Global Forest Products Market and Resource Trends

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Contents

I. Forest products markets
   • Production, consumption & trade
   • Global
   • Regional (N. America, Europe, Asia)
   • Market sectors (logs, lumber, panels)

II. Forest resources

III. Certification and certified forest products

IV. Growing the market
Major info sources

- UNECE/FAO TIMBER database on forest products
- FAOSTAT database on forest products
- UNECE/FAO Temperate & Boreal Forest Resources Assessment
- FAO *Global Forest Resources Assessment*
- UNECE Timber Committee market forecasts
- UNECE/FAO *Timber Bulletin* "Forest products annual market review, 2003-2004"
- UNECE/FAO *European Forest Sector Outlook Study*
- FAO *State of the World’s Forests, 2005*
I. Forest products markets
Sectoral analysis: Logs

UNECE/FAO definitions:
• “Roundwood” is industrial roundwood + fuelwood
• “Industrial roundwood” as sawlogs, veneer logs, pulp logs and other industrial roundwood
World production of roundwood, 1961-2003

Source: FAOSTAT
World roundwood utilization as fuel

- Over half used as fuel
  - Domestic heating
  - Cooking
- Mostly in developing countries
- Low value
- Modern wood energy
  - Small international trade
  - Growing market
  - Policy push in Europe
Regional production of industrial roundwood, 1961-2010

Source: FAOSTAT and FAO Global Forest Products Outlook Study
American industrial roundwood consumption and production to 2010

Source: Global Forest Products Model, 2003
American industrial roundwood trade to 2010

Source: Global Forest Products Model, 2003
Factors affecting models and markets

- Gross domestic product (GDP)
- Population
- Costs and prices (labor, raw material, etc.)
- Technological change
- Government policies
- Socio-economic trends

European industrial roundwood consumption and production to 2010

Source: Global Forest Products Model, 2003
European industrial roundwood trade to 2010

Source: Global Forest Products Model, 2003
Asian industrial roundwood consumption & production to 2010

Source: Global Forest Products Model, 2003
Asian industrial roundwood trade to 2010

Source: Global Forest Products Model, 2003
Regional trade, all primary forest products, 2003

Source: FAOSTAT
North American trade, all primary forest products, 1994-2003

Source: FAOSTAT
European primary wood products demand, 1980-2020

RWE=RoundWood Equivalent.
Source: European Forest Sector Outlook Study, 2005.
Major influences on current European forest sector

- Expanding markets, but resources outgrowing markets
- Intensifying trade
- Recovery from transition to market economies
- Non-wood forest products increasing demand, value
- Renewable energy policy of EU and member countries
- Globalization of forest products trade
- Innovation of products and processing
- Recycling of paper, use of byproducts

Source: UNECE/FAO European Forest Sector Outlook Study, 2005
Sectoral analysis: Lumber
N. American softwood lumber market, 1996-2005

Production  Consumption

Source: UNECE Timber Committee forecasts, 10.2004
N. American softwood lumber trade, 1996-2005

Source: UNECE Timber Committee forecasts, 10.2004
N. American hardwood lumber market, 1996-2005

Source: UNECE Timber Committee forecasts, 10.2004
N. American hardwood lumber trade, 1996-2005

Source: UNECE Timber Committee forecasts, 10.2004
American lumber consumption & production to 2010

Source: Global Forest Products Model, 2003
American lumber trade to 2010

Source: Global Forest Products Model, 2003
US lumber imports: Europe & S. Hemisphere

Sources: USDA-Foreign Ag. Svc. and Wood Markets Monthly, 2005
US lumber imports: Europe & S. Hemisphere

- Excludes Canadian imports
  - 98% of US imports in ’96, but 87% 2004
  - Canadian-sourced imports up 8% 2004
- Aided by Softwood Lumber Agreement duties
- Imports of dimension softwood, some EWPs
- European-sourced imports
  - Increased 52% in 2004
  - Despite 45% rise in euro value vs. $
  - “Semi-natural forests” vs. plantation

Sources: USDA-Foreign Ag. Svc. and Wood Markets Monthly, 2005
US lumber imports: Europe & S. Hemisphere

• Northern hemisphere sources in 2004
  1. Germany (up 73%)
  2. Austria (up 75%)
  3. Sweden (down 2%)
  4. Czech Rep., Lithuania, Russia, Finland, Estonia

• Southern hemisphere sources in 2004
  1. Brazil (up 37%)
  2. Chile (up 35%)
  3. New Zealand (down 3%)
  4. Argentina, Mexico, other

