ASSESSMENT OF THE STATUS AND FUTURE OPPORTUNITIES OF ONTARIO'S SOLID WOOD VALUE-ADDED SECTOR

Final Report Presentation
Regional Sessions

Jaakko Pöyry Consulting

1. INTRODUCTION

2. COMPARATIVE PERFORMANCE MEASURES - 1997

3. QUALITATIVE - QUANTITATIVE

4. VALUE CHAIN & CLUSTERING

5. CONCLUSIONS

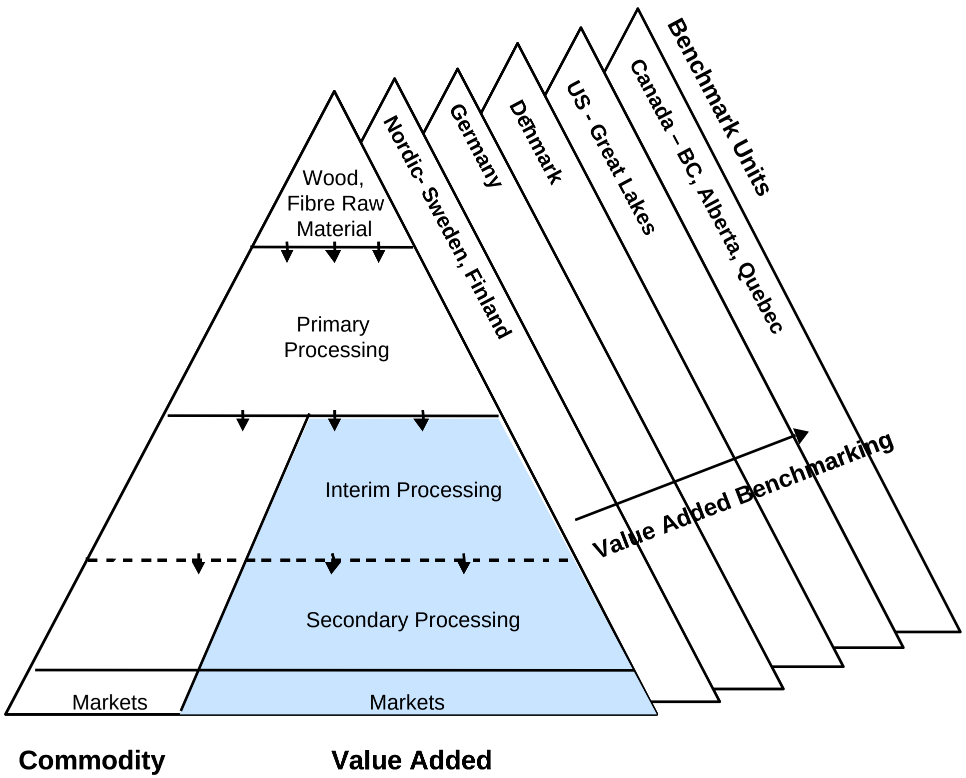
Research Objectives

- Pull together baseline information on the solid wood value-added sector in Ontario, including information on markets and products
- Benchmark Ontario relative to other jurisdictions, using both quantitative and qualitative measures

Research Approach

- Quantitative measures include costs of labour, energy, raw materials and transport (fuel)
- Incorporate qualitative benchmarking into the analysis, including such factors as industry structure, segment clustering, use of technology, etc.
- Introduce a vision for Ontario's value-added sector

Conceptual Framework



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Commodity – Value-Added

EU NACE in Black CAN SIC in Blue US NAICS in Red
X = Level of Data Available

COMMODITY

dd201 Sawmilling and Planing of Wood, Impregnation
2512 321113 Sawmills
2591 321114 Wood Preservation

dd202 Manufacture of Veneer, Panels and Boards
2521 321211 Hardwood Veneer and Plywood
2522 321212 Softwood Veneer and Plywood
321219 Reconstituted Wood Product Manufacturing
2592 Particle Board Industry
2593 Wafer Board Industry

VALUE-ADDED

dd203 Manufacture of Builders' Carpentry and Joinery
2511 321112 Shingles and Shakes
2542 33711 Wood Kitchen Cabinet and Bathroom
Millwork Industries
2543 321911 Wood Windows and Doors
2549 Other Millwork Industries
321213 Engineered Wood (excl. Truss)
321214 Truss Manufacturing
321918 Other Millwork (including Flooring)
321912 Cut Stock, Resawing Lumber, Planing

dd204 32192 Wood Container and Pallet Manufacturing
2561 Wooden Box and Pallet Industry
2581 3399953 Coffin and Casket Industry

dd2051 2599 321999 Other Wood Products

dd361 Furniture
2611, 2612, 2619, 2691, 2649, 2692, 2699
337121, 337122, 337127, 337129, 337211, 337212, 337215, 33791

2541 Prefabricated Wooden Buildings Industry
321991 Mobile Home Manufacturing
321992 Prefabricated Wood Buildings

Statistics Canada Data

- Commodities
- Value-Added

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Benchmark Regions

Two types of benchmark regions have been included in this analysis:

- those similar to Ontario with a diverse wood-using value chain
- those very specifically targeted at value-added

Benchmark Regions

Other Canada

The other three major Canadian wood-producing provinces (BC, Alberta and Quebec).

Benchmark Regions

US Great Lakes (New York, Pennsylvania, Ohio, Michigan, Indiana, Illinois, Wisconsin and Minnesota)

- primary production and extensive value-added manufacturing
- both linked to Ontario product flows
- a mix of forest types – Boreal and St. Lawrence Basin mixed forest
- market accessibility similar to that experienced by producers in Ontario.

Benchmark Regions

Nordic - Finland and Sweden

- wood and fibre flows
- processing and end-uses are broadly similar to Ontario with respect to resource base and geographical position relative to their respective major markets in Europe

Benchmark Regions

Denmark

With virtually no wood resources, Denmark has developed a sizeable value-added wood products sector

Benchmark Regions

Germany

A high value-added focus and strongly clustered, especially in the wood panels sector

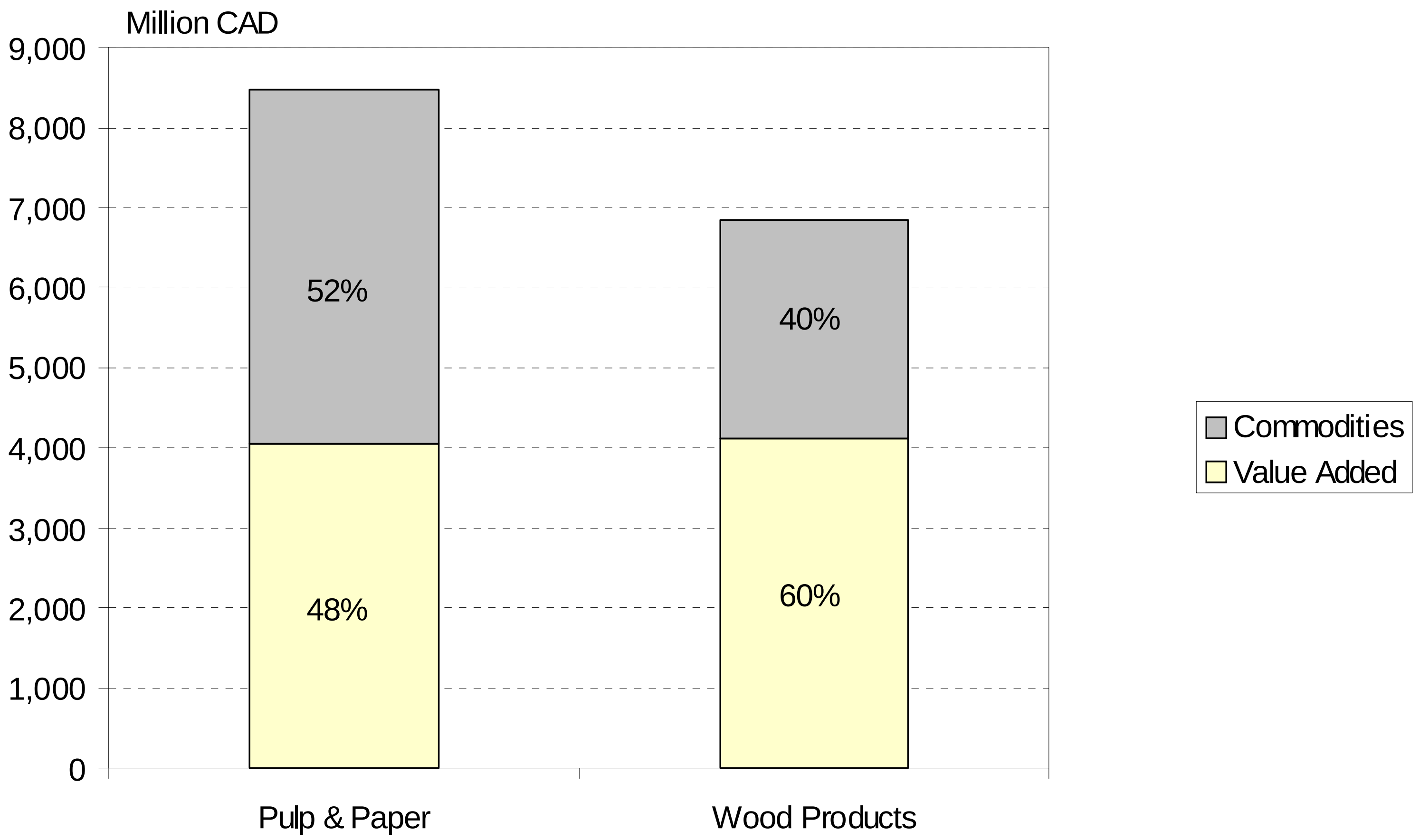
Germany is both the largest producer of and market for value-added wood products in Europe

