

SW Ontario Automotive Cluster Analysis

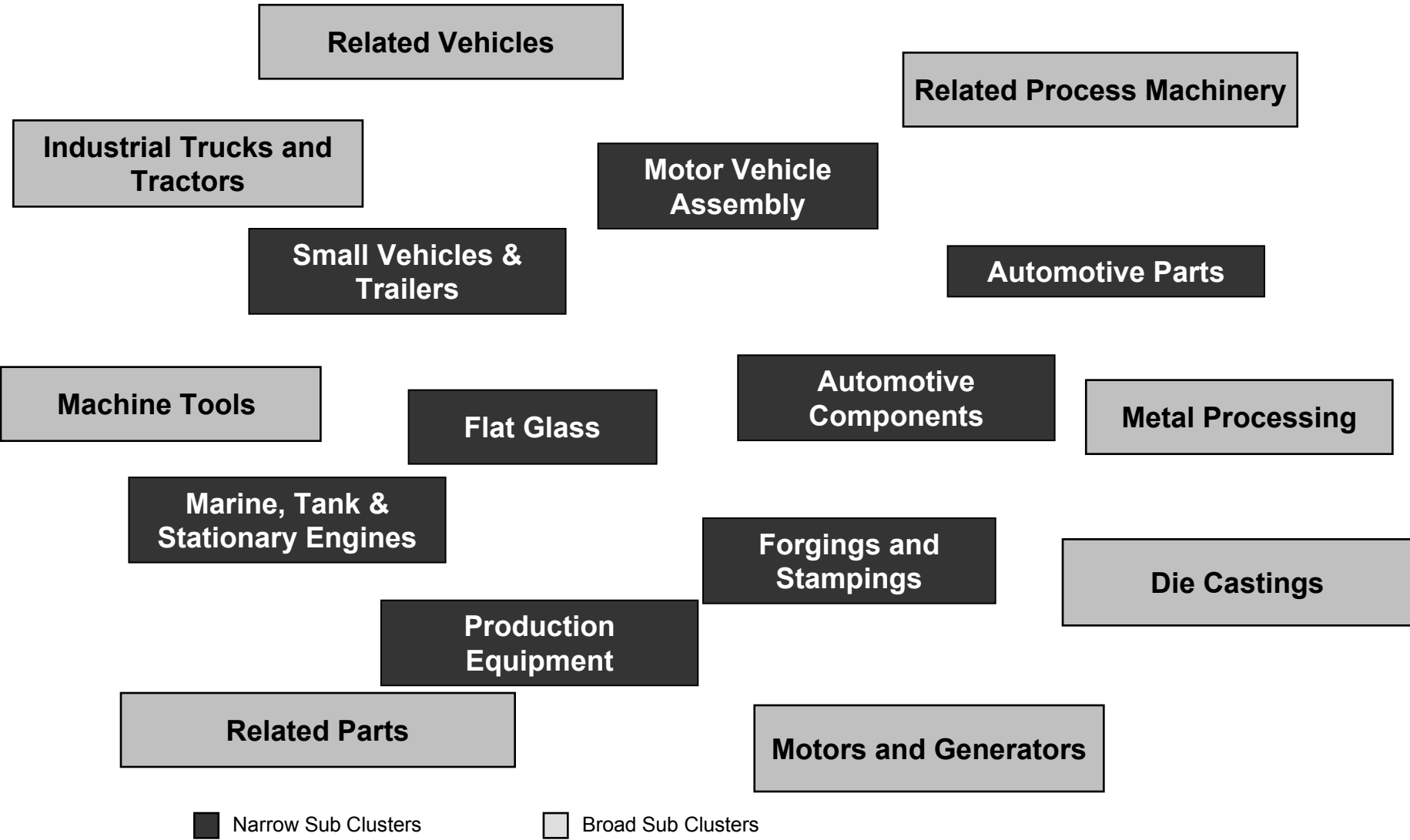
July 16, 2004

Geographic Bounds

There are over 900 automotive firms across SW Ontario, from Windsor to Oshawa.

