

Finnish Forest Sector Economic Outlook 2011–2012

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Summary

Production and exports in the Finnish forest industry grew at a quicker pace in the first six months of 2011 than in the same period a year earlier. However, the demand for forest industry products in the second half of the year will be adversely affected by the heightened uncertainty over the world economy since the summer, especially regarding the immediate future of the euro area and its debt crisis. The impact of this will be seen most clearly as a slowdown in the growth of sawnwood production and exports, and as stalled growth in export unit prices. Plywood and paperboard demand in the second half of 2011 will still be fairly strong though. The demand for different paper products in the latter part of the year is forecast to weaken slightly, which will keep price increases at a modest level.

Sawnwood production for the full year 2011 is expected to rise to 9.6 mill. m³, while the combined production of paper and paperboard will remain close to the previous year's level. Domestic commercial fellings are forecast to rise to 53 mill. m³ for 2011 as a whole. The increase in roundwood demand will also mean that 2011 prices for different roundwood categories will be up by several per cent year on year. Profitability for 2011 in both the wood products industry and the pulp and paper industry will be up year on year, due to the positive trend in the first six months. The increase in stumpage prices and felling volumes will boost gross stumpage earnings in non-industrial private forestry to EUR 1.5 billion.

The demand for Finnish forest industry products will remain weak in the first half of 2012, due to the problems in the world economy, even if a euro area financial crisis is successfully averted. Demand is only expected to pick

up in the second half of the year as the general economic situation improves. Construction in 2012 is nevertheless expected to remain sluggish in Europe, and so Finnish sawnwood production and exports are forecast to fall slightly in comparison with the 2011 figures. The forecast demand growth in the second half of 2012, however, will keep paper and pulp production, exports and export unit prices at the 2011 level. By contrast, paperboard exports and unit prices will increase a little. The weakened demand for end products will also be visible as a reduction in roundwood demand and commercial fellings in comparison with 2011. Average 2012 prices for sawlogs and pulpwood will be slightly down year on year. Profitability in both the wood products industry and the pulp and paper industry in 2012 is expected to be almost at the 2011 level. By contrast, profitability will be down slightly in non-industrial private forestry.

The forecasts assume that a new financial and economic crisis will be averted. A recession would entail a downward revision of all the forecasts in this Economic Outlook.

Growing Uncertainty on Export Markets

The demand for end products on the Finnish forest industry's key export markets is overshadowed by the uncertainty over how far the euro area debt crisis will spread and its effects, and the growth slowdown in the world economy. GDP growth in the world economy weighted according to the distribution of Finnish forest industry exports is expected to slow to just over 2% for

the full year 2011, and to be about 2.5% in 2012. Euro area growth is slowing considerably in the second half of 2011, and this will continue in the first half of 2012. The onset of a new recession is possible if the debt crisis expands to become a banking and financial crisis affecting the entire euro area. Provided that such a crisis can be averted, the euro area's GDP growth for the full year 2011 will be 1.5%, and in 2012 about 1%. Among the forest industry's key export markets and competitor countries, GDP growth in both Germany and Sweden is forecast to outperform the average euro area growth, but the growth rate will slacken in 2012 in these countries, too. Growth in the United Kingdom economy for the full year 2011 will be only about 1%, but slightly higher growth is forecast for 2012.

In the United States, private consumption growth will remain flat for 2011 as a whole, and the public sector deficit will have grown despite the programme of spending cuts. Growth in the US economy is expected to remain weak well into 2012. US GDP growth is forecast to be approximately 1.5% for 2011, and the forecasts for 2012 vary in the range 1.6–2.5%. China is becoming the driving force behind GDP growth in the world economy, and the country's rapid GDP growth will slow only a little in 2011 and the coming years. Japan's economy is picking up in the second half of 2011, but this will not be sufficient to compensate for the effects of the earthquake in the early part of the year and the strong yen and slowdown in world trade, and so the country's economy is expected to contract by about 0.5% for the full year. Japan's GDP in 2012 is forecast to grow by 2–3%. GDP growth in North Africa and the Middle East will also be higher in 2012 than in 2011. The changes in the euro area economy will be reflected in the Finnish economy as well, with growth slowing in the second half of 2011. The anticipated weakening of the euro against other key currencies will improve the price competitiveness of Finnish forest industry exports outside the euro area in the second half of 2011 and in 2012, and the low interest rates will boost investment. In 2012, the Finnish economy is forecast to grow by 1–2%, provided that the entire euro area does not slide into recession as a result of the financial crisis.

Faltering Demand for Wood Products

The growth in sawnwood and plywood demand in Europe in the first half of 2011 resulted in an increase in Finnish export volumes. Sawnwood demand was also up in Asia, which further boosted Finnish exports, especially with demand picking up in Japan. Plywood demand in Europe was supported by growth in the transportation industry and in retailing. In both these sectors, the export unit prices of wood products rose in the first six months of 2011, but the increase in sawnwood prices was already tailing off in the spring. On the domestic market, sawnwood consumption was boosted by an increase in detached housing construction.

The slower GDP growth since the summer is expected to adversely affect the growth in housing construction in Finland and in Europe as a whole in the second half of 2011, which will in turn weaken the demand for wood products and affect the price trend, too. Plywood demand will also be hit by the slower GDP growth in the world economy, as this affects the transportation sector. Sawnwood production and exports for 2011 as a whole are expected to be up by 2%, but the unit price of exports for the year is estimated to fall by about 2%. Plywood exports and the average export price will be up by about 7% for the full year 2011, on account of the strong growth in the early part of the year.

Construction growth in 2012 is forecast to slow in Finland and elsewhere in Europe. The political turmoil in North Africa and the Middle East and the prospect of Japan's reconstruction being spread out over a number of years will ensure that growth in Finnish exports to these regions remains small. Although export competitiveness will be slightly improved by the projected weakening of the euro, sawnwood production, exports and export unit prices are forecast to decrease by about 2% in 2012 from the 2011 figures. Lower GDP growth in Europe will also reduce the demand for plywood. Finnish plywood production, exports and export unit prices are forecast to drop by about the same percentage as for sawnwood.

Dip in Paper Demand

Having started to grow in 2010, the demand for paper and paperboard products then slackened off in the first half of 2011 in both Europe and the United States. As a consequence, export volumes of Finnish paper and paperboard began to fall in the second quarter of 2011. With demand remaining low in the second half of 2011, production and export volumes of Finnish paper are forecast to be down for the full year by about 1%. By contrast, paperboard production and export volumes will be up by 2%, due to the growth in world trade in the first half of the year. Pulp exports are forecast to be up by 5% and pulp production by 2%. Average export prices for paper and for paperboard products continued to rise in the first half of 2011. The rise in prices is, however, expected to tail off in the second half of the year, bringing the full-year increase in the export unit price of paper to 5% and paperboard 8%, compared with the figures for 2010.

The dip in demand for paper products is expected to continue in the first half of 2012. With demand expected to start climbing slowly again in the second half of 2012, production and exports of Finnish paper for the full year are projected to be similar to the 2011 figures. The lacklustre demand will mean that the price trend for paper and paperboard products in Europe remains moderate. In 2012, the average price of Finnish paper exports is forecast to rise by about 1%, while the paperboard price will rise by slightly more than 1%.

Forest Industry Profitability Improves

The Finnish forest industry's profitability improved significantly in 2010 with the rise in export volumes and prices in the wood products industry and the pulp and paper industry. This positive trend continued in the first half of 2011 in the wood products industry, due to the increase in sawnwood and plywood export volumes and export unit prices. Although the slacker demand in the second half of 2011 will affect exports and domestic production, the wood products industry's profitability will nevertheless be better than in 2010. In the pulp and paper industry, the

rise in the demand for end products and higher average export prices have boosted the industry's profitability, which has also been sustained by the moderate cost trend. The pulp and paper industry's profitability for the full year 2011 will show a year-on-year improvement, despite the deteriorating economic outlook and the end of the rising trend in export product prices.

The most immediate impact of the economic uncertainty on key export markets and the domestic market in 2012 will be evident in sawnwood and plywood demand and prices. Paper prices are also expected to drop slightly in the first half of 2012, although there will be significant differences between products. Efforts have been made to counter the effects of the declining demand, which is partly structural, through capacity cuts. The profitability of pulp and paperboard production is likely to remain high. The price trend for raw materials, especially roundwood, is forecast to be moderate, which will serve to support profitability. Profitability in both the wood products industry and the pulp and paper industry in 2012 is expected to be at almost the 2011 level.

No Major Change in Roundwood Prices

The rising trend in softwood sawlog prices in the first half of 2011 was reversed into a decline after the summer, due to the deteriorating outlook in the sawmilling industry for the second half of the year and the heightened uncertainty on the end product markets. Pulp demand is nevertheless forecast to remain high, which will help maintain pulpwood demand. On account of the favourable trend in the first half of 2011, the volume of commercial fellings for the full year is projected to be 53 mill. m³, which is a little above the 2010 figure. Imports of industrial wood and chips are expected to be up by 7% to 12.3 mill. m³. Annual average stumpage prices for softwood sawlogs are expected to be up for the full year 2011 by 3%, and for pulpwood by 2–5%.

Commercial fellings will decrease to 50 mill. m³ in 2012, due to the slight drop in sawnwood and plywood production. The reduction in fellings is expected to be principally in forests under non-industrial private ownership. Sawlog

stumpage prices in 2012 will be down slightly year on year, on account of the weaker price trend in sawnwood and plywood. Pulpwood prices will remain at about the 2011 level, as pulp and paper production is forecast to be unchanged from 2011. The demand for energy wood continues to be good in 2011 and will remain so in 2012, and the amounts used in thermal and other power plants are forecast to grow further. The energy plant gate prices of energy wood will also rise a little.

Higher Stumpage Prices and Felling Volumes Improve the Operating Profit in Forestry

The operating profit from timber production in Finland will improve in 2011 from the previous year's figure. The growth in stumpage prices and felling volumes will boost gross stumpage earnings in non-industrial private forestry for 2011 to EUR 1.5 billion. In 2012, earnings will be lower, at EUR 1.4 billion, due to slightly lower stumpage prices and felling volumes. The per-hectare operating profit from non-industrial private forestry for the full year 2011 will rise to EUR 92/ha. This is 4% up on the 2010 figure, but 10% below the post-2000 average. The moderate rise in stumpage prices means that the investment return on timber production will be around 7%. The operating profit in 2012 will decrease to just under EUR 90/ha, and the small drop in stumpage prices will reduce the investment return to less than 1%. Investment in timber production will rise to EUR 215 mill. for 2011, following the dip in 2010, and will reach EUR 220 mill. in 2012. The amount of financing and work input by private forest owners covers about 70% of the total timber production investment, the remainder being funded by the Government.

Assumptions and Uncertainties in Forecasting

The aim of this Economic Outlook is to provide information on the current state of the entire Finnish forest sector and the short-term outlook for the sector. The forest sector forecasts are based on publicly available statistics, world

economic forecasts, forest sector market information from different sources, and research conducted by the Finnish Forest Research Institute. The forecasts presented here are based on the principle of derived demand, according to which fluctuations in GDP growth on the domestic and export markets will, via demand, be reflected in forest industry production and thus the domestic roundwood market. Changes in the forest sector's operating environment and the effects of the Government's economic policies are taken into account in making the forecasts. If GDP growth turns out to be below the level forecast, this would mean that export prices, production and profitability for the Finnish forest industry will be lower than indicated in the forecasts given here. With falling demand for wood, the adverse impact would spread from the forest industry to roundwood markets and would affect 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.

The views of GDP growth in the world economy and on export markets have 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

Key forecasting variables, 2010–2012.

Forecasting variables	2010	2011	2012
	% change from previous year		
Sawnwood production	18	2	-2
Sawnwood export	11	2	-2
Sawnwood export price	16	-2	-2
Paper production	10	-1	0
Paper export	11	-1	0
Paper export price	4	5	1
Commercial fellings	25	2	-6
Roundwood imports	52	7	3
Sawlog prices			
Pine	17	3	-2
Spruce	18	3	-2
Birch	8	9	-1
Pulpwood prices			
Pine	11	5	-1
Spruce	1	2	-1
Birch	15	3	-1

Price changes are nominal

Economy. The forecasts given in this publication are based mainly on forest sector information available in late September and early October 2011 and world economic forecasts for 2011 and 2012. The forest sector forecasts presented here are the views of researchers about the most likely course of events. They are point forecasts and are based on export market GDP forecasts and other background assumptions about the markets.

