Competitive Strategies and Financial Performance of Furniture Manufacturers

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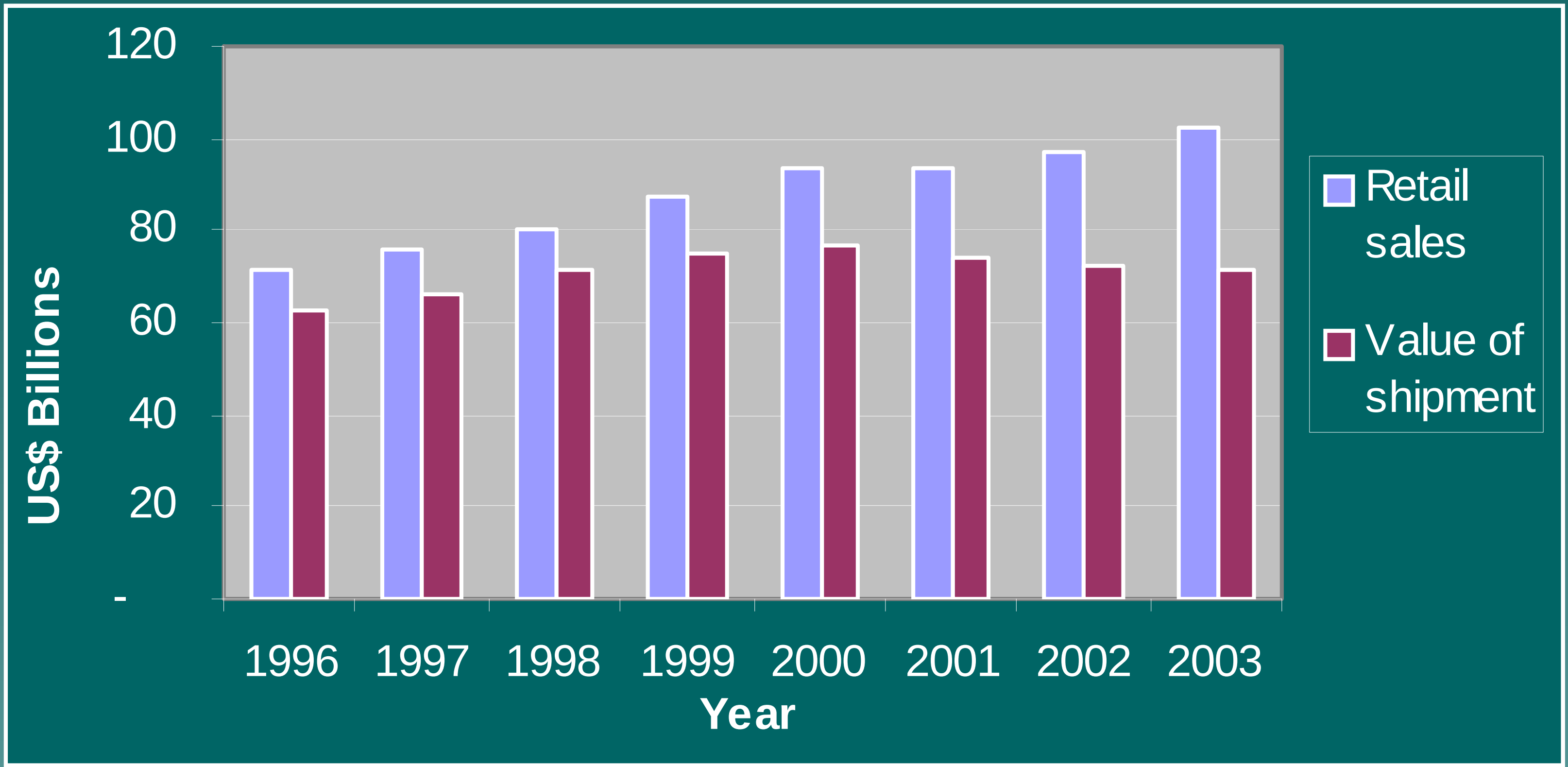
Introduction

US furniture retail sales and mfg shipments

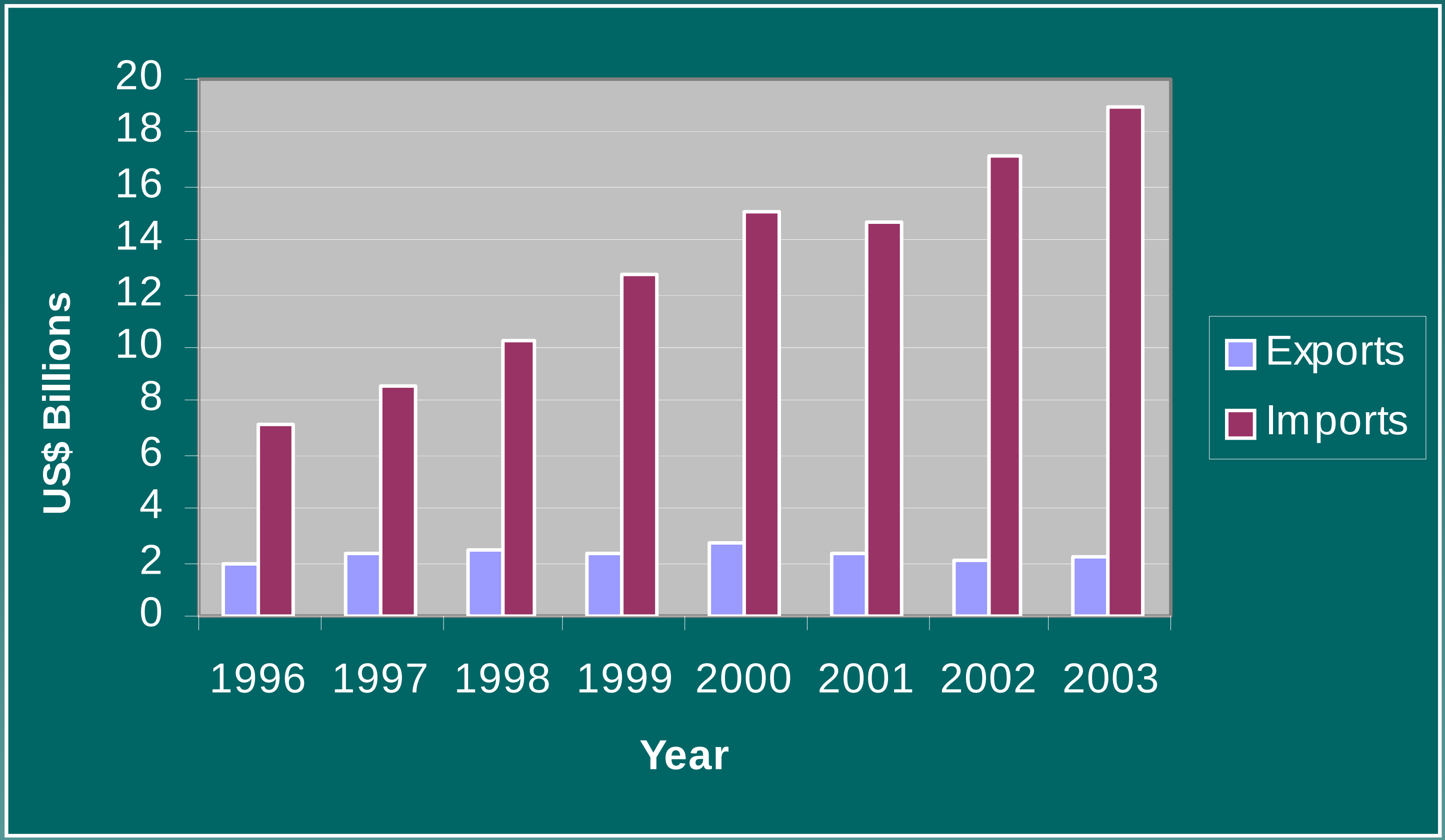


Source: US Census of Manufacturers

- Retail sales were more than US$100 billion in 2003
- Since 1996 to 2003 value of furniture shipments grew 14%