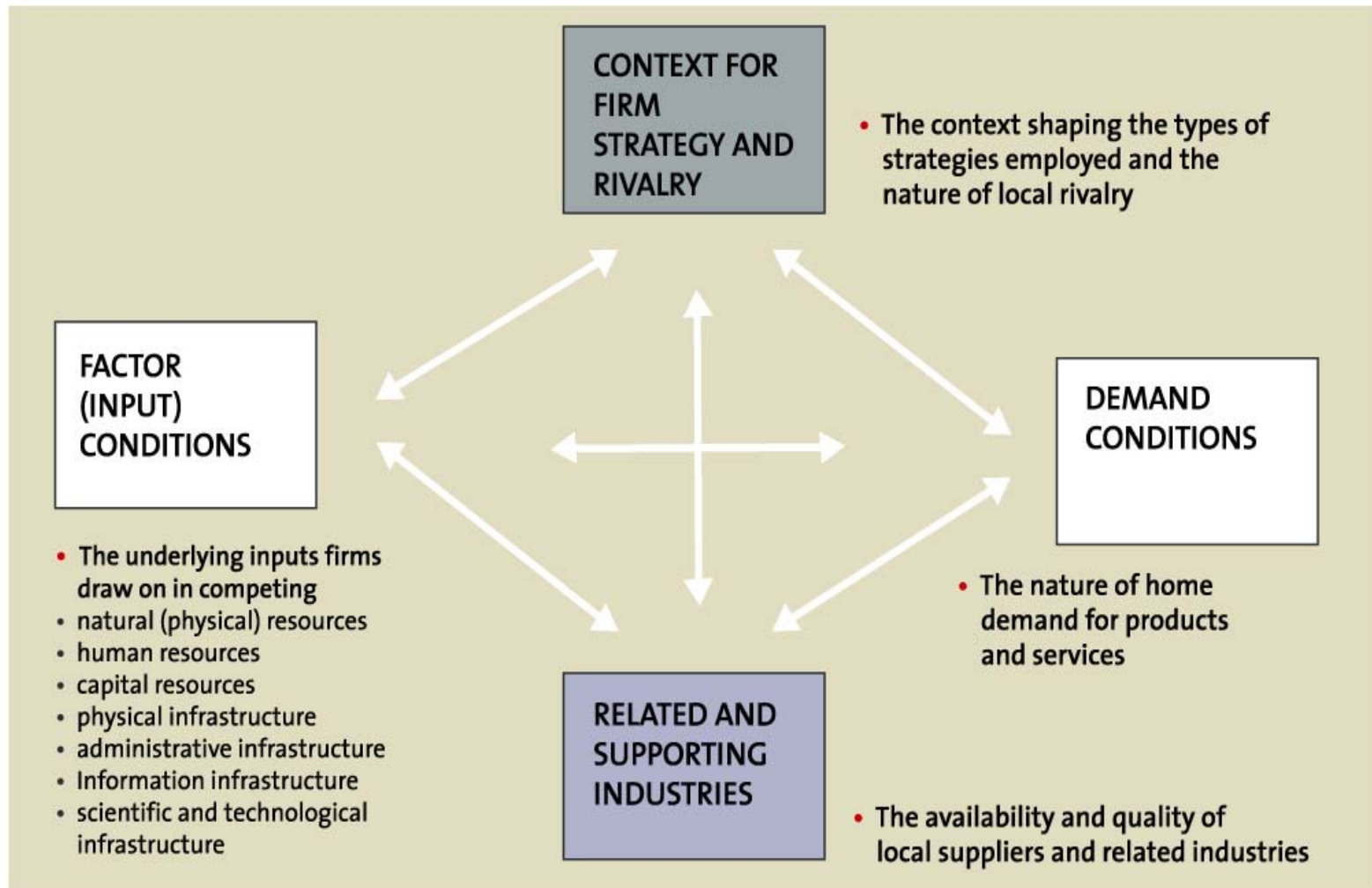


Components of the Automotive Cluster



Source: Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Institute for Competitiveness & Prosperity analysis