2. COMPARATIVE PERFORMANCE MEASURES - 1997

- Value of Commodity, Value-Added Ontario
- Value of Shipments/Sales
- Value of Sales – Commodity, Value-Added
- Value of Exports – Commodity, Value-Added
- Value of Exports/Total Exports
- Relative position M^3/Value-Added Share
- Summary of Key Findings

Value of Shipments/Sales - Ontario

- Commodity, Value-Added -



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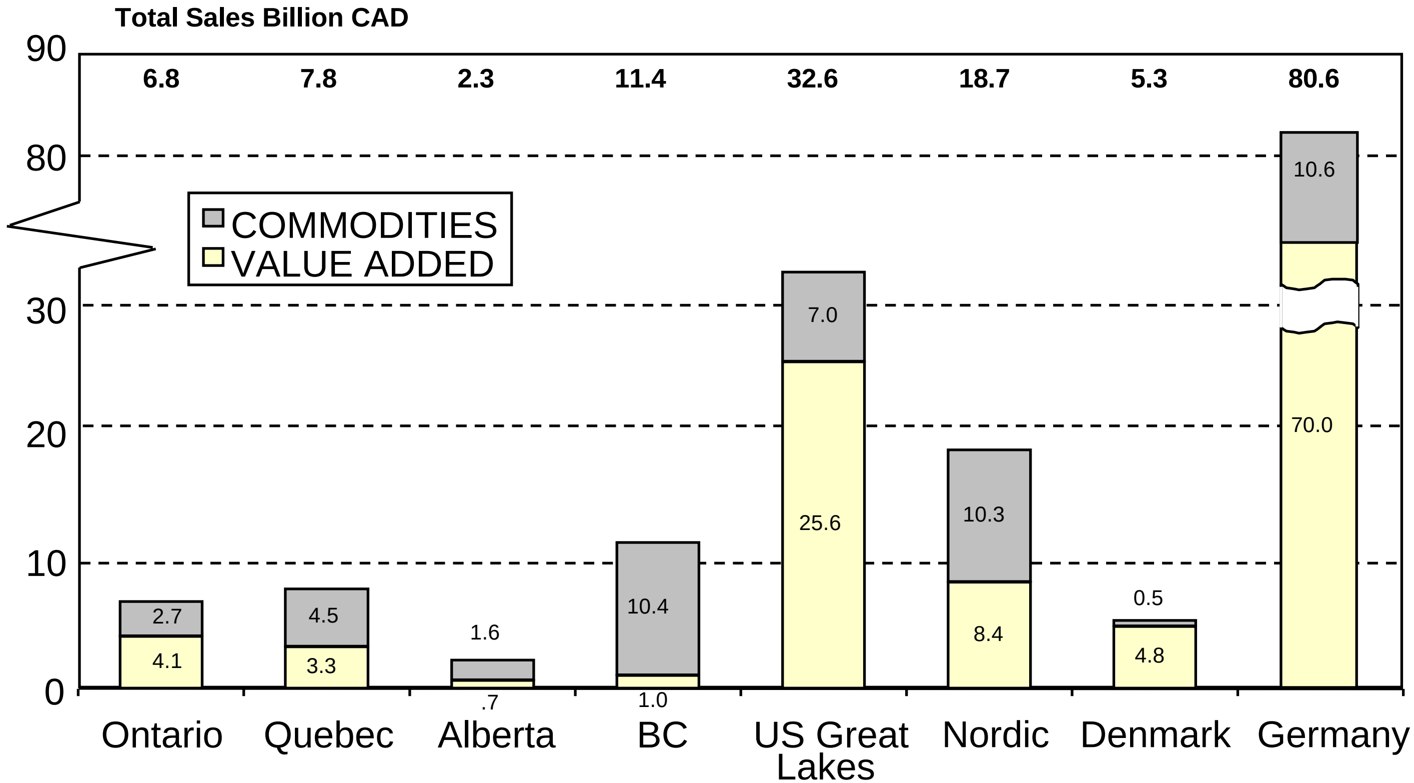
Value of Shipments/Sales

- Commodity, Value-Added -



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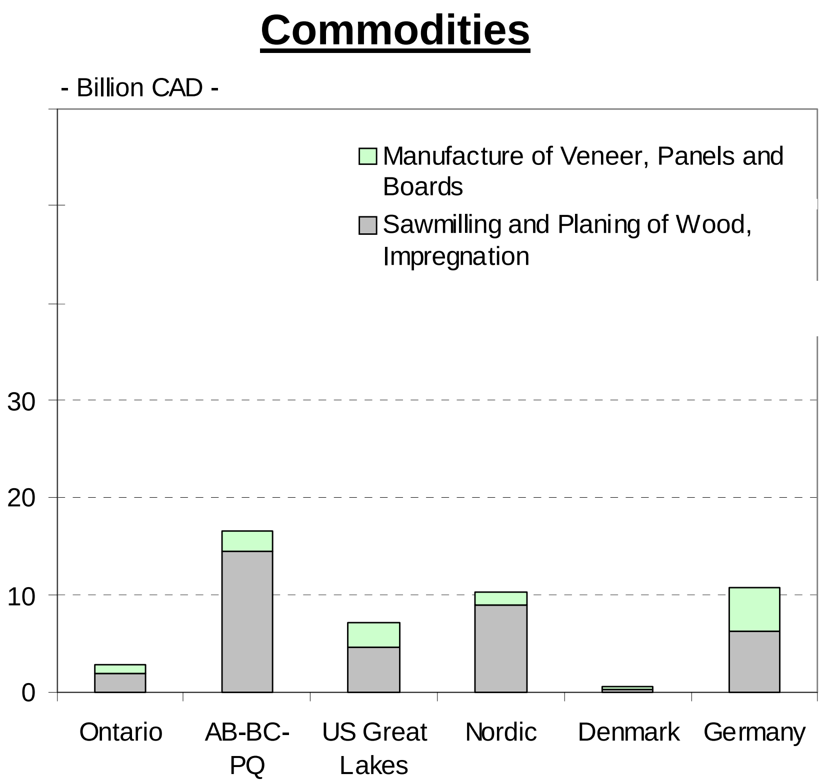
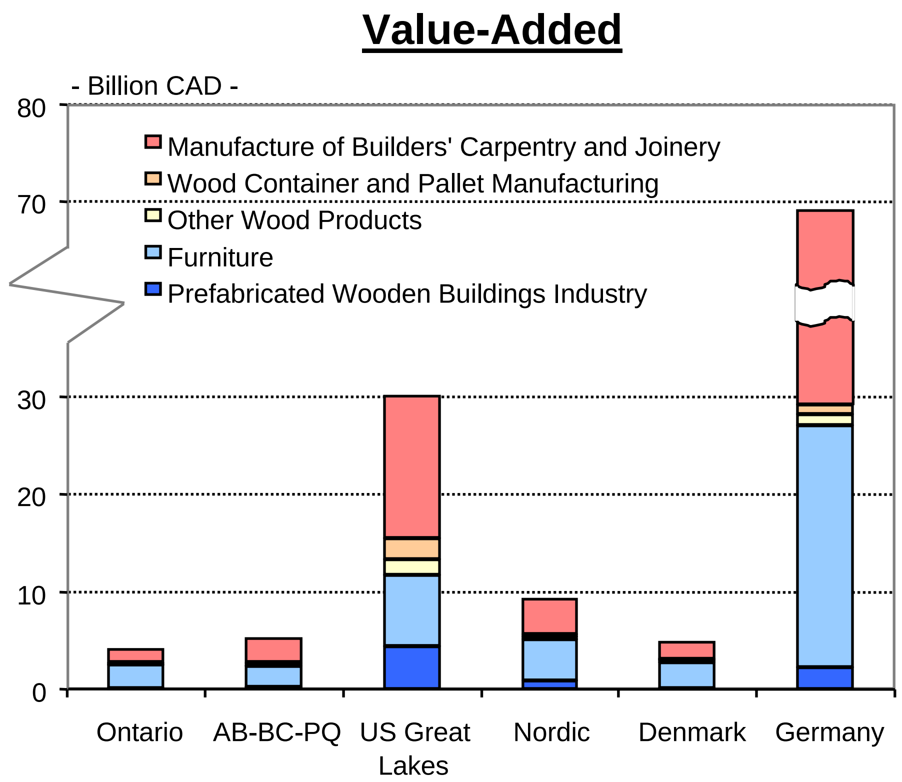
Value of Shipments/Sales

