

Executive Summary

Globalization is not a purely contemporary phenomenon. According to Chanda (2007) it has “worked silently for millennia without being given a name.” Indeed, globalization processes are continuously evolving, driven by the economic aspirations of millions around the globe—the more people involved, the faster the globalization is.

This study’s goal is to analyze the effects of globalization—defined as the integration of economic activities, primarily via markets—on the economic viability and global competitiveness of the European Union (EU) forest sector, in particular forestry. It covers the entire EU, including the accession and the western Balkans countries, from the present to 2030. It also includes a (limited) review of cultural, social, and political globalization.

For consistency, a coherent analytical framework concept was used throughout the study. The study consists of a literature review, an appraisal of the main globalization factors and related indicators, and analytical work using formalized computer models developed by IIASA. One of the study’s objectives was to identify commonalities and differences in the current status and development of forestry in different European regions. Analyses were carried out for specific regions as defined in *Table 1*.

Table 1. Regional Types of Forestry in the EU27 and indices for overall globalization based on KOF Index of Globalization.

	Overall globalization	
	1994	2004
Type 1: Globalized regions/ Nordic–Baltic	78.9	87.4
Type 2: Wood production oriented regions/Central Europe	76.6	87.2
Type 3: Plantation-oriented/ (mainly) “Atlantic Rim” Western Europe	78.5	86.2
Type 4: Broader, multifunctional forestry oriented regions/Western Europe	77.6	85.1
Type 5: Urban society service influenced regions/Northwestern Europe	82.4	84.9
Type 6: “Countries in transition” regions/Eastern Europe	46.5	68.1
Type 7: Low forest management intensity regions/ Southern Europe	66.5	80.3

In terms of regional globalization trends, there was substantial overall development in globalization between 1994 and 2004 in different EU regions (*Table 1*). However, economic globalization was especially rapid in the “Countries in transition” and countries with “Low forest management intensity” which still lag behind the other regions in general globalization development. More detailed analysis shows that a high degree of overall general globalization implies simultaneous development of economic, social, and political globalization.

Competition has become more intense in the forest sector to keep pace with the globalization of world markets. It is informative to see how the EU forest sector has handled the recent increase in globalization, by examining, for example, the development of global export shares. From 1985 to 2005 the EU25 substantially increased its global export shares in all export categories of industrial roundwood, sawnwood, wood-based panels, newsprint, printing and writing paper. However, it made losses in pulp and paper and paperboard. Instead of just

being traded, the pulp is used in integrated mills for higher value-added production of different paper grades. The paper losses are in low value-added grades, while shares of high value-added grades have increased.

It can thus be concluded that:

- Globalization has been favorable to the development of the EU forest sector.
- It is not only the impact factors (wood costs, energy costs) that decide competitive position in a globalized world, but also know-how, quality, logistics, institutions, etc.

Forest sectors have not yet faced the changes judged necessary for radical change and economic progress in a globalizing world (McGahan, 2004), for example, in basic technology breakthroughs and dramatic marketing changes. EU25 forest sector companies have, to date, adapted to globalization by using strategies similar to those of their competitors. Soft characteristics such as know-how, logistics, institutions, education etc., have made it possible for the EU25 to reap gains from globalization. But will this be sufficient in the future?

An analytical package of models, developed at IIASA, were used for scenarios analysis regarding the future impacts of ongoing globalization processes. Five specific scenarios were developed and used in the analysis. The overall conclusions of the analysis are as follows:

1. **The competitiveness of the European forest sector will remain robust** across a large variety of different development scenarios. However, Europe is not a global growth powerhouse like, for example, Latin America and Russia. *The fate and direction of its competitiveness is determined mostly outside Europe*, where projections are more uncertain. The EU must monitor these to set appropriate policies for its own forest sector.
2. **Global wood supply will become tight** because of current over-harvesting in several regions, increased environmental concerns, and climate change effects (e.g., insect outbreaks in Canada). The model analysis shows that Russia and Africa will substantially increase their role as wood suppliers. The EU should encourage Russia to become a trusted partner in the global forest sector and encourage sustainable forest management of existing resources in Africa.
3. **South America is almost certain to become a high-growth region** with its vast land resources and risky but more calculable investment conditions than countries like Russia, China, or African nations. However, political uncertainties remain.
4. **Global bio-energy development will be crucial** for the development of the conventional forest industry in Europe and will likely be furthered by European policies. Our modeling shows that economies of scale will be important for bio-energy sector competitiveness. The conventional forest sector, with its considerable experience in managing large amounts of wood raw material, could be an important partner of the energy sector.
5. **Most scenarios show a future renaissance for European sawmilling** due to growing global demand, higher energy prices, and the economic and environmental advantages of wood use for construction.
6. **Globalization will drive the production of higher value-added paper and paperboard products** in the EU.

