THREE ALTERNATIVES IN FOREST TAXATION

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INTRODUCTION

At Denver last year Mr. Ellis T. Williams explained to this Association the importance of privately owned commercial forests in the economy of the United States (18). Here in Canada, less than ten per cent of the forested area is privately owned but because these privately owned lands are located near concentrations of industries and population and because of their relative productivity, their importance in the forest economy is far greater than is indicated by their comparatively small acreage (8).

As continual maintenance of the forests on private lands is essential to public welfare, the effects that taxation may have on them is important to everyone. Although far from being the sole factor in determining the degree of forest management, taxation generally has a direct influence on an owner's decision as to whether he is going to manage his forest for continuous production or for early liquidation. Many forest owners have liquidated their properties when taxes became excessively burdensome and it is obvious that taxing authorities can encourage either sustained yield management or liquidation of forest values (8).

The basic attributes of a good forest tax seem to be these (2):

1. The tax should be simple to calculate and economical to administer.
2. It should impose a fair and equitable burden on all forest property owners, in equity with the burden on the owners of all other kinds of property. This burden should be commensurate with the income-producing capacity of the property.
3. The forest tax should be timed, as far as possible, to fall due when the forest yields an income.
4. It should minimize the uncertainty of future tax burdens.
5. It should not discourage the most economic long-term management of forest land.

The general principles of assessing forest lands (1) should be:

1. Forest Land, where the principal use is growing timber crops, should be assessed on its value as commercial timberland and classified as such.
2. Forest areas used for recreational values, such as camp or motel sites and shore property, should be classified separately and these values considered separately.
3. A relatively low assessed value must be placed on commercial forest land because of its capacity to produce a relatively low income compared to other commercial uses of land.

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4. Because of the bulk, weight and low unit value of forest products, location and accessibility are important factors in the assessment of forest lands.
5. The chief factors influencing the value of land for producing wood crops are:
 - (a) Productive capacity
 - (b) Accessibility
 - (c) Operating conditions (character of topography and soil).

There are numerous methods and combinations of methods of taxing forest properties. Three of these and their effects on the maintenance of forests are discussed in this paper.

THE PROPERTY TAX

The property tax on forest properties is generally a tax on the land and the trees growing on the land. Trees, the growing forest crop, are taxed annually as they grow. Woodlands are assessed, or are intended to be assessed, not on their capitalized income value or productive capacity as are most other properties, but on their liquidation value—the value which can be secured only by removing all the salable trees and disposing of the land (7).

A very low annual tax is the equivalent of a high severance tax. That is, the cumulated value of the tax payments amounts to a high percentage of the value of the trees when they are cut. In Nova Scotia the severance tax equivalent of the property tax exceeds 90 per cent in some instances and forest taxes are heavy in New Brunswick, British Columbia and parts of Quebec and Ontario. "Even the tax on the special category of private property 'Tree Farm Land' created in British Columbia to shield tree farming from unduly heavy taxation is the equivalent of a severance tax of 20 per cent and more" (10).

The situation is usually particularly bad in regard to cut-over land as assessments increase periodically as the regrowth increases in age. As an example, the 1960 assessment on easily accessible clearcut land in one municipality in Nova Scotia ranges from \$4.00 per acre, for land cut from 1951 to 1960, to \$10.00 per acre for land cut from 1921 to 1930, increasing to \$60.00 per acre for good quality mature forests.

Based on the 1960 assessment and tax rate of \$2.50, it is calculated that municipal taxes, and interest at 5 per cent per annum on these taxes, will amount to \$148.53 per acre by the time the regrowth on this clearcut land reaches maturity 80 years after the cut. If regeneration following clearcutting is satisfactory and if the stand reaches maturity, it is estimated that the average yield should, at present prices, have a retail value of \$84.00 per acre at maturity. The cumulated taxes plus interest on the taxes paid will amount to about 177 per cent of the yield value.

Proper assessment of timberlands is the most difficult type of assessment because of the practical difficulties of cruising and valuation (11). Under most assessment legislation, maintenance of fair assessments based on real values requires annual revisions for changes in values resulting from increment, cutting, fire or other losses after these values are determined, if they can be determined (7). Such revisions are rare in Nova Scotia if not elsewhere.

The difficulty in assessing forest properties generally results in faulty

assessment. Some assessors in Nova Scotia frankly admit that it is impossible to assess timberlands according to that Province's Assessment Act. It is presumed that this situation is not uncommon under property tax legislation elsewhere.