- Commodities, Value-Added -





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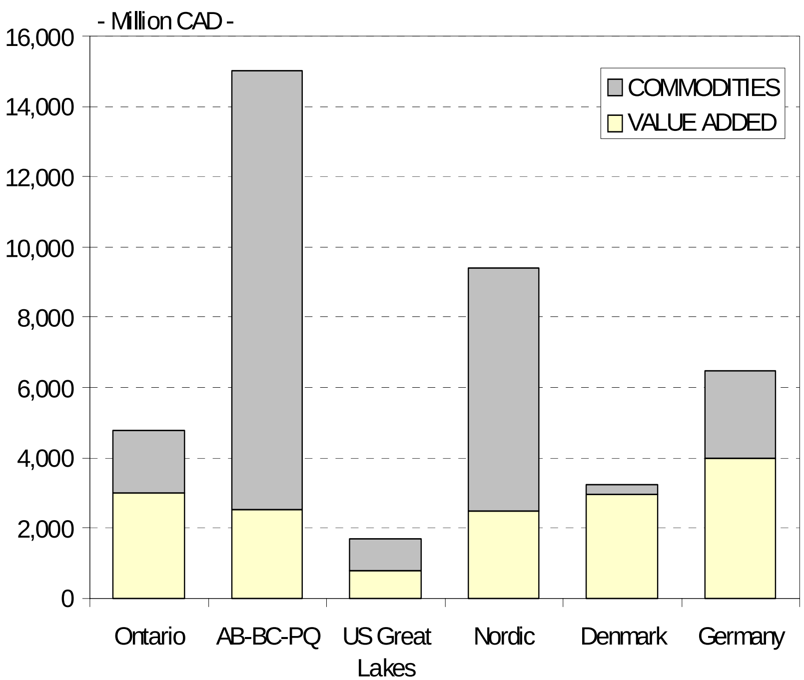
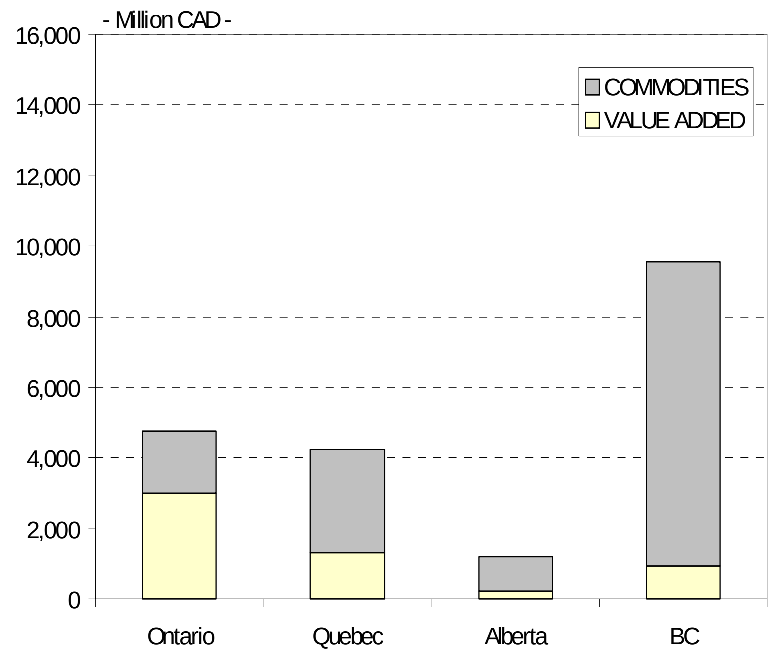
Value of Exports
- Commodity, Value-Added -

Overall



Provinces



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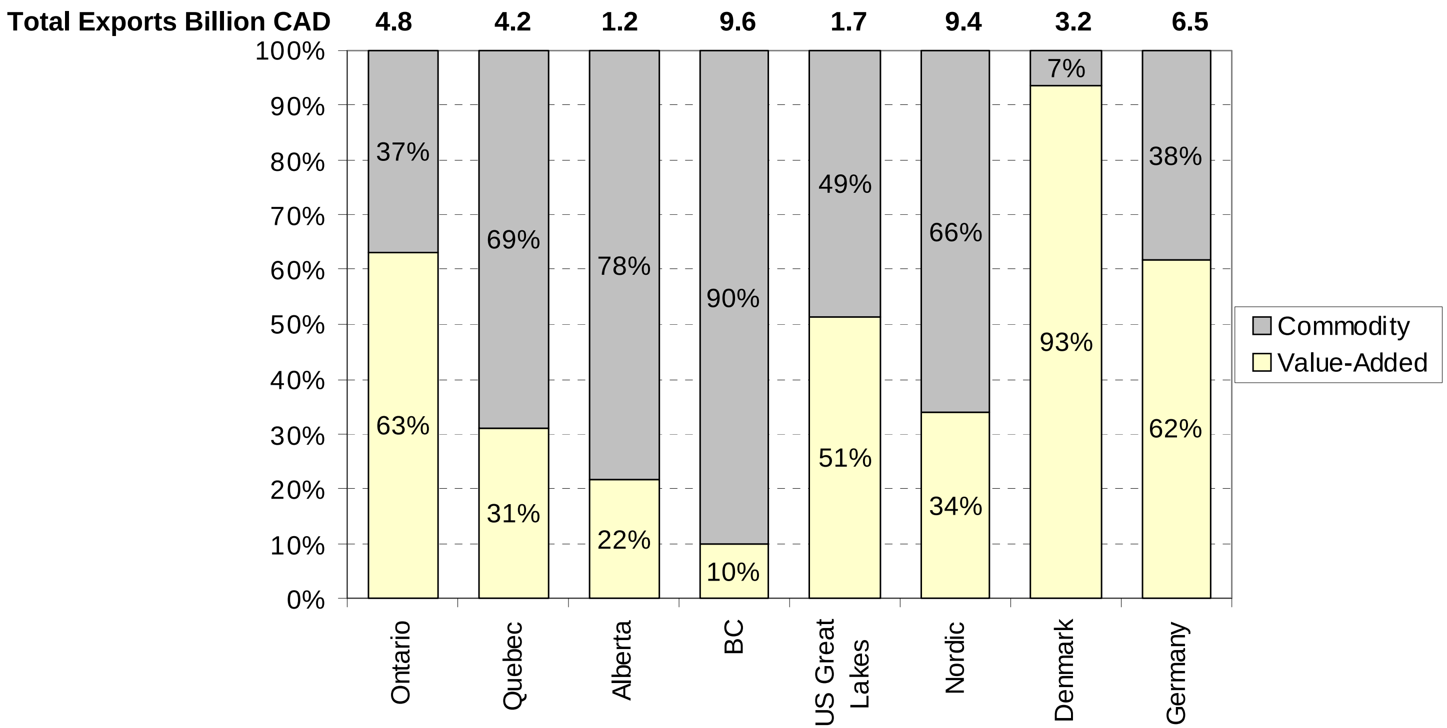
Value-Added Exports/Total Exports



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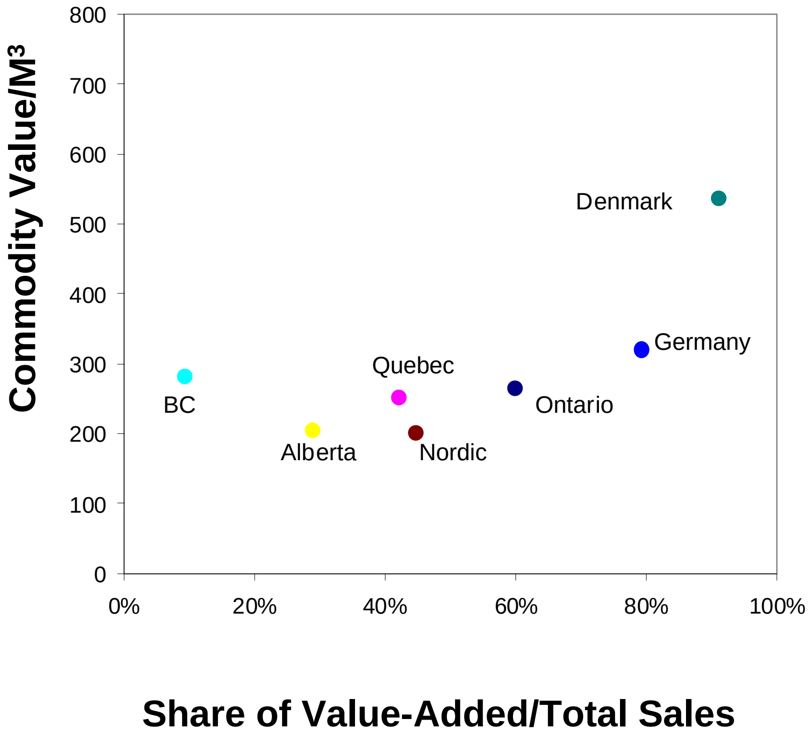
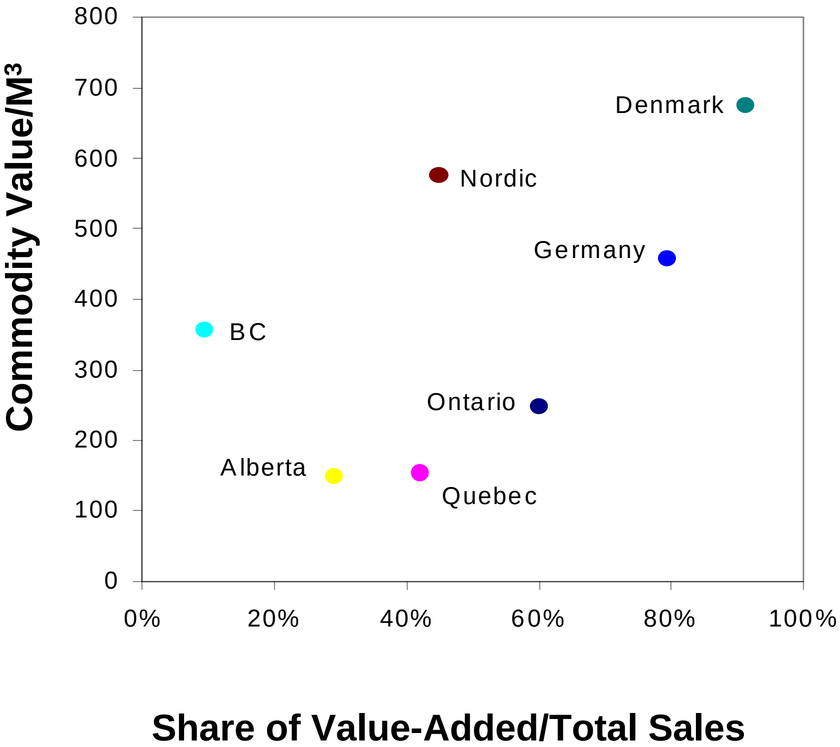
Relative Position M^3/Value-Added Share

