CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Forestry and Wood Sciences

Department of Forestry Economics and Management

Study program of Forestry Water and Landscape Management

Diploma thesis

ANALYSIS OF TIMBER PRODUCTION COSTS BASED ON CULS FOREST ESTABLISHMENT IN KOSTELEC N.C.L.

Supervisor of diploma thesis: Ing. Zdeněk Šmída, Ph.D.

Author of diploma thesis: Alina SHMILYAK

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DIPLOMA THESIS ASSIGNMENT

Shmilyak Alina

Thesis title

Analysis of timber production costs based on CULS Forest Establishment in Kostelec n. C.I.

Objectives of thesis

The goal of diploma thesis is analysis of costs of timber production on the example of CULS Forest Establishment in Kostelec n.C.I. in the chosen period. Selected forest enterprise will be investigated through the chosen methods of analysis with focus on the overall expenses, costs, profitability. Options of positive effects on profitability as one of the criteria for evaluating the success of the company will be presented.

Methodology

Studying literature on a given topic and gathering data, including the findings with a focus on diploma thesis issues. In relation to the researched topic, and based on the selected methodological procedure, analysis of revenues and costs according to cubic meter of timber with providing the comparison for the reference period will be performed. The practical part of work will apply theoretical knowledge to the analysis of selected company, evaluation of performance and the measures designed to improve the financial performance of the company. The work will include the actual results, comparing them with existing knowledge.

Schedule for processing

05/2013 Diploma thesis assignment
11/2013 Presentation of literature review, methodological approach and initial results
01/2014 Submission of the first version of the thesis - completion of chapters about 80%
04/2014 Finalization of thesis

The proposed extent of the thesis

50 - 60 pages

Keywords

Analysis, wood production, profitability, cost, economic result

Recommended information sources

HIGGINS, R. C., Analysis for Financial Management. 2005. 8th Edition. [s.l.] : McGrawHill/Irwin. 430 s. ISBN 978-0073258584.

PULKRAB, K., ŠIŠÁK, L., BARTUNĚK, J., Hodnocení efektivnosti v lesním hospodářství. Lesnická práce, s.r.o. - nakladatelství a vydavatelství, Kostelec nad Černými lesy, 2009, 130 s., ISBN 978-80-87154-12-0.

KUPČÁK, V., Ekonomika lesního hospodářství. 2006 Brno MZLU, 2. vyd. 257 s., ISBN 80-7157-998-X.

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FABOZZI, F. J., PETERSON, P. P., Financial Management and Analysis, 2003. 2nd edition, s.l.: John Wiley & Sons, Inc. ISBN:0-471-23484-2.

The Diploma Thesis Supervisor

Šmída Zbyněk, Ing., Ph.D.

Last date for the submission

duben 2014

Česká zemědělská univerzita v Praze
Fakulta lesnická a dřevařská

prof. Ing. Luděk Šišák, CSc.
Head of the Department

prof. Ing. Marek Turčáni, PhD.
Dean

Statement:

I declare that this thesis on the topic: Analysis of timber production costs based on CULS Forest Establishment in Kostelec n. C.L, was worked out independently and used only sources that are quoted and mentioned in the list of references.

In Prague, on …… **. . . . . .**

Author signature

Acknowledgment:

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ABSTRACT

My master thesis examines costs of timber industry on the example of CULS Forest Establishment in Kostelec n.C.l. at the period 2008 – 2013. This thesis investigates the analysis of company's financial management – its overall expenses, profit, and options of increase in profit margin to achieve better financial outcome.

CONTENT

1. INTRODUCTION

Forestry in the Czech Republic has a long tradition and its sources of raw materials are used by subsequent timber industry

The main advantage of this industry is a base of renewable domestic resource. Forests cover almost 34% of the Czech Republic territory, the total timber supply is about 685.6 million cubic meters, the final mean increment creates12.3 million cubic meters u.b., total mean increment values 17,9 million cubic meters u.b. per year and the total current increment 21,6 million cubic meters u.b. per year. The annual yield consists of 15.06 million cubic meters of timber u.b..

Wood processing industry has been used from ancient history. Its products are still used particularly in agriculture, constructions and transportations. Wood is also used to make furniture, paper, musical instruments, sports goods, toys, etc.

Wood as a natural material exhibits a wide range of properties. Each specific property of wood has historically found its reflection in the corresponding processing technology, followed by projecting the social division of labour, especially in the emergence of specialized crafts (Friess, 2003).

The development of relations between the company and the forest is closely related to the use of wood as the main product of forest production. They described three basic stages in the use of this product (Fromer 1961):

- Stage of energy usage of wood in which wood is used for immediate satisfaction of primitive and simplest human needs, especially as fuel,
- Stage of mechanical energy usage in which, in accordance with the increase in consumption, construction and in the manufacture tools of wood, is gradually increasing importance of wood as a construction material and begins the process of gradual extrusion of wood as a fuel,
- Stage of mechanical and chemical wood utilization, which is a reduction of direct consumption of wood in construction, wood becomes especially industrial raw material for the production of various products based on mechanical and chemical technologies, a as fuel is losing its meaning.

The timber industry deserves attention due to the significance of production, employment and other related effects in the manufacturing sector. Enterprises are engaged in business activities in the timber industry, doing business in an environment that is influenced externally. The main raw material of the timber processing industry is the timber and it differs from other fields by that there are many other relations, constraints and possibilities. Mining are in the world in some ways regulated and it presents some limitations while gaining a basic raw material.

We are currently witnessing an unprecedented interest in the issue of small and medium-sized companies. It is these size categories are referred to as the backbone of the economy, the main problem solvers unemployment, the bearer of a healthy business risk, and many other economic virtues (Friess, 2006).

Production also depends on supplies of wood in the forest. Since 2005, steadily implemented mining has increased. At the turn of 2006 and 2007, when the Czech Republic and other European countries were affected by hurricane Kyrill, domestic roundwood production increased by 4.7% due to the liquidation of the wind calamity.

Manufacturing processes used in the timber industry include a wide range of different activities. The basic structure used in the timber industry is based on a new classification of economic activities NACE, which covers less than half of joinery production and nearly one-third is represented by sawmill processing.
Between 2006 and 2007, growth was achieved only in sawmill production (by 2.1%) and the production of plywood, veneer and agglomerated wood products (by 0.7%). For other production it declined.

In terms of competitiveness of the product the achieved production structure is inappropriate. The level of exports, especially the final production of the mill processes, brings positive effects abroad, but intermediate products processed in abroad are causing the fact that it is almost impossible to assess the domestic raw material in various regions and the related social, environmental and economic positive effects. This phenomenon brings increased professional demands and the subsequent demand for more skilled labour.

The new National Forestry Law (NFL) empowers the Forestry Development Authority

(FDA) to control and supervise the harvesting and export of timber, timber products and other forest products. In light of this, there are a number of prescribed forms (documents) that must be completed and approved before shipment is allowed. These documents include the following (Doe 2004):

- Export waybill;
- Specification of species;
- Sale contracts receipt (SCR);
- Sale contracts (SC);
- Export permit request (EPR);
- FDA clearance, and
- Export permit approved by the FDA.

Aim of this study, for strategic reasons, should be the best qualitative and quantitative use of harvested and processed wood in favour of the place of origin of natural resources. Domestic processing capacity should thus attempt to process wood at the highest levels. Any other activity that adds value produced intermediate product or final product, allows obtaining greater use of the same input source, or the wood raw material.

The development and use of new materials, new technological methods of production, change the tool geometry are a stimulus of constant research and development (Barcík, 2000; Ostroumov, 1988; Kondratovich, 1988; Titz, 1989).

2. PURPOSES AND METHODOLOGY

The aim of this thesis is to evaluate the expense of timber production CULS Forest Establishment in Kostelec during the period 2008 - 2013, and determine proposed actions to achieve better business results. Furthermore, determine the values and causes of the highest costs and current revenues based on the model example, and establish a process by which these costs could be regulated and intensify revenues. The aim is to find out the current status of the management of the Sawmill and evaluate whether company's management is efficient and what are its chances for the future.

The proposed actions are based on machine performance, skills and specialization of staff and the overall organization itself.

The analysis, which is one of the most important economic analyzes, which include many indicators, is a financial analysis. Elaboration of this diploma thesis required a use of cost ratio, which belongs to the heller indicator, because it measures how much costs did the company incurre in 1 CZK of sales.

Another analysis is the analysis of business potential, which can be used as well. Analysis of relations between profit, volume of realization and costs according profit graph is particularly important in the inner sphere of the company.

Research of the timber production in CULS Forest Enterprice is based on the application of the model example method, for which charts of accounts according operations and accounting types of company are used.

Based on the charts of accounts graphs and tables showing the highest average cost of 1 m^3 of company's products realization are used. Items with the highest values are investigating in terms of their progress over time in monitored period 2008 - 2013. The highest cost of the Sawmill is separately analyzed as the account no. 613 Changes of products state, as this cost represents the consumption of raw wood for the own use and according to the new accounting standard this is a “minus revenue”.

Since the main activity of the Sawmill is the wood processing, graph of costs and revenues according operations become a commonplace, which clearly shows the concrete operation representing the highest revenue for the company.

In the last step, there are created and processed tables of phase prices and prices of raw wood on the market for the years 2011 and 2013 showing the company's performance.

Conclusion evaluates results of the actual state of the company. On the basis of the final calculation if model example are therefore set the proposed actions to reduce the costs of selected items, and increase revenues and overall recommendations for better management of the Sawmill and timber production.

The most frequent comparing is comparing over time (time series of indicators). This is a comparison of data of the same company in several consecutive periods (usually in years). The advantage of this comparison is to enable easy identification of the effect of changes in accounting method and the possibility of inter-company comparisons. The disadvantage is the absence of any general standards. Conversely, a big advantage is the ability to monitor the trends of the company. For financial analysis, selected Sawmill data from 2008 - 2013 were available.

The purpose of this work is to provide information for decision-making concerning measures in many areas of business activities, among others, as well as the formulation of prospective targets. If implemented by means of specific indicators analysis of the individual items, we can take the results of this analysis work in leadership and decision-making in the company. Then we can reveal the strengths and weaknesses of the Sawmill's economy, which does not provide the SWOT analysis, and it should serve as a basis for financial management and planning.

3. LITERARY BACKGROUN

State-owned company is a legal entity established under the Act on State Enterprises, which has the right to delegate the management of state property. The founder (founders) is a state enterprise (based on the proposal by the Ministry and with the consent of the government), which define the state assets in the foundation charter, which will form the firm's capital (the equity capital). The founder of the company has certain obligations, particularly monitoring. He also decides on major changes - consolidation, division, etc., including cessation of business activities. The state is not liable for the liabilities of the company (Shmilyak 2012).

Financial management and decision-making deals with the motion of both money and corporate capital, which is due to the functioning of the various forms of business entities. Based on the overall technical and economic strategy and tactics of the company, on the other hand, it re-directs and influences them. Financial objectives and financial criteria form a crucial part of the overall economic goals of the company in the short and long term. If a company as a separate legal and economic unit shall act effectively and develop itself, such targets must be in the overall management consistently respected. Overall management of the company must be a symbiosis of financial and material management, and technical-economic and financial decision-making.

Financial management and decision-making is closely associated with external financial economic environment in which the enterprise operates. It is all about the situation on the money and capital markets, financial policy of the State (tax, subsidy, tariff policy), development of currency and exchange rates, but also on character of the various possible state interventions in the corporate economy in the form of control such as prices, wages, environmental regulations, etc. (Valach 1999).

Key activities have a decisive influence on the final results and business development. They are derived from the principal directions of economic development and in particular resulting into a file of specific and tactical objectives. These objectives may include the follows (Kupčák 2006):

- Widening or narrowing the range of products or services,

- Acquisition of new markets,
- Increasing of turnover, respectively market share,
- Scientific and technical progress, the introduction of new technological processes in Production, information systems, environmentally friendly technologies,
- Increasing of labor productivity,
- Increasing the return put on capital,
- Optimization of the company's liquidity,
- Maintaining or increasing employment, improving working and social conditions for employees, etc.

The ownership structure of the company based on the merits and assets are divided into long-term (investment, fixed) and floating (short-term). Fixed assets are purchased for a period longer than one year. Floating assets are expected to be active less than one year. From an economic perspective, intense "circulating" is desirable and it is expressed in so called turnover rates (Shmilyak 2012).

The intangible assets include equity component with a useful life greater than one year and in the valuation specified by entity. It involves in manufacturing process for the long period and its value translates into performance data sequentially, ie wears out (amortized) and it is therefore depreciated.

Long-term assets are (Landová 2009):

- Intangible assets,
- Tangible fixed assets,
- Long-term financial assets.

Intangible assets consist of the noncurrent, nonmonetary, nonphysical assets of a business. Companies must charge the costs of intangible assets to expense over the period benefited. Among the intangible assets are rights granted by governmental bodies, such as patents and copyrights. Other intangible assets include leaseholds and goodwill (Hermson 2011).

Intangible assets (IA) have immaterial characteristic. They include individual, obtained for consideration, property items whose value exceeds 60 thousand CZK and period longer than one year. The intangible assets mainly include the follows:

- Intangible results of research and similar activities, such as recipes, technological methods or projects which are purchased separately or are created in a company for repetitive production and sales,
- Software purchased separately (if not supplied with hardware) or creating by own activities,
- Assessable rights, e.g. the production of technical knowledge (know-how), licenses, patents, inventions, copyrights, publishing rights,
- Goodwill, e.g. the value expressing the position of an undertaking market environment.

The intangible assets (IA) include the cost of starting a business - so called Formation expenses, i.e. costs incurred before the foundation (formation) of the company.

Tangible fixed assets (TFA) are valued by purchase price, replacement cost or actual cost. Reducing its value during use reflects depreciation (Shmilyak 2012).
Depreciation is a non-cash expense. Retained earnings, therefore, underestimates the cash flow that is designed for investment (Brealey, RA, Myers, S C, 2000).

Tangible fixed assets (TFA) are characterized by their material substance and are divided into movable and immovable assets. The immovable assets include primarily land, buildings, structures, regardless of the cost. Movable property consists of separate movable assets (machinery, transport equipment, inventory, etc.), or sets of things with separate technical and economic purpose (equipment), whose cost is greater than 40 thousand CZK.

Long-term investment (LTI) represents a property which is usually bought by the company to get revenues in the future. Companies store their free cash flow to realized investments.

Long-term financial assets (LTFA) consist of shares (stakes) in other companies and purchased long-term investment securities (e.g. shares, bonds) for capital control or influence of another entity; according to the proportion of the capital controlled entity with majority (over 50%), substantial (20-50%) and minority interest (Kupčák 2006).

Circulating assets include properties whose utilization is shorter than one year and an acquisition cost is less than the amount prescribed by the entity for the definition of fixed assets.

Circulating assets consist of follows (Landová 2009):

- Inventories,
- Claims,
- Short-term financial assets,
- Cash and cash equivalents.

Inventories of wood are a specific form of work in progress to express the state of wood by locations. The movement is expressed by means of state increasing, reduction, or move of wood between locations.

Movement and states of stocks are maintained in the units of measurements, they are monitored and evaluated at the end of the billing period (month, year) as a change in stocks. The unit of measurement is cubic meter in case of long logs (formerly full cubic meters - fcm), in case of stacked logs is a spacial cubic meter (scm). Converting spacial cubic meters to cubic meter is done by using a reduction factor (coefficient).

Change in stocks is firstly given by the difference of the final state compared to the initial state by location and season (Kupčák 2006).

Potential external revenue arises when the production of own stock in the current period (internal revenue) is greater than its losses in the current period (than internal costs plus items reducing internal revenue). In this case, the resulting account balance in the account so-called as Change of stocks state is positive and increases the total operating income, while representing a gain of own stock in the current period. Closing balance of own stocks is then larger than it was in the initial balance of own supplies. This part of made production, which (at the end of the period) remained on a stock, can always be sold in the next period and thus converted to external revenues. Therefore, it is referred to as potential external revenue (Landová 2009).

In addition to the above quantified material flows of wood in measurement units the gradual increase in the cost of production and thus increase the value of inventory occurs

by locations. To express this change, we use so-called phase calculations for inventory valuation of timber on the area P, RS and EC in average production prices of timber, regardless of the product range and its market price. The phase calculation is a multiple of the amount of wood in cubic meters at the appropriate location and its own costs incurred by carried out performances. It has tended to by the technological process of harvest, skidding and hauling of registered stocks of wood (Kupčák 2006)

The structure and differentiation of workers by the content of their activities is the result of the division of labor. According categories are distinguished workers performing Work (manual), controling (management), administrative, secretarial, etc. In forest management, and its enterprises, workers are divided into categories: workers, managers, auxiliary services workers and apprentices.

The company creates jobs for work that uses the employee during working hours. The duration of working time is determined by general law and within the work shift. In industrial plants (e.g. in forestry harvesters in operation), for the greater use of practical capacity of the production facilities of production efficiency, ensures alternating employees in more innings (1st morning, 2nd afternoon, 3rd night) - shift operations. There is currently a higher utilization of jobs while increasing the number of jobs (Kupčák 2006).