Currently the biggest risk in the forecasts is the debt crisis affecting the euro area. Even though the latest statistical data on Finland and the euro area is already indicating that GDP growth has almost come to a standstill and that confidence has weakened, the economic forecasting institutions are nevertheless still generally of the view that GDP growth will slow considerably in the latter half of the year and then begin to improve slowly in the second half of 2012. However, if the crisis were to spread and turn into a banking and financial crisis affecting the entire euro area, this would trigger an economic recession that Finland, with its export-sensitive economy, could not avoid. Political decision-making to steer through a crisis would take time, and conditions in the world economy would also be severely hampered by the US economy's debt and growth problems. The realisation of the recession scenario in the forest sector would mean a reduction in paper and sawnwood demand and in prices. There is also a risk that the demand for paper would not return to its former level after such a recession, and that the overcapacity problem which the paper industry is already experiencing would simply get worse. A recession would entail a downward revision of all the forecasts in this Economic Outlook.



I World Economy

The short-term outlook on the Finnish forest industry's exports markets is overshadowed by uncertainty and a new setback for growth in the world economy. GDP growth in the world economy weighted according to the distribution of Finnish forest industry exports will slow to just over 2% for the full year 2011, but will pick up to about 2.5% in 2012. Euro area GDP growth for 2011 will be about 1.5%, and in 2012 about 1%. If the debt crisis turns into a wider financial crisis, this will bring the prospect of a new recession in Europe. GDP growth in the German and Swedish economies is forecast to be above the average for the euro countries, but will be sluggish in the second half of 2011 and in 2012. Growth in the United Kingdom economy for the full year 2011 will be only about 1%, though slightly higher growth is forecast for 2012.

In the United States, the economy's post-recession recovery was short-lived, as GDP growth came almost to a standstill in summer 2011, with the housing market remaining subdued, private consumption weak and public debt growing despite cutbacks. Growth is expected to remain low well into 2012. GDP growth in the US is forecast to be approximately 1.5% for 2011, while forecasts for 2012 vary in the range 1.6–2.5%. As a result of the debt problems and poor short-term growth prospects in the euro area and the United States, it is the emerging economies and especially China that are becoming the driving force behind the world economy. China's GDP growth will slow only a little in 2011 and the coming years. Japan's economy is picking up in the second half of 2011, but this will not be sufficient to compensate for the effects of the earthquake in the early part of the year and the slowdown in world trade. The Japanese economy is expected to contract by

about 0.5% for the full year 2011. Its GDP in 2012 is forecast to grow by 2–3%.

Export Value of Forest Industry Products Up 23% in 2010

The total value of Finnish forest industry product exports in 2010 was EUR 10.7 billion. This was 23% up on the recession year of 2009. The growth was attributable to improved demand in the main export regions and the slow post-recession recovery in world trade. The value was boosted not only by export volumes but also by the higher unit values of sawnwood exports and exports of pulp and paper industry products. About four fifths of export income came from pulp and paper industry products, and one fifth from products of the wood products industry. The value of sawnwood exports rose in 2010 by 32%, plywood exports by 21% and pulp and paper industry exports by 23%.

The distribution of exports by region has remained almost unchanged in recent years. The most important market for Finnish forest industry products is still the euro area, and especially Germany, which in 2010 accounted for almost one fifth of the total value of Finnish forest industry exports. Key export destinations for sawnwood also include the Netherlands, the United Kingdom, France, Japan and countries in North Africa and the Middle East. Russia has become an important trading partner for paper products. It is also significant that, in terms of export value, exports to China have already grown to almost the size of those to Japan.

Growing Uncertainty in World Economy

Following the economic recession of 2008–2009, the world economy grew by 4.4% in 2010. This was due to increased demand and a strengthening in world trade, and because of the replenishment of stocks that had been depleted during the recession. Fiscal policy stimulus packages in various countries also played a role. The distribution of growth across the world's regions was nevertheless uneven. The euro area economies recovered slowly, posting fairly low growth figures, whereas GDP growth in Asia remained quite high. Within the euro area too, the pattern of growth was extremely uneven.

In spring 2011, however, the world economic outlook deteriorated rapidly. The unrest in North Africa and the Middle East, which had already begun at the start of the year, fuelled uncertainty over oil prices in particular. In March, the powerful earthquake and ensuing destruction in Japan added to uncertainty about whether the recovery in the world economy would continue. In Europe, the debt crisis became critical again in the spring when market doubts emerged about the ability of Italy and Spain to cope with their debts. Political debate in Europe focused on a second bailout package for Greece and the associated loan guarantees, and by the end of September there was still no solution of any substance to the debt crisis. As the autumn progressed it became increasingly evident that Greece could face debt restructuring, which could quickly precipitate a financial crisis affecting the entire

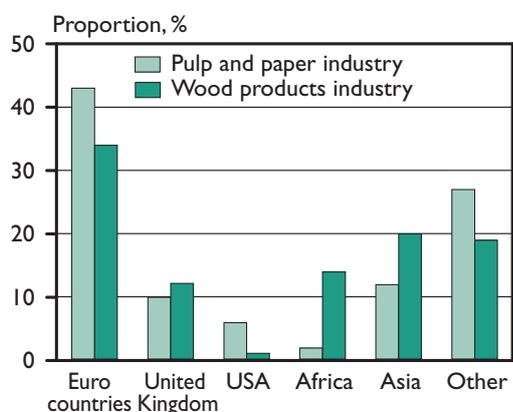
euro area. Figures for the first half of the year also indicated that the post-recession recovery in the US economy was slower than anticipated. The financial markets were plunged into further disarray in July with the announcement of a downgraded credit rating for the US and the heated public debate over raising the US debt ceiling. As a consequence of all these uncertainties, share prices have fallen substantially around the world, weakening consumer and business confidence over what the future may hold.

Nordea forecasts that world GDP growth will be 3.2% for the full year 2011 and 3.3% in 2012. Growth forecasts have nevertheless been widely revised downwards since the summer, and a number of barometers and indicators are already signalling a new recession. If, for instance, Greece has to restructure its debts, any subsequent chaos on the financial markets would rapidly affect the real economy, and the 2011 growth forecasts would have to be further reduced a little. The adverse effect of any crisis and recession on 2012 GDP growth would be considerably greater. The effects of this would quickly be evident in the Finnish forest industry via sluggish demand and exports, and the forecasts presented in this Economic Outlook report would have to be revised downwards.

Euro Area Heading for New Recession?

Euro area GDP growth was 1.7% in 2010. The emergence from the recession and the subsequent GDP growth were attributable almost exclusively to export growth, which was in double digits. By contrast, there was only minor growth in the other key components of GDP, namely private and public consumption and investment. The distribution of economic growth in the euro area nevertheless showed a marked division between countries in the north – especially Germany, which was driving the growth – and the south, where there were barely any signs of growth, and with the Greek economy even shrinking further.

Euro area GDP growth in the first quarter of 2011 was still fairly strong, but then dried up almost completely in the second quarter. The rapid deterioration in the world economy slowed exports to destinations outside the euro



Sources: National Board of Customs and Finnish Forest Research Institute.

Finnish forest industry exports by value, 2010.

area. Private consumption is being curtailed by uncertainty over the future, and this is visible in the lower consumer confidence indicators across Europe. The level of precautionary saving is rising, due to fears of higher unemployment and a tightening of fiscal policy. Investment is being held back not only by uncertainty, but also the fear of a serious financial crisis and the tougher credit terms and standstill in industrial production growth. The steep drop in share prices that began at the end of the summer and the September Purchasing Managers Index for euro area industries, which signifies the production trend, both indicate that production has already contracted.

Within the euro area, the health of national economies is to a large extent determined by the state of the German economy. Although German exports were up in the summer in comparison with a year earlier, they were nevertheless down significantly on the figures for previous months. Furthermore, Germany's quarter-on-quarter GDP growth had already slowed to almost zero in the second quarter. A similar trend was also evident in the other growth economies of the euro area. In Greece and Portugal, GDP fell throughout the first half of 2011.

The lower growth figures have also brought lower inflation as the level of economic activity declines. With growth slowing and inflationary pressures easing, the European Central Bank (ECB) is expected either to keep its central rate unchanged in the second half of 2011 or to reduce it. Although a weakening euro will actually help exports outside the euro area in the latter part of the year, GDP growth will at the same time slow considerably as a result of stricter fiscal policy and growing economic and political uncertainty over the management of the debt crisis. It is nevertheless perfectly possible that the euro area will enter a new recession during the second half of 2011. With the early part of the year having been reasonably good, the euro area's GDP growth for the full year 2011 is expected to be 1.5%.

The situation in 2012 is very difficult to forecast, however, as there are a great many uncertainties in the euro area. Even if the debt restructuring threatening Greece were to materialise in the latter part of 2011 or early in

2012, the financial crisis would not necessarily spread to, for instance, Portugal, Spain, Italy or Ireland. The slower growth in the second half of 2011 will nevertheless continue well into the first half of 2012. The factors contributing to a slow recovery in 2012 will include an increase in production to replace depleted stocks, continuing low interest rates and inflation, and an anticipated weakening of the euro – especially if the ECB cuts its central rate. On the other hand, factors limiting any recovery in growth include continued uncertainty, higher unemployment, which will slow private consumption growth in particular, and stricter fiscal policy as governments seek to keep their budget spending under control. The pattern of GDP growth within the euro area will remain uneven. In 2012 the euro area economy as a whole is forecast to grow by about 1%, provided that the debt crisis does not turn into a major financial crisis.

Rest of Europe in Line with Euro Area

Among the European countries outside the euro area, the performance of the economies of greatest importance for Finnish forest industry exports and the economies of competitor countries has been broadly similar to the euro area economy. However, any financial crisis that may shake the euro area will not directly affect these countries to the same extent. The impact would nevertheless be seen indirectly via a contraction in euro area demand and thus a reduction in exports to the euro area. Movements in exchange rates will also affect the profitability of exports.

The United Kingdom's economy grew by 1.6% in 2010. The early part of 2011 saw a continuation of modest growth. Although the weak pound was still helping export growth in the first half of the year, the contraction in overall private consumption will reduce the UK's GDP growth for the full year 2011 to about 1%. Consumption is being curtailed by the continuing high level of unemployment and by the decline in real incomes and purchasing power as a result of rising inflation and tougher fiscal policies. The programme of cuts in public finances will also continue in 2012. Even if monetary policy was to be kept fairly light and no increases made in

Growth forecasts for world economy (real GDP, annual percentage change).

Area	Proportion of Finnish forest industry's total export value 2010, %	Actual GDP growth % 2010	ETLA 2011	IMF 2011	ETLA 2012	IMF 2012
Weighted by proportion of Finnish forest industry exports	100.0	3.4	2.1	2.6	2.4	2.5
EU-27	62.4	1.8	1.5	1.6	1.5	1.3
Euro countries	40.8	1.7	1.5	1.7	1.0	1.5
Germany	18.6	3.7	3.5	2.7	1.5	1.3
United Kingdom	10.3	1.6	1.0	1.1	1.5	1.6
Sweden	4.8	5.8	4.0	4.4	2.0	3.8
Russia	4.8	4.0	4.0	4.3	3.5	4.1
United States	5.2	3.0	1.5	1.5	2.0	1.8
Asia	13.1	8.1	5.5	6.2	6.5	6.6
Japan	3.5	4.2	-0.5	-0.5	3.0	2.3
China	3.0	10.3	9.5	9.5	9.0	9.0
Other	14.5					

Forecast by Research Institute of the Finnish Economy (ETLA) published September 20, 2011.

Forecast by International Monetary Fund (IMF) published September 21, 2011.

interest rates, private consumption and investment would still be low in 2012. Driven by exports, the UK's GDP is forecast to grow by approximately 1.5% in 2012.

