

The Russian forestry sector in the global forest products market: trends, outlook and opportunities for development¹

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ABSTRACT

With an abundance of forest resources and considerable experience in forest processing, the Russian forestry sector has the potential for significant development in the future. This paper presents information about the current structure of the Russian forestry sector and recent forecasts of future production and consumption. This analysis shows that the sector is currently focused on roundwood and sawnwood production, with relatively little development of more processed and higher value-added products, such as wood based panels, pulp and paper. This suggests that development of the other factors of production should be given greater attention (i.e. labour and, in particular, capital). However, in order to encourage greater investment in the sector, it will be necessary to strengthen policies and institutions, improve access to information about the sector and work towards reducing investment risk. This paper finishes by describing some of the ways that FAO might be able to provide assistance to the Russian forestry sector.

Keywords: supply and demand forecasts, Russia, forest products, industry.

INTRODUCTION

Recent years have seen tremendous changes in the global forestry sector. New and ever larger demands have been placed on forest resources and in the marketplace for forest products. Rapid growth of emerging economies has altered global patterns of supply and demand and technological change has resulted in new opportunities for growth and development. Changes are also occurring in the Russian forestry sector, as the country is adapting to a market-based economy with significant potential for investment, production and trade in forest products.

This paper describes the current status of the forestry sector in Russia, in terms of the size of the forest resource, production, trade and economic performance. It then briefly presents some trends and projections for the production and trade of forest products, based on FAO's forestry sector outlook studies. Section 3 of the paper discusses some of the opportunities and challenges for forestry sector development in Russia and the final section describes some of the ways that FAO provides assistance to member nations, which may be of interest to forest managers and policy makers in Russia.

¹ The work presented here is part of the FAO Forestry Department programme of work on outlook studies. The views expressed are those of the authors and do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

CURRENT STATUS OF THE RUSSIAN FORESTRY SECTOR

Key statistics for the Russian forestry sector

The Russian Federation has by far the largest forest resource of any country in the World, with almost 50 percent forest cover, amounting to 809 million hectares of forest or 20 percent of the World's forests (see Table 1). Russia is also a significant producer and exporter of industrial roundwood and sawnwood. However, in contrast to the size and importance of Russia in these markets, Russia accounts for a relatively modest share of global production and trade of more processed products (such as wood based panels, pulp and paper). Furthermore, because of the higher value of these more processed products, Russian exports of forest products amounted to only USD 6.4 billion (or about four percent of global forest products exports) in 2004.

Table 1 Key statistics for the Russian forestry sector

Statistic	Russian Federation	Share of World total	Rank in the World
Forest area	808.8 million ha	20%	1st
Production			
Industrial roundwood	134.0 million CUM	8%	3rd
Sawnwood	21.5 million CUM	5%	3rd
Wood based panels	7.2 million CUM	3%	5th
Wood pulp	6.9 million MT	4%	7th
Paper and paperboard	6.8 million MT	2%	12th
Exports			
Industrial roundwood	2,338 million USD	25%	1st
Sawnwood	1,518 million USD	5%	5th
Wood based panels	536 million USD	2%	15th
Wood pulp	703 million USD	3%	7th
Paper and paperboard	1,244 million USD	1%	17th
All forest products	6,405 million USD	4%	8th

Note: forest resource data is for 2005; forest products data is for 2004. Sources: FAO (2006a and 2006b).

Structure and composition of the sector

Table 2 shows the structure and composition of the forestry sector in Russia, in terms of the productivity of the forest resource and the proportion of production that is exported each year. It also compares these statistics with averages for Western Europe, Eastern Europe and the World.

With respect to the forest resource, forests in Russia have a stocking of about 100 cubic metres (CUM) per hectare and an annual increment of 1.1 CUM/ha/year. These figures are relatively low when compared to the rest of Europe, reflecting the significant proportion of the forest estate that is found at high latitudes. However, the stocking level is about average for the World as a whole.

With respect to the utilisation of the resource, the harvesting intensity is relatively low, at only 0.2 CUM/ha/year, which is much lower than in the rest of Europe and the World as a whole. As a result of this low harvesting intensity, only 15 percent of the annual growth in the forest is harvested each year. This is very low compared with the rest of Europe, where the ratios of fellings to increment are 28 percent and 42 percent in Eastern Europe and Western Europe respectively.

It is also worth noting that 100 percent of Russia's forests are owned by the state. This figure is much higher than in the rest of Europe where - along with some other countries - private forest ownership has been gradually increasing in importance. Other countries with significant forest areas and a high proportion of public forest ownership include: China; Indonesia; and Canada, but it should be noted that the dominance of the state as an owner of forest resources is gradually becoming less common all over the World.