Introduction

US furniture trade (in) balance

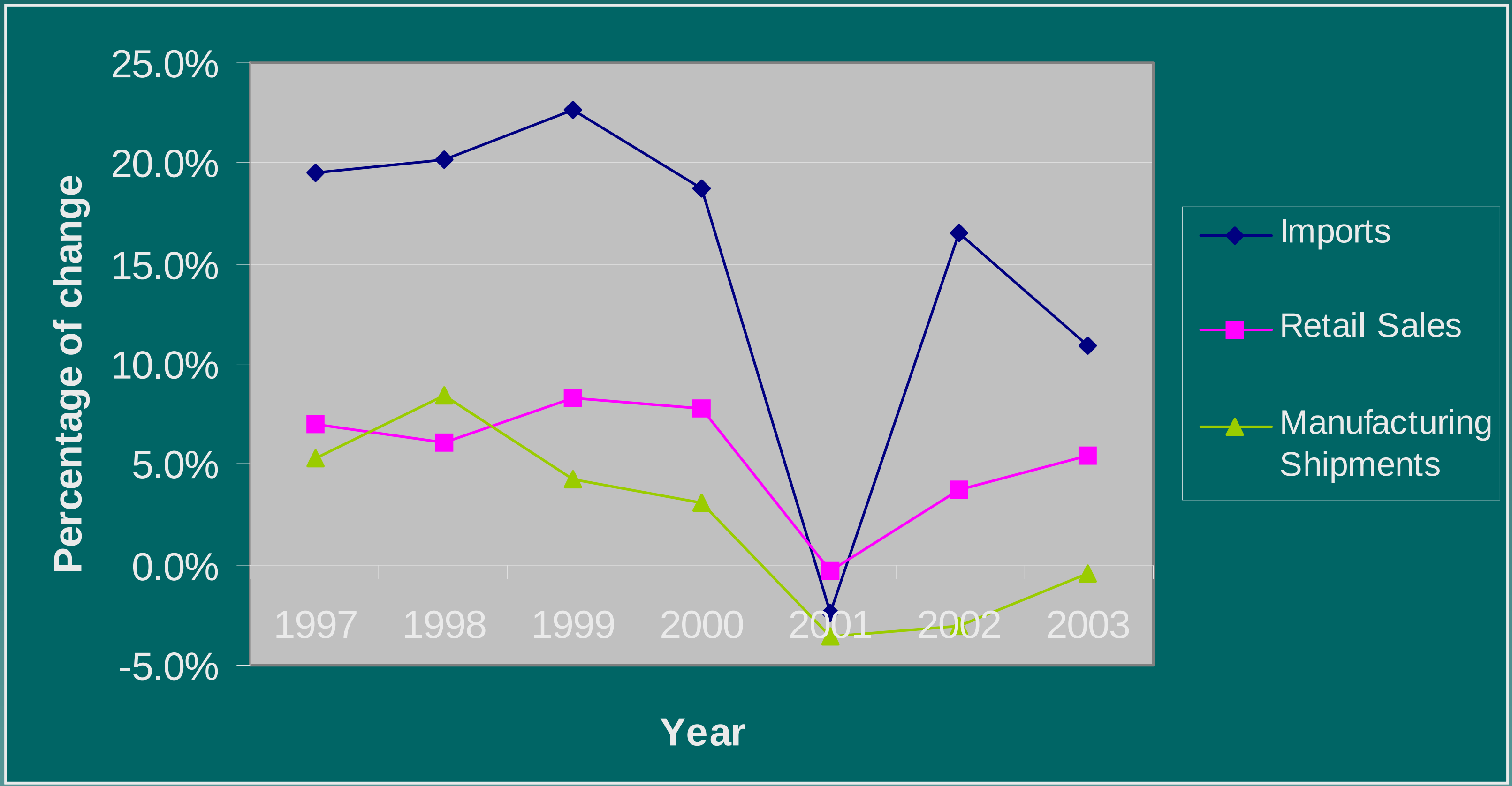


Source: US Census of Manufacturers

- From 1996 to 2003 furniture imports grew 264%
- From 1996 to 2003 furniture exports grew 13%

Introduction

Imports, retail sales, and shipments trends



Source: ITA

- In 2003:
  - Imports were US$ 19 billion
  - Mfg Shipments were US$ 70 billion
  - Retail sales were US$ 95 billion

Introduction

Largest furniture importers to the US

Ranking	Country	Sales to US in US$ billion					% change
		1998	1999	2000	2001	2002	1998-2002
1	China	2,007	2,997	4,055	4,597	6,379	218%
2	Canada	3,093	3,599	4,198	3,846	3,773	22%
3	Italy	883	1,058	1,289	1,246	1,289	46%
4	Mexico	806	956	1,013	918	1,259	56%
5	Taiwan	958	1,000	1,022	760	782	-18%
6	Indonesia	345	433	491	495	538	56%
7	Malaysia	404	466	487	429	492	22%
8	Thailand	200	251	291	295	375	88%
9	Brazil	66	90	114	157	243	271%
10	Philippines	227	256	286	238	236	4%

Source: ITA

Introduction

Change in employment 1999 to 2004

NAICS	Industry	Employment 1999 (Thousands)	Employment 2004 (Thousands)	Change (Thousands)	% change 1998-2004
337	**Furniture and related products**	**676.3**	**575.5**	**-100.8**	**-15%**
337122	Nonupholstered wood household furniture	131.9	93.6	-38.3	-29%
337121	Upholstered household furniture	102.4	86.5	-15.9	-16%
337214	Office furniture except wood	41.9	27.7	-14.2	-34%
337129	Miscellaneous household and institutional furniture	59.7	46.7	-13	-22%
37212	Wood office furniture and custom architectural woodwork and millwork	47.2	40.1	-7.1	-15%
33711	Wood kitchen cabinets and countertops	148.2	154.1	5.9	4%

Source: BLS

Objectives

1. **Are US furniture companies reducing capacity? If so, why?**
   – To determine the number of plant closures and their reasons in the US furniture industry

2. **What successful strategies are pursued by countries exporting furniture to the US?**
   – To find the strategies used by furniture exporting countries to US

3. **What are the largest US furniture companies doing to remain competitive?**
   – To determine the critical success factors of publicly-owned US furniture companies

Objectives

4. **Is there a gap in performance between American, European and Asian furniture manufacturers?**
   – To determine critical metrics to measure company furniture performance based on financial ratios

5. **What can we do to help US furniture manufacturers to determine competitive strategies?**
   – To develop a methodology to help furniture plant managers to outline a strategy based on critical success factors

6. **Are there any US furniture companies that can be classified as top performers? If yes, what are they doing?**
   – To benchmark top performers in the US furniture industry