Perhaps application of the property tax to forest properties was fair when most forest lands bore old growth timber which was treated as a wasting asset on a basis analogous to mining (4) but now this tax as applied to forests is fundamentally wrong if forests are to be treated other than as wasting assets.

Under present assessments, in most municipalities in Nova Scotia at least, the property tax precludes sustained yield management and taxes are confiscatory. No one is going to grow forests as a commercial enterprise if he knows that the cumulated tax, plus interest costs on the taxes, will be as great as the value of the stumpage at maturity, even without considering risks.

"Sustained yield is what public policy ought to be and what it usually aims for—except in the field of property taxes" (6).

TAXATION BASED ON PRODUCTIVE CAPACITY ASSESSMENT

This method of taxing forest properties would be equitable provided:

1. Properties could be reasonably well classified as to productive capacity.
2. Accessibility is adequately considered.
3. Special consideration is given cut-over or depleted lands because of long deferment of income.
4. Assessments are based on capitalized productive capacity values in the same ratio to actual values as are assessments on other kinds of property.

Taxation based on productive capacity assessment has the basic attributes of a good forest tax except that it is difficult to calculate and there is no provision for deferment of tax to correspond with deferment of income. This tax system can be equitably and economically administered only where there are good property maps and maps that will provide reasonably accurate broad classification of productive capacity. Productivity assessment would be comparatively simple in states or provinces where forest lands are largely homogeneous in productivity or where they can be reasonably classified in a few broad classes of productivity without intensive soil or site surveys. However, where productivity is heterogeneous, as in most eastern forest regions, productivity classification would be complex and difficult, particularly where there are numerous small properties. Inaccurate classification would result in many assessment appeals by owners whose properties were overassessed while most of those whose properties were underassessed would, of course, keep silent, as they do under the property tax system.

The problem of assessing the productivity of depleted land is considerable. Theoretically, the productive capacity of cut-over land is the same as it was before being cut but taxation of such land at the same rate as for wooded land encourages liquidation because of the long wait for income therefrom. Land bearing new forests of inferior growth following clearcutting, as is often the case, should be assessed the same as it was when it bore good forest growth. However, while the productive capacity of the soil remains the same, the productivity has been reduced.

In northeastern America, forest fires occurring in the spring usually kill trees of merchantable size and destroy young growth but do little damage to

the soil. Late summer and early fall fires, however, frequently damage the soil to the extent that it will bear nothing but weeds for many decades. Revisions should be made in productivity assessments for areas burnt but should such areas be classed as productive or non-productive?

Taxation based on productivity would be quite fair for properties organized on a permanent basis of balanced growth and cut, where there are annual revenues to meet annual taxes (9). However, there are a great many small properties, of 200 acres or less, which cannot economically support an annual cut.

Sweden has a complicated forest tax system, including a tax on productive capacity. The tax operates more as a guaranteed income tax rather than a true property tax. It is based on the assumption that forest property will yield 5 per cent of the assessed land value and 4 per cent of the assessed value of the standing timber. The capital value of forest property is determined by calculating the annual sustained yield, which can vary widely, capitalized at 4 per cent. From the total yield value, a deduction of 30 per cent is made to cover cost of administration and maintenance. The net capital value of the annual yield expresses the total value of land plus the growing timber. Properties are reassessed at five-year intervals. In determining the productivity class, only the nature of the land is considered and no attention is given the type or state of vegetation (4).

The Swedish tax legislation attempts to treat forest owners fairly, recognizing the basic features of the forest resource. There is criticism that the taxes are inequitable where forest income is irregular, as it has to be from small holdings. However, Swedish grants in aid available to forest owners include up to 75 per cent of the cost of clearing and preparing land for afforestation and up to 75 per cent of the cost of construction of new roads. These aids alleviate the tax burden (15).

The tax system appears too complex. Yet the degree to which forestry has advanced in Sweden, as well as the detailed forest data available, make the system much simpler than would seem possible (15).

Until recently, Norway's forest taxation was similar to that of Sweden. It was criticised as being not as fair as a system which taxes actual income (15) and it is reported that all forest properties in Norway are now taxed on actual yields.

In 1957 Minnesota enacted a unique "Tree Growth" tax law, which is optional, for commercial forest land. This is a productive capacity tax which levies an annual tax of 30 per cent of the value of the estimated average annual growth of the forest types on the property. Growth rates per acre are determined by the State Division of Forestry at ten-year intervals and stumpage values are determined at two-year intervals by county officials (18).