Porter's Diamond – an Explanation

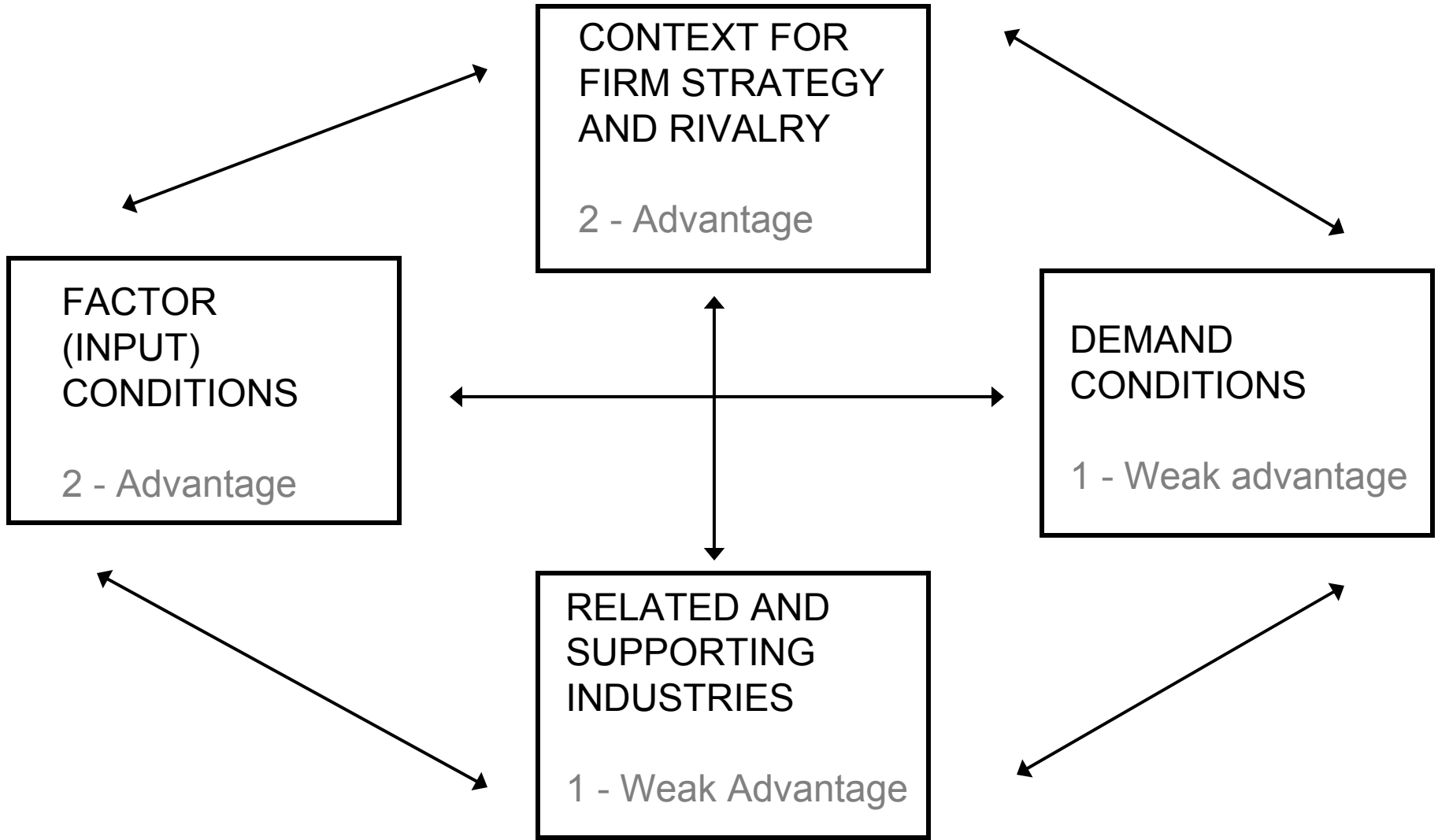


Source: Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Evaluating Cluster Strength

- **Clusters are profiled and assessed using a cluster template developed by Michael Porter's Institute for Strategy and Competitiveness at Harvard Business School**
- **The four elements of Porter's "Diamond" are analyzed using 120 variables**
- **Each variable is evaluated on the same scale: from a minimum of -3 to a maximum of +3, with 0 as neutral**
- **This quantitative framework is used to analyze cluster strengths and weakness - and to compare cluster competitiveness**

