

Forest taxation in Finland - a review of the systems currently in use

Esa Ylitalo
Finnish Forest Research Institute
June 1, 1998

1. GENERAL.....	2
2. FOREST INCOME TAXATION	3
2.1 TAXATION ACCORDING TO ACTUAL STUMPAGE REVENUES	3
2.2 AREA-BASED FOREST TAXATION	4
2.2.1 <i>General</i>	4
2.2.2 <i>Definition of the assessed average yield</i>	5
2.2.2.1 Volume of an annual taxable increment.....	5
2.2.2.2 Monetary unit value for the volume of taxable increment	6
2.2.2.3 Definition of the annual assessed average yield	9
2.2.3 <i>Taxable net forest income</i>	9
3. OTHER TYPES OF FOREST TAXATION	10
3.1 VALUE-ADDED TAXATION (VAT)	10
3.2 FOREST PROPERTY TAXATION	10
3.3 TAXATION WHEN PURCHASING FOREST PROPERTY	11
3.4 TAXATION WHEN SELLING FOREST PROPERTY	11
3.5 INHERITANCE AND DONATION TAXATION	11

CONTACT DATA

APPENDIX 1. Main features of the forest income taxation systems applied in Finland.

APPENDIX 2. A model for area-based forest taxation system in Finland.

Forest taxation in Finland - a review of the systems currently in use

1. General

In Finland forest income taxation has, since the beginning of the 1920's, been based on the assessed average value of the annual increment (so-called *area-based forest taxation system*). Over the years several changes have been made to the details of the system but the main principles have, however, remained in accordance with the original aim.

Ensuring the availability of raw material for the forest industries has been the central goal of Finnish forest policy since the 1960's up until the present time. In this respect the area-based forest taxation system, which is designed to encourage good silviculture and regular roundwood sales, has constituted one of the basic instruments of forest policy, which aims at increasing the production and supply of roundwood and promoting investments in timber production. Nowadays, when forest policy is more focused on the non-economical values of the forest, the principles of area-based taxation have been considered to no longer correspond to its original importance.

Nevertheless, at the beginning of 1993 a wide, general reform of capital income taxation was enacted in Finland, resulting in a strict division between capital income and earned income. As a result of this reform, forest income is now regarded as capital income, and a new forest income taxation system based on *actual stumpage revenues* was introduced.

A non-industrial, private forest owner (NIPF) was given, however, the possibility to remain in the area-based forest taxation system during the course of a *transition period of thirteen years* (1993-2005). This means that, at the moment, *two different systems of forest income taxation are simultaneously running in Finnish forestry*. The alternative mentioned above was mainly chosen by those NIPFs who had large areas of mature forest areas that need to be regenerated in the near future. Utilization of the transition period provides a means of avoiding the double taxation caused by the area-based forest tax that has already been paid and the new taxation on actual stumpage revenues when the timber is sold. However, most of NIPFs, approx. 70 per cent of this forest owner group, chose the new forest taxation system. All the other forest owner groups (state, municipalities, forest industries, communities etc.) were, in contrast, obliged to conform to the new forest taxation system. From the beginning of the year 2006, all forest owners will be taxed according to their stumpage revenues.

Simultaneously with the tax reform in 1993, the shared source for the income of the agriculture and forestry from farming household was abolished. From now on the income from forestry will be taxed separately, whereas the income from agriculture will make up a separate source of income of its own which, correspondingly, is also divided into capital income and earned income.

This paper introduces the main principles followed in Finnish forest taxation. The emphasis has been on income taxation which, understandably, is the most important form of forest taxation. In addition to the detailed presentation of the two main

systems of forest income taxation in Chapter 2, a summary of these systems is also presented in Appendix 1. At the end of this paper there is also a short presentation of other taxation systems applied in forestry, such as forest property taxation, value-added taxation and taxation when selling, purchasing or inheriting forest property. Welcome to the exciting world of forest taxation in Finland!

2. Forest income taxation

2.1 Taxation according to actual stumpage revenues

At the beginning of 1993 a new Law of Income Taxation came into force. According to the general principles of this law, all income is divided into either capital income or earned income. According to this reform, the forest income from stumpage sale revenues is considered to be **capital income**. In capital income taxation the tax levied is based on a fixed proportional taxation base which, at the moment, is 28 per cent. This taxation base is without doubt lower than the average taxation base applied in earned income taxation, which in Finland currently averages about 40 per cent and is one of the highest in the whole of Europe.