Resulting from resolutions submitted to the Province of Nova Scotia by four organizations, a committee was appointed by the provincial government in 1958 to recommend a solution to the forest tax problem. This committee was comprised of representatives of the four organizations with representatives of the N. S. Departments of Lands and Forests and Municipal Affairs and the N. S. Assessors Association.

Laboring under the impression that a forest yield tax would not be permitted because of its incompatibility with the Federal - Provincial Income Tax Agreement, this committee has worked for over two years on a proposal of assessment of productive capacity of forest properties. The committee's first report, submitted early in 1961, proposed eight assessment classes of productive forest land and one class of non-productive forest, nonforested land and waste. Class 8 of the productive land is depleted forest land. The assessment classes are combinations of forest types, height classes and stand density classes provided in a provincial forest inventory, compiled from air photography and ground sampling done 1953-1955. The proposal is that assessment be based on the capitalized income or yield value of the acreage of each assessment class on each property.

Unfortunately productive capacity assessment cannot be equitably and economically administered in Nova Scotia until there has been considerable improvement in province-wide forest inventories and maps to provide reasonably accurate broad classification of productivity. Even if the existing inventory maps and estimates were entirely accurate, the productive capacity information from this source is extremely meager. The inventory was not designed for that purpose. If maps showing productivity classes were available, assessment on this basis would be possible but it would be a tremendous task.

The provincial government's response to the report was negative but stated that it is interested in exploring the proposed system further.

Since the submission of this report, the federal government has announced that the federal-provincial income tax agreement is to be terminated in 1961. Following this announcement one member of the committee submitted a minority report proposing a yield tax.

THE FOREST YIELD TAX

"The best type of taxation for natural resources is the income tax. It is true that this tax may discourage new investment but so will any tax of the same burden. The income tax has the advantage of not militating against marginal resource sites and of not biasing production in favor of the present. If conservation were the only criterion, all resource users would be subject to a single levy: the income tax" (13).

Forest conservation is not the only criterion in forest taxation but it is of prime importance if municipal revenues from forest properties are to be maintained. A combination of the income tax and the property tax appears to be the most reasonable system of providing public revenues from this source without reducing the tax base. The forest yield tax is such a system.

"The yield tax is designed to aid forestry by exempting timber from payment of annual property taxes and imposing instead a tax when the timber is cut. Forest land exclusive of timber, however, remains subject to the property tax, generally in modified form" (16).

The yield tax is a gross income tax, usually a percentage of the stumpage value of the products extracted from a property. The responsibility for payment rests upon the forest property owner.

As of 1956 this method of forest taxation was used in 14 states of the U.S. In 11 states it was optional and mandatory in three. The yield tax in the 14 states varied from 1 to 12½ per cent of the stumpage value of the products and averaged 7.08 per cent. The annual tax on the bare land ranged from one cent to ten cents per acre and apparently averaged about five cents (16).

For a number of reasons, optional yield tax provisions have had little appeal to forest owners or to tax districts (19). However, mandatory yield taxes have gained some favor in recent years. Besides those which have been effective in New Hampshire, Louisiana and Mississippi for some years, Oregon has adopted a 5 per cent yield tax applicable to timber situated east of the summit of the Cascade Mountains. This law becomes effective in 1962 (19).

New Hampshire's mandatory yield tax law which was implemented in 1949 is apparently now proving satisfactory, after a number of revisions. Originally this law provided for abatement of 30 per cent of the yield tax if timber was judged to have been cut in accordance with cutting practices approved by the State Forestry and Recreation Commission. The law continued in effect, with minor revisions, to 1955. By then the state had been required to contribute more than \$1¼ million to reimburse municipalities for tax losses (18). A committee was appointed in 1955 to investigate the tax laws and recommend changes.

This committee concluded that the yield tax principle is basically sound as it relates to growing timber and encouraging conservation. The encouragement results from reducing risks of excessive tax burdens on the forest owner and from deferring a substantial part of the tax to the time when the products are cut and can be accurately appraised. Marked improvement in cutting methods since 1950 have been in part due to the yield tax law.

Return to the *ad valorem* system would jeopardize forest management for long range production and forest liquidation would be encouraged. High tax rates and need for revenue emphasize the danger of excessive bare land valuations which would defeat the purpose of the law if they are not kept low.

Cost to the state, largely the result of the reimbursement feature, has been excessive. This cost and problems of administration created by the abatement of the yield tax are not justified by the results.

