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Losses in the Amount of Produced and Sold Timber

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Abstract

Losses in the amount of timber, especially the accidental ones, are a long-term issue for both the forestry public and forest owners. The objective determination of accidental losses – the natural decreases in amount, has always been an important factor for determining the liability of employees for any damage caused to the forest owner or for the loss in the amount of timber. The paper focuses on the issue of losses in the amount of produced and sold timber and the issue of differences in the amount of sold timber arising due to different methods of ascertaining the amount of timber for accounting and tax purposes. The aim of the paper is to define the specifics of losses in the untreated timber and the specifics of differences occurring during the transfer of the timber's ownership in business relations. Furthermore, it was also analyzed the current situation in timber accounting and tax records and were proposed possibilities of solving this problem. A workable solution seems to be the discretion in recording the amounts of losses by employing the institute of accidental losses, i.e. losses up to the amount of an accidental decrease standard.

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1. Introduction

Although currently scientific research focuses more on the forest valuation in terms of provision of ecosystem services (see e.g. Forest Europe, 1993; Millennium Ecosystem Assessment, 2005; Davis et al., 2001; Glover, 2010) for forest owners is still important forest production function and in particular revenues from the timber sales.

Due to the constant effort to increase economic efficiency in the division of activities based on procurement of resources, the value of one m³ of logged raw wood is no longer negligible. Losses in the amount of wood, whether

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uncaused or culpable, have been the focus of constant attention of both forest owners and professional forestry experts. Determining the objective amount of culpable losses is important for determining the liability of persons for damage caused to the forest owner or the authorized owner of the raw wood. Objective determination of the above mentioned uncaused losses (natural or technological) was and remains to be important for forest owners, tax administrators and subjects with an ownership right to the raw wood in the commercial and consumer chain. Revenue from selling raw wood remains the main source of income for forest owners and entities engaged in wood trade, and thus becomes the basis for the calculation of value added tax and income tax, reciprocally becoming a significant expense item for wood processing companies. In a complex financial approach to the issue, deeper analysis of wood losses is motivated by the respect for raw wood as a biological asset, as well as a respect for its role as an important component of capital and of the corporate nature of wood processing and forestry companies. The aim of this article is to describe in detail the issue of losses in the amount of raw wood produced.

2. Material and Methods

Measuring wood in forestry is performed in order to determine its dimensions or weight. The Czech Republic has its Recommendations for measuring and sorting wood in the Czech Republic (2007).

Since logs are often measured several times, different, usually lower values are often achieved due to objective reasons.

Different volume results are often the reason of doubts about its accuracy and reflecting also relationship between suppliers and processors of wood. The term “true volume” of roundwood is equally actual for both sites. (Miklašević, 2013)

These are mainly losses on raw timber reasons rubbing trunks during the skidding and loading timber when the average reduction for this reason has resulted in lower value of the variable for calculating the volume of the trunk. Furthermore, a common cause of a measurement lower values is drying up of trunks. The difference in finding trunk volume occurs when the trunks are manipulated. The newly formed part of the trunk and found the volume is not equal to the volume of the original not sawn trunk.

More about the differences in the roundwood measurement see Jänes (2001); Janák (2007a, b); Janák and Ondráček (2006); Fonseca (2005); Janák et al. (2005).

The point of interest is the differences in the amount of wood sold as determined by the seller and the buyer, where each uses their own method of measuring the amount. Due to commercial pressures, the final processors of wood establish their own measurement methods or various coefficients for determining the amount. Since this approach is adopted mainly by the processing authorities, the supplier is not left with much choice. Currently, there are widely differing methods of resolving these issues on the side of the individual forest or wood owners. Though some express their stances in an in-house corporate directive, there is no option to demand the opinion of the tax administration. This comes as no surprise since the differences between the approaches of individual taxpayers and the narrow specificity of the problem itself discourage any such comments from the administration. Unfortunately, in many cases the taxpayer can then only regret that he, in good faith, contacted the tax office regarding the issue. These instances show that there is room, indeed, a need to compile a general directive regarding this issue. The topic was first approached on the level of legislature by the Ministry of Finance of the Czech Republic at a meeting of the Coordination Committee and the Chamber of Tax Advisers of the Czech Republic in 2002. The causes of differences in measurements and losses were analysed with the support of the then used Czech National Norms (ČSN), which, due to the current business practices, ceased being important. The Ministry of Finance postponed the compilation of a general implementing regulation due to time limitations and the situation has not changed since.