Ontario's Auto Cluster Has Broad Sources of Strength



Ontario's Auto Cluster is One of the World's Strongest

*HBS Institute for Strategy and Competitiveness
Cluster Assessment Scale*

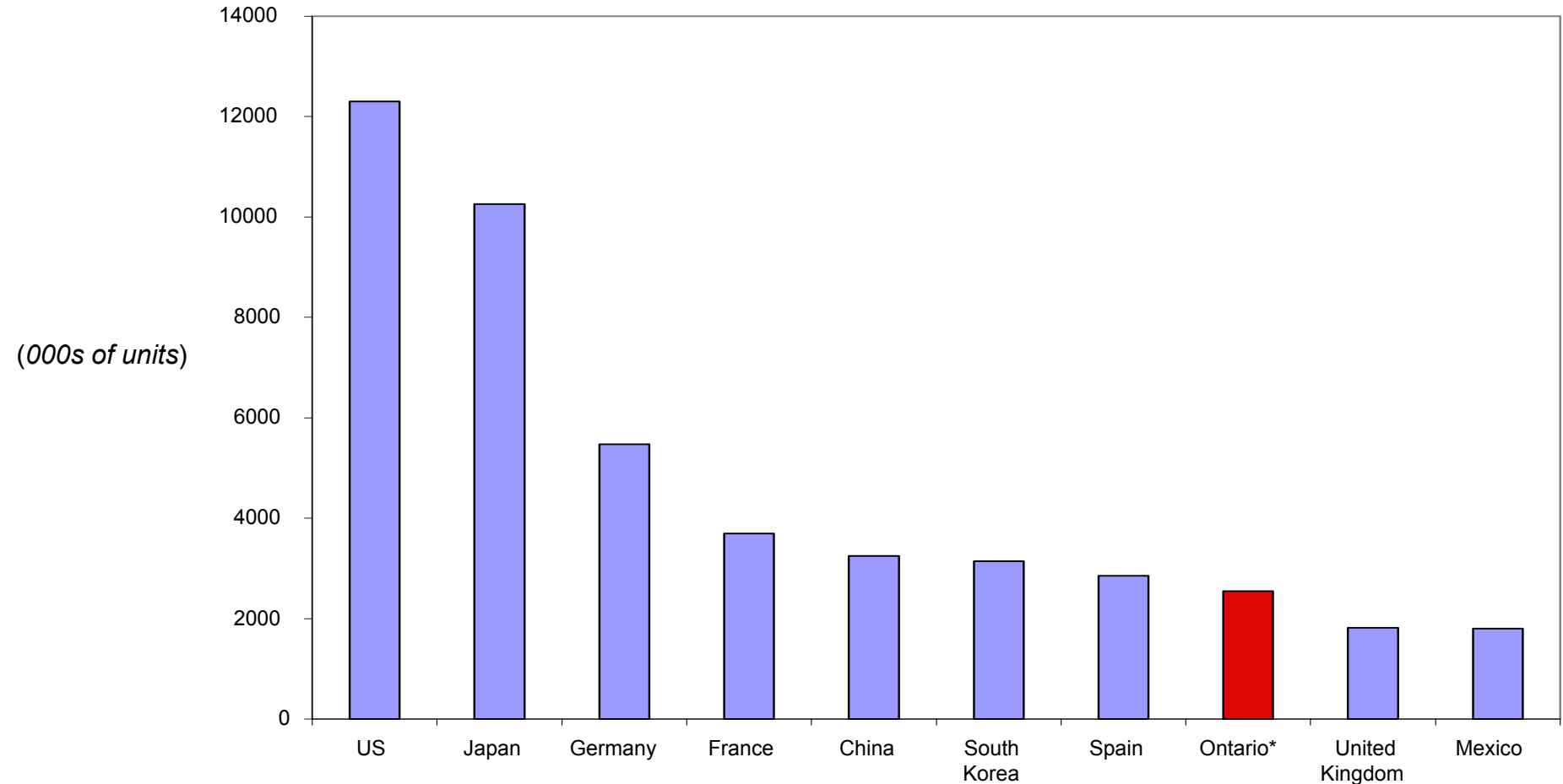
3 = world's strongest cluster
2 = among world's top 3
1 = among world's top 10
0 = internationally significant
-1 = nationally significant
-2 = rather weak
-3 = uncompetitive

Ontario Competitiveness

- The Ontario automotive industry is the eighth largest in the world.
- In 2002, 99% of Canadian-made vehicles were made in Ontario
- Ontario's automotive cluster has been annually producing roughly 5% of the world's motor vehicles for each of the last four years
- The value of production shipments has risen from \$56 billion in 1991 to \$99 billion in 2002
- In 2002, Canada exported US\$56.33 billion of automotive parts and vehicles - 9.1% of global automotive exports; automotive exports grew 9.4% from 1993-2002

Ontario's Automotive Cluster is a Global Leader

Motor Vehicle Production (2002)

