



3 Forestry in Finland

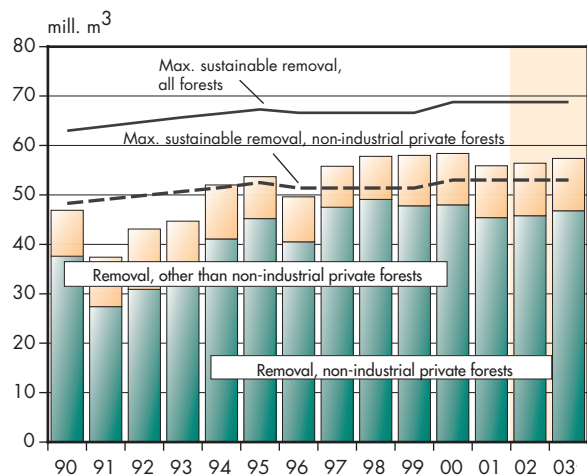
3.1 Utilisation of Wood Resources

Finland's abundant forest resources are sufficient to meet the Finnish forest industry's demand for roundwood, with the exception of birch; some 40 per cent more birch is consumed than the estimated maximum sustainable removal will allow, the shortfall being made up by imports. In 1999–2001, the forest industry's roundwood consumption and commercial fellings were at record highs. The forest industry was consuming an average of 69 million cubic metres of roundwood a year, of which 56 million cubic metres was of Finnish origin. The industry's roundwood procurement and consumption this year will be slightly higher than in 2001, and will continue to rise a little in 2003.

Finland has 23 million hectares of forest, and the total volume of growing stock is approximately 2000 million cubic metres. Pine accounts for 47 per cent of this, spruce for 34 per cent, birch for 15 per cent and other broad-leaved species for 4 per cent. The annual increment in the growing stock is about 78 million cubic metres. Some 2.8 million hectares of forest, mainly in Northern Finland, is wholly or partially excluded from commercial roundwood production. Forestry can thus be practised across an area of more than 20 million hectares, containing a growing stock of almost 1900 million cubic metres with an annual increment of approximately 76 million cubic metres.

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

Sixty-five per cent of Finland's commercial forests are in the possession of non-industrial private



Removals of industrial wood and maximum sustainable removal

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

Tree species	Consumption 1999-2001	
	mill. m ³ /yr	% of maximum sustainable removal
Pine	25.1	79
Spruce	28.7	114
Birch	13.5	141
Total	67.3	101

Consumption includes imported timber: pine 2.3 mill. m³, spruce 2.2 mill. m³ and birch 6.9 mill. m³

owners, 20 per cent is owned by the state, nine per cent by companies and six per cent by other groups of owners. The state's forest ownership is concentrated in Northern Finland, which is reflected in the low average increment in the growing stock compared with forests in other ownership. Forests in non-industrial private ownership account for 74 per cent of the increment in the growing stock; state-owned forests account for 11 per cent, company-owned forests for 10 per cent and the rest for five per cent. From the roundwood procurement viewpoint, the non-industrial private forests are of crucial importance, as 75–85 per cent of the domestic roundwood used by the forest industry is from such forests. Roundwood supplied from non-industrial private forests accounts for 65–75 per cent of all the industry's roundwood.

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

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

The maximum sustainable removal has risen because the volume of growing stock has continually increased, and silviculture has been quite intensive. The additional funding granted with the National Forest Programme will help secure a high level of silvicultural investment. The increase in maximum sustainable removal has slowed, but at the present rate of wood resource use this is set to rise again in the future.

Felling in excess of the maximum sustainable removal on a temporary basis only will not jeopardise future harvests. Flexibility of this kind, which is justifiable in silvicultural terms (maximum potential removal), is extremely widespread in Finnish forests, especially in spruce stands. In spruce-dominant forests in Southern Finland, the average volume of growing stock is 173 cubic metres per hectare, compared with only 107 cubic metres per hectare in pine-dominant forests. Spruce harvests have been very high in recent years and spruce reserves have no longer been increasing.

The proportion of the maximum sustainable removal harvested in Southern Finland is over 80 per cent, and is at its highest in Southern Ostrobothnia and Northern Savo, at over 90 per cent. Up-to-date information on Northern Finland is not available.

From a wood resources viewpoint, pine (especially sawlogs) has the best potential for quickly meeting an increase in the demand for roundwood. Birch consumption is currently 40 per cent greater than the level of maximum sustainable removal in Finnish forests, and so about half of the birch for industrial use is imported as birch pulpwood. The comparison given in the table also shows that spruce resources are being used to the full. Imports of spruce are thus increasing. According to the maximum sustainable removal calculations, spruce harvests can be sustainably increased in as little as about ten years from now. Non-industrial use of

roundwood – principally domestic firewood – is also of importance to forest management, but its main significance is in terms of energy use.