Growth forecasts for the Swedish economy were still being revised upwards in the early part of 2011, especially due to the brisk growth in investment and the buoyant level of exports, and for a moment it even seemed that the exceptional 5.8% GDP growth of 2010 would be exceeded. But then export growth slowed rapidly during the spring and summer as demand slowed in the world economy, and now the growth forecasts are being revised downwards due to the weakening outlook in the second half of 2011. A drop in the industrial and consumer confidence indicators suggests that a deterioration in the market is anticipated. Sweden's central bank has gradually tightened its monetary policy and raised interest rates in order to control overheating in investment, and particularly the housing market, and thus to keep inflation in check. However, at the same time the higher interest rates, combined with having GDP growth above the world average, have strengthened the krona exchange rate. With Sweden's GDP growth remaining above that of the euro area, the krona will continue to be strong in 2012, even if interest rates are lowered during the year. However, the Swedish economy is also affected considerably by the state of the euro area economy, and so the spread of any financial crisis in Europe will quickly produce a gloomier outlook for Sweden. GDP growth in Sweden for

the full year 2011 is nevertheless forecast to be about 4%, but the figure for 2012 is not likely to be higher than about 2%.

The Baltic countries have adopted differing policy strategies for restructuring their economies, and this can clearly be seen in the extent to which they have been able to recover from the economic recession. Estonia pursued internal devaluation, reducing both costs and earnings domestically, and this has improved the price competitiveness of the country's exports, boosting them by almost a quarter on the previous year's figure and producing 6–7% GDP growth for 2011. Although price competitiveness has brought with it a rapid rise in unemployment, there has also been substantial growth in private consumption and investment. It is also noteworthy that Estonia's state budget is almost in balance, and its public debt as a proportion of GDP is very small, allowing room for manoeuvre in fiscal policy in the future. Exports have also increased in Lithuania and Latvia, but the rigidity of their economies has slowed recovery, particularly on the domestic market, and GDP growth has been significantly lower than in Estonia. Lower export growth in 2012 will slow GDP growth in all the Baltic countries to about 3–4%.

Growth to Continue in Russia

Russia's economy grew by 4% in 2010. The demand recovery in the world economy and a rise

in world market prices of oil brought in export earnings for Russia, which helped support growth on the domestic market. However, consumption and investment goods are mostly imported items, which is evident as a year-on-year growth in imports of almost 25%. As a result of the inefficiencies in Russia's domestic production and the economy's considerable reliance on oil revenues, developments in the world economy are quickly reflected in the Russian economy.

Private consumption continued to grow in Russia in the early part of 2011. This was supported by developments in the banking sector, easier borrowing, an increase in employment, and the trend in real earnings. The growth in domestic industrial production is also an indication that investment will be up for the full year 2011 and in 2012. The Russian Central Bank raised interest rates in the first half of 2011 in order to combat high inflation. This has also meant a strengthening of the ruble. In 2012 the Russian Central Bank will continue to seek a balance between inflation and the strengthening ruble. Russia's GDP growth for the full year 2011 is expected to be 4–5%. If the world market price of oil remains at the present level, oil revenues and the growth in private consumption and investment will ensure that GDP growth in 2012 is close to the 2011 level.

Growth in US Economy Curtailed by Various Problems

For a while it seemed as if the US economy was slowly emerging from the 2008–2009 recession and that the 3% GDP growth of 2010 would continue. However, data for spring and summer 2011 revealed that private consumption growth had come to a standstill and that export growth, assisted by the weak dollar, was not high enough to lift the economy up by itself. Two factors in particular have been acting as a brake on private consumption growth: the high level of household indebtedness and the continuing difficulties on the housing market. Residential property assets are typically the biggest single asset against which US households have been able to borrow money. However, the housing market continues to be weak, with prices standing still, and construction

starts for housing and office construction are not growing. The fall in share prices has also eaten into the value of assets. Stubbornly high unemployment and rising inflation and fuel prices in the first half of 2011 affected the mood of consumers and chipped away at purchasing power. Although it is generally anticipated that the United States will continue the temporary tax relief that is due to expire at the end of 2011 and extend the length of the unemployment security period, fiscal policy measures will not provide the huge stimulus needed for economic recovery. Moreover, the spending cuts due in the next few years to control public debt may slow the level of growth. The main emphasis in achieving a recovery in the economy will instead be on monetary policy. The US central bank, the Federal Reserve, has announced that it is freezing interest rates at a low level until the middle of 2013. In the short term, growth in US exports will be hampered by a strengthening of the dollar against the euro, as the ECB is expected to reduce its central rate, narrowing the interest rate differential with the United States. GDP growth in the US for the full year 2011 is forecast to be about 1.5%. The economy is expected to recover a little in the second half of 2012 as inflation weakens and overall demand picks up. The forecasting institutions' estimates of growth in 2012 vary in the range 1.6–2.5%.

Canada's economy grew by 3.2% in 2010. After a reasonably good start to the year, the country's export growth was hit by the weakening demand in the US and the strong Canadian dollar in relation to the US dollar. The household saving rate on the domestic market has risen, and the growth rate in private consumption will be about 2% for the full year 2011 and in 2012. The growth in investment in machinery and equipment for the full year 2011 will be in double digits, although the corresponding figure for 2012 will be more subdued. The emergence of growth in the real economy is not expected until the second half of 2012, when demand in the United States picks up. GDP growth in the Canadian economy will reach an estimated 2.4% for 2011 and will be a little below this in 2012. The Bank of Canada is likely to keep its central rate unchanged or to lower it slightly to support growth in the economy. This will keep the Canadian dollar strong in 2012, too.

Asia Has the Only Bright Spots in the World Economy

With growth slackening in the economies of the euro area and the United States, China has risen to become the driving force in the world economy. China's GDP growth in 2010 was no less than 10.3%. In autumn 2010, rapid output growth and accelerated inflation led to a tightening of monetary policy, which was evident as a minor dip in output at the start of 2011. In spite of this, the Chinese economy was growing at a rate of almost 10% in the first half of 2011. However, growth in the second six months is expected to slow down as demand slackens abroad, affecting exports. This view is given further credence by the drop in the Purchasing Managers Index and the summer data that shows slower growth in industrial output. On the domestic market, both industrial investment and construction investment are nevertheless still growing at a double-digit rate. To avoid overheating and inflation, China has gradually let its currency strengthen rather than tighten its monetary policy. The yuan is expected to strengthen further in the future, in particular against the US dollar. Despite the substantial growth in exchange reserves and its foreign trade surplus, China's public sector deficit has grown. Although the ownership structure of the credit institutions and banks means that all public debt is inside the country, the amount of debt and its growth may, at some time in the future, affect the country's economy, its GDP growth and the economic policy it pursues.

The focus of China's economic policy has been on strengthening domestic demand and especially consumption. Fiscal policy measures have in fact led to the launching of major house-building and infrastructure projects. Growth in private consumption is, however, left to households. A major share of household income is nevertheless still put into savings and making contingencies for meeting healthcare and education and training costs. The weakening demand in the world economy is having only a slight impact on China, and the country's economy is expected to post GDP growth of 9.5% for 2011. The figure for 2012 will be only a little below this.

Although Japan's economy grew by 4.2% in 2010, export growth slowed considerably in the second half of the year. In March 2011 Japan experienced a massive earthquake and its after effects, which, according to various estimates, caused destruction equivalent to several percentage points of the country's GDP. The launch of efforts to repair the destruction was slower than anticipated, as Japan experienced problems in assembling the financial resources for reconstruction. The already sizeable debt burden of Japan's public finances has prevented additional debt from being taken, and fiscal policy is expected to be tightened in the coming years in order to finance reconstruction and repayment of debts, which are in fact mostly from domestic investors. This, together with the deflation troubling the economy, is also having a direct impact in restricting private consumption growth. Export growth in the second half of 2011 is also limited by the strength of the yen and the weakening US demand. Only the demand from China, which has become Japan's most important trading partner, has kept export growth positive in 2011. Despite a minor recovery in the second half of 2011, the Japanese economy is expected to contract by about 0.5% for the full year 2011. In 2012, the prospects for export growth will be improved by the predicted strengthening of the Chinese yuan and the demand recovery in the world economy in the second six months. Added to this will be progress with reconstruction work and a slight rise in private consumption, resulting in growth of 2–3% in Japan's economy in 2012.

In North Africa and the Middle East, which are both key regions for Finnish sawnwood exports, GDP growth for 2011 will be down significantly on the previous year's level. Repair of the infrastructure that suffered in the wake of the spring and summer unrest is expected to start during the latter part of 2011. With a recovery in world trade and demand in 2012, the economies in North Africa and the Middle East will also pick up. The growth percentages will vary greatly from one country to the next, however, and outbreaks of further unrest are possible.



2 Finnish Forest Industry

2.1 Production and Exports in the Sawmilling and Plywood Industries

The improved sawnwood demand in Europe and Japan in the first half of 2011 boosted exports of Finnish sawnwood, and the rise in prices improved profitability. The demand and price trends in the second half of the year will be weaker than in the first six months. For the full year 2011, sawnwood production and exports are forecast to be up by about 2% on the 2010 figures.

2012 will see a slowdown in GDP growth, even if a deepening of Europe's economic crisis can be averted. The construction output trend in Europe will be weak, and in Finland construction will decline. The political turmoil in North Africa and the Middle East and the prospect of Japan's reconstruction being spread out over a number of years will mean that growth in Finnish exports to these regions remains small. Sawnwood production in 2012 is forecast to be down slightly in comparison with 2011.

The volumes and unit prices of plywood exports increased in the first half of 2011 compared with the same period a year earlier. Demand in Europe picked up as a result of the improved economic situation in the retail sector and the transportation industry. With GDP growth slowing towards the end of 2011, the rise in plywood exports and prices is expected to tail off, leaving production and export growth for the full year at 7%. In 2012, the weakening of GDP growth in Europe will also reduce plywood demand, and so production will be down slightly on the 2011 total.

Sawnwood Market Overshadowed by Uncertainty

After picking up in 2010, sawnwood consumption in Europe and North America continued to grow in the first months of 2011. However, uncertainty about economic developments in the short term grew during the summer, and expectations of slower GDP growth have worsened the outlook for sawnwood demand in 2012 as well.

Euroconstruct's June 2011 forecast shows growth in residential construction in Western Europe in both 2011 and 2012, though the trend varies considerably from one country to another. However, the distinct slowdown in GDP growth since the summer has meant that construction, too, is expected to perform less well in the second half of 2011 than had been forecast. Slower GDP growth in 2012 will slow construction down considerably, even if a new economic crisis can be averted.

Sawnwood consumption in North America began to grow in 2010, following a four-year decline. In the United States, new starts increased to 0.6 mill. units, which was nevertheless only about 40% of the long-term average. Uncertainty about the trend in construction will continue in 2012.

In Russia, housing construction is expected to be up in both 2011 and 2012. In Japan, housing construction starts in the first six months of 2011 were up by about 4%. The need for new housing starts and renovations following the earthquake will produce growth in Japan's construction sector for the full year 2011 and in 2012. The infrastructure improvement needs in countries of North Africa and the Middle East will boost the demand for wood products in the longer term,

although the political unrest in the first half of the year has reduced import volumes.

In Europe and North America, sawnwood demand during the economic recession was maintained by the demand for housing renovations. The growing proportion of renovations in residential construction provides opportunities for more diverse uses of sawnwood and wood products.

Oversupply Threatens to Depress Prices in Europe

The ups and downs of a regular business cycle have been evident on Europe's sawnwood market in recent years. Demand growth brings a rise in sawnwood prices, which in turn increases supply on the market, leading eventually to a drop in sawnwood prices, unless production is restricted. The same situation is shaping up for 2011, because in many Central European countries, as well as in Russia and the Baltic countries, production in the first six months has been higher than in the same period a year earlier. In Finland, production for January–June was up by 8% year on year. With demand weakening in Europe, many of Europe's major producers, including Finland, have announced their readiness for production limits in order to avoid a drop in sawnwood prices.

Production growth in Europe has led in places to roundwood availability problems and higher roundwood costs. Although the roadside price of softwood sawlogs in Sweden has been falling quarter by quarter in 2011, it has nevertheless remained high. Globally, roundwood costs have risen over the past two years by about 40%, measured in US dollars, as a result of China's growing roundwood needs.