Employees of the company have a natural interest in the prosperity, economic and financial stability of the company they work in, because they are devoted to maintaining employment and wage conditions. They are often, like managers, motivated by financial results. They are interested in job security and wages and social perspectives. Economic results monitor the influence of management and employees used to be chosen through some of labor organizations (Grünwald, Holečková 2007).

The manufacturing process is a set of processes taking place through human activities in organized and controlled conversion factors of production (raw materials, capital, etc.) in the final product (the product). It is usually constructed from a combination of working and technological process.

Working process (power cycle) is a part of a production process through which a person transforms production inputs (factors) on products directly through his work and through

using capital (machinery, tools), or creates prerequisites for this goal. In case of changes in factors exerting work, the work process is then part of technological process.

The technological process is a part of production process that occur quantitative changes in production factors (shape, division, location in space, etc.) Technological process can also use the natural processes (biological growth, physiological and chemical processes) and principles of nature (eg gravity), (Kupčák 2006).

Profit and loss statement specifies of which costs and revenues for various activities are involved in the creation of profit for the period, which is then displayed on the balance sheet as a single figure. Profit and loss statement is used to assess the ability of the company to capitalize already invested capital. While the balance sheet is considered as the backbone of accounting, which are published from financial statements in the annual report in terms of greater significance attaches to the profit and loss account over the balance sheet. For economic indicators, results of operations, respectively gains, or losses, have significant priority. Profit, which is reported in the annual statements of the enterprise, may, in terms of value, comprehensively display quality of the enterprise for the certain period, but it is not always a reliable indicator of the companys success and not a reliable measure of the level of control (Shmilyak 2012).

In production there are mergers, combinations and use of production factors - so called consumptions, form which certain factors are consumed at the same time, others are gradually consumed (wearing out). Monetary expressed consumption of production factors is referred as cost.

Costs can be characterized as the consumption of production factors reasonably incurred for the creation of corporate revenues, including other necessary expenses related to the operation and development of the company. This is basically an accounting concept of costs that are the subject of financial accounting, including quantification of financial gain, which is the basis for calculating of taxes.

The basic cost types can be considered as (Kupčák 2006):

- Consumption of materials, energy, and external services,
- Own costs (wages, salaries, costs of social security and health insurance)
- Depreciation of tangible and intangible assets

- Financial costs (e.g. interest expenses).

Total costs are consist of, on the one hand, the purchase price of sold goods (or own production costs of sold products, including both direct costs and production costs), and, on the second hand, the distributional and administrative expenses (Grünwald, Holečková 2007).

Ways of expressing costs, volumes and prices of production is a certain amount and their differences relate to the intended purpose of use. Prizes may be found to be an only informative indicator without any other economic impacts and those prices can be used as a cost formula to monitor the work productivity, efficiency, cost savings, production volume and derived other indicators of the practical implications. These indicators have different importance in terms of governance, in which they will be used - for example, industry, enterprise, establishment, or forests. This is then related to differential pricing according to production conditions (Šišák 1984).

According purposes in business practice there are used different classifications of costs - according to internal departments and general performance.

Internal departments are organizational units - mostly resorts (forest management, forest districts, forest production resorts, etc.), which are locally defined as parts of business and record costs, for which they are responsible (cost of resort), or revenues, respectively profits (management of resort). Costs by business unit, which can be added directly to a particular resort, are referred to as unit cost resorts, the cost which can not be added directly, but only through a certain key, is then referred to as overheads of the resort (also resort's costs). Summary of costs represents the mainframe budget.

Sorting by costs performance (calculation of sorting costs) provides cost survey (and usually yields and profits) by individual items of production (performance, products, services) to so-called unit of production. This classification allows us to analyze the profitability, or if the profitability of production and thereby regulate the production and structure of the program (Kupčák 2006).

Returns of company are amounts of money the company has gained from all of its activities in an accounting period (month, year), regardless the fact they were, or were not,

paid in this period. This is called the principle of accrual accounting. Revenue is so different from the income, costs from expenses and profit from the expenditure of cash-flow. Revenues are realized at the time of removal of goods or services (Synek et al., 1995).

The internal rate of return is defined as the discount rate that makes the present value of project revenues equal the present value of project costs. For individual investments, the initial rate of return is usually compared to any alternative rate of return. Alternative projects with an internal rate of return greater than the rate of return are considered acceptable alternatives. Higher rates of returns are preferred in capital budgeting among many projects. The benefit, or cost ratio is used to compare with total discounted revenue divided by the total discounted costs. Ratios greater than 1.0 indicate that the project is acceptable; greater ratios are preferred in capital budgeting decisions (Cubbage 2013).

Classification proceeds use roughly the same terms as costs, ie. according to revenue species. The primary consideration is their purpose relation to performance which can be realized outside the company, or the produced (e.g., in the form of semi-finished products and products in stock).

According to yield species revenues are most divided into:

- Sales of goods, products, services,
- Revenues from leased assets
- Other revenues,
- Change in work in progress, semi-finished product,
- Activation of TFA, products, services,
- Revenues from the sale of tangible FA, materials,
- Revenues from ceded receivables
- Settlement of legal reserves,
- Gains.

Likewise the costs, in case of forest enterprises emerge yield species are divided, which are based on forest production (Kupčák 2006).

Profit in the double entry accounting is calculated as the difference between revenues and costs. In the statement of profit and loss, calculations are gradually quantified as follows (Landová 2009):

- SM operations: (External operating income + - change in inventories) - External operating costs
- SM Financial: Financial income - Financial expenses
- SM extraordinary: Extraordinary income - Extraordinary expenses

In business practice, it is necessary to distinguish between the result of economic management, and in particular accounting (in accounting) and taxation.

Economic profit is the difference between all costs and revenues.

Accounting profit is calculated by subtracting the costs from accounting income. It is getting out of the profits and losses statement; for example, incomes and expenses are broken down into the three main areas of activity - as operating income, economical result from financial operations and extraordinary economical result. In productional companies operating result is crucial as it is the difference between operating income and operating costs.

Tax profit is calculated as adjustments of accounting profit resulting from tax legislation. Basically, the difference is between taxable income (revenue) and expenses (costs) to assure and maintaining of incomes (Kupčák 2006).

Sum of operational and financial management is resulting into management result of ordinary activities before taxacion. Such results of tax return determine the tax rate of income from ordinary activities (Landová 2009).

The profit is seen as a basic motive and prerequisite for a business, and therefore the main criterion for making of decisions. It is the main source of self-financing (i.e., the source of payment of own revenue expenditure), and principal component indicators of production profitability.

Profit Analysis examines whether sufficient profit was achieved and whether it meets the requirements of businesses and the profit that was planned. Also deals with the

evolution of profits over time. Analysis of profit is based on an analysis of revenues and costs (Mikolajská 2006).

The negative difference between revenues and costs is expressed as a loss, with the effects on equity capital and assets at the company's expense (Kupčák 2006).

Analysis of revenues is included into the analysis of total incomes. It focuses on total revenues, which consist of sales of goods and for its own products and services. The analysis focuses on the evaluation of the size and development of revenues and revenues structure on the evaluation and development of their individual parts (Mikolajská 2006).

Economic efficiency of enterprises (business) is the value of production - mainly implemented products and services (goods), i.e. outputs of the company (output), in relation to the factors of consumed production, which constitute the inputs of the enterprise (input), (Kupčák 2006).

Corporate finance represents all measures to ensure equity, either their own or foreign (domestic or foreign), leading to changes in the amount or structure of corporate financial resources. Financing and cash flow management is one of the most important economic activities of the company in the market environment (Kupčák 2006).

Financial management is the management of corporate finance. Finance of company indicates the cash flow, equity and financial resources, in which the company gets into various quantitative and qualitative monetary relations with other businesses, employees and the state.

The core of management is a decision making, and the decision making is a content of planning. Decision means choosing one option from a set of alternatives that lead to solving the problem. Criteria for deciding between alternatives are aspects, which assess advantages of alternatives for achieving the set objectives. Most of decision making situations become when management has a financial purpose, and vice versa - the role of financial decision has its material aspects (Grünwald, Holečková, 2007).

Financial decision making should be based on financial analysis because of its results is based on financial management (financial structures and changes), financing of current assets and investments, price and dividend policy of the company, tax optimization, etc. The source of data for financial analysis is not only a financial statements (balance sheet, profit and loss statement, cash flow statement), annual reports, various statistical surveys, data management accounting, etc., also external data - stock market news, information about other companies (especially those used for comparison, especially competitors) about the development of the sector etc. (Synek 2000 in Pulkrab et al. 2007).

Solvency in the market environment is one of the basic conditions of an enterprise. In connection with the solvency there occur such notions as financial solvency, credit analysis and debt analysis. Financial solvency means the general ability of the company to raise funds to pay its obligations - it is a relative surplus of value of assets over the value of liabilities. It is mostly seen as a short-term or immediate solvency for the payment due. Debt analysis characterizes a specific type of property, is the degree of difficulty to transform it into a cash form (convert its value into cash) (Kupčák 2006).

Financial analysis is the evaluation of the past, present and recommendation of appropriate solutions to the expected future financial performance of the company. Its aim is to identify the financial health of the company, to identify weaknesses that could lead to problems and determine strengths. Financial analysis is aimed at understanding what the future corporate finance will lead to, it supposed to certify, or modify existing financial policies. It is not just an evaluation of period of the recent phenomena, but especially the prognosis of financial prospects for the company. In terms of the company a financial strategy is decisive determination of optimal economic and financial parameters that are dependent on many factors (such as business type, company size, market position, raw material and energy demand, supply position, the quality of labor and other factors).

Another requirement is a consistency in the implementation of financial analysis, but should not be carried out only once a year in connection with the processing the financial statements and annual report, but it should be the common part of the management of each company. If we want to describe the development of the company's performance during the year, then we must at least assume monthly financial statements. The financial analysis is to determine the right tools for diagnosis the financial "health" of the company. Term

financial health of the company was taken over by the English and Saxon literature and is used to express a satisfactory financial situation. In general, the financially healthy company is considered to be that one, which is at the moment perspectively able to fulfill the purpose of its existence. We can find a brief but concise argument to define the financial health: it's liquidity plus profitability. In a market economy, this means that company is able to consistently achieve such rates of return that was integrated as an equity (profit margin, profitability), and is required by investors (shareholders) relative to the amount of risk, to which is appropriate type of business connected. The financial health depends primarily on profitability, but also with the regard to risk. Financial healthy company must be able to create the sufficient excess revenues over expenses - profit. Profit has the major importance as a part of evaluative indicators, which measure the profitability of the company (relating the the profit to equity inputs). The greater profitability (return on equity), the better financial health of the company. On the equity market, there is a measure of the perspective ability to appreciate the input equity, which is "evaluatied" by investors through price of share, or prices of other securities issued by companies (Grünwald, Holečková 2007).

Liquidity refers to the ease and quickness with which assets can be converted to cash (without significant loss in value). Current assets are the most liquid and include cash and assets that will be turned into cash within a year from the date of the balance sheet. Accounts receivable are amounts not yet collected from customers for goods or services sold to them (after adjustment for potential bad debts). Inventory is composed of raw materials to be used in production, work in process, and finished goods. Fixed assets are the least liquid kind of assets. Tangible fixed assets include property, plant, and equipment. These assets do not convert to cash from normal business activity, and they are not usually used to pay expenses such as payroll (Ross et al. 2009).

There are two follows approaches for financial analysis:
Fundamental analysis - uses knowledge of the interrelationship between economic and non-economic phenomena, which is based on the knowledge and experience of the experts, especially their own opinion, estimation and feel for the situation. It processes mainly

qualitative data and are included in the analysis as well as some quantitative data, which are processed without the use of algorithmic procedures.

Technical Analysis - uses mathematical, statistical, econometric and other algorithmic methods through which handles quantitative data and provides a qualitative assessment of the results (Mikolajská 2006).

Management of the company is associated with many risks. Risk can be defined as, for example, the results differ from the assumptions. Systematic (market) risk is due to changes in the overall economic environment. Unsystematic (unique) risk is specific to individual industries or companies. Measures against the risk can be organized mainly by defining boundaries of risk, transfer risk to other entities and the creation of reserves or diversification of risk.

Financial risk is respectively resulting from the use of such forms of financing, which necessitate a fixed payment. In a wider spectrum they are a part of the financial risks and other risks, particularly those risks stemming from the investment of funds. However, growth of risk increases the required rate of return by investors. Risk measurement is possible by using various statistical methods (e.g. standard deviation of cash flows, or expert estimates of financial analysts) (Valach, 1999).

The expected yearly income is a useful, but incomplete, measure of the economic implications of a policy. A complete economic assessment must take into account that future returns have less value than immediate returns. How much less depends on how much far in the future the return will occur and on the interest rate (Buongiorno, Gilles 2003).

Risk factor consists in the fact that the one who decides or chooses one of the possible options is not satisfied with the results of these variations, because usually a variant with a higher risk brings more profit and less risk variant brings less profit. The risk represents the risk that the anticipated proceeds will not be obtained, or even that invested capital will be completely lost. The risk arises in most cases as a natural effect, the economic crisis, inflation, or the internal cause of the company itself, such as the erroneous estimation of demand, or bad investment focus. The risk can be reduced by diversifying of the production program (success of a product is offset by the success of the other products) by creation of reserve funds, insurance, distribution of capital invested in more actions (the creation of the portfolio), etc.

Following statements are use while solving the time and risk factor, and general rules for making financial:

- While same risk profile, preference is always having greater income before less income,
- While the same income, preference is always having less risk than greater risk
- Higher risk is considered as higher yield,
- Preferable money are the money received earlier before the same amount of money received later,
- Motivation of all investment (decision-making) is to increase the property.

The general criterion for financial decision-making is cash-flow, respectively profit. Financial decisions may be tactical and strategic. Tactical decisions usually require less money and they do not change the current activities (e.g., purchase of equipment, increases in inventories). Strategic decisions usually require a large amount of money. They bring big changes in the activities of the company and are associated with a high risk (e.g. restructuring of the company, or the investment decision-making) (Kupčák 2006).

For economical decision-making companies, which are having the optimal production volume, maximal profit and cost, is an important classification of costs according to their relation to the volume of production. We can distinquish the constant costs (fixed), which depend on scale and variable costs, which are changing with the volume of production. Fixed costs include wages independent of the volume of production, the cost of repairs and maintenance, interests on loan, rents, etc. Variable costs include piecework wages, raw material, partiall energy and other total costs that are the sum of fixed and variable costs (Fibírová 1998).

Investment evaluation is the investment cost compared with the returns, which the investment will create over a period of life. The profit of investment represents the increment of the net profit, i.e. profit after tax and depreciation increment, which is returned as part of the enterprise in sales, because they are included in the price of sold products. These items constitute the cash flow. The result is the evaluation of investment decisions, whether to invest, or whether there are more investment options, which can be cosen.

In market economies, in order to calculate economic efficiency of investments, are primarily used the following method (Kupčák 2006):

a) method of repayment period (payback period),

b) net present value method,

c) internal rate of return method.

4. CHARACTERISTICS OF CULS FOREST ENTERPRISE

4.1. Legal form of enterprise

CULS Forest Enterprise in Kostelec nad Černými lesy is a purpose-built facility of Czech University of life Sciences Prague.

Table no. 1: Indicators in 2012

Utilized agricultural area (own + rented)	ha	6 734
Average number of employees	people	197
Logging in total	m^3	55 257
Tangible fixed assets	million CZK	500
The cost of cultivation activity	thousand CZK	13 368
Production of forest seedlings	thousand CZK	580
Revenues of timber production	thousand CZK	70 350
Annual turnover	thousand CZK	193 199
Costs in total	thousand CZK	192 756

CULS Forest Enterprise is a public organization that distinguishes its accounting activities as purpose activity (main) and economic activity (secondary). The urpose activity provides tasks of targeted action plans of Czech University of Life Sciences Prague. In the secondary activities, it focuses on efficiency of all production activities.

4.2. Scope of business

The duty of CULS Forest Enterprise is to cooperate with the university and create conditions for practical training of students, as well as providing research and scientific results, and also performing of advisory, promotional and demonstration activities for professionals.

CULS Forest Enterprise fullfill the economic tasks of production of forest and agricultural basic industry and sales of goods. It operates and provides services to 21

domestic and foreign markets, their production processes and carries out other economic activities on the security of expanded reproduction.

4.3. Organizational structure

Director of the CULS Forest Enterprise is appointed by the Rector of CULS, to whom the director presents the distribution of profits after mandatory deductions and approval of statutory allocations. The internal organizational structure of the company is set out by organisational rules.

