GENEVA TIMBER AND FOREST DISCUSSION PAPER 47

EUROPEAN FOREST SECTOR OUTLOOK STUDY:
TRENDS 2000-2005 COMPARED TO THE EFSOS SCENARIOS
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TRENDS 2000-2005 COMPARED TO THE EFSOS SCENARIOS

Prepared by

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Abstract

The present Discussion Paper, European Forest Sector Outlook Study: Trends 2000-2005
Compared to the EFSOS Scenarios, systematically compares trends in the period 2000-2005 with
the scenarios for the same period presented in the European Forest Sector Outlook Study (EFSOS),
as a guide to future use of EFSOS. It concludes that EFSOS scenarios, with the significant
exception of those for wood energy, are mostly in line with real trends and may continue to be used
as a basis for policy discussion.

Keywords

Forest sector scenarios; consumption, roundwood supply.
PREFACE

A core part of the UNECE/FAO forest and timber programme from the early 1950s has been the preparation of long-term forest sector outlook studies: the most recent was the European Forest Sector Outlook Study (EFSOS) with scenarios for the period 2000-2020. EFSOS has been used in many circles as a basis for policy formulation and analysis. However, intellectually honest analysts of the long-term outlook should check their scenarios against real developments to ensure that the conclusions are still valid or, if not, to decide which analysis needs to be reviewed or revised.

The European Forest Sector Outlook Study: Trends 2000-2005 Compared to the EFSOS Scenarios systematically compares trends in the period 2000-2005 with the scenarios for the same period presented in EFSOS, as a guide to future use of EFSOS. Reassuringly, it concludes that EFSOS scenarios, with the significant exception of those for wood energy, are mostly in line with real trends and may continue to be used as a basis for policy discussion. It draws attention to some divergences from expected trends, which may orient future research by UNECE/FAO and others. UNECE/FAO is developing its analysis of wood energy issues to remedy this acknowledged weakness in EFSOS.

We hope that this analysis will help Governments and stakeholders adjust their policies and objectives in the light of emerging realities in the forest sector of the UNECE region.

Marek Belka
Executive Secretary
United Nations Economic Commission for Europe
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SYMBOLS AND ABBREVIATIONS USED

CIS  Commonwealth of Independent States
EFSOS  European Forest Sector Outlook Study
FAO  Food and Agriculture Organization of the United Nations
GDP  Gross Domestic Product
NOBE  Independent Center for Economic Studies
OECD  Organisation for Economic Co-operation and Development
UNECE  United Nations Economic Commission for Europe
1. INTRODUCTION

The European Forest Sector Outlook Study (EFSOS) analyses long-term trends in the trade, production and consumption of forest products in Europe and outlines possible future developments for the period 2000-2020 in three alternating scenarios. The baseline scenario assumes that in the long term, the characteristics of the forest sector will remain the same. In the conservation scenario, a shift towards a stronger emphasis on the environmental and conservation role of forests is assumed. The integration scenario assumes fast economic integration, and with it, higher economic growth. The geographical region covered by EFSOS is that of wider Europe, divided into three subregions, the Commonwealth of Independent States (CIS) and Eastern and Western Europe.

2. SCOPE OF WORK

Six years down the road, it is time to reexamine the quality of the scenarios. Is the development seen over the first five years of the projection period what we expected it to be? Can we identify major flaws in the scenarios, and if so, where are they rooted? Are changes needed in modelling to ensure high quality of future Outlook Studies? This work is not meant to be a complete evaluation of the models and methods used in EFSOS, but rather a starting point for discussion among concerned experts.