Competition in Europe has been heightened by the significant growth in sawmilling capacity in Central Europe. Since 2000, capacity has grown in Germany, Austria and France, in particular. The net growth in Sweden's sawmilling capacity in 2011–2012 is expected to be approximately 2.4 mill. m³ of sawnwood. In Russia and elsewhere in Eastern Europe there are also investment plans for expanding capacity. Even if there is sufficient demand for

*The Finnish sawmilling and plywood industries, 2010
1000 m³.*

	Sawnwood	%	Plywood	%
Production	9 400	100	980	100
*Domestic use	3 562	38	146	15
Exports:	5 838	62	834	85
EU	2 731	29	725	74
Africa	1 601	17	3	0
Asia excl. Japan	719	8	22	2
Japan	674	7	6	1
North America	4	0	27	3
Russia	1	0	1	0
Other	108	1	50	5

*Estimated domestic use = production – exports

Sources: Finnish Forest Industries Federation and National Board of Customs.

the increased production of wood products in the longer term, in the short term the demand fluctuations lead to major variations in market conditions and in sawmill profitability.

In Europe, the growth in sawnwood demand in the first half of 2011 pushed up prices, but weakening demand during the summer appears to have halted the rise in prices. The biggest drop was in the price of pine sawnwood, following lower demand in the key markets of the United Kingdom, North Africa and the Middle East. The unit price of all Finnish sawnwood exports began to fall slightly in March, and the average price for January–June 2011 fell by about 1% against the same period in 2010. The nominal average export price of Finnish sawn softwood for the full year 2011 is forecast to be down by about 2%, and in 2012 by about the same amount. This is based on the assumption that Europe's sawmilling industry will adjust to the weakening demand by introducing production limits, and that a new economic crisis will be averted.

Weakening Euro Boosts Price Competitiveness of Exports

Demand growth increased the volume of Finnish sawn softwood exports to Europe in January–June 2011 by about 6% compared with the same period in 2010. Exports to Japan were up by 17%, but exports to North Africa fell with the decrease in pine sawnwood deliveries to Egypt.

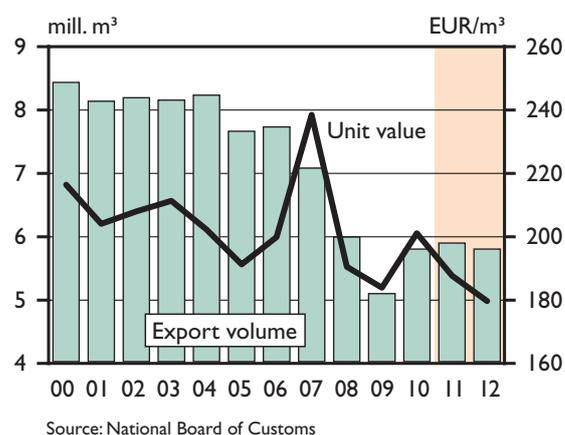
The deteriorating state of the European economy will probably mean an end to the demand growth in sawnwood in the second half of 2011, and demand in 2012 may weaken further. In Europe, competition will intensify and supply will increase, also to regions outside Europe, principally Africa and Asia. Finland's position in relation to its main competitor countries, Sweden and Russia, has nevertheless improved during 2011. Both Sweden and Russia gradually lost some of their exchange-rate-based real price competitiveness achieved in early 2009 in the euro area and also against the US dollar. The fading level of GDP growth in the euro area may weaken the euro a little against other currencies in 2012 as well.

Finnish sawnwood exports for 2011 are expected to be up by about 2% on account of the favourable trend in the first half of the year. Export volumes in 2012 are forecast to fall by around 2% from the 2011 figure, due to the decline in demand in Europe.

Drop in Construction Will Reduce Domestic Sawnwood Consumption in 2012

In Finland, new housing starts in January–June 2011 were up by 23%, and construction of single-family houses, which is important for sawnwood demand, was up by 10% year on year. However, since the summer, the economic outlook for construction has deteriorated. The favourable trend at the start of 2011 will nevertheless mean that sawnwood consumption for the full year is likely to remain close to the 2010 level. The Confederation of Finnish Construction Industries (RT) expects the number of detached houses built in 2012 to decrease by about 4%, which will also reduce sawnwood demand by several per cent. One bright spot in an otherwise uncertain market, however, is the major wooden buildings project being planned for Jätkäsaari in Helsinki. Such high profile examples of timber construction are great ambassadors for wood use in Finland and help to boost exports of wood products.

The favourable trend in domestic sawnwood consumption and exports boosted Finnish sawnwood production in January–June 2011 by about 8% year on year. Sawnwood demand



Volume and unit value of sawnwood exports, 2000–2012 at 2010 prices (wholesale price index).

in the second half of the year has weakened on both the export and domestic markets, which will probably lead to cuts in production volumes. Production for 2011 as a whole would nevertheless be up by about 2% on the 2010 figure. Production volumes in 2012 are expected to adjust to the lower demand in Europe and on Finland's domestic market, with the full year's production being down by about 2% year on year.

Declining Demand on Europe's Plywood Market

In Europe, which is Finland's main export market, plywood consumption increased by about 11% in 2010, due to increased demand in the packaging, transportation and furniture industries in response to the recovery in world trade. Construction also began to grow in some countries. Demand growth continued into the first half of 2011. In Germany, for instance, plywood imports were up in January–June 2011 by around a quarter in comparison with the same period a year earlier. With Europe producing less plywood than it consumes, the shortfall is made up by plywood imports and by expanding the use of substitute products such as OSB board.

Since 2000, the global focus of plywood production has shifted to China from the traditional production regions of Europe, North America and Asia. China has become the world's biggest plywood producer, already accounting

Forecasts of production and exports in the sawmilling and plywood industries, 1000 m³ (percentage changes from previous year are shown below the respective volumes).

	Production			Exports		
	2010	2011	2012	2010	2011	2012
Sawnwood	9 400	9 600	9 400	5 838	5 900	5 800
	18	2	-2	14	2	-2
Plywood	980	1 050	1 030	834	890	870
	23	7	-2	22	7	-2

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

	2010	2011	2012
Sawnwood	16 (201 €/m ³)	-2	-2
Plywood	-1 (487 €/m ³)	7	-2

Export prices are nominal unit values

for a quarter of the EU's plywood imports. In Germany, a key European trading partner for China, almost one fifth of its hardwood plywood imports in January–June 2011 were from China. However, Russia accounted for the biggest share of Germany's hardwood plywood imports by volume. Russia's plywood production has doubled since 2000. In softwood plywood, Brazil is the biggest source for Germany's imports. Finland's share of Germany's plywood imports, both softwood and hardwood, in January–June 2011 was approximately 14%.

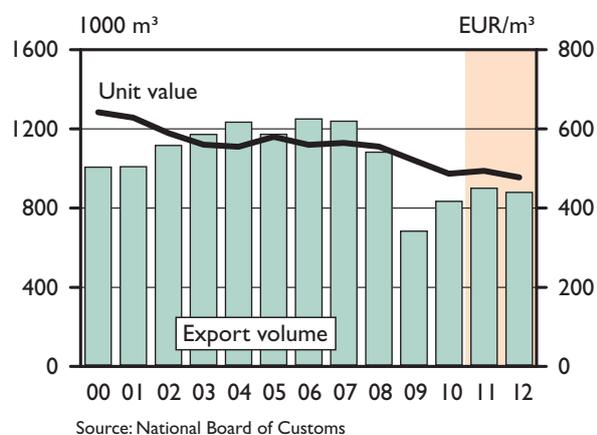
Finnish export volumes of all plywood in the first six months of 2011 were up by about 12% year on year. Birch plywood accounted for 35% of these exports, and the growth in birch plywood exports was greater than in softwood plywood exports. Germany accounted for the largest share of Finnish exports of hardwood plywood, and the United Kingdom for the largest share of Finnish softwood plywood exports.

The unit prices of Finnish softwood and birch plywood exports in the first half of 2011 were 8–9% higher than the same period a year earlier, due to demand growth in Europe. Plywood prices in Europe were pushed up by higher demand and indirectly by the destruction in Japan's earthquake, which led to almost one third of the country's plywood production capacity being damaged or completely destroyed. As

a consequence, the biggest producer countries, such as China and Indonesia, increased their exports to Japan. In total, Japan's plywood imports grew in January–June 2011 by 28% in comparison with the same six months in 2010.

However, the growth in Japan's imports has begun to fade since the summer, as some of the damaged mills have been brought back to production. The prices of Japan's plywood imports have also fallen. The reduction in exports to Japan has led to an increase in the supply of European plywood in Europe. With demand weakening at the same time, due to the greater economic uncertainty, pressure has emerged in some plywood grades for a reduction in prices. The price of Finnish softwood plywood has been falling gently since April, but the birch plywood price has remained more stable. The unit price of plywood exports for the full year 2011 is expected to be up by about 7% year on year, due to the favourable price trend in the first six months of the year, and despite this trend tailing off in the latter part of the year. The price is forecast to fall in 2012 as a result of weaker demand in Europe.

Export growth boosted Finnish plywood production in January–June 2011 by about 16% year on year. Approximately 85% of this plywood production goes for export. The growth in plywood production and exports for the full year 2011 will slow to about 7% on account of the weakening demand in the second six months of the year. In 2012, production and exports will be down year on year.



Volume and unit value of plywood exports, 2000–2012 at 2010 prices (wholesale price index)

2.2 Production and Exports in the Pulp and Paper Industry

The rapid growth in the consumption of paper and paperboard products in 2010 levelled off in the first half of 2011, and demand in the remainder of the year will be adversely affected by the heightened economic uncertainty in Europe and the United States. Indeed, export volumes of Finnish paper and paperboard already began to fall in the second quarter of 2011. Production and exports of paper are forecast to be down by about 1% for the full year 2011, while paperboard production and exports will be up by 2%. Pulp exports are forecast to grow by 5% and production by 2%. Paper prices and paperboard product prices rose in 2010 and in the first half of 2011. The average price of paper exports for the full year 2011 is forecast to be up by 5%, and the average price of paperboard exports by 8%, in comparison with 2010.

The dip in paper demand is expected to be short-lived, rising again in the second half of 2012. Production and exports of Finnish paper and pulp for the full year 2012 are expected to be at about the 2011 level, following the drop in demand in the early part of the year. The unfavourable market conditions in Europe will also ensure that the price trend is moderate. In 2012, the average price of Finnish paper and paperboard exports is forecast to rise by about 1–2% in comparison with the 2011 average.

Global Demand Growth for Paper and Paperboard in 2010

In 2010, consumption of printing and writing papers in Europe was up by 4%, as the economy began to grow again after the recession. The biggest growth was in uncoated fine paper consumption, while the consumption of other printing papers was close to the 2009 level. Europe's production of paper and paperboard grew by 7% to 105 mill. tonnes in 2010, and exports were up by 10%. The production volume of printing

and writing papers was significantly below the 2006 level. By contrast, production volumes of packaging board and packaging paper exceeded the 2006 figures by about 2 mill. tonnes. With Europe's paper industry capacity having been cut substantially in previous years, the capacity utilisation rate in the paper and paperboard industry rose to 91–93% in 2010. The improved market also meant higher prices for most paper and paperboard products.

In 2010, North America's paper and paperboard consumption began growing again, reaching 3.6% for the full year, following a number of years without growth. Consumption and production of paperboard increased in both the United States and Europe, growing at an even faster rate than paper consumption. Electronic media and the Internet are continuing to have an impact on US paper consumption. Compared with 2005, the consumption of printing and writing papers has fallen by a quarter, and the consumption of newsprint alone has fallen by about half. In the past ten years, paper production capacity has been cut by almost 20% and paperboard by almost 10%, through mill and machine closures. The growth in production volumes in 2010 boosted capacity utilisation rates to 94% for paperboard and 87% for paper.

Improved GDP growth in Russia and the other CIS countries resulted in almost 10% growth in their consumption of paper and paperboard in 2010, and most of this was met through imports. The growth was mainly in higher priced paper and paperboard products that are imported by Russia on account of the small scale of its own production. Russian imports from Finland are mainly of magazine paper.

In contrast to other countries, China's consumption and production of paper and paperboard products continued to grow during the recession in the world economy in 2008–2009. In 2010, China's consumption of paper and paperboard grew by more than 7%. Among the different paper grades, the highest growth was in the production and consumption of coated fine paper. By contrast, newsprint consumption fell.

China is the world's largest producer and consumer of paper and paperboard. Most of its consumption and production of these consists of packaging board and packaging paper.

	Chemical pulp	% of production	Paper	% of production	Paperboard	% of production
Production	6 733	100	8 929	100	2 830	100
Domestic use*	4 739	70	670	8	285	10
Exports:	1 994	30	8 259	92	2 545	90
EU	1 325	20	5 478	61	1 521	54
Russia	16	0	336	4	205	7
Other Europe	109	2	421	5	160	6
Asia	459	7	673	7	350	12
Africa	68	1	146	2	80	3
United States	4	0	626	7	152	5
Other	13	0	579	6	77	3

* Estimated domestic use = production – exports

Sources: Finnish Forest Industries Federation and National Board of Customs.