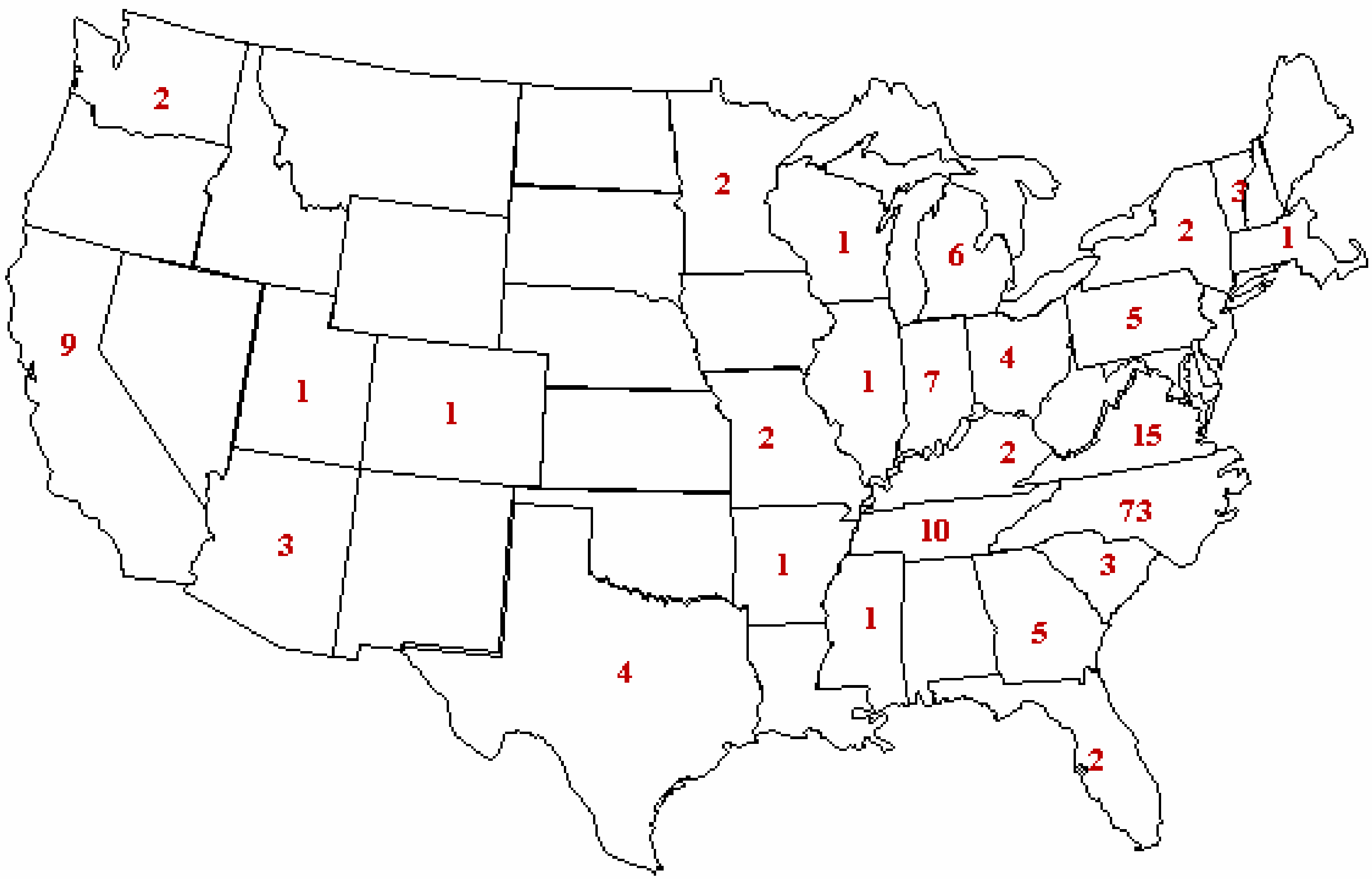
Objective 1	Plant closures and reasons

- Method:
  - Data was compiled from
    - the US Bureau of Labor Statistics and
    - over 300 publicly available sources of information

Results obj. 1 | Plant closures and reasons

168 furniture plant closures by state between 2000 and 2003 (non-official sources)

State	Plants Closed
NC	73
VA	15
TN	10
CA	9
IN	7
MI	6
GA	5
PA	5
OH	4
TX	4
AR	3
SC	3
VT	3
FL	2
KY	2
MN	2
MO	2
NY	2
WA	2
AL	1
BC	1
CO	1
IL	1
MA	1
ME	1
MS	1
UT	1
WI	1



Source: Non-official sources

Results obj. 1

Plant closures and reasons

Furniture companies by plant closures between 2000 and 2003

Ranking	Company Name	Total
1	FBI	19
2	La-Z-Boy Inc	13
3	LifeStyle Furnishings International	12
4	Kimball	9
5	Ethan Allen	8
6	Haworth Inc	5
7	Klaussner Furniture Industries	5
8	Steelcase	5
9	Vaughan-Bassett Furniture Co	5
10	Herman Miller	4

Source: Non-official sources

Results obj. 1

Plant closures and reasons

Reasons for furniture plant closures between 2000 and 2003

Reason for closing	Number of closures
Consolidation	48
Restructuring	26
Imports Competition	11
Financial difficulty	10
Decreased demand	8
Sluggish economy	7
Brankrupcy	5
Business sold	5
Overcapacity	3
Relocation	3
Cutting Cost	2
Liquidation	1
Outdated facility	1
Slow sales	1
Not stated	37
Total	**168**

Source: Non-official sources

Results obj. 2 | Strategies of countries exporting furniture to the US

- Method:
  - Data was taken from GAIN (Global Agriculture Information Network) reports
  - GAIN reports are provided by countries exporting to the US

Results obj. 2 | Strategies of countries exporting furniture to the US

Critical success factors of largest American furniture exporters to US

Canada (US$ 3.78 billion)

-Favorable geographic location
-Canada–U.S. Free Trade Agreement (FTA)
-Specialized structure of production

Results obj. 2 | Strategies of countries exporting furniture to the US

Critical success factors of largest American furniture exporters to US

Mexico (US$ 1.26 billion)

-North American Free Trade Agreement (NAFTA)
-Labor cost are favorable for Mexican industries
-Availability of domestic species

Results obj. 2 | Strategies of countries exporting furniture to the US

Critical success factors of largest American furniture exporters to US

Brazil (US$ 243.3 million)

-In past five years industry has radically changed
-Devaluation of Brazilian currency
-Intensive promotion of Brazilian furniture in US and Europe

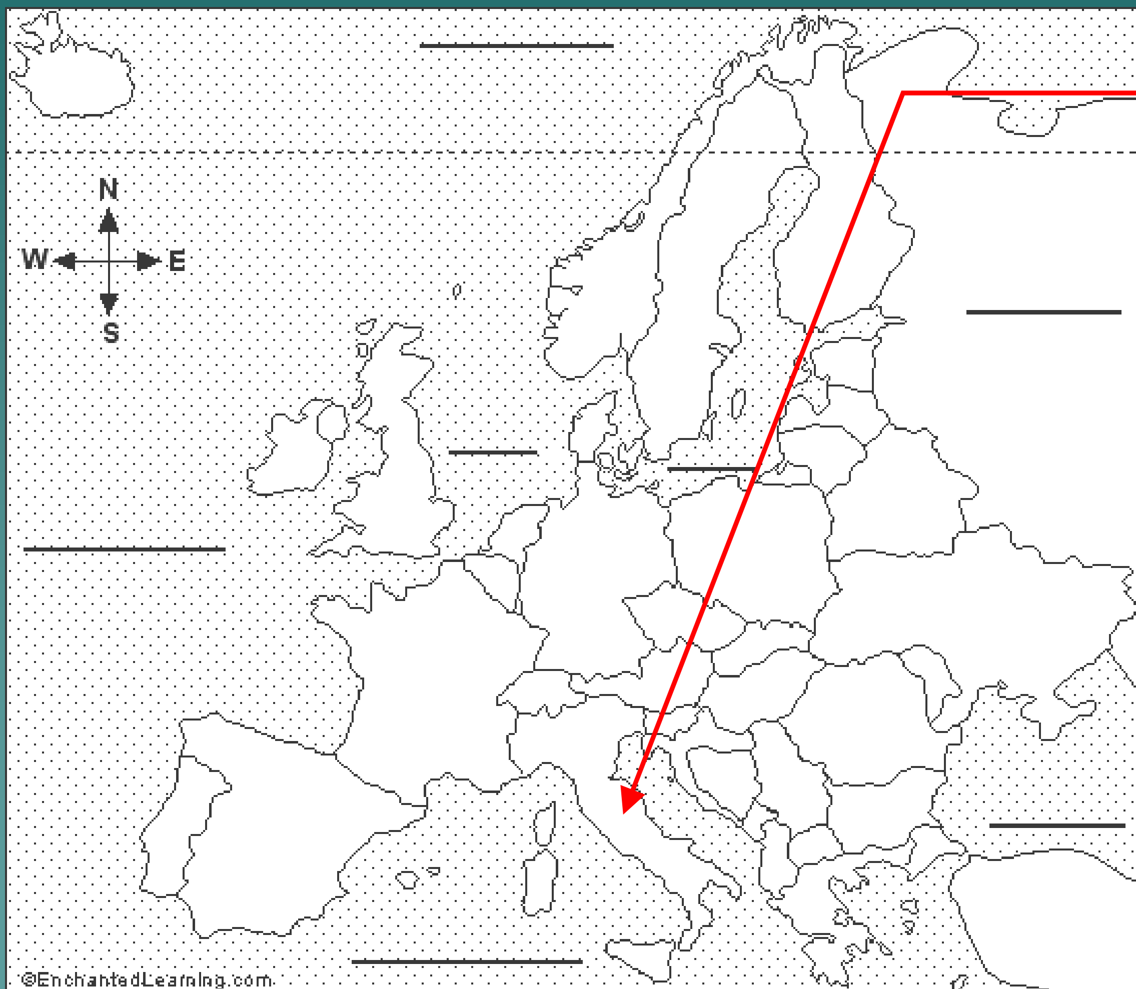
Chile (US$ 51.1 million)