7. **The Nordic–Baltic and Central regions will be centers of gravity** of the EU forest sector in a globalized world.
8. **The Southeastern European region forest sector will enjoy substantial future growth** because of increased productivity and lower production costs.
9. **The strong upward shift in consumer demand for paper and paperboard (and sawnwood) will continue**, mainly in China, India, Southeast Asia, and South America. European forest industries, as technology and business leaders, will be challenged by such growth potentials and these will attract European companies to invest in regions with growing demand.
10. **There will be a shift in supply** to fast-growing plantations and remaining wood baskets like Russia and Africa. A major concern will be raw material supply.
11. Tighter wood supply, competition from the energy sector, and increased demand in emerging economies, will cause **a substantial increase between 2005–2030 in the demand for forest raw material and industrial forest industry products**. Prices will increase most in what are today regarded as low-cost regions. Prices will also become more similar across regions because of globalization, possibly increasing mean profitability for EU forestry.

The study also investigated the responses in the different EU regions to globalization, as follows:

1. Overall, there is little concrete response to globalization and little innovation activity, especially in small forest holdings.
2. Large forest holdings respond mainly to price competition in globalized commodity markets, mainly by cutting cost through outsourcing and restructuring.
3. Innovations are incremental and follow existing paths and traditional supply-side approaches. Customers and consumers have little influence in terms of improvements to products or services.
4. Any institutional innovations, a potentially important response to globalization, are trend-follower initiatives based on forestry as an efficient raw-materials supplier. There is little strategic, future-oriented, and systematic response to the opportunities and threats of globalization to EU forestry.

Responses to globalization in the EU to date have been wood-focused, with innovations lacking in terms of developing higher value-added wood products and non-timber products and services. There are virtually no comprehensive globalization-oriented innovation policies for the forestry sector in EU countries. A strong focus on traditions, limited emphasis on the future, and avoidance of risks remains.

The study also carried out a **literature review** of lessons learned on responses to globalization in other sectors. The following results are of interest:

- Globalization causes increased intra-industry rather than inter-sectoral trade and specialization based on comparative advantage.
- Risk-averse respondents to globalization often become anti-globalization.
- For markets to function, active governance of trade is necessary; governments need to solicit public support for economic openness.

- Globalization seems to be driven primarily by a reduction in the costs of trade. This results in higher efficiency and productivity as firms face foreign competition.

There is no single explanation or easy-fix normative perspective as to how the EU forest sector can remain competitive under increased globalization. However, the obvious threats and opportunities are identified in *Table 2*.

Table 2. Cross-matrix of opportunities and threats of globalization factors: Forestry and forest industry

		Forestry	
		Opportunity	Threat
Forest industry	Opportunity	<ul style="list-style-type: none"> • Sustainable resource supply • Wood-based bioenergy/biomaterials—polyproduction • Better business relationships, including business intelligence • Productivity gains through increased technology use, including logistics • Biotechnology R&D breakthroughs • Domestic/regional outsourcing of production to enhance productivity • Stable global institutions and regulatory and operational frameworks (e.g., Kyoto) • Public support for renewable resources, green image of wood 	<ul style="list-style-type: none"> • Foreign direct investment (FDI) outside region (forest industry relocation) • Low import barriers for industrial raw material • Import competition for raw material/globalization of natural resource sourcing • Job losses due to productivity gains • International/global outsourcing of component production • Global institutions and regulatory and operational frameworks (e.g., WTO) are increasingly imperative to encourage FDI abroad
	Threat	<ul style="list-style-type: none"> • Greater raw material scarcity leading to higher prices • Wood-based bio-energy • Alternative non-production-oriented business models • Policies that restrict wood use but are viable business models for forestry (recreational services, some carbon sequestration) • Increasing demands on forests for environmental protection and recreation, with viable business models to provide these 	<ul style="list-style-type: none"> • Rising import competition pressure for parts, components, or finished products • Reduced export-competitiveness • Declining forest industry profitability • Policies increasingly regulating SFM, but with little scope for developing market-based solutions and experimentation • Urban population increasingly viewing forests as ideally untouched nature; non-economically viable management increasingly sought • Climate change • Continued low public and private R&D