Within capital income taxation, all capital income is dealt with as one entity. In addition to forest income, this also includes such sources of income as dividends, rents, profits, income from life insurance and income from selling soil components (e.g. mould and gravel). The taxable net capital income is calculated by summing up the capital income from all sources and deducting all the corresponding associated expenses. In forest taxation, this means summing up all the forest income and then deducting all the expenses incurred in earning the forest income. It should also be noted that, in this system, the expenses of forestry can also be deducted from other capital income if no forest income has arisen.

The forest income in the taxation system based on actual stumpage revenues consists of:

1. Stumpage revenues from stumpage sales.
2. Stumpage value of delivery sales (i.e. revenues from delivery sales minus the value of delivery work carried out by the forest owner).
3. Stumpage value of the timber used for personal household purposes.
4. Forest insurance compensation and other compensation for forest damage.

The value of delivery work (assessed value of felling and forest haulage) mentioned above is considered to be **earned income** and will thus be deducted from the delivery revenues and taxed according to the system applied in personal earned income taxation (see also Chapter 2.2.3).

All the expenses resulting from the procurement of forest income are fully tax-deductible. In addition, the purchasing price of new forest land is partly tax-deductible (so-called *forest deduction*). The deductions made from the forest capital income can thus be listed as follows:

1. annual real expenses in forestry
2. annual expenses of prolonged investments
3. forest deduction

According to the principles of this taxation system, the forest owner is annually allowed to deduct *all those expenses* that are incurred in from forestry and are derived from timber harvesting, forest administration, forest regeneration and forest management. To these expenses belong such items as wages paid to employees (but not the value of the forest owner's own work), payments for forest insurance, payments for professional help for forest extension services, for expenses repairing of equipment used in forestry, gasoline and oil, expenses of fertilizers, plants, seed, travelling to the forest holding etc.

The expenses of *prolonged investments* (machines, constructions etc.) are, however, deducted by the write-off method. The annual maximum sum that can be deducted is as follows:

- Machines and equipment:	25 per cent
- Storage buildings used in forestry:	10 per cent
- Other small-sized constructions:	20 percent
- Expenses of forest drainage and forest road construction:	15 per cent.

A NIPF also has the possibility to deduct 50 per cent of the procurement expense of a new forest area as a specific forest deduction. A forest deduction can be no more than 40 per cent of the annual capital income received from the **corresponding** forest area. The lowest limit for this deduction is FIM 10 000. Consequently, the annual capital income earned from a forest area must be at least FIM 25 000 ($0,4 * \text{FIM } 25\,000 = \text{FIM } 10\,000$), to completely achieve the total utilization of the forest deduction.

A NIPF also has the possibility to divide the capital forest income for a specific year into periods by transferring 15 per cent of the income to the following years. By this method it is possible to overcome the problem caused by the non-simultaneous income and expenses typical of small-scale forestry.

The wood purchasing company deducts 18 per cent (12 per cent in delivery sales) tax at source of the total monetary value of the timber sold by the forest owner, and deposits this sum directly into the account of the local taxation office of the province. The final taxation of a forest owner takes place once a year according to the report on forest income and the corresponding expenses of forestry returned to the National Board of Taxation. This report is based on the forestry bookkeeping of by the cash method performed by the forest owner.

2.2 Area-based forest taxation

2.2.1 General

Area-based forest taxation is, in the first case, based on *the assessed average yield of the forest* determined by (see also Appendix 2):

1. The forest land area
2. The average increment of the growing stock on the forest land area, and
3. The annual unit value for the increment

In this system, the total annual increment (Chapter 2.2.2.1) and especially the annual value of it (Chapter 2.2.2.2) is considered to constitute the annual forest income. Therefore an area-based forest tax is levied each year regardless of whether timber has been sold or not.

In the area-based forest taxation system, **all forest income is considered to be earned income** which, summed together with all the other earned income of a forest owner, is taxed according to the progressive income taxation scale. Thus the tax levied is significantly dependent on the other earned income of a forest owner.