The aim of the National Forest Programme (1999) is to increase the use of industrial wood and fuelwood (particularly felling residues). The use of industrial wood has not yet increased, but the use of felling residues and small-sized trees for energy purposes has almost doubled since 1999. In energy production the use of wood material unfit for industrial products is very high: wood-based energy accounts for 20 per cent of all energy consumed in Finland and 60 per cent of the Finnish forest industry's energy consumption.

3.2 Roundwood Markets

A rise in production in the Finnish forest industry is increasing the demand for roundwood. Commercial fellings in 2002 will be up by two per cent, to 54.2 million cubic metres, and imports of roundwood will be up slightly, reaching 15.5 million cubic metres. The demand for sawlogs has increased as a result of the slight improvement in the outlook for sawnwood production and the growth in plywood production. The total harvest of Finnish sawlogs in 2002 will be about one per cent more than in 2001, despite the considerable increase in sawlog imports. Pulp production will also be up in 2002, raising the domestic demand for pulpwood; fellings will be up three per cent on last year. Pulpwood imports will be marginally down. Average stumpage prices will be 1–3 per cent above the figure for 2001, due to the increased demand for roundwood.

In 2003, the Finnish forest industry's growing roundwood needs will increase commercial fellings by two per cent, to 55.1 million cubic metres, and roundwood imports to 15.8 million cubic metres. With an increase in the production of sawnwood, planed wood and plywood and a steady rise in stumpage prices, the harvesting of Finnish sawlogs will be up by three per cent in 2003. Sawlog imports

will correspondingly fall. Paper and pulp production will continue to grow, adding to the demand for pulpwood. The supply of domestic pulpwood is forecast to increase only marginally, which will lead to higher imports of pulpwood and chips. Higher demand will push up average stumpage prices by 2–4 per cent, depending on the category of roundwood.

The supply of roundwood from non-industrial private forests began to increase in summer 2002 after the forest industry had returned roundwood prices to the level they were at before the price cuts of summer 2001. The increase in supply was also triggered by the decision of Metsäliitto and UPM-Kymmene to reduce the minimum diameter requirement for softwood pulpwood to six centimetres. The increase in roundwood sales at the end of the summer was considerable in comparison with last year: in early September, weekly procurement started to exceed one million cubic metres, and by the end of September, standing sales were already 25 per cent, and delivery sales 15 per cent, above their levels for the same period in 2001.

The roundwood supply situation in autumn 2001 was quite different. Falling stumpage prices had led many private forest owners to postpone their roundwood sales. Despite the forest industry's demand for roundwood remaining fairly high, roundwood sales declined considerably until the severe storms in early November 2001, when more than seven million cubic metres of roundwood was felled or damaged. Although a considerable proportion of this roundwood came onto the market during the winter, the industry's stocks of wood stands had dwindled to such an extent that sawlog imports had to be increased substantially. With the increase in imports, sawmills' stocks of harvested sawlogs began to grow, reaching record highs by summer 2002. Storms also played a role during the summer, though the impact of the severe storm in Savo on roundwood sales was relatively minor and localised.

	2001 mill. m ³	2002 mill. m ³	Change %	2003 mill. m ³	Change %
Commercial fellings, total	53.3	54.2	2	55.1	2
Non-industrial private forests	45.1	45.8	2	46.8	2
Company-owned forests	3.5	3.6	2	3.6	0
Finnish Forest and Park Service forests	4.6	4.7	2	4.7	-1
Sawlogs	25.4	25.5	1	26.4	3
Pulpwood	27.8	28.7	3	28.7	0
Roundwood imports	15.4	15.5	0	15.8	2
Commercial fellings and roundwood imports, total	68.7	69.7	1	70.9	2

Forest Industry's Roundwood Consumption Increases

The Finnish forest industry's roundwood consumption in 2002 will be more than three million cubic metres above last year's figure due to the growth in production. This in turn has increased sawlog harvesting and imports, although by a combined total of only one million cubic metres, because last year's harvesting and imports had already swelled stocks by two million cubic metres. Stocks were once more being reduced in 2002.

The total volume of commercial roundwood harvested in 2002 will be 54.2 million cubic metres, which is two per cent up on last year. Increased supplies of domestic roundwood mean that imports in 2002 will be up by only a small amount, to approximately 15.5 million cubic metres. Production of sawnwood, planed wood and plywood will be up slightly, adding to the demand for sawlogs. Sawlog harvesting will only be one per cent higher, however, because sawlog imports have already grown to one third of all roundwood and waste wood imports; the growth in imports has occurred quickly, as it was only in 2001 that the proportion had climbed

to one quarter. Commercial fellings of pulpwood in 2002 will be up by three per cent as a result of the growth in pulp production. Pulpwood imports will be slightly down because stocks of harvested pulpwood are relatively high.