-Development of Chile's forest products sector

Results obj. 2

Strategies of countries exporting furniture to the US

Critical success factors of largest European furniture exporters to US



Italy (US$ 1.3 billion)

-High quality products, innovative design and industry ability to respond to each individual market

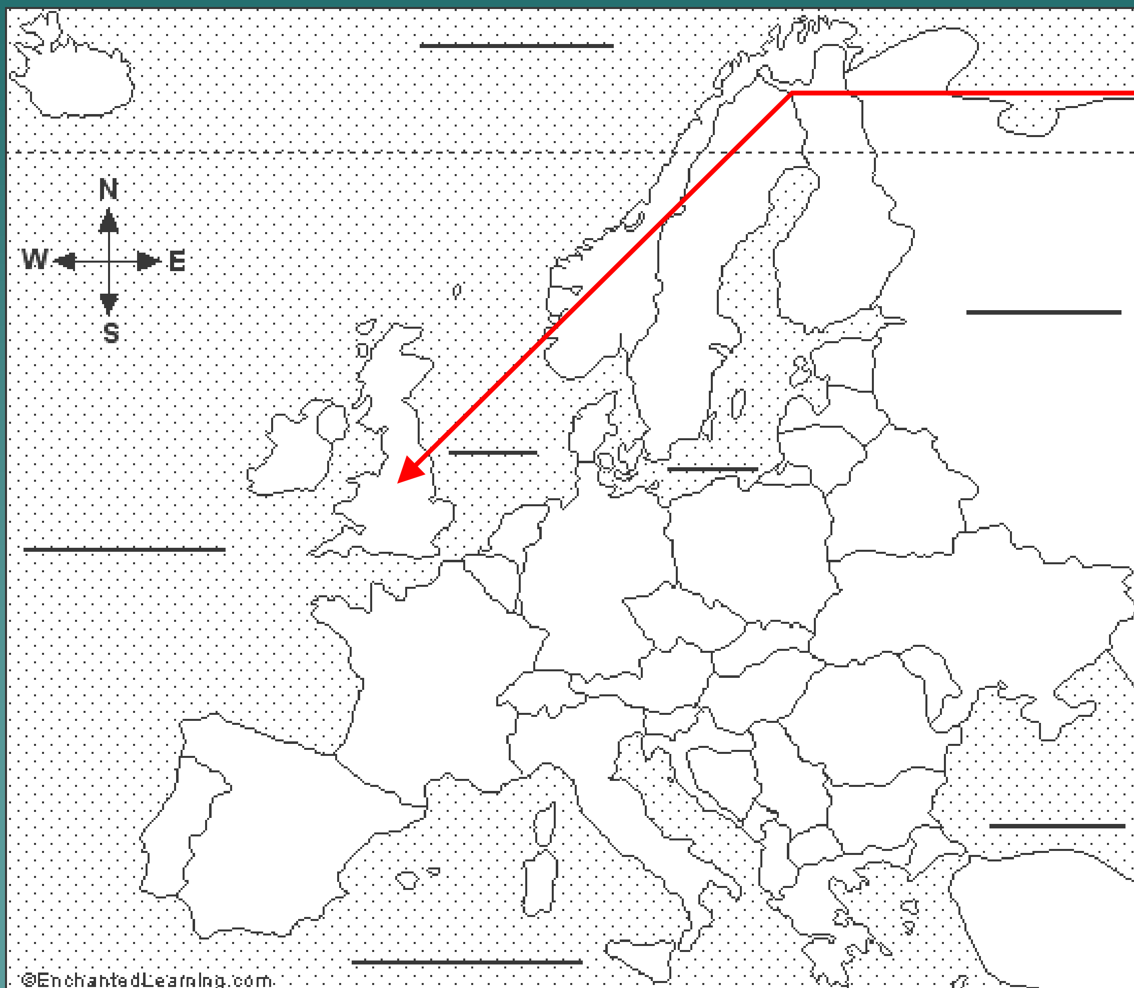
-Innovative materials, new and practical solutions

-Careful pricing policy

-More spending to promote Italian furniture

Results obj. 2 | Strategies of countries exporting furniture to the US

Critical success factors of largest European furniture exporters to US



UK (US$ 160 million)

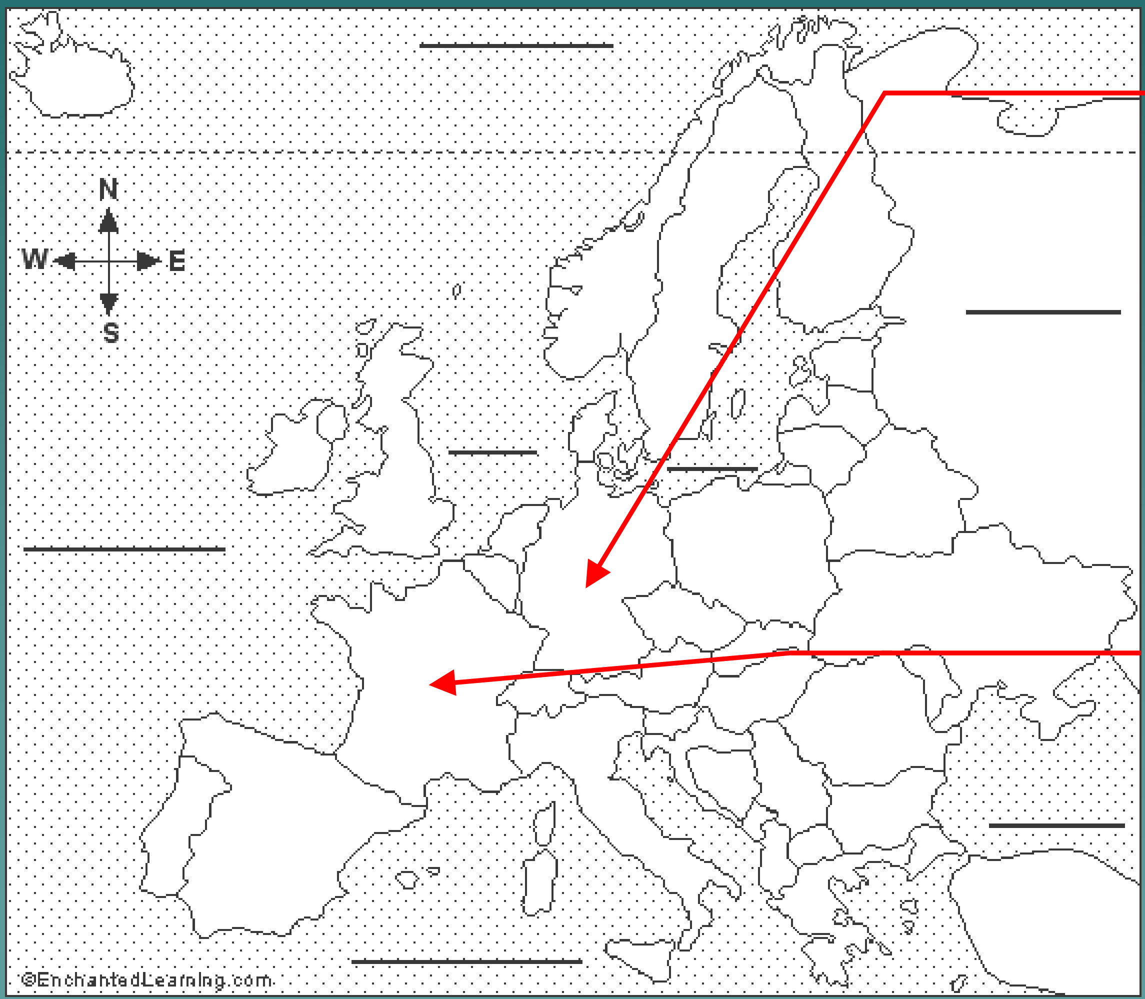
-On-going trend towards increase of outsourcing components by UK manufacturers to reduce production costs