It is characteristic of the area-based forest taxation that most of the parameters used for assessing the annual yield are computational and are based on average data from large forest areas (mostly on a municipality level), primarily defined by nation-wide forest inventories carried out by the Finnish Forest Research Institute (Metla). Thus, every forest owner living in the same municipality is taxed according to the same figures. The volume and structure of the growing stock owned by an individual forest owner have no impact on his taxation which, in this respect, are not necessarily fair for all forest owners. Because of this, and also of the meticulous legislation connected, the area-based forest taxation is considered to be a complicated and very expert-oriented system. This, to a great extent, is true compared to the new and relatively neutral forest taxation system on actual stumpage revenues.

One important aim of the forest taxation system based on the average yield has been to encourage the forest owner to increase the efficiency of roundwood production and thus, from the national point of view, to strengthen and ensure the roundwood supply. Special tax reliefs introduced in this system are considered to promote favorable forest management, as well as forest regeneration, tending of seedling stands, construction of forest roads, forest drainage and the harvesting of first thinning areas. When a woodlot has been improved to such an extent that its productivity exceeds the average level applied, tax is not levied on the excess increment.

2.2.2 Definition of the assessed average yield

2.2.2.1 Volume of an annual taxable increment

Definition of the total volume of an annual taxable increment is based on two main factors, namely:

1. Site tax classification
2. Average increment of the growing stock

In area-based forest taxation, the area of forest land has been divided, according to the ground vegetation, into *four different average site tax classes (I,II,III,IV)* that indicate the productivity of the forest land. Excluded from this classification is forest land from which no taxable yield is obtained on a regular basis, such as wasteland (mean annual increment less than 0.1 scum/ha), the land under electric power lines, forest roads, ditches and corresponding areas.

The site tax classification is carried out by each municipality at independently time, the organization responsible for this task being the National Board of Taxation. In practice, every single woodlot in Finland is thus classified with the help of aerial photos and intensive field work. It has, however, to be noted that the official site tax classification activities ceased in 1993, and will not be continued because the area-based taxation system will, as mentioned earlier, end by the year 2005.

Site tax classification that is carried out at different times in neighbouring municipalities causes inequalities in taxation between forest owners. One municipality may apply a new site tax classification, while in the neighbouring municipality the classification may be over 30 years old. New classifications are considered to be more strict, because in the municipalities using an old classification part of the less productive forest land may have been upgraded, as a result of silviculture and forest management activities (e.g. forest drainage), to a more productive site tax class that was applied in the official classification on which the tax was originally levied.

The average increment of the growing stock depicts the annual and computational average wood productivity of the forest land in each site tax class, and is expressed as a unit value (scum/ha). The value of the average increment is based on the data from the nation-wide forest inventory and issued by the municipality (totalling 450 currently in Finland).

Total volume of the annual taxable increment of a woodlot is obtained by multiplying the total forest land area of the woodlot in each site tax class by the corresponding unit figure of average increment, and then summing the products (see Example 1).

Example 1. Calculation of the total volume of the annual taxable increment of a woodlot

Site tax class	Area (A), ha in each site tax class	Average increment (I), scum/ha in each site tax class	Total increment in each site tax class, scum (A x I)
I	3,0	6,4	19,2
II	5,0	4,6	23,0
III	6,0	3,2	19,2
IV	1,0	1,9	1,9
TOTAL VOLUME OF THE ANNUAL TAXABLE INCREMENT, scum			63,3

2.2.2.2 Monetary unit value for the volume of taxable increment

It is also Metla's statutory responsibility to calculate annually *the monetary unit value for the annual taxable increment* for each municipality on the basis of the information obtained from

1. Average stumpage prices
2. Structure of the growing stock
3. Cutting savings (difference between allowable cut and outturn)
4. Forest insurance and forest damage compensation
5. Average expenses incurred in wood production

Information on *the average stumpage prices* by the main assortments used in the Finnish timber trade set the basis for defining the current unit value of the annual increment. This price information is collected from all wood purchasing companies in Finland on a municipality level by Metla, and results in the average stumpage prices by assortment and by municipality for the year in question.