Sources: USDA-Foreign Ag. Svc. and Wood Markets Monthly, 2005
European softwood lumber market, 1996-2005

Source: UNECE Timber Committee forecasts, 10.2004
European softwood lumber trade, 1996-2005

Source: UNECE Timber Committee forecasts, 10.2004
European hardwood lumber market,
1995-2004

Source: UNECE Timber Committee forecasts, 10.2004
European hardwood lumber trade, 1995-2004

Source: UNECE Timber Committee forecasts, 10.2004
Europe lumber consumption and production to 2010

Source: Global Forest Products Model, 2003
Europe lumber trade to 2010

Source: Global Forest Products Model, 2003
Russian softwood lumber market, 1996-2005

Source: UNECE Timber Committee forecasts, 10.2004

1000 m³

Production
Consumption


Small Log Conference – Creating Capacity to Compete
Coeur d’Alene, Idaho, USA, 1 April 2005
Russian softwood lumber trade, 1996-2005

Source: UNECE Timber Committee forecasts, 10.2004
Asia lumber production and consumption to 2010

Source: Global Forest Products Model, 2003

Million m3


Consumption
Production
Asia lumber trade to 2010

Source: Global Forest Products Model, 2003
Sectoral analysis: Panels
North America structural panel production, 1996-2005

Source: UNECE Timber Committee forecasts, 10.2004

Small Log Conference – Creating Capacity to Compete
Coeur d’Alene, Idaho, USA, 1 April 2005
European OSB market, 1996-2005

Production, Imports, Exports

Source: UNECE Timber Committee forecasts, 10.2004
America panel consumption & production to 2010

Source: Global Forest Products Model, 2003
America panel trade to 2010

Source: Global Forest Products Model, 2003
Europe panel consumption & production to 2010

Source: Global Forest Products Model, 2003
Increasing small log demand

- For increasing panels production
- Lumber production rising slower
- For growing paper demand
- For rising packaging demand
  - Cardboard (paperboard)
  - Pallets
- Wood-based energy

Main source: European Forest Sector Outlook Study, 2005.
Europe panel trade to 2010

Source: Global Forest Products Model, 2003
Asia panel consumption & production to 2010

Source: Global Forest Products Model, 2003
Asia panel trade to 2010

Source: Global Forest Products Model, 2003
An aside on the Chinese market
China’s expanding trade

- Total export value 2003: $390 billion, +36%
- Total import value 2003: 371 billion, +39%
- Trade surplus: $20 billion
- China & Japan 2003 trade: $120 billion, +31%
- China & US 2003 trade: $114 billion, +29%
- China & Europe 2003 trade: $112 billion, +43%
- “Sudden growth” of primary product imports: timber, steel, oil, soybeans

Source: “China Forest Products Market Information”, December 2003
China’s booming timber imports

- Housing construction
  - Only minority wood-based
  - Green and healthy communities
  - Affordable
- Renovation market for houses and municipal
- Infrastructure development
- Interior woodwork and furnishings
- Olympic-related construction (2008 Beijing)

Source: “China Forest Products Market Information”, 2003
Sectoral analysis: Paper
N. American paper & paperboard consumption and production to 2010

Source: Global Forest Products Model, 2003
Small Log Conference – Creating Capacity to Compete
Coeur d’Alene, Idaho, USA, 1 April 2005

N. America paper & paperboard trade to 2010

Source: Global Forest Products Model, 2003
European paper & paperboard consumption and production to 2010

Source: Global Forest Products Model, 2003
Europe paper & paperboard trade to 2010

Source: Global Forest Products Model, 2003
Asia paper & paperboard consumption and production to 2010

Source: Global Forest Products Model, 2003
Asia paper & paperboard trade to 2010

Source: Global Forest Products Model, 2003
New EFSOS market conclusions

- Collapse in CIS and eastern Europe, 1990s
- Partial recovery
- Increased small log demand
- Increased recovered materials
- Intensifying trade
- Declining log prices
- Renewable energy
Productivity in wood industry by region

Source: FAO Trends and current status of the contribution of the forestry sector to national economies, 2004
Summary: Key market issues (1 of 2)

- Illegal logging and trade of illegally-sourced wood
- Certification of sustainable forest management, markets for certified forest products
- Policies for promotion of sound use of wood
- Research and development policies
- Industry competitiveness and investment policy

Summary: Key market issues (2 of 2)

• Global competition → Increased efficiency in manufacturing, new marketing strategies
• Climate change policy, carbon trading
• Wood energy promotion policies
• Trade policy, tariff and non-tariff barriers

III. Forest resources
Where are the forests?

Source: FAO State of the World’s Forests 2005

- Europe: 27%
- S. America: 23%
- Africa: 17%
- Asia: 14%
- N&C America: 14%
- Oceania: 5%
Where are the plantations?