Table 2 Structure and composition of the sector

Statistic	Russian Federation	Western Europe	Eastern Europe	World
Forest resource				
Total growing stock (CUM/ha)	100	135	177	100
Annual increment (CUM/ha/yr)	1.1	4.7	4.5	n.a.
Harvesting intensity (CUM/ha/yr)	0.2	2.0	1.3	0.4
Fellings/increment (percent)	15	42	28	n.a.
Forest in public ownership (percent)	100	39	71	84
Exports/production (percent)				
Industrial roundwood	31	7	9	7
Sawnwood	59	43	43	31
Wood based panels	28	51	46	35
Wood pulp	27	28	23	24
Paper and paperboard	40	64	61	32

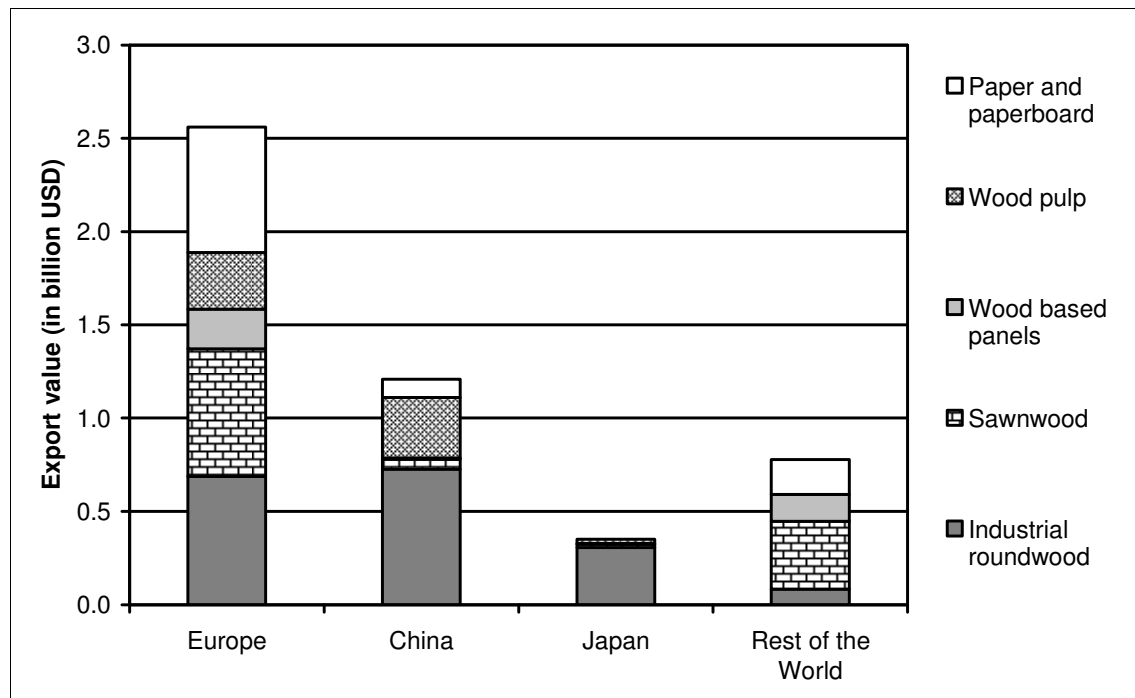
Note: forest resource data is for 2005; forest products data is for 2004. Sources: FAO (2006a and 2006b).

The lower half of Table 2 shows the proportion of production that is exported each year (by volume or weight) for each of the main categories of forest products. It shows that a significant proportion of Russian production is exported, which is typical for countries with large forest areas. In particular, a relatively high proportion of industrial roundwood and sawnwood production is exported. Exports of more processed products are also quite significant, but exports of wood based panels and pulp and paper are not as well developed as in other parts of Europe.

Figure 1 presents more information about Russian forest products exports. Overall, Russian forest products exports are split almost equally between Europe and Asia, with a very small proportion of exports to the Near East and other regions. This largely reflects the geography of Russia, which has significant forest resources in both Asia and Europe. In Asia, most forest products are exported to China and Japan and there has been rapid growth in exports to China over the last five years due to the high rate of economic growth there.

Europe and China each account for about 40 percent of Russian industrial roundwood exports (with most of the remainder going to Japan) and wood pulp exports are also almost evenly split between Europe and China. In contrast, almost all exports of sawnwood, wood based panels and paper and paperboard are sent to Europe, with China and Japan importing only small amounts of these products from Russia. This suggests that, in the markets for these products, Russia is more competitive in Europe than in Asia.

Figure 1 Russia's main export markets in 2003



Source: FAO (2006b).

Economic importance of the forestry sector in Russia

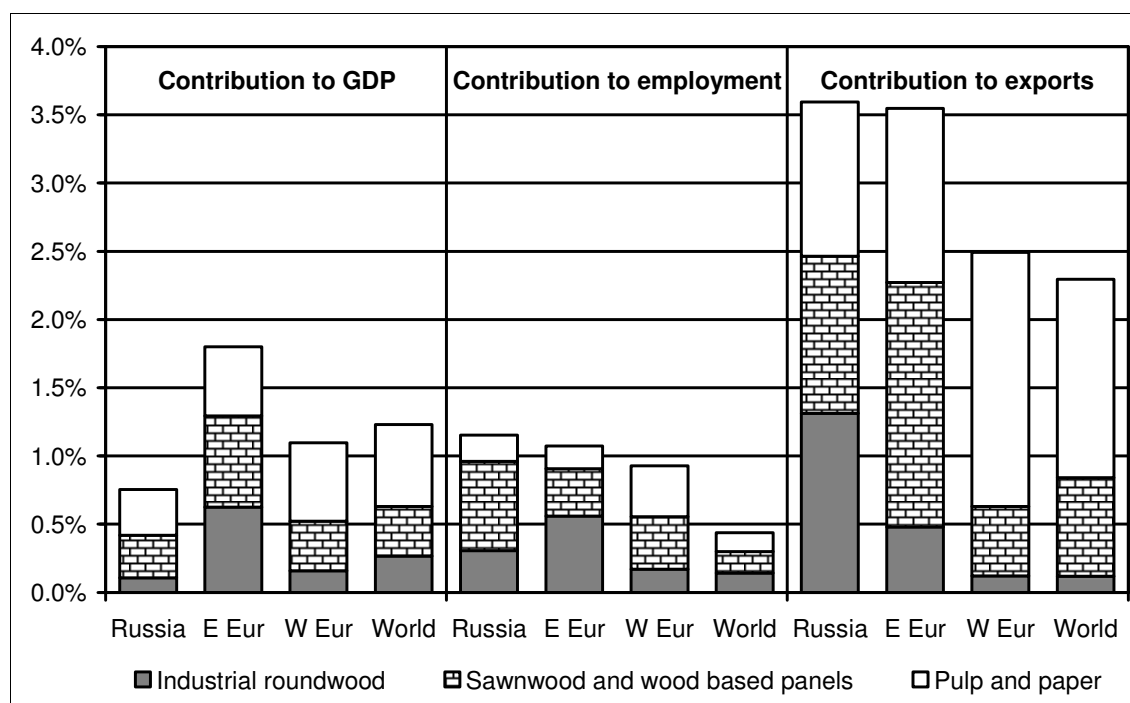
The economic importance of the forestry sector in a country can be shown in a variety of ways and Figure 2 shows three measures of this contribution, namely:

- the contribution of the sector to Gross Domestic Product (GDP) - calculated as the value-added in the sector divided by total GDP;
- the contribution of the sector to employment - calculated as employment in the sector divided by the total workforce; and
- the contribution of the sector to exports - calculated as the value of forest products exports divided by the total value of all merchandise exports.

The forestry sector in Russia accounts for about 0.8 percent of GDP, which is relatively low compared to Europe and the World as a whole. However, this is partly due to the significant contribution (to GDP) of oil and gas production in Russia.

The forestry sector makes a significant contribution to employment in Russia, particularly in the sawmilling industry. About 1.2 percent of the Russian workforce is employed in the sector, which is a higher proportion than elsewhere in Europe or in the World as whole. This high level of employment benefits many individuals working in the sector, although the relatively low level of labour productivity that occurs as a result of this means that it is difficult to increase salaries and wages (see below).

Figure 2 Economic contribution of the forestry sector in 2000



Source: Lebedys (2004).

Exports of forest products from Russia also account for a significant proportion of all exports from the country. Forest products account for about 3.5 percent of the value of all merchandise exports, which is similar to the importance of exports from Eastern Europe and higher than the importance of forest product exports in Western Europe or the World as a whole. In part, this may be due to the under-development of other manufacturing sectors in Russia (and Eastern Europe).

It is also worth noting the differences between the composition of exports from Russia, Eastern Europe and Western Europe. The value of exports from Russia is split almost equally between industrial roundwood, sawnwood and wood based panels, and pulp and paper. In Western Europe, industrial roundwood accounts for only a very small share of forest products exports and pulp and paper accounts for a huge proportion of the value of exports. The situation in Eastern Europe is somewhere between these two situations. These differences in the composition of trade suggest that the forest processing sector in Russia is not very well developed and that it is not yet able to take full advantage of the abundant forest resources available in the country.

Economic performance of the sector

Based on the statistics shown above, Table 3 presents some measures of the economic performance of the forestry sector in Russia and compares them with other parts of Europe and the World.

Table 3 Economic performance of the sector

Statistic	Russian Federation	Western Europe	Eastern Europe	World
Value-added (USD per CUM/MT)				
Industrial roundwood	2	39	19	43
Sawnwood and wood based panels	29	209	73	183
Pulp and paper	70	334	210	335
Labour productivity (VA per employee in USD)				
Industrial roundwood	1,040	37,213	4,497	18,398
Sawnwood and wood based panels	1,412	38,176	7,756	22,507
Pulp and paper	5,194	61,877	12,223	42,226
Average export value (USD per CUM/MT)				
Industrial roundwood	56	73	60	77
Sawnwood and wood based panels	141	305	249	270
Pulp and paper	426	801	697	688

Note: export data are for 2004; other data are for 2000. Sources: FAO (2006b) and Lebedys (2004).

The top part of the table shows the value added per unit of production (i.e. cubic meters of industrial roundwood, sawnwood and wood based panels, or metric tonnes - MT - of pulp and paper production). The figures show that the value-added from production in Russia is extremely low, particularly in the case of industrial roundwood production.

Value-added is the difference between the selling price of products and the sum of all non-labour costs used to produce them. Although the average price of products sold in Russia is probably somewhat lower than in other regions, this is unlikely to account for the very low level of value-added (particularly considering that a significant production of production is exported). Therefore, these figures suggest that production costs in Russia are quite high.

The middle part of the table presents information about labour productivity in the three components of the forestry sector, measured as the value-added per employee. Again, these figures are much lower than in the rest of Europe and the World as a whole. This is due to both the relatively low levels of value-added per unit of output and the low level of output per employee. The comparatively low level of labour productivity is particularly noticeable in sawnwood and wood based panel production, where employment is very high. As noted in the previous section, after accounting for the share of value-added that is required to cover rents, interest and profits, the small amount of value-added remaining to pay labour restricts growth in wages and salaries for those employed in the industry.