Fellings in non-industrial private forests in 2002 will be two per cent up due to higher stumpage prices. Commercial fellings will also be two per cent higher in forests owned or corporatised by the forest industry companies and forests of the Finnish Forest and Park Service. Fellings in corporatised forests are determined not only by the harvestable roundwood available, but also in the short term by the orders from the parent company and owner-imposed performance targets. Fellings by the Finnish Forest and Park Service are influenced in the short term by the performance target set in the Government budget.

Real Stumpage Prices Remain Stable on Roundwood Markets

Growth in the demand for roundwood will mean that stumpage prices for 2002 on both the sawlog and pulpwood markets will be 1–3 per cent above last

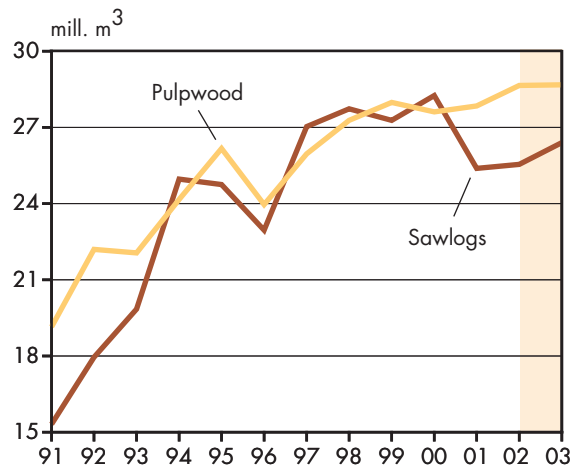
year's figures. Non-industrial private forest owners are consequently selling more wood than in 2001, when the prices were lower. Roundwood sales will have climbed to about 38 million cubic metres by the end of 2002, up by 30 per cent on 2001.

Summer stocks of harvested sawlogs in 2002 were 38 per cent above the 1998–2002 average, which also indicates that standing sawlog stocks are at a low level. The volume of roundwood sales in the latter part of the year will increase the forest industry's standing stocks of both sawlogs and pulpwood.

The 2002 stumpage price of pine sawlogs will be two per cent above last year's figure, due to the strengthening demand for sawnwood. The stumpage price of spruce sawlogs will be up by three per cent, as export demand has risen for primary processed products, planed wood and plywood. The increase in the price of birch sawlogs in 2002 will be smaller than for pine and spruce, at only one per cent, because considerably more birch is imported for industrial use.

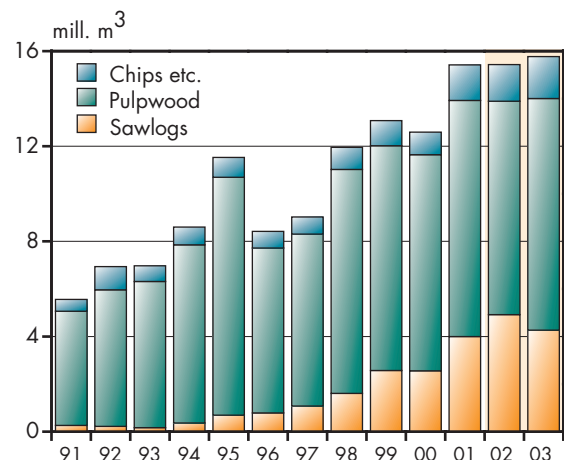
The 2002 stumpage price of pine pulpwood will be up by three per cent on last year, as a result of the increase in pulp production. Demand has also increased for birch pulpwood as a pulp raw material, but its stumpage price will only be one per cent higher on account of the stocks of harvested birch pulpwood and the high proportion of imports. The stumpage price of spruce pulpwood will be up by two per cent due to the scarce domestic supply and relatively low level of imports.

The reduction in the small-end diameter requirement for softwood pulpwood, to six centimetres, will increase the 2002 figures for the number of exploitable thinnings stands and the thinnings removal. The demand for pulpwood in standing sales of thinnings has improved as thinning technology has been further developed. Pine and birch pulpwood are especially important in delivery fellings of thinnings. In 2001 some 33 per cent of all pine pulpwood, and 29 per cent of birch pulpwood, was harvested through delivery fellings; the equivalent figure for sawlogs was an average of only 14 per cent.



Source: Finnish Forest Research Institute

Commercial fellings of sawlogs and pulpwood, 1991–2003



Source: Finnish Forest Research Institute

Volume of imported wood by type of roundwood, 1991–2003

Sawlog Fellings Up in 2003

In 2003 both commercial fellings and roundwood imports will increase by two per cent, as the forest industry's production and roundwood consumption increase. Production of sawnwood, planed wood