Lumber Mills



Panel Mills



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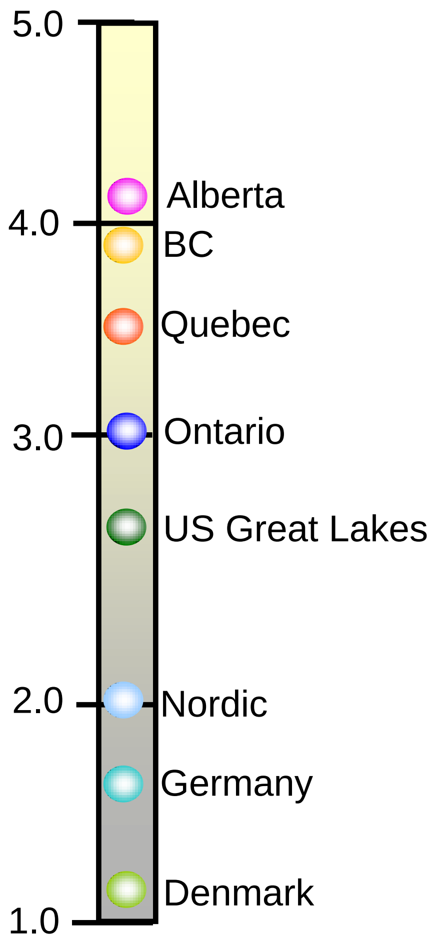
Summary of Key Findings

- Ontario's ratio of value-added to commodity is above 50%
- Ontario has a strong furniture sector cluster, but compared to the Great Lakes States growth opportunities exist in other segments — in the **millwork, cut stock and components segments**
- Ontario's value-added wood products sector greater than value-added pulp and paper sector
- Ontario employs **three times** the people in value-added sectors than in the primary sectors
- Proximity to markets is a definite asset and strong domestic markets help but are not necessarily a determinant of value-added success
- The Nordic region has demonstrated that 1st level reprocessing does not need to be in the consuming market. Nordic producers even consider this as a commodity, exposing a reprocessing opportunity in the value chain not enjoyed by Ontario producers
- Timber resources are not essential to the development of a successful value-added wood sector, as is demonstrated by Denmark

3. QUALITATIVE – QUANTITATIVE POSITIONING

Overall Position of the Benchmark Regions by the Quantitative Performance



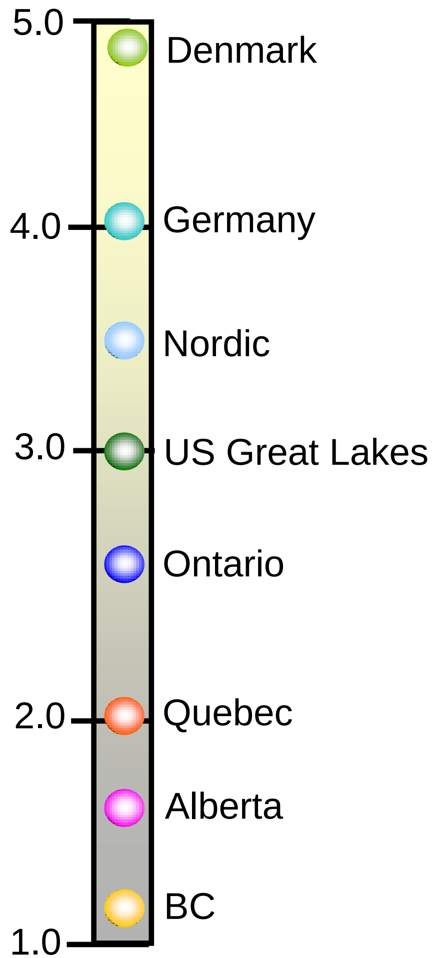
- The North American sectors have a significantly better position in quantitative performance, with lower labour and energy costs and with equivalent productivity measures
- Superior quantitative positions offer opportunities in the intermediate processing segments, compensating for the large capital expenditures required to offset poor qualitative positioning

Definitions – Qualitative Benchmark Factors

Management Capability

- education
- skill level
- management sophistication
- advanced management education
- ability to develop the functional competency needed to be competitive

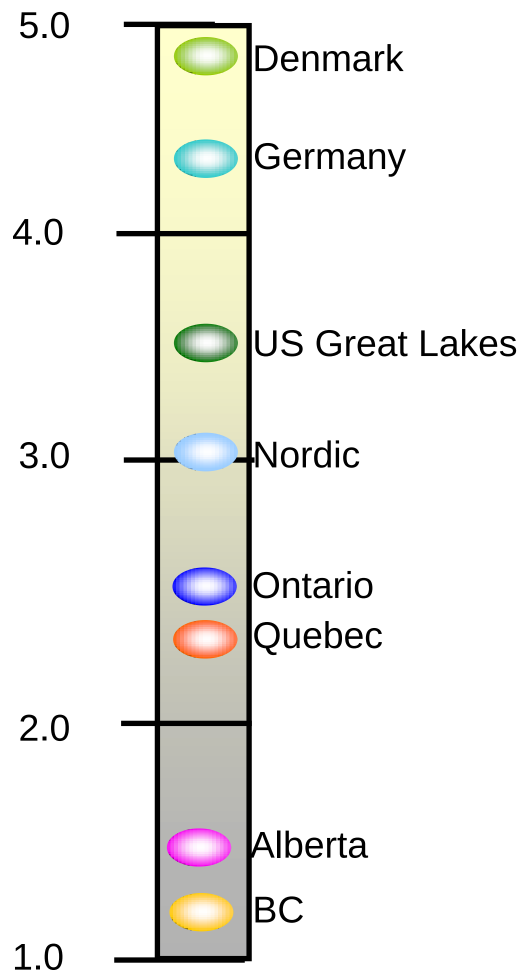
Management Capability



Skill Level

- skills
- experience
- technical knowledge
- expertise of the industry workforce
- availability of skilled support trades

Workers Skill Level



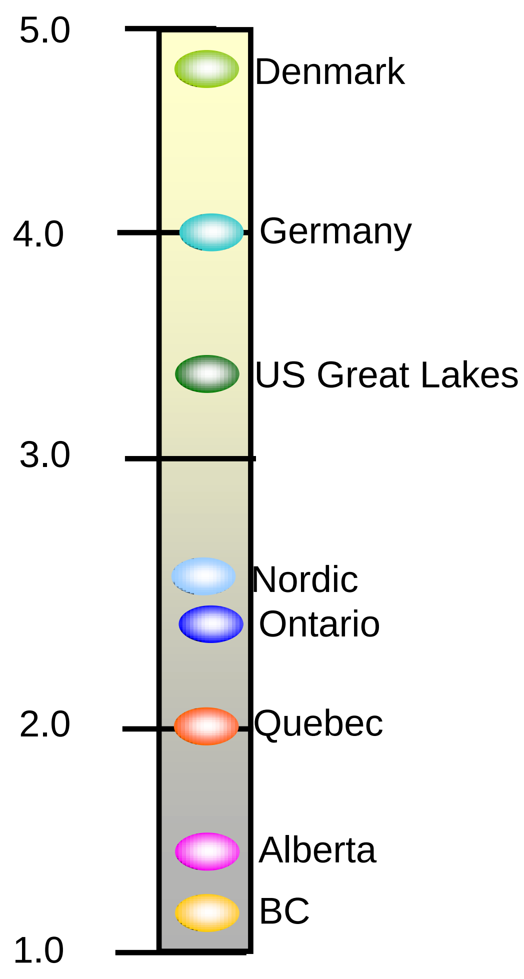
Clustering

This factor addresses the flow of synergies between:

- manufacturers
- raw material and component suppliers
- equipment manufacturers
- customers and supporting institutions

To foster the development of a secondary WOOD PRODUCTS CULTURE

Clustering


5.0
4.0
3.0
2.0
1.0
Denmark
Germany
US Great Lakes
Nordic
Ontario
Quebec
Alberta
BC

Policy Environment

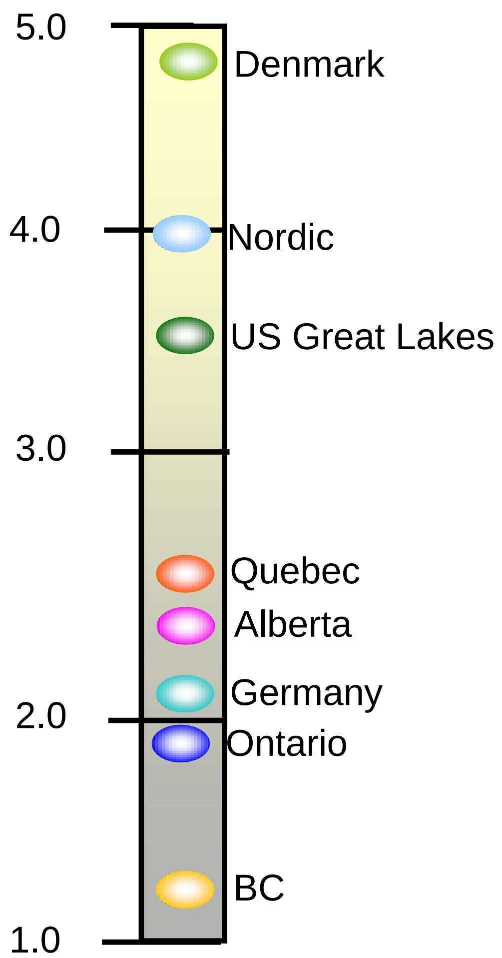
Availability of government policies and programs that:

- enhances framework conditions for business enterprises
- organize/facilitate/deliver education and technological infrastructure

It also involves commitment to:

- developing educational facilities
- promotes R&D
- aids industry through network development
- supports access to and development of export markets

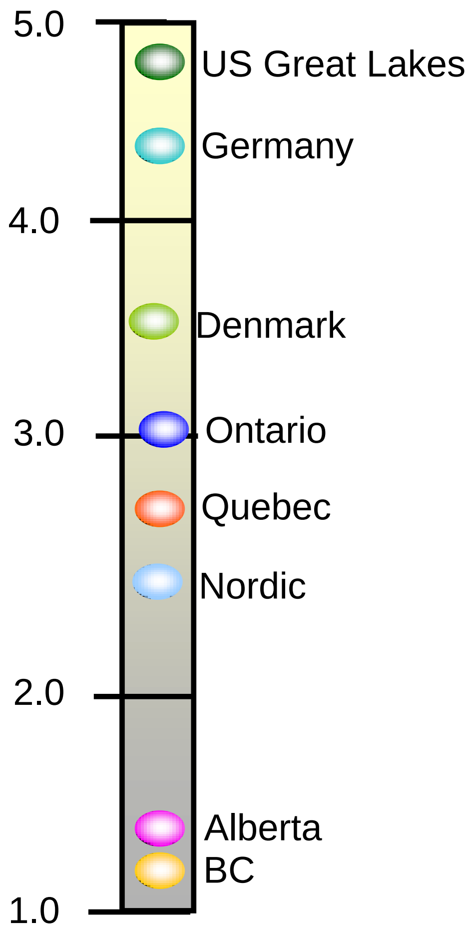
Policy Environment



Industry and Market Structure & Accessibility

- Examines the level of consolidation and relationships (primary and secondary producers) that exist within the value chain (suppliers, producers and markets)
- How this dimension enhances or constrains the overall competitiveness of secondary wood products manufacturers in a specific jurisdiction

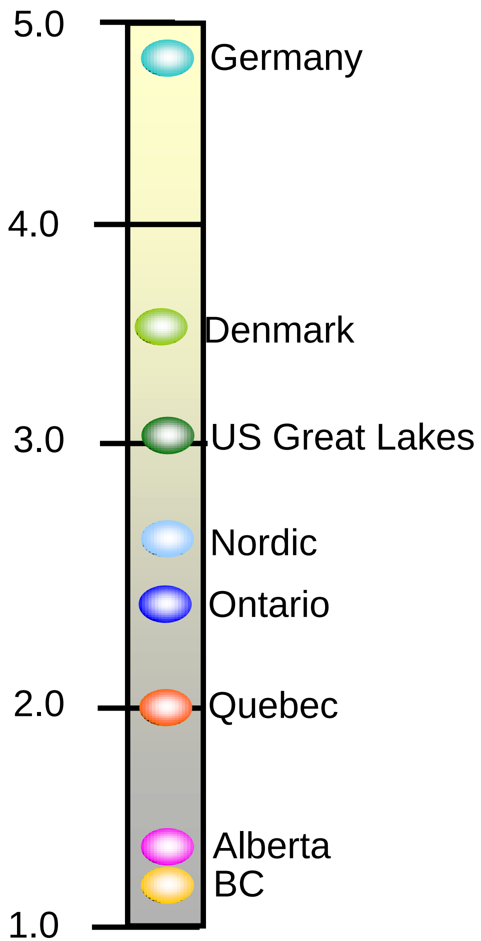
Industry and Market Structure



Technology

- Availability and effective adoption/implementation of new technology by manufacturers of each product type
- Relationship between secondary producers and machinery suppliers who work with manufacturers to provide appropriate technology designed to improve competitiveness
- Failure to keep pace with technological advances can be expected to lead to declining market position and import displacement for products

Technology


5.0
4.0
3.0
2.0
1.0
Germany
Denmark
US Great Lakes
Nordic
Ontario
Quebec
Alberta
BC

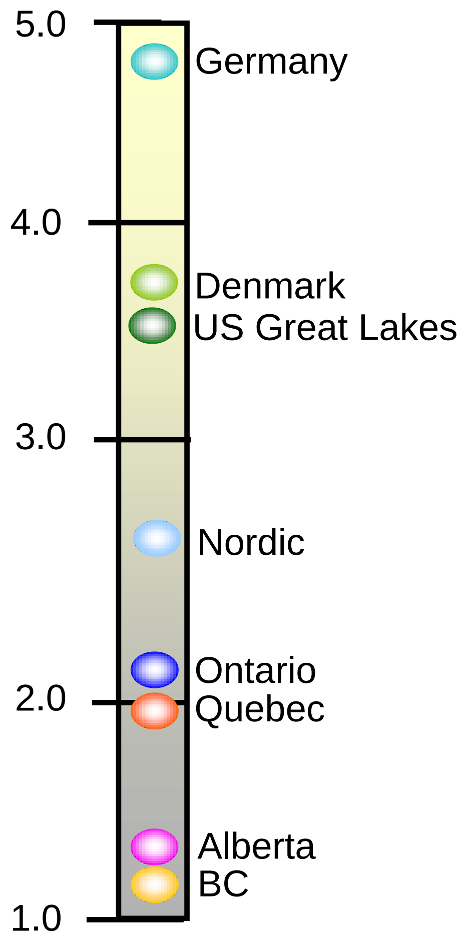
Raw Material

- Impact on the competitiveness of manufacturers in the benchmark area through access to plentiful, appropriate and competitively priced raw material