-Focus on higher quality niche markets where price is not the main issue

Results obj. 2

Strategies of countries exporting furniture to the US

Critical success factors of largest European furniture exporters to US.



Germany (US$ 152.1 million)

-Favorable low value of euro versus dollar

(1998-2002)

-Very high quality of furniture production

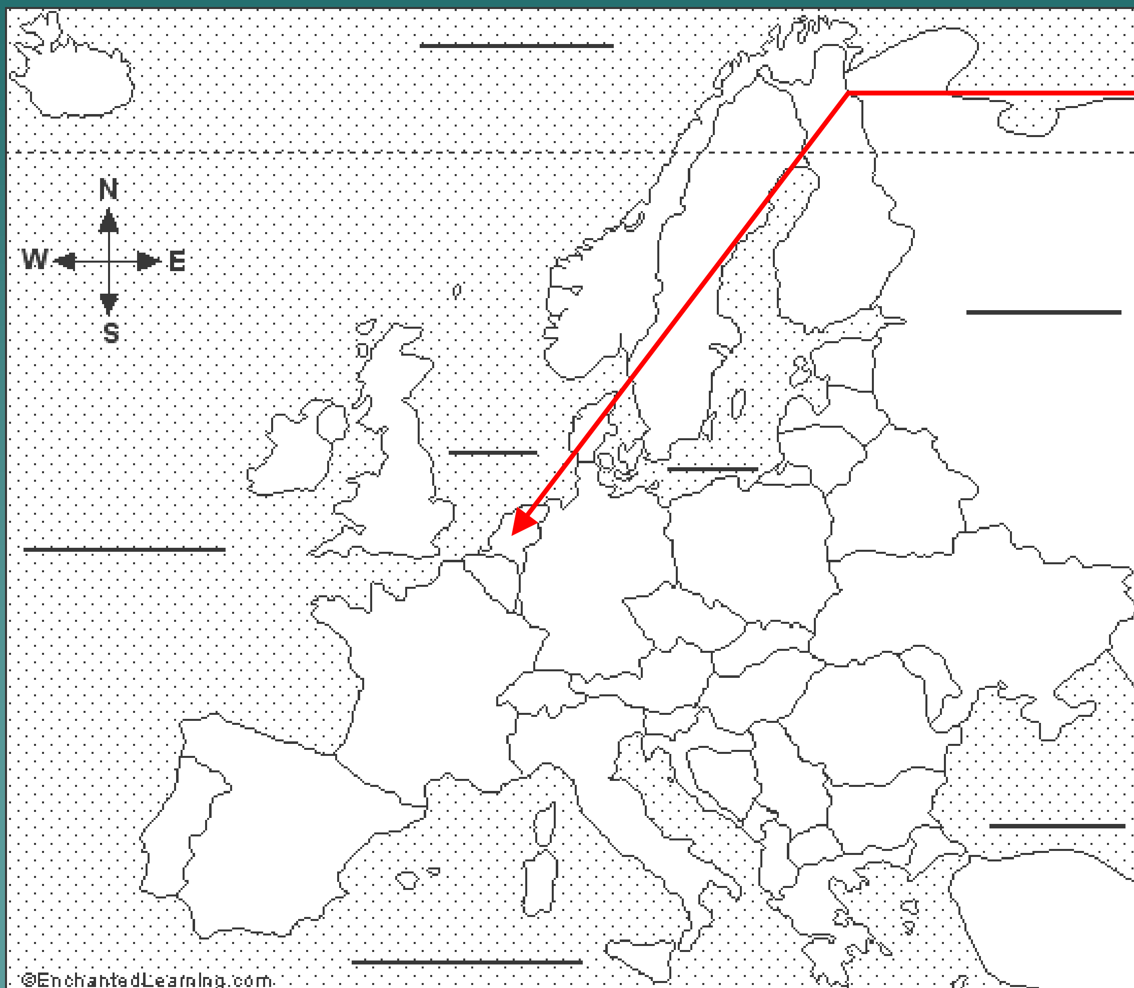
France (US$ 131.5 million)

-Government support

-Promotion (“French Timber”)

Results obj. 2 | Strategies of countries exporting furniture to the US

Critical success factors of largest European furniture exporters to US



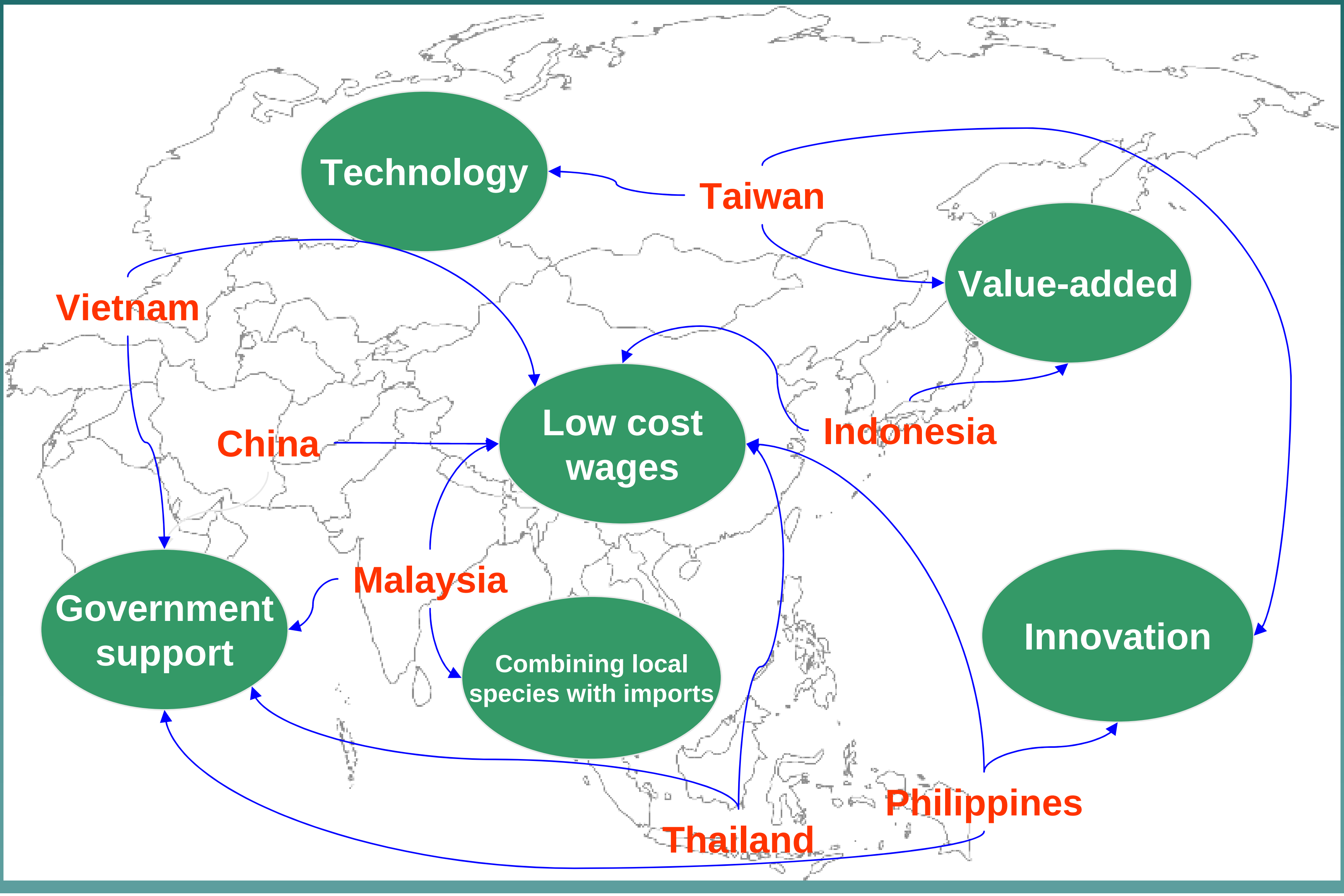
Denmark (US$ 42.3 million)