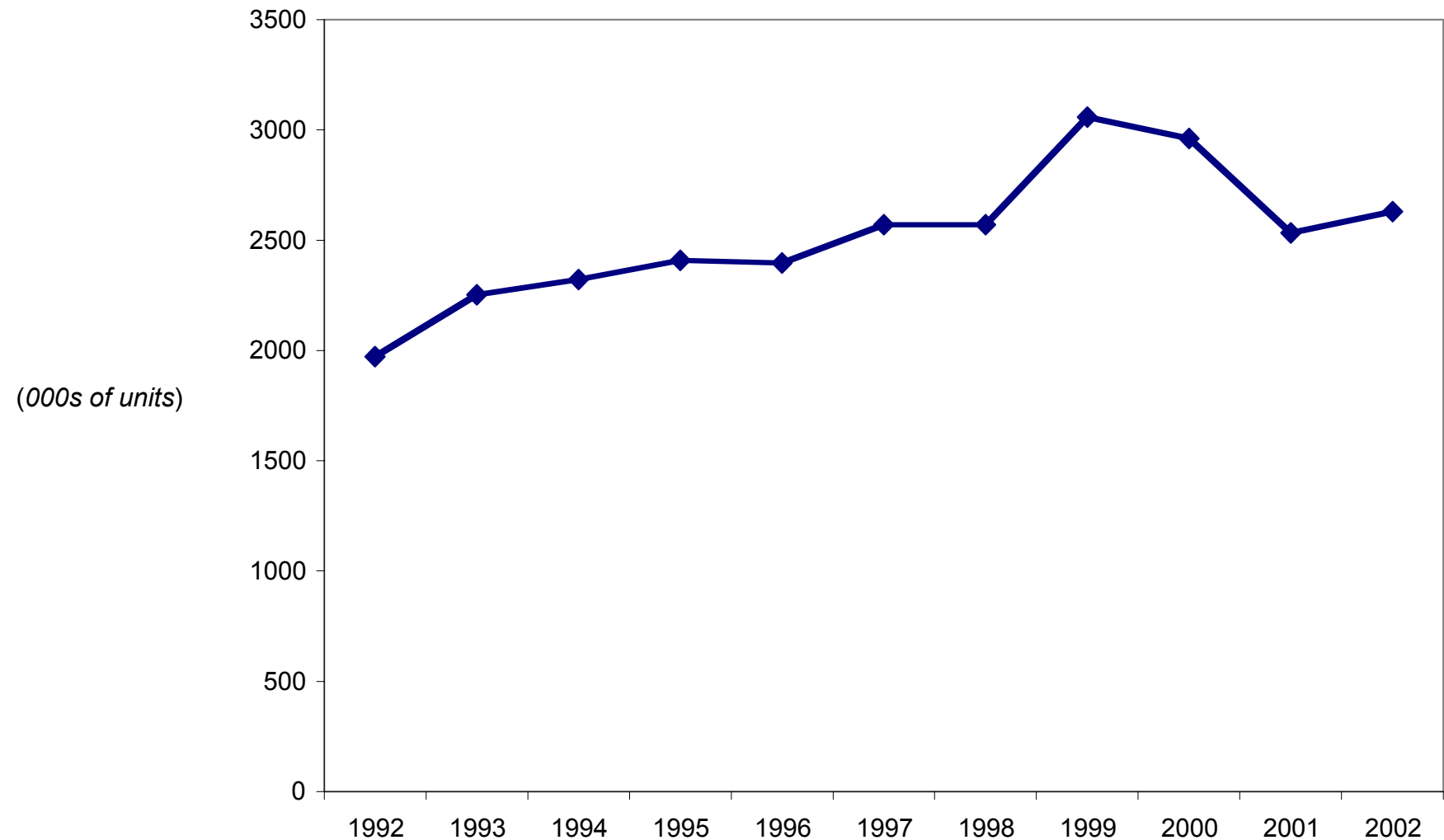


**Note: In 2002, all but 30,000 of the 2.6 million motor vehicles produced in Canada were produced in Ontario.*

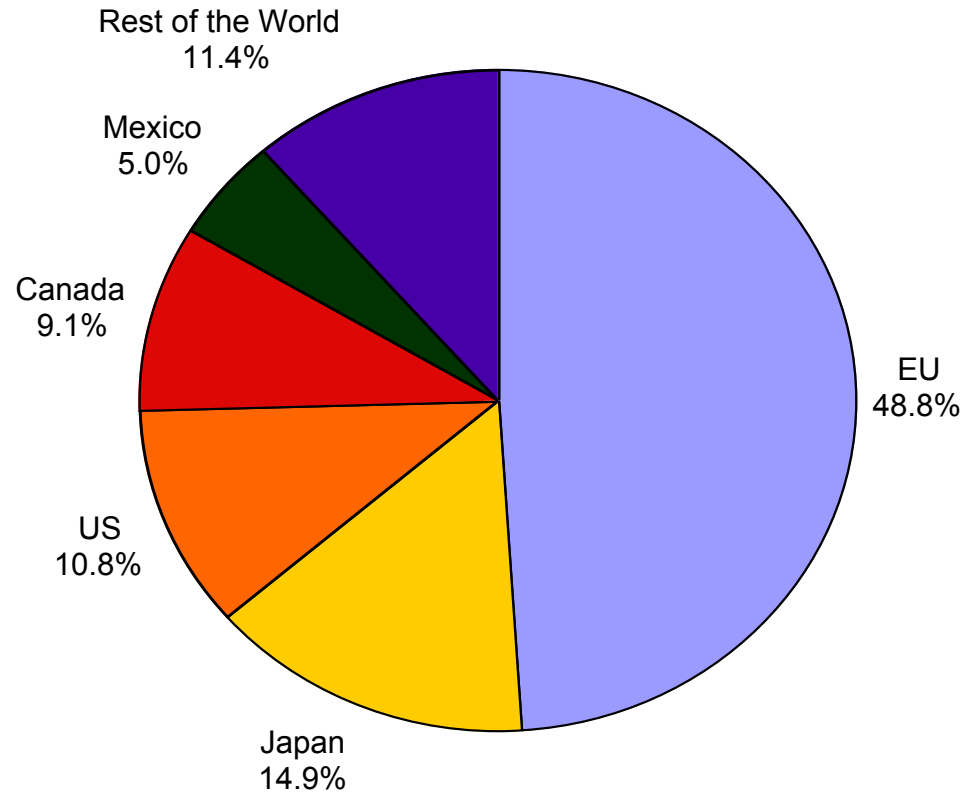
Source: "Canada's Automotive Industry 2003" - Industry Canada

Ontario's Automotive Output Continues to Climb

Motor Vehicle Production (Canada)



Canada is a Leading Automotive Exporter



The value of national exports as a percentage of the value of total global exports - 2002.