- Asia: 62%
- Europe: 17%
- Oceania: 2%
- Africa: 4%
- S. America: 6%
- N&C America: 9%

Note: Plantation area not good indicator of supply.

Source: FAO State of the World’s Forests 2005
Where’s the wood?

- **Europe**: 30%
- **S. America**: 29%
- **Oceania**: 3%
- **Africa**: 12%
- **Asia**: 9%
- **N&C America**: 17%

Source: FAO State of the World’s Forests 2005
Wood volume (m³) per hectare

- N&CC America
  - US 135 m³
  - Canada 120 m³
  - Guatemala 350 m³
- Oceania: NZ 125 m³
- S. America: Chile 160 m³
- Europe
  - Switzerland 340 m³
  - Germany 270 m³
  - France 190 m³
  - Russia 105 m³
Big logs in Switzerland

• 2nd highest wood volume per forest
  – 340 m³ per hectare
  – Only Guatemala higher at 355 m³

• 1/3 forested, mostly on higher ground

• Why? Centuries of big log forest management

• Not only lumber and beams, also protection

• But...1999 windstorms
  – Took tall, old, large diameter
  – 2 years’ harvest in 3 days in Switzerland
  – 1 year’s in all of Europe in 3 days.
Small logs in Switzerland?

- Climate change \(\rightarrow\) more windstorms, more storm damage and windthrow
- Large logs cost more energy and time for
  - Transportation and handling
  - Conversion
- Reduced consumption of solid beams and wide lumber
- Increased composite panels, edge-glued panels, glulam and other EWPs
- European foresters changing “big log” mentality
Annual change in forest area, 1990-2000, (million hectares)

<table>
<thead>
<tr>
<th></th>
<th>Deforestation</th>
<th>Increase in forest area</th>
<th>Net change in forest area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tropics</td>
<td>-14.2</td>
<td>+1.9</td>
<td>-12.3</td>
</tr>
<tr>
<td>Non-tropics</td>
<td>-0.4</td>
<td>+3.3</td>
<td>+2.9</td>
</tr>
<tr>
<td>World</td>
<td>-14.6</td>
<td>+5.2</td>
<td>-9.4</td>
</tr>
</tbody>
</table>

*Source:* FAO Global Forest Resources Assessment 2000
Global deforestation of 14 million hectares/year > ½ of Idaho deforested every year.
Annual change in forest area, 1990-2000

Source: FAO Global Forest Resources Assessment 2000
Reasons behind deforestation

- Conversion to other land uses (0.4% of world’s forests annually in the ’90s)
  - Agricultural, including grazing
  - Urbanization
- Unsustainable silvicultural practices
  - Unmanaged harvesting
  - Poor regeneration
  - Fire, insects and diseases
  - Overharvesting fuelwood
- Poverty and overpopulation
Forest resources in N. America

- 80% of net annual increment harvested
- Forest volume increases \( \sim 3 \text{ million } m^3 \text{ daily} \)
- Forest area 1990 to 2000
  - USA +0.2%
  - Canada, no significant change

Sources: State of the World’s Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000
Forest resources in Europe

- Only 60% of wood grown is harvested
- Forest volume increases ~2 million m³ daily
- Forestland increases by 500,000 hectares per year

**Sources:** *State of the World’s Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000*
State of Europe’s Forests

- Resources and area increasing
- Forest health and vitality are critical
- Productive functions maintained
- Biodiversity is a focus
- Plantations are only 3%
- Protective forests are 12%
- Socio-economic functions important

New EFSOS forest conclusions

- Harvests < growth
- Growing stock rising
- Increased trade → local forest problem
- Problems in economic viability with falling prices
Forest resources in Russian Federation

• Only 16% of wood grown is harvested
• Forest volume increases ~3 million m³ daily
• Forest area 1990 to 2000: no significant change

Sources: State of the World’s Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000
Forest resources: growing stock

Source: Temperate and Boreal Forest Resources Assessment 2000
Forest resources: NAI vs. fellings

Million m³

Europe (41)  |  N. America  |  CIS

Net annual increment  |  Fellings

Source: Temperate and Boreal Forest Resources Assessment 2000
## Forest resources: NAI vs. fellings