-Very high productivity, achieved through a combination of advanced technology and high skill levels

-80% of furniture production is exported

Results obj. 2 | Strategies of countries exporting furniture to the US

Critical success factors of largest Asian furniture exporters to US.



- Method:
  - Information is based on SEC reports only
  - Limitations:
    - data limited to only what companies want to publish
    - does not consider privately-owned companies

Results obj. 3 — Strategies US publicly-owned furniture companies

Critical success factors for companies in the kitchen cabinet sector.

	1997	2002
Customer service	Merrillat/Kraftmaid, MasterBrand	Merrillat/Kraftmaid, MasterBrand , American Woodmark Corporation
Price	Merrillat/Kraftmaid, MasterBrand	Merrillat/Kraftmaid, MasterBrand , American Woodmark Corporation
Quality	Merrillat/Kraftmaid, MasterBrand	Merrillat/Kraftmaid, MasterBrand , American Woodmark Corporation
Performance	Merrillat/Kraftmaid	Merrillat/Kraftmaid
Retail distribution	MasterBrand	MasterBrand
Innovation		American Woodmark Corporation

Z scores: American Woodmark 6, Fortune Brands 3.7, Masco 2.6,

Results obj. 3 | Strategies US publicly-owned furniture companies

Critical success factors for companies in the household sector.

	1997		2002	
Quality	Bassett, Bush, Chromcraft, Ethan Allen, FBI, Inc., La-Z-Boy, Rowe, Stanley	8	Bassett, Bush, Chromcraft, Ethan Allen, FBI, Inc., La-Z-Boy, Rowe, Stanley	8
Innovation	Bassett, Bush, Ethan Allen, FBI, Inc., La-Z-Boy, Stanley	6	Bassett, Bush, Ethan Allen, FBI, Inc., La-Z-Boy, Rowe, Stanley	7
Customer service	Bassett, Bush ,Chromcraft, Rowe, Stanley	5	Bassett, Bush ,Chromcraft, La-Z-Boy, Rowe, Stanley	6
Price	Bassett , Bush, Chromcraft, FBI, Inc., Rowe	5	Bassett , Bush, Chromcraft, FBI, Inc., Rowe	5
Product operations	Bush, Rowe, Stanley	3	Bush, Rowe, Stanley	3
Retail distribution	La-Z-Boy, Rowe	2	Bush, Ethan Allen, La-Z-Boy, Rowe	4
Marketing	FBI, Inc., Rowe	1	Ethan Allen, La-Z-Boy, FBI, Inc., Rowe	3
Outsourcing		0	Stanley, Ethan Allen, La-Z-Boy, FBI	4

Highest Z scores: Ethan 7.6, Chromcraft 5.0, La-Z-Boy 4.7
Lowest Z scores: Bush 2.1, Rowe 2.6, Bassett 3.8

Results obj. 3 | Strategies US publicly-owned furniture companies

Critical success factors for companies in the office sector.

	1997		2002	
Product performance	Flexsteel, Herman Miller, Hon, Kimball, Steelcase	5	Flexsteel, Herman Miller, Hon, Kimball, Mity	5
Customer service	Herman Miller, Hon, Kimball, Steelcase	4	Herman Miller, Hon, Kimball, Mity, Steelcase	5
Price	Herman, Hon, Steelcase	3	Herman Miller, Steelcase	2
Product operations	Herman Miller, Kimball, Mity	3	Herman Miller, Kimball	2
Innovation	Herman Miller, Mity	2	Herman Miller	1
Retail distribution	Flexsteel, Steelcase	2	Flexsteel, Steelcase	2
Marketing	Mity	1		0
Quality	Hon	1	Hon, Kimball, Mity, Steelcase	4

Highest Z scores: Mity 10.4, Flexsteel 6.0, Hon 5.7
Lowest Z scores: Steelcase 2.6, Virco 2.7, Herman 4.6

Measuring the performance gap

- Method:
  - Sample was taken from the Global Advantage database. It includes furniture manufacturers from America, Europe, and Asia
  - Only financial information is available for publicly owned furniture companies
  - Factor analysis was used to determine the key financial performance measures based on eight predefined financial ratios
  - A scoring procedure was developed to compare regions and furniture industries from 1997 to 2000

Results obj. 4

Measuring the performance gap

- Sample: Global Advantage (Standards & Poors) from years 1997 through 2002. Companies were classified by year, US SIC code, geographical region, and assets size. The initial sample was 103 companies.

North America		Europe		Asia	
Countries	**Number**	**Countries**	**Number**	**Countries**	**Number**
Canada	4	Norway	4	Malaysia	17
United States	22	Germany	9	Thailand	3
		Great Britain	5	Japan	14
		Spain	1	Singapore	3
		Finland	1	Korea	1
		Sweden	5	Indonesia	1
		Denmark	4	China (Honk Kong)	1
		France	4		
		Netherlands	2		

- Firms with assets under 10th and 90th percentile were omitted

Results obj. 4 | Measuring the performance gap

Factor analysis results:

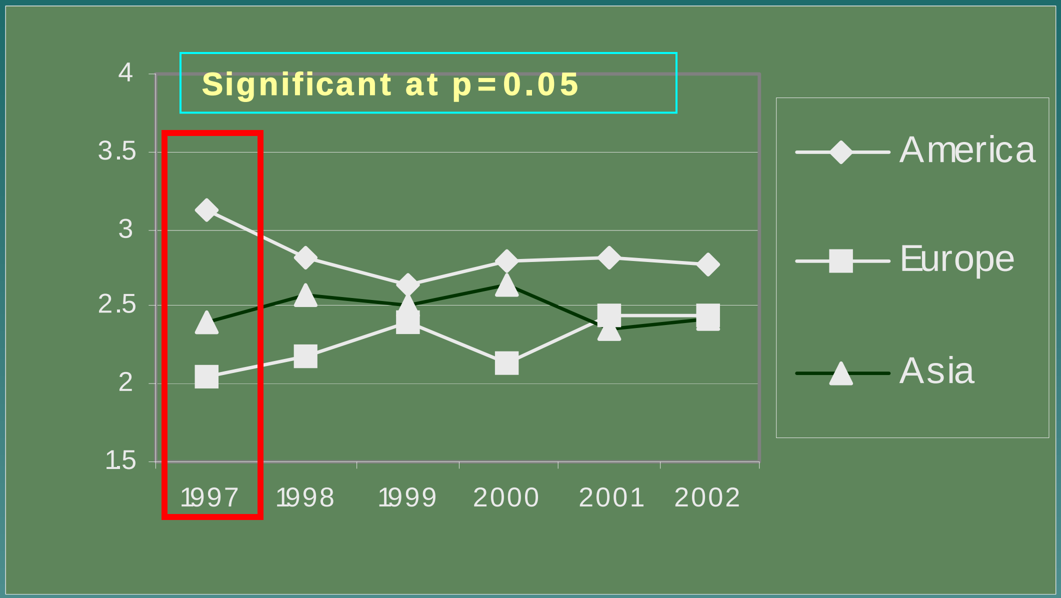
Year	Factors composition			Factors Name			Variance explained by factors
	Factors 1	Factors 2	Factors 3	Factors 1	Factors 2	Factors 3	
2002	QR, CR, WCTA	EBIT, OITA	STA, SI	Liquidity	Operating Efficiency	Capital Turnover	80%
2001	QR, CR, WCTA	EBIT, OITA	STA, SI	Liquidity	Operating Efficiency	Capital Turnover	81%
2000	QR, CR, WCTA, TETD	EBIT, OITA	STA, SI	Liquidity	Operating Efficiency	Capital Turnover	81%
1999	QR, CR, WCTA, TETD	EBIT, OITA	STA, SI	Liquidity	Operating Efficiency	Capital Turnover	84%
1998	QR, CR, WCTA	EBIT, OITA	STA, SI	Liquidity	Operating Efficiency	Capital Turnover	85%
1997	QR, CR, WCTA	STA, SI	EBIT, OITA	Liquidity	Capital Turnover	Operating Efficiency	83%