Source: WTO Trade-by-Sector Report, 2002

Ontario's Auto Cluster Benefits from Impressive Factor Conditions

*HBS Institute for Strategy and Competitiveness
Cluster Assessment Scale*

3 = strong advantage
2 = advantage ←
1 = weak advantage
0 = no effect
-1 = weak disadvantage
-2 = disadvantage
-3 = decisive disadvantage

- Ontario's automotive workers are among the world's best
- Vocational and college training programs are numerous and specialized
- Public information sources are numerous and comprehensive

Ontario's Factor Conditions

- Proximity to the Michigan-Ohio automotive cluster is a key advantage
- Labour costs are lower in Ontario than in Michigan - but other inputs are closer to parity
- Highway 401 and an extensive rail network allow easy transportation of vehicles and parts
- The Toronto financial hub provides a nearby source of financial capital and expertise
- The historic weakness of the CAD vs. the USD has been a boon to exporters
- Government support - both as tax credits and as subsidies - is reliable and long-standing

Local Demand is Strong but Unsophisticated

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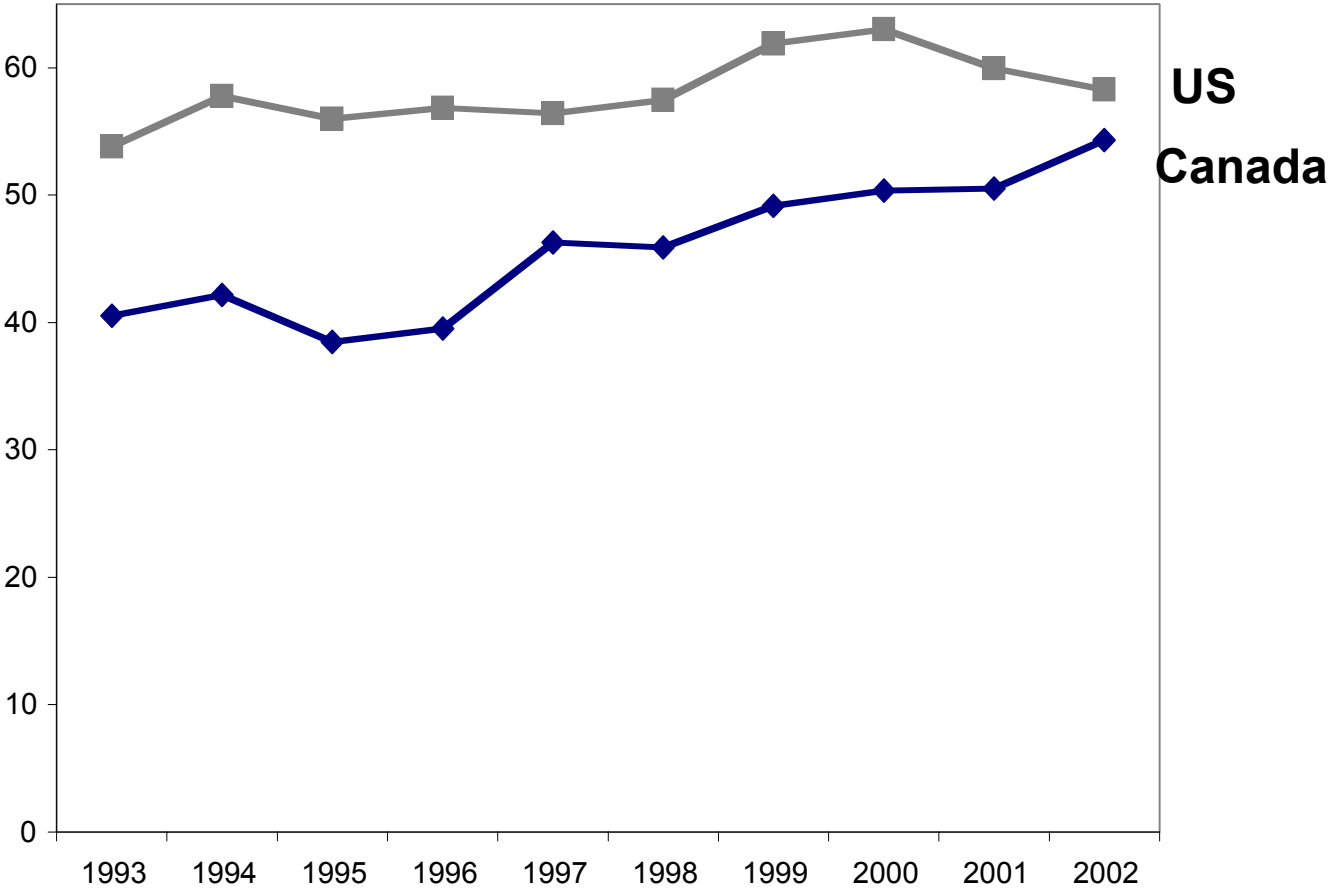
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Ontario Demand

- In 2002, Americans purchased slightly more cars and light trucks than Canadians: 58 per 1000 residents vs. 54 per 1000
- Canadian customers adopt trends quickly and easily - but they're not pioneers
- Vehicle safety and emissions regulations are becoming increasingly harmonized between the two countries