3. METHODOLOGY

For this first-step analysis, the main focus was on developments of the subregions, namely:

**Western Europe:** Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland (18 countries);

**Eastern Europe:** Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia, The former Yugoslav Republic of Macedonia and Turkey (16 countries); and

**CIS:** Belarus, Moldova, the Russian Federation and Ukraine (4 countries).

Individual countries were analysed where the regional performances made it seem necessary. Work was focused on six categories:

(a) Gross Domestic Product (GDP) growth (by country and by subregion)
(b) Price (for major products and countries)
(c) Removals/roundwood production
(d) Production and consumption for the main product groups (sawnwood, wood-based panels, paper and paperboard)
(e) Woodfuel (fuelwood plus wood used for charcoal production)
(f) Net trade (imports and exports of main product groups)
For each of these six categories, real developments over the period 2000-2005 were compared with the scenario trends. Where necessary, data interpolations were made. The term used were the same as those in the *EFSOS Main Report* (UNECE/FAO 2005b). Graphs are the main instrument used to display the results.

4. **DATA SOURCES USED**

   **A. GDP growth**

   The base of all projections is the expected growth of GDP, as developed by the Independent Center for Economic Studies (NOBE) in Geneva Timber and Forest Discussion Paper 24 (NOBE 2002). Projected growth for the first projection decade (2000-2010) was taken from the baseline scenario presented here and compared to average annual growth in 2000-2005. In order to allow for comparison by region, weighted average growth ratios were calculated for the CIS and Eastern and Western Europe. The real growth data was extracted from the UNECE Statistical Database (UNECE 2006).

   **B. Prices**

   A basic assumption underlying the EFSOS projections is that prices for forest products remain constant over the projection period. Price data over the last 10 years was analysed for major products and countries. This price data was extracted from the UNECE/FAO Timber Section Prices Database (UNECE/FAO 2006a) and the UNECE/FAO Timber Section Database (UNECE/FAO 2006b). The prices were deflated using deflators from the UNECE Statistical Database (UNECE 2006).

   **C. Removals**

   Projections of future roundwood production are presented in the country tables that were produced following Kangas and Baudin 2003 and published online (UNECE/FAO 2005). The projections were compared to data extracted from the UNECE/FAO Timber Section Database (UNECE/FAO 2006b).

   **D. Production and consumption of main product groups**

   Future production and consumption of the three main product groups (sawnwood, wood-based panels, and pulp and paper) are presented in country tables produced following Kangas and Baudin 2003 and published online (UNECE/FAO 2005). The projections were compared to data extracted from the UNECE/FAO Timber Section Database (UNECE/FAO 2006b).

   **E. Woodfuel**

   Woodfuel projection figures were taken from a draft report by Broadhead et al. This data was the basic input for the EFSOS chapter on woodfuel. The projections were compared to data extracted from the UNECE/FAO Timber Section Database (UNECE/FAO 2006b).
F. Net trade

Net trade projections for the subregions from EFSOS (UNECE/FAO 2005b) were compared to data extracted from the UNECE/FAO Timber Section Database (UNECE/FAO 2006b).

5. RESULTS AND DISCUSSION

A. GDP growth

In examining the projections and actual outcomes for individual countries, certain projected GDP growth rates are substantially off the mark, in both directions. The most obvious examples on the positive side are Belarus, Estonia and Latvia, which all grew at an average rate more than two percentage points higher than expected. On the negative side, Malta, the former Yugoslav Republic of Macedonia, Poland, Portugal and Turkey, all performed at an average rate more than two percentage points lower than projected (graphs 1 and 2).

Graph 1
Annual GDP growth rates in the CIS and Eastern Europe
When weighted average growth ratios were calculated for the subregions, however, GDP growth performance of the subregions was quite close to what was projected in the baseline scenario (graph 3).

Graph 3

Annual GDP growth rates by subregion
As stated above, the projected GDP growth is quite close to the real developments in terms of the subregional scale. Two of the three countries which were furthest behind the individual projections, the former Yugoslav Republic of Macedonia and Turkey, had a particularly poor year in 2000/2001 (GDP was -4.5% in the former Yugoslav Republic of Macedonia, and -7.5% in Turkey), but both have picked up since and are now back at growth rates close to the projections (+4% for the former Republic of Macedonia and +7.4% for Turkey in 2004/2005). In calculating the average growth for these countries over the past four years, these averages are close to the projected growth rates. However, Malta, for example, performed weakly over the whole period.