The company is divided into eight specialized business units:

- Forest management, which is engaged in growing and harvesting activities associated with forest production (e.g., selling Christmas trees), providing technical services and work in private and municipal forests,
- Resort of transport handling is in charge of sorting, clearing and reduction of raw logs,
- Timber production resort, which is not engaged only in timber production, but also in joinery timber production,
- Resort of ornamental and forest nurseries, which sells grown material and implements planting,
- Resort of main (purpose) activity provides practice for students and establishing of research activities of the university,
- Fisheries and wildlife resort is responsible for 10 ponds with an area of 74 ha and field for wild boar, also sells hunting permits and provides services for hunters and fishermen,
- Service center provides corporate transportation of persons, timber and other goods,
- Resort for housing management deals with repairs, maintenance, and operations of residential and industrial buildings.

4.4. Employees

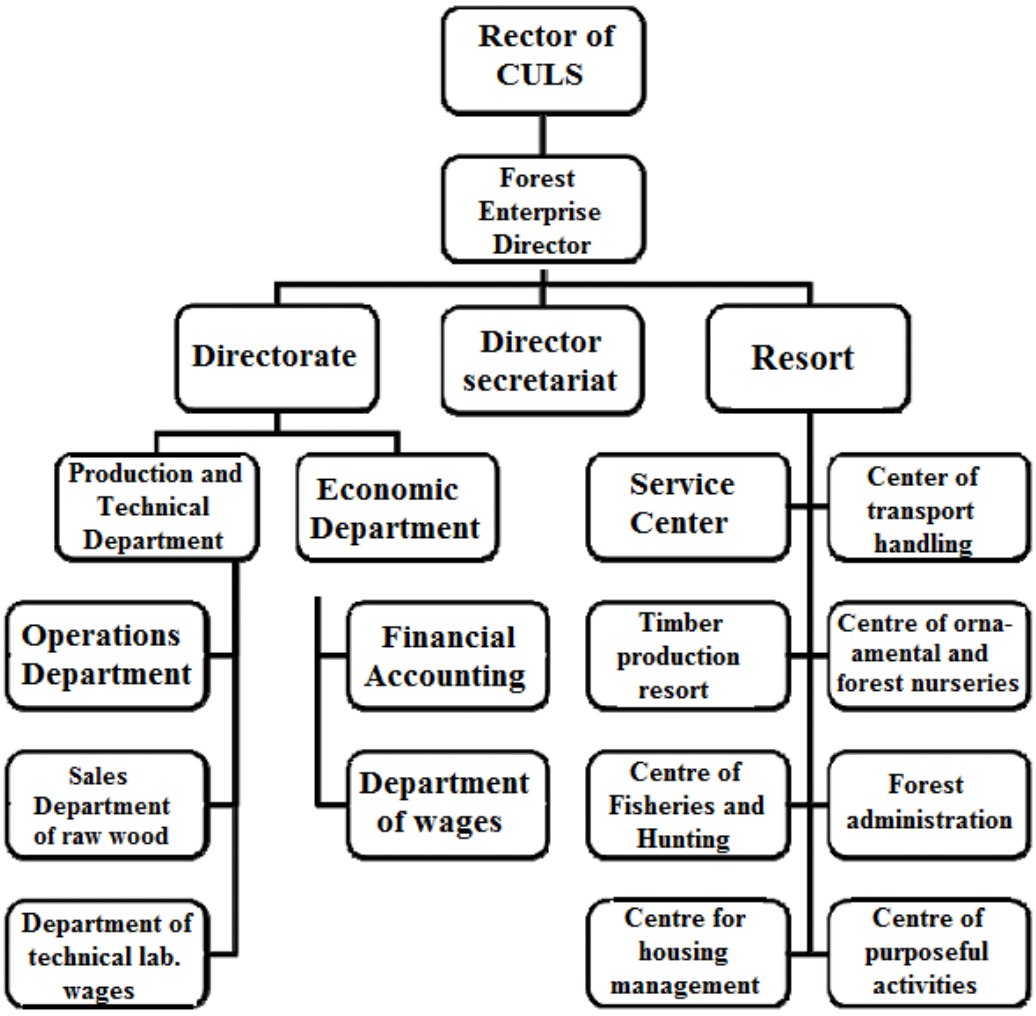
The company employs 197 workers, who comprise two categories: technical and economic workers (TEW), and laborers. The number of TEW workers is 42, the number of

laborers is 155. The company also uses temporary workers and workers of another nationality as help with seasonal work.

Table no. 2: Qualification structure of CULS Forest Enterprise

Workers	Education	Number
TEP	University	19
	High School	23
Laborers	High School	12
	Secondary technical	58
	Others	85
Total		197

Table no. 3: Organizational structure of CULS Forest Enterprise in Kostelec n.C.l.



4.5. History

CULS Forest Enterprise was founded in 1935 as a purpose-built facility of the University of Agricultural and Forestry Engineering at the Czech Technical University in Prague. The basis of CULS Forest Enterprise has become the State Forestry Administration of School Forest Farm in Kostelec nad Černými lesy, which was created in 1933 from the estate of nationalized Liechtenstein Farm in Kostelec, which measured 4,408 ha. After that, in 1934, there was allotment so-called Hradek with an area of 54 ha. From this administrative unit, in 1935, there was created a separate unit, reporting directly to the Central Directorate of State Forests and Farms.

The postwar period has undergone many changes in farm school within their jurisdiction. On January 1, 1953 there was an agreement with the regional forest management in Prague defining a new circuit territorial scope of a school of forestry, including the performance of professional forest management. The area of farm forestry school measured 10 000 ha. On January 1, 1957 became a transfer of school property under the Ministry of Education and Culture. On 7/10/1978, the Ministry of Forestry and Water Management bulished, in accordance with § 3, paragraph 2, Act no. 96/1977 Coll. about the management of forests and state forest management under ref 30420/ORLH/78 about creation the forest management unit (FMU) Kostelec na Černými lesy. FMU Kostelec n.Č.l. had boundaries identical to the CULS Forest Enterprise (Janovská 2005).

4.6. Natural conditions

CULS Forest Enterprise has a total area of 47,600 hectares. Until 1991, entry into force of Law no. 229/91 Coll. soil and Act no. 172/91 Coll. the return of property to municipalities, CULS Forest Enterprise's forests occupied an area of over 10,000 hectares. Nowadays, CULS Forest Enterprise, manages 5,854 hectares of state land, and 880 ha is rented from private owners and municipalities. In total, CULS Forest Enterprise currently manages 6,734 hectares of forest land.

Forests in Kostelec nad Černými lesy were selected as a purpose-built facility suitable forests due varied natural conditions and the relatively good condition of timber. Natural conditions FMU in Kostelec nad Černými lesy can be characterized by inclusion in forest

vegetation zones, which are as follows: pine degree - 0.7%, oak degree - 0.3%, beech-oak degree - 21%, oak-beech degree - 53.8% and beech degree - 24.2%.

Territory in Kostelec has a hilly character. The elevation ranges from 210 to 523 m above sea level. Majority of the forest is in the range of altitudes from 300 to 450 m above sea level.

Average annual temperature is depending on the position in the range from 6 to 9 ° C. The average length of the vegetation period is from 150 to 165 days. Average annual precipitation ranges from 500 to 600 mm.

Territory in Kostelec nad Černými lesy is under the influence of air pollution from industrial agglomerations in Prague. Damage is mainly apparent in older spruce stands on the edges of forest complexes and the terrain elevations (Forisková 2011).

5. CHARACTERISTICS OF THE SAWMILL

CULS Forest Enterprise, named Smrčiny, is located about 3 kilometers far from Kostelec nad Černými lesy, respectively in the street named Na Staré cestě (see Figure 1). Its main residence is situated in the castle of Kostelec nad Černými lesy, which is just about 30 kilometers east from Prague.

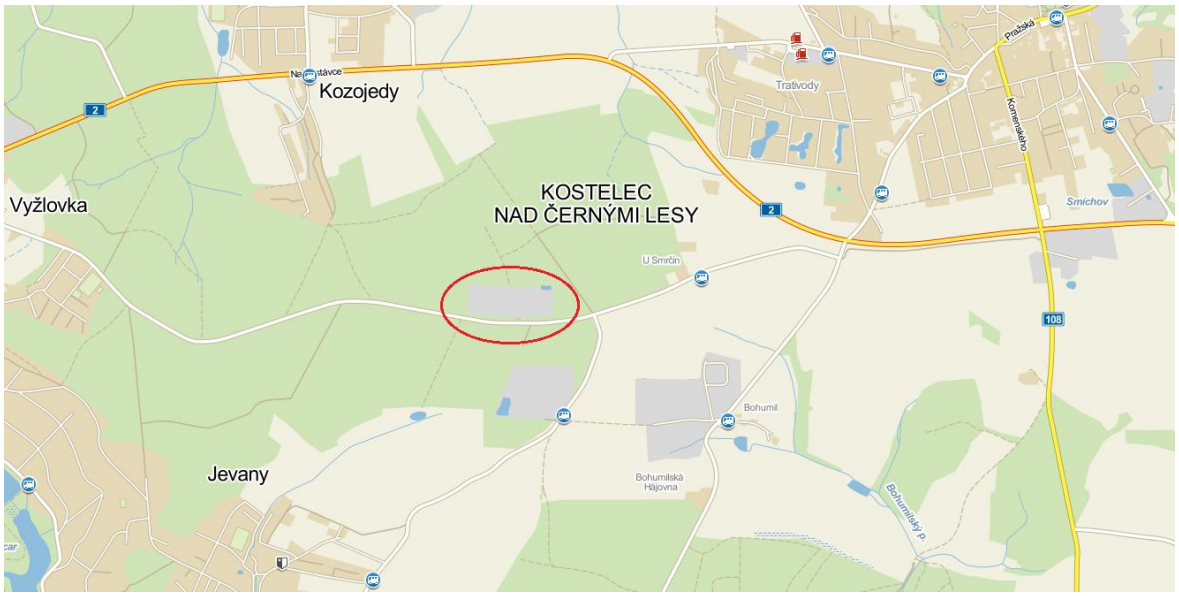


Figure no. 1: Map position of the timber production resort in scale of 1 : 24 000

Resort of timber production, which ranks among the middle sawsmills, handles mostly spruce logs, 10% of production is pine. Annual capacity of sawing due two-shift operations is from 40 to 55 thousandof cubic meters. The resort processes logs from its own resources and approximately 10-40% of roundwood is purchased. Felled timber make up about 57-58% of the total cuts. Most of logs were cut in 2007 when the Czech Republic was hit by hurricane Kyrill. Total cutting, due to the liquidation of this calamity, rose to 52,500 cubic meters.

Resort of timber production currently employs 30 workers. It consists of 4 technical and administrative employees, who are remunerated by a fixed wage, and 26 workers, who are paid by piecework wages.

Working day has one-shift period starting at six o'clock in the morning and ends at three o'clock in the afternoon.

Figure no. 2: Resort of timber production, aerial photograph in scale of 1 : 3 000

Resort of timber production produces a wide range of products that can be ordered in large quantities with container transport (see examples on figures no. 3, 4, 5, 6). Among the products of the resort are included:

a. Roof battens
b. Building boards
c. Joinery and construction timber
    - Lumber boards
    - Lumber planks
    - Planks boards (made of spruce and pine)
    - Lumbers
d. Firewood
e. Scrap of lumber
f. Sawdust
g. White chips (sorted and non-sorted)
h. Brown chips
i. Bark

Figure no. 3: Sawmill

Figure no. 4: Lumber stock

Figure no. 5: Stock of chips

Figure no. 6: Stock of lumber and planks

Resort of timber production is divided into individual operations. The first is the saw mill, which is equipped with the technology:

a. Frame saw, (see figure no. 7), its brand is ESTERER WD GDZC, its a type with reciprocating frame size, permeability of the frame is 71 cm, in practice, throughput of fronts of logs is 65 cm (with respect to registers), the stroke is 600 mm, maximal speed of the main desk is about 340 revs per minute, maximal displacement is 13.3 meters per minute, maximal suspension of blades is 20 pieces, stellite saw blades measure 2.2 mm in thickness, cutting gap measures 3 mm,
b. Rip saw, see figure no. 8), its brand is PKRD 260 (double shaft), this saw was made by Dřevostroj Čkyně, maximal throughput of prism is in height of 260 mm, and 150 mm measures a diameter shaft, the shaft speed is 2850 revs per minute, feed rate may be from 10 to 30 meters per minute (depending on the thickness of cutting

material), circular saws measure (stepped of shaft) 510 mm in diameter and and thickness measure 3,6 mm, cutting width (cutting gap) has a value of 5.2 mm, number of teeth in a disk is 32 (producer is Italian company GDA).

c. Automatically plastering node, (see figure no. 9), its tipe is AOP, the node is made by Dřevostroj Čkyně as well, and it consists of two parts:
   - edger OP850/65 + TRIMER60 (conveyors, measuring frame, cross trimming), (see figure no. 10), its parameters are follows: passage width 850 mm, cutting height from 18 to 65 mm, cutting length from 1.5 to 6 m, shaft with a diameter of 60 mm, spindle speed 3500 revs per minute, feed rate is 50 to 150 m per minute, saw blade diameter measures 280 mm and its thickness is 3 mm, slice width is 4.5 mm, the number of cutting teeth on the disk is 28 (producer is an Italian company GDA,
   - electric engine with a brand of Siemens, type 1L G4 280 - 2A 660 , 400 V, 50 Hz, 130 A, 75k W, 2975 revs per minute, maximum is 4200 revs per minute.

d. Mover of wood waste, (see figure no. 11), its brand is SOLO160 x 500, its producer is Sušická strojírna a.s., inlet opening has a height of 160 mm, the width of this hole measure 500 mm, diameter of the cutting drum has a value of 580 mm, the speed is 720 rev per minute, there is about 2 pieces of the cutting blades, and 1 fixed counter blade, inlet velocity is 36 meters per minute, lengthis of chips then 25 mm.

e. Feeding belt conveyor, (see figure no. 12), which is equipped with a metal detector, 2 cutting blades are mounted on a rotating drum, between that there is the bottom feed roller fixed to the solid counter blade.

f. Sorting of side boards, (see figure no. 13), which is located in the outdoor of the saw, it works remotely in case of lenght operations, however, in case of width operations, it works manually (act of two workers needed), production values are: 23 mm thickness of the timber, lumber width is from 8 to 16 cm, eventually more than 16 cm plus, or fixed widths of 78, 98, 143 mm.

g. Sorting of centered boards, (see figure no. 14) – sorting is provided by hand in three classes: 1th quality - wholesale, 2nd quality - concurrency of lumber for small

customers, 3rd quality - timber for further manufacture into the hall named as AWP (interlacing , slats, etc.).

Figure no. 7: Frame saw

Figure no. 8: Rip saw

Figure no. 9: Automatically plastering node

Figure no. 10: Edging saw

Figure no. 11: Mower (wood chipper) of wood waste

Figure no. 12: Feeding longitudinal conveyor belt

Figure no. 13: Sorting of side boards

Figure no. 14: sorting of centered boards

The second operation of the resort of timber production is the timber driying lumber, which is equipped with the technology:

a. Drying lumber, (see fugure no. 15), its brand is Mühlböck, with the capacity of 2 x 20 m³ of sawn timber (MB 4000) and 1 x 100 m³ of sawn timber (MB8000), the dryer has 5 stages of the drying process: warming up, warming up the timber, drying, condition (equally balances the moisture content), cooling (according to the certificate of functional capability of equipment on treatment of wood packaging material), keeping the temperature at the core of the wood to at least 56 ° C for at least 30 minutes, the maximum temperature of the treatment material must be 65 ° C.
b. Manual external recording device, (see figure no. 16), with a single probe records all the data which must be supported by measurement protocols.

Figure no. 15: Timber driying lumber

Figure no. 16: Manual external recording device

The third operation of the resort of timber production is the rip saw for associated wood production, which is equipped as follows:

a. Rip saw in AWP hall, (see figures no. 17 and 18), TOS brand (one shaft), the maximum throughput is 120 mm, when stocking more discs the throughput is only 100 mm (which causes higher burden during sawing), the shaft diameter has a number of 80 mm, maximum number of revolutions is 4300 rew per minutes, feed rate of material is from 10 to 60 m per minutes, distance of outer circular saw blades is up to 320 mm, saw blades have a diameter of 350 mm and a power of 2.8 mm, cutting width amounts to 3.5 mm, cutting teeth on the disc have the number of 24 .

Figure no. 17: Rip saw in AWP hall

Figure no. 18: AWP hall, prisms and planks

The forth operation of the resort of timber production is the Chipping headrig, which is equipped as follows:

a. Chipping heading, (see figure no. 19), PA300 brand, type PA 400, the producer of thise machine is Dřevostroj Čkyně, minimal diameter of pin slot consists of 6 cm and a maximum diameter of the butt end is 30 cm, maximum lateral removing is 75 mm, and feed rate 45 meters per minute, the thickness of the chips consist of 6 mm and length of 25 mm,
b. Two cutter heads, (see figure no. 20), of chipping headrig (SAB brand) (assembled in 2006) comprises two spirals along the front 32 blades and 4 circumferential bladesthe axial centering of the shaped prism is used for removal device.

This machine, which produces the pieces of prisms from weak aggregate logs, is currently not used due to lack of customer´s interest (Školní lesní podnik Kostelec n. Č. lesy ČZU, 2013).