The study has identified four possible strategic options for adapting to and benefiting from globalization based on the threats and opportunities discussed above:

- Option 1 = Cease active income- or profit-oriented forestry
- Option 2 = Diversify into alternative and niche income streams
- Option 3 = Become cost-competitive in global commodity market
- Option 4 = Pursue technological and business model innovation

There is no easy-fix strategy for staying competitive in the forest sector with increased globalization. A successful strategy would be a portfolio of the above options with adaptations for different regions of the EU. An assessment of suitable strategic options for the seven types of forestry in regions of the EU discussed earlier is presented in *Table 3*. Their implementation will have both positive and negative implications to globalization factors and dimensions in the different regions of the EU, as illustrated in *Table 4*.

Table 3. Strategic options to respond to globalization and their regional suitability (increasing number of stars indicating increasing suitability).

	Option 1: No commercial operation	Option 2: Niche/ diversify	Option 3: Commodity competitive- ness	Option 4: Next- generation products
Type 1: Globalized regions/Nordic–Baltic		*	**	***
Type 2: Wood production-oriented regions/Central Europe		**	***	**
Type 3: Plantation-oriented/(mainly) “Atlantic Rim” Western Europe		*	***	*
Type 4: Broader, multifunctional forestry oriented regions/Western Europe		**	***	**
Type 5: Urban society service-influenced regions/Northwestern Europe	**	***		*
Type 6: “Countries in transition” regions/Eastern Europe		**	***	
Type 7: Low forest management intensity regions/Southern Europe	**	***		**

Table 4. Effects of adaptation options on globalization factors and globalization dimensions

	Option 1: No commercial operation	Option 2: Niche / diversify	Option 3: Commodity competitive- ness	Option 4: Next- generation products
Investment	Considerably decreasing	Stable or decreasing	Increasing (continuous/considerable investment);	Considerably increasing (strategic and risky)
Economic activity—productivity, added value	Considerably decreasing	Stable or decreasing	Considerably increasing	Stable or increasing (short term)
Employment	Considerably decreasing	Stable or increasing	Decreasing	Stable (short term)
Trade	n/a	Stable	Stable or increasing	Stable or increasing
Technology, know-how	Decreasing	Increasing	Increasing	Considerably increasing

Globalization dimensions				
Policy	n/a	n/a	n/a	n/a
Society	Likely neutral response	Likely neutral or positive response	Likely negative response	Likely neutral response
Environment	Likely positive except for health risks	Likely neutral or positive	Likely negative or neutral	Likely neutral (short term)
Resources (energy, raw material)	Likely negative	Likely neutral or positive	Likely positive	Likely positive

Supporting Strategic Adaptation through Forest Policies

To sum up, long-term benefits of globalization come with what can be major short-run costs, which must be reduced if production is to remain viable. The producers themselves must search for effective and efficient ways of competing in a global market. Governments can help by fostering an open international trading system and retraining and relocation of workers displaced from industries that are declining or shedding labor because of technical change. They can also protect industries with subsidies, tariffs, and import quotas or prohibitions. The EU could achieve self-sufficiency by removing competition but by foregoing the short-run adaptation costs, the EU would also forfeit the long-run gains of specialization and technological change and, inevitably, trading partners would retaliate with their own trade restrictions. Gains from trade go beyond the static gains of specialization; they are also dynamic because globalization demands technological change and high productivity both from firms that enter export markets *and* from firms that hope to survive import competition.

It is the producers themselves who must search for effective and efficient ways of competing in a global market. Governments can aid this process by promoting open and orderly markets at home and abroad, by facilitating the retraining and relocation of workers who are displaced by technological change or competitive imports, and by fostering enabling environments for competitiveness and innovation.