According to the data obtained from the nation-wide forest inventory, *the structure of the growing stock* is defined so as to reflect the proportional share of the average increment by assortment in each municipality. *The gross unit value for the annual taxable increment* (FIM/scum) can be obtained by multiplying the average stumpage prices and the corresponding structure of the growing stock and then summing them up (see Example 2).

Example 2. Calculation of the gross unit value for the annual taxable increment in a municipality

Stumpage prices (P), by assortment FIM/scum		Structure of the growing stock (S = 1/100)*		Returns, FIM/scum (P x S)
Logs	Pine	250,00	25	62,50
	Spruce	180,00	14	25,20
	Birch	255,00	5	12,80
Pulpwood	Pine	82,00	25	20,50
	Spruce	93,00	11	10,20
	Birch	91,00	13	11,80
GROSS UNIT VALUE OF THE ANNUAL TAXABLE INCREMENT, FIM/scum:				143,00

* In addition to the most common roundwood assortments used by forest industries presented in Example 2, the structure of the growing stock also contains the proportion of *waste wood* (non-industrial wood) which has no price and value in the calculation. In the example, the proportional share of wastewood is 7/100 ($25+14+5+25+11+13 = 93$).

When defining the *net unit value of the annual taxable increment*, the following features are also taken into account:

1. If the total annual increment has not been utilized in total, *cutting savings* (*difference between allowable cut and outturn*) for the year will be formed. In this case, Metla defines the annual volume of the cutting savings by subtracting from the total increment of cordwood (defined by the nation-wide forest inventory) the commercial roundwood production (compiled by Metla) on the municipality level. Fifty per cent of the cutting savings are taken into account in the calculation, and the proportional monetary unit value of this cutting savings is deducted from the gross unit value of the annual increment (see Example 3). The deduction and share of cutting savings was introduced as a result of political debate in 1991.

Example 3: Definition of the influence of the cutting savings in a municipality

Total annual increment of cordwood, scum	250 000 (A)
- commercial roundwood production, scum	198 000
= volume of cutting savings, scum	52 000

Half of the cutting savings is taken into account, i.e. scum: 26 000 (B)

The proportional share of the cutting savings out of the total annual increment of the cordwood is defined according to the formula applied, i.e. $B/A = 26\,000/250\,000 = 0.104$. The impact of the cutting savings on the gross unit value of the annual increment can be then calculated by deducting this share from the original gross unit value, in this case (see Example 2): **143,00 FIM/scum** x (1 - 0,104) = **128,13 FIM/scum**

2. The average income from *forest insurance and forest damage compensation* paid to the forest owners is added to the gross unit value. The influence of forest insurance compensation on the gross value is of minor importance, and is normally only about 0,1-0,2 FIM/scum. The insurance compensation statistics is compiled by Metla, based on information drawn from insurance company federations.
3. The average expenses incurred in wood production are also deducted from the gross unit value of the annual taxable increment. This group of *average deductions* includes all the expenses arising from silviculture and forest management activities, forest administration and write-offs of the expenses of prolonged investments, but not those included in farmwise deductions (see precisely section 2.2.3). In practice, this parcel of costs consists of the same points that can be directly deducted in capital income taxation presented in section 2.1. The share of these expenses is defined by Metla according to a wide range of forest statistics. The size of the average deduction varies between 6-20 per cent, depending on the region.

The *net unit value of the annual increment* is obtained when all the additions and deductions have been made. **The value used in the current year's taxation is calculated as an average of two years' net unit values (i.e. the previous and current year)**, see Example 4, in order to balance the variation in the unit values caused by possible changes in prices and felling volumes in the timber markets between different years.