Figure no. 19: Hall of the chipping headig

Figure no. 20: Two cutter heads of chipping headig

6. CALCULATIONS

Calculation of costs and revenues is calculated on the basis of the financial reports of CULS Forest Enterprise named as HASOFT, which provides an overview of the accounting types and accounting operations of the resort of timber production. These reports were processed onto systematic tables in accordance with accounting types and accounting operations (see appendix no. 1 and 2).

According these sytematic tables it is possible to monitor the evolution of costs and revenues for the monitored period - especially their diameter, diameter transfered to one cubic meter and the total absolute values in the years 2008 - 2013. Development of items with the highest values is also analyzed in the time frame for the reporting period 2008 - 2013.

For comparison of the output volume for individual periods, the calculations are illustrated in direct costs per unit, which is an expense or revenue in CZK per cubic meter (CZK/m^3) of production.

For better clarity names of accounts and items begin with an initial capital lette in the text.

6.1. Analysis of costs

Costs are monetising assets of consumption, wear and tear of fixed assets, human labor (wages), and other services purchased from foreign entities.

Costs are distinguished from cash outflows, as they represent a loss of monetary funds of the enterprise (state of cash, money in the account), regardless of the purpose for which they were used, such as the purchase of machinery represents cash outlay, but it is not considered as an expense.

Purposeful relation to the cost is very characteristic for the cost, because it differs from expanses which are only the loss of property without being bound by operation. This is the real difference between substantive terms of costs and expenses. In case the consumption

reporting in a certain period is not relating to the property, then between the two concepts may, moreover, be the time discrepancy.

Sorting of costs, in terms of space consumption, is important in case of larger, internally structured entities that may be secure, depending on the type and scope of activities by analytical evidence under the generic classification of costs or by a separate accounting scheme of internal accounting (Janovská 2005).

In the cost analysis, we evaluate both, the total costs development, as well as sub-components of costs. In the calculations we use to analyze the development of costs of individual products.

The increase in costs for the certain period, under unchanged other conditions, indicates the inefficien management of the company. Development of the absolute amount of costs is, however, necessary to compare always in connection with the development of absolute sales. From that we derive the cost ratio as follows:

$$\text{Cost efficiency} = \frac{\textit{Total costs per certain period}}{\textit{Production volume per certain perion}}$$

Cost analysis can be performed for the whole enterprise, for a group of products, or individual products. Cost analysis is more informative than the mere analysis of absolute costs (Mikolajska 2006).

6.1.1. Recognition of expenses and change of product state

Expenses are recorded in the accounting class no. 5.

For the purpose of double entry accounting costs are divided as follows:

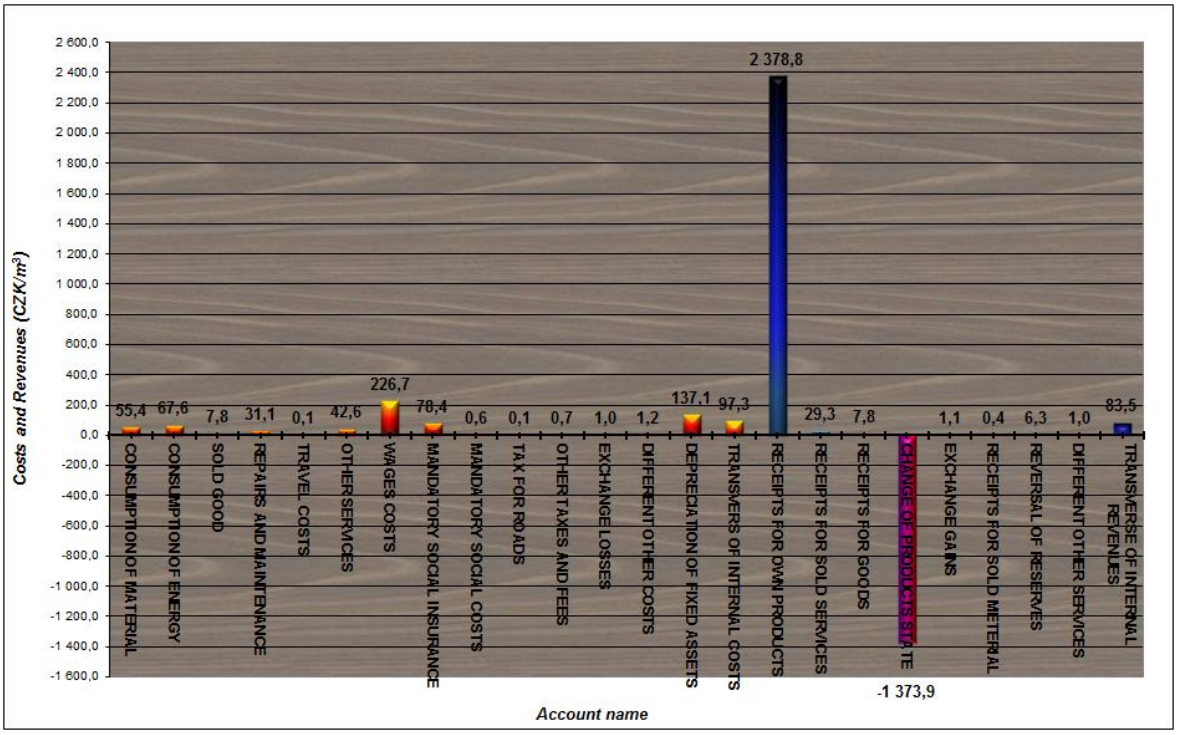
a. **Operational**, those are costs that are associated with normal activities
b. **Financial**, those are costs that arise from financial transactions in the financial market (for example, interest operations, securities, etc.),
c. **Extraordinary**, those are costs that are related to the operations of the unusual character, the ordinary course of business, costs arising from extraordinary events (shortages and damages, loss claims, etc.).

Table no. 4: The specific distribution of account groups are as follows:

50 - Consumed purchases 51 - Services 52 - Personal expenses 53 - Taxes 54 - Other operating costs 55 - Depreciation, provisions and adjustments of operating costs 597 - Transfer of operating expenses (-),	Operating expenses
56 - Finance costs 57 - Provisions and adjustments of financial costs 598 - Transfer of financial costs (-),	Financial costs
58 - Extraordinary expenses 59 - Income taxes and transfer accounts (except 597 and 598)	Extraordinary costs

For CULS Forest Enterprise model example of timber production resort was compiled the Graph no. 1, which illustrates the highest average costs and revenues on base of one cubic meter of sawing logs according accounting types for the monitored period 2008 - 2013.

Graph no. 1: Monitoring of costs (including the minus item named as Change in product state) and revenues of timber production resort by accounting types for period 2008 – 2013 (CZK/m^3)



The item Change of product state "DS" based on the accounting secheme of the Czech Republic is used as a negative revenue, in the result we therefore count it as an expense. To know whether the resort is profitable, this is assumed by the following Graf no. 2.

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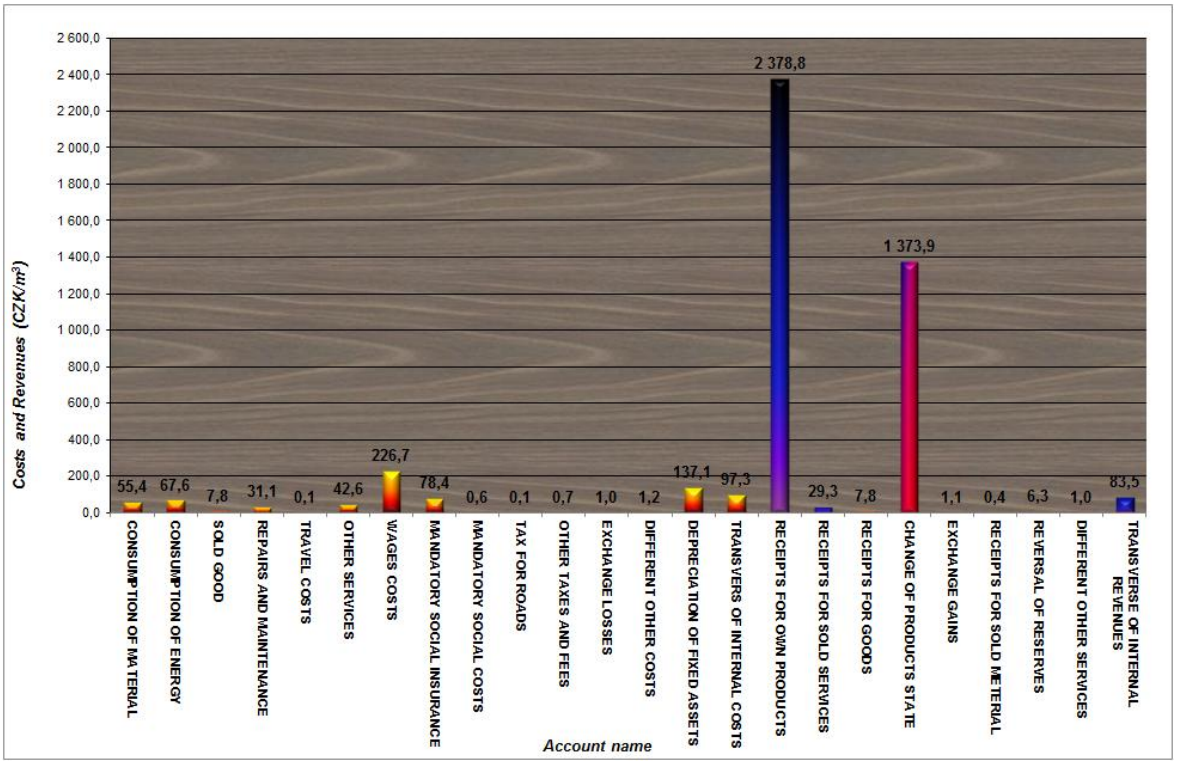
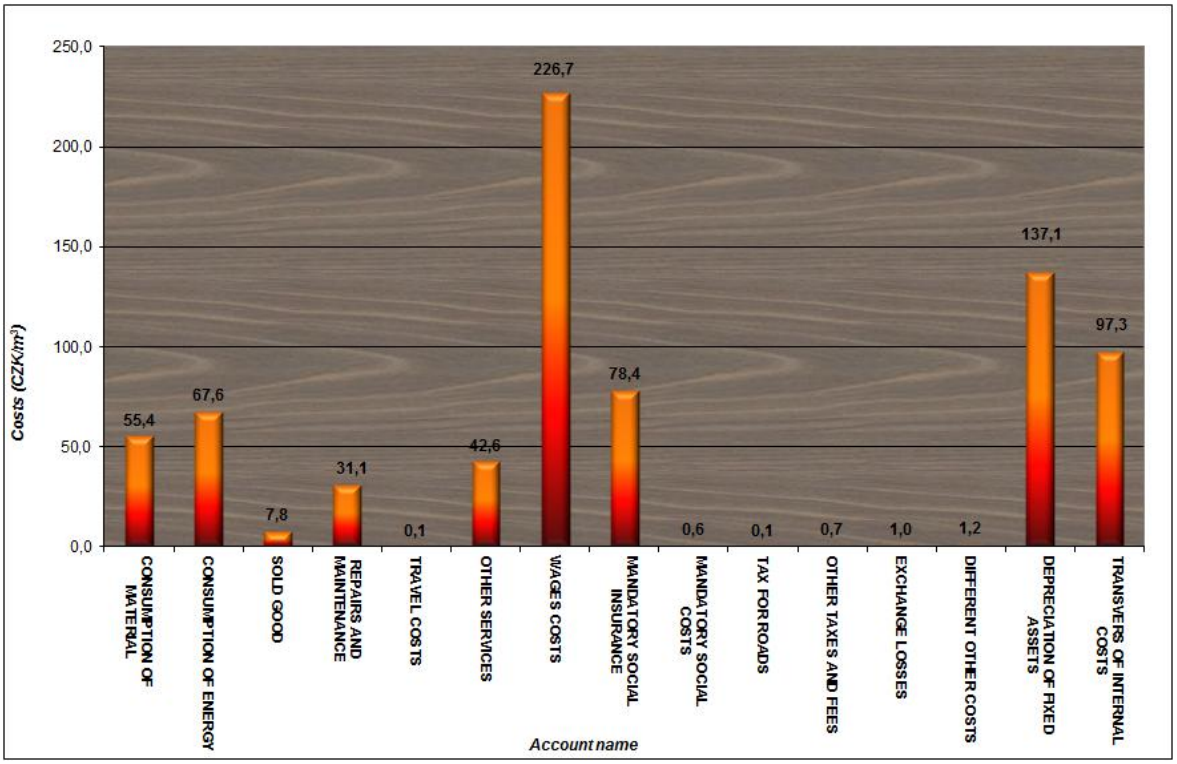
Graph no. 2: Comparison of costs (including the plus item named as Change in product state) and revenues of the timber production resort according accounting types for the period 2008 – 2013 (CZK/m^3)



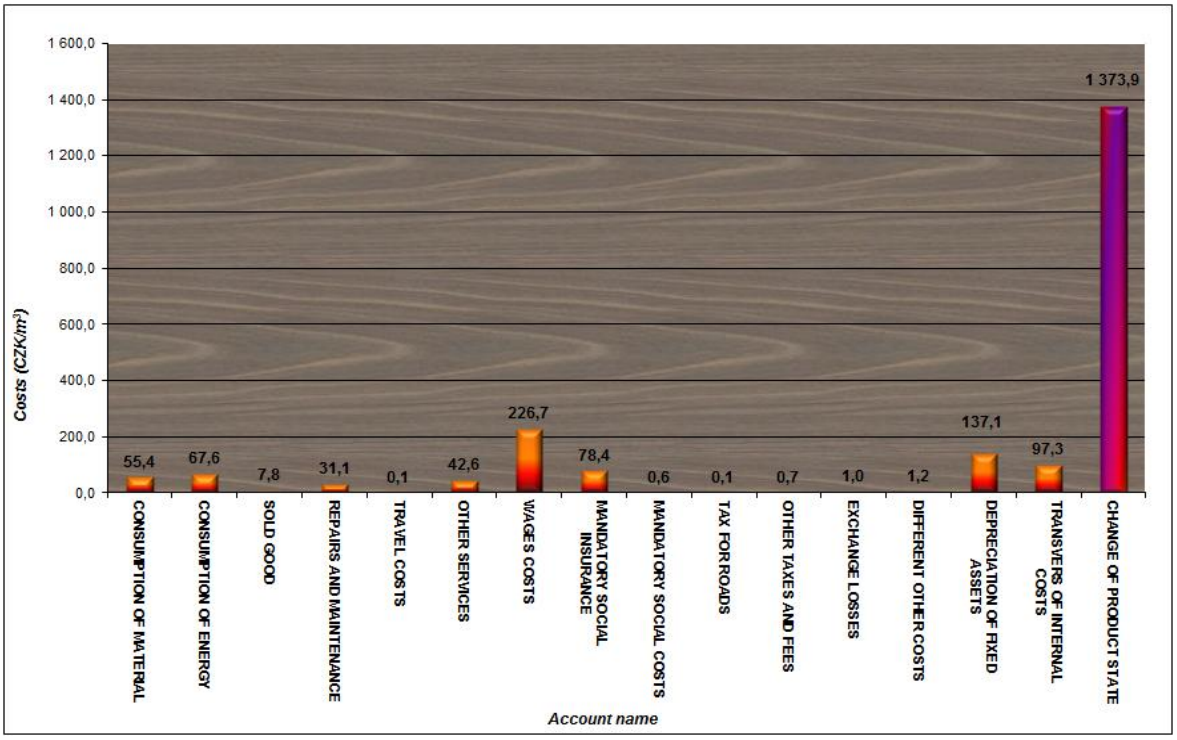
For a clearer comparison of costs and revenues of timber production resort was so called "minus" item named as Change of product state "DS" depicted as a "plus" item, and thereafter is transferred to revenues. From the above mentioned it is clear that the resort is profitable.

Profitability of the resort is followed in chapter no. 4.6.