The lower part of the table compares the average unit value of forest products exported from Russia with exports from elsewhere. In this case, the unit values of exports from Russia are somewhat lower than elsewhere, although they are quite close to the value of exports from

Eastern Europe. To a large extent, these slightly lower prices can probably be explained by the long distances between Russia's borders and the major centres of forest product consumption in Russia's main export markets.

Conclusions about the current status of the Russian forestry sector

The information presented above shows that Russia has a huge natural advantage in the production of forest products, due to its abundance of forest resources. This potential for production far exceeds the size of the domestic market, so future growth in the sector is most likely to come from exports of forest products.

Success in the global forest products marketplace requires not only an abundance of forest resources, but also high levels of investment in capital and labour. Currently, the Russian forestry sector is quite export-orientated, but it exports a relatively small amount of more processed and higher value-added products. This suggests that there is not yet sufficient investment in the sector to support increased exports of such products and that the sector is some way from maximising the contribution that it could make to the national economy.

It is also interesting to note that the state still plays a major role in the forestry sector in Russia. While this does not necessarily place constraints on development, it seems likely that the arrangements for public forest management and administration could be examined to see if more could be done to promote investment and expansion in the sector.

OUTLOOK FOR RUSSIAN FOREST PRODUCTS

FAO and the United Nations Economic Commission for Europe (UNECE) have been producing studies showing trends and projections for the European forestry sector for the last 50 years. These "outlook studies" are a major output of the two organisations and are used by numerous different individuals and institutions for purposes such as: national policy development and planning; investment planning; and discussions with stakeholders about the future directions of forestry in countries or at the regional and global levels.

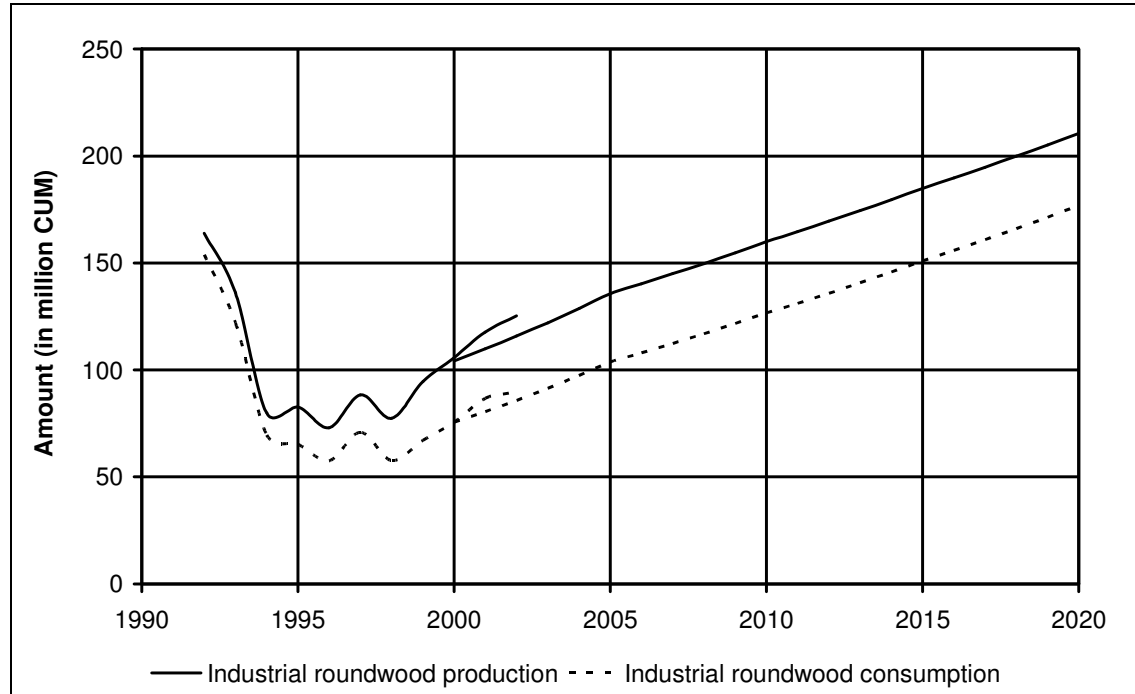
The most recent European Forest Sector Outlook study (EFSOS) was published in 2005 (United Nations, 2005). It presents long term trends for supply and demand of forest products (roundwood, sawnwood, panels, pulp, paper, non-wood products) and services and an outlook to 2020 for all countries in Western and Eastern Europe and four major CIS countries, including Russia. It reviews trends for the forest resource, trade, markets and recycling. It stresses the future shift in the balance of the sector to the east and the importance of cross-sectoral issues (notably consequences for the forest sector of energy, environment and trade policies, which are examined in some detail). The study is based on a major collaborative effort by experts in the countries covered by the study, under the auspices of the UNECE Timber Committee and the FAO European Forestry Commission. The study identifies a number of major policy issues and proposes some policy recommendations, as a basis for future debate.

The following figures show the trends and projections for production and consumption of forest products in Russia from the EFSOS and are followed by a short summary of some of the main conclusions of the market analysis.

Trends and outlook for industrial roundwood

Figure 3 shows the trends and projections for industrial roundwood production and consumption in Russia from the EFSOS. It shows that production and consumption are projected to reach 210 million CUM and 175 million CUM respectively by 2020. Thus, net exports are expected to remain at about the same level as at present (35 million CUM). Currently, actual production and consumption in Russia in 2003 is close to this forecast.