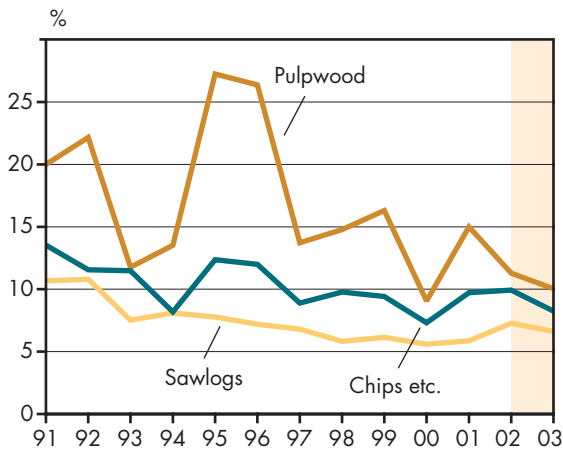
and plywood will grow, leading to an increase in sawlog fellings of three per cent, to a total of 26.4 million cubic metres. The supply of domestic sawlogs in 2003 will increase as stumpage prices rise, and sawlog imports will correspondingly decline. Pulpwood fellings will remain at approximately 28.7 million cubic metres despite the growth in paper and pulp production, because more of the fibre raw material will be supplied as sawmill chips, and imports of both pulpwood and chips will increase. The industry's stocks of harvested roundwood will decrease.

In non-industrial private forests commercial fellings will be up by two per cent in 2003, due especially to the higher demand for sawlogs; fellings of sawlogs from private forests are forecast to increase by as much as four per cent. By contrast, commercial fellings of sawlogs from forests owned or corporatised by the forest industry companies and by the Finnish Forest and Park Service will decrease by a small amount. In corporatised forests and those of the Finnish Forest and Park Service the higher price of roundwood will mean that performance targets for 2003 could also be met with slightly fewer fellings than this year.

Higher Export Prices Will Boost Roundwood Sales in 2003

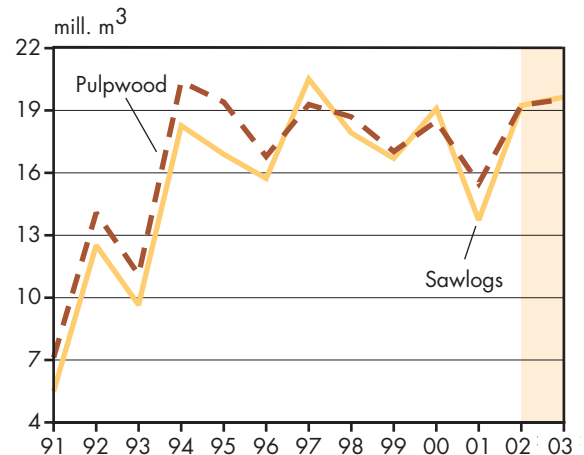
In 2003 average stumpage prices will rise by 2–4 per cent as roundwood demand picks up and export prices increase. Being a little above the inflation rate, this will help the supply situation, ensuring that the volume of roundwood sales remains at approximately this year's level. Stumpage prices for sawlogs will be supported by the rise in wood product prices as construction activity gradually picks up on export markets. The price of pine and birch pulpwood will also rise as a result of the projected growth of five per cent in the export price of pulp.

The average sawlog and pulpwood stumpage prices for both pine and spruce will increase by around three per cent. In the case of spruce, the rise in sawlog and pulpwood stumpage prices will be restrained by imports. Imports will also be a restraining factor on the price of birch sawlogs, which is expected to rise by two per cent. The price of birch pulpwood, on the other hand, will increase by four per cent despite the rise in imports, due to the growing demand for it in pulp manufacture. The industry's stocks of wood stands will increase from this year's level.



Source: Finnish Forest Research Institute

Forest industry stocks of harvested wood at year-end, 1991–2003 (percentage of annual wood consumption)



Source: Finnish Forest Research Institute

Purchased quantities of sawlogs and pulpwood from non-industrial private forests, 1991–2003

	2001	2002	Change	2003	Change
Roundwood	EUR/m ³	EUR/m ³	%	EUR/m ³	%
Pine sawlogs	46.2	47.1	2	48.3	3
Spruce sawlogs	43.1	44.3	3	45.7	3
Birch sawlogs	45.9	46.3	1	47.4	2
Pine pulpwood	14.0	14.4	3	14.8	3
Spruce pulpwood	22.0	22.6	2	23.3	3
Birch pulpwood	13.9	14.0	1	14.5	4

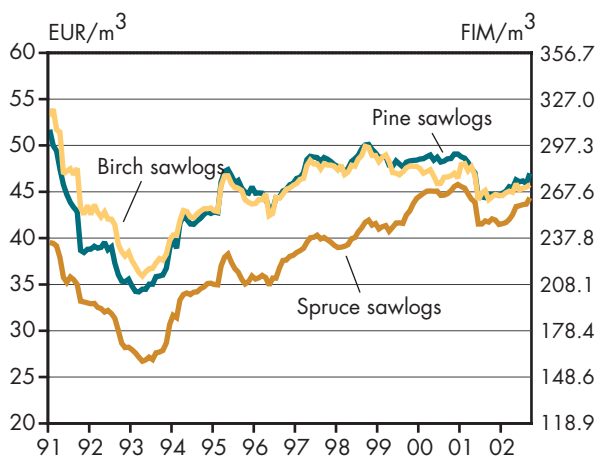
Commercial Fellings and Roundwood Imports Undergoing Changes

The transition period in forest taxation is soon to end. Those forest owners affected by the site productivity tax will be aiming to sell considerable quantities of sawlogs in the period 2002–2004. The only tax-affected felling stands to remain unharvested in 2005 will be those on which it is possible to pay the tax up to the start of 2006.