Quick ratio:	QR	**Earnings before interest and taxes margin:**	EBIT
Current Ratio:	CR	**Working capital/Total Assets:**	WCTA
Total Equity/Total Debt:	TETD	**Operating Income/Total Assets:**	OITA
Sales/Total Assets:	STA	**Sales/Inventory:**	SI

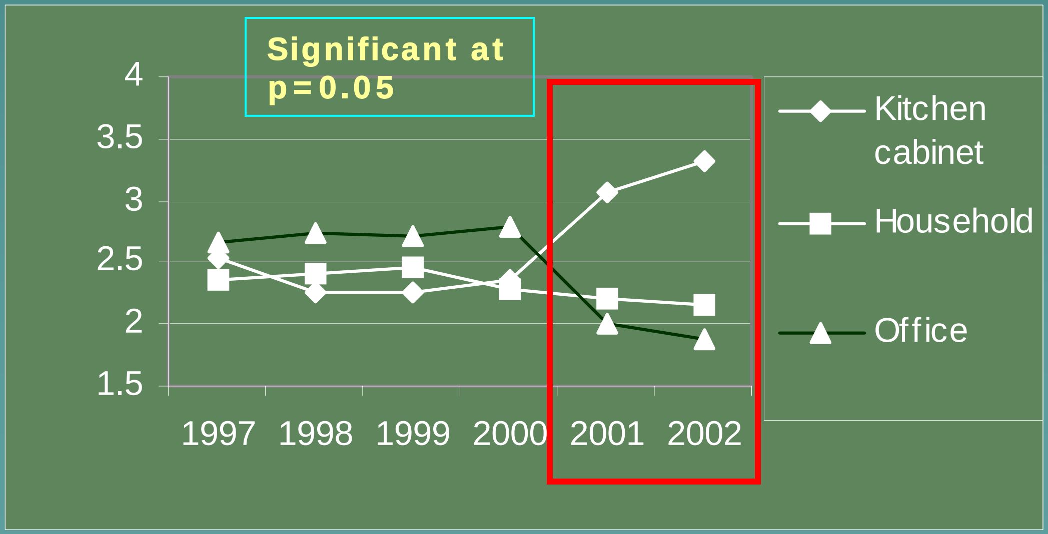
Results obj. 4

Measuring the performance gap

Liquidity: Ability to meet financial obligations



- Inventory reduction control
- Trend towards lean manufacturing

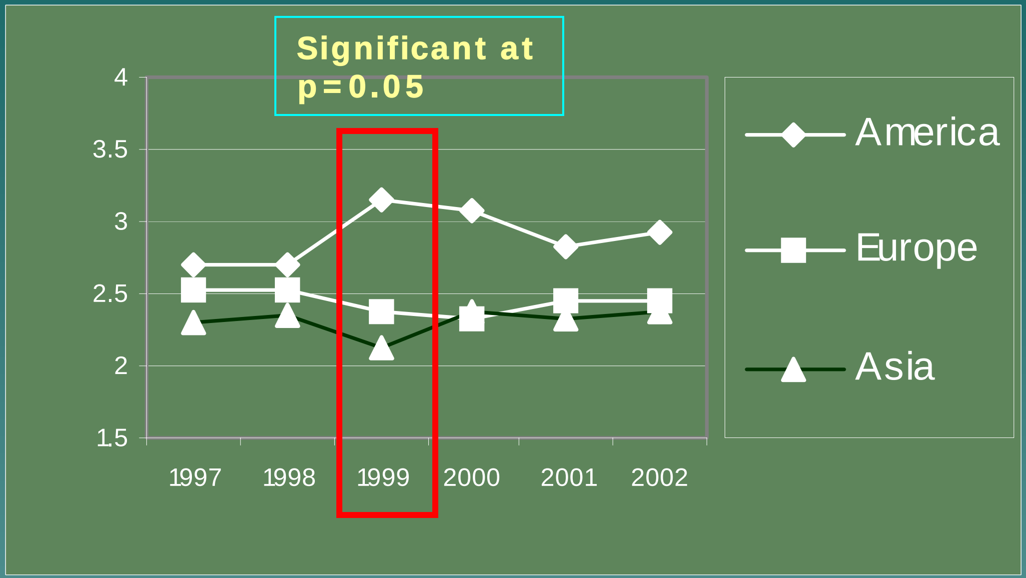


- Kitchen cabinet sector has been improving since 1997
- Household and office furniture sectors have become less financially stable