The amount of the proposed uncaused losses stems from the data obtained from professional literature, directives of the Ministry of Agriculture and operational practice.

3. Results and Discussion

3.1. Accounting and tax insight into the timber sales

From the perspective of Act No. 563/1992 Coll., on Accounting and implementing regulations (Degree, Czech accounting standards), the logged wood in varying states of processing (unfinished products, semi-finished products, products) falls within stocks of one's own production. Based on the stage of processing, accounting is performed on the following locations: stump (S), collection site (CS) and shipping warehouse (SW). The stock of standing timber registered in the records of the forest management plan are not subject to stocks within the framework of current assets.

The state and the movements of stocks of one's own production are listed in units of measure and monitored at the end of the billing period (usually a month or a year). The basic unit of measurement is m³. For stacked up wood, the unit is stacked cubic meter, which is converted to m³ based on a reduction factor. The in-house price of wood, calculated from "own costs", is entered into the financial accounting. These costs are posted on cost accounts as a countervalue of revenue accounts of the accounting group called Changes in status of stocks of one's own production. The basic change of the status of stocks of wood occurs if:

- the stocks of wood increase – receipt at: S site – logging, purchase of logged wood at the stump, receipt and manipulation at the S; CS – gathering wood, purchase of wood at the CS, receipt from handling at the CS; SW site – transporting wood from the CS to the SW, purchase of wood at the SW, receipt from handling at the SW.
- the stocks of wood decrease – handing over from: S site – collection of wood, sale of wood to the CS, handover for handling at the S, wood consumption at the S; CS – transportation from the CS to the SW, sale of wood at the CS, handover for handling at the CS, wood consumption at the CS; SW – deliveries of wood from the SW, handover for handling at the SW, wood consumption at the SW.

In the above quantified flows of wood in units of measure, a gradual increase of one's own production expenses occurs. Thus, the value of the stocks at the individual sites grows (lowest at the stump, highest at the shipping warehouse). The accounting expression of this change uses the method of "phase calculation".

The final stage of the movement of the stocks within the business is their removal from the warehouse and the subsequent sale. The stocks of wood are released from the warehouse using a bill from the group Changes in status of stocks of one's own production. When selling wood, the company receives revenue i.e. takings from the sale of one's own products.

From the perspective of Act No. 586/1992 Coll., on Income Taxes, as amended, the changes in the status of stocks of one's own production also include revenues from sale achieved via tax revenues, which may be reduced by expenditures demonstrably made for achieving, securing and maintaining such sales.

Other accounting and tax aspects of the logged wood arise in the case of registering the volume of wood. The accounts record the volume of wood registered for the purposes of production and the purposes of keeping forestry records; they also record the volume of wood registered during sale. The accounting unit (organization) is, based on the accounting Act, obligated to regularly determine and compare the accounting and physical status of the stocks of wood on a per-warehouse basis (sites, organizational units, companies), i.e. to perform a stocktaking of property and payables. Regular stocktaking of wood supplies is performed at least once a year, extraordinary as needed. Based on the facts determined during the stocktaking of volume stocks (amount of wood in m³ or other technical units) and qualitative stocks, it is the duty of the wood owner to bring the physical and accounting status of the wood into accord by the date of stocktaking. Obviously, in case of divergent documents, differences occur between the amount of wood produced and sold in either negative (shortages) or positive (overages) values. One of the reasons for the divergence may be the new measurement performed by the customer during delivery. In terms of accounting, overages are viewed as revenue while shortages as non-deductible tax expenses. The resolution of stocktaking differences must be based on an in-house directive, which states in what ways the shortages and overages will be handled and posted. Since these expenses are non-deductible, this fact must be taken into account when compiling a tax return, and the item must be added to the economic result when calculating the basis for the income tax.