Although no significant change is expected in the overall supply of roundwood in the next few years, commercial fellings of domestic sawlogs are now some two million cubic metres below the level of 1997–2000. This may be because the forest industry is preparing for the end of the forest taxation transition period and any consequent changes in roundwood supply. Relatively high domestic stumpage prices will lead the industry to increase its imports wherever possible to satisfy its rising demand for sawlogs. This will reduce the upward pressure on domestic stumpage prices. In addition, the industry is likely to increase its dwindling stocks of wood stands in the period to 2005 by purchasing more standing wood than needed and delaying fellings on some of the purchased stands as well.

The costs of stocking and transporting wood in Finland are critical in any comparison of the costs

of procuring imported versus domestic roundwood. Managing the logistics of felling and transporting wood has so far proved more troublesome for imports than for domestic procurement. As an example, in the first part of 2002 the growth in sawlog imports increased stocks of harvested sawlogs considerably; assuming an interest rate of 13 per cent (as used in Metsäteho’s economic analysis of reduced summer fellings), it can be seen



Source: Finnish Forest Research Institute

Sawlog stumpage prices by month, January 1991–September 2002 at 2001 prices (cost of living index)

Stumpage Price Index and Forest Product Export Price Index

Pekka Ollonqvist

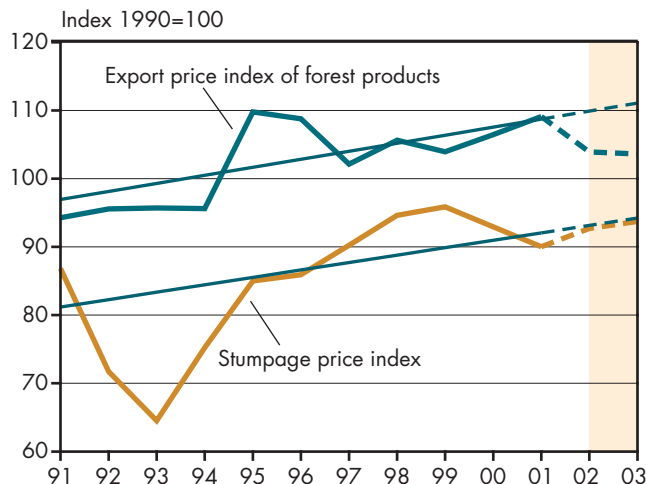
The index measuring the real change in forest product export prices will be down in 2002 by almost five per cent on last year's level, due to the drop in forest product export prices (except for sawnwood). By contrast, the stumpage price index for roundwood will be up by almost three per cent on last year. Both indices are based on prices adjusted for inflation using the wholesale price index.

With nominal export prices rising, the forest product export price index in 2003 is expected to remain almost at this year's level, about four per cent higher than in 1990. The stumpage price index is forecast to rise by more than one per cent in 2003, which will be about six per cent below its 1990 level.

Both indices have experienced an overall rising trend throughout the period 1990–2001. However, the drop in the stumpage price index last year and in 2000

has lowered its average growth rate to almost the same level as the growth rate of the forest product export price index. The stumpage price index was about two per cent below its 1990–2001 trend last year, whereas the forest product export price index was more or less in line with its trend. This year and in 2003, however, the forest product export price index will be below its 1990–2001 average.

After falling for two successive years, the stumpage price index began to rise in summer 2001. The expected rise in the index in 2002 will be almost three per cent, in part as a result of the decline in wholesale prices. In real terms, the index will return to its level of the first half of 2001 and thus to the 1990s trend; this rise will continue in 2003, though at a slower rate because of the rise in the wholesale price index.



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

Real stumpage price index, forest product export price index and linear trends in these indices, 1991–2003 (inflation-adjusted by the wholesale price index)

that every permanent increase of one cubic metre in sawlog stocks is equivalent to an annual interest charge of about EUR 6. This is not dissimilar to the average long-distance transportation cost per cubic metre for domestic roundwood. Based on the costs of keeping stocks, any price gap between imported roundwood and domestic commercial roundwood would be narrower than assumed, because stocks of locally procured domestic roundwood can be kept for some time as stocks of standing wood, and, even when felled and paid for, can be held in smaller quantities than imported roundwood procured from distant forests.

Importing sawlogs from Russia also carries a risk that the Russians may impose rules restricting sawlog exports in order to support the country's domestic wood processing industry. The Finnish forest industry is already making preparations for future changes in roundwood procurement by investing in the sawmilling and plywood industries of the Baltic countries and Russia. The industry is also seeking to increase imports of pulpwood and chips from the Baltic Sea region to its Finnish-based pulp and paper mills.