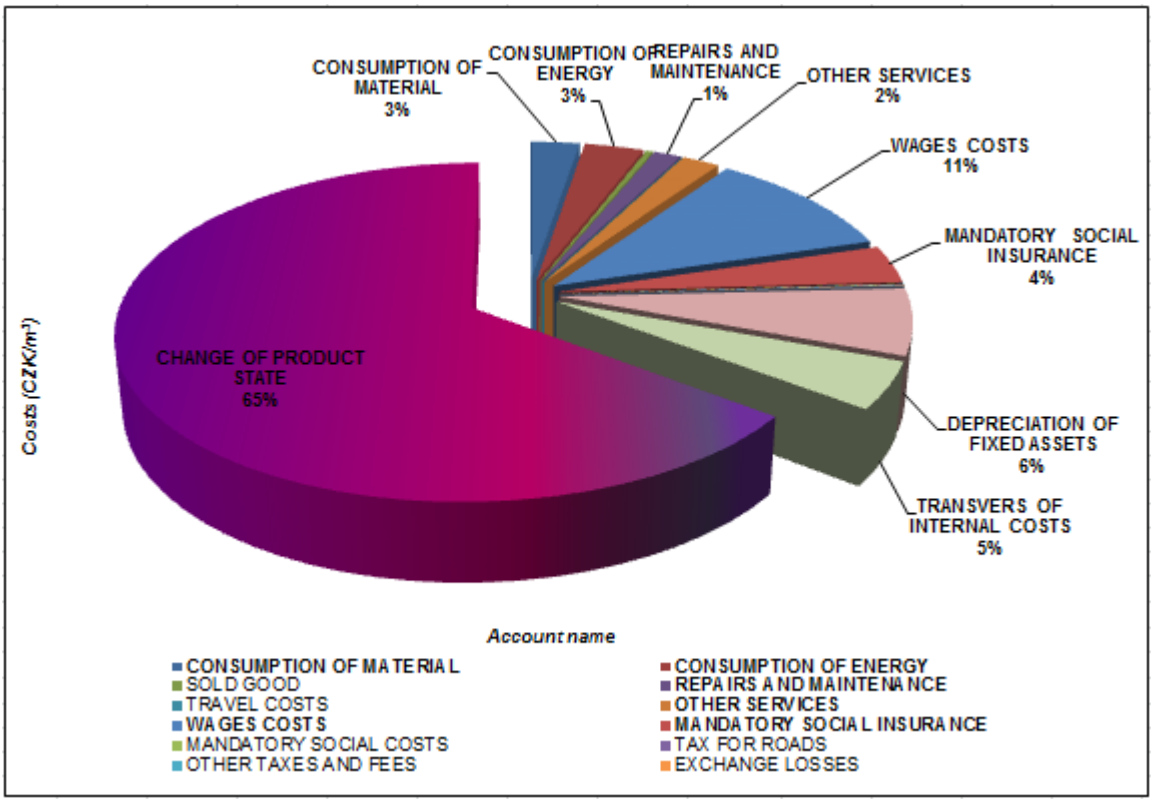
Graph no. 3: Comparison of costs of timber production resort according accounting types for period 2008 – 2013 (CZK/m^3)



Graph no. 4: Comparison of costs of timber production (including the plus item named as Change in product state) according accounting types for period 2008 – 2013 (CZK/m^3)



Graph no. 5: Percentage comparison of the highest analyzed costs (including the plus item named as Change in product state) according accounting types for period 2008 – 2013 (CZK/m^3)



This chart was created to focus and further analyze the highest costs, because they are the major for investigation. Thus, we deal with only those costs which by their significance excess the 1% of the total value of costs. Other items reach the tiny values, i.e. less than 1%, as those values are for our research insignificant, we will not further take them in consideration.

Accounts that display the highest average cost per one cubic meter in the monitored resort are follows:

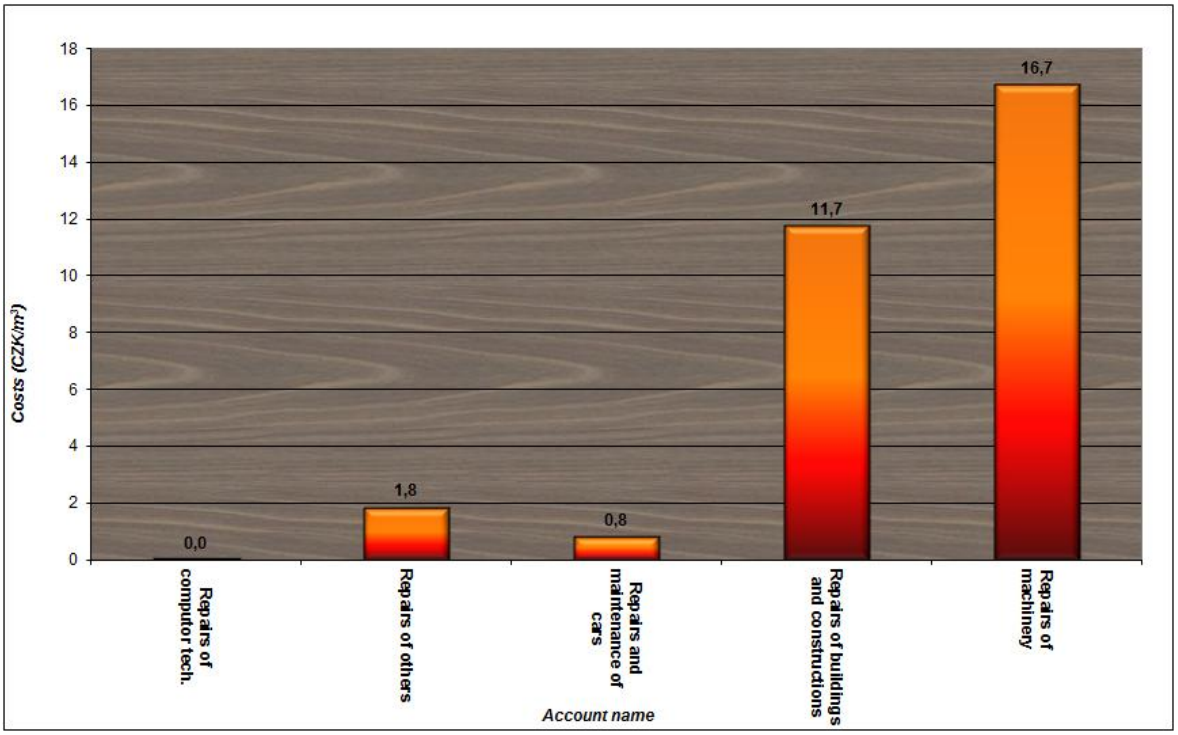
a) Account no. 521 Wages costs,
b) Account no. 551 Depreciation of fixed assets,
c) Account no. 599 Internal transfer costs,
d) Account no. 524 Mandatory social insurance,
e) Account no. 502 Consumption energy,
f) Account no. 518 Other services,
g) Account no. 501 Consumption of material,

h) Account no. 511 Repairs and maintenance.

Account no. 511 Repairs and maintenance is an account type of account group no. 51 (Services) OPERATING EXPENSES; beyond those repairs in timber production resort are included follows items:

- Repairs of computer technology
- Repairs of others
- Repairs and maintenance of cars
- Repairs of buildings, structures
- Repairs of machinery

Graph no. 6: Development of costs on account no. 511 REPAIRS AND MAINTENANCE in the period of 2008 – 2013(CZK/m^3)

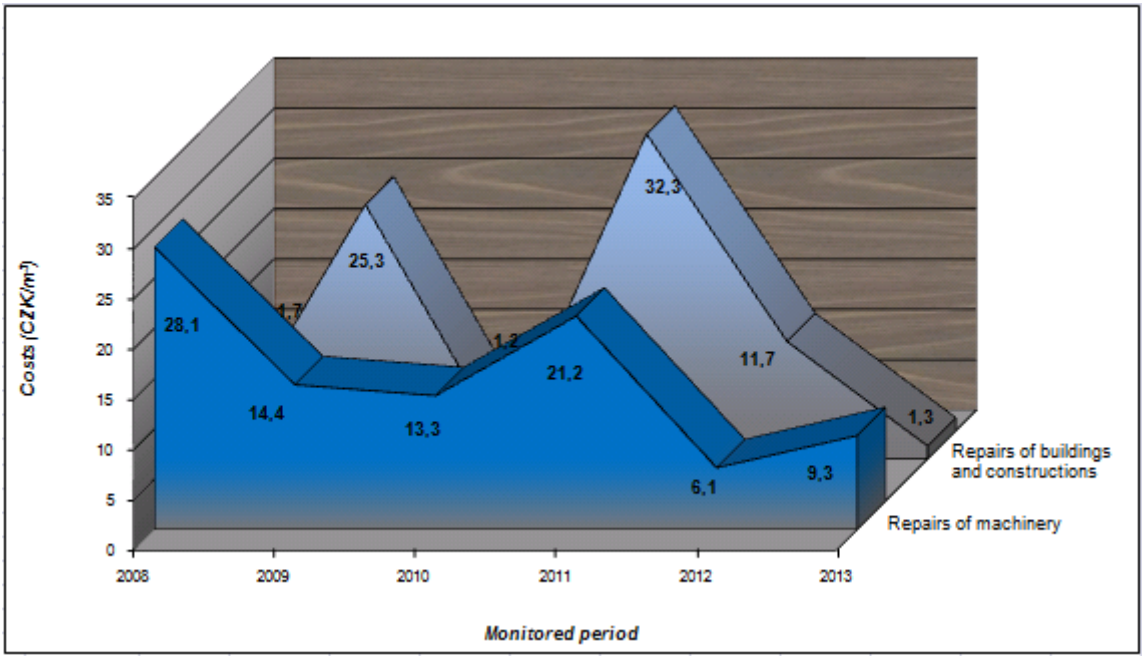


Items with the highest costs on this account are follows: Repairs of machinery and Repairs of buildings and constuction.

If we draw more costs on account no. 511 Repairs and maintenance, this testifies us that it is mostly due to obsolescence and wear of the subject. It follows that we will replace old

machines for new machines, which reflects in the accounting as an increase of the depreciation account no. 551 Depreciation of fixed assets.
We will not follow up the other items on account no. 511 Repairs and maintenance as their volume is irrelevant to our inquiry.

Graph no. 6.1: Monitoring of items – Repairs of machinery, Repairs of buildings and constructions in the period of 2008 – 2013 (CZK/m^3)



The item named as Repairs of machinery declined between 2009 and 2010. Despite a slight increase in 2011 was this item the lowest in the monitored period between 2012 and 2013, when the lowest value reached to 6.1 CZK/m^3. The item named as Repairs of buildings and constructions was very variable. As it is evident in graph no. 6.1, the highest costs of this item were achieved in 2009 and 2011, the lowest in years 2008, 2010 and 2013.

The item named as Repairs of buildings and constructions is the cost which also reduces costs of account no. 551 Depreciation of tangible assets, because by repairs of buildings and constructions the company extends their life and does not need to invest into new assets. In case of item named as Repairs of machinery we should count on the everyday workload of machines and also with any failures or failures of their parts. However, we can reduce their costs, at least partially, by friendlier handling of the machines. It should be

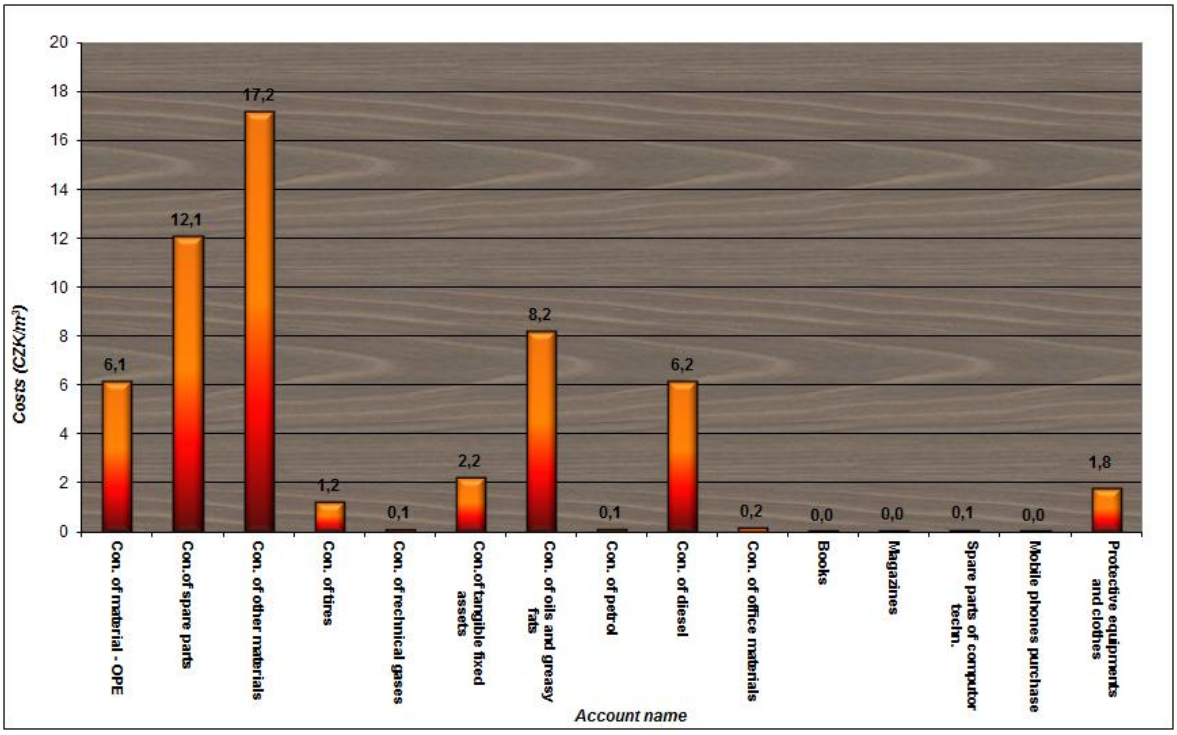
noted that with higher repairs, costs are increasing, for example, on account no. 501 Material consumption, especially by consumption of spare parts, oils and greasy fats.

Resort of timber production mostly invested in the period from 2008 to 2011. Then no other repairs on buildings were carried out. Repairs of buildings and structures are having a long term character.

Account no. 501 Consumption of materials falls into account group no. 50 (Consumed purchases) OPERATING EXPANSES; into this consumption of timber production resort are included follows items:

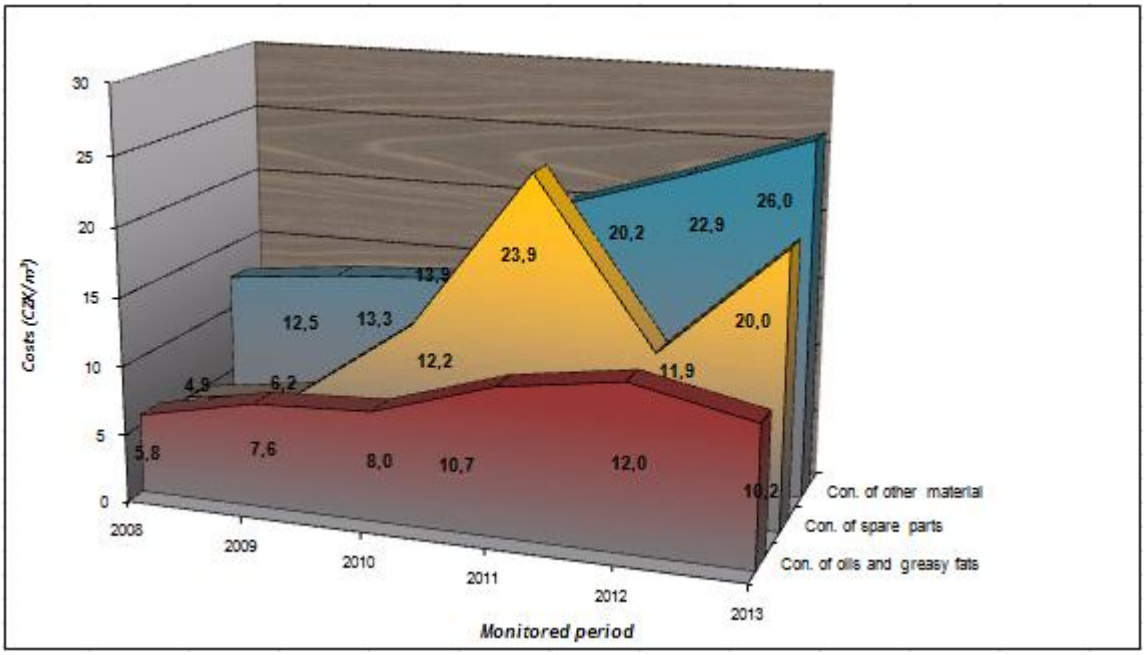
- Consumption of material
- Consumption of spare parts
- Consumption of other material
- Consumption of tires
- Consumption of industrial gases
- Consumption of LTFA
- Consumption of fats and greasy fats
- Consumption of petrol
- Consumption of diesel
- Consumption of material, office equipment
- Books
- Magazines
- Spare parts for computer equipment
- Purchase of mobile phones
- Protective equipments and clothes

Graph no. 7: Development of costs on the account no. 501 CONSUMPTION OF MATERIAL in the period 2008 – 2013 (CZK/m^3)



Among the items with the highest costs in this account group are included those items: Consumption of other materials, Consumption of spare parts, Consumption of oils and greasy fats, Consumption of materials - OPE and Consumption of diesel.

Graph no. 7.1: Monitoring of items – Consumption of oils and greasy fats, Consumption of spare parts, Consumption of other materials in the period of 2008 – 2013 (CZK/m^3)



Graph no. 4.1 excludes the three highest costs on account no. 501 Consumption of material. The item named as Consumption of oils and greasy fats rose in monitored period only slightly. The item named as Consumption of spare parts recorded a sharp increase in 2011, when it rose to nearly 40 Kč/m^3; in 2012, it decreased considerably, and in 2013, it began to rise again. The item named as Consumption of other materials rose only slightly in the years 2008 - 2013, in 2011, there was a sudden increase in the cost of this consumption to 20.2 Kč/m^3, then this cost continued slightly increasing. The company has not invested in new machinery for years, this is thus possible reason for the increase of these items.