Figure 3 Production and consumption of industrial roundwood 1992 - 2020



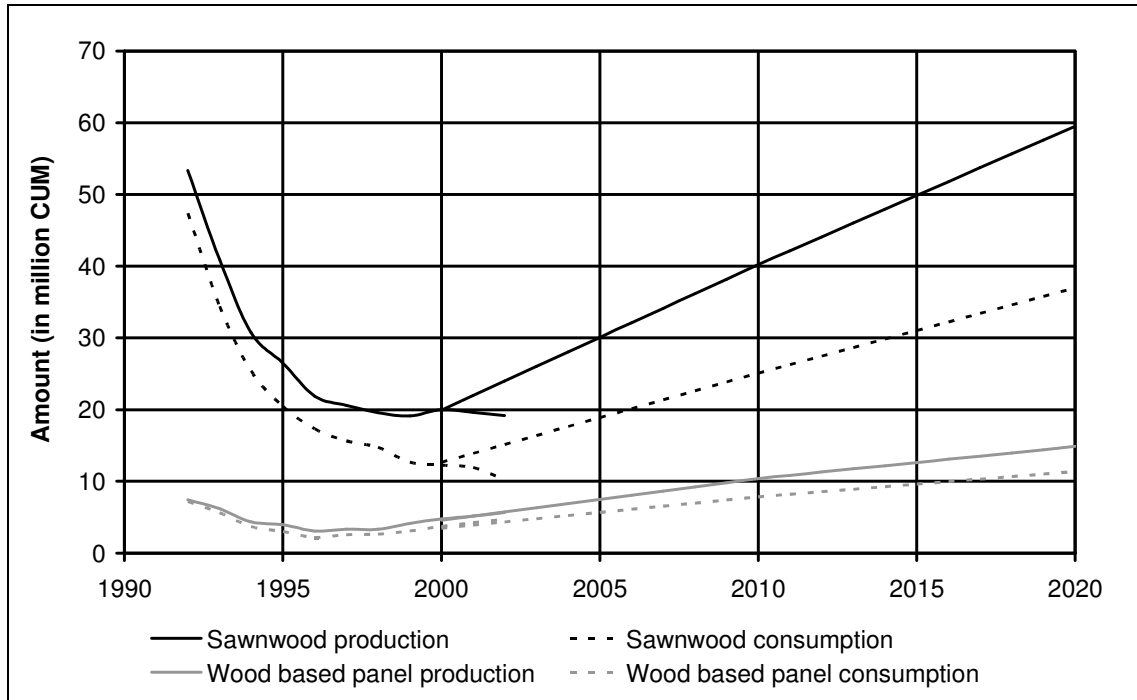
Source: United Nations (2005).

Trends and outlook for processed forest products

The following two figures show the projections for production and consumption of sawnwood and wood based panels (Figure 4) and pulp and paper (Figure 5). These show a projected 200 percent increase in the production of each of the main forest product categories from 2000 to 2020 and significant, but slightly lower, growth in consumption over the same period. Therefore, Russia's net exports of processed forest products are expected to increase over the next two decades.

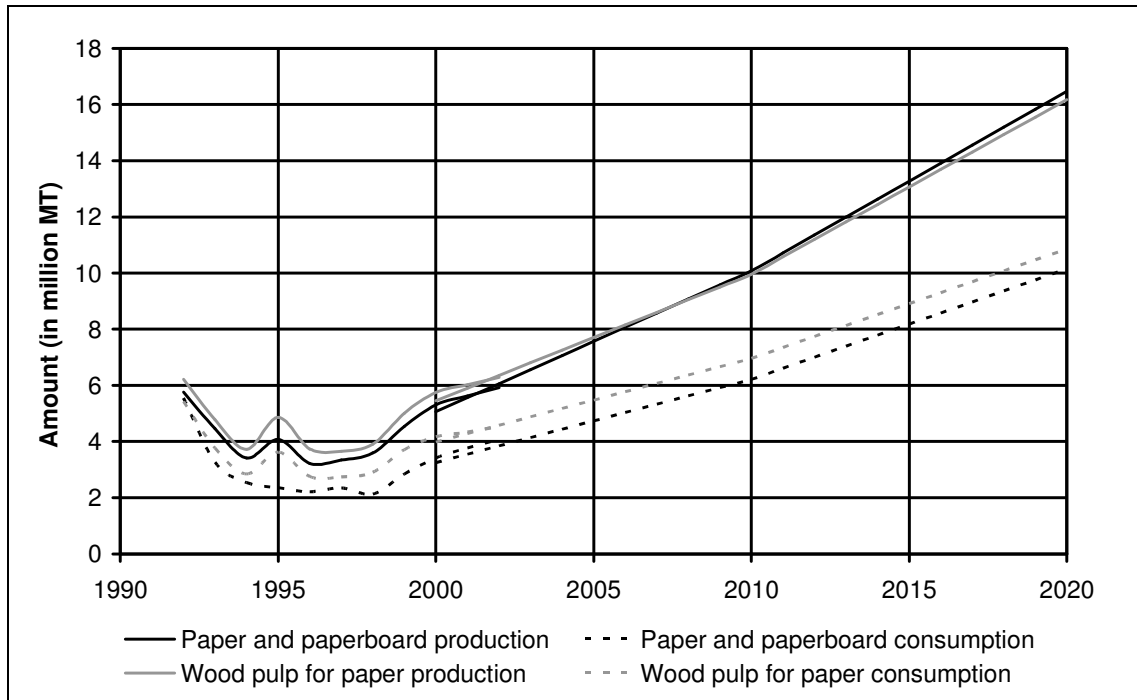
However, these figures also show that production and consumption have not increased in line with the projections so far. In particular, sawnwood production and consumption has not increased by very much since 2000. Globally, forest products markets have continued to grow over the last few years, so the lack of growth in Russia is not due to a lack of demand in export markets and it seems that this must be due to problems in the domestic market.