3.2. Proposal for a general directive on losses in the amount of raw wood; proposed solution of their accounting and tax implications

Losses in the amount of wood can be divided into three groups: culpable losses, uncaused losses and losses caused by a third party.

1. Culpable losses are further divided into:
 - a) losses due to incorrect measurement,
 - b) losses due to improper storage (these relate more to losses on quality than quantity),
 - c) administrative errors in the stock register.
2. Uncaused losses include:
 - a) losses during technical procedures of wood transportation and handling,
 - b) natural wood losses,
 - c) differences based on different measurement, rounding and volume detection methods,
 - d) wood losses in natural disasters,
 - e) depreciation of wood stocks due to technological unavailability,
 - f) depreciation of wood due to long-term storage.
3. Losses caused by third parties:
 - a) theft of wood,
 - b) natural disasters caused by negligence.

If culpable losses cannot be corrected in accounting when detected, these are treated in the accounts as Shortages and damages – analytic non-tax expense.

Uncaused losses shall be elaborated on further below. Losses during technical procedures of wood transportation and handling are of two kinds.

2. a) 1 Loss of volume of wood measured in bark (bark abrasion): log loss: 1 % – loss of bark by abrasion at skidding distance of up to 400 m; 2 % – loss of bark by abrasion at skidding distance of above 400 m; 0.5 % – loss of bark in the skidding technology (forwarders). For larch, the values increase up to a double.

2. a) 2 Wood loss during handling: wood loss, where the excess (technological addition) according to ČSN during the first measurement is not sufficient to cover the excess required by the processor; also includes the loss in length due to deburring and levelling off the rootstock of the log before handling, as well as loss of thickness of the required amount of cuts needed for certain products. Loss in log volume: 4 % for stocked coniferous wood, 5 % for stocked deciduous wood, 1 % for long coniferous or deciduous wood. Wood losses for these reasons up to the specified amount are treated as Shortages and damages – analytic non-tax expense.

2. b) Natural wood loss by drying up – natural wood loss caused by the most important influences on the dry-up rate can be applied only to wood logged since the end of the dormancy period to the 30th of June (for non-debarked wood) or to the 31st of July (for debarked wood): 1 % volume loss in a non-debarked log stored for more than 90 calendar days in a period when the rainfall deficit amounts to at least 50 %; 2 % volume loss in a debarked log stored since debarking for more than 30 calendar days in a period when the rainfall deficit amounts to at least 50 %; 3 % volume loss in a debarked log stored since debarking for more than 30 calendar days in a period where the rainfall deficit amounts to more than 75 %, or debarked wood stored for more than 50 calendar days at a rainfall deficit of between 50 to 75 %. Higher decreases in wood mass due to drying up can be officially recognized only after remeasuring. Loss caused by drying up to the set limits or confirmed by remeasuring are treated in accounting as Shortages and damages – analytic non-tax expense.

2. c) Different measurement, rounding and volume detection methods used during sale lead to differences between the amount of wood released from storage and the amount of wood received. These are differences which cannot be influenced and will likely be eliminated by the transition from ČSN to EU standards. Differences are charged to the debit of the party responsible for wood shipment (transport). The stocked out supplies are not corrected based on the consignment note if the total difference for the delivery is as follows:

- round logs, up to +6 % of the amount,
- pulpwood, up to +10 % of the amount.

When selling wood via a trade organization with a contractual obligation to issue a credit note to the trader only for the difference in price, the credit note is issued without affecting the stock records. Therefore, only the decrease (increase) of financial claim and revenue is posted, and not the increase (decrease) of the stock in the warehouse. Larger differences (negative) must be resolved within a complaints procedure. For pulpwood, a record must also be made at the shipping warehouse in case substandard material (rotted out rootstocks and wood affected by rot) has been delivered for weight inspection. Based on the results of these solutions, the difference is either charged to the debit of the sale performance up to the established limit or up to the total difference (in case of delivery of substandard material); alternatively, the total or partial difference is returned to the warehouse, while issuing a credit note (debit note).