The item named as Consumption of oils and greasy fats is slightly increasing due to the rise of their prices on the market. Therefore, the reason for the increase of this cost is not the increased consumption of those oils and fats in Kč/m^3.

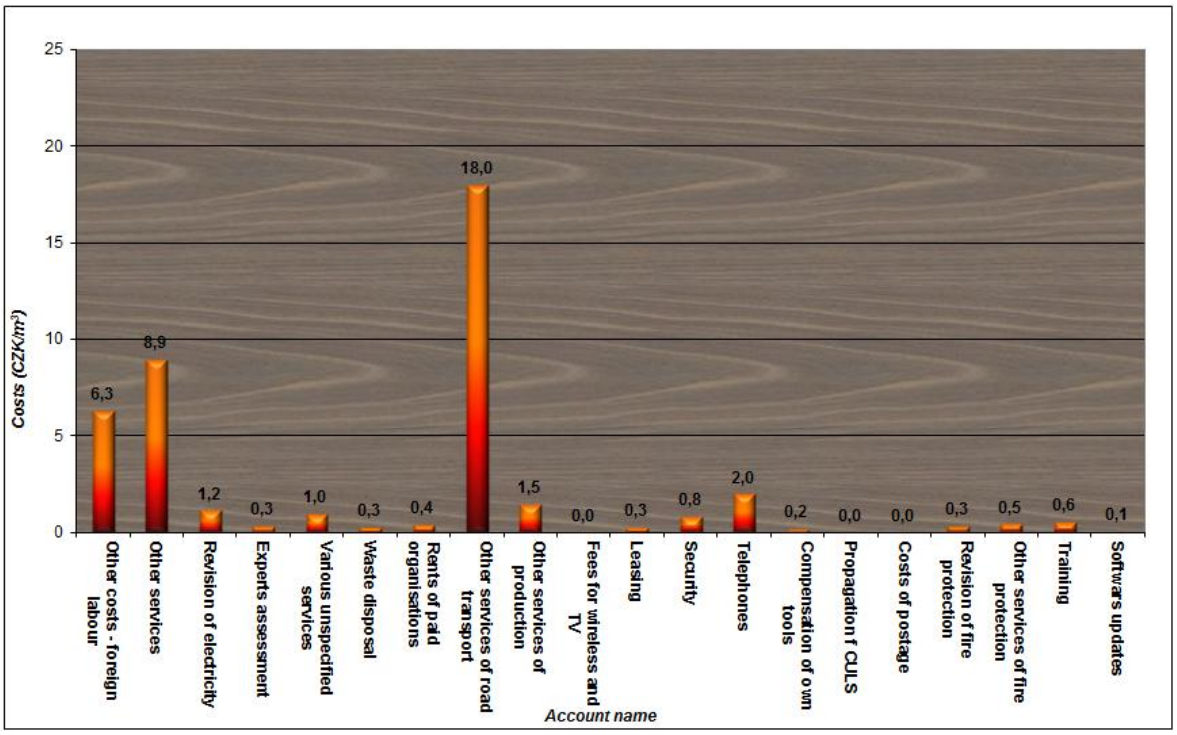
Increased consumption of spare parts from 2011 to 2013 is associated with increased repairs and maintenance in these years. Repairs were not done by replacing whole aggregates, which would be reflected in the sphere of depreciation on account no. 551 Depreciation of fixed assets, but only the partial replacement and partial repairs were done. Respectively, only defective parts of machines were changed.

The item named as Consumption of other materials - OPE is spent on resources used for normal operations, such as gloves, glasses, cleaning equipments, maintenance, etc. Decrease of its costs could be influenced by buying the cheaper equipments. While item named as Consumption of oils and greasy fats is included into costs that can not be overly affected, because the use of these materials is included to the daily operation of the center. A tiny part of these costs, however, can be influenced, for example by friendlier handle the machines, by which can be avoided any revisions, which often requires the use of these oils and greasy fats. The cost of the item named as Consumption of spare parts could be reduced very similarly as in case of the item Consumption of oils and greasy fats, which is involved by handling the machines. Consumption of other material is an item that represents the highest cost of this account type, it includes all materials consumption, its cost reduction could be done by friendlier handling of these materials and economic utilization - so called the investigation with them, and substitution of less expensive prototypes, or equipments with the possible quantity discounts.

Account no. 518 Other services belongs to the account group no. 51 (Services) OPERATING COSTS; other services of this resort include the following items:

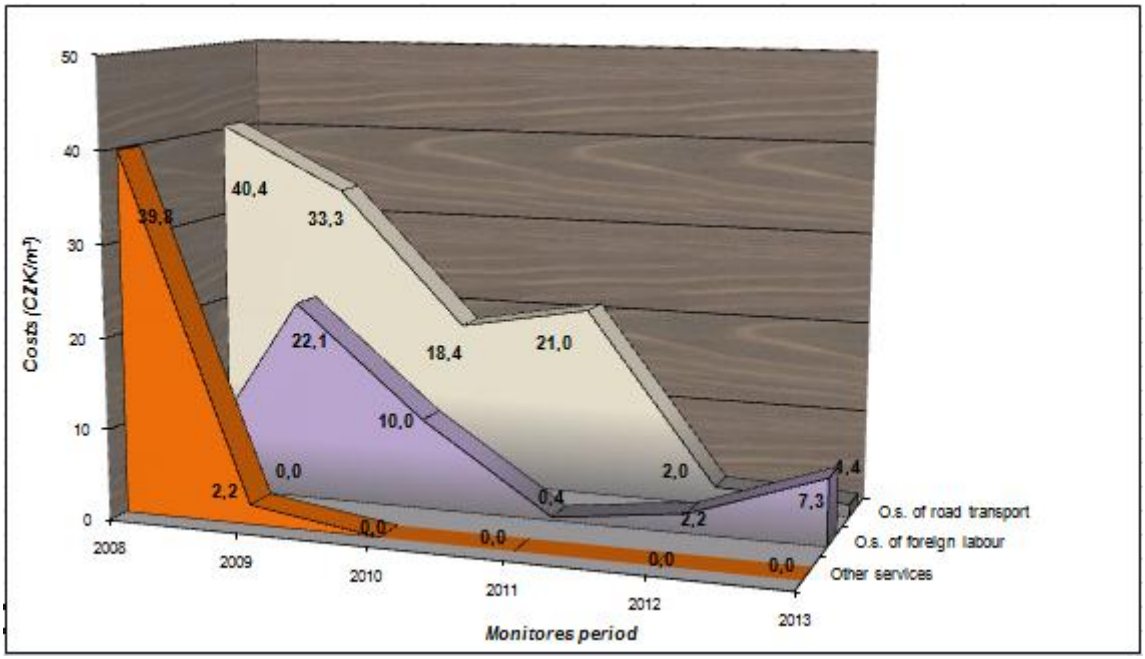
- Other services - foreign workers
- Other services
- Electrical reviews
- Expert assessments
- Miscellaneous non-special services
- Waste removal
- Rent paid by organizations
- Other roads and transport services
- Other production services
- Fees for radio and television
- Leasing
- Security
- Telephones
- Replacement of custom tools
- Promotion of CULS
- Costs of postage
- Fire revision
- Other Services of fire protection
- Training
- Software update

Graph no. 8: Development of costs on the account no. 518 OTHER SERVICES in the period 2008 – 2013 (CZK/m^3)



The most expensive items, based on graph no. 8, are follows: Other services of road and transport, Other services, and Other costs - foreign labour.

Graf č. 8.1: Monitoring of items – Other services, Other costs - foreign labour, and Other services of road and transport in the period of 2008 – 2013 (CZK/m^3)



The item named as Other services reached the highest value up to 39, 8 CZK/m^3 in 2008, afterwards, it fell to about 37, 6 CZK/m^3 in 2009, in subsequent years, these costs remained at 0 CZK/m^3. The cost of the item named as Other Services - foreign laborers recorded the highest growth in 2009, and in subsequent years it decreased up to 0.4 CZK/m^3 (in 2011), then this cost was again slightly increasing. Costs of item named as Other road and transport services fell from 40.4 CZK/m^3 in 2008 to 18.4 CZK/m^3 in 2010. In 2011, there was a slight increase up to 21 CZK/m^3, but then this cost fell sharply on to 1.4 CZK/m^3 in 2013.

Since 2010, the resort has not been employing the foreign workers, which led to a reduction in the cost on the item named as Other services - foreign laborers. Reducing of this cost is further reflected in the account no. 521 Wages costs, and account no. 524 Mandatory social insurance. The item so called Other services of foreign laborers can be reduced by increasing the productivity of the work of laborers, such as the acceleration of the slowest laborers, or limiting the employment of these laborers at the expense of resorts own laborers. The item named as Other services is very diverse, it includes services related to waste disposal, services of other external security guards and others. Such costs were from 2010 not intensively used, so this entry will not be further taken into consideration. The item named as Other services of road and transport is declining because the resort uses less services of foreign shippers, and transportation is provided mainly by their own vehicles. Consequently, the cost does not occur to be increased of internal auxiliary operations. The item named as Other road and transport services is a cost that can also be reduced by shifting of own resources, thereby, especially by using and reduction of depreciation on unit of performance, can significantly reduce the costs of items.

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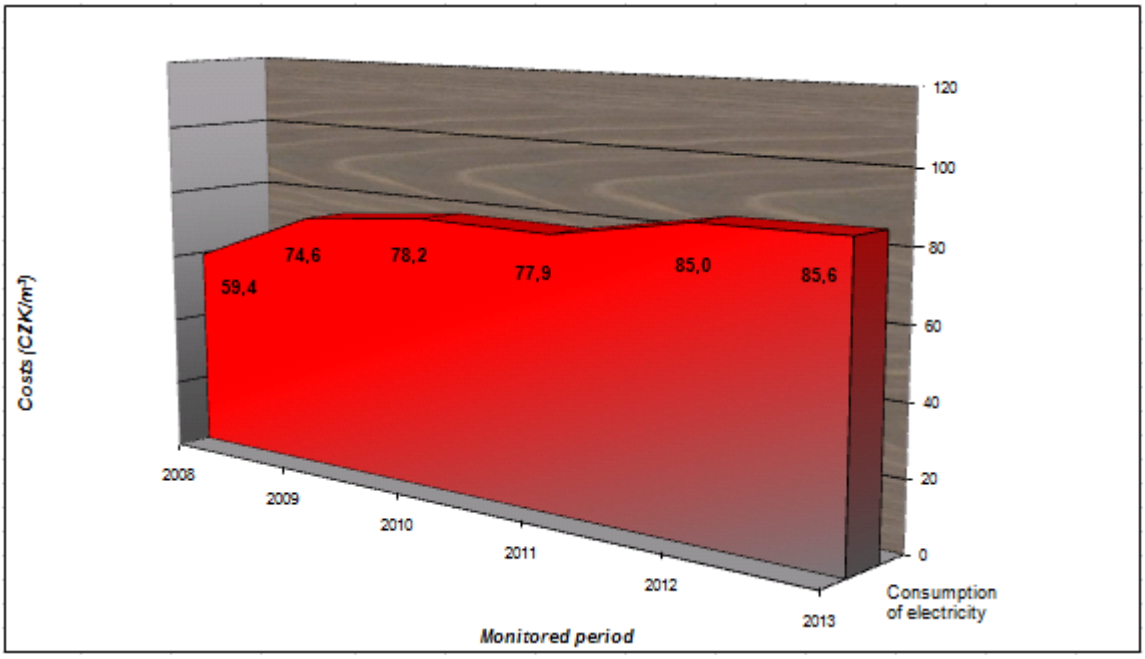
Sub- account no. 502 Consumption of electricity belongs to account group no. 50 (Consumed purchases) OPERATING COSTS This account includes consumption of electricity, water and gas:

Rising market prices of electricity are leading to increasing the costs of its acquisition. However, the Czech market provides the ability to use several distributors who can provide some financial benefits.

One of the more favorable indicators is that the resort draws water from its own resources, the costs of acquisition and disposal of wastewater are therefore minimal.

Another positive factor is that the boiler for sawdust that processes wood waste, is used as a server of a heating source, so the resort can save money for electric heaters, or other media (gas, diesel, etc.).

Graph no. 9: Development of costs on account no. 502 CONSUMPTION OF ELECTRICITY in each monitored period (CZK/m^3)



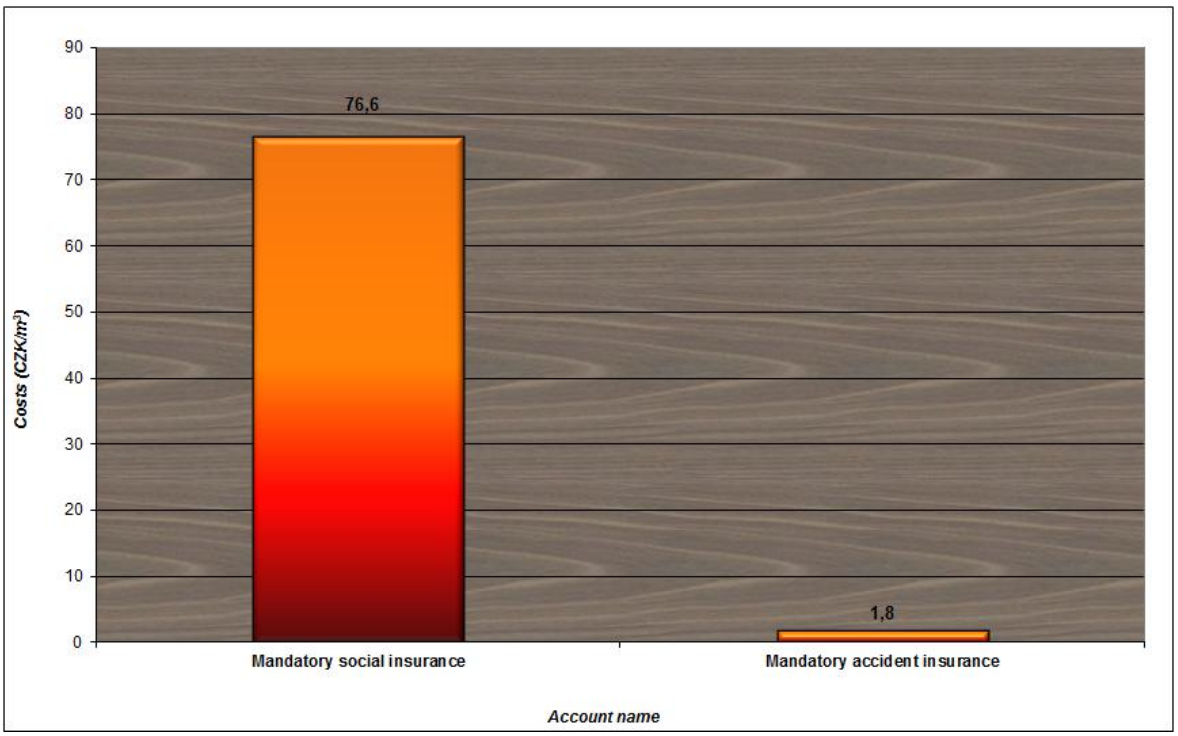
Costs of the item named as Consumption of electricity, as is shown in graph no. 9, increased in each year of monitored period. One of the possible reasons for increasing the cost of electricity is given by so called crossing of shifts, wherein the machines are turning on and off - this process consumes large amounts of electricity. The company, in recent years, worked in two shifts and machines were between two alternating shifts switching off and on, while nowayday, the resort works for only one shift, which may mean reducing the costs, however due to increasing the market price for electrical energy, icreasing of this cost still occurs. The resort of timber production, could reduce the cost of acquiring, for example, by negotiating favorable tariffs with distributors. In graph no 9 is already taken into account the volume of production in each year: in 2008, there were 45,095 m^3 sawn, in 2009, was cut 34,303 m^3, in 2010, the cutting amount was 32,035 m^3, in 2011, there was sawn 34861 m^3, in 2012, there was cut 25,310 m^3, and in 2013, it was about 24,191 m^3 of the total cut. According to above mentioned we can estimate that the transition of the shifts

should be implemented fully while operating, respectively without interrupting the production.