On the other hand, Estonia and Latvia both grew steadily at a rate growth of 6.5 per cent annually (projected were 4.1% for Estonia and 5.5% for Latvia), whereas Belarus only picked up over the last two years.

In general, the NOBE projections can be considered as a very sound basis for analysis.

B. Prices

In the baseline scenario, prices are assumed to remain constant over the projection period. It is not easy to obtain complete data on domestic roadside prices. Austria (graph 4) and Finland (graph 5) were used as representative examples, as adequate price data for these two countries were relatively easy to obtain.

Graph 4

Roadside prices in Austria
Prices in Austria and Finland remained reasonably constant over the last 10 years. In comparison to outside markets, however, we get a different impression. Graph 6 shows variation by more than 50 per cent of import prices paid for industrial roundwood in three of the major importing countries covered by EFSOS.
Graphs 7, 8 and 9 show similar variations for sawnwood import and export prices. As with industrial roundwood import prices, one might get the impression of a low point in 2000, created by falling prices in the 1990s and rising price trends in the period 2000-2005.

**Graph 7**

**Sawnwood prices in France**

![Graph 7: Sawnwood prices in France](image)

**Graph 8**

**Sawnwood prices in Germany**

![Graph 8: Sawnwood prices in Germany](image)
Similar trends can be found for wood-based panels and paper and paperboard import and export prices (graphs 10-15).
Graph 11

Paper and paperboard prices in Germany

Graph 12

Paper and paperboard prices in the United Kingdom
Graph 13

Wood-based panels prices in France

Graph 14

Wood-based panels prices in Germany
At present, there is no obvious explanation for the apparent low point in prices in 2000. This is something that should be examined further, especially given the observed time span is rather short.

C. Removals

Recorded removals range between baseline and integration scenario levels in the CIS subregion (graph 17). In the other two subregions, however, removals seem to be higher than expected (graphs 16 and 18). In the case of Eastern Europe, the trend seems to lose momentum, whereas in Western Europe, it is more of a peak phenomenon (e.g. increase by more than 30 million m³ in the period 2004-2005).
Graph 16

Roundwood production in Eastern Europe

Graph 17

Roundwood production in the CIS subregion
The rather sharp rise in roundwood production in Western Europe can be explained by severe storm damage, especially in Sweden, in 2004. A similar peak can be observed after the big storms that hit central Europe in 1999. Such phenomena cannot be foreseen and are therefore hard to integrate in projection models. It is not clear, however, how much lasting influence these occurrences might have on removals levels, as the peaks are usually counterbalanced by lower fellings the following year(s).

**D. Production and Consumption of main product groups**

For Eastern Europe, the sawnwood production projection is quite accurate (graph 19). Production seems to be rising faster than expected, but not entirely consistently, as the drop in 2000-2001 shows. Consumption, however, is rising much faster than projected, over 4 million cubic metres higher than projected by the baseline scenario (graph 20).
The wood-based panels market also seems to be growing faster than expected in Eastern Europe (graphs 21 and 22).
Graph 21

Wood-based panels production in Eastern Europe

Graph 22

Wood-based panels consumption in Eastern Europe

Paper and paperboard production and consumption range between baseline and integration scenario levels (graphs 23 and 24).
Graph 23

Paper and paperboard production in Eastern Europe

Graph 24

Paper and paperboard consumption in Eastern Europe
Regarding the CIS subregion, especially notable is the apparently weak performance of the sawnwood sector. It is open to question whether this is a real discrepancy or the result of problems related to data (graphs 25 and 26).

**Graph 25**

Sawnwood production in the CIS subregion

![Sawnwood production in the CIS subregion](image)

**Graph 26**

Sawnwood consumption in the CIS subregion

![Sawnwood consumption in the CIS subregion](image)
The divergence of sawnwood production and consumption in the CIS subregion is the biggest discrepancy observed in the current analysis. This is even more surprising given that the Russian economy is growing faster than projected (see graph 1: 6.1% annual GDP growth instead of the projected 4.8%). There are several possible explanations for this phenomenon. First, the models used were designed for market economies. In transition countries, these models may not always be the right fit. Also, the quality of data in these countries may not be very high.