3.3 Investment and Profitability in Non-Industrial Private Forestry

Total investment in timber production in Finnish non-industrial private forests in 2002 will rise to over EUR 190 million and a little further still in 2003. Non-industrial private forest owners have recently been investing more of their own resources in real terms; in 2002 and 2003 their input will account for over 70 per cent of the total investment in non-industrial private forestry. The improvement in state funding criteria and expansion of the funding basis in 2001 led to an increase in the take up of state funds to such an extent that the subsidies for tending of young stands were insufficient to meet the demand. Moreover, the demand for subsidies avail-

able under the legislation on funding for sustainable forestry will probably again exceed the funds available, both this year and in 2003, despite the increase in funding since 2001. The higher level of investment in timber production and the reduction in stumpage earnings have together raised the investment rate (total investment as a percentage of gross stumpage earnings) in non-industrial private forestry to over 12 per cent this year.

A minor increase in fellings and modest rise in stumpage prices will raise gross stumpage earnings for 2002 by two per cent. A further increase of six per cent is anticipated in 2003, which will lift earnings to EUR 120 per hectare. Following the substantial amount of final cutting at the beginning of the decade, the total costs of forest regeneration are still high, and the effect of the campaign to improve young stands is still evident in the costs. Nevertheless, the rise in total costs may be as little as 1–2 per cent, or less than EUR 0.5 per hectare. Net earnings per hectare for 2002 will rise to EUR 97 and will be EUR 104 in 2003.

Total Investment to Exceed EUR 195 Million in 2003

In 2001 a total of approximately EUR 57 million in state funding was taken up for timber production in non-industrial private forests; this was almost 20 per cent above the previous year's figure. In 2002 about EUR 59 million in state loans and grants will be taken up, just short of the target set in the National Forest Programme. Total investment in non-industrial private forestry in 2002 will already exceed EUR 190 million. The projection for 2003 is slightly over EUR 195 million.

The amount of their own resources invested in timber production by private forest owners has been growing continuously in real terms for almost 10 years, with the exception of 1996. In 2001 the forest owners invested over EUR 130 million in silvicultural and forest-improvement work. This year and in 2003 the figure will be slightly higher still,

accounting for over 70 per cent of the total investment. The corresponding figure in the early 1990s was only 50–60 per cent.

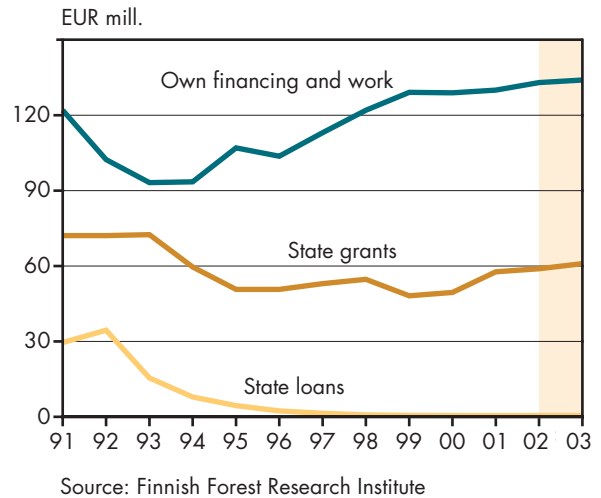
Almost 60 per cent of the private forest owners' own input is spent on statutory forest regeneration obligations, which are mainly soil preparation and planting of regeneration sites. Most of the resources for non-statutory purposes are used for construction, maintenance and basic improvement of forest roads. Almost two thirds of the EUR 26 million spent on roads by the forest owners is spent on maintenance (this is an estimate and not based on actual work performed). The additional expenditure by private forest owners last year on tending of young stands brought their own input in this area almost up to the level of their input in forest road investment.

Increase in Sustainable Forestry Funding in 2003

About EUR 61 million of state funding has been reserved in the Government's budget proposal for 2003 for the purposes of securing sustainable timber production. This incorporates an additional allocation of EUR 2 million to cover the increased costs of silvicultural and forest-improvement work and the further artificial regeneration needed as a result of the autumn 2001 storm damage. An index-linked increase was also made to allow the National Forest Programme targets to be met.

The priority in state funding continues to be with tending of young stands, fuelwood harvesting, and ditch cleaning and supplementary ditching. As much as EUR 25 million of the EUR 44 million funding is targeted at tending of young stands and harvesting fuelwood. The biggest increase was reserved for forest regeneration and other silvicultural work as a result of the storm damage; the allocation for this work was increased from a little over EUR 9 million to EUR 11 million.