Account no. 524 Manadatory social insurance belongs to accounting group of no. 52 (Personal expenses) OPERATING COSTS; in timber production resort, there are included follows items:

- Mandatory social insurance
- Mandatory accident insurance

Graph no. 10: Development of costs on the account no. 524 MANDATORY SOCIAL INSURANCE in the period 2008 – 2013 (CZK/m^3)



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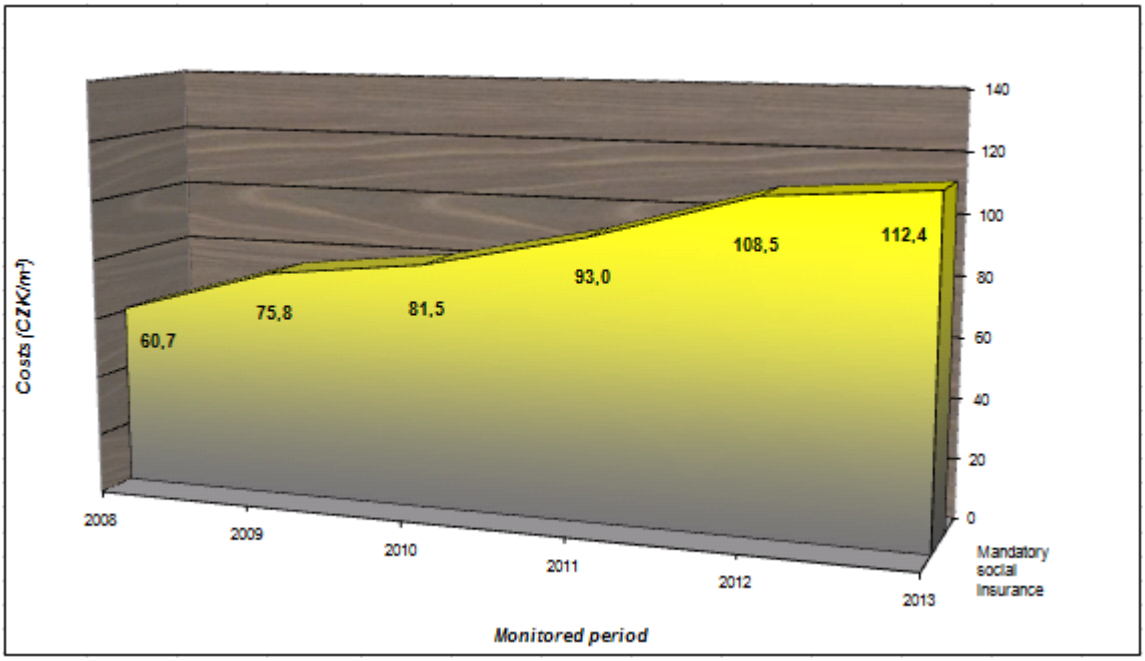
Graph no. 10 contains only two factors, where the item named as Mandatory social insurance predominating with the substantial difference the item named as Mandatory accident insurance.

Graf č. 10.1: Monitoring of the item – Mandatory social insurance in the period 2008 – 2013 (CZK/m^3)



The item named as Mandatory social insurance is constantly increasing, in the period of 2008 – 2013, its costs increased from 60.7 per m^3 (in 2008), to 112.4 per m^3 (in 2013).

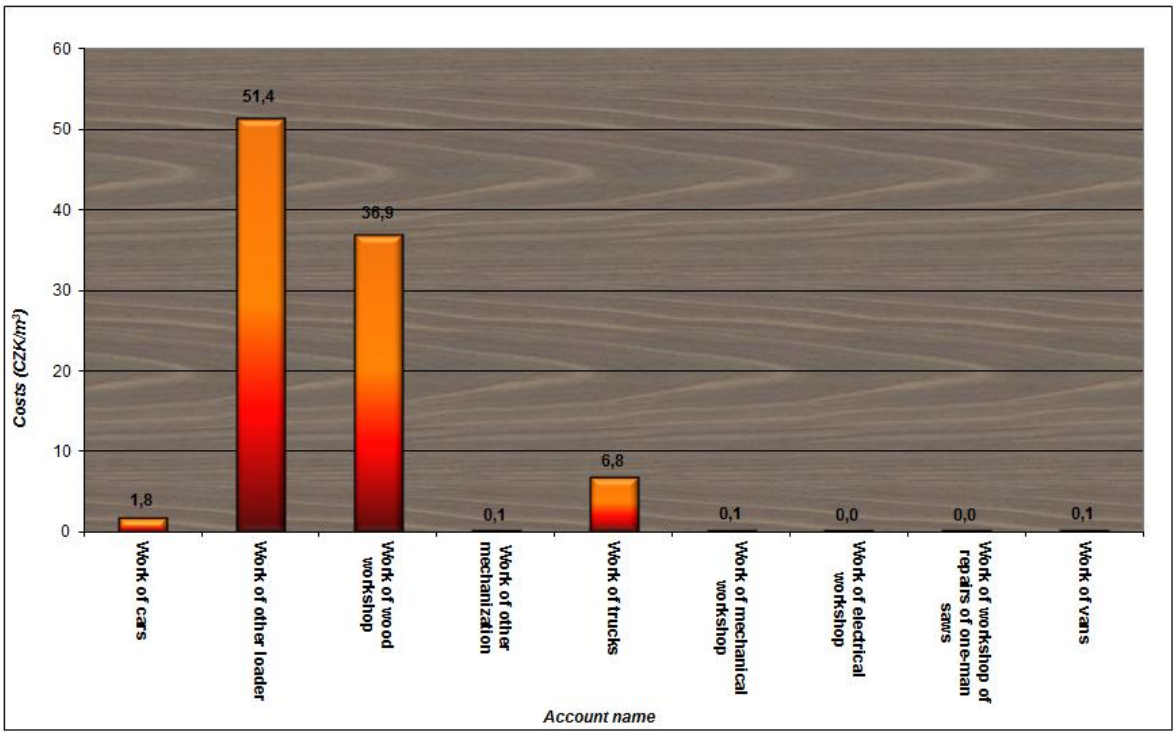
Social insurance is an inevitable part of the account no. 521 Wages costs. The rate of Social insurance item may be reduced only by reducing the Wagers costs. Reduction the Wages costs can be done by better work productivity of employees. One possible way is so that the company allocates more work on their permanent employees instead of receiving the new workforce. This would also avoid additional labor costs and also the mandatory social insurance for new employees. The better work production means, for example, acceleration of machines for workers of assembly-line production, entering more tasks for other workers, or choose a progressive increase in reward based on higher performance of workers, etc.

Account no. 599 Transfer of internal costs belongS to accounting group no. 59 (Taxes on income and transfer accounts) EXTRAORDINARY EXPENSES; in timber production resort, there follows items:

- Work of cars
- Work of other loaders

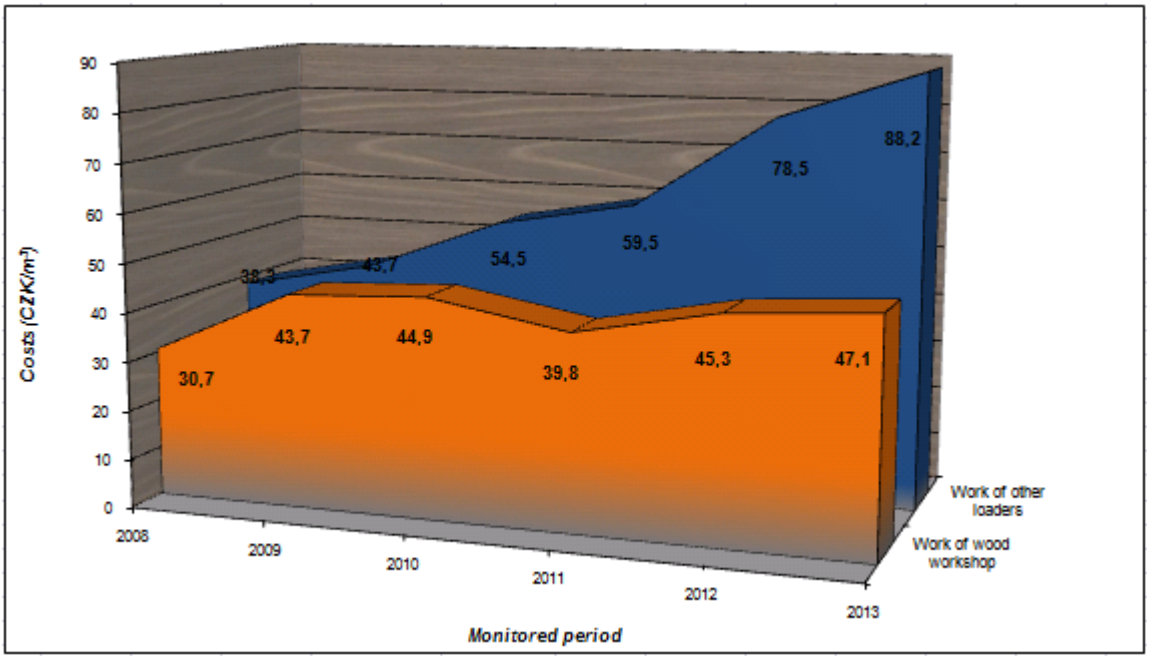
- Work of wood workshop
- Work of other mechanisms
- Work of trucks
- Work of mechanization workshop
- Work of electricity workshop
- Work of workshop for repairs of OMS
- Work of vehicles

Graph no. 11: Development of costs on the account no. 599 TRANSFER OF INTERNAL COSTS in period of 2008 – 2013 (CZK/m^3)



Items named as Work of other loaders and Work of wood workshop represent two the highest costs of this account.

Graph no. 11.1: Monitoring of items – Work of wood workshop and Work of other loaders in the period of 2008 – 2013 (CZK/m^3)



Item named as Work of wood workshop reached in 2008 the lowest value recorded for the entire period which was the 30.7 CZK/m^3, in 2011, it decreased to less than 40 CZK/m^3, since that time, no more reduction of this cost was monitored. The other item named as Work of other loaders rose from 38.3 CZK/m^3 in 2008 to 88.2 CZK/m^3 in 2013.

The item Work of wood workshop - can be affected by investment in new machinery and also by regular inspections of repaired machines in order to avoid another defects. Costs of the item Work of other loaders could be decreased, for example, by adding the more weight onto the loaders, also by better synchronization of the fieldwork, during which they would consume less energy, there is alo possible to reduce the costs by reducing accounting depreciation in terms of increasing the shift of individual funds.

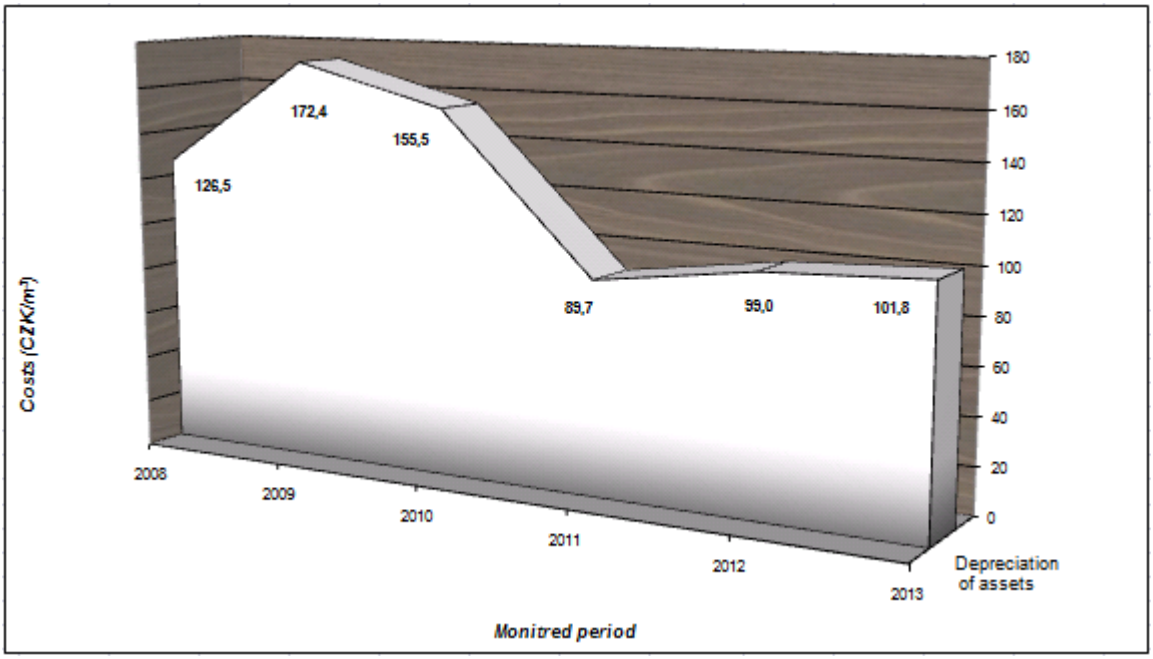
We can not say that there is a direct correlation between the consumption of spare parts and repairs and maintenance on the account no. 518 Other services, just for such reason,as for example, services are often provided by foreign entities that are not related with own operation of the wood workshop.

Account no. 551 Depreciation of fixed assets belongs under accounting group no. 55 (Depreciation, provisions and adjustments of operating costs) OPERATING COSTS; this item is the second highest cost in the timber production resort.

This account shows the amount of wear of fixed assets in cash and has a direct influence on the purchase of new machines, as these costs are calculated from the input of investment asset (IA). Its depreciation shall be carried by the maximal sum of entry price.

This item can be reduced by creating the new work time as it was in past - in two or more shifts. Increasing the productivity of workers at two, respectively three work shifts, would require to use the machines for longer periods (per unit of time, e.g. a day), by this fact, they would cut the larger quantity of logs (in cubic meters). Machines would wear out faster physically, but more slowly in terms of accounting. At the time of their depreciation there would be taken into account the ratio of the volume of chopped logs (per a certain period) to the value of the machine. Higher amounts of chopped logs (in m^3) per certain period represents lower depreciation costs of the current machine. The company would then buy new modern machines.

Graph no. 12: Development of costs on the account no. 551 DEPRECIATION OF FIXED ASSETSD in each year (CZK/m^3)



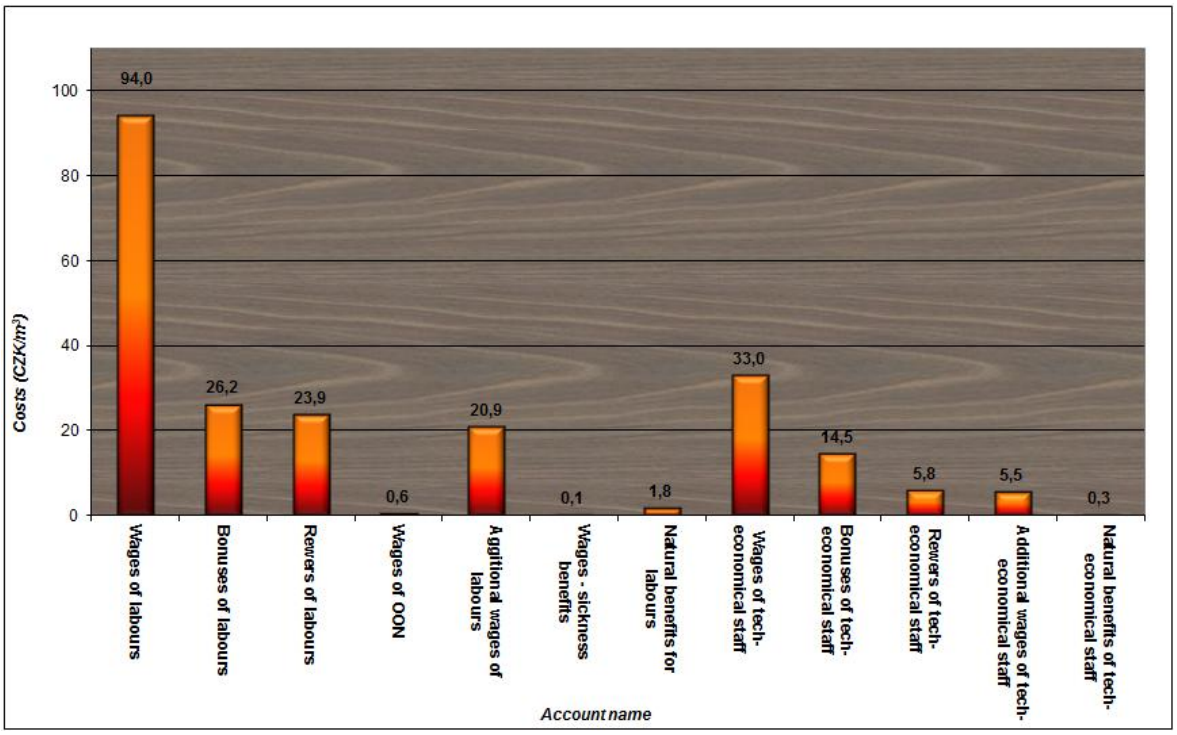
Graph no. 12 observes that the cost of this account has since 2009 declined. In 2011, the cost of depreciation of fixed assets is even significantly lower than in previous years. The decrease was recorded up to 89.7 CZK/m^3 in this year.

The reason for the low cost is that the the company has not invested into new assets during recent years. Investment in fixed assets would reduce costs, such as account no. 501 Consumption of material, 502 Consumption of energy, 511 Repairs and maintenance, but investment would increase the cost of the item 551 Depreciation of fixed assets. The company could further invest, since it is one of the possibilities of cost savings. In case the company invests, it must take into account the increase in the item of Depreciation of fixed assets. For more detailed overview a more detailed calculation is required, based on which can be decide on investments.