2. d) Wood losses in natural disasters – the amount is ascertained via exceptional stocktaking. It is charged as Shortages and damages – analytic non-tax expense.

2. e) Write-off of wood supplies due to technological unavailability – an exceptional case, where, based on a contract, due to obtaining a complete order, the logging company undertakes to also log and purchase wood from the forest owner (often for a symbolic amount) which is located at a site which is difficult to access. Based on economic assessment, it is known or later discovered that the expenses for skidding would significantly (often several times) exceed the potential revenue for the sale of this wood. Thus, an economic result would occur which would be much higher than during the stock write-off. The loss is proven by a quotation from the skidding provider or by calculation. Based on a proposal by the stock commission, the wood is written off from the stocks and is charged as Shortages and damages – analytic non-tax expense.

2. f) Depreciation of wood due to long-term storage – an exceptional case where, within the complete order and on the request of the forest owner, disseminated trees are also logged, but at a time when there is no demand on the market, while the wood type depreciates quickly, such as is the case with birch or beech. After an evaluation by the stock committee on whether these conditions are met, the wood is written off from the stock as Shortages and damages – analytic non-tax expense. Other cases will be charged to the analytic account – non-tax expense.

3. In losses caused by a third party, the amount is ascertained via exceptional stocktaking. Write-offs from the stock are performed to the Shortages and damages – analytic non-tax expense account depending on Act No. 586/1992 Coll., on Income Tax, whether the culprit has been found or not, with a potential for financial claim to be filed.

3.3. Procedure when resolving differences in stock found during stocktaking

The stock registry is adjusted based on the problems found in the registry. If losses found according to 2. d), e), f) or losses caused by a third party were not written off from the stock during the year, they are written off now.

The calculation of the amount of uncaused losses from point 2. a) 1 is performed from the amount of wood logged in the period between the stocktakings of wood stocks in relation to auxiliary records which will be used to ascertain the skidding distances of the individual logged areas (stands). Further calculation is performed from the registry of skidding technologies.

The calculation of uncaused losses according to 2. b) is performed from auxiliary records which provide the necessary data. The rainfall deficit amount is taken from the data provided by the Czech Hydrometeorological Institute for the given area.

The total difference between the actual wood stocks and the warehouse stocks is compared with the sum of the calculated uncaused losses. If the difference in wood stocks is lower than the calculated uncaused losses, a correction (reversal) of the production accounting is made in the amount equal to this difference.

If the difference in wood stocks is higher than the calculated uncaused losses, the difference in the amount of calculated uncaused losses is charged as a correction (reversal) of the production. Amounts exceeding the acceptable losses are charged to the account of Shortages and damages – analytic non-tax expense.

4. Conclusion

Losses in the amount of timber, especially the accidental ones, are a long-term issue for both the forestry public and forest owners. The objective determination of accidental losses – the natural decreases in amount, has always been an important factor for determining the liability of employees for any damage caused to the forest owner or for the loss in the amount of timber.

Often times, cut trunks are measured several times and therefore their reported dimensions differ (there are objective reasons for this).

A significant phenomenon are differences between the values measured by the seller and the buyer caused by differences in methods used for determination of the timber quantity. Often times, final timber processors are in the position of the dominant subject in transactions (i.e. demand dominates over supply) and thus it is them who sets the method or various factors for determination of amount of timber. Given that it is the decisive processing capacities who typically do this, the suppliers of timber do not have much choice.

These days, this issue is approached in various ways that significantly differ in individual forest or timber owners. Although some of them define their approaches in internal directives, the issue is not addressed consistently in terms of financial management.

A workable solution seems to be the discretion in recording the amounts of losses by employing the institute of accidental losses, i.e. losses up to the amount of an accidental decrease standard.

The article is an important contribution from the accounting theory point of view but also it has practical implication for forest owners and accountants in forest enterprises.

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