Example 4: Definition of the net unit value of the annual increment

Monetary unit value after subtracting the impact of cutting savings (see Example 3), FIM/scum	128,13	
+ influence of forest insurance compensation, FIM/scum	0,20	
Total, FIM/scum	128,33	
- influence of average deductions (in this case 10 per cent): (= 0.90 x 128,33)	115,50	= Net unit value for the current year
Average of two years' net unit values: [115,50 + 110,50 (net example value of the previous year)]/2,	113,00	= Final unit value for taxation

2.2.2.3 Definition of the annual assessed average yield

The annual assessed average yield for one woodlot is obtained by multiplying the total volume of the annual taxable increment by the net unit value of the annual increment (Example 5):

Example 5: Definition of the annual assessed average yield for a woodlot

Total volume of annual taxable increment of a woodlot(see Example 1):	63,3	scum
Final net unit value for taxation (see Example 4):	113,00	FIM/scum
Annual assessed average yield:	113,00 FIM/scum * 63,3 scum = 7 153 FIM	

As can be seen, the total volume of the annual taxable increment is a very stable figure which will only be changed when the new site tax classification comes into force, or when the figures for average taxable increment are changed by statutory regulation. The monetary value of the increment will, however, change from year to year depending on changes in the roundwood price level, roundwood production and expenses of forest management activities and administration.

2.2.3 Taxable net forest income

The final taxable net forest income of a forest owner is determined by adding the value of delivery work to the annual assessed average yield (see also section 2.1), and then subtracting the so-called farmwise deductions. It should also be noted that the value of the delivery work is 'tax-free' up to 125 scum.

The farmwise deductions used in area-based forest taxation consist of the following expenses:

1. *Forest management payment:* A tax-like payment used for financing the forest extension services of the local Forest Management Association.
2. *Expenses for forest regeneration and tending of seedling stands:* The monetary value of these expenses is defined by Metla according to the forest statistics data. These are average expenses (FIM/ha) which are checked annually and utilized throughout the whole country. They are therefore not the real expenses which a forest owner has paid when carrying out such activities. If a forest owner has regenerated his forest or tended seedling stands he can deduct the value of these costs (area multiplied by the average expenses) in his current year's taxation.
3. *Expenses for forest drainage and construction of forest roads:* Per cent annual write-off.
4. *Interest of debts in forestry.*

5. *Real estate tax*: In Finland there is no real estate taxation on forest land, but a forest owner may be compelled to pay real estate tax on those buildings utilized in forestry.
6. *Deduction for first thinning activities*: A first thinning deduction can be made when selling small-sized cordwood from first thinning felling areas. This deduction is defined by multiplying the net unit value of the increment by 50 per cent of the volume of the timber sold.

Additionally, after regeneration of forest a forest owner can obtain a *periodic tax relief* for the seedling stand for 15-30 years depending on the region in which he lives. It is also possible to obtain the periodic tax reliefs for forest damage. The effect of tax relief is calculated by multiplying the corresponding area by the net unit value for taxation, and then subtracting it from the assessed average yield.

3. Other types of forest taxation

3.1 Value-added taxation (VAT)

Value-added taxation was introduced in Finnish forestry at the beginning of June, 1994. This system of taxation is independent of which form of forest income taxation the forest owner has chosen.

When selling timber a forest owner adds to the original purchasing price an additional payment of 22 per cent of the original price. From VAT payments received by a forest owner can be deducted all the VAT included in the prices of goods, equipments and machines used in forestry or in the prices of forestry services. The net monetary surplus of VAT installments is returned to the state. In this respect VAT is not a income from forestry but a kind of flow-through payment.

3.2 Forest property taxation

The value of forest property for forest property taxation is obtained by multiplying *the annual assessed average yield* by ten (10). This value covers both the forest land as well as the growing stock. This form of forest taxation is therefore closely related to the area-based taxation, which means that the method for defining the forest property tax must be changed when the use of the area-based taxation system ceases in the beginning of the year 2006.

The total taxable property of a forest owner will be defined by summing the value of the forest property with the values of all other property, and then deducting the corresponding debts. If the value of the property is FIM 1 100 000 (lowest limit), the tax levied is FIM 500. A tax of 0.9 per cent is levied on that part of the value exceeding this limit. If the net value of property is less than FIM 1 100 000, no tax will be levied. No other figures for the limits are used.

Example: Net value of a property is FIM 2 000 000.

Firstly, in this case the tax levied is FIM 500. The value, however, exceeds the lowest limit by FIM 900 000 (2 000 000 - 1 100 000). A tax of 0.9 per cent is levied on this sum, making FIM 8100 (0,009*900 000). Thus the total tax levied is FIM 500 + 8 100 = FIM 8 600.