Figure 4 Production and consumption of sawnwood and panels 1992 - 2020



Source: United Nations (2005).

Figure 5 Production and consumption of pulp and paper 1992 - 2020

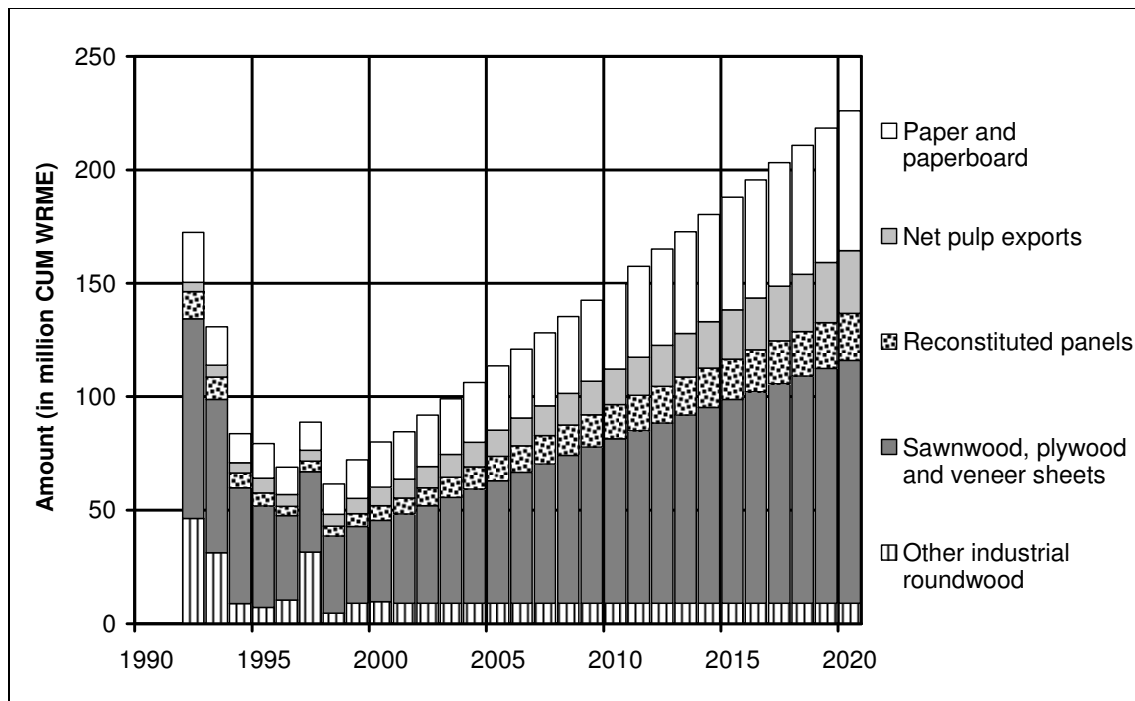


Source: United Nations (2005).

Derived demand for wood raw materials

Figure 6 shows the trend and projection for industrial roundwood consumption in Russia, by end-use. Currently, sawlogs and veneer logs account for almost two-thirds of the industrial roundwood consumed in Russia. By 2020, it is expected that sawlogs and pulpwood will each account for roughly half of all industrial roundwood consumption (due to relatively higher growth in the production of wood based panels, pulp and paper). In addition, growth in sawnwood production and paper consumption in the domestic market will offer more opportunities for the use of recycled materials and wood residues. Thus, the future consumption of industrial roundwood (from forests) could be less than indicated here.

Figure 6 Derived demand for wood raw materials 1992 - 2020



Source: United Nations (2005).

Conclusions about the outlook for Russian forest products

Demand for industrial roundwood in Russia is likely to expand to about three times the current level of production by 2020, but this level of production will still be less than the growth in volume of the forest resource. Therefore, the growing stock will continue to increase and this future level of production will remain within the sustainable yield of the forest.

Sawnwood will continue to dominate the sector, but demand for small-sized roundwood will grow in importance. Thus, there will be opportunities to increase the yield from harvesting operations with greater use of tree tops and smaller sized trees. There will also be greater opportunities to use recovered paper and wood residues, which could increase the environmental performance of the sector as a whole.

Exports will continue to account for a significant share of production, but the majority of future growth will come from increased domestic demand for industrial roundwood and forest products. At present, significant growth in the domestic market has not appeared and future growth in the sector will depend upon the speed of recovery in the Russian economy.

OPPORTUNITIES AND CHALLENGES IN THE RUSSIAN FORESTRY SECTOR

The figures presented above have already shown that the vast Russian forest resource offers considerable opportunities for expansion and development of the forestry sector. However, it must be remembered that forestry development requires a lot more than a large forest resource. In particular, countries that have successfully developed their forestry sectors have been able to bring together the optimal mix of land (i.e. forest resources), labour and capital, to maximise the economic returns from activities in the sector. In addition, many of these countries have benefited from appropriate government policies both within and outside the forestry sector that have encouraged growth and development.

The following sections describe some of the opportunities and challenges for development of the forestry sector in Russia, based on FAO's experiences in other Eastern European countries and emerging economies.

Development of forest resources

As noted previously, Russia has a huge forest resource, but the amount of this resource that can be used for wood production depends on how much of the resource is economically accessible and the profitability of forest management.

Countries that have improved the financial viability of forest management tend to have clear, simple and stable rules and regulations that reduce risk in the sector and minimise the costs of complying with forestry laws and regulations. Where forests are managed in public-private partnerships (e.g. through concessions), a recent trend has also been the greater use of market based mechanisms for awarding concessions and setting the charges paid by the private sector. The forestry authorities in Russia would be advised to consider these issues as part of the process of transformation to a market economy.

The financial viability of forest management is also tied to the development of a profitable and dynamic forest processing sector. The potential to increase stumpage prices increases when the forest industry is more competitive in domestic and international markets, but in export markets this often means that strict environmental safeguards should exist and be followed by producers of forest products. Therefore, it is important to support the development of a forest processing sector that is economically competitive as well as socially and environmentally sustainable.

Development of human resources

Labour costs in Russia are very competitive, particularly in the forestry sector where Russia has a long tradition of forest management and a large, well-trained workforce. However, despite the generally high level of technical skills in the sector, experiences from other countries in transition have shown that there is often a need for improvements in skills in

areas such as marketing and general management. Improvements in these areas are required in the forestry sector in many countries (even in many developed countries) and such improvements are likely to be needed in both the private sector and the public service.

Often, foreign direct investment is the most effective way to develop these skills through on-the-job training, technology transfer and the opportunities for interaction between Russian and foreign managers and professionals working in the sector. Countries as diverse as Brazil, the Baltic States and China have for some years benefited from such interaction and it appears as though Russia is starting to engage in such activities.

Capital investment

The structure of production and exports of forest products from Russia suggests that capital investment is probably the most pressing need for the future development of the forestry sector. All over the World, the forestry sector produces modest but quite stable returns to investors, with generally higher (but less stable) returns for more processed products. Therefore, given the modest returns in the sector, a crucial factor affecting investment is the amount of risk associated with any investment (Canby, 2006).

In international investment, risk is usually examined at three levels:

- country risk;
- industry or sector risk; and
- firm or company risk.

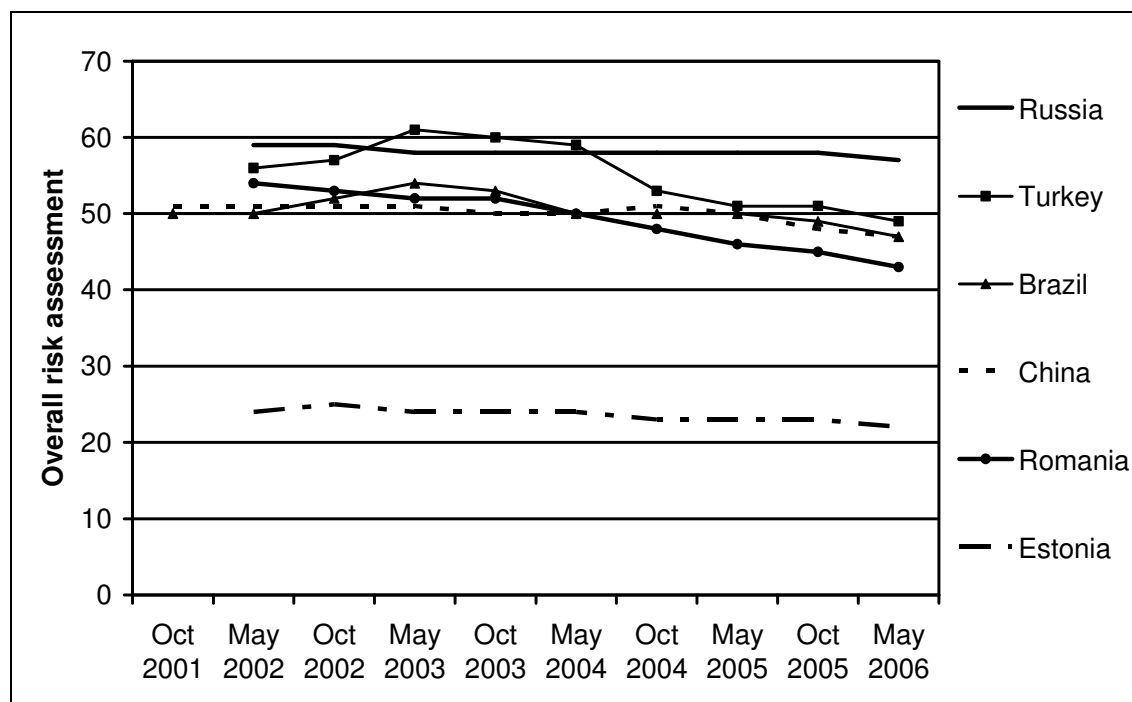
Information about the risk of investments in the forestry sector (i.e. industry or sector risk) is often difficult to obtain and information about individual firms is extremely difficult to obtain except for the largest companies in the sector. Risk assessment requires reliable statistics and serious analysis of the sector but, due to the relatively small size of the sector, it is often not cost-effective for investors (or independent investment advisors) to collect and produce such information.

Information about country risk is more generally available from public or commercial sources and this shows investors how Russia compares with other possible locations for investment in the forestry sector. For example, indices that may be used by firms and individuals considering investment and business in Russia include the following:

- The Economist Intelligence Unit's Risk Briefings (<http://www.viewswire.com>);
- The Bertelsmann Transformation Index (<http://www.bertelsmann-transformation-index.de>);
- The Transparency International Corruption Perceptions Index (<http://www.transparency.org>); and
- a number of business and investment indicators published by the World Bank (<http://www.worldbank.org>).

To give one example, Figure 7 shows the overall country risk assessment scores for Russia and a number of comparable countries that might interest investors in the forestry sector. These figures are taken from the Economist Intelligence Unit and higher numbers indicate a higher degree of risk of investing in a country.

Figure 7 EIU overall country risk assessment scores 2001-2006



Source: Economist Intelligence Unit (2006).

The three largest emerging economies with significant forestry sectors are Brazil, Russia and China. The figures show that the investment risk in Russia is considered to be quite a lot higher than in both Brazil and China. Furthermore, the risks in both of these countries have declined slightly in the last few years while the risk in Russia has hardly moved.

The benefits of transition to a more market-based economy - with stronger governance - are shown by the figures for Turkey, Romania and Estonia. In particular, Estonia and the other Baltic States have shown how limited forest resources, combined with cheap skilled labour, can lead to strong growth in the forestry sector if the investment climate in a country can be improved. Compared with their experience, it would appear that Russia still has some way to go to attract the significant amounts of new investment required in the sector.

Policies and institutions

All over the World, a major factor that affects the investment climate and costs of doing business is the quality of policies and institutions. Therefore, it is useful to examine some of the trends in policies and institutions that are taking place in other countries.

Forestry policies

In many countries in recent years, a major trend in forestry policies and institutions has been declining budgets for state forestry authorities. In response to these developments, many countries have tried to make their institutions more efficient and responsive by decentralising activities, creating self-funding forestry agencies, privatising commercial activities and outsourcing some public functions.

These developments have also been reflected by a gradual change in the functions of public agencies from forest managers or providers of services to the forestry sector to more of a regulator of private and public-private forestry activities. Associated with this, governments are also trying to create more competition for access to the resource by shortening concession periods, offering smaller and more temporary licences for forest operations and introducing competitive bidding for harvesting rights and management activities.

Policies such as those described above have had mixed results, but in many cases they have increased efficiency and competitiveness in the sector.

Trade and industry policies

In the forest processing sector, almost all countries attempt to maximise the domestic production and export of value-added products. Trade policies - such as export taxes on unprocessed products - are a commonly used mechanism, although they are a negative incentive (i.e. they discourage exports of unprocessed products rather than encourage exports of processed products) and, due to their nature, they have had mixed success.

Another more positive mechanism to encourage forest processing is the use of incentives (e.g. grants, subsidies and loans) to promote industrialisation. Several countries with rapidly developing forest processing sectors (e.g. Brazil, Chile and China) have used a range of incentives to support such developments. Given the currently high energy prices and the impact of this on Russian public finances, an opportunity currently exists to promote investment in the sector through direct incentives and public-private partnerships.

A more recent development in industrial policies has been the encouragement of public and private sector collaboration in research, development, marketing and a range of other activities, to bring together all the different components required for a successful industry. Development of such "forestry clusters" is now underway in countries as diverse as Finland, New Zealand, Brazil and Scotland.

Another way in which countries have encouraged the development of forest processing is by increasing information about the sector, to overcome some of the problems of risk assessment already noted previously. For example, many East European countries now produce and present comprehensive statistics about numerous different aspects of the forestry sector. These efforts have been supported by both government and the private-sector, as they have gradually started to understand the benefits of improved information.

FAO ASSISTANCE TO MEMBER COUNTRIES

The Russian Federation became a Member Nation of FAO on 11 April 2006. This now enables FAO to offer assistance to Russia in a number of areas. FAO provides assistance in member nations in four main areas and activities that may be of most interest in each of these areas are described below.

- Improving information The FAO Forestry Department is involved in the development of codes of best practice in areas such as: forest fire management; forest harvesting; and forest plantations. It also assists countries to collect, analyse and disseminate information (e.g. assisting with the production of the first Georgian Forestry Yearbook).
- Sharing policy expertise: FAO and the UNECE have a very active programme of workshops and seminars for countries in Eastern Europe and the CIS. These enable countries to come together and share experiences with the transition to market-based economies. Broader initiatives include meetings on issues such as strengthening governance, certification and wood energy.
- Meeting place for nations: FAO and the UNECE also host meetings for countries to come together to discuss issues that require international attention. Events such as the market discussions at the UNECE Timber Committee can also be used to inform others about what is happening in the Russian forestry sector.
- Bringing knowledge to the field: Finally, FAO has a technical co-operation programme that can be used to provide technical assistance to countries through small projects. This has been used successfully in Eastern Europe to provide assistance to the transition process and the FAO Sub-regional Office for Eastern Europe is already discussing the types of projects that might be most useful with the Russian Government.

As a new member of FAO, the Forestry Department would welcome comments and suggestions about how collaboration between Russia and FAO could be developed in the forestry sector.

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