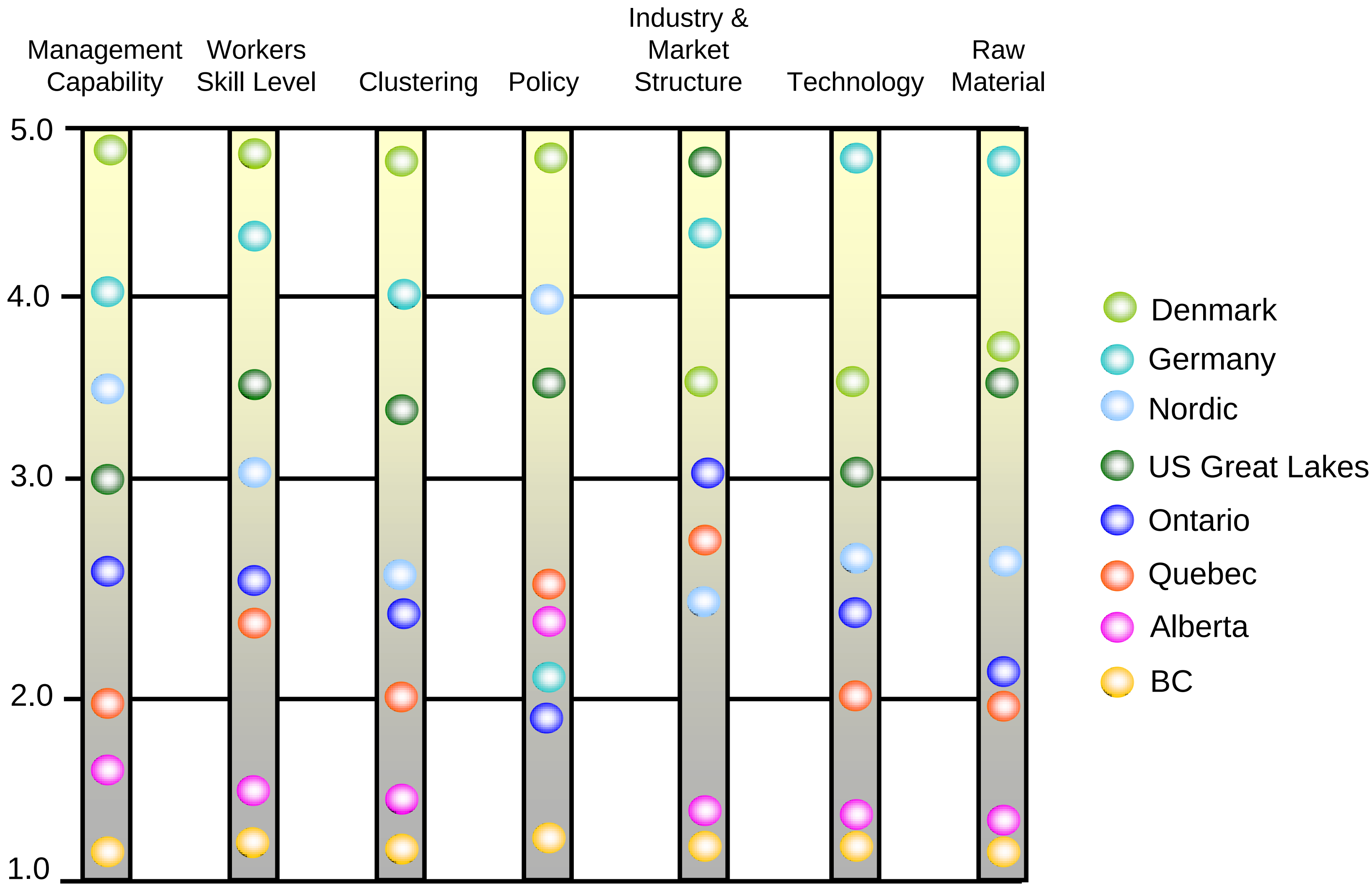
- Do primary manufacturers/raw material suppliers strive to satisfy secondary manufacturers specifications?

- Does that relationship constrain or enhance the competitiveness of the secondary producers?

Raw Material



Summary of Qualitative Performance



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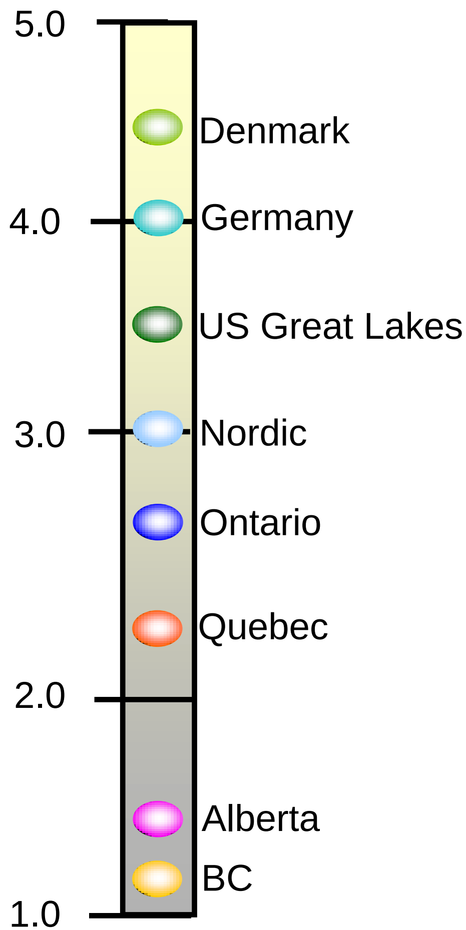
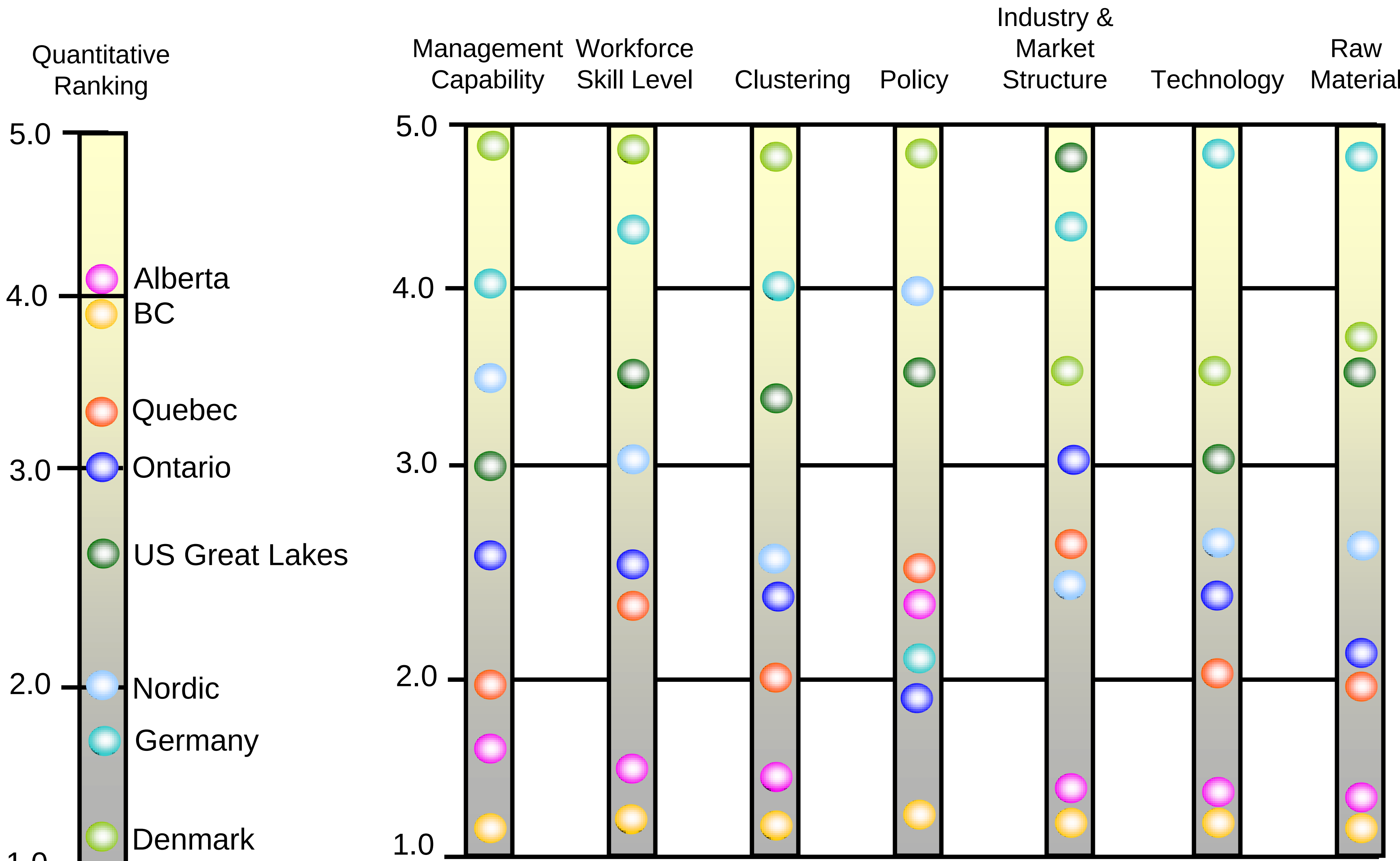
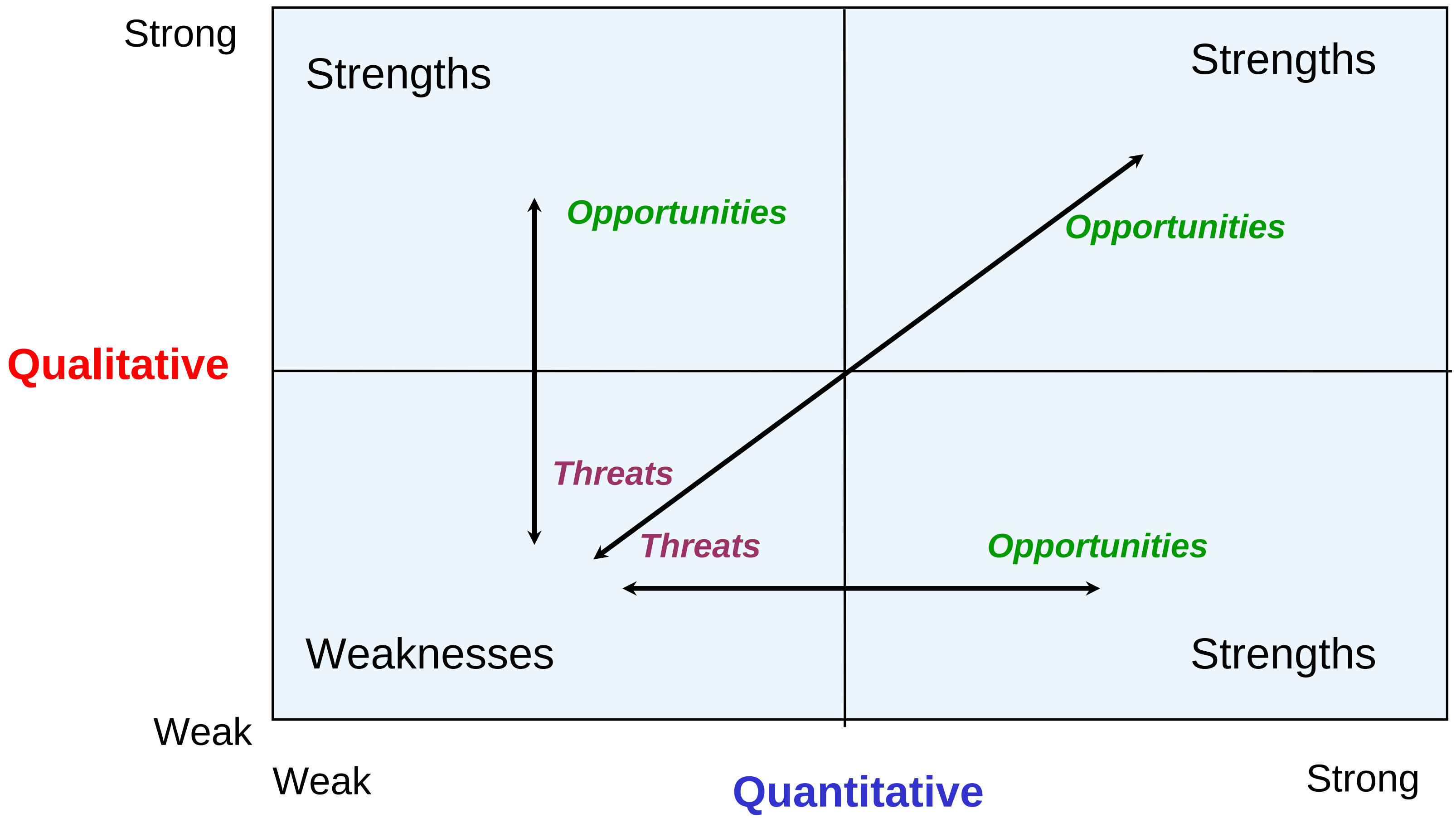
Overall Ranking of the Benchmark Sectors by Qualitative Benchmark Factors