Funding for sustainable forestry also includes the allocation reserved for environmental grants and for projects concerned with managing the forest



Financing of silvicultural and forest improvement works in non-industrial private forestry, 1991–2003 at 2001 prices (cost of living index)

environment, among other things. This allocation remains at EUR 4.2 million in the 2003 budget proposal. Besides individual management projects, a considerable amount of funding is used in national projects for surveying habitats of special importance referred to in the Forest Act; this work is mainly the concern of the regional forestry centres. Field afforestation under the EU-approved action plan for forestry measures in agriculture will no longer receive state funding in 2003. However, the field afforestation commitments made before 2000 are still very much evident in the Government's budget in the form of afforestation management allowances and compensation for loss of earnings, totalling more than EUR 6 million.

State Funding Attracts Forest Owners Again

In 2000 almost one quarter of the state funds available for timber production in non-industrial private forestry went unclaimed. The situation changed completely in 2001, however, as a result of an

improvement in the funding criteria and an expansion of the funding basis. By the end of the year, the available state funds were no longer sufficient for all the projects undertaken. This has adversely affected funding in 2002 because some of the sustainable forestry funding has had to be spent on a number of last year's projects.

The nature of the authorisation procedure in regard to long-term projects (such as ditch cleaning and supplementary ditching, and forest road improvements) has created a problem for the funding of sustainable forestry work. If a long-term project is granted funding, its estimated total funding need is authorised as a single sum from the first year's available funds, even though the project's expenditure is to be spread over several years. The funding situation was eased in the 2002 supplementary budget by increasing the funding authorisations that can be granted.

The improvement in funding criteria and expansion of the funding base in 2001 appear to have been successful in encouraging the take up of state funds for timber production. This has correspondingly increased the input of private forest owners' own funds and labour, mainly in non-statutory silvicultural and forest-improvement work. Greater use of state funds is probably also due to the additional resources given to organisations that promote and monitor forestry for the purpose of supporting regional forest planning and providing advice and training for private forest owners in accordance with the National Forest Programme. Despite the increase in state funding, a shortfall rather than a surplus of funding seems more likely in 2003.

Investment Rate Increasing in Non-Industrial Private Forestry

Gross stumpage earnings from non-industrial private forestry in 2001 were more than 10 per cent lower in real terms than in 2000, due to the decrease in fellings and stumpage prices. Private forest owners' earnings from roundwood sales totalled EUR 1.48

Balance sheet calculations for non-industrial private forestry, at 2001 prices (cost of living index)

	2001	2002	2003
Gross stumpage earnings, EUR/ha			
Whole country	110.5	113.0	120.0
Southern Finland	143.5	147.0	156.0
Northern Finland	42.7	45.0	48.0
– Gross costs, EUR/ha			
Whole country	20.7	21.0	21.3
Southern Finland	24.2	24.5	24.9
Northern Finland	13.6	13.7	13.9
+ Subsidies, EUR/ha			
Whole country	4.3	4.4	4.6
Southern Finland	4.1	4.2	4.4
Northern Finland	4.8	4.9	5.1
= Net earnings, EUR/ha (before taxes and external capital costs)			
Whole country	94.1	97.0	104.0
Southern Finland	123.4	126.0	135.0
Northern Finland	33.9	36.0	39.0

Northern Finland = Oulu and Lapland provinces

Sources: Statistics Finland and Finnish Forest Research Institute

billion. The average stumpage price for 2002 is expected to be a little above last year's level. Following the brisk roundwood sales in the autumn, felling volumes will also be slightly above the 2001 level. Overall, this means that gross stumpage earnings in non-industrial private forestry in 2002 will reach just over EUR 1.5 billion. In 2003 roundwood sales are expected to pick up further, lifting total earnings to about EUR 1.6 billion.

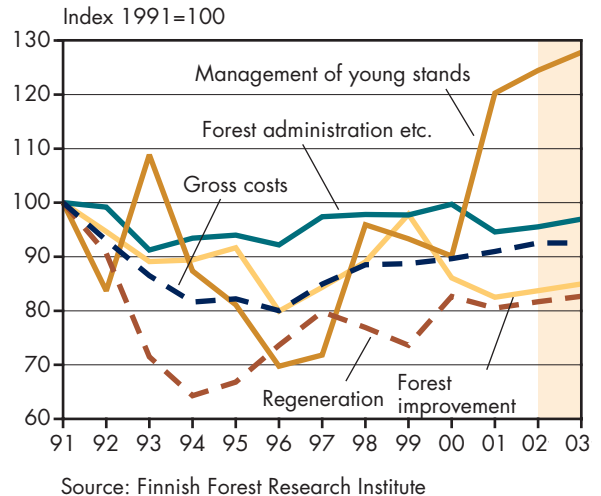
In 2001 total investment in non-industrial private forestry accounted for almost 13 per cent of gross stumpage earnings. This high investment rate was due in part to the sharp decline in stumpage earnings after 2000 and in part to the continued real increase in amount invested in timber production. The investment rate in 2002 is likely to be just below 13 per cent, and in 2003 a little over 12 per cent.