The committee recommended that the principles of the yield tax law be retained but that the 30 per cent abatement for approved forest practices be discontinued (14).

Amendments adopted in 1955 scaled down State liability for reimbursement and the abatement provision was eliminated. To the 10 per cent base rate, 2 per cent was added as a temporary debt retirement tax (18).

The minority report of Nova Scotia's Forest Taxation Committee proposes a yield tax, to be paid at the rate of 10 percent of the stumpage value at the time of cutting, on all forest products excepting those cut for domestic use by the owner. There would also be an annual land tax on commercial forest properties, including farm woodlots, paid on an assessment of \$1.00 per acre.

Forest property acreages would be assessed by municipal assessors and the land tax would be collected in the same manner as other local taxes. The yield tax can best be administered by a provincial forest tax commission.

Reports of intent to cut should be required from owners and purchasers of stumpage at least 30 days before cutting is started. There should also be filed with the commission by January 31 each year a report of products cut during the preceding year. As a check on individual production, purchasers of raw forest products for manufacture or re-sale should be required to report purchases during the preceding year.

In determining stumpage values, the commission should accept rates in stumpage sale agreements. Otherwise, consideration should be given prices in comparable sales, the purchase prices of products, accessibility and operating costs.

The net yield tax revenue should be paid to the municipalities in proportion to the productive forest land in each municipality.

From the information available (3, 5, 12) the land tax which would have been paid under the proposed system in 1958 ranges from 1.4c to 4.8c per acre for the 18 municipalities in Nova Scotia. The average would have been 2.2c.

For the years 1955-1959 inclusive, fluctuations in the annual yield tax would have varied from minus 25.5 per cent to plus 25.2 per cent of the average for this five year period.² Using the average yield tax revenue figure, the total tax paid in 1958 under the proposed system would have been \$682,706.00. The reported total revenue to the municipalities from the property tax on forest lands in 1958 was \$614,875.15.

With the advent of a new forest industry, already established in Nova Scotia, forest production should increase. This would give an increased revenue if Nova Scotia were using the yield tax system.

Forest lands taxed under this system would provide municipalities with current income and permit deferment of enough taxation to make forestry economically feasible. The system would provide a workable tax law which would, within limits, reconcile two fundamentally conflicting objectives. It would furnish the municipalities a regular yearly tax revenue from the proposed land tax and at the same time permit the owner to pay part of his taxes when he harvests his forest crop.

The irregularity of the yield would prove to be somewhat of a disadvantage for the municipalities. However, the proposal of distribution, among the municipalities, of the total yield tax for the province in proportion to the productive forest acreage in each municipality would alleviate this irregularity considerably.

It might be necessary for the Province to loan the municipalities sufficient funds to replace the yield tax for the first year the proposed system is implemented. Thereafter the municipalities should budget on the basis of income from the yield tax in each preceding year rather than on the estimated income from this source in the current year.

CONCLUSIONS

In summarizing, it appears safe to say that the property tax on land plus standing trees is a tax on the liquidation value of commercial forest properties and too frequently it encourages liquidation. Legal and equitable assessment of forest properties is difficult and often practically impossible.

² Based on Nova Scotia Department of Lands and Forests forest production statistics and estimated average stumpage rates for each class of products.

Taxation based on the productive capacity of forest properties could be equitable provided properties could be reasonably classified and if adequate consideration were given accessibility and the long deferment of income from depleted lands. Where there is detailed productivity information available, as in Sweden, productive capacity assessment appears practical. It may also be practical in parts of North America where productive capacity is more or less homogeneous over extensive areas. However, the requirement of payment of annual taxes in full on properties where income is irregular, and often deferred for many years, is a considerable disadvantage to the owner and discourages long-term management. Also, assessment of depleted lands is very much of a problem.

Although the mandatory yield tax has disadvantages it appears to be the most practical and most equitable system of forest taxation. Provision for a bare land tax plus the yield tax on crops as produced seems to be fair to the owner and to the taxing authorities. The alleviation of the irregularity of revenue from the yield tax to municipalities by distributing the total revenue from this source for an entire state or province in proportion to the productive forest land in each municipality mitigates the greatest disadvantage of the yield tax system.

It appears that no reasonably equitable forest tax system can be simple to calculate but the yield tax seems to be the simplest of the three systems discussed here, and the most economical to administer. It also seems that the yield tax is the least likely to discourage the long-term management of forest land.

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