To achieve this value in the case of a pure forest property, the area of the forest holding should be at least 500 hectares. The average size of forest holdings in Finland at the moment is 30 hectares, and the proportion of forest holdings larger than 500 hectares is about 0.1 per cent of all forest holdings in Finland.

3.3 Taxation when purchasing forest property

In the sale and purchase of real estate properties, the purchaser has to pay a *property transfer tax*. The tax is 4.0 per cent of the total purchase price. A *generation transfer* on an active farm is free of this tax.

3.4 Taxation when selling forest property

When selling real estate properties, the seller has to pay income tax on the possible profit. The profit is regarded as capital income and the tax is currently 28 per cent. In certain conditions, generation transfer sales and sales between close relatives are exempt from the profit tax.

3.5 Inheritance and donation taxation

In this form of taxation the forest property is valued according to its real current value, which in practice means the value of the current selling price (land and growing stock). In this respect this value really differs from that used in forest property taxation (see Chapter 3.2), which is more formal and normally much lower than the value based on the real selling price.

As stated, the amount of inheritance and donation tax is defined by the real current value as well as by the relationship between the benefactor and his/her heir according to the table below:

Real current value of the property (selling price), FIM	The amount of tax at the lowest limit of the value of the property, FIM	The amount of tax of the part exceeding the lowest limit, per cent
20 000 - 100 000	500	10
100 000 - 300 000	8 500	13
300 000 -	34 500	16

Taxation according to this table is initially applied in the first taxation class, which includes the donor's spouse, children, grandchildren, and mother and father. If the person who receives the gift or inheritance is either a brother, sister, stepbrother or -sister or their descendant, the amount of tax is double the values presented in the table. In other cases of inheritance the amount of tax is triple. If the value of the inheritance or gift is less than FIM 20 000, no tax is levied.

Example: The real value of forest estate in the case of inheritance is FIM 1 000 000.

First, the tax levied will be FIM 34 500 according to the limit of FIM 300 000. The real value exceeds the lowest limit in this case by FIM 700 000 (FIM 1 000 000 - 300 000). The tax levied on this value will be 16 per cent making FIM 112 000. Thus the total tax levied will be $FIM\ 34\ 500 + 112\ 000 = FIM\ 146\ 500$, supposing you are e.g. a son. If you are brother, the tax levied will be $2 \times 146\ 500 = FIM\ 293\ 000$.

CONTACT DATA

This is an unofficial translation based on different literature sources in Finnish and on the author's experience when working in the sphere of forest taxation. Some of the terms used in the text are literal translations of the author because no official translations were available. All comments and proposals for improvement are appreciated. For further information, please contact:

Mr. Esa Ylitalo
Research Forester, M. Sc. (For.)

Finnish Forest Research Institute, Forest Statistics Information Service
Unioninkatu 40 A
FIN-00170 Helsinki, FINLAND

Telephone +358-9-857 051, direct +358-9-857 053 72

Fax +358-0-857 057 17

Internet E-mail: esa.ylitalo@metla.fi

APPENDIX 1. MAIN FEATURES OF THE FOREST INCOME TAXATION SYSTEMS APPLIED IN FINLAND

FOREST TAXATION ACCORDING TO ACTUAL STUMPAGE REVENUES

- * adopted in 1993
- * based on real stumpage revenues and real expenses
- * capital income, taxed by fixed capital income per cent
- * has to be paid only when timber has been sold
- * neutral
- * simple

AREA-BASED FOREST TAXATION SYSTEM

- * adopted as early as 1922
- * based on the assessed average yield determined by
 - forest land area
 - average increment of the growing stock
 - annual unit value of the increment
- * earned income which, summed together with all the other earned income of a forest owner, is taxed according to the progressive income taxation scale
- * forest income = annual value of the total assessed increment
- * has to be paid annually regardless of whether timber has been sold or not
- * instrument of forest policy for increasing the supply of roundwood and for encouraging investments in timber production including grants and tax reliefs
- * parameters used for assessing the annual yield are based on average data from large forest areas
- * very much administrative work, grown into an overcomplicated and expert-oriented system

APPENDIX 2. A MODEL FOR AREA-BASED FOREST TAXATION SYSTEM

(Numbers in boxes refer to corresponding sections in text)