Gross Stumpage Earnings Below Their Earlier Peak

Gross stumpage earnings fell to EUR 110 per hectare in 2001, down by more than 10 per cent on the previous year, mainly due to the decrease in sawlog stumpage prices. Roundwood sales were good at the start of 2001, but the summer's reduction in stumpage prices cut the sales level later on. In 2002 the small rise in stumpage prices and brisk roundwood sales give reason to expect that gross stumpage earnings will be 1–2 per cent above last year's level. The increase in thinnings and especially the harvesting of storm-damaged trees in certain areas has added to this year's harvesting costs and limited the rise in average stumpage prices. The rise in gross stumpage earnings is forecast to climb to six per cent in 2003, bringing earnings to EUR 120 per hectare. Although the figures for 2002 and 2003 will be considerably less than in the peak years, gross stumpage earnings will be about 20 per cent higher in real terms than the average for 1991–2000.

Only Small Rise in Gross Costs

In 2001 the gross costs of timber production and administration in non-industrial private forestry amounted to EUR 24.2 per hectare in Southern Finland and EUR 13.6 per hectare in Northern Finland. Subsidies covered 21 per cent of costs, a rise of two percentage points on the previous year; the equivalent figure for Southern Finland was 17 per cent and for Northern Finland, 35 per cent. The average percentages for the 1990s were 16 and 42 per cent, respectively. Gross costs in 2002 are expected to be up slightly, to approximately EUR 21 per hectare, and to remain at the same level in 2003. The figures for Southern and Northern Finland this year are about EUR 25 per hectare and almost EUR 14 per hectare, respectively. These estimates are primarily based on the moderate increase in state subsidies and the corresponding increase in investment by private forest owners.



Gross costs in non-industrial private forestry, 1991–2003 at 2001 prices (cost of living index)

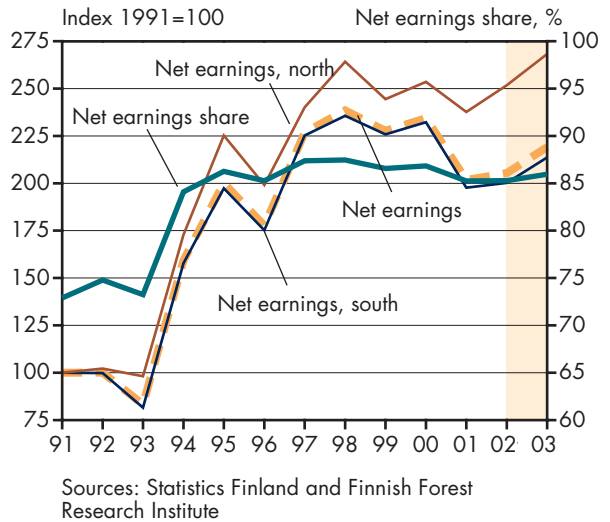
The gross costs of non-industrial private forestry can be divided into four cost pools. The largest of these are forest regeneration and administration, each accounting for over 30 per cent of costs. Tending of young stands and forest improvement accounted for 19 per cent and 18 per cent of costs, respectively, in 2001. Although real gross costs have risen since 1996, they will still be more than five per cent below the 1991 level both this year and in 2003. The increased investment in tending of young stands is clearly evident in that this is the only cost item consuming more resources than in 1991.

Marked Rise in Net Earnings Expected in 2003

Net earnings from timber production in non-industrial private forestry amounted to EUR 110.5 per hectare in 2001. This was a drop of over EUR 15, or 12 per cent, on the peak of the previous year. This appears to be a short-term dip, as the figure is expected to be up by around EUR 2 in 2002, and by a further EUR 6 in 2003. These figures are significantly lower than the peak years of 1998–2000. They

are nevertheless 20–25 per cent above the average for the 1990s, and higher than the early 1990s recession years by a factor of 2–2.5. Net earnings per hectare in Southern Finland will rise this year by EUR 3 and next year by EUR 9, reaching an estimated EUR 135 per hectare. In Northern Finland the corresponding figures are a rise of EUR 2–3 per hectare both this year and next year, lifting net earnings to record levels in 2003: EUR 39 per hectare. The calculations for Northern Finland assume buoyant demand for pine and rising prices; in Northern Finland pine accounts for two thirds of roundwood sales revenue and pine pulpwood for one quarter (in Southern Finland it is less than 10 per cent).

With earnings rising more rapidly than expenditure, the figure for net earnings share will rise slightly, but nevertheless remain in the region of 85 per cent. The net earnings share indicates the proportion of gross stumpage earnings that remains after timber production costs for the purposes of paying forest taxation, investment and everyday living costs. Forest taxation will be around EUR 200 million in total, which means that the amount of earnings left for everyday living costs and investment this year will be about EUR 1.1–1.2 billion; the same figure is anticipated in 2003.



Net earnings in non-industrial private forestry and as a proportion of gross stumpage earnings, 1991–2003 at 2001 prices (cost of living index)