The biggest proportion of the CIS is the economy of the Russian Federation. Small mills are not included in official Russian statistics, so the production of sawnwood will be underreported. Small mills serve the local markets and are therefore not reflected in net trade statistics as well.

The big gap in consumption could also be explained by methods of calculation. The apparent consumption displayed here is derived by the equation production + imports − exports. When production is underreported and at the same time exports are rising, consumption seems to be going down.

These projections may have failed to portray the exponential growth that is expected for Eastern European countries covered by EFSOS. If so, where projections are headed linear by towards a point far in the future, they might diverge significantly from the actual developments over the first few years, before the expected exponential growth starts to pick up speed.

Wood-based panels production is close to integration scenario projections, whilst consumption of this product group is developing even slightly faster than anticipated (graphs 27 and 28).

Graph 27

Wood-based panels production in the CIS subregion
Graph 28

Wood-based panels consumption in the CIS subregion

![Graph 28](image)

UNECE/FAO TIMBER DATABASE  • Baseline scenario  • Conservation scenario  • Integration scenario

Paper and paperboard production is following the baseline scenario, but consumption is following the integration scenario (graphs 29 and 30).

Graph 29

Paper and paperboard production in the CIS subregion

![Graph 29](image)

UNECE/FAO TIMBER DATABASE  • Baseline scenario  • Conservation scenario  • Integration scenario
Consumption of the other processed goods including wood-based panels and paper and paperboard, seems to be rising faster than production capacities. This might have an influence on the net trade (see separate chapter below).

For Western Europe, the projections seem to be quite accurate (graphs 31-36). Only the production of sawnwood and wood-based panels is growing somewhat faster than expected (graph 33), and the consumption of paper and paperboard is lacking behind (graph 36).
Graph 32
Sawnwood consumption in Western Europe

Graph 33
Wood-based panels production in Western Europe
**Graph 34**

Wood-based panels consumption in Western Europe

**Graph 35**

Paper and paperboard production in Western Europe
**D. Woodfuel**

In the case of woodfuel, discrepancies are especially high for the CIS subregion and Western Europe (graphs 37-39).

It should be noted that the models used for this part of the study were not very accurate and that generally speaking, the EFSOS scenarios for woodfuel should be considered unreliable. This is due to the fact that the historical data used is not always adequate for these models. Woodfuel is a field very much in flux, especially over the past five years. There has been an unexpected rise in oil prices as well as political changes promoting the use of wood as an energy source that could not have been foreseen. UNECE and FAO are working on the quality of the input data in this field and on models that would take into account all important influences on this sector, so that projections in future outlook studies will be improved.
Graph 37

Woodfuel consumption in Eastern Europe

Graph 38

Woodfuel consumption in the CIS
F. Net trade

Net trade is presented by subregion and main product group. The outcome shows relatively sizeable divergences when to the projections. One must bear in mind that net trade is the most sensitive part analysed in this report as it is not projected separately but rather calculated as the difference between two projections, namely imports and exports.

The divergences seem to be rather unsystematic at first glance; however, there are some trends that can be seen.

Eastern Europe is falling behind on projected export growth in sawnwood (graph 40). In wood-based panels and paper and paperboard, figures are following the projected downward trend in net export value. For wood-based panels, the projected trend is being exceeded (graphs 41 and 42).
Graph 40

Sawnwood net trade in Eastern Europe

Graph 41

Wood-based panels net trade in Eastern Europe
In the CIS subregion, sawnwood exports are much higher than projected while paper and paperboard exports are declining (graphs 43-45). This may indicate that the expected growth within the CIS subregion has not yet happened. This also corresponds to the observations made on production and consumption of these product groups, where it was found that consumption within the CIS subregion was rising more significantly than production (see chapter on production and consumption above).
Graph 44

Wood-based panels net trade in the CIS

Graph 45

Paper and paperboard net trade in the CIS
Western Europe seems to be a much more successful exporter in all three product groups than was expected. This is another sign that the value added did not shift towards the Eastern Europe and the CIS (graphs 46-48).