Summary of Quantitative - Qualitative Performance



Dynamics of Value-Added Positioning



Dynamics of Value-Added Positioning

Qualitative

Strong	Poor cost/operational competitiveness, but competitive through qualitative factors: market segmentation, differentiation, innovation, restructuring, and infrastructure and institutional strength	Strong cost/operational competitiveness, and strong qualitative support. Industry flourishing and recognised at the national/regional level as a core business, with international competitiveness
Weak	Poor cost/operational competitiveness and poor qualitative position. Industry not competitive and unsupported. Drastic remedial action justified only if the fundamentals are in place	Strong cost/operational competitiveness, with weak qualitative support. Performance is sub-optimal and future competitiveness at risk. To capitalise, shifts in Policy, national strategy and business climate are required.
	Weak	Strong

Quantitative

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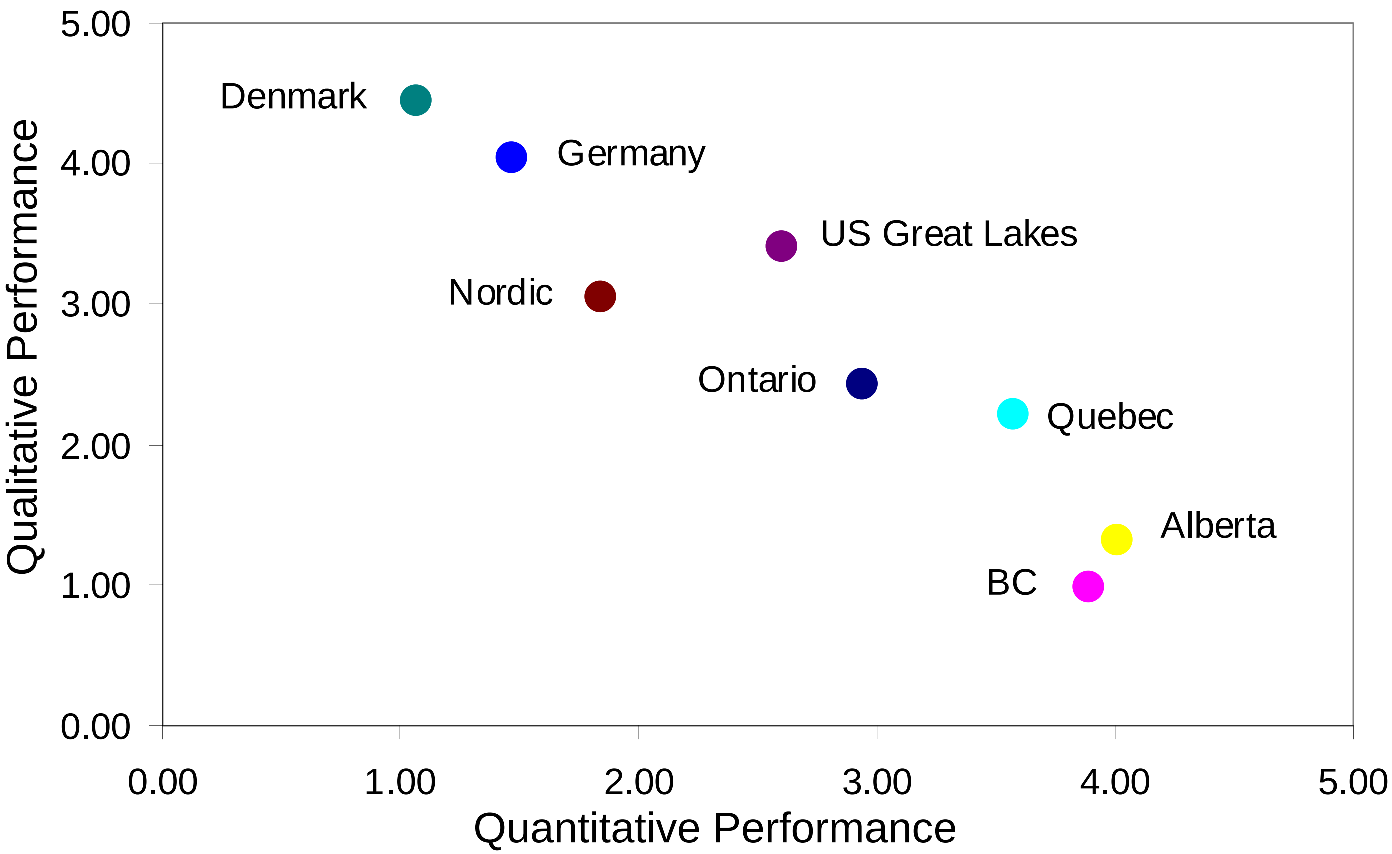
Value-Added Positioning of the Benchmark Sectors



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4. VALUE CHAIN & CLUSTERING

Value Chain

High value-added regions demonstrate high ***interdependency*** between value-added manufacturers and suppliers of all types. Suppliers also demonstrate willingness to adapt products, demonstrate flexibility, and support product development.

In some areas, particularly Germany, links evolve to geographic closeness and a *cluster* created.

In resource-based regions (e.g. Ontario, other provinces, Nordic region), interdependency tends to be most pronounced at interface between commodity lumber producers and first level remanufacturers.

Value Chain - Ontario

	Reman	Millwork	Furniture & Cabinets
Interdependency - degree of raw material sourcing from local suppliers in the value chain	Medium - Low Some dependence on local lumber manufacturers for feed stock, but other supplies readily available	Medium Using mix of domestic and imported supplies of both hardwood and softwood lumber	Low Panels generally obtained from lowest cost supply source, frequently from outside Ontario
Specialisation of interdependency - specialisation in the suppliers	Low Commodity grades supplied/purchased	Low-medium Intermediary suppliers providing species and grades not available from domestic sources	Medium Suppliers providing overlaid and cut-to-size panels
Key supplier sectors	Ontario softwood and hardwood lumber manufacturers, and importing agents and wholesalers	North American hardwood lumber and veneer manufacturers; import agents and wholesalers, domestic softwood lumber mfg.	North American MDF/PB panel manufacturers, North American hardwood lumber-veneer manufacturers, import agents and wholesalers
Key competitive value provided from the value chain	Readily accessible, high volume supplies.	Quality, fit for purpose, competitively priced raw material.	Quality, fit for purpose, competitively priced raw material.