Growth in Paper Exports Slows and Prices Stop Rising

Paper demand in Europe began to fall distinctly in the second quarter of 2011. A year-on-year drop in demand of almost 8% was recorded for coated fine paper in January–August 2011. However, the demand for newsprint and magazine paper in the member countries of the Confederation of European Paper Industries (CEPI) remained almost unchanged from 2010. In the United States, paper consumption began to decline, and the production of printing and writing papers fell by 3.5% in January–July 2011, while paperboard production was unchanged. By contrast, China's consumption, production and exports of paper products and paperboard products have continued to grow at a high rate. On the Chinese market, paper and paperboard product prices have continued to rise even further, which has also helped prices to rise in Europe and North America.

In January–March 2011, the volume of Finnish paper exports grew by one fifth in comparison with the same period a year earlier. With the demand for paper beginning to slacken in the second quarter, exports of Finnish uncoated magazine and fine papers began to fall. However, the continued export growth for other paper grades boosted paper export volumes overall, which were up by 5% year on year for January–June 2011. Magazine paper still accounts for more than half of Finland's paper exports, although this share has fallen. Fine paper's share has risen to 36%, while newsprint

has shrunk to 2% of all paper exports. Exports of paperboard in January–June 2011 were up by 8% compared with the same period a year earlier, despite the year-on-year drop in second quarter exports.

Paper prices began to rise in Europe in 2010, and this continued in the first half of 2011. The average export price of paper in January–June 2011 was 5% higher, and for paperboard 7% higher, than the 2010 full-year average. Among the different paper grades, the biggest price rises were in fine paper and newsprint. Among paperboard products, the prices of kraft liner and fluting rose by over 15%.

Finnish forest industry companies have already announced new price increases for certain product groups, to take effect during the second half of 2011. With the demand for paper tailing off towards the end of the year, no further price rises of any significance are anticipated, and the average export price of paper for 2011 is expected to be up by 5% and for paperboard by 8%. Production and exports of Finnish paper are expected to be down by 1% for the full year 2011. Demand for packaging papers and for paperboard products is expected to remain better than for printing and writing papers, and so their production and exports are forecast to be up by 2% for 2011.

Pulp Demand and Prices at High Level

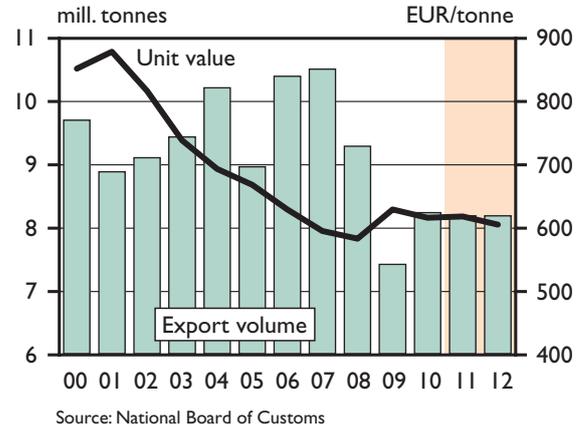
In Finland, most pulp production is for use in the domestic paper industry, with an average of

one third going for export. The majority of the exported pulp consists of softwood pulp, and in January–June 2011 the biggest export destinations were China and Germany.

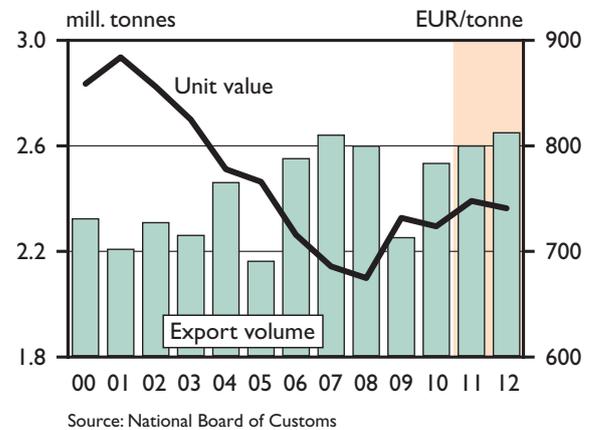
China's need for wood fibre has kept pulp demand and prices at a high level globally. China's imports of wood pulp in the first half of 2011 returned to their 2009 level, following the slight dip in 2010. This increase in pulp imports was made instead of importing more recycled fibre. China also increased the use of non-wood fibre in its paper industry. Recycled fibre accounts for 60% of all the fibre used in China's paper industry, but a reduction in its supply and a rise in prices meant that China imported only 5% more recycled paper in the first half of 2011.

The dollar price of pulp in China remained stable up to May 2011, following the dip in the latter half of 2010. Since then, the price has started to fall. The worsening economic outlook in Europe and the United States since the first half of 2011 will also have an adverse effect on China's export opportunities, which will reduce packaging paper and paperboard production and with it the demand for pulp. The FOEX PIX index of the market price of both hardwood and softwood pulp in dollars fell by 10% in the period January–September 2011.

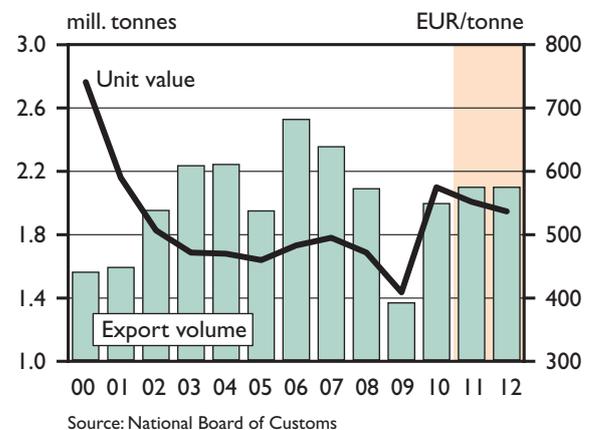
The export volume of Finnish bleached softwood sulphate pulp was up year on year by 25% in the first quarter of 2011, due to the high demand for pulp and the high pulp price. However, the pulp price started to fall in the second quarter, and exports decreased as paper demand slackened on export markets. With the production of Finnish paper and paperboard no longer rising in the first half of the year, there was no increase in the consumption of pulp either. In January–June 2011, pulp production was only 2% above the previous year's figure. Growth in Finnish pulp production for the full year 2011 is expected to be no more than 2%. The export volume for 2011 will be up by 5% year on year, as a result of the favourable situation in the first half of the year. With PIX prices starting to decline, a downward movement in the export price of Finnish pulp is also foreseeable. Nevertheless the average export price of bleached pulp for 2011 is expected to be up on the average price for 2010, but by only 1%.



Volume and unit value of paper exports, 2000–2012 at 2010 prices (wholesale price index).



Volume and unit value of paperboard exports, 2000–2012 at 2010 prices (wholesale price index).



Volume and unit value of pulp exports, 2000–2012 at 2010 prices (wholesale price index).

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		
	2010	2011	2012	2010	2011	2012
Chemical pulp	6 733 22	6 900 2	6 900 0	1 994 46	2 100 5	2 100 0
Paper	8 929 10	8 800 -1	8 800 0	8 251 11	8 200 -1	8 200 0
Paperboard	2 830 14	2 900 2	2 950 2	2 534 12	2 600 2	2 650 2

Forecasts of export prices for pulp and paper products (as percentage change from previous year).

	2010	2011	2012
Chemical pulp	49 (575 €/t)	1	0
Paper	4 (617 €/t)	5	1
Paperboard	5 (724 €/t)	8	2

Export prices are nominal unit values.

Recession Threatens Finnish Paper Exports in 2012

Europe's GDP growth and industrial output are forecast to slow considerably during the second half of 2011 and the first six months of 2012. Paper and paperboard consumption has already started to fall on the European and United States markets, which are of key importance for Finnish exports. The dip in demand is expected to be short-lived though, rising again in the second half of 2012. In 2012, the demand for paper products in both Europe and the US is forecast to be at the same level as 2011.

Profitability in the Finnish paper industry has risen as a consequence of higher prices and more efficient production. In comparison with its competitor countries, Finland is nevertheless in a less favourable position on account of its long travel distances and high transportation costs. Europe still has overcapacity on the printing and writing paper market, although production capacity has been cut. In Finland, too, the paper industry has made production capacity cuts, which in 2010 totalled 750,000 tonnes. In August 2011, UPM announced a major reorganisation programme for its paper industry operations, and is planning

to reduce its paper capacity in Europe and the United States by a total of 1.3 mill. tonnes. As part of this reorganisation programme, UPM is planning to close its Myllykoski paper mill (600 000 tonnes/yr) by the end of 2011.

With paper demand in 2012 remaining at the 2011 level, production and exports of Finnish paper and pulp in 2012 are expected to be unchanged from a year earlier. Production and exports of paperboard are forecast to be up by 2%. The average price of Finnish paper exports in 2012 is forecast to rise by 1% and paperboard by 2%. The average price of pulp exports is expected to be at the same level as in 2011.

2.3 Costs and Profitability in the Finnish Forest Industry

The rapid rise in the Finnish forest industry's profitability in 2010 has slowed in 2011. Despite the gloomier economic outlook and the end to price rises for the forest industry's key export products, the profitability of the wood products industry and the pulp and paper industry for the full year 2011 will nevertheless be above the previous year's level.

It will be challenging for the forest industry to retain the relatively high profitability of 2011 during 2012. The most immediate impact of the economic uncertainty on key export markets and on the domestic market will be evident in sawnwood and plywood demand and prices. Paper prices are also expected to drop slightly in the first half of 2012, although there will be significant differences between products, and efforts have been made to counter the effects of the declining demand, which is partly structural, through capacity cuts. The profitability of pulp and paperboard production is likely to remain high. The price trend for raw materials, including roundwood, is forecast to be moderate, which will serve to support profitability. Profitability in both the wood products industry and the pulp and paper industry in 2012 is expected to remain at almost the 2011 level. Profitability would thus still be higher than the post-2000

average, which is evidence of the positive trend in the Finnish forest industry's competitiveness over the past few years of structural changes.

Wood Products Industry's Rising Profitability Slows Down

Profitability in the wood products industry improved rapidly in 2010, having reached a trough in 2009. This was attributable to the sawnwood export recovery and price rises in particular. Interim reports published by the major Finnish forest industry corporations show that the rise in the wood products industry's profitability has continued during 2011. On the basis of the operating profit figures for January–June 2011, the wood products industry's profitability was almost the same as in 2006, when the rise towards the cyclical peak in the sawnwood market began. However, in autumn 2011 the outlook for the wood products industry appears less bright.

The industry's profitability trend in the first half of 2011 was aided by the continuing rise in sawnwood export volumes and prices. Domestic sawnwood demand also increased as construction picked up. On the other hand, the export outlook was hampered in the early part of the year by the upheavals on key export markets for the Finnish sawmilling industry, namely Japan and North Africa. During the autumn, uncertainty over the economy has increased, especially in Europe, and there are concerns that sawnwood demand will start to decline. To prevent oversupply and a plunge in prices, Finnish sawnwood producers have announced plans to adjust production levels, as have producers in Central Europe. Although the rise in sawnwood export prices has already tailed off, prices are not expected to drop sharply. The sawnwood export price for the full year 2011 is forecast to be 2% below the figure for 2010.

In Finnish plywood production, 2010 was still an unfavourable year, and the recovery in production and rise in profitability began later than for sawnwood production. Plywood demand in Europe has grown during 2011,

especially for industrial uses, such as in the transportation sector. This has had a favourable impact on the export price of birch plywood, which it seems has continued to rise despite the economic uncertainty. By contrast, the slowdown in construction in Europe has been reflected in softwood plywood demand and export prices, with the rise in the latter having faded away, as with the sawnwood export price. For the full year 2011, the average price of plywood exports is nevertheless expected to be 7% up on the 2010 figure, and production profitability is expected to have risen significantly in comparison with the losses of the previous two years.