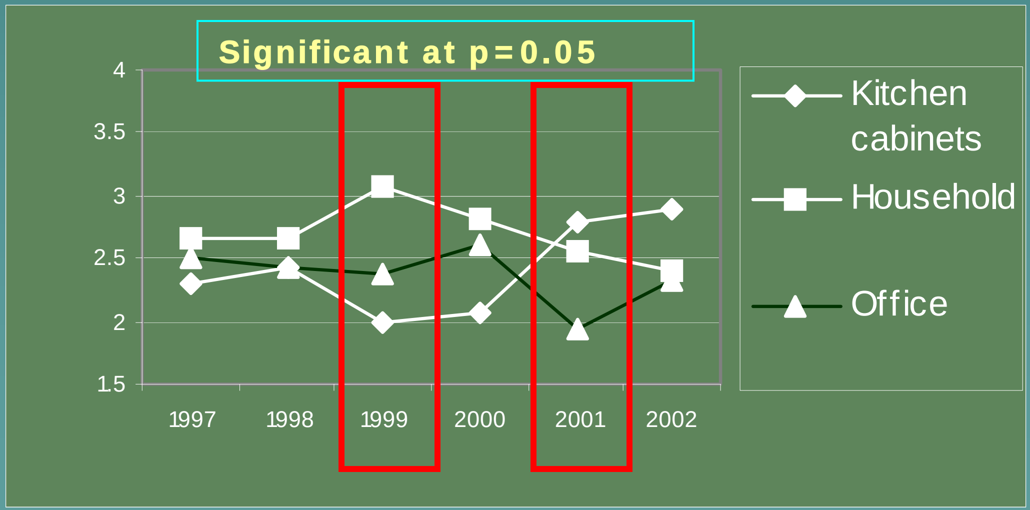
Results obj. 4

Measuring the performance gap

Operating efficiency: Ability to manage company's production system

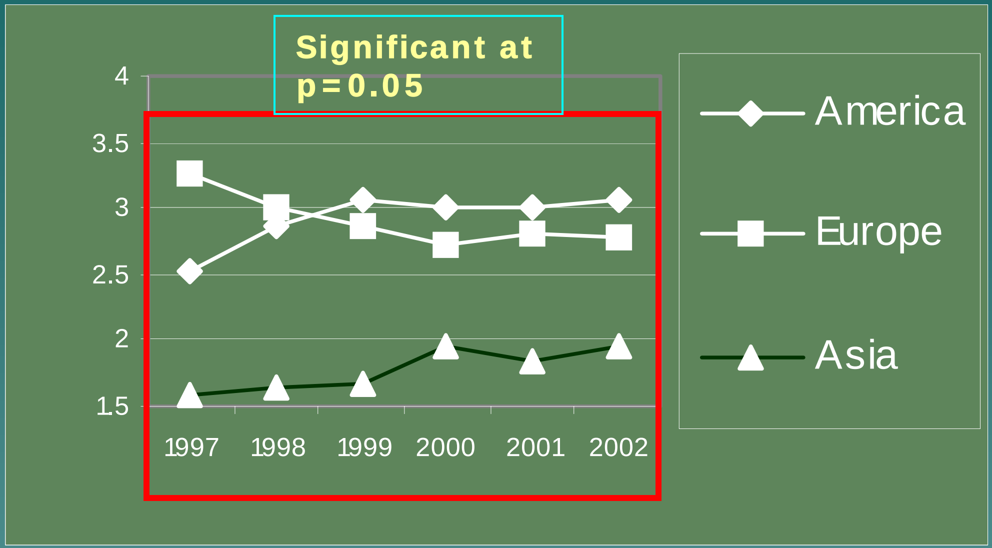


- No clear edge on operating efficiency
- Similar production systems

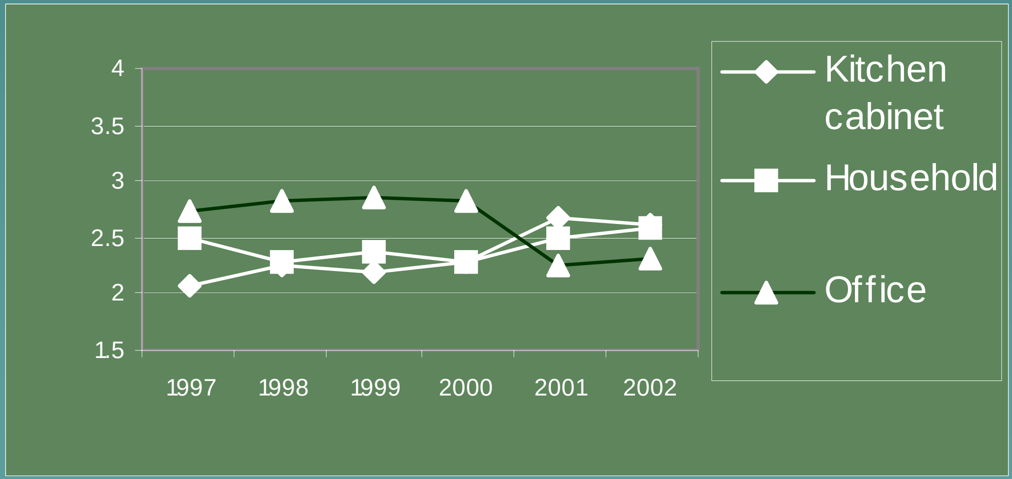


- Operating efficiency performance in household and office furniture sectors has been declining
- Kitchen cabinets sector is on the rise

Capital turnover: resource management



- Europe and North America are better performers than Asian firms
- Require less assets to support level of sales
- Less inventory



- Office furniture sector performance has decreased in last two years
- Asset management is similar

Results obj. 5

Benchmarking from the best

- Method
  - Four Indiana companies accepted to participate
  - Two of 2003 Shingo Award recipients (MA and VA) accepted to joint the study
  - Logistic analysis was used to relate high performance with best manufacturing practices
  - A database of best manufacturing practices was created

Results obj. 5

Benchmarking from the best

Best manufacturing practices

MANUFACTURING PRACTICE DESCRIPTION	EVALUATION CRITERIA*						
	1	2	3	4	5	6	TOTAL
Pull system scheduling	1	1	1	1	1	1	**6**
Real-time tracking system	1	1	1	1	1	1	**6**
Engineering change notice documentation	0	1	1	1	1	1	**5**
Automatic storage and retrieval system for WIP	1	1	1	1	1	0	**5**
Product enhancement/new product written procedure	1	1	1	1	1	0	**5**
Use of CAD/CAM system	1	1	0	1	1	0	**4**
CNC router with dual table to increase productivity	1	1	1	1	0	0	**4**
Manual racks for WIP storage	1	0	1	0	0	0	**2**

***Evaluation Criteria:**

- The practice can be validated from several sources
- The practice is clearly superior or leading edge
- The quantified opportunity of the practice is large
- The practice is validated by the expert judgment
- The practice represents the organization’s core business
- The practice is preferred if its outputs are offered for sale

Results obj. 5

Benchmarking from the best

Best manufacturing practices database

Key Area of Manufacturing	Best Manufacturing Practices	Scores
Supply Chain	No final inventory Individual packaging Automatic Storage and Retrieval system Pictures taken before packaging	6 5 5 5
Innovation and Research	Innovative use of CNC equipment Concept of reusability Engineering notices of change for products	5 6 5
Product Operations	Cell manufacturing Combination of CNC and conventional machines Work-in-process inventory management (color coding) Pull scheduling system Kanban system On-line product tracking	5 6 6 6 5 5
Human Resources	Incentives and awards for leadership contribution Employee empowerment Employee training	5 5 5
Quality Control	Defect collection display Kaizen implementation (5s program) Work traceability	5 6 5

Results obj. 5

Benchmarking from the best

Best manufacturing practices

ID: 15
RANK: 4
NAME:
Sampling weekly inspection
DESCRIPTION: Products are randomly inspected once a week to detect quality problems. Quality variables are classified as Pass, Rejected or Repair.
AREA: Quality control
GOAL AND OBJECTIVES: To detect quality problems and assure the quality of the final product before shipped to the final costumer.
DOCUMENTATION NEEDED: Check lists.
IMPLEMENTING STRATEGIES: Define a random sample according with weekly production of each type of product to sample. Sampling has to be done by a quality auditor or someone not related with product operations.
SUGGESTED PERFORMANCE METRICS: Percentage of pass, no-pass, and repairs to total weekly production.
ILUSTRATIONS: Check lists

BACK TO INDEX

Conclusions

- More than 160 furniture plants were closed between 2000 and 2003. Top three reasons were consolidation (48), restructuring (26), imports competition (11)
- Main hypothesis for these closures is the increasing competition from off-shore furniture manufacturers. In reality, US manufacturers are outsourcing or shifting their operations to Asia
- Furniture exporters to US compete based on product costs, high productivity, strong government support, strong investment in innovation and technology, and marketing strategies
- The US kitchen cabinet manufacturers compete based on service, performance, quality, and price
- The US household furniture industry today competes based on quality, innovation, customer service, price, outsourcing, retail distribution, product operations, and marketing

Conclusions

- The US office furniture sector competes based on product performance, customer service, quality, price, retail distribution, product operations, and innovation
- Performance based on financial ratios can be measured in terms of ***Liquidity*** (quick ratio, current ratio and working capital to total assets ratio), ***Operating Efficiency*** (EBIT and operating income to total assets ratio) and ***Capital Turnover*** (sales to total assets and sales to inventory ratios
- It was found that American and European furniture companies have better performance than Asian companies in terms of ***Capital Turnover***. This was found to be statistically significant for each year between 1997 and 2002
- It was also found that the kitchen cabinet and household furniture sectors are better performers in terms of ***Liquidity*** than the office furniture industry for years 2001 and 2002

Conclusions

- Critical success factors for the office furniture manufacturers were delivery times and product development.
- For the kitchen cabinet manufacturers, the most important CSF was to provide a quality product at competitive price
- The most critical internal business processes for the office furniture manufacturers were customer engagement and product operations.
- For the kitchen cabinet manufacturers, the most critical internal process was supply chain management
- There is a positive relationship between best manufacturing practices and performance of companies in the furniture industry