Value Chain - Nordic

	Reman	Millwork	Furniture & Cabinets
Interdependency - degree of raw material sourcing from local suppliers in the value chain	<u>Medium/Low</u> Using std lumber from domestic sawmills (major part of the capacity owned by sawmill companies)	<u>Medium</u> Larger millwork co's key customers for sawmills – adaptation of products & services	<u>Low</u> Standard specifications (IKEA suppliers high specialisation & interdependency)
Specialisation of interdependency - specialisation in the suppliers	<u>Medium/Low</u> Standard specifications - easy to switch supplier	<u>Medium</u> Relatively high level of adaptation in products	<u>Low</u> Standard specifications (IKEA suppliers high specialisation & interdependency)
Key supplier sectors	Domestic sawmills	Domestic sawmills Traders (imported MDF) Domestic PB	Domestic EGP manufacturers Domestic PB Imported MDF
Key competitive value provided from the value chain	Low prices, supply reliability	Fir for purpose raw material	Low prices, flexibility (with IKEA: volumes, programmability)

Clustering

In the context of the globalization of markets and industries, clustering (or developing local home-based advantages) may turn out to be:

•the only source of competitive advantage

Clustering

- Benchmark regions with strong and well developed clustering (Denmark, Germany, Nordic and the Great Lakes States) demonstrate that leverage can be gained through effective development of clusters

- Spurs growth of the sector

Clustering

It is critical that:

- Province
- primary producers
- value-added manufacturers

embrace the concepts of *value chain* and *clustering,* if Ontario wood products are to thrive in global markets and compete effectively against well established producers from other regions

Illustration of Cluster Maps

‘Horizontal’ Clustering

‘Vertical’ Clustering

	Industry	Supporting Suppliers/Indust	Supporting Instit/Infra.	Interlinked Industry	Stakeholders
Resource	Forest Estate. Gov/Forest Owners	Nurseries Land Agents	Universities Research Centres	Tourism Agriculture	Envir. Stewardship Electorates Gov.Agencies
Harvesting and Transport	Contractor Base	Machinery,Fuels	Research Road, Rail Systems	General Transport	NGO,Unions Road users Gov.Agencies
Primary Processing	Sawmills, Chipping Hogging	Machinery, Fuels	Research Centres Training	Energy	Gov.Agencies NGOs, Unions
Secondary Processing	Reman,Panels, Pulp, Paper, Biofuel	Machinery, Fuels Chemicals	Research Centres Training, Education, Financial	Composites, Printing, Publishing, Food Packaging	Gov.Agencies NGOs, Unions
Tertiary Processing	Specialisation, Coatings, Converting, Furniture, Parquet, Windows etc.	Machinery, Fuels Chemicals	Research Centres Design, Building Res.	Plastics, Metals Textiles	Gov.Agencies, Unions
Distribution	Merchants, Retailers, Wholesalers	Advertising, Logistics, Fuels	Road, Rail Systems Warehousing, E-Biz	DIY	Gov.Agencies Road Users
Final Consumption, Goods and Services	Consumers, Builders, Business to Business	Consumer Groups	Research Centres Design, Builders IT, e-Biz	Substitutes Consumer Finance	Health&Safety Gov. Agencies
Waste management, recycling	Contractors, Councils, Paper&Wood Producers	Machinery, Chemicals, Waste	Energy, Waste util, MSW, Landfills	Energy, Composite Materials	Gov.Agencies NGOs, Electorate

Example Cluster Maps

'Horizontal' Clustering →

'Vertical' Clustering ↓

	Industry	Supporting Suppliers	Supporting Instit/Infra.	Interlinked Industry	Stakeholders
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Secondary Processing	Reman,Panels, Pulp, PaperBiofuel	Machinery, Fuels Chemicals	Research Centres Training, Education Financial	Composites, Printing, Publishing, Food Packaging	Gov.Agencies NGOs, Unions
Tertiary Processing	Specialisation, Coatings, Converting, Furniture, Parquet, Windows etc.	Machinery, Fuels Chemicals	Research Centres Design, Building Res.	Plastics, Metals Textiles	Gov.Agencies, Unions
Distribution	Merchants, Retailers, Wholesalers	Advertising, Logistics, Fuels	Road, Rail Systems Warehousing, E-Biz	DIY	Gov.Agencies Road Users
Final Consumption, Goods and Services	Consumers, Builders, Business to Business	Consumer Groups	Research Centres Design, Builders IT, e-Biz	Substitutes Consumer Finance	Health&Safety Gov. Agencies
Waste management, recycling	Contractors, Councils, Paper&Wood Producers	Machinery, Chemicals, Waste	Energy, Waste util, MSW, Landfills	Energy, Composite Materials	Gov.Agencies NGOs, Electorate

'Integrated Commodity Forest Products Company'

'Nordic Sector'

'German Panels'

'Denmark Furniture'

'Complete Loop Forest Products Company'

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Clustering

For Ontario, keys to success in such efforts can be expected to include -

Vertical clustering through the value chain with:

- raw material suppliers (panels, lumber) to promote specialization, flexibility and product development capabilities
- the Supply Chain (raw material to end-user) to share and promote efficiency improvements, competitiveness and innovation
- stakeholders (see also horizontal clustering) in supporting raw materials systems such as recycling - in terms of local government, consumers, industry (panels) and NGOs

Clustering

Horizontal clustering through associated industries and institutions:

- machinery and equipment producers, supporting suppliers and industries (chemicals, energy) supporting institutions (design, standards, management skills, know-how, marketing, technology adoption), interlinked industries (textiles, metals, plastics) and stakeholders (Government agencies, unions, NGO's)

5. CONCLUSIONS

Comparative Context

- Structural usage dominates demand for commodity softwood lumber in North America — approx. 75%. Producers like Ontario focus on the needs of the key market — the residential construction industry.
- Industrial/non-structural use dominates demand for commodity softwood lumber in Europe — approx. 75%. Producers like the Nordics similarly focus on needs of key market — predominantly value-added manufacturers.
- Products from primary mills in Europe are thus better suited to value-added processing than North American primary outputs. Value chain, intermediate processing and industry structures between each region are quite different.
- In both Europe and North America, furniture and millwork industries dominate demand for primary hardwood lumber. Value-added manufacturers are a key market for all primary hardwood mills.

Ontario's Competitive Position

- Ontario is already a significant player in value-added wood products manufacturing. Evidence of recent growth in specific segments — notably furniture — indicates the sector has grown 50% in the last 3 years.
- Ontario is not the most competitive on quantitative measures, but reasonably well positioned relative to adjacent benchmark areas — US Great Lakes States and Quebec.
- The US, especially northeast and north central states, is a key market for Ontario value-added wood products manufacturers. These producers are competitive in that market. Other international markets are also important — Ontario manufacturers appear competitive.
- On qualitative factors, Ontario performs better than other Canadian provinces, but ranks lower than US and European benchmarking regions. Competitiveness in US and other export markets suggests performance on qualitative dimensions can overcome weakness on quantitative measures.
- The qualitative benchmarking dimensions are likely to yield more useful lessons than will quantitative factors. For Ontario, quantitative advantages compared to high cost regions are found in purchased energy and labour on-costs.

Future Directions for Ontario

- Ontario is doing well along the path of value-added. It is important for Ontario to continue with the positive business climate which has attracted investment to the Province, particularly in the furniture sector. Value-added performance and structures in the Great Lakes States in particular represent a useful target.
- The importance of qualitative competitiveness as a success factor for value-added wood products manufacturers indicates policy and program areas in which joint initiatives for government, industry and the education sector can drive success. The key focal points are - management capability, workforce skills and related involvement of educational institutions.
- *The Nordic region demonstrates that first level re-processing — e.g., cut stock, laminating and millwork blanks — need not be located close to end use markets. This suggests that evaluation of establishing such manufacturing capacity in a Northern Ontario cluster is warranted.*

Future Directions for Ontario

- The dominance of and recent, rapid growth in the furniture segment suggest initial development of a furniture industry cluster is under way in Ontario. The lessons learned from this growth can be used to further develop this and other clusters in Ontario
- Cooperation between stakeholders can create significant leverage. It is critical that the Province, the primary producers and value added manufacturers embrace the concepts of *value chain* (from resource to end use) and *clustering* if Ontario wood products are to thrive in global markets and compete effectively against well established producers from other regions

Summary

- A solid foundation exists in Ontario for the development of growth strategies in manufacturing of value-added wood products. Ontario is poised between low and high value-added producing regions
- Ontario's value-added wood industries enjoy reasonable competitive advantage on both cost/operational measures and qualitative characteristics
- In value-added, Ontario has shown good development in the furniture segment with strong growth over the last three years. The strength of the components, millwork and prefabricated building segments in the US Great Lakes suggests these segments could also offer growth potential for Ontario
- Value-added performance can be further advanced by concerted targeting of improved qualitative strengths in Management Capability, Workforce Skills and by a supportive Policy framework
- All sectors of the Value Chain from resource to end user can participate in the benefits of increased added value activity. The Province will be able to increase employment. The primary manufacturers will have an improved local market for their production and can forward integrate to value-added activities as well