Canadian Demand is Steadily Increasing

Demand

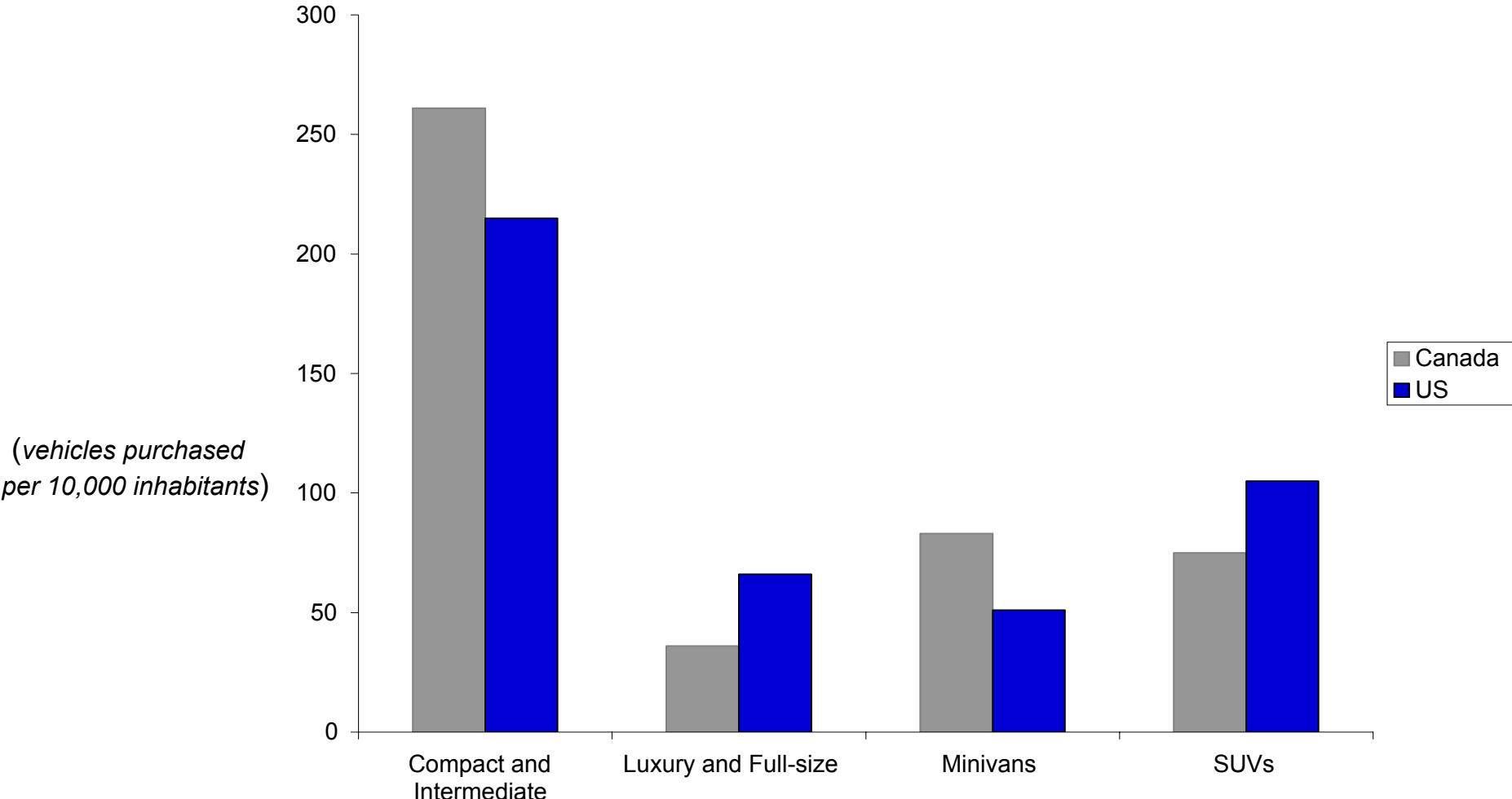


(vehicles purchased per 1000 inhabitants)

Sources: ICAP, "Canada's Automotive Industry 2003"

Canadians Prefer Cheaper and Simpler Vehicles

Vehicle Demand, 2002



Source: Institute for Competitiveness and Prosperity based on "Canada's Automotive Industry 2003"

Ontario's Cluster Benefits from Highly Capable Suppliers

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Ontario's Related and Supporting Industries

- **Strong synergies exist between the SW Ontario automotive cluster and the Hamilton steel cluster**
- **Metalworking machinery manufacturing firms enjoyed steady gains through the 1990s - but plastics companies were hindered by their small size and modest R&D expenditures**
- **The Canadian market is open to international suppliers - especially American and Mexican firms**