In Finland's wood products industry and especially in sawmilling, wood raw material costs constitute the biggest single cost item. The sawlog price trend in the first half of 2011 was moderate, and there was even a drop in prices in comparison with the previous six-month period. This in turn supported a favourable profitability trend. However, sawlog stumpage prices soon began to rise, though this did not turn out to be as sharp a rise as seen in 2010, but in August stumpage prices were already falling. A key reason for this was the response of sawnwood producers to the uncertainty concerning the sawnwood market and export prices, by restricting sawlog purchases. The trend in roundwood costs plays a key role in the profitability of the wood products industry, and price trend differences between sawlogs and products, especially sawnwood, are reflected in the profitability



Profitability in the wood products industry, 2000–2011, measured in terms of operating result as a percentage of turnover.

performance of the entire sector. Concern over roundwood costs also affects producers in Finland's key competitor countries.

In 2012, sawnwood and plywood production and export prices are expected to be down slightly year on year, which will have an adverse impact on the profitability of the wood products industry. On the other hand, the cost trend is expected to be very moderate: sawlog stumpage prices are projected to start falling gently, and, due to the economic uncertainty, there is unlikely to be any upward pressure on freight costs or labour costs. Even if profitability growth in the wood products industry were to slow down considerably, profitability is not expected to fall below the 2011 level. This means that the Finnish wood products industry's profitability in 2012 should remain above the post-2000 average.

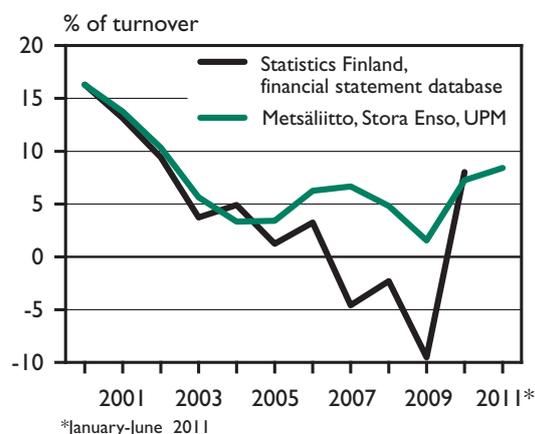
Pulp and Paper Industry Profitability Risen Sharply

The profitability trend in the pulp and paper industry has been rising sharply since 2009, and the interim reports of the Finnish forest industry corporations indicate that this trend has continued in 2011 as well. The accompanying diagram depicts the profitability of the pulp and paper industry using two time series showing the operating result as a percentage of turnover. One of these time series is based on the forest industry corporations' own announcements, and the other on a dataset of the industry's financial statements maintained by Statistics Finland. The differences in the two time series have been fairly large.

Among the reasons for this are that the financial statements and interim report data reported by the corporations cover only the corporations in question and include their operations abroad. Statistics Finland's dataset comprises data for all Finnish companies across the entire sector. Moreover, the corporations decide their own divisional boundaries, whereas Statistics Finland uses a detailed industrial classification. The Statistics Finland dataset is also based on adjusted financial statements, while the corporations' announcements can be affected by discretionary entries.

Differences in the profitability figures based on the different datasets were especially great in 2007–2009, when, according to Statistics Finland's financial statements data, the pulp and paper industry's operations were loss-making in terms of their operating result, although the forest industry corporations' financial statements showed that the operations were profitable. In 2010 the two operating result percentages matched up once again. The Finnish pulp and paper industry's dramatic profitability improvement in 2010 on the basis of the Statistics Finland figures was exceptional for the industry. The rapid rise in profitability can be partially attributed to efficiency improvements, as the pulp and paper industry in Finland has just gone through structural adjustments of an exceptional scale. The operating result figures of the forest industry corporations and Statistics Finland in fact both give an encouraging picture of the trend in the pulp and paper industry's competitiveness and profitability. There is nevertheless some way to go before the profitability figures of the early post-2000 years are met, and within the industry there are differences in profitability between product groups.

As in 2010, the pulp and paper industry's most profitable product area in 2011 has been pulp production. China's demand for wood fibre has sustained the boom in pulp. The rise in pulp export prices began in mid-2009 and continued until early autumn 2010. In that period, the export price of softwood sulphate pulp rose by



Profitability in the pulp and paper industry, 2000–2011, measured in terms of operating result as a percentage of turnover.

about 80%, and of hardwood sulphate pulp by almost 100%. The softwood pulp export price then fell by more than 10% by the end of 2010 from the autumn peak, but then rose a little in the first half of 2011 and has since remained high.

The export price of hardwood sulphate pulp dropped by over 20% from its peak level by the end of 2010, and a gentle decline has continued in 2011. The profitability of pulp production has been underpinned by the moderate trend in roundwood costs: the booming pulp market and the rapid rise in export prices have barely affected the stumpage prices of domestic pulpwood. Although the Finnish forest industry corporations, in their paper and paperboard production, consume most of the pulp they produce, there has been a distinct increase in pulp export volumes and in the production share of market pulp during the upswing. Despite the peak in pulp export prices having passed, the profitability of pulp production is expected to remain high in the second half of 2011 and in 2012.

Profitability remained high in paperboard production during the first half of 2011. In 2010, too, the profitability of paperboard production was significantly above the average profitability level for the pulp and paper industry, as was the case for pulp production. The demand for packaging board in particular has grown and export prices have risen. By autumn 2011, there was still no sign that the rise in packaging board export prices would tail off, and so the profitability of paperboard production is expected to remain high in the second half of 2011. Paperboard sales and prices are affected especially by the trend in industrial production and in the need for packaging materials on the main markets in Europe and Asia. Russia has also accounted for a growing share of Finland's paperboard exports in recent years. The positive export prospects on the growing markets are helping to offset the weakening market outlook in Europe, and so the profitability of paperboard production is expected to remain high in 2012.

More than 90% of the Finnish pulp and paper industry's products go for export, with Europe as the main market. With Europe's demand growth for magazine paper being slower than the growth in production, the price level has fallen.

The response to this has been a cut in magazine paper capacity, and the cuts are still continuing in Finland as well, as UPM closes its Myllykoski paper mill. At the same time, the proportion of magazine paper in the Finnish pulp and paper industry's exports has fallen. Besides magazine paper, cuts have also been made in the production of fine paper and newsprint. The export price trend for magazine paper in the first half of 2011 was favourable and the profitability of production was up from the previous year. The market outlook in Europe is considered to be stable. The trend in fine paper export prices has also been favourable, but the market outlook in Europe was gloomier than for magazine paper. The profitability of fine paper production in the first half of 2011 was slightly weaker than a year earlier, and the outlook for the remainder of the year is unfavourable. Indeed, the forest industry corporations have announced efficiency measures for fine paper production in order to improve competitiveness and profitability.

Newsprint production volumes are considerably smaller than those of magazine and fine papers, and its share of Finnish paper exports has shrunk to about 2%. Newsprint demand picked up in the first half of 2011, and the export price remained high. This gave rise to an improvement in the profitability of newsprint production, and the outlook for the remainder of 2011 is stable.

The economic outlook for 2012 in Europe, which is the main export market for the Finnish pulp and paper industry, continues to deteriorate, and consumption growth for paper in particular is expected to slow down. On the other hand, capacity cuts will have reduced oversupply and enhanced the opportunities for product price increases. With GDP growth slowing down, the demand for products of the pulp and paper industry, and their export prices, are likely to drop slightly in the first six months of 2012. This dip is expected to be short-lived and a return to a rising track is anticipated in the second half of 2012.

The profitability trend in the pulp and paper industry has been generally positive in 2011. The export prices of different products have either risen or remained relatively stable. The moderate cost trend has also supported profitability. In the first half of 2011 the biggest cost increases were

for chemicals and energy, primarily due to the rising price of crude oil. However, the rise in costs was compensated for by higher product prices. As a result of the economic uncertainty, the rise in crude oil prices has turned into a decline, and the pressure on chemical and energy costs has been reduced. Transportation costs have been critical to the competitiveness of the pulp and paper industry, which is strongly export-oriented. Sea freight charges (Baltic Dry Index) remained at a very low level from January to September 2011, despite the increase in oil prices. Freight charges then rose sharply in September, at least briefly, but are still well short of the 2010 level. The economic uncertainty will also keep freight charges in check.

In 2012, the increase in pulp and paper industry costs is expected to remain very modest. Forecasts of crude oil prices for 2012 were revised downwards in autumn 2011, and in the United States the U.S. Energy Information Administration forecasts that the average price per barrel for 2012 will rise by at least 3% from the 2011 figure. The oil price trend will be reflected in numerous different cost items, and especially in the costs of transportation, chemicals and energy. The trend in roundwood costs is also expected to be very modest as domestic pulpwood stumpage prices will remain at their 2011 level. With only a moderate increase in costs anticipated, this will compensate for the uncertainty over product prices, and so the pulp and paper industry's profitability overall is not expected to weaken in 2012 compared with 2011.



3 Forestry in Finland

3.1 Utilisation of Wood Resources

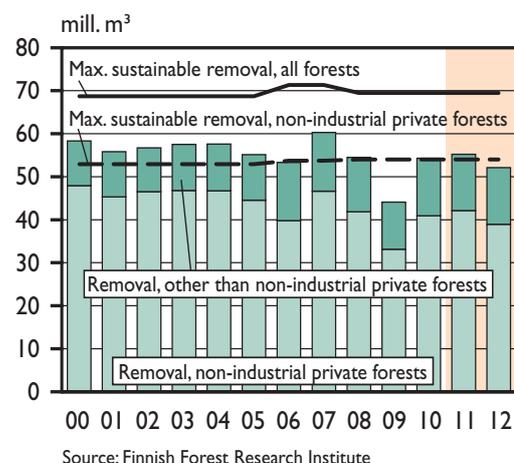
In 2008–2010, the Finnish forest industry used an average of 60 mill. m³ of roundwood annually, of which 50 mill. m³ was domestic roundwood. The projected used of roundwood in 2011 is 65 mill. m³. Finland's roundwood imports in 2009 fell to half of the preceding years' levels, marking a significant change in the industry's roundwood procurement. Roundwood imports nevertheless increased by one third in 2010. Finland has abundant forest resources, and these are easily sufficient to cover the need for softwood. However, there continues to be a need to import certain categories of roundwood, in particular birch pulpwood.

Finland has almost 23 mill. ha of forest, and the total volume of growing stock is approximately 2300 mill. m³. Pine accounts for 50% of this, spruce for 30%, birch for 17% and other broad-leaved species for 3%. The annual increment in the growing stock is about 104 mill. m³. Some 2.4 mill. ha of forest, mainly in Northern Finland, is excluded from commercial roundwood production. Forestry can thus be practised across an area of more than 20 mill. ha, containing a growing stock of about 2100 mill. m³ with an annual increment of approximately 100 mill. m³ (or 4.8%). Growing stock drain amounts to about 68 mill. m³ p.a. (or 3.2%). Roundwood reserves are therefore increasing by a small amount each year.

The maximum sustainable removal is approximately 70 mill. m³ of useful wood per

year, while the maximum justifiable in silvicultural terms is as much as 94 mill. m³, taking account of all tree species. Annual fellings of roundwood meeting the dimensional requirements for industrial wood (see figure) in recent years have been about 53 mill. m³, or 77% of the calculated maximum sustainable removal. In non-industrial private forests, the proportion of the maximum sustainable removal harvested is about the same as this.

Some 63% of Finland's commercial forests are in the possession of non-industrial private owners, 22% are owned by the state, 9% by companies and 6% by other groups of owners. The state's forest assets are concentrated in Northern Finland, which is why the average increment in the growing stock for the state's holdings is low compared with forests in other ownership. Forests in non-industrial private ownership account for 70% of the growing stock increment, state-owned forests for 13%, company-owned forests for 11% and the rest



Removals of industrial wood and maximum sustainable removal, 2000–2012.

for 6%. The non-industrial private forests are of crucial importance for the industry's roundwood procurement, as about 75% of the domestic roundwood (and about 60% of all roundwood, both domestic and imported) consumed by the forest industry is from such forests. The volume of imported roundwood has been about 20% of the total.

The accompanying 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 (upper limit) to which fellings could rise without prejudicing the size of future removals.

Fellings 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 widespread in Finnish forests. Spruce harvests, for example, have been high until recently and spruce reserves have decreased slightly since 2000.