<table>
<thead>
<tr>
<th>Region</th>
<th>Fellings as % of NAI</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>80%</td>
</tr>
<tr>
<td>Europe-41</td>
<td>60%</td>
</tr>
<tr>
<td>Western Europe</td>
<td>64%</td>
</tr>
<tr>
<td>Nordic countries</td>
<td>72%</td>
</tr>
<tr>
<td>Baltic countries</td>
<td>50%</td>
</tr>
<tr>
<td>Central &amp; eastern Europe</td>
<td>56%</td>
</tr>
<tr>
<td>Russia</td>
<td>16%</td>
</tr>
</tbody>
</table>

*Source: Temperate and Boreal Forest Resources Assessment 2000*
Regional forest resource utilization

<table>
<thead>
<tr>
<th>Region</th>
<th>Wood in forest (billion m3)</th>
<th>Roundwood harvest 2002 (million m3)</th>
<th>Roundwood harvest 2002 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S &amp; C America</td>
<td>117</td>
<td>439</td>
<td>0.4%</td>
</tr>
<tr>
<td>Russia</td>
<td>89</td>
<td>192</td>
<td>0.2%</td>
</tr>
<tr>
<td>N. America</td>
<td>60</td>
<td>678</td>
<td>1.1%</td>
</tr>
<tr>
<td>Africa</td>
<td>46</td>
<td>613</td>
<td>1.3%</td>
</tr>
<tr>
<td>Asia</td>
<td>35</td>
<td>1,005</td>
<td>2.9%</td>
</tr>
<tr>
<td>Europe</td>
<td>28</td>
<td>395</td>
<td>1.4%</td>
</tr>
<tr>
<td>Oceania</td>
<td>11</td>
<td>63</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Note: Not all “forest available for wood supply”
Roundwood does not include chips. Therefore, %ages are gross.
Forest resources summary

- Removals considerably below growth
- Wide variance in utilization rates of NAI
- Growing stock increasing in Europe
- Southern hemisphere plantations expanding
- Oversupply compared to demand for wood
- Increasing alternative demands on forests
III. Certified forest products markets
Certification of sustainable forest management

- Over 200 million hectares worldwide (5%)
- Over half of world’s certified area in N. America
- Another 40% in Europe
Top 8 countries certified forest area, 2003 and 2004

Certification schemes’ market share

- PEFC: 30%
- FSC: 25%
- SFI: 23%
- CSA: 15%
- ATFS: 5%
- Other: 2%

**Source:** Forest Products Annual Market Review, 2003-2004
Three quarters of the world's certified forests are privately owned or managed.
Certified forest products markets

- Growing demand via wholesalers & retailers
- Demand boost by government procurement
- Private consumer demand remains minor
- Chain-of-custody key current development
- Most certified timber sold without label
  - Potential over 300 million m³ (20% world roundwood production)
  - Lost opportunities for market promotion and PR

Certified forest products markets

- Certification system conflicts discredit forest products in the marketplace
- Variety of schemes necessary for different stakeholders’ interests
- Impacts of forest certification locally significant
- Difficulties in certifying natural tropical forests, but less so for tropical plantations
- Markets developing slower than forest certification

Source: Savcor Indufor, 2005
Certification

- Introduced to combat deforestation in tropics
- Most certified forests are temperate & boreal
- Therefore, not an instrument to combat deforestation, but to promote sustainable forest management
- Mutual recognition between schemes an issue
- Potential additional roles
  - Verification mechanism in Kyoto Protocol
  - Indication of source, but not proof of legality

Sources: Savcor Indufor, and UNECE/FAO, 2005
IV. Growing the market
Growing too much wood?

Not enough wood products demand?

What are the solutions?
Grow the wood markets!

- Guarantee that today’s wood products meet consumers’ needs
- Develop new products to meet evolving needs
- Develop new markets for wood products: substitute for non-renewable materials
- Promote wood culture outside N. America and Nordic Countries
How can we grow the wood markets?

- Build coordinated, international promotion programs
- Enlarge existing networks and coalitions
- Create favorable policy environments
- Promote public awareness of key issues and messages
Market effects of wood promotion policies

- Multi-country wood promotion essential to enlarge wood’s market share
- Promotion must be cost justified
- Identify and know target markets: cultural and technical dimensions
- Fund raising a problem in fragmented industry
- Key elements: competence, neutrality, credibility, resources

UNECE Timber Committee recommendations

- Develop new products to expand existing markets
- Establish new markets to meet consumers’ needs
- Build international cooperation in promoting environmental advantages of sustainable wood production
- Promote wood culture
Discussion and Questions
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