: L.B.Murphy , Sintonía-UPAEP University, Puebla, México.

Articulation-Sintonía

- Beginning of the network
- Shift interest
- Global competitiveness
- Agreement
- Environmental impacts
- Consistent attendance
- Industry demand driven education
- Project Detonator
- Increased health outcomes
- Relevant talent development
- Increase revenue

Sintonía

Shared Value project detonators

Project: Collaboration between the private sector in response to 14 catastrophic sickness through Seguro Popular

Stakeholder:

Exacta

H. Christus Muguerza

Beneficencia Española

Secretaría de Salud

Hospital Puebla

Recovery Páez

Radiología Diagnóstico Clínico. Unidad Médica La loma

...d Estatal de prevención de discapacidad

Centro Medico Quirúrgico.

Clúster: Salud

Cluster Coordinator:

Luis Miguel Perez – H. Christus Muguerza

Status of the proyect: Cooperating private and public hospitals.

Source: Sintonía-UPAEP University, Puebla, México.

Shared Value project detonators

Project: Develop a matrix that allows an easy access to credits, and develop a new model of business plan

Stakeholder:

Banco del Bajío

Bancomer

Nacional Financiera

Bancomer

HSBC

Nafinsa

Cluster: Finance

Cluster Coordinator:

Gonzalo Hortega - VWFS

Status of the project: Research information of credit supply of 10 banking institutions

