

# Finnish Forest Sector Economic Outlook

2003–2004



December 2003

# Finnish Forest Sector Economic Outlook 2003–2004

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December 2003

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Finnish Forest Research Institute  
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## Summary

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*The economic indicators all suggest that GDP growth in the world economy should be starting to pick up. There is already evidence of this in the United States and Asia, but in Europe – the main export market for the Finnish forest industry – the recovery in demand is still awaited. The effects of sluggish demand for paper in Europe, combined with plentiful supply and a strengthening euro, have been reflected in prices, resulting in a significant drop in the export prices of Finnish paper since 2002. Sawnwood export prices also began to fall in the first months of 2003, although the average price for the full year will still be slightly above the 2002 figure. Despite falling prices, overall production in the Finnish forest industry has been rising in 2003. With the end of the forest taxation transition period drawing nearer, the supply of domestic roundwood has been increasing. Commercial fellings are also up in 2003, but stumpage prices have begun to fall as a result of the abundant supply. The additional demand for roundwood in the forest industry has largely been met through increased imports.*

*In 2004, growth in the world economy will accelerate. Weighted according to the distribution of Finnish forest industry exports, world GDP growth is forecast to rise to 2.5 per cent from its 2003 level of 1.5 per cent. With a recovery in the demand for paper in Europe, export prices are expected to start strengthening. Growth in sawnwood demand, on the other hand, will still be restrained by low growth in the European construction sector. Sawnwood export prices are expected to rise very little, due to tough competition. The demand for roundwood will be up slightly because of an overall growth in production in the Finnish forest industry. However, pulpwood harvesting will decline in response to the increase in imports of pulpwood and chips, and the drop in pulp-*

*wood stumpage prices will continue. Sawlog fellings will be up and sawlog imports down slightly.*

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### **Economic Operating Environment**

Contrary to the expectations of autumn 2002, the growth outlook for the Finnish forest industry has remained weak in 2003. Although economic growth has picked up significantly in the United States and Asia, growth in Europe – Finland's main export market – has continued to be weak for the third year in succession. Most forecasts indicate that 2003 GDP growth in the euro area will be no more than about 0.5 per cent. The strengthening of the euro has been one factor restraining growth, as it has hampered exports from euro area companies. Among the key export markets for the Finnish forest industry, growth has been particularly weak in Germany.

In 2004, the acceleration in GDP growth in the world economy is expected to improve the economic outlook for the euro area as well. The strengthening of the US and Asian economies, in particular, will boost exports, and this, together with low interest rates and a gradual revival in consumption, will raise GDP growth in the euro area to almost two per cent. There are, however, some considerable uncertainties that cast a shadow over the prospects for this brighter outlook. The extent of indebtedness in the United States economy and among US households is a key uncertainty that could affect growth in the US economy and create uncertainty on the currency markets. Another factor is this year's renewed standstill in the euro area's biggest economy, Germany. Together with the stronger euro, this will serve to dampen demand and jeopardise the prospects for an acceleration in GDP growth in the euro area.

## **Exports, Production and Prices in the Finnish Forest Industry**

In 2003, domestic consumption has stimulated some growth in sawnwood production. No growth has occurred in sawnwood exports, however, because of the weak state of the construction sector in Europe, the main export market for the Finnish forest industry. The sluggish demand for sawn softwood in relation to its increased production has led to oversupply in Europe. This caused average export prices of Finnish sawnwood to decline in the first months of 2003, reversing the previous year's trend. For 2003 as a whole, however, the export price will be about two per cent above the 2002 figure.

Forecasts by Euroconstruct indicate that the recovery in the European construction sector will be delayed until 2005. With only modest demand growth for sawnwood in 2004, the growth in exports of Finnish sawnwood will also be low. The average export price of Finnish sawnwood is not expected to rise above its 2003 level, due to the very competitive market as a result of continued oversupply in Europe. Further growth in housing construction in Finland will mean greater consumption of sawnwood in 2004. According to the forecasts, this could boost sawnwood production to almost 13.5 million cubic metres.

Europe's demand for paper products has increased only a little in 2003, and prices have fallen considerably on account of the price competition caused by overcapacity and the weakening of the US dollar. Production and exports of Finnish paper and paperboard will be up by 2–3 per cent in 2003, but the average export price will be down by about eight per cent. Pulp production for the year will show an increase of about four per cent, due to the increase in pulp exports and domestic demand. Although the dollar price of pulp has risen, the average export price in euros for 2003 will be about three per cent below the previous year's average, as a result of the movements in exchange rates.

In 2004, the demand for paper is expected to start picking up in Western Europe, and exports of Finn-

ish paper are forecast to increase by about three per cent. With only a minor increase in capacity anticipated in Europe, this will mean an improvement in the utilisation of existing capacity. The improved demand-supply balance will facilitate a rise in the average export price of Finnish paper, ensuring that the average price for the year is about the same as in 2003. The outlook for paperboard exports will also be improved, and the production and export of Finnish paperboard and export prices are all projected to rise a little in 2004. Pulp production is forecast to increase by about three per cent, due to the additional capacity and a rise in exports. With stronger demand, the market price of pulp is forecast to improve too. This is expected to produce a rise of about five per cent in the export price of Finnish pulp in 2004.

## **Costs and Profitability in the Finnish Forest Industry**

The cost trends in the Finnish forest industry in 2003 have been mixed. Labour, energy and transportation costs have all been increasing, pulpwood mill prices have been falling and sawlog mill prices have remained unchanged (except for birch sawlogs). In the pulp and paper industry, profitability has weakened during 2003, in spite of the moderate cost trend. This is due to the considerable drop in export prices and because the capacity utilisation rate has been just 88 per cent. By contrast, the capacity utilisation rate in the sawmilling industry remains high, although the industry's profitability is still low despite the improvement during the year as a result of the slight rise in average export prices.

In 2004, pulp and paper prices are expected to pick up as demand improves, and the capacity utilisation rate will rise. With costs remaining almost unchanged, profitability in the paper industry is expected to improve in the second half of the year. In the sawmilling industry, domestic demand will lift production levels, and the capacity utilisation rate will be very high. Export deliveries will only increase a little, however, and price increases will be limited by the tough competition in Europe. With

costs remaining stable, the industry's profitability in 2004 is expected to be at around the same level as in 2003.

## **Roundwood Markets**

Commercial fellings will be up in 2003 to a total of approximately 55 million cubic metres. This increase applies to pulpwood more than sawlogs, because the increased production in the forest industry has been mainly in paper production. Roundwood imports have also been rising, and the figures are expected to show that the industry's growing demand for wood has been met mainly through imported roundwood. Roundwood imports are likely to have grown in 2003 to over 17 million cubic metres. As the end of the forest taxation transition period draws nearer (as of 2006, all forest owners will be subject to taxation based on roundwood sales), the supply of wood on domestic roundwood markets appears to be growing more rapidly than the industry's demand for it. In addition, lower export prices for paper industry products are also affecting pulpwood prices, which are expected to be down in 2003 by 4–6 per cent. The stumpage prices of softwood sawlogs have also begun to fall, although the rising trend in the early part of the year should mean that average prices for the year will probably be at their 2002 levels.

In 2004, approximately the same volume of wood will be harvested in Finland as the previous year, and the volume of imported wood will continue to rise. Production growth in the Finnish forest industry will again be concentrated in the paper industry, which will increase the need for pulpwood, in particular. However, domestic pulpwood fellings will decrease as pulpwood imports rise and stumpage prices fall (by a further 3–4 per cent) in response to the plentiful domestic supply. The growing demand for sawlogs to meet the slight increase in sawnwood production will be met from domestic fellings. This is expected to keep prices of domestic sawlogs at about the same level as in 2003.

## **Investment and Profitability in Non-Industrial Private Forestry**

In 2002, there was a drop in the amount invested in timber production in non-industrial private forestry in Finland, due to a reduction in artificial regeneration. By contrast, the level of investment in 2003 will be up by about six per cent, to over EUR 195 million. This is because there are substantial clearcut areas to be regenerated in order to meet the statutory regeneration obligations, and the regeneration of such areas has required additional investment from forest owners in 2003, which will again be the case in 2004. Non-mandatory investments by private forest owners during 2003 have been stimulated by the sustainable forestry funding allocations in the Government's supplementary budget. The Government's commitment to the National Forest Programme should ensure the effective implementation of measures to secure sustainable roundwood production in 2004.

Per-hectare gross stumpage earnings in non-industrial private forestry will be down in 2003 by about one per cent, due to the drop in stumpage prices. Costs will be up by almost five per cent. More state subsidies have been taken up in 2003 than in the previous year, and so the costs paid by the forest owners will also have risen. Per-hectare net earnings in non-industrial private forestry will be down in 2003, to EUR 97 from the previous year's EUR 99, on account of the rise in costs and the fall in gross stumpage earnings. This is below the level of the late 1990s but is still higher than the average for the past 10 years. In 2004, the increase in sawlog fellings will raise per-hectare gross stumpage earnings. With costs down a little, net earnings are expected to return to EUR 99 per hectare.

## **Labour Force**

By the end of 2003, the number of people employed in the Finnish pulp and paper industry is expected to be 3000 fewer than in 2002, due to the slowdown in production growth and weaker profitability. At the



same time, labour productivity is expected to have risen by as much as nine per cent, due to restructuring in the labour force. The contraction in the labour force appears to have had little effect on the unemployment rate in the industry, however. In the sawmilling industry, employment is more or less unchanged from 2002, while the joinery industry has seen an additional 1000 jobs, attributable to the growth in renovations and housing construction. Labour productivity is expected to be up in the wood products industry as a whole by an average of about three per cent. In the sawmilling industry, production growth will continue to be low in 2004, which could mean a slight decline in employment. Production growth in the pulp and paper industry will be slightly higher in 2004, which should reduce the decline in employment levels quite significantly. In 2004, labour productivity in the wood products and paper industries is forecast to increase by 3–4 per cent. The total number of jobs in the Finnish forest industry in 2003 is approximately 69 000, and is forecast to be about 68 000 in 2004.

The growth in the number of forestry jobs in 2003 has been greater than that needed to meet the growth in commercial fellings. These extra jobs are in artificial regeneration, tending of young stands and increased harvesting of firewood and wood chips. The number of employees in the sector in 2003 is up by about 1000, while the number of office personnel and private entrepreneurs is unchanged. The unemployment rate is unchanged from the previous year, at about 10 per cent. No major changes are expected in the employment situation in 2004, because the volume of commercial fellings will be about the same as in 2003. A slight increase in labour productivity will be recorded in 2003 and 2004. The total number of jobs in Finnish forestry in 2003 is about 26 000, and this will be unchanged in 2004.

### **Basis of Forecasts and Risk Scenario**

The forecasts set out for the forest sector in this *Economic Outlook* are based on a wide range of information: publicly available statistics and forecasts about

the world economy; market information and other data on the forest sector from various sources; and research conducted by the Finnish Forest Research Institute. The view of GDP growth in the world economy and export markets has been formulated on the basis of forecasts made by a number of different organisations, among them the Organisation for Economic Cooperation and Development, the International Monetary Fund and the Research Institute of the Finnish Economy. The forecasts given in this publication are for the years 2003 and 2004 and are based mainly on information available in late September and early October 2003.

The forest sector forecasts presented here are point forecasts. They represent the views of researchers about the most likely course of events, given the export market GDP forecasts and other background assumptions about the markets. The greatest uncertainty in the forecasts is whether or not the growth will be lower than expected. Of particular concern is the trend in the US economy, as GDP growth in the United States is expected to drive up growth in the euro area too. Delayed growth in the euro area would also limit the improvement in demand for forest industry products. Uncertain growth in the German economy also continues to be of concern, as this has a direct impact on Finnish exports and on the entire European economy. If GDP growth in Europe turns out to be weaker than expected, the demand for forest industry products will be lower than forecast. This would further exacerbate the already intense competition in Europe and force down prices. Competition in Europe will also be intensified if the US dollar weakens further against the euro, as this would hamper European export prospects and add pressure to obtain supplies from countries outside Europe. If the growth in export markets is below the forecasts given here, this will affect the export prices, production and profitability of the Finnish forest industry. With falling demand for wood, the adverse impact would spread from the forest industry to roundwood markets, forestry employment and the profitability of non-industrial private forestry. Growth in the Finnish forest sector would then fall short of the forecasts presented here.



# 1 World Economic Outlook

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*The growth prospects for the Finnish forest industry have remained weak in 2003. The continuing impact of the sharp downturn in the world economy that start in the United States in the last quarter of 2000 will, despite initial expectations to the contrary, ensure that world GDP growth remains very low in 2003. Although the US economy has picked up noticeably since 2001, economic growth has continued to slacken in the euro area. 2003 GDP growth in the world economy weighted according to the distribution of Finnish forest industry exports is expected to be about 1.5 per cent, which is very similar to the previous year's figure. Among the Finnish forest industry's key export markets, economic growth has been particularly slow in Germany.*

*Growth in the world economy will pick up slightly in 2004. Real GDP growth weighted according to the distribution of Finnish forest industry exports is expected to rise to about 2.5 per cent. The brighter outlook will be overshadowed, however, by considerable uncertainties. In the United States, economic growth will be restricted by the indebtedness of households and the economy at large. In the euro area, demand growth will be dampened by this year's renewed standstill in the area's biggest economy, Germany, and by the stronger euro. This will jeopardise the prospects for accelerated growth in the euro area in 2004.*

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## **Euro Area GDP Growth Still Sluggish**

Euro area GDP growth in 2003 will be at the previous year's level, still significantly slower than growth in the world economy. The lowest point in the business cycle was reached in the second quarter of 2003, when the Iraq war and the SARS epidemic weakened world GDP growth at the same time as the euro strengthened considerably. Although the outlook for the latter part of 2003 is better, growth for the year as a whole will probably remain at about 0.5 per cent. The low level of growth for the third year in succession is again reflected in higher unemployment.

Slow growth has nevertheless reduced the euro area's inflationary pressures, reinforced by the moderate trend in raw material prices and the euro's strengthening against the dollar. The euro did weaken for a time against the dollar in the summer and early autumn, but continued to strengthen well in September. The outlook for inflation in 2004 is also moderate, thus delaying the need for any tightening of monetary policies as economic growth gathers pace. The euro rate against the US dollar is expected to remain at its late September level (1.16), ensuring that the average rate in 2003 is almost 20 per cent above the previous year's level. In 2004, the euro's dollar rate is expected to be unchanged from this year's level.

The euro area's brighter economic outlook for 2004 is principally based on a general upturn in the

world economy. Accelerated growth in the United States and Asia in particular will boost exports, which, in combination with low interest rates and a gradual rise in private consumption, should result in GDP growth of almost two per cent in the euro area in 2004. However, a marked increase in investment will not be seen until the second half of 2004, due to the current overcapacity and profitability problems.

The projected improvement in the euro area economy is most at risk from any renewed slowdown in world GDP growth, which would be contrary to expectations, and any further strengthening of the euro. Despite the encouraging signs, accelerated growth in the world economy is not yet on a stable footing. In the United States, the high rate of household indebtedness is causing consumers to remain cautious. Consequently, any further negative news, on unemployment for example, could easily lead to a contraction in private consumption, which would be damaging for both the US economy and the world economy. Although there was a temporary weakening of the euro during summer and early autumn 2003, its considerable strengthening against the US dollar since March 2002 has hampered euro area exports. A further strengthening of the euro could delay the emerging growth in the euro area economy.

### **Mixed Trends in the Finnish Forest Industry's Traditional Export Markets**

The Finnish forest industry's most important export markets in Europe are Germany and the United Kingdom. In 2002, Germany accounted for 18 per cent, and the UK for 14 per cent, of Finnish forest industry exports by value. Growth in the German economy in 2003 will be close to zero, for the second year in succession. This is of major significance for the euro area's economic outlook, because Germany accounts for about 30 per cent of the euro area's GDP.

Germany's exceptionally slow growth is largely attributable to a decline in the country's industrial

production, as domestic manufacturing is replaced by imports. Private consumption is nevertheless expected to pick up in the latter part of 2003, while in 2004 it will be stimulated not only by low inflation but also by the boost to household income as a result of the forthcoming tax relief (although this will also necessitate a tightening of the nation's finances in 2004). With growth in private consumption and investment and an upturn in the world economy, German GDP is forecast to grow in 2004 by about 1.5 per cent.

The United Kingdom's 2003 GDP growth will remain at the previous year's level, at just under two per cent. This is markedly higher than the equivalent figure for the euro area. The state of the euro area economy is very important to UK industry, as almost half of the nation's exports are to markets in the euro area. With slow growth in the UK's export markets, the main factor boosting the UK economy in recent years has been private consumption, which will be up almost three per cent in 2003. The growth in private consumption is slowing down, however.

GDP growth in the UK in 2004 is expected to rise to a little over two per cent. This will be fuelled by private consumption, a gradual increase in investment and export growth as the world economy, and the euro area in particular, begins to pick up.

Although the pound sterling rate against the euro has weakened during 2003, the value of the pound will be supported by a tightening of UK monetary policy – probably at an earlier stage than in the euro area – in response to faster economic growth and higher inflation. If growth in the euro area in 2004 picks up as forecast, the pound will strengthen at least marginally from its present level (GBP/EUR 0.70).

### **United States Driving the World Economy**

The prospects of the United States being able to drive the world economy onto a renewed growth track improved during 2003. The improvement in the US economy has been due, above all, to private

Forecasts of economic growth (real GDP, annual percentage change)

	Share of Finnish forest industry's export value 2002, %	Actual GDP growth % 2002	ETLA*		IMF**	
			2003	2004	2003	2004
<b>Weighted by share of Finnish forest industry exports</b>	100	1.5	1.5	2.3	1.5	2.5
EU	66	1.0	0.8	1.8	0.8	2.0
Euro countries	45	0.9	0.6	1.6	0.5	1.9
Germany	18	0.2	0.1	1.0	0.0	1.5
United Kingdom	14	1.8	1.8	2.9	1.7	2.4
Eastern Europe	8	4.2	4.5	4.5		
Russia	3	4.3	5.5	4.0	6.0	5.0
United States	7	2.4	2.4	3.1	2.6	3.9
Asia excl. Japan	6	6.3	5.9	5.9	5.9	6.2
Japan	4	0.1	1.0	1.0	2.0	1.4
Latin America	2	-0.1	1.1	3.3	1.1	3.6
Other	7					

\* Forecast by Research Institute of the Finnish Economy (ETLA) published September 11, 2003

\*\* Forecast by International Monetary Fund (IMF) published September 18, 2003.

consumption and highly expansionary fiscal and monetary policies. The outlook for the remainder of 2003 is fairly bright, and so GDP growth in the United States for the full year is expected to be approximately 2.5 per cent.

A key question mark in forecasting US economic growth is the level of private consumption, as this accounts for over two thirds of GDP. Factors restraining private consumption growth are the high indebtedness of households and the shrinkage in household assets resulting from the fall in share prices. For the time being, however, low interest rates and rising property values have maintained the pace of private consumption. Interest rates on housing loans have probably reached their lowest point already, and so rescheduling of housing loans cannot in future be expected to stimulate private consumption.

The unexpectedly slow recovery in the world economy has led the US Federal Reserve to prolong its policy of low interest rates, aimed at offering strong support to consumption and growth. The acceleration in inflation to over two per cent in 2003

appears to be a short-lived phenomenon that requires no response from the Federal Reserve. Low interest rates and a rise in demand will stimulate investment in the second half of 2003 and in 2004. Investment is set to increase in the IT sector especially. In many sectors, however, the desire to invest will be inhibited by the presence of unused capacity that could be used to meet growing demand.

Although the recovery in the US economy has been quite slow and erratic, the outlook for 2004 is good. As long as private consumption continues to grow at its present rate, GDP growth will increase to over three per cent as investment and export growth accelerate.

### Positive Outlook for the Japanese Economy

The sustained period of sluggish growth in the Japanese economy appears to be coming to an end. Private consumption will continue to grow at a steady pace, export growth will pick up towards the end of

2003, and, after an interval of several years, investment will finally increase. GDP growth for 2003 will reach almost two per cent. In 2004, export growth is expected to slow, however, despite the revival in the world economy, and this will reduce GDP growth to a shade over one per cent.

GDP growth in Asia (excluding Japan) is expected to be approximately six per cent for 2003. Exports to the United States are on the increase, and trade between Asian countries has been rising too, led especially by China. Asian GDP growth will continue to be strong in 2004, as the world economy picks up.



## 2 The Finnish Forest Industry

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### 2.1 Exports and Production in the Sawmilling and Plywood Industries

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*Slack demand on Europe's sawn softwood markets at a time of production growth has led to oversupply during 2003. The trend in exports of Finnish sawnwood to European markets differs greatly from one country to the next. For example, exports to Germany have continued to decline, while those to the United Kingdom have increased. Exports to markets outside Europe have been hampered by the strengthening of the euro. The continued weak state of Europe's construction sector means that Finnish sawnwood exports for the year will be more or less unchanged from 2002. Despite the fall in export prices in the first part of the year, the average export price for 2003 as a whole will be slightly above the previous year's level. Exports of plywood in 2003 will be up by about eight per cent, due to the additional production capacity, although the average unit price will be down by about three per cent.*

*Euroconstruct forecasts that the EU construction sector will not now recover until 2005, which means that sawnwood consumption growth in Europe in 2004 is likely to be low. In a situation of increasing production, this will continue to create oversupply and tougher competition on the sawnwood markets. 2004 will thus be another year of virtually no growth in Finnish sawnwood exports. However, sawnwood consumption on the domestic market will continue to rise, thanks to growth in housing construction. Con-*

*sequently, sawnwood production is forecast to reach almost 13.5 million cubic metres in 2004. Plywood exports are expected to increase by three per cent in 2004. The average unit prices of sawnwood and plywood exports are forecast to remain close to the 2003 average, due to the intense competition.*

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### Construction Recovery in Europe Still Awaited

In contrast to the autumn 2002 forecasts of an imminent recovery in the world economy, the reverse has in fact happened in Germany, for instance. With 2003 growth in the euro area little changed from the previous year, at less than one per cent, demand growth for sawnwood is very low. Euroconstruct's June 2003 forecast indicates a growth in construction output of only 0.2 per cent, concentrating mainly on renovations of existing buildings. The forecast also indicates that the awaited revival in the EU construction sector will not occur until 2005.

In Germany, construction output for the whole of 2003 is expected to be down again, by 1.6 per cent. This will clearly affect the demand for sawn softwood, as the German market accounts for one fifth of Europe's construction output. The United Kingdom, by contrast, is one of the few countries in which construction is still on the increase: new housing construction in 2003 will be up by seven per cent, and renovations by three per cent. The minor level of growth achieved in Europe's construction sector has been attributable not only to the UK but

	Sawnwood	% of production	Plywood	% of production
Production	13 280	100	1 240	100
*Domestic use	5 093	38	123	10
Exports:	8 187	62	1 117	90
EU	5 098	38	982	79
Africa	1 213	9	1	0
Japan	949	7	11	1
Asia excl. Japan	637	5	46	4
North America	85	1	51	4
Russia	6	0	2	0
Other	199	2	24	2

The plywood figures comprise birch plywood, softwood plywood and laminated veneer lumber (LVL).

\* Estimated domestic use = production – exports

Sources: Statistics 2002 (Finnish Forest Industries Federation) and Finnish Forest Research Institute

also the positive trend in several of the forthcoming EU member countries, namely the Czech Republic, Hungary, Poland and Slovakia. Indeed, FAO figures show that the growth of about two million cubic metres in Europe's sawn softwood consumption in 2002 was particularly centred on the countries of Eastern Europe.

### **European Markets Troubled by Oversupply**

The weakness in demand on Europe's sawn softwood markets in relation to the growing production has led to a situation of oversupply. Consumption of sawn softwood within the EU grew by only 1.4 per cent in 2002, whereas production was up by 2.3 per cent. In Germany, production of sawn softwood was up by almost seven per cent, and this growth has continued into 2003. Sawn softwood production in the other big producer countries – Sweden and Finland – has continued at a high level, and output in the Baltic countries, Russia and other Eastern European countries has also been rising. An exception has been the United Kingdom, where demand

and supply have been fairly balanced, thanks to the growth in construction.

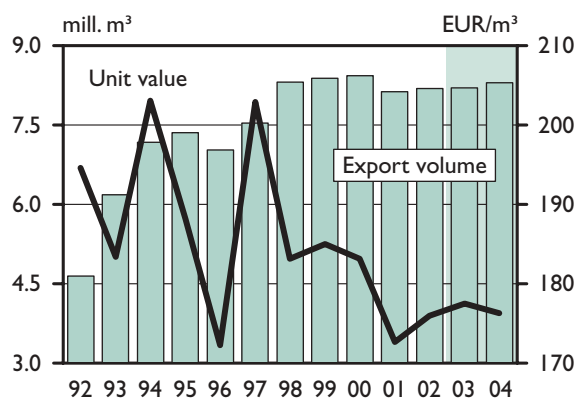
The strengthening of the euro against the US dollar has affected trade in sawnwood and increased supply on European markets in the early part of 2003. European exports of sawnwood to North America have fallen, while Canadian exports to Europe have correspondingly increased. From a high in May 2003 (1.19), the euro weakened during the summer, before strengthening again in late September (1.16). Provided that the value of the euro does not appreciate significantly, supply from North America is not expected to increase in the remainder of 2003.

Russia's sawnwood exports have grown since 1998, aided by the devaluation of the ruble, and have already reached the level of the Soviet era. Exports in 2002 amounted to 8.6 million cubic metres. Russia's biggest export markets are China, the United States and Egypt. In 2003, exports have increased to China, in particular, but also to the European Union countries. The biggest proportionate increase has been in exports to Japan.

## Finnish Sawnwood Exports Unchanged from 2002, and Prices Affected by Oversupply

Despite the weak trend in the European construction sector, exports of Finnish sawnwood in the first part of the year continued at the high level of recent years. The one per cent decrease in exports of the more expensive pine sawnwood in January–July was counterbalanced by a four per cent increase in exports of the lower priced spruce sawnwood, in relation to the 2002 figures. This increase was due to higher demand in Japan and Europe. In Europe, the trend in Finnish sawnwood exports differs considerably from one country to the next. For instance, exports to Germany have continued to decline, whereas those to the United Kingdom have grown by about 10 per cent. Although the UK has traditionally purchased pine, the export growth in the early months of 2003 focused on spruce sawnwood.

The competitiveness of exports to destinations outside Europe has declined due to the strengthening of the euro against the US dollar, which began in 2002. As a consequence, Finnish sawnwood exports to Africa and North America have fallen. Exports to Japan, on the other hand, have grown by 23 per cent, despite the strengthening of the euro against the yen.



Source: National Board of Customs

*Volume and unit value of sawnwood exports, 1992–2004 at 2002 prices (wholesale price index)*

This was attributable to the high quality of Finnish sawnwood, established customer relationships and the improvement in the Japanese economy. In the latter part of 2003, Finnish forest industry exports are again overshadowed by the uncertain outlook for the world economy, the stronger euro and the weak construction sector in Europe. These factors will conspire to ensure that Finnish sawnwood exports in 2003 are unchanged from the previous year's level.

The oversupply situation in Europe and the stronger euro are reflected in the export prices of Finnish sawnwood. Although the average export price in euros for January–July 2003 was about three per cent higher than for the same period a year earlier, the month-by-month export price trend has been a declining one. This declining trend applies to both pine and spruce, despite the fact that the average January–July 2003 prices were still higher than the price levels for the same period in 2002, by four per cent in the case of pine sawnwood, and five per cent in the case of spruce sawnwood. The average price is not expected to rise in the remainder of 2003, because supply is running high and no significant demand growth is foreseen in Europe. Pressures to reduce prices are most evident for spruce sawnwood due to the tougher competition as a result of increased supply. If sawnwood export prices remain at about the level of the second quarter for the rest of 2003, the average price of Finnish exports for the year will be about two per cent above the previous year's figure.

## Domestic Markets Continue to Grow in Importance

Estimated sawnwood consumption in Finland grew to a little over five million cubic metres in 2002. This was a higher level of growth than that in construction output, indicating that the use of sawnwood as a building material has increased. At the same time, the importance of the domestic market to the Finnish sawmilling industry has grown: in 2002, almost 40 per cent of sawnwood production went to the domestic market.



Low interest rates are still helping to support the level of housing construction in Finland, and forecasts by the Research Institute of the Finnish Economy indicate that investment in housing construction will be up again in 2003. The construction confidence indicator of the Confederation of Finnish Industry and Employers also moved upwards in September, and the economic state of the construction sector was declared to be stable. In addition, the Confederation of Finnish Construction Industries forecasts that renovations will be up by about three per cent in 2003. Domestic sawnwood consumption will therefore also be up, by an estimated two per cent, and sawnwood production by almost one per cent; no increase in exports is expected.

### **Tough Competition on Sawnwood Export Markets to Continue in 2004**

Oversupply on European sawnwood markets will continue in 2004. Euroconstruct forecasts a growth of 0.5 per cent in construction output for the EU in 2004. Renovations will increase, but new housing construction will contract by almost two per cent. Without a considerable economic recovery, the growth in sawnwood consumption in Europe will again be very modest in 2004, and competition will intensify on the sawnwood markets as supply increases from Eastern Europe and Russia.

The accession of new Member States to the European Union in May 2004 can be expected to increase the supply of sawnwood in the EU to a certain extent during the year. As Russia expands its production capacity, in part due to foreign investments, its sawnwood export potential to European and Japanese markets will further rise, which will bring tougher competition to Finland's export markets. Production in the Baltic countries will also increase when a new Latvian sawmill comes on stream in 2004, following the additional capacity already introduced in Estonia earlier in 2003.

A positive factor for the demand-supply balance in the European market is the improvement in the Japanese economy. Sawnwood demand has picked

up in Japan following a six per cent increase in building permits for timber-framed houses in the first half of 2003, the increase being particularly noticeable in June (Japan Lumber Journal). If the forecast high level of wooden housing construction starts for 2004 materialises, the extent of sawnwood demand will allow continued European exports to the Japanese market.

In the United States, low interest rates have stimulated construction quite considerably in view of the economic situation, such that new housing starts in January–July were up four per cent on the corresponding period the previous year. In addition, North American sawnwood prices are forecast to rise in 2004 (Bank of Montreal, August 2003), which will not tempt Canadian producers to increase their supplies to European markets. Canadian exports to Europe have been running at only about 0.5 million cubic metres per year, which means that it would take a substantial percentage rise before Canadian exports would affect the balance in the European market. European sawnwood exports to North America will continue, provided that the euro does not gain too much in value. The demand for European exports will be aided by the continued customs duty dispute between the US and Canada, and by the roundwood availability problems following the forest fires in British Columbia and the wet weather in southern states of the US.

The outcome of Sweden's September referendum on membership of the European Economic and Monetary Union (EMU), namely to reject membership, will continue to allow Sweden a competitive edge over Finland and the other euro countries if there is a weakening of the Swedish krona. Such a weakening is not, however, anticipated in 2004; on the contrary, forecasts indicate a slight strengthening against the euro.

Although the increase in sawnwood supply from Eastern Europe will heighten competition on Finland's export markets, the improvement in the Japanese economy and the construction growth in North America will do something to alleviate the oversupply situation. Nevertheless, oversupply will continue

in Europe during 2004, adding to the pressure on sawnwood prices. With only very modest growth expected in Europe's sawnwood consumption, the nominal average export price for Finnish sawnwood in 2004 will rise by no more than one per cent on the 2003 level. Export volumes are also forecast to grow by almost one per cent. In the longer run, Finland's export opportunities could be increased significantly if European sawnwood consumption per head could be raised above its present level. Annual per capita consumption of sawnwood within the EU is only 0.2 cubic metres, compared with 0.4 cubic metres in Canada, 0.3 cubic metres in the United States and almost one cubic metre per capita in Finland.

### Domestic Demand Will Boost Sawnwood Production Again in 2004

Housing construction investment in Finland is set to grow by about two per cent in 2004, according to the Research Institute of the Finnish Economy. Figures from the Confederation of Finnish Construction Industries indicate that this growth will include an increase in the number of new construction starts on detached houses, which are the biggest users of sawnwood. The growth in construction is expected to boost domestic sawnwood consumption in 2004 by about two per cent, which will mean an increase in sawnwood production to an estimated 13.45 million cubic metres; export growth will be less than one per cent.

### Strong Growth in Finnish Plywood Exports

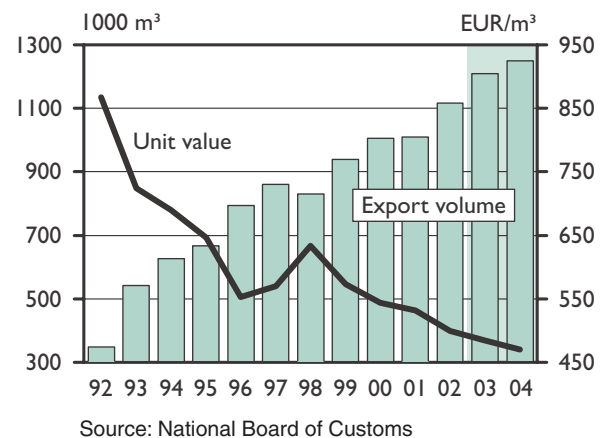
Plywood consumption in Western Europe fell by one per cent in 2002, due to the weak state of the economy and the construction sector. By contrast, plywood production was up by two per cent, exacerbating oversupply and increasing competition within the EU. Competition was due especially to the major increase in production capacity for oriented strand board, used as a substitute for softwood plywood.

Following recent additions to its plywood pro-

duction capacity, especially softwood plywood, Finland now produces about one third of the EU's plywood. In 2002, softwood plywood accounted for 58 per cent of Finnish plywood production. Russian plywood production also increased significantly in 2002, by 14 per cent, although the impact on the European market has been lessened by the 17 per cent increase in Russia's own plywood consumption. The oversupply on export markets pushed down export prices in Finland as elsewhere, despite the growth in export volumes. Finnish plywood exports to Europe increased by 11 per cent in 2002, and to Asian and North American markets by an even greater percentage.

The increase in the capacity utilisation rate for Finnish plywood production has helped plywood export growth to be maintained at around 10 per cent during the first half of 2003. The growth in exports of softwood plywood has been greater than for birch plywood. However, the average export price for Finnish plywood fell by four per cent in the January–July period. The export price of birch plywood fell even more sharply, because the supply growth in Russia and other Eastern European countries has reduced prices in Europe.

The growth in Finnish plywood exports in the second half of 2003 is expected to slow down some-



Volume and unit value of plywood exports, 1992–2004 at 2002 prices (wholesale price index)

*Forecasts of production and exports in the sawmilling and plywood industries (1000 m<sup>3</sup>); percentage changes from previous year are shown below the respective volumes*

	2002	Production 2003	2004	2002	Exports 2003	2004
Sawnwood	13 280	13 350	13 450	8 187	8 200	8 250
	5	1	1	1	0	1
Plywood	1 240	1 340	1 380	1 117	1 210	1 250
	9	8	3	11	8	3

what, due to the weak price trend, bringing growth for the full year to an estimated eight per cent. The export unit price in the second half of 2003 is expected to remain at around the level of the first six months. The average export price for 2003 will thus be some three per cent below the previous year's figure.

Given the 2004 forecasts for construction and economic growth, the demand for plywood in Europe is not likely to grow significantly, and so prices will again be under pressure due to the oversupply. It is also expected that the supply of birch plywood from Russia and the other Eastern European countries will increase further. In contrast to the European markets, demand for plywood in the United States has been growing faster than output, which has pushed prices up since summer 2003.

The export opportunities for Finnish plywood in 2004 are expected to be slightly better than for sawnwood, because the export demand for plywood is less reliant on construction growth. Other important end-users of plywood include the transportation and packaging industries. Most European countries can only cover a proportion of their plywood consumption through domestic production. Their need to import plywood is thus an essential factor in the success of Finnish plywood in Europe. European plywood consumption per capita is only one quarter of the North American level, which leaves considerable scope for increasing plywood use in Europe. In 2004, exports of Finnish plywood are forecast to increase by a further three per cent. However, the unit value of plywood exports will continue to fall,

*Forecasts of export prices for sawnwood and plywood (as percentage changes from previous year\*)*

	2002	2003	2004
Sawnwood	1	2	1
Plywood	-7	-3	-1

\* Export prices are nominal unit values

by about one per cent. If the forecast export growth materialises, plywood production should grow by three per cent in 2004, resulting yet again in a new Finnish production record.

## 2.2 Exports and Production in the Pulp and Paper Industry

*The market for paper products in Europe has remained weak during 2003. Paper consumption has grown only marginally, and prices have fallen due to the price competition brought about by producer overcapacity and the weakening of the US dollar. Production and exports of Finnish paper and paperboard in 2003 will be 2–3 per cent up on the previous year's figures, but the average export price will be down by about eight per cent. Pulp production will be up by about four per cent, due to the increase in exports and domestic demand. Although the dollar price of pulp has been rising, the average export*

price in euros for 2003 will be down by an estimated three per cent on the 2002 level, due to movements in exchange rates.

*As economic growth picks up, the demand for paper in 2004 is expected to improve in Western Europe, increasing Finnish paper exports by about three per cent. Growth in production capacity in Europe will be quite low, and so capacity utilisation will improve slightly. With an improved demand-supply balance, paper prices are expected to start rising, bringing Finland's average export price for paper in 2004 up to the 2003 level. Production, exports and export prices of paperboard are also likely to rise somewhat during 2004. Pulp production capacity and pulp exports will increase further during the year. Pulp production is expected to rise by about three per cent and export volumes by five per cent. The growth in demand is expected to push up pulp export prices by about five per cent.*

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## **Tough Competition Has Reduced Export Price of Paper**

The principal export markets of the Finnish pulp and paper industry are in Western Europe, where economic growth has continued to be very weak during 2003. The demand for printing papers is heavily reliant on advertising volumes, but forecasts indicate that in Europe these volumes may even be down in 2003 in real terms. Consequently, the anticipated growth in consumption of paper grades that are dependent on advertising may turn out to be rather weak. The oversupply situation caused by excess production capacity for coated printing papers that has troubled the European market for the past couple of years has not, in fact, been alleviated to any significant extent, and so the drop in prices has continued. Added to this, the fall in the value of the US dollar has sharpened competition on the world market, which has also reduced consumer prices of paper industry products.

Intensified competition in the first half of 2003 had the effect of reducing export prices and the value

of exports of Finnish paper and paperboard. The fall in prices was also due in part to the strengthening of the euro against the US dollar. This has affected pulp prices directly, while paper prices have been affected indirectly through the tougher competition. Finland's export volumes, on the other hand, have risen slightly as demand has crept up. Paper exports were up in January–July by about three per cent, and pulp exports by over six per cent, on the same period in 2002. Production increased accordingly, and the increase was particularly sharp for magazine papers. Pulp production rose in the first half of 2003 by over three per cent.

Paper production has also been increasing elsewhere in Europe. In Sweden, for example, paper and paperboard production rose by three per cent in the second quarter of 2003 in comparison with the same period the previous year. The highest proportionate growth was in magazine papers and packaging board. In Germany, production of printing and writing papers was up by over six per cent in the first six months of 2003, which was slightly above the overall growth in the country's paper and paperboard production. Europe's forest industry also succeeded in increasing its exports to markets outside Europe, despite the adverse effects of exchange rate movements on the competitiveness and profitability of exports.

With the exception of the early autumn price increases for pulp, there are not yet any foreseeable signs of an upturn in the forest industry's economic indicators in Europe. The situation for Finnish paper production and exports is therefore likely to be unchanged in the remainder of 2003. Paper exports and production volumes for the full year are expected to be about three per cent higher than in 2002, while production and exports of paperboard are expected to be at the 2002 level.

The average export price of Finnish paper in 2003 is expected to be down by about 10 per cent on the previous year's figure. Paperboard prices have been more stable, and the average paperboard export price will be down by only about two per cent on the 2002 level.

*The Finnish pulp and paper industry, 2002 (1000 tonnes)*

	Chemical pulp	% of production	Paper	% of production	Paperboard	% of production
Production	7 143	100	10 038	100	2 738	100
Domestic use*	5 184	73	922	9	428	16
Exports:	1 959	27	9 116	91	2 310	84
EU	1 515	21	6 217	62	1 387	51
Asia	136	2	685	7	341	12
Africa	16	0	96	1	64	2
United States	106	1	767	8	117	4
Russia	34	0	156	2	77	3
Other	152	2	1 196	12	324	12

\* Estimated domestic use = production – exports

Sources: Statistics 2002 (Finnish Forest Industries Federation) and Finnish Forest Research Institute

## **Dollar Price of Pulp Risen, but Euro Price Fallen**

Despite slow growth in the paper market, the price of bleached softwood sulphate pulp began to rise in early 2003, when there was a shortage of pulp on the world market on account of the roundwood supply problems of North American mills. After this situation returned to normal, demand was restrained by factors such as the Asian SARS epidemic, and pulp prices again began to rise. In January–September 2003, the PIX price of softwood pulp in US dollars (its pricing currency) was an average of 11 per cent higher than the same period a year earlier. However, with the weakening of the dollar, the equivalent price in euros was about eight per cent lower than the same period in 2002. The movement in hardwood pulp prices has been of the same order.

Pulp producers increased the price of softwood pulp in Europe at the start of September 2003. This was possible because of the buoyant demand for pulp in Asia and the higher dollar price of pulp in North America compared with European prices. The price of eucalyptus pulp also rose. Pulp producers introduced further pulp price increases in October.

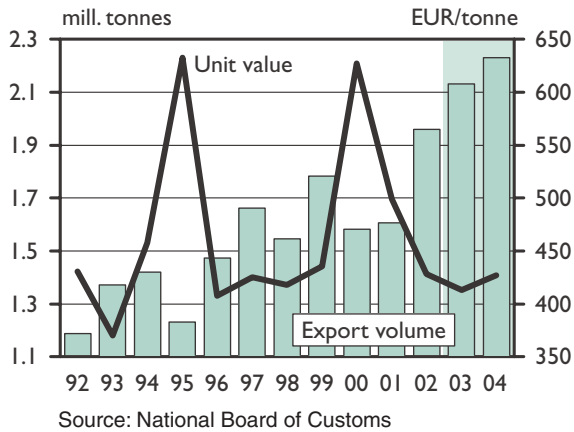
The average export price of Finnish bleached

sulphate pulp in 2003 is nevertheless expected to be about three per cent down on the 2002 level. Pulp exports are projected to grow by nine per cent, and production by four per cent, on the previous year's level.

## **Large Increases in World Production of Market Pulp**

World pulp production is currently growing most rapidly in South America. Towards the end of 2003, the Chilean company Arauco is bringing on stream a pine and eucalyptus pulp mill with an annual production of 0.7 million tonnes. It was little more than a year ago that the Brazilian company Aracruz inaugurated a new eucalyptus pulp line of a similar capacity. There are also other South American pulp mills planned for the near future, based on the use of plantation wood. The continent's paper production has been increasing only slowly, and the new pulp mills have so far been targeting their production at export markets.

The considerable growth in supply brought by the additional hardwood pulp capacity may affect pulp buyers' price expectations and stockpiling behaviour. Aracruz, at least, has tried to prevent oversupply in



*Volume and unit value of pulp exports, 1992–2004 at 2002 prices (wholesale price index)*

2003 by stockpiling some of its pulp production. Competition on the hardwood pulp market will probably increase in 2004, as new capacity is introduced, unless there is a noticeable increase in demand. Any price reduction in hardwood pulp would also be reflected in the softwood pulp market.

Pulp capacity has been increasing in recent years in Finland too, and this is set to continue in 2004, when the modernisation of UPM-Kymmene’s Pietarsaari pulp mill is completed. Exports of pulp can be expected to increase further, because Finnish production capacity for making pulp-based paper is not due to increase to any great extent in the near future. Exceptionally, Germany will be introducing a new mill to make market pulp from softwood sulphate in late 2004, which is likely to reduce German imports of pulp in the future.

### **Market Slow to Absorb Europe’s Overcapacity in Printing Papers – Are Further Capacity Increases Due Soon?**

Consumption of newsprint has been on the decline in Western Europe for the past three years. In 2002, European newsprint producers’ deliveries in Western Europe were down by about 10 per cent (900 000 tonnes) on the high achieved in 2000, according to the Confederation of European Paper Industries.

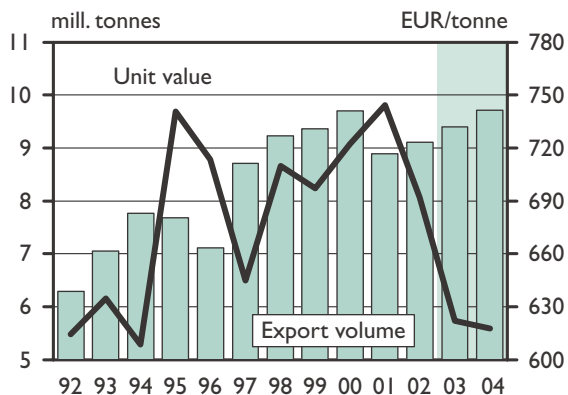
However, producers have succeeded in increasing their exports to markets outside Europe, although at the same time newsprint is also being imported to Europe, principally from North America.

In Europe, the most significant investment in additional newsprint capacity in 2003 was the newsprint machine – the world’s largest – inaugurated in Belgium by Stora Enso during the summer. Newsprint production capacity in Finland has been reduced in recent years.

There was considerable growth in Europe’s coated magazine and fine paper production capacity during the years 2000–2001, which is continuing to fuel the oversupply situation. The average PIX price of coated printing papers in January–September 2003 fell by almost 10 per cent on the same period the previous year. The growth in printing and writing paper capacity has been fairly moderate in 2003 and will remain so in 2004, which should produce a slight improvement in the demand-supply balance in the European market during 2004. This will be short-lived, however, because in September 2004, coated magazine paper capacity is set to increase again, with the introduction of a new LWC paper machine by the small German producer Leipa. The Confederation of European Paper Industries forecasts that deliveries of coated magazine papers in Western Europe in 2003 will be below the figure recorded for 2000.

The overcapacity and price competition in coated grades has also been reflected in the market for uncoated grades, such as SC papers, because some of the demand switches between coated and uncoated grades, depending on their respective prices.

The market for printing papers is fairly concentrated, however, which means that an increase in demand will bring opportunities for the larger producers to influence prices. In 2002, Finland accounted for over one third of all European production of magazine papers, and almost one fifth of Europe’s coated fine paper production. The Western European production capacity of the forest industry corporations headquartered in Finland would have been sufficient to manufacture about 60 per cent of



Source: National Board of Customs

Volume and unit value of paper exports, 1992–2004 at 2002 prices (wholesale price index)

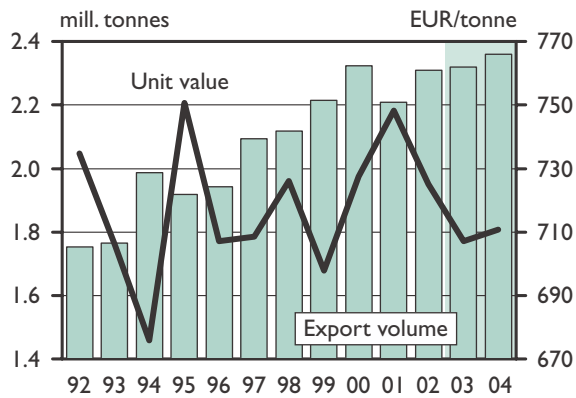
the total 2002 production of these printing papers.

On the paperboard market, substantial new production capacity has increased competition, especially between producers of waste-paper-based containerboard. In Germany, for example, prices have fallen by 13–17 per cent, depending on the product group in question, during the 12 months since August 2002. Although export prices of pulp-based containerboard manufactured in Finland have fallen rather more gently, it has proved necessary to limit production. In other paperboard grades produced in Finland, the balance between demand and supply has remained comparatively good, and the price level has been fairly stable.

### Paper Demand to Pick Up in 2004

Demand growth in the paper and paperboard industry is closely tied to the fortunes of the wider economy. Even if economic growth were to accelerate in Europe, which is the main market for Finland’s paper industry, growth in the pulp and paper markets is also dependent on North America and Asia.

The demand for printing and writing papers is especially dependent on magazine circulations and the thickness of magazines and on growth in printed advertising. In September 2003, the London-based



Source: National Board of Customs

Volume and unit value of paperboard exports, 1992–2004 at 2002 prices (wholesale price index)

media communications agency Zenith Optimedia Group forecast that 2004 will finally see real advertising growth in Western Europe, after two successive years of decline. According to the forecast, growth in the main advertising media, including newsprint and magazine papers, will be 2.2 per cent in 2004. A number of major events that should boost the consumption of printed media will also be taking place in 2004, notably the Athens Olympic Games and the US Presidential elections.

The outlook for the Finnish paperboard industry appears stable. About 15 per cent of its exports are to Asia, where economic growth is strong. The Asian paperboard market is currently one of the fastest growing markets for forest industry products in the world. Approximately one sixth of Finland’s paperboard production is consumed domestically, and about a half goes to Western European markets. Competition in Europe will continue to be tough, especially in waste-paper-based paperboard grades, for which yet more capacity is on the way.

The eastward enlargement of the EU is expected to produce some improvement in export opportunities for the paper industries of existing Member States, once the demand for paper in the new Member States picks up as economic growth accelerates. The enlargement will have very little impact

Forecasts of production and exports in the pulp and paper industry (1000 tonnes); percentage changes from previous year are shown below the respective volumes

	Production			Exports		
	2002	2003	2004	2002	2003	2004
Chemical pulp	7 143	7 450	7 700	1 959	2 130	2 230
	9	4	3	22	9	5
Paper	10 038	10 320	10 630	9 116	9 400	9 710
	1	3	3	2	3	3
Paperboard	2 738	2 740	2 790	2 310	2 320	2 360
	5	0	2	5	0	2

on the market in 2004, however.

In all, production and exports of Finnish paper are expected to grow by about three per cent in 2004. Whereas the production of newsprint could well continue to decline, production of coated printing papers will increase. Nevertheless, even coated printing paper capacity will still be under-utilised to an extent. By contrast, paperboard production capacity is already utilised fairly efficiently. Paperboard production and exports are forecast to grow slightly in 2004, by about two per cent. The production of pulp will increase further, due to growth in domestic consumption and in exports: pulp production is forecast to rise by about three per cent, and exports by five per cent, in 2004.

No significant new paper production capacity is to be introduced in Europe in 2004. The utilisation rates for existing printing paper capacity are expected to rise slightly. Although the demand-supply balance will still only improve a small amount in the producers' favour, prices are expected to start rising. This is because the considerable concentration in the sector gives producers the scope to influence prices, and because the production costs of non-integrated producers will rise due to the higher pulp prices. Fluctuations in buyers' stocks could hasten any price increases as the market improves. With prices no longer expected to fall, buyers may increase their stocks.

Forecasts of export prices for the pulp and paper industry (as percentage changes from previous year\*)

	2002	2003	2004
Chemical pulp	-15	-3	5
Paper	-8	-10	0
Paperboard	-4	-2	2

\* Export prices are nominal unit values.

The average export price of Finnish paper in 2004 is expected to be almost unchanged from 2003 as the drop in prices is turned around into an increase. The paperboard export price is forecast to rise by about two per cent, and the average pulp export price by about five per cent. The prices of pulp and paper industry products will be affected by movements in exchange rates, though these are difficult to predict. It is assumed that the euro rate against the US dollar will remain at its late September level (1.16). However, if the dollar were to strengthen, this could bring marked increases in the euro-denominated prices forecast for 2004.



## 2.3 Costs and Profitability in the Forest Industry

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*Cost trends in the Finnish forest industry in 2003 have been rather mixed. In comparison with 2002, labour, energy and transportation costs have risen, pulpwood mill prices have fallen and softwood sawlog mill prices have remained unchanged. In the paper industry, the capacity utilisation rate is again low and a significant drop in prices has weakened profitability. By contrast, the capacity utilisation rate remains high in the sawmilling industry. Although slightly improved on account of the marginal rise in sales volumes and prices, the industry's profitability remains poor.*

*In 2004, the fall in paper prices is expected to be turned around and the capacity utilisation rate to rise slightly. Paper industry profitability is thus forecast to improve towards the end of 2004. The market will, however, continue to be tough for the sawmilling industry. Its profitability is forecast to remain at the 2003 level, as prices and production costs will remain stable and there will be comparatively little growth in production.*

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### **Paper Industry Profitability Weakened by Decline in Prices**

In 2002, the Finnish forest industry's export income fell and profitability deteriorated; this was evident in both the paper and the wood products industries. The 2002 combined profits of the three largest Finnish forest industry corporations – Stora Enso, UPM-Kymmene and Metsäliitto Group – was approximately EUR 0.8 billion (before extraordinary items), compared with the previous year's EUR 2.7 billion. The combined profit for 2002 includes a non-recurring depreciation item of about EUR 1 billion, without which the combined profit would have been EUR 1.8 billion. The forest industry corporations' profitability continued to deteriorate in the first half of 2003, with a combined profit of about EUR 0.6

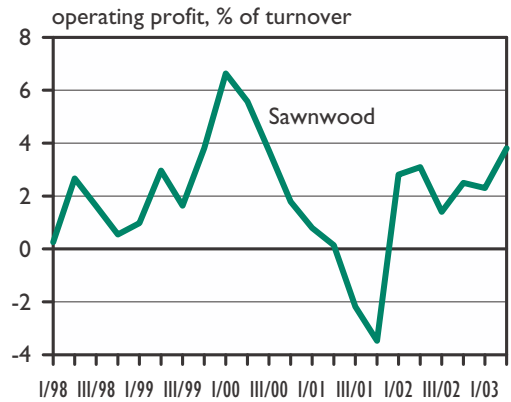
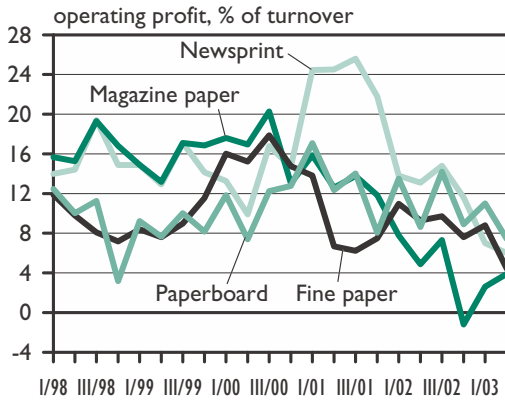
billion (before extraordinary items), as against the equivalent figure of EUR 0.9 billion for the first half of 2002.

The profitability trend in the paper and sawmilling industries is shown by product group in the accompanying diagrams. The diagrams cover the entire world production of Finland's forest industry corporations. However, the assessments presented below concerning the production costs and profitability of the Finnish forest industry in 2003 and 2004 deal only with domestic production.

Paper industry profitability weakened in the first six months of 2003, due to the drop in paper prices. Despite the increase in export volumes, the value of Finnish pulp and paper exports fell by about five per cent on the corresponding period a year earlier. Capacity utilisation rates were also low. In the paper and paperboard industry, the capacity utilisation rate was only 88 per cent, according to the Finnish Forest Industries Federation. The relatively low level of paper production meant that pulp production capacity also remained under-utilised.

Despite the increase in domestic sawnwood production and the three per cent rise in export prices in the first six months of 2003 compared with one year earlier, profitability in the sawmilling industry is still poor. For example, the operating profit of the Metsäliitto-owned Finnforest Solid Wood was less than three per cent of turnover in January–June, while its return on capital invested was about five per cent. The sawmilling industry's capacity utilisation rate has remained high, however, at about 97 per cent. Preliminary figures show that the value of exports of the entire Finnish wood products industry for January–June 2003 was about two per cent above the figure for the equivalent period in 2002; the export value of sawnwood was up by three per cent.

Profitability in the plywood industry has improved slightly during 2003, although the average export price of plywood is expected to show a drop of about three per cent. The profitability improvement has been due in part to the marked rise in the capacity utilisation rate as a result of increased production (up by about eight per cent), and in part to



Sources: Annual and interim reports of UPM-Kymmene, Stora Enso, M-real and Finnforest

Forest industry operating profit by product group, Q1/1998–Q2/2003.

the fall in the price of birch sawlogs (down by three per cent). Following major capacity investments, the plywood industry's capacity utilisation rate in 2002 was less than 70 per cent. The capacity utilisation rate for 2003 is expected to be 74 per cent.

### Fall in Stumpage Prices Reduces Roundwood Costs in 2003

Wood raw material costs comprise about one third of total manufacturing costs in the wood products industry, and about 14 per cent in the pulp and paper industry (data for 2000). These figures include the manufacture of processed products and all other sections of these industries. In particular segments of the wood products industry, wood raw material costs can account for a considerably higher proportion of total manufacturing costs: in sawmilling, for instance, they account for over half of total costs. The Finnish forest industry's roundwood costs are made up of the stumpage, harvesting, transportation and procurement costs of domestic roundwood, plus the costs of foreign imported roundwood. In the wood products industry, stumpage costs represent the biggest single cost item.

The stumpage price of softwood sawlogs increased during the first half of 2003 but then began to fall again in July. The average stumpage price for

the full year is expected to be around the previous year's level. The price of birch sawlogs is expected to show a decrease on the 2002 figure. Pulpwood stumpage prices remained at around the previous year's level during the first part of 2003, but then began to decline in the summer. Average pulpwood stumpage prices for the full year are expected to be down on the 2002 figures by about 4–6 per cent, depending on the tree species.

In July 2003, unit costs of roundwood harvesting and transportation were about 2.5 per cent higher than one year previously, according to figures from Statistics Finland. The upward pressure on harvesting and transportation costs was due to the increase in labour costs (caused by pay outstripping labour productivity) and especially the rise in fuel prices. However, the drop in interest rates helped to keep down the overall rise in costs.

The sawmilling industry's roundwood costs are expected to be almost unchanged from the 2002 figures, while in the paper industry roundwood costs for 2003 are expected to have fallen somewhat, once all the cost items are accounted for.

## **Forest Industry Pay Settlement Perpetuates the Trend of Recent Years**

In 2002, labour costs represented about 14 per cent of the pulp and paper industry's total output. In the wood products industry this share was about two percentage points higher.

Under the new two-year wage policy agreements that apply up to March 2005, wages and salaries in the Finnish forest industry will rise both this year and in 2004. Pay in the different contractual sectors of the forest industry was increased by 2.6–2.8 per cent at the start of March 2003. A further increase of 2.2 per cent will be made in March 2004. In practice, forest industry pay is finalised at plant level, where local site-specific increments are added to the negotiated contractual increases. In recent years these local increments in the various sectors have been in the range 1–1.5 per cent.

Labour productivity increased by 6.6 per cent in the pulp and paper industry and the wood products industry in 2002, according to figures from Statistics Finland. Labour productivity is expected to be up in 2003 by as much as about nine per cent in the pulp and paper industry and three per cent in the wood products industry, due to growth in production and the labour force reductions.

Despite rising pay levels, the effect of job losses is such that total labour costs in the pulp and paper industry in 2003 are expected to be about three per cent below the previous year's level. However, in the wood products industry, labour costs are expected to increase by about seven per cent.

## **Large Fluctuations in Energy Prices**

Energy costs accounted for about nine per cent of production costs in the Finnish pulp and paper industry in 2000. The industry's high degree of self-sufficiency has a stabilising effect on its energy costs, as the major forest companies obtain a significant proportion of their electricity and heat from their own power plants and production processes. Any temporary fluctuations in the price of market elec-

tricity, however large, will therefore have a comparatively minor impact on the Finnish paper industry's energy costs. UPM-Kymmene, for example, reports that it covers all the electrical power needs of its Finnish mills from its own power production or that of its associated companies.

Many sawmills are also self-sufficient in thermal energy. For drying wood and for heating premises, they obtain the energy they need from bark and from sawing and trimming waste. In 2000, the energy costs of the entire Finnish wood products industry were less than three per cent of total production costs.

The average price of market electricity in the first half of 2003 was EUR 41 per MWh, and futures quoted on Nord Pool (the Nordic power exchange) indicate a year-end price of over EUR 30 per MWh. The average price of market electricity for the full year is expected to be approximately EUR 36, an increase of about 25 per cent on the 2002 figure. This increase has been due to the record low temperatures of winter 2002/2003 and the low level of Nordic water reserves. After a warm summer, water reserves are about 25 per cent below their usual level. In terms of electricity, this is equivalent to about six per cent of the Nordic countries' annual power consumption.

Among the fossil fuels, natural gas is used the most by the Finnish forest industry in its own power and heat production. The price of natural gas in the first quarter of 2003 was about eight per cent higher than in the same period the previous year. The forest industry also uses peat and heavy fuel oil as energy sources. No major changes are anticipated in the price of peat.

The price of crude oil has fluctuated greatly during 2003. Nordea Bank forecasts that the average price for the year will be USD 28 per barrel, which would mean an increase of about 12 per cent on 2002. There are several reasons for the rising oil price, and these have varied through the year. Prices were firstly raised by the threat of a war in Iraq and have subsequently been affected by factors such as problems with oil production in Iraq.

## **Oil Prices Indirectly Reflected in Forest Industry Costs**

The rise in crude oil prices mainly has an indirect effect on forest industry costs via its impact on freight and other transportation costs, the prices of chemicals and pigments, and harvesting costs. The increase in costs of imported inputs in 2003 has been limited by the strengthening of the euro.

Sea freight prices rose sharply in the last months of 2002 and continued to rise at the start of 2003 as oil product prices increased. Higher demand for sea freight was another factor in the price rises. The Baltic Dry Index (BDI), measuring dry cargo spot prices on the busiest shipping routes, rose by about 30 per cent between January and early September 2003, and should remain at the same level to the end of the year. In annual terms, the index has risen about 75 per cent.

Oil price fluctuations are reflected in the prices of pigments and forest industry chemicals via their impact on manufacturing costs. In making pigments, energy is needed in mining activities, refining and transportation. Manufacture of forest industry chemicals is typically also energy-intensive. In addition, oil is used as a chemical raw material, for example with latexes used as coatings.

The increase in pigment and chemical prices in 2003 has been contained, however, by a stronger euro and relatively low paper production levels. Imports account for over 65 per cent of pigment consumption by value. All the kaolin and half the ground calcium carbonate are imported, usually from outside the euro area. Kaolin, for instance, is imported from the United Kingdom and the United States.

In the first half of 2003, the prices of basic chemicals increased by approximately four per cent. Chemical prices are expected to remain at present levels for the rest of the year, and so prices will have risen by about three per cent for the year as a whole.

Chemicals and pigments accounted for about seven and three per cent, respectively, of production

costs in the Finnish pulp and paper industry in 2000. Chemicals are of considerable importance not only in paper but also pulp manufacturing. In the paper industry, pigments are used as fillers and coating materials, especially in the production of magazine and fine papers.

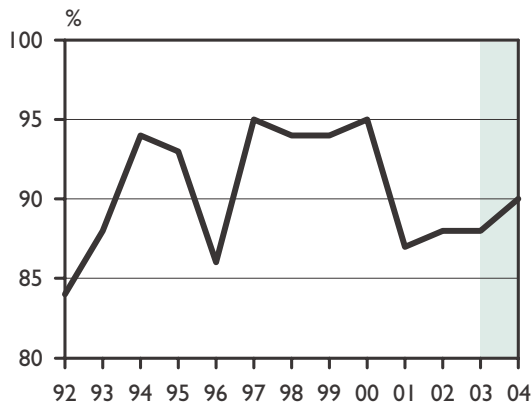
## **Moderate Increase in Costs in 2004**

No significant production cost increases are forecast for the Finnish forest industry in 2004. The euro is expected to remain at its present value or to strengthen slightly, which will stabilise prices of imported goods. Oil prices are expected to fall, which will reduce the price rises in a number of the factors of production. The sluggish economic growth in the euro area will also keep inflation under control.

The most significant area of rising costs for the Finnish forest industry will be wages and salaries. The contractual increments and local wage adjustments will together mean an increase of about 3.5 per cent in 2004. The increase in labour productivity will, however, ensure that the impact of the pay increases on labour costs is neutral in the wood products industry, and of the order of 1.5 per cent in the pulp and paper industry.

Stumpage prices are forecast to remain at their 2003 level or even to fall. Roundwood harvesting and transportation costs are likely to remain unchanged, because energy costs are projected to fall again and low interest rates will keep capital costs stable. In addition, the impact of the pay increments on forestry labour costs will be partially contained by even a small rise in labour productivity. Mill prices of roundwood are therefore not expected to rise in 2004.

Crude oil prices are forecast to decrease in 2004, to about 10 per cent below the 2003 average. Both Nordea and the Research Institute of the Finnish Economy predict that the average oil price in 2004 will be USD 25 per barrel. This assumes stabilisation of the situation in the Middle East. Chemical and pigment prices are not expected to rise until there is



Sources: Finnish Forest Industries Federation and Finnish Forest Research Institute

*Paper and paperboard industry capacity utilisation rates, 1992–2004*

a clearer increase in the demand for them.

The price of market electricity will be heavily dependent on water reserves in the Nordic countries and the level of power consumption in the coming winter. Future prices on Nord Pool indicate that the price of electricity in 2004 will be EUR 40 per MWh, due to the low water reserves. They also indicate that the price of market electricity for the year as a whole will be EUR 30 per MWh, which would be about 15 per cent lower than the figure for 2003.

## **Pulp and Paper Industry Profitability to Improve Later in 2004**

The capacity utilisation rate in the paper and paperboard industry is expected to rise to about 90 per cent in 2004, as paper production increases and capacity remains almost unchanged. In the sawmilling industry, the capacity utilisation rate will remain high.

Profitability in the Finnish forest industry will be affected most of all by the prices of end products. As world GDP growth accelerates, paper industry product prices are expected to start rising in 2004. Together with an increase in the capacity utilisation rate, this will improve Finnish pulp and paper industry profitability and company profits in the second half of 2004.

Profitability in the sawmilling industry in 2004 will either show a slight improvement or will remain unchanged, as no major shifts are anticipated in costs or end-product prices, and production growth will be small. Profitability in the plywood industry is forecast to remain at the 2003 level, despite production volumes rising by about three per cent, because the average price of plywood is expected to drop by about one per cent.



## 3 Forestry in Finland

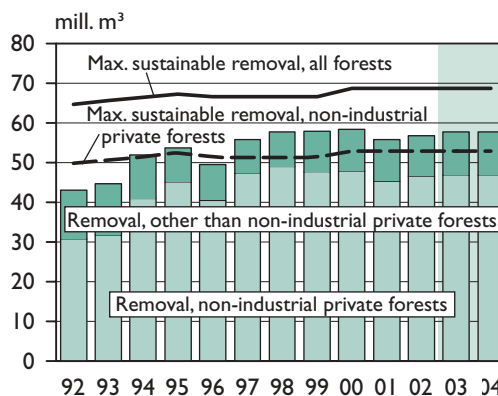
### 3.1 Utilisation of Wood Resources

*Finland's abundant forest resources are sufficient to meet the Finnish forest industry's demand for roundwood, with the exception of birch. The industry's demand for birch is some 45 per cent higher than the estimated maximum sustainable removal will allow, and this shortfall is made up by imported birch. In 2000–2002, the forest industry's roundwood consumption and commercial fellings were at record highs, with consumption averaging 70 million cubic metres of roundwood a year, of which 56 million cubic metres was of Finnish origin. The level of roundwood procurement and consumption in the industry for the whole of 2003 will be slightly higher than the previous year, and will continue to rise a little in 2004.*

Finland has 23 million hectares of forest, and the total volume of growing stock is approximately 2000 million cubic metres. Pine accounts for 47 per cent of this, spruce for 34 per cent, birch for 15 per cent and other broad-leaved species for four per cent. The annual increment in the growing stock is about 78 million cubic metres. Some 2.8 million hectares of forest, mainly in Northern Finland, is wholly or partially excluded from commercial roundwood production. Forestry can thus be practised across an area of more than 20 million hectares, containing a growing stock of almost 1900 million cubic metres with an annual increment of approximately 76 mil-

lion cubic metres. Growing stock drain amounts to about 69 million cubic metres per year, and so roundwood reserves are increasing annually by a small amount.

The maximum sustainable removal is approximately 69 million cubic metres of useful wood per year, and the maximum justifiable in silvicultural terms (maximum potential removal) is as much as 94 million cubic metres, taking account of all tree species. The removal of industrial wood in recent years has been about 57 million cubic metres, or 83 per cent of the calculated maximum sustainable removal. In non-industrial private forests, the proportion of the maximum sustainable removal harvested has been almost 90 per cent. Some 95 per cent of Finnish forests are covered by certification. Forest certification places certain additional demands on



*Removals of industrial wood and maximum sustainable removal*

*Timber consumption by the forest industry and maximum sustainable removals in Finland*

Tree species	Consumption 2000–2002	
	mill. m <sup>3</sup> /yr	% of maximum sustainable removal
Pine	25.3	80
Spruce	28.7	114
Birch	13.9	145
Total	67.9	102

Consumption includes imported timber: pine 2.5 mill. m<sup>3</sup>, spruce 2.9 mill. m<sup>3</sup> and birch 7.2 mill. m<sup>3</sup>

forest management and use, and on authentication of roundwood origin.

Sixty-five per cent of Finland's commercial forests are in the possession of non-industrial private owners, 20 per cent are owned by the state, nine per cent by companies and six per cent by other groups of owners. The state's forest ownership is concentrated in Northern Finland, which is reflected in the low average increment in the growing stock compared with forests in other ownership. Forests in non-industrial private ownership account for 72 per cent of the growing stock increment, state-owned forests for 12 per cent, company-owned forests for 11 per cent and the rest for five per cent. From the roundwood procurement viewpoint, the non-industrial private forests are of crucial importance, as about 80 per cent of the domestic roundwood (and about 65 per cent of all roundwood, both domestic and imported) used by the forest industry is from such forests. The proportion has been slowly declining as imports have risen; imported roundwood now accounts for about 20 per cent of the total.

The table shows the Finnish forest industry's consumption of roundwood, and compares these figures with the maximum sustainable removal estimated for Finnish forests. The calculation of maximum sustainable removal is based on information about the amount, composition and annual increment of the growing stock and assumes that the standard of silviculture will remain unchanged. The calculation

indicates the level to which fellings could rise without prejudicing the size of future removals. It is an optimisation calculation prepared by the Finnish Forest Research Institute and includes the effect of roundwood price differentials on the composition of the maximum sustainable removal.

Felling in excess of the maximum sustainable removal on a temporary basis only will not jeopardise future harvests. Flexibility of this kind, which is justifiable in silvicultural terms, is extremely widespread in Finnish forests, especially in spruce stands. In spruce-dominant forests in Southern Finland, the average volume of growing stock is high, at 173 cubic metres per hectare. Spruce harvests have been very high in recent years and spruce reserves have no longer been increasing.

From a wood resources viewpoint, pine (especially sawlogs) has the best potential for quickly meeting an increase in the demand for roundwood. The industry's birch consumption is currently 45 per cent greater than the level of maximum sustainable removal in Finnish forests will allow, and the shortfall is imported as birch pulpwood. The comparison given in the table also shows that domestic spruce resources are being used to the full. Imports of spruce are thus increasing. According to the maximum sustainable removal calculations, spruce harvests can be sustainably increased in as little as about 10 years from now.

Non-industrial use of roundwood – principally household firewood – is also of importance in forest management terms, but its main significance is in terms of energy use. In the tending of young stands, a growing volume of small-sized trees are chipped into fuelwood. The significance for forest management may grow if stands marked for first thinning no longer attract the interest of industrial wood purchasers.

The aim of the National Forest Programme (1999) is to increase the use of domestic industrial wood and fuelwood (particularly felling residues). The use of industrial wood has not yet increased, but the use of felling residues and small-sized trees for energy purposes has more than doubled since

1999. In energy production, the use of wood material unfit for industrial products is very high: wood-based energy accounts for 20 per cent of all energy consumed in Finland and 60 per cent of the Finnish forest industry's energy consumption (black liquor from the pulp industry, tree bark, sawdust, etc.).

## 3.2 Roundwood Markets

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*Despite the market uncertainty, roundwood sales have been busy. Commercial fellings in 2003 will reach an estimated total of 55 million cubic metres, based on the Finnish forest industry's roundwood needs and the level of roundwood imports. The same volume of commercial fellings is expected in 2004. Non-industrial private forests will account for almost 47 million cubic metres of the total in both years. With the end of the forest taxation transition period drawing nearer, the supply of roundwood is increasing. Stumpage prices began to decline in summer 2003, and this trend is expected to continue into 2004, at least for pulpwood. The forest industry's additional demand for wood is being met to a significant extent by imports. Imports are rising annually by over one million cubic metres, and will total over 18 million cubic metres in 2004.*

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### **Felling Volumes Kept High by Sawmills' Good Start to the Year**

Commercial fellings got off to a slow start due to the cold winter conditions in January–February 2003. However, the growth in sawnwood production led to very active felling in May–June, especially softwood sawlogs, and by the end of June the felling volume was already six per cent above the previous year's level. By contrast, fellings of birch sawlogs were down by over one third and stocks of harvested birch sawlogs were high in June. The amount of pine and spruce pulpwood harvested by the end of June was

2–3 per cent up on the previous year. Fellings of hardwood pulpwood were up by 10 per cent.

The volume of fellings since the end of June, however, has been in decline in comparison with the 2002 figures. Nevertheless, the total volume of commercial fellings for January–August 2003 was up by two per cent on the same period the previous year, amounting to 34 million cubic metres. Non-industrial private forests accounted for over 29 million cubic metres of this, which was also a two per cent increase on 2002.

Roundwood imports have continued to increase sharply. In the January–July period, imported roundwood amounted to 10 million cubic metres, which was 10 per cent more than the same period in 2002. The biggest increase was in imports of hardwood pulpwood (up 27 per cent) and spruce sawlogs (up 17 per cent), although pine sawlog imports also increased significantly. Imports of pine pulpwood, on the other hand, were down by 14 per cent, and spruce pulpwood by 15 per cent.

At the end of June 2003, the Finnish forest industry's stocks of wood totalled 8.6 million cubic metres. Stocks of softwood sawlogs at the end of June were 10 per cent higher than the average summer stocks calculated over the previous five-year period. Pulpwood stocks were some five per cent above the average. The biggest half-year increase was in stocks of hardwood pulpwood. On the basis of purchase volumes and fellings, the forest industry's standing roundwood stocks are considered to be good.

Imports of softwood sawlogs have increased, although the domestic supply has also remained high. The greater purchase volume of softwood sawlogs has kept nominal prices in the first half of 2003 at the same level as the second half of 2002, on average: EUR 47.3 per cubic metre for pine sawlogs and EUR 45.0 per cubic metre for spruce sawlogs. By contrast, the nominal price of birch sawlogs (EUR 45.4 per cubic metre) and the nominal prices of pulpwood (pine EUR 14.1, spruce EUR 22.1 and birch EUR 13.6 per cubic metre) were down by some two per cent. Softwood sawlog prices began



*Forecasts of commercial fellings and roundwood imports, 2002–2004.*

Timber assortment/ Ownership group	2002 mill. m <sup>3</sup>	2003 mill. m <sup>3</sup>	Change %	2004 mill. m <sup>3</sup>	Change %
Commercial fellings, total	54.2	55.2	2	55.2	0
Non-industrial private forests	46.3	46.7	1	46.7	0
Company-owned forests	3.1	3.7	18	3.7	0
Finnish Forest and Park Service forests	4.7	4.8	1	4.8	0
Sawlogs	25.9	26.2	1	26.8	2
Pulpwood	28.2	28.9	3	28.4	-2
Roundwood imports	16.2	17.2	6	18.3	6
Commercial fellings and roundwood imports, total	70.4	72.3	3	73.4	1

to fall at the end of the summer, however. In late September they were being traded at prices 2–3 per cent below those of January–June. The equivalent fall in the price of softwood pulpwood was 5–6 per cent, in birch sawlogs six per cent and in hardwood pulpwood eight per cent.

### **Stumpage Prices Affected by Oversupply Towards Year-End**

Although the Finnish forest industry's roundwood stocks are good and roundwood imports are at record levels, the industry still needs substantial quantities of domestic roundwood. Due to the brisk roundwood sales in the first part of the year (January–August 2003: 21 million cubic metres) and the drop in roundwood prices, the volumes purchased by the industry in the remainder of 2003 will be less than the previous year (September–December 2002: purchases of 18 million cubic metres). The supply of roundwood will remain high in 2004, because forest owners covered by the site productivity tax will be under pressure to sell roundwood as the end of the forest taxation transition period in 2005 approaches. From the start of 2006, these owners too will be taxed on the basis of roundwood sales income in

accordance with the tax on capital income (29 %).

The nominal prices of softwood sawlogs for 2003 as a whole will be unchanged from the previous year's level, thanks to the favourable development in the first half of the year. The price of birch sawlogs will be down by three per cent, however, due to the tougher competition on the plywood market.

Production and exports in the pulp and paper industry will be up in 2003, although prices will be below the previous year's level. The supply of pine pulpwood from thinnings has exceeded the demand for such wood, while the section of the industry that uses hardwood pulpwood has been relying on imports to meet its demand. These factors have together produced a drop in pine and birch pulpwood prices, amounting to 4–6 per cent for the year. The 2003 stumpage price of spruce pulpwood will also be down, by 3–4 per cent. This is partly due to the fall in export prices in the section of the paper industry that uses mechanical woodpulp.

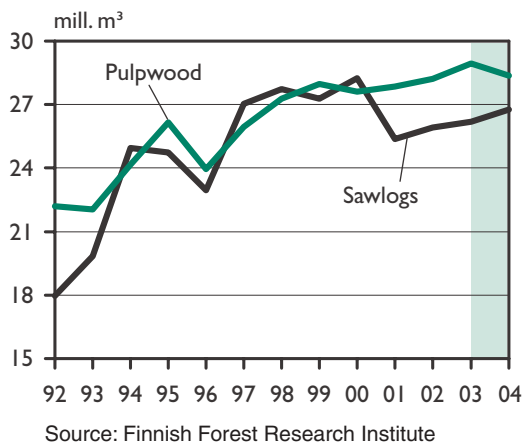
Commercial fellings in 2003 will total 55 million cubic metres, an increase on the previous year. The industry's use of roundwood will be up by about two million cubic metres, though much of this is imported wood. Roundwood imports for 2003 will rise to an estimated total of over 17 million cubic

metres. Commercial fellings in non-industrial private forests in 2003 will be up by about one per cent, to 47 million cubic metres. Following active felling in the first part of the year (January–August: 29 million cubic metres), fellings in the remainder of 2003 will be below the level for the same period the previous year.

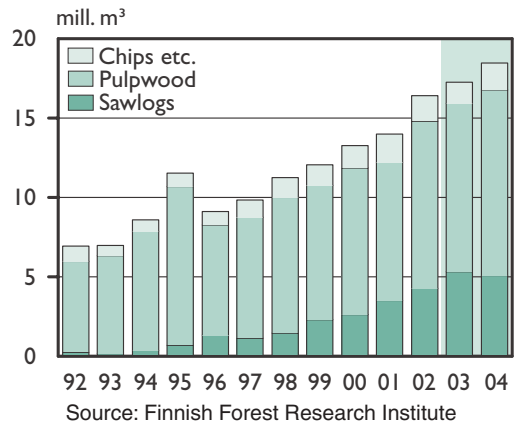
### Sufficient Supply in 2004, but at What Price Level?

The long-awaited recovery in the world economy will not occur soon enough to have any significant effect on demand and prices for processed wood products in 2004. Production volumes will nevertheless remain high, and the Finnish forest industry's use of roundwood is forecast to increase by one per cent to just short of 73 million cubic metres.

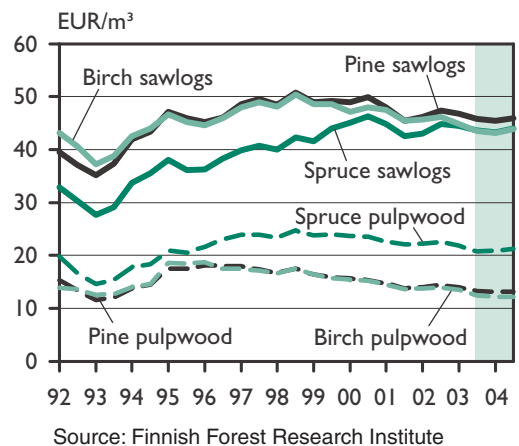
Roundwood imports will continue to grow in line with the forest industry's targets, and are forecast to reach over 18 million cubic metres in 2004. Changes are expected in the composition of imports as a result of the Finnish forest industry's sawmill investments in the Baltic countries and Russia, and the increasing imports of roundwood and wood chips from the Baltic countries. The introduction of additional Russian sawmilling capacity is expected



Commercial fellings of sawlogs and pulpwood, 1992–2004



Volume of imported wood by type of roundwood, 1992–2004



Semiannual stumpage prices by type of roundwood, Q1/1992–Q2/2004 at 2002 prices (cost of living index)

to halt the increase in Finland's sawlog imports from Russia and at the same time to increase imports of wood chips suitable as raw material for the Finnish pulp industry.

The forest industry's increased roundwood requirement in 2004 will be met through imports, and so commercial fellings are expected to remain at the 2003 level, at 55 million cubic metres. The reduction in the volume of imported sawlogs will lead to increased fellings of domestic sawlogs, especially pine and birch. Fellings of spruce are forecast to be at their 2003 level, as the growth in

## Stumpage Price Index and Forest Product Export Price Index

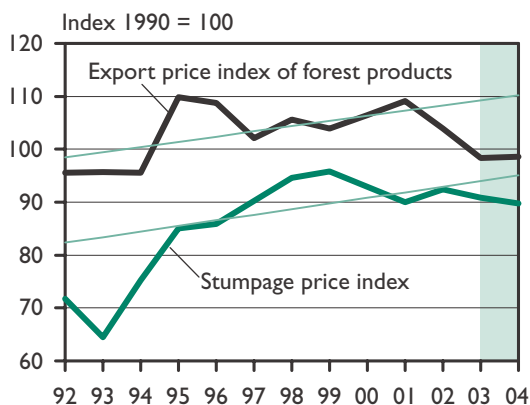
Pekka Ollonqvist

The forest product export price index, which measures the real change in forest product export prices, will be down in 2003 by over five per cent on the previous year's level, following the drop in forest product export prices (except sawnwood) for the second year in succession. The stumpage price index for roundwood will be down by over 1.5 per cent. Both indices are based on prices adjusted for inflation using the wholesale price index.

With nominal export prices rising for all product groups except plywood products, the forest product export price index is expected to rise in 2004 by almost 0.5 per cent on this year's level. The stumpage price index will fall by over one per cent, due to a decrease in the prices of tree species used for pulp. In 2004, the forest product export price index will be more than two per cent lower than its 1990 level, while the stumpage price index will be more than 11 per cent below its 1990 level.

Both indices experienced a rising trend throughout the period 1990–2002. The forest product export price index rose more slowly than the stumpage price index, the difference being about 0.2 percentage points. The stumpage price index in 2002 was almost one per cent below its linear trend calculated for the period 1990–2002, and the forest product export price index was about four per cent below its linear trend for the same period. For both indices, the deviation from the trend has increased during 2003.

The forest product export price index rose in 2001 to a level that almost matched the 1995 figure, but has since fallen significantly. In 2004 it will be about nine per cent below its 2001 level. After the low of 1993, a recession year, stumpage prices rose continuously in real terms until 1999. Stumpage prices in 2004 will be slightly below their 2001 level.



Sources: Research Institute of the Finnish Economy, Finnish Forest Research Institute and Statistics Finland

*Real stumpage price index, forest product export price index and linear trends in these indices, 1992–2004 (inflation-adjusted by the wholesale price index)*

Roundwood	2002 EUR/m <sup>3</sup>	2003 EUR/m <sup>3</sup>	Change %	2004 EUR/m <sup>3</sup>	Change %
Pine sawlogs	47.0	46.7	–1	46.8	0
Spruce sawlogs	44.2	44.5	1	44.7	0
Birch sawlogs	46.0	44.6	–3	44.6	0
Pine pulpwood	14.3	13.7	–4	13.4	–3
Spruce pulpwood	22.5	21.6	–4	21.6	0
Birch pulpwood	13.9	13.0	–6	12.5	–4

sawnwood production will focus on pine sawnwood. Fellings of spruce and pine pulpwood will be up slightly, whereas fellings of hardwood pulpwood are likely to be down considerably in view of the roundwood import projections. Commercial fellings in non-industrial private forests are forecast to be unchanged from 2003, at 47 million cubic metres. Sawlog fellings will increase by 2–3 per cent, and pulpwood fellings will be down by about the same amount.

Sawlog prices for 2004 as a whole will be unchanged from the previous year, although sawlog demand will focus a little more on domestic supplies. Prices of pine and birch pulpwood are expected to be 3–4 per cent below their 2003 levels, and the price of spruce pulpwood is likely to remain unchanged.

### 3.3 Investment and Profitability in Non-Industrial Private Forestry

*Total investment in timber production in Finnish non-industrial private forestry in 2003 will be about six per cent higher than the previous year, at over EUR 195 million. In 2002, the value of private forest owners' own work input and funding fell as the amount of artificial regeneration declined. However, statutory forest regeneration obligations will*

*increase the amount of artificial regeneration in non-industrial private forests this year and in 2004. The sustainable forestry funding made available in the Government's supplementary budget will encourage non-industrial private forest owners to invest more of their own resources during 2003, in non-mandatory investments as well. As state subsidies are reduced, the overall investment in non-industrial private forestry will decrease by 2–3 per cent in 2004.*

*Net earnings in 2003 will be down to EUR 96 per hectare, due to the reduction in income and the increase in costs. A slight upward trend is projected for 2004, bringing net earnings to EUR 99 per hectare. Per-hectare net earnings will be considerably below the peak years of the late 1990s, but will nevertheless still be above the average for the past 10 years.*

#### Increase in Artificial Regeneration

In 2002, the amount of statutory artificial regeneration and related preparatory work decreased by almost 10 per cent on the previous year's level. As a consequence, the real value of private forest owners' own work input and funding also fell for the first time since 1996 – by about three per cent.

The extent of clearcutting in non-industrial private forests over the last four years has been an average of well over 100 000 hectares per year, whereas the extent of artificial regeneration has been

considerably less than this. In 2002, the amount of clearcutting in non-industrial private forests amounted to almost 125 000 hectares. Due to the accumulated backlog, non-industrial private forest owners have had to increase their input in statutory artificial regeneration in 2003 and will have to do so in 2004 as well. It is estimated that, in all, private forest owners will use approximately EUR 130 million of their own resources on silvicultural and forest-improvement works in both years, which is almost the same amount as in 2001.

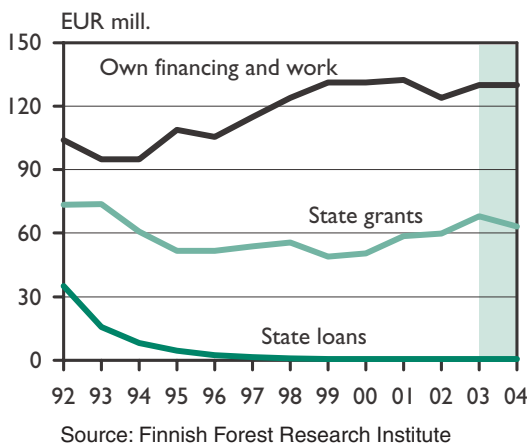
In 2002, almost EUR 61 million in state loans and subsidies was used in non-industrial private forestry. A further EUR 9 million was granted in sustainable forestry funding in the 2003 supplementary budget, some of which was used to fund the backlog of work from the previous year, mostly on tending of young stands. In 2004, it seems that the amount of state funds available to non-industrial private forest owners for securing timber production will be about EUR 64 million, or EUR 4–5 million less than in 2003. The use of sustainable forestry funding also requires a considerable amount of funding and work input from the forest owners themselves. This will bring the overall investment in non-industrial private

forestry in 2003 to over EUR 195 million, while the overall investment in 2004 is estimated to drop by some 2–3 per cent on the 2003 level.

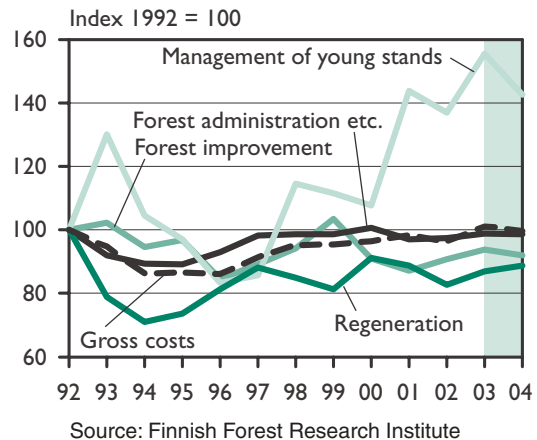
### Biggest Subsidy in 2004 is for Tending of Young Stands

The Government's budget proposals for 2004 reserve subsidies and loans worth EUR 63.4 million for securing timber production in non-industrial private forests. In practice, however, authorisation exists for sustainable forestry funding decisions up to a total of EUR 66.5 million, because some of the spending on projects that last several years will not be incurred until later years. Such projects include forest roads and ditch cleaning and supplementary ditching.

Most of the state subsidies in 2004 will be allocated to the tending of young stands and to harvesting fuelwood: EUR 26.8 million will be available for such projects. This sum is several million euros less than the equivalent funding available in 2003. The sustainable forestry funding allocation reserved for promoting management of the forest environment has been increased by over 25 per cent in the Government's 2004 budget proposals, to EUR 5.6



Financing of silvicultural and forest improvement works in non-industrial private forestry, 1992–2004 at 2002 prices (cost of living index)



Gross costs in non-industrial private forestry, 1992–2004 at 2002 prices (cost of living index)

million. The increase is intended for implementation of the Forest Biodiversity Programme for Southern Finland.

## National Forest Programme as the Guiding Principle

The new Government is committed to the aims of the National Forest Programme 2010, and this is clearly evident in its 2004 budget proposals. The Government is also committed to funding the Forest Biodiversity Programme for Southern Finland, which is the joint responsibility of the Ministry of Agriculture and Forestry and the Ministry of the Environment.

Biodiversity has an enhanced role in the promotion and monitoring of forestry activities. The National Forest Programme requires that forest owners within forest planning areas be informed particularly about forest management needs and about habitats that are valuable for biodiversity. Biodiversity is also being promoted through experi-

*Average earnings and costs for non-industrial private forestry, 2002–2004. EUR/ha*

	2002	2003	2004
<b>Gross stumpage earnings</b>			
Whole country	115.0	114.0	115.0
Southern Finland	151.0	149.0	151.0
Northern Finland	43.0	42.0	42.0
<b>– Gross costs</b>			
Whole country	20.6	21.6	21.3
Southern Finland	24.1	25.2	24.9
Northern Finland	13.4	14.3	13.8
<b>+ Subsidies</b>			
Whole country	4.6	5.1	4.8
Southern Finland	4.3	4.8	4.5
Northern Finland	5.1	5.6	5.3
<b>= Net earnings (before taxes and external capital costs)</b>			
Whole country	99.0	97.0	99.0
Southern Finland	131.0	128.0	130.0
Northern Finland	34.0	33.0	34.0

Northern Finland = Oulu and Lapland provinces

Sources: Statistics Finland and Finnish Forest Research Institute

mental projects designed to support sites of notable environmental value and through joint projects of forest owners; a total of EUR 450 000 has been reserved for these projects.

## Stumpage Earnings Rising Slightly

Gross stumpage earnings of non-industrial private forest owners totalled almost EUR 1.55 billion in 2002. This was about four per cent higher than in 2001. In 2003, stumpage earnings will be down almost two per cent on the previous year's figure. As the economy improves in 2004, nominal stumpage earnings in non-industrial private forestry will be a little higher than in 2003, mainly as the result of an increase in the proportion of sawlogs.

In 2002, total investment was less than 12 per cent of gross stumpage earnings in non-industrial private forestry. The investment rate for 2003 will rise to about 13 per cent as a result of the increased input of the forest owners and the additional state subsidies. The figure for 2004 is expected to fall again, by about 0.5 percentage points, as total investment drops and stumpage earnings rise.

## Net Earnings Less Than EUR 100 per Hectare

In view of fellings and stumpage prices in the early part of the year, it was expected that the profitability of non-industrial private forestry in 2003 would be better than in the previous year. However, earnings for 2003 have been particularly hit by the drop in stumpage prices for all tree species in the second half of the year, and especially the slackening demand for softwood sawlogs. Gross stumpage earnings will nevertheless only be one per cent below their 2002 level, at EUR 114 per hectare. Gross stumpage earnings in 2004 are forecast to rise to EUR 115 per hectare, due to a slight increase in the demand for domestic sawlogs.

Preliminary figures indicate that the gross costs of timber production and administration in non-industrial private forestry in 2002 amounted to EUR

21 per hectare nationwide, EUR 24 per hectare in Southern Finland and EUR 13 per hectare in Northern Finland. The additional state subsidies and the associated extra investment by forest owners means that by the end of 2003, costs for the year will have risen to EUR 22 per hectare. This represents an increase of five per cent, or EUR 1, on the previous year, of which half is covered by the extra subsidies. Both the per-hectare costs and the subsidies will decrease slightly in 2004: in Southern Finland costs will be less than EUR 25 per hectare, and in Northern Finland EUR 14 per hectare.

Net earnings from timber production in non-industrial private forestry in 2002 amounted to EUR 99 per hectare, which was an increase of EUR 5 per hectare on the dip of the previous year. Lower income and rising costs in 2003 will have forced down net earnings for the year by EUR 2, to EUR 97 per hectare. This level of earnings is considerably lower than in the late 1990s (1997–2000: EUR 107–112 per hectare), but is nevertheless still above the 10-year average. In 2004, net earnings are expected to improve a little, reaching EUR 99 per hectare.



## Featured Topics

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### The Outlook for Engineered Wood Products

Raija-Riitta Enroth and Anna-Kaisa Rämö

Both sawnwood production and consumption as well as international trade in sawnwood have all gone through considerable changes in the last 20 years. The sawnwood market is today dominated by a network of international corporations, and new producers from Eastern Europe – with their low production costs – have also entered the market. There is now an oversupply of sawnwood. With tougher competition, companies are having to operate at a very low profit margin. Producers in Western Europe and Scandinavia will find it increasingly difficult to compete with producers in Eastern Europe, the Baltic countries and Western Russia. They will have to rely on their competitive strengths in specialised products, value-added products and engineered wood products.

Engineered wood products are products made by gluing together sawnwood, chipboard or veneer. They are of uniform quality, stronger and have better dimensional stability than sawnwood, for example. This is why it is often said that engineered wood products may gradually start replacing traditional wood products like sawnwood.

Engineered wood products can be divided into beams and wood-based panels (plywood and oriented strand board). This article focuses on engineered wood products that are used as beams.

#### Market Still Small

The total market volume for engineered wood products is still small compared with the market for traditional sawnwood. In Europe, the consumption of engineered wood products used as beams (glued laminated beams, laminated veneer lumber, I-beams, laminated strand lumber and parallel strand lumber) amounted to almost two per cent of total sawn softwood consumption in 2001, i.e. about 1.4 million cubic metres out of a total of approximately 89 million cubic metres. There are nevertheless considerable differences in consumption from one country to the next. Germany, for example, accounts for about half of the total European consumption of engineered wood products, and its use of these products in relation to the total amount of housing construction in Germany is about four times the European average. In Finland, the use of engineered wood products in relation to total housing construction is only about half of the German level, although it is double the European average.

In North America, consumption of engineered wood products used as beams/joists amounted to about 4.3 million cubic metres in 2001, which was about four per cent of North America's total sawn softwood consumption of about 105 million cubic metres. The



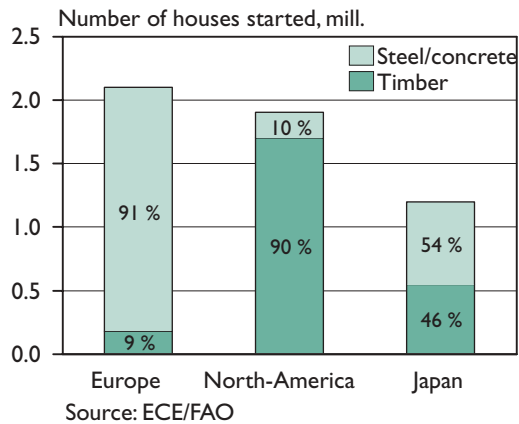
United States is both the world's biggest producer and biggest consumer of engineered wood products. The number of US plants manufacturing these products has more than doubled in the last 10 years, from 60 to over 120. At the same time they have begun producing a new generation of products, such as oriented strand lumber and various glued laminated timber products. In relation to construction volume, engineered wood products are used much more in the United States than in Europe. The reasons for the popularity of these products include the scarcity of large-sized, high-quality wood raw material, developments in technology and the spread of wood-based construction. In Europe, the availability of large-sized, high-quality wood raw material has so far been good. The need to supplement traditional wood products with engineered wood products has not been felt to the same extent as in North America. However, the desire to reduce construction costs and utilise wood raw material more effectively may lead to an increase in the use of engineered wood products in Europe as well.

### Main Use is in Residential Construction

Residential construction is the most important use for engineered wood products. The difference in consumption of these products between Europe and North America is largely due to the different traditions and construction practices. In North America about 90 per cent of houses are timber-framed, whereas in Europe this proportion is only about 10 per cent. In Finland, wood has traditionally been used as the frame material in low-rise construction, while concrete has been the most common frame material in apartment blocks. About 40 per cent of Finnish residential buildings are timber-framed.

The 1990s was a period of considerable growth in housing construction in both the EU and the United States. The use of engineered wood products also increased substantially during this period, for example by almost 80 per cent in the US in the second half of the decade.

The use of engineered wood products has grown rapidly in Europe too. In the period 1998–2001, their use grew by 7–8 per cent annually. Since then, however, the growth in construction has tailed off as the general



*Proportion of timber-framed houses in residential construction in Europe, North-America and Japan in 1999.*

economic situation has worsened. The rate of growth in the use of engineered wood products in Europe will decrease further unless there is a significant revival in housing construction. The market outlook for engineered wood products in Germany has been studied by the Finnish Forest Research Institute and the Pellervo Economic Research Institute. The experts interviewed in the study expect the growth in the use of engineered wood products in Germany to slow to an annual growth rate of one per cent over the next five years.

The growth in consumption of engineered wood products is unlikely to turn into a decline, however, even if new construction in Europe fails to pick up from its present level. This is because the focus in the European construction sector is shifting towards renovations of existing buildings, for which there already exists a demand for engineered wood products. The good thermal insulation properties of wood will also help boost sales of engineered wood products in the future, as the EU tightens its energy regulations. The EU is also likely to give greater attention to life cycles and ecological viewpoints, which will probably increase the use of wood in construction.

### Competition Among Wood Products

On the construction products market, engineered wood products are generally used as substitutes for other wood products. In wood-based construction,

engineered wood products compete with traditional sawnwood, plywood and particleboard, but in many cases they also compete with other engineered wood products. Glued laminated beams are an exception, however. These beams have the potential to compete even against steel, due to their better fire resistance compared with steel, but so far they have not done so to any marked extent.

The increased use of engineered wood products may be aided more by the general growth in the use of wood than by gaining market share from other materials. However, substantial growth in the use of wooden I-beams could reduce the use of sawnwood. On the other hand, consumption of sawnwood may be boosted by the use of glued laminated beams, because of the amount of value-added processing involved. The use of engineered wood products would, however, have to increase many times over before it could really reduce sawnwood consumption.

### Finland is an Important Producer of Engineered Wood Products

The most important of the engineered wood products used as beams are glued laminated beams, laminated veneer lumber (LVL) and I-beams. In 2002, most of the European demand for LVL was met by Finland, being in practice the only LVL producer in Europe. Finland is also one of the Europe's principal producers of glued laminated beams, with about 10 per cent of total European production. The main market in Europe for wooden I-beams, accounting for about 80 per cent of total consumption, is the United Kingdom, where Finnforest started up an I-beam manufacturing plant in 2002. The plant's annual production capacity is almost equivalent to the entire European demand.

In recent years, a substantial amount of new manufacturing capacity for glued laminated beams has been introduced in Europe, and the demand for these products is quite high in Germany and elsewhere in Central Europe. Finnish glued laminated beams are more expensive than those produced in Central Europe, but they are also of higher quality. The Germans are not yet willing to pay more for such products. The competitive position of Finnish glued laminated beams is therefore a difficult one at present. A similar situation

is seen on the LVL market. Growing demand for LVL may stimulate an increase in supply, which would put pressure on prices. Finnish products are burdened with the costs of transportation to European markets, which makes it difficult to compete on price. To preserve or increase their market share will require reductions in manufacturing costs through improvements in technology and a search for market segments that value the high quality of the products.

For the time being, the markets for engineered wood products other than glued laminated beams, LVL and I-beams are so small that the manufacture of such products in Finland has not been a feasible proposition.

The engineered wood products currently made in Finland are produced from large-sized timber or from by-products of its processing. However, in light of the recent discussion of the need to find uses for small-diameter timber, especially pine pulpwood, the Finnish Forest Research Institute has studied the potential for utilising small-sized pine and birch trees in making engineered wood products. The technical properties of the wood from Finnish small-diameter trees make it at least as suitable for use in the manufacture of engineered wood products as tree species from other parts of the world. There is also sufficient raw material available for new wood products. However, the use of engineered wood products is increasing only slowly, and so the impact on Finnish roundwood markets will probably be fairly minor – at least during the next 10 years.

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# The Effects of Growth in the Sawmilling Industries of Northwest Russia and the Baltic Countries on the Finnish Forest Sector

Pekka Ollonqvist and Anne Toppinen

In the last few years about 84 per cent of Finland's imported roundwood has come from Russia. In 2002, roundwood imports from Russia totalled 13.4 million cubic metres, of which softwood sawlogs accounted for 24 per cent. This imported roundwood is mainly from Northwest Russia. The proportions of the different timber species in Russian roundwood imports have changed since the mid-1990s. The proportion of softwood has increased and now constitutes half of the total. Imported Russian softwood competes directly with Finnish softwood, whereas imports of Russian hardwood mainly serve to supplement the Finnish hardwood supply.

A considerable amount of investment in sawmilling capacity is currently underway in Northwest Russia. Once this capacity is in place, it will have an effect on roundwood imports to Finland. The impact of the known sawmilling industry investments on Russia's roundwood exports and their possible implications for the Finnish forest industry are discussed below.

## Northwest Russia's Forest Sector as Part of the National Economy

The importance of the forest sector to the economy of the Russian Federation can be measured in terms of its contribution to economic activity at the national and regional level. The forest sector accounts for about three per cent of GDP, about five per cent of all industrial output (12 % in Northwest Russia) and about five per cent of exports by value (17 % in Northwest Russia). The importance of roundwood in Russia's forest sector exports increased throughout the 1990s in relation to sawnwood exports (see figure), and Northwest Russia has accounted for over one third of all exports of forest industry products. The present

Russian Government has announced its intention to increase the capacity of the forest industry and to boost exports of higher value-added products. By developing the forest sector's capacity to manufacture processed products it will be possible not only to increase export revenues but also to gain many other benefits. Expansion of the Russian forest industry will not only affect employment but should also bring stability in the use of roundwood resources and could increase tax revenues and stumpage earnings for the Government.

Northwest Russia contains 15 per cent of the Russian Federation's wood resources, and its share of economically exploitable wood resources is even greater. The Northwest Russian forest industry has a long tradition, especially in the Archangel and Leningrad oblasts and the Karelian Republic. In the 1990s, these regions accounted for about three quarters of the Northwest Russian forest industry's exports by value. The Northwest Russian forest industry produces mainly low value-added products using low-productivity production facilities. At the end of the 1990s, the production units operating in Northwest Russia accounted for about one third of the country's total sawnwood production and a little over half of its pulp and paper production.

## Government Aims to Increase the Proportion of Processed Products in Exports

The Russian forest industry's production and exports plummeted in the early 1990s after the break-up of the Soviet Union. The devaluation of the ruble in August 1998 improved the international competitiveness of Russian exports and set the forest industry's exports back on a growth track. Today, Russia is a key exporter of sawn softwood (over 8.5 million cubic metres) and

plywood (one million cubic metres) on the world market. In 2002, roundwood and sawnwood accounted for 51 per cent of the forest sector's exports by value. The volume of exported roundwood was equivalent to about 30 per cent of all recorded softwood fellings in the country. Roundwood exports currently total about 40 million cubic metres a year.

Northwest Russia has sufficient allowable cut reserves to permit a significant increase in sawn softwood production. Simply by processing the same volume of softwood sawlogs that is currently exported to Finland, Northwest Russia would increase its production of sawnwood by one third from present levels and would allow increased exports. However, domestic consumption of sawnwood in Russia has been increasing lately.

The Russian Government aims to reduce raw material exports (including roundwood) and instead replace them with exports of more highly processed products. The latest concrete action to implement this policy is the Ministry of Industry, Science and Technology's plan (announced in August 2003) to double the export duty on softwood from EUR 2.5 to EUR 5 per cubic metre. Hardwood exports will remain duty free and export duties on forest industry products are to be reduced. There were already signs of an increase in

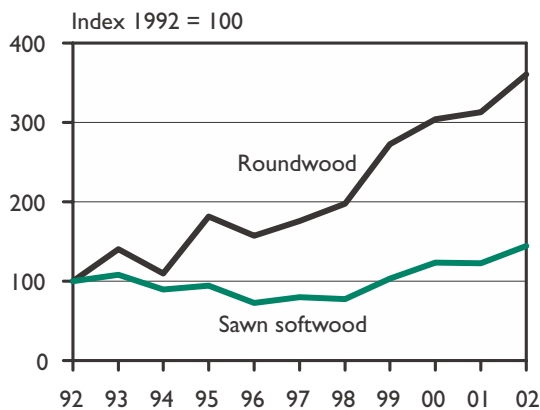
exports of higher value-added products in the first six months of 2003, when sawnwood exports grew more rapidly than exports of roundwood.

Potential investors currently face many institutional hurdles in Russia. These concern land ownership arrangements and the position of foreign companies in regard to taxation and capital transfers. Any increase in annual roundwood removals will also be limited by the extent of affordable access to the timber, i.e. by the lack of infrastructure for timber transportation. Investment in the infrastructure for roundwood harvesting and transport is essential if wood resources in Northwest Russia are to be harvested economically. In Russia, public funding of infrastructure and decisions about the sharing the costs are clearly matters with a political dimension.

### New Sawmilling Capacity in Northwest Russia and the Finnish Roundwood Market

Annual sawn softwood production in the Russian Federation and the Baltic countries currently amounts to a total of 23 million cubic metres. In 2002, professional journals dealing with sawnwood markets revealed that national and international companies have investment plans to expand sawmilling capacity in Russia and the Baltic countries by approximately four million cubic metres. This new capacity will meet a considerable proportion of the additional European sawnwood demand (an increase of about five million cubic metres in the period up to 2010, according to a forecast by the FAO).

The annual use of roundwood in the planned new production facilities at nominal production levels will be approximately nine million cubic metres. However, some of the new capacity will replace old, outmoded facilities, and so the net increase in wood raw material use as a result of the new capacity will be lower than the capacity increase would suggest. The expanded production of sawnwood will increase the demand for softwood sawlogs in Russia and the Baltic countries. The economic impact of an increase in sawnwood production in Northwest Russia and the Baltic countries on the Finnish roundwood market and the Finnish forest sector in general will depend on the way the increased domestic roundwood demand in Russia



Source: FAO Forestry Data

*Exports of roundwood and sawn softwood from Russia, 1992–2002.*

affects the country's roundwood supply. If there is no change in Russia's domestic supply of roundwood, this will reduce softwood sawlog exports, but if the country's roundwood supply increases, this will leave roundwood exports untouched.

Since final cutting in Russia and the Baltic countries is mainly carried out in stands that have not been subject to thinning, their pulpwood content is greater than in the Nordic countries. The amount of pulpwood and chips that would accumulate at the new sawmilling facilities in the Baltic countries and Russia could rise to an annual total of over seven million cubic metres.

Finnish companies' share of the planned new investments in sawnwood capacity in Russia and the Baltic countries will be about 1.9 million cubic metres. Assuming that these companies will procure roundwood on a stand-by-stand basis, their annual roundwood procurement will contain over three million cubic metres of pulpwood, chips and sawdust. This volume of wood will constitute an easily moveable quantity of pulpwood in the hands of the procurement organisations of the companies concerned.

The increase in sawnwood production in the Baltic countries and Russia could seriously challenge the profitability of Finnish sawmills in the future, as a result of more intensive competition on Finland's export markets and changes in the supply of softwood sawlogs in Russia and the Baltic countries. The effects on the softwood pulpwood market will be different, however, as neither Russia nor the Baltic countries yet have the capacity to process pulpwood accumulated from final cutting stands or the sawmill chips produced by the new sawmilling facilities. The new pulp and paper industry capacity in these countries is currently scheduled for the period after 2010.

The new sawmills in Russia will be increasing the supply of Russian softwood pulpwood and softwood chips on the export market in the near future. The sawmill chips produced at Finnish-owned sawmills and the pulpwood they accumulate from sawlog stands constitute an easily transferable wood raw material source for pulp and paper mills. This material will increase competition on the domestic softwood pulpwood market in Finland too and thus weaken the demand and price competitiveness of timber from thinnings.

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# The System of Forecasting Business Cycles in the Forest Sector

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A research project of the Finnish Forest Research Institute (METLA)

## Project tasks

- To produce the *Finnish Forest Sector Economic Outlook*
- To develop models for forecasting exports of Finnish forest industry products
- To develop forecasting models for roundwood markets
- To produce market reviews on the forest sector
- To develop and maintain the MESU database

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Raija Lahtinen, project secretary

Further information: <http://www.metla.fi/julkaisut/suhdannekatsaus/index-en.htm>

## **Finnish Forest Sector Economic Outlook**

The Finnish Forest Sector Economic Outlook is an annual publication on the business cycles of Finland's forest industry and forestry activities. It gives an overview of recent developments and includes forecasts for export volumes and prices, roundwood consumption and prices, employment, and investment in private forestry. In addition, the Economic Outlook contains a few short articles on topical matters in the forest sector.

The Economic Outlook has been published in Finnish since 1991, and in English since 1998. The English version is published in PDF format on the Internet. It is produced at the Vantaa Research Centre of the Finnish Forest Research Institute (METLA). The Institute, established in 1918, is an independent research organisation under the Ministry of Agriculture and Forestry. It produces research-based information on the forest environment, multiple use of forests, forestry practices and the forest industry. It is Europe's largest forest research institute and has a permanent staff of 750, of whom 220 are researchers.



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