Account no. 521 Wages costs belongs to accounting group no. 52 (Personal costs) OPERATING COSTS; among wages costs for resort of timber production are include follows items:

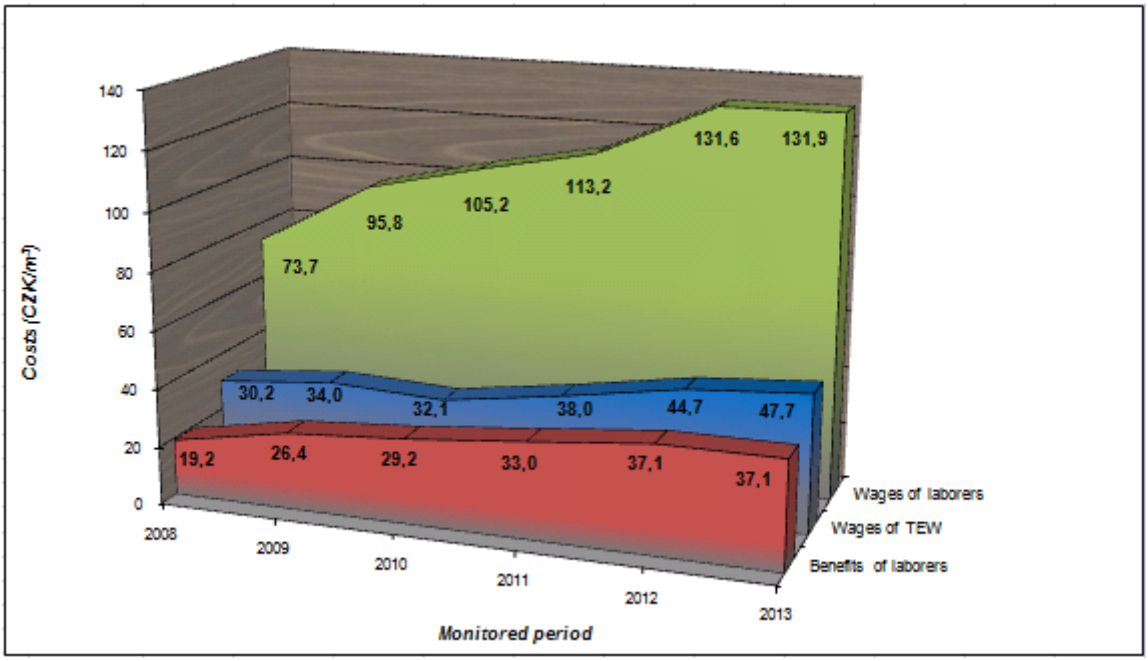
- Wages of laborers
- Bonuses of laborers
- Rewards of laborers
- Wages of OON
- Wages of additional laborers
- Wages - sickness benefits of laborers
- Natural benefits of laborers
- Wages of TEW
- Bonuses of TEW
- Rewards of TEW
- Wages of additional TEW
- Natural benefits of TEW

Graph no. 13: Development of costs on the account no. 521 WAGES COSTS in the period of 2008 – 2013 (CZK/m^3)



Account no. 521 Wages costs represents an item with the highest cost of timber production resort (except the account no. 613 Change of product state). The graph indicates that the highest items are Wages of laborers, Wages of technical and economic workers (TEW), Bonuses of laborers, Wages of additional laborers, Rewards of laborers, Bonuses of TEW.

Graph no. 13.1: Monitoring of items – Bonuses of laborers, Wages of TEW, and Wages of laborers in the period of 2008 – 2013 (CZK/m^3)



The item named as Bonuses of laborers had slightly increased during the reporting period, its costs in 2013 amounted to 37.1 CZK/m^3. The item named as Wages of TEW is islightly increasing, in 2013 is amount represents the number of 47.7 CZK/m^3. The cost of the item Wages of laborers is still increasing, the pitch was particularly strong in 2008, when wages amounted to 73.7 CZK/m^3, and in 2012, when this item amounted to 131.6 CZK/m^3.

The total volume of wages is primarily dependent on the amount of chopped material. Due to the low sales in the Czech Republic, the total volume of wages can not be increased progressively. The cost of the items named as Bonuses TEW, Rewards of laborers, and Bonuses of laborers can be reduced, however, their reduction would decrease the motivation of laborers and Workers of TEW, and could adversely affect the operation of the resort, as these components are financially motivating resources of the staff. Items Wages of additional laborers (paid vocation) Wages of TEW laborers and Wages of laborers are related to the account no. 524 Mandatory social insurance. These items of wages could be influenced by the fact that the company could increase the productivity of work of its permanent employees (such as acceleration of the slowest workers) instead of providing jobs to new workers. In this case workers might have more responsibility and

they would have to work harder, but the company would reduce its wage costs and also the automatically costs on the account no. 524 Mandatory social insurance per each newly adopted worker, which is the fourth highest cost item for timber prduction resorts.

Account no. 613 Change of product state belongs to revenues account no. 61 (Change in inventories) OPERATING REVENUES; among this cost revenue of timber production resort are included following items:

- Change of timber state “DS”
- Change of sowed timber state

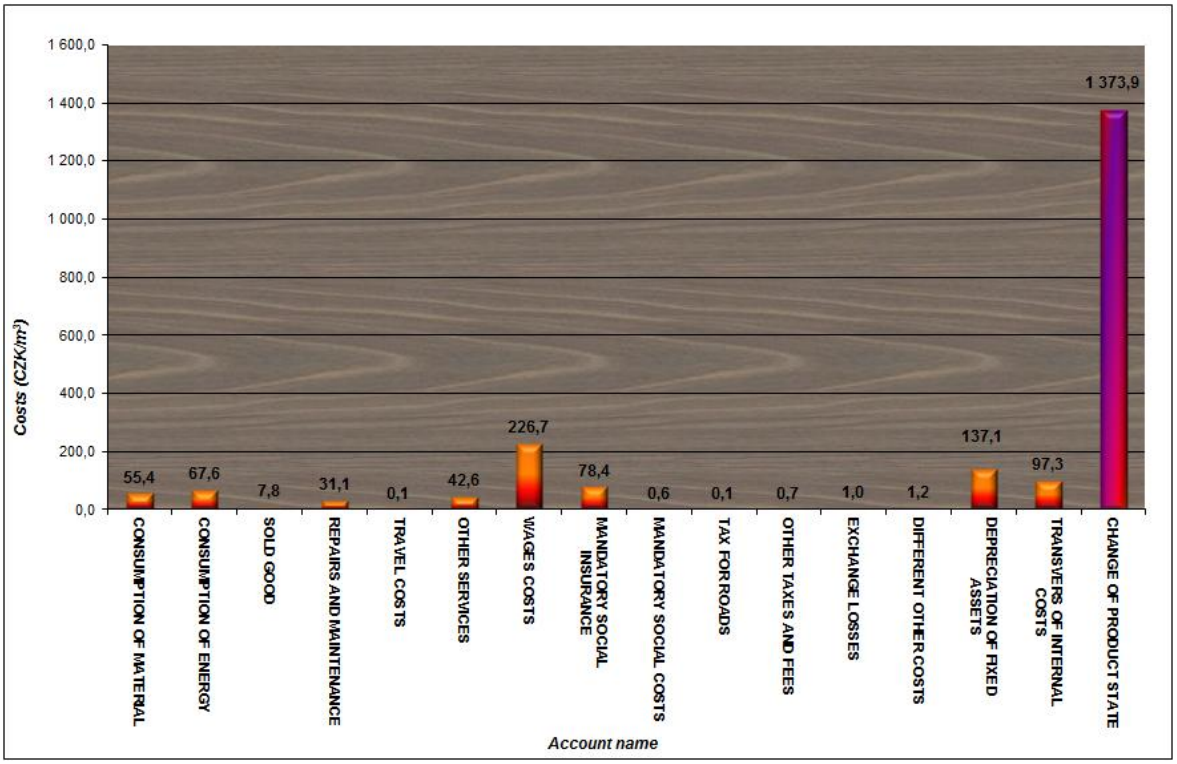
This revenues account does actually not constitute the revenue item, but the cost item, that is according the new directive of costs calculated as minus revenue. This means the use of raw wood for own consumption.

Such economic operations are recorded in asset accounts - goods and production in progress, while the revenue accounts - change in products state and changes of unfinished production.

These income accounts affect the total operating income of the company. The balance can be positive or negative.

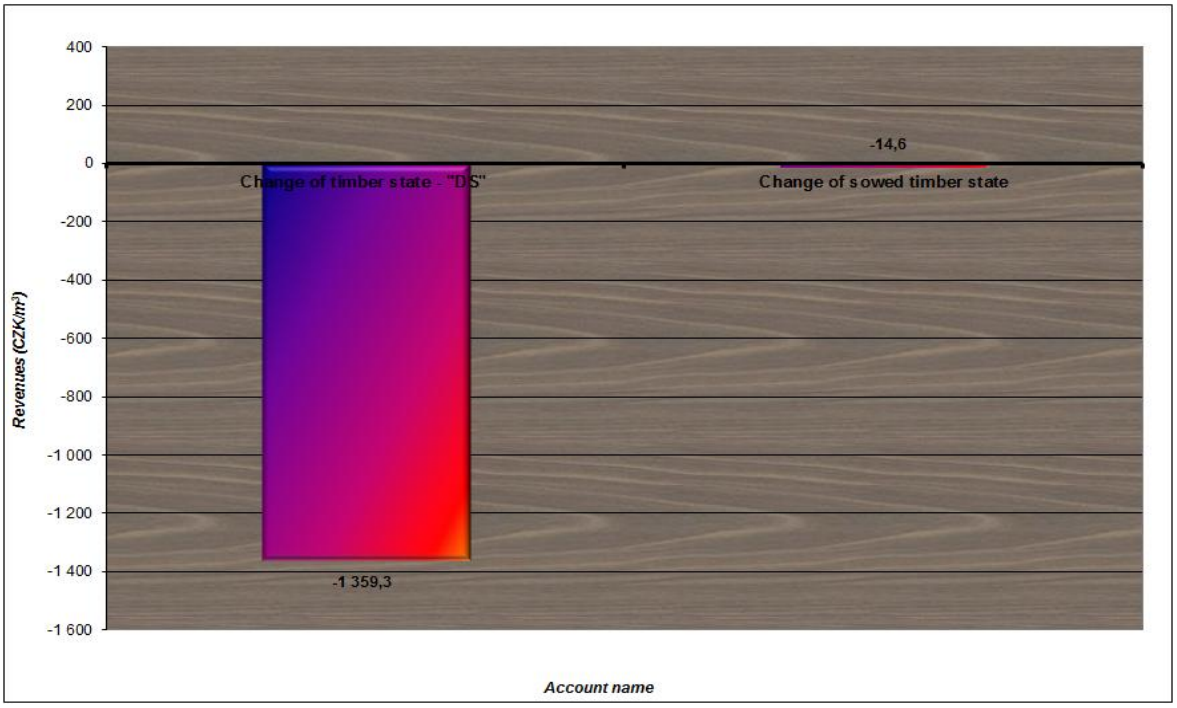
Results of operating activities of the enterprise are internal revenues represent the sum of the performance of individual business segments that were created in the period and for predetermined award due to its own costs incurred to achieve them. Internal revenues are also internal work and services that are among internal company departments.

Graph no. 4: Comparison of costs (including the plus item named as Change in product state) according accounting types for period 2008 – 2013 (CZK /m^3)



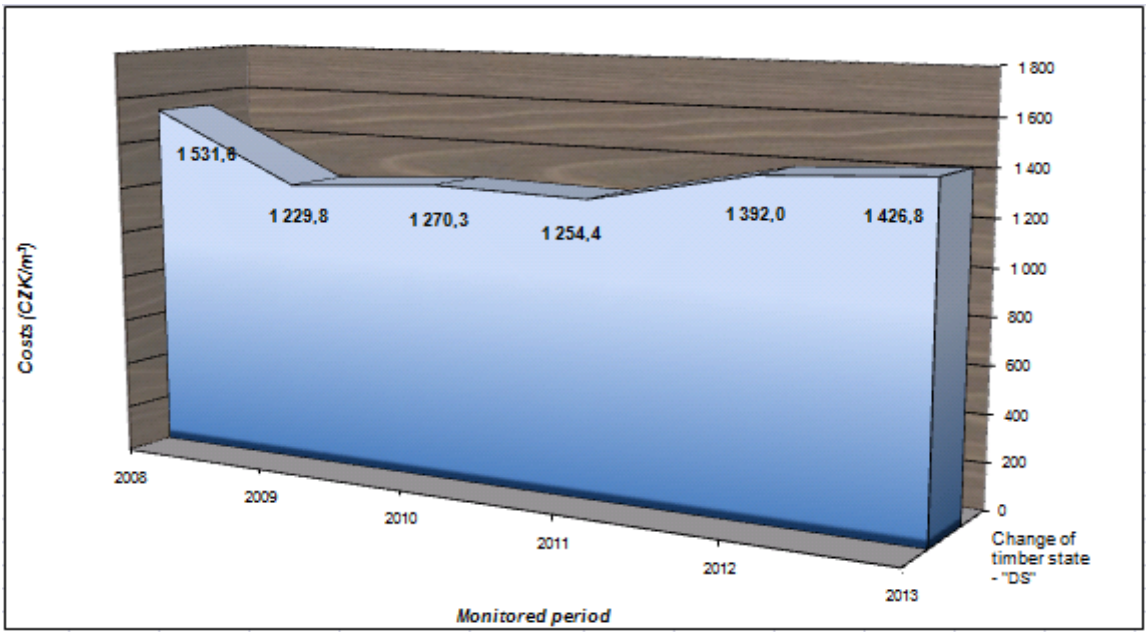
Graph no. 4 illustrates all business expenses, including the cost revenue no. 613 Change of products state, which is the highest cost of the enterprise.

Graph no. 14: Development of cost revenues on the account no. 613 CHANGE OF PRODUCT STATE in the period of 2008 – 2013 (CZK/m^3)



Graph no. 14 indicates two items of account no. 613, where the item named as Change of timber state - "DS" form a significant part of the costs above the item named as Change of sawed timber state.

Graph no. 14.1: Development of Change of timber state - "DS" in the period of 2008 – 2013 (CZK/m^3)



The item named as Change of timber state - "DS", as is evident from graph no. 14.1, was most expensive in 2008, when it amounted to 1,531.6 CZK/m^3. During the monitored period it varied around 1,225 CZK/m^3, and in 2012, this cost significantly increased, in 2013 its value rised up to 1,426.8 CZK/ m^3.

The entry price of wood is the input for production of wood and consequently affects future sales. Higher cost of item named as Change of timber state - "DS" in 2008 was caused largely by hurricane Kyrill, which destroyed huge amount of forests in the Czech republich in January 2007. As prices for a cubic meter of raw wood increased its interest on the market, as well as increased its production, the timber resort consumed in 2008 more wood spent on production, but in other years, the interest of customers declined.

In the resort of timber production, there are two separate managements - handling storage and handling sawmill. The sawmill is buying row wood from the handling storage for the average activation cost 1427 CZK/m^3, which is incomparable with the market price, because the purchase of raw wood on the market would for the company mean much higher costs of entry - about 2,200 CZK/m^3. Lower input prices are showing lower products prices, but for the enterprise it mainly means staying on the market, as the most common reasons for the failure of middle saws in the Czech republich represent just too high a cost of the entry price of wood.

Cost reduction could be theoretically solved by the purchase of raw wood at a cheaper supplier, however from a practical point of view and the overall system in the company it is not very realistic.

6.2. Analysis of profitability

Revenues are monetised and represent the results obtained from all activities in a certain period (e.g., month, year), regardless of whether it has been paid for this income or not.

The recognition of these revenues occurs while destocking of goods or services. Revenues differ from cash receipts, which result in an increase in cash sources of the company, such as the adoption of the loan (crediting of funds to a bank account),

The main revenues of productive company are receipts derived from sales of products, goods and provided services, of the business enterprise, respectively trading range, which is the difference between the sale and the purchase price (Synek et al., 1995).

Sales are a crucial source of finance for the company, which is used for follows:

a. to cover costs and ensure the simple reproduction of production factors,
b. to pay taxes, expanding of reproduction of production factors and other business needs.

Keeping the continuous growth of sales is one of the crucial goals of economic enterprises in the market economy. Revenues are considered to be the basic business objective. Most of the sales are recognized on a gross sales and net sales.

Gross sales represent the total of the invoices that were issued during the reporting period. Net revenues are also used to determine the ratio of different indicators (eg of productivity = net income / total equity, return = net sales / profit).

Development of sales enterprise may affect the range of realized product, implemented prices and the physical quantities of sold products. While shipping abroad sales are affected by development of exchange rate (revaluation is reducing sales, devaluation increases sales), (Bartunek, 1994).

6.2.1. Recognition of revenues

Revenues are recorded in the accounting class no. 6

Needs of for double entry accounting are classified as follows:

a. **Operational** - related to ordinary activities