Source: Sintonía-UPAEP University, Puebla, México.
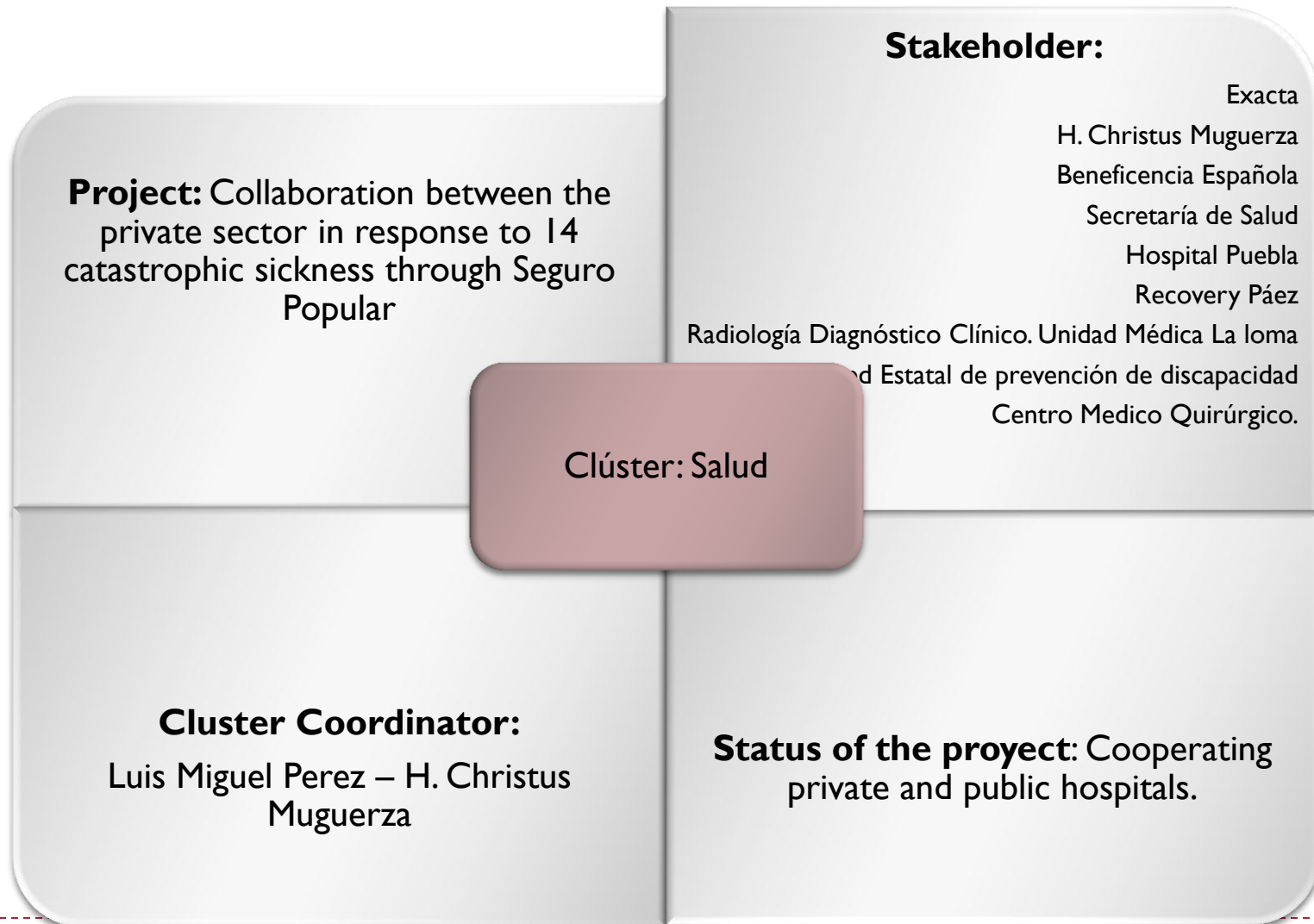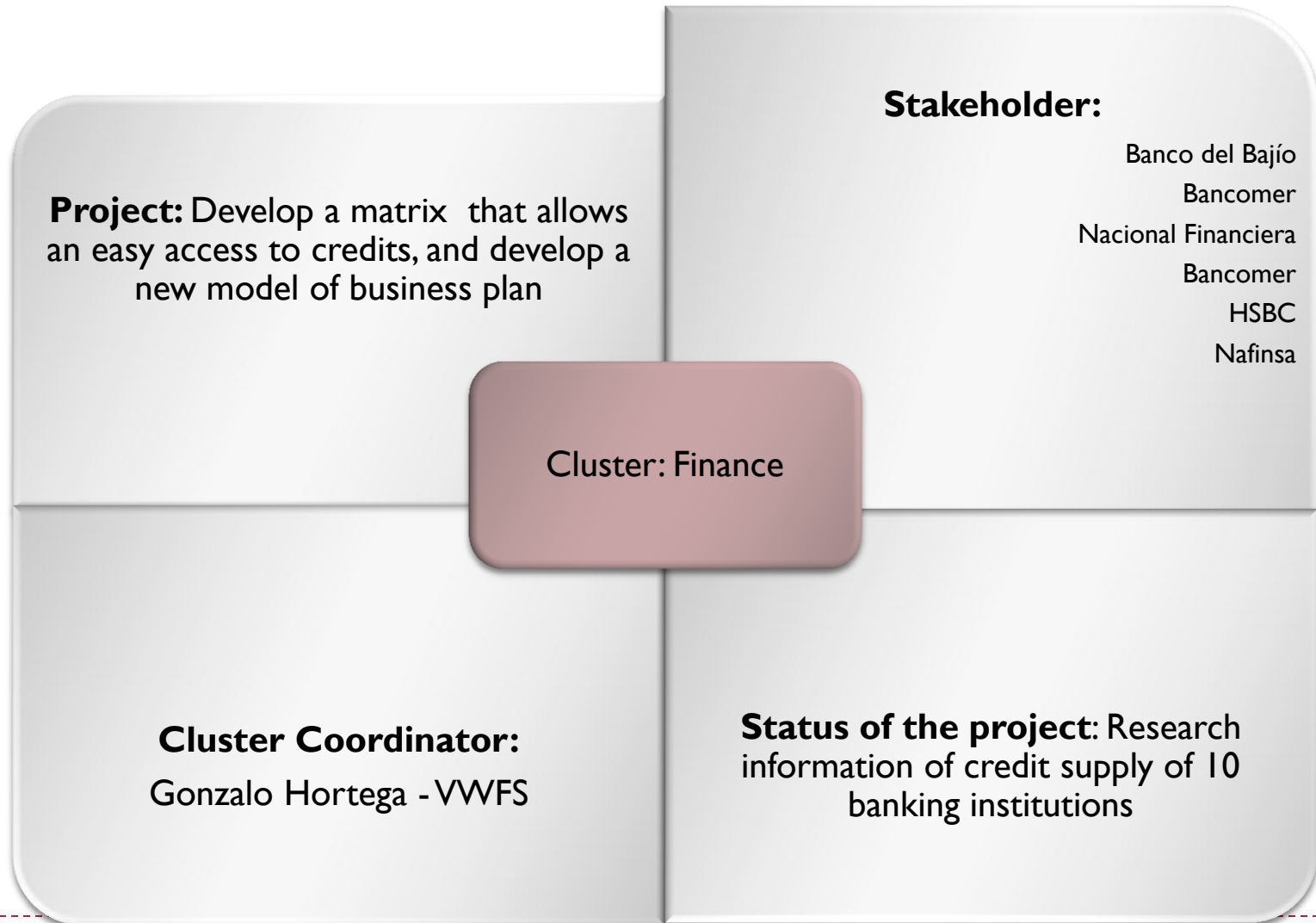
Pilot project detonator of tourism

Shared Value–Anchor Strategy.

Africam