From a wood resources viewpoint, pine has the best potential for quickly meeting an increase in the demand for roundwood, both as sawlogs and pulpwood. Comparison shows that the utilisation rate for spruce resources is highest, and imports of spruce have been high, running at an annual 3–5 mill. m³, but in 2009 and 2010 imports dropped to 1 mill. m³. The industry's birch consumption is greater than the level which the maximum sustainable removal in Finnish forests will allow, and consequently more than half of the industry's birch requirement has been imported since 2000. In 2009, however, the situation changed and birch imports collapsed.

Roundwood imports from Russia fell by half in 2009 from the previous year's level, due to factors such as high prices and export duties. The collapse in imports from other countries was even greater. Though Finnish roundwood resources are easily sufficient to replace imported pine, there could be a scarcity of spruce, and

domestic birch will only be sufficient to replace a proportion of imported birch. As part of its process of adjustment to changed circumstances, the industry has begun to replace birch with pine in pulp production, and birch plywood production has been cut. Imports of birch pulpwood more than doubled in 2010, however, due to the strong demand for hardwood pulp. During 2011, imports of softwood pulpwood have also been growing strongly. With the Finnish forest industry needing about 10 mill. m³ less wood than in 2006 and 2007, its roundwood procurement will be easier.

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, an increasing volume of small-diameter trees is chipped into energy wood.

The aims of the National Forest Programme 2015 (2008; updated 2010) include an increase in the use of domestic industrial wood and energy wood, which was also the case in the previous National Forest Programme 2010 (1999). The significance of this aim has grown as imports of roundwood have fallen considerably. The Programme states that this aim will require forest owners to engage more actively in using advisory services on the potential of their forests.

Overall use of domestic industrial wood has not grown since 2000, although in 2007 it did rise to a record level (59 mill. m³) though quickly fell back again with the decline in the industry's production. By contrast, the use of forest chips (mainly felling residues from clear

Wood consumption by the forest industry and maximum sustainable removals in Finland.

Tree species	Consumption 2008–2010, mill. m ³ /yr		% of maximum sustainable removal	
	Domestic wood	Wood total	Domestic wood	Wood total
Pine	23.1	24.8	72	77
Spruce	18.6	20.2	77	83
Birch	7.4	11.6	68	106
Total	49.1	56.6	73	84

In addition, the industry consumed 3.4 mill. m³/yr of aspen and unspecified imported wood.

Source: Finnish Forest Research Institute

cutting) for energy purposes has risen rapidly since 2000. In recent years, approximately 4–6 mill. m³ in forest chips has been used annually in thermal and other power plants. Such use of wood material unfit for industrial products is in fact very high: wood-based energy accounts for about 20% of all energy consumed in Finland and about 60% of the Finnish forest industry's energy consumption (black liquor from the pulp industry, tree bark, sawdust, etc.).

3.2 Roundwood Markets

The uncertainty over the world economy was also felt in roundwood markets in August 2011, when the softwood sawlog price began to fall as the market outlook for sawnwood deteriorated. Pulp demand is still high, which is sustaining the demand for pulpwood. Following a good start to the year, the volume of commercial fellings for the full year 2011 is projected to be 53 mill. m³, which is a little above the previous year's figure. Imports of industrial wood and chips are expected to be up by 7% to 12.3 mill. m³. Annual average stumpage prices are expected to be up for the full year 2011 by 3% in the case of softwood sawlogs and 2–5% for pulpwood.

Commercial fellings are forecast to decline to 50 mill. m³ in 2012, with the decrease occurring principally in non-industrial private forests. The growth in imports of industrial wood will slow down, because Russia's accession to the WTO will be accompanied by a transitional period for roundwood export duties. Sawlog stumpage prices in 2012 are expected to be down slightly year on year, on account of a weaker price trend in sawnwood and plywood. A slight drop is also anticipated in pulpwood stumpage prices, as production of pulp, paper and paperboard will remain almost unchanged. The demand for energy wood continues to be good in 2011 and will remain so in 2012, and the amounts used in thermal and other power plants are forecast to grow further. Energy plant gate prices of energy wood will also rise a little.

Uncertainty Returns to Roundwood Markets

The first half of 2011 was quiet for roundwood sales, but sales picked up during the summer. In January–September, the member companies of the Finnish Forest Industries Federation purchased a total of 17.7 mill. m³ of wood from forests in non-industrial private ownership, which was 20% less than a year earlier. This was also about one fifth below the average for the past 10 years. The increased uncertainty in the world economy in late July has led some roundwood buyers to exercise caution, and there was already some evidence of this in the August roundwood sales.

Commercial felling activity has been brisk, owing to the volume of standing roundwood stocks purchased earlier. For roundwood harvested in 2011 that was sold in the period 1 April 2008 – 31 December 2010, it is still possible to obtain 25% tax relief in roundwood sales revenue taxation. In January–August, commercial fellings totalled 34.6 mill. m³, which is a year-on-year increase of 10%. This figure is also 6% above the 10-year average for commercial fellings. Stocks of harvested wood at the start of 2011 were estimated at about 11 mill. m³, which is about 2 mill. m³ above the 10-year average.

Downward Pressures on Roundwood Prices

Commercial fellings for the full year 2011 are forecast to reach almost 53 mill. m³, which is slightly higher than for the previous year. This increase has occurred in non-industrial private forests, and concerns pulpwood in particular. Stocks of harvested wood are estimated to rise by nearly 2 mill. m³, bringing the total to more than 12 mill. m³ at the end of 2011.

The rise in sawnwood prices in the early part of 2011 has turned around into a slight decline, which is evident in the autumn as a downward pressure on softwood sawlog prices. On the basis of forest use notification data kept by Forestry Development Centre Tapio, the supply of roundwood in the autumn will be good. In autumn 2010, there was a considerable volume of storm-damaged roundwood on the market from August onwards (damage totalled

Roundwood type/ Ownership group	2010 mill. m ³	2011 mill. m ³	Change %	2012 mill. m ³	Change %
Commercial fellings, total	52.0	53.0	2	49.9	-6
Non-industrial private forests ¹	40.7	41.7	3	38.4	-8
Company and state-owned forests ²	11.3	11.4	0	11.5	1
Sawlogs	21.6	21.6	0	21.0	-3
Pulpwood	30.0	31.0	3	28.6	-8
Imports of industrial roundwood	11.5	12.3	7	12.7	3
Commercial fellings and roundwood imports, total	63.5	65.4	3	62.6	-4
Stocks of harvested roundwood	10.7	12.6	17	12.4	-1

¹ Includes municipalities, parishes, etc.

² Metsähallitus manages state-owned forests

Sources: Finnish Forest Research Institute and National Board of Customs.

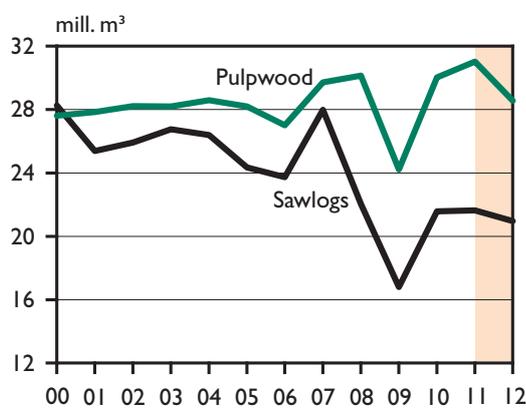
8.1 mill. m³), following the storms of late July and early August, and this was also a factor in the drop in roundwood prices at that time.

Although plywood demand is still stronger than that for sawnwood, even birch sawlog prices have fallen in the wake of those for softwood sawlogs, as birch sawlogs are mainly from the same stands as softwood sawlogs. In addition, the growth in plywood demand is expected to slow down in the second half of 2011. Even taking into account the falling price trend in the latter part of the year, the annual average stumpage prices of pine and spruce sawlogs are projected to be up by 3% for 2011 from the previous year's figure. The annual average stumpage price for birch sawlogs will be up by even more, around 9%, due to the low comparison figure a year earlier.

With pulp production and prices remaining close to their 2010 high, the demand for pine

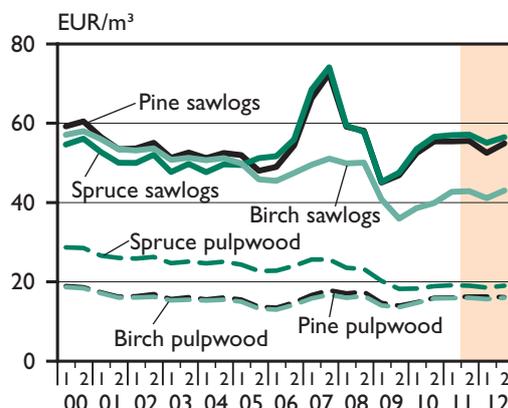
and birch sawlogs is expected to push up annual average stumpage prices by 3–5% for the full year 2011. For spruce pulpwood, the annual average stumpage price is forecast to be up by 2%, as the demand for paperboard and also magazine paper has been greater than a year earlier.

The stumpage prices given in the business cycle forecasts are weighted by standing sales. Since the start of 2011, the Finnish Forest Industries Federation and the Finnish Forest Research Institute have also published stumpage prices by felling purpose (regeneration, thinning, first thinning), which highlights the significance of harvesting costs, in particular, within the stumpage price. In June 2011, for instance, the pine sawlog stumpage price was an average of EUR 7.6 higher for regeneration than thinnings, and the corresponding difference for pine



Source: Finnish Forest Research Institute

Commercial fellings of sawlogs and pulpwood, 2000–2012.



Source: Finnish Forest Research Institute

Semiannual stumpage prices by roundwood category, 1/2000–2/2012 at 2010 prices (cost of living index)

pulpwood was EUR 2.5. On delivery sales, the only price published is the average roadside price weighted by the volume of delivery sales. Due to lot size, felling schedules and cross-cutting, the delivery sales price may even be lower than the stumpage price for certain types of roundwood.

Roundwood Procurement Down Slightly in 2012

The commercial felling volume in 2012 is forecast to be 50 mill. m³, which will be slightly less than in 2011. Fellings are forecast to drop by 8% in non-industrial private forests, but to rise a little in forests owned by companies and by Metsähallitus. Sawlog fellings will be down because of the lower level of sawnwood production and export prices. Since a significant share of pulpwood is harvested on regeneration sites, pulpwood removal will also be down slightly, although pulp, paper and paperboard production is forecast to remain more or less at the 2011 level. Pulpwood imports are expected to increase. The industry's harvested roundwood stocks at the end of 2012 are expected to be unchanged from a year earlier.

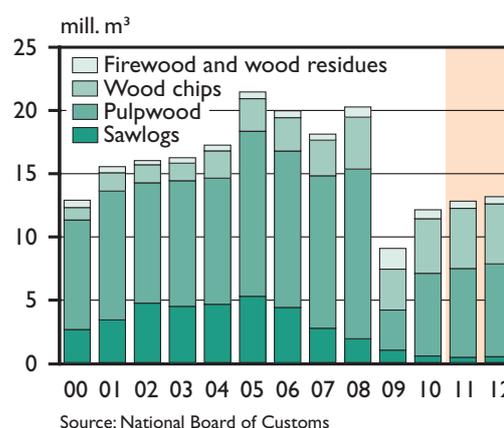
In 2012, sawlog demand will be down due to the slight reduction in sawnwood production, and so annual average sawlog stumpage prices are forecast to be down by 1–2%. Pulpwood stumpage prices are also expected to be a little lower, as production of end products will remain close to the 2011 level. Given this, the Myllykoski paper mill closure is not expected to have a very significant impact on the spruce pulpwood market.

Taxation of roundwood sales will rise at the start of 2012, when the tax on capital income is increased from 28% to 30%. Taxation of capital income will also become mildly progressive, as capital income in excess of EUR 50,000 will be taxed at a rate of 32%. This may slightly reduce roundwood supply in the first half of 2012, as the tax change of 2 percentage points will increase forest owners' costs by about EUR 1/m³ for softwood sawlogs, and by about EUR 0.5/m³ for pulpwood. On the other hand, the supply of winter stands is considerably greater

than the supply of stands with summer access or good access under wet, unfrozen ground conditions, so the level of roundwood sales in the first half of the year will depend on the structure of roundwood demand.

About 60% of all timber imported to Finland is from Russia. On the basis of the compromise solution forged between the European Commission and Russia in November 2010, Russia promised to reduce its export duties on roundwood considerably in the future. Currently, the export duties on roundwood are 25% of the customs clearance value for softwood and for birch of diameter greater than 15 cm, though a minimum duty of EUR 15/m³ must be paid. Birch pulpwood of diameter less than 15 cm is free of duty. The duty on chips is 5% of the customs clearance value.