**Graph 46**

Sawnwood net trade in Western Europe

![Graph 46](image)

**Graph 47**

Wood-based panels net trade in Western Europe

![Graph 47](image)
6. CONCLUSIONS

The outcome comparison found that the EFSOS scenarios are still a sound basis for the planning and discussion to which this report seeks to add. The woodfuel category must be excluded from this statement, however. UNECE/FAO are currently working on ways to better embrace this fast developing product category.

Major questions that arose in this study and deserve further investigation include:

- How can the 2000 low point in prices in international forest products trade be explained? Is the upward price development since 2000 a mere fluctuation or a real trend? (graphs 6-15)

- Is the high roundwood production in Eastern Europe and the CIS due to domestic or foreign demand, or are there other natural or political reasons? (graphs 16 and 17)

- To what extent is the downward trend in CIS sawnwood consumption due to problems with data? Are there other factors that explain the weak recorded growth in sawnwood and if so, what is their role? (graphs 25 and 26)

- Are there reasons why the CIS subregion is not succeeding in expanding its paper and paperboard net exports, or are the CIS economies only lagging temporarily in developing their production capacities? (graphs 29, 30 and 45)

- How can the apparent success of Western Europe as an exporter be explained? (graphs 46-48)
7. REFERENCES


Information about the Timber Committee

The Timber Committee is a principal subsidiary body of the UNECE (United Nations Economic Commission for Europe) which is based in Geneva. The Committee provides a forum for cooperation and consultation between UNECE member States on forestry, the forest industry and forest product matters. All the countries of Europe, the former USSR, the United States of America, Canada and Israel are UNECE member countries and participate in its work.

The UNECE Timber Committee, within the context of sustainable development, provides member countries with the information and services needed for policy- and decision-making regarding their forest and forest industry sector (“the sector”), including the trade and use of forest products and, when appropriate, formulates recommendations addressed to member Governments and interested organizations. To this end, it:

1. Undertakes with the active participation of member countries, short-, medium- and long-term analyses of developments in, and having an impact on, the sector, including those offering possibilities for the facilitation of international trade and for enhancing the protection of the environment;

2. In support of these analyses, collects, stores and disseminates statistics relating to the sector, and carries out activities to improve their quality and comparability;

3. Provides the framework for cooperation e.g. by organizing seminars, workshops and ad hoc meetings and setting up time-limited ad hoc groups, for the exchange of economic, environmental and technical information between Governments and other institutions of member countries that is needed for the development and implementation of policies leading to the sustainable development of the sector and to the protection of the environment in their respective countries;

4. Carries out tasks identified by the UNECE and/or the Timber Committee as being of priority, including the facilitation of subregional cooperation and activities in support of the economies in transition of central and eastern Europe and of countries of the region that are developing from an economic point of view;

5. Regularly reviews its structure and priorities and cooperates with other international and intergovernmental organizations active in the sector, in particular with the Food and Agriculture Organization of the United Nations (FAO) and its European Forestry Commission (EFC) and with the International Labour Organisation (ILO) in order to ensure complementarities and to avoid duplication, thereby optimizing the use of resources. The Timber Committee’s work programme is fully integrated with that of the EFC. The integrated work programme of the Timber Committee and the EFC has five work areas: (a) Markets and statistics; (b) forest resource assessment and indicators of Sustainable forest management; (c) sector outlook studies; (d) social and cultural aspects of forestry; and (d) policy and cross-sectoral issues.

More information about the Committee's work may be obtained by writing to:

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<td>Forest certification update for the UNECE Region, summer 1999</td>
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<td>A summary of “The competitive climate for wood products and paper packaging: the factors causing substitution with emphasis on environmental promotions”</td>
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<td>Recycling, energy and market interactions</td>
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