Ontario's Auto Cluster Benefits from Competitive Intensity

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Rivalry & Cooperation

- **Honda, Toyota and the “Big 3” all operate assembly plants in SW Ontario**
- **GM assembles the most vehicles in Ontario - but Honda and Toyota assemble a higher percentage of their North American vehicles**
- **Over 900 parts companies fuel competition**
- **Key industry associations - APMA, AIA, CVMA and JAMA - are effective lobbyists and help drive public policy**

Public Policy Supports Investment in Ontario's Auto Cluster

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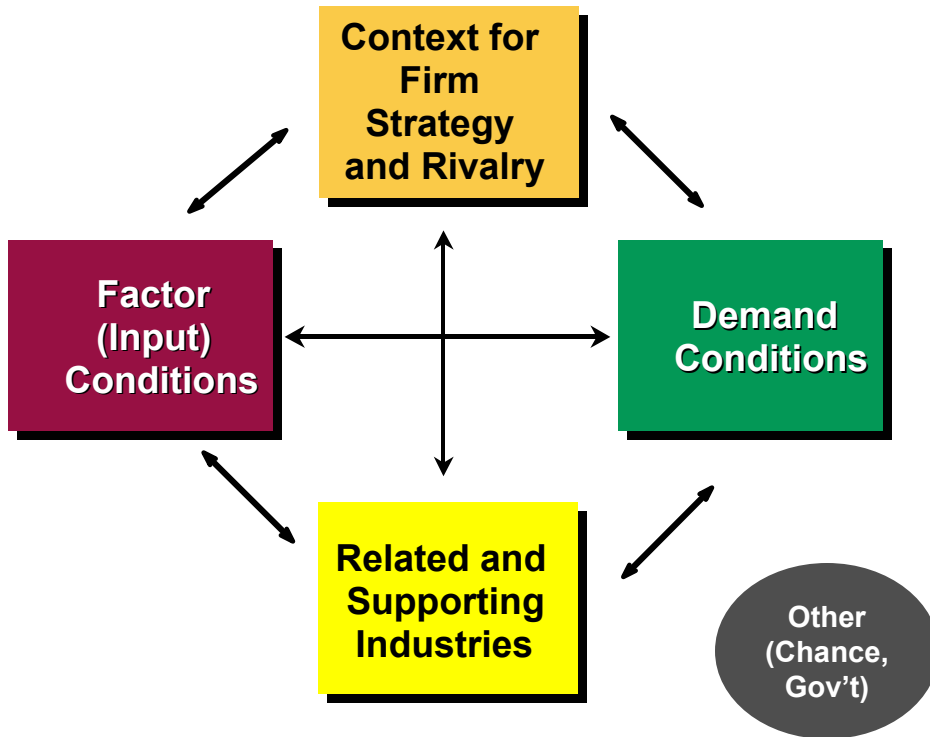
Local Investment Context & Strategy and Structure

- The marginal fiscal burden on the cost of doing business is 10 percentage points higher in Ontario than in the US
- Federal and provincial subsidies remain high - but tariffs have been declining
- Canada is a global leader in intellectual property protection
- Close ties with American plants and R&D facilities promote domestic innovation

Competitive vs. Uncompetitive Clusters

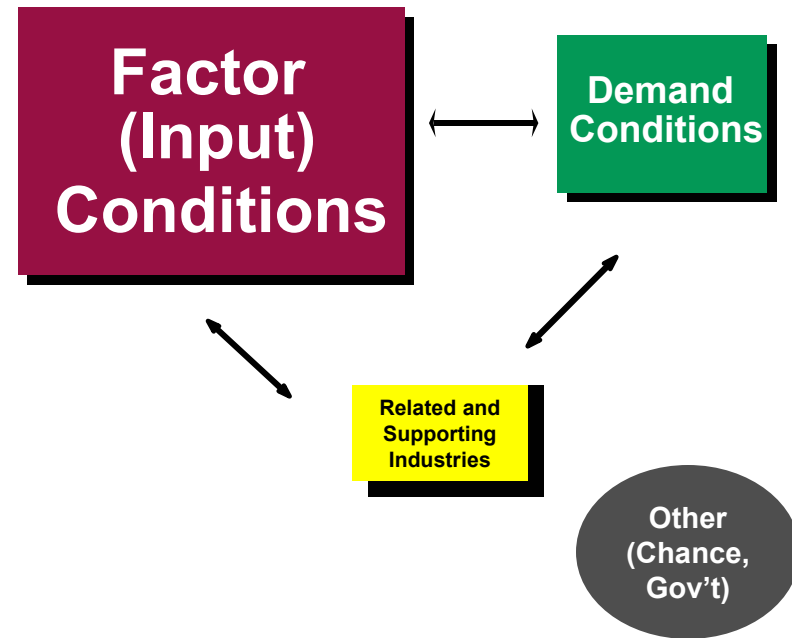
Competitive Clusters:

May rely on any part of the complete diamond



Uncompetitive Clusters:

Usually rely on factor conditions alone



Source: van der Linde and Porter, Cluster Meta-Study October 2001, Institute for Strategy and Competitiveness, Harvard Business School