Although the timetable for reducing export duties on roundwood should be bound up with the progress on negotiations over Russia's



Volume of imported roundwood by category, 2000–2012.

Average stumpage prices in non-industrial private forestry, 2010–2012.

Roundwood	2010 EUR/m ³	2011 EUR/m ³	Change %	2012 EUR/m ³	Change %
Pine sawlogs	54.0	55.5	3	54.2	-2
Spruce sawlogs	55.2	57.1	3	56.1	-2
Birch sawlogs	39.4	42.8	9	42.5	-1
Pine pulpwood	15.5	16.2	5	16.1	-1
Spruce pulpwood	18.6	19.0	2	18.8	-1
Birch pulpwood	15.5	15.9	3	15.8	-1

Source: Finnish Forest Industries Federation and Finnish Forest Research Institute

WTO membership, the Russian leadership has continued to emphasise that a reduction in roundwood exports is one of its strategic goals. Over the last three years, Russia's total exports of roundwood have in fact fallen from 50 mill. m³ to 21 mill. m³. Russia's official position is that its WTO membership will be in place by the end of 2011.

Total imports of industrial wood and chips are expected to be up by 7% to 12.3 mill. m³ for the full year 2011, in spite of Russia's roundwood duties. With Russia's WTO membership not expected to lead to any substantial change in roundwood duties in 2012 due to the transitional period, the growth in imports in 2012 is forecast to slow to 3%.

Delay in Legislation on Energy Subsidies for Small-Diameter Trees

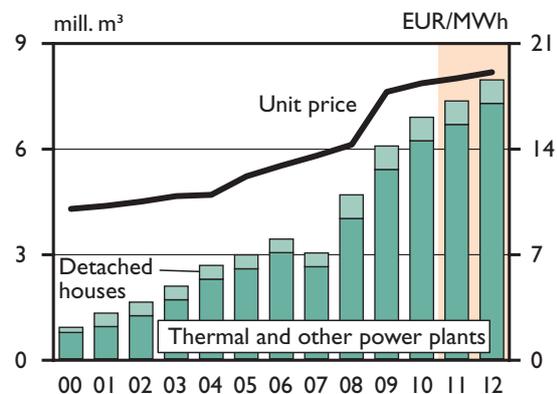
In 2010, the use of forest chips grew by 13% to 6.9 mill. m³. Thermal and other power plants account for 6.2 mill. m³ of this, which is equivalent to an energy content of 12.4 TWh. Small-diameter trees account for 40% of the forest chip raw material used in thermal and other power plants, while large-sized stemwood accounts for 8%, felling residues for 36% and stumps for 16%. The biggest change from 2009 was the increase in the proportion of small-diameter trees and the corresponding reduction in the proportion of large-sized stemwood.

Energy wood use and demand are strongly dependent on energy and climate policy. Finnish legislation on energy excise tax and on promotion of power generation using renewable energy sources was revised in autumn 2010 and should have entered into force on 1 January 2011. The Act on the Promotion of Renewable Energy Generation should have replaced the earlier promotion of chip-based power, for which the relevant legislation was due to expire at the end of 2010. However, the entry into force of the new Act on the Promotion of Renewable Energy Generation was postponed until the end of March 2011, as the legislation did not receive immediate European Union approval. Consequently, no aid was obtainable for forest chips in power generation for the first three months of the year,

which led wood energy to be partially replaced by peat and coal.

European Union approval is still awaited for the Act on Energy Subsidies for Small-Diameter Trees, which was approved by the Finnish Parliament in December 2010. Taking into account the processing by the Commission, it is estimated that the energy subsidy system for small-diameter trees will enter into force no earlier than the start of 2012, which will also mark the entry into force of the new Act on the Financing of Sustainable Forestry, already delayed for a number of years. The harvesting of small-diameter trees can still in fact be supported in conjunction with improving young stands, on the basis of the existing Act on the Financing of Sustainable Forestry. The problem has been that the budget appropriations under this Act have been used up by the middle of the year, and in 2011 the situation is exceptionally difficult.

The demand for energy wood is also affected by the amount of peat in stock at the start of autumn. According to preliminary information gathered by the Association of Finnish Peat Industries, the amount of peat produced for energy use during summer 2011 was just short of 21 mill. m³ (18.7 TWh), which is about 25% below the average. With the amount of peat stockpiled for at least 12 months being just 3.8 TWh in spring 2011, the peat stocks in spring 2012 will probably be very small. The reduction in peat production has normally been reflected in the demand for energy wood. Hence, the use of forest chips is expected to be up by 7% for the full year 2011, despite the difficulties of the



Sources: Finnish Forest Research Institute and Statistics Finland

Use of forest chips and the energy plant gate price, at 2010 prices (cost of living index).

first quarter, and will reach 7.4 mill. m³ (14.8 TWh). The average energy plant gate price of forest chips is forecast to be up by 2% to EUR 18.7/MWh. The use of forest chips is forecast to grow further in 2012, to 8 mill. m³ (16.0 TWh). The average energy plant gate price in 2012 is expected to reach EUR 19/MWh, due to an increase in harvesting and transportation costs.

3.3 Investment and Profitability in Non-Industrial Private Forestry

Forestry's rebound from the earnings figures of the 2009 recession year is continuing in 2011, though at a slowing pace. Gross stumpage earnings in non-industrial private forestry in Finland for the full year 2011 will be EUR 1.5 billion, due to a rise in stumpage prices, but in 2012 earnings will fall to EUR 1.4 billion. Investment in timber production will rise to EUR 215 mill. following the dip in 2010, and will reach EUR 220 mill. in 2012. The amount of financing and work input by private forest owners covers about 70% of the total timber production investment, the remainder being funded by the Government.

The per-hectare operating profit from non-industrial private forestry will rise to EUR 92/ha for 2011 as a whole. This is 4% up on the 2010 figure, but 10% lower than the post-2000 average. The operating profit in 2012 is expected to drop to below EUR 90/ha.

Investment Rising After 2010 Setback

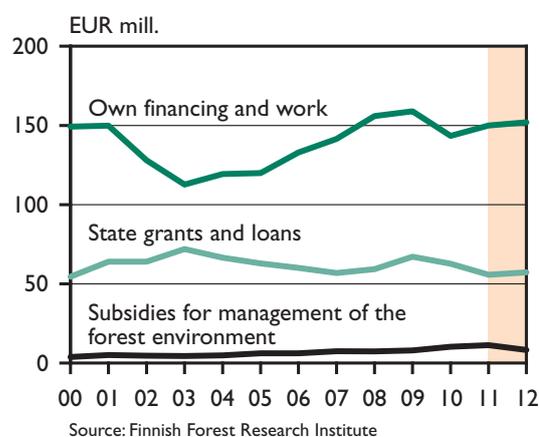
EUR 206 mill. was invested in Finland's non-industrial private forests in 2010. In real terms, this was 10% below the 2009 figure. The decrease in investment was attributable to the reduced level of activity in most forest management and improvement work. The amount of work in forest regeneration and improving

young stands during 2011 is expected to return to close to the long-term average, and investment to rise to over EUR 215 mill., rising by a further EUR 5 mill. in 2012.

The amount of financing and work input by private forest owners in 2010 as a proportion of the forest management and improvement work fell in real terms by almost 10%, to EUR 143 mill. The principal reasons were the year-on-year reduction in the amount of forest prepared for regeneration (-15%) and in the amount of work generally undertaken independently in artificial regeneration (-13%) and improving young stands (-15%). Forest regeneration was once again easily the largest recipient of the financing by private forest owners (EUR 62 mill.), and next in line were construction and basic improvement of forest roads (EUR 15 mill.) and preliminary clearing for thinning (EUR 11 mill.). The amount of financing by private forest owners in 2011 will rise to EUR 150 mill., and in 2012 to approximately EUR 153 mill.

Energy Wood Subsidies to be Separated from Other Timber Production Subsidies

Estimates by the Ministry of Agriculture and Forestry show that EUR 56 mill. in subsidies under sustainable forestry financing will be used on timber production investments in 2011, and EUR 24 mill. on energy wood harvesting and chipping. Contrary to plans, the new Act on Energy Subsidies for Small-Diameter Trees did



State and forest-owner funding of investments in non-industrial private forestry, 2000–2012 at 2010 prices (cost of living index).

Non-industrial private forestry balance sheet calculation for 2010 and forecast for 2011 and 2012, EUR/ha.

	2010	2011	2012
Gross stumpage earnings			
Whole country	110	115	107
Southern Finland	140	145	136
Northern Finland	47	51	47
- Gross costs			
Whole country	27	27	28
Southern Finland	30	31	31
Northern Finland	20	21	21
+ Subsidies			
Whole country	4,8	4,3	4,4
Southern Finland	4,7	4,1	4,3
Northern Finland	5,1	4,5	4,6
= Operating profits (before taxes and external capital costs)			
Whole country	88	92	83
Southern Finland	115	118	109
Northern Finland	32	35	30

Northern Finland is defined as North Ostrobothnia, Kainuu and Lapland regions.

Source: Finnish Forest Research Institute

not enter into force at the start of 2011, due to a delay in the decision required from the European Union, and this has hampered work to improve young stands and the harvesting and chipping of energy wood. The energy subsidies for 2011 had been used up by the end of June, as in 2010. In 2012, there will be EUR 57 mill. available in subsidies for forest management and improvement work, and EUR 20 mill. in subsidies for small-diameter energy wood.

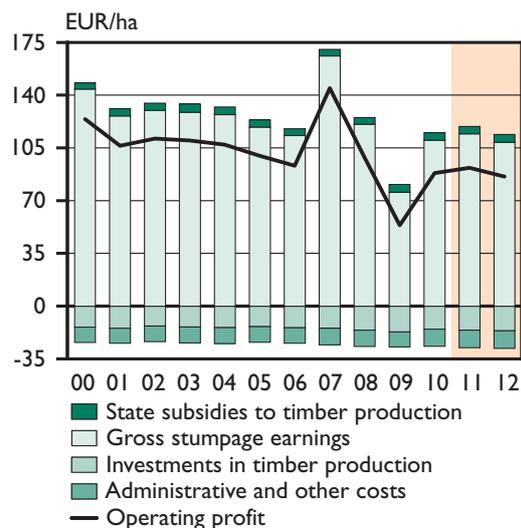
Operating Profit from Timber Production Exceeds EUR 90/ha

Gross stumpage earnings in non-industrial private forestry in 2010 rose from the rock-bottom figure for 2009, but did not climb beyond EUR 1.4 billion, which was below the post-2000 average (EUR 1.6 billion). Gross stumpage earnings for 2011 will increase to EUR 1.5 billion, mainly as a result of the rise in stumpage prices, and per-hectare gross stumpage earnings will climb to almost EUR 115 (+4%). Earnings will again be below the average for the previous 10 years (EUR 122/ha). Earnings will rise to EUR 145/ha in Southern Finland and to more than EUR 50/ha in Northern Finland. In 2012, the increase in stumpage prices and felling volumes

will tail off, and gross stumpage earnings will be down by 5% year on year.

The total costs of timber production in 2011 will increase to more than EUR 27/ha (+4%), and in 2012 they are expected to rise by nearly EUR 1/ha. In Southern Finland, costs will increase to EUR 31/ha, and in Northern Finland to EUR 21/ha. Forest regeneration accounted for 23% of the total costs in 2010, which was also the case for the tending of young stands. As the activity in young stand improvements was down due to the subsidy financing problems, this accounted for a lower proportion of the costs, falling in 2010 by 4 percentage points year on year. Forest improvement accounted for 13% of the total costs of timber production, while the administrative and other costs concerning the entire forest holding accounted for 42%.

Provided that the euro area debt crisis does not lead to a new recession, and on the assumption that the economies of the industrialised countries continue on their anticipated slow-growth track, the operating profit from timber production in non-industrial private forestry in Finland will rise to more than EUR 90/ha for the full year 2011. This will be about 4% up on the 2010 figure, but 10% below the post-2000 average. In 2012, a minor dip in fellings and stumpage prices will push down the operating profit to a level significantly below EUR 90/ha.



Source: Finnish Forest Research Institute

Earnings, costs and operating profit in non-industrial timber production, 2000–2012 at 2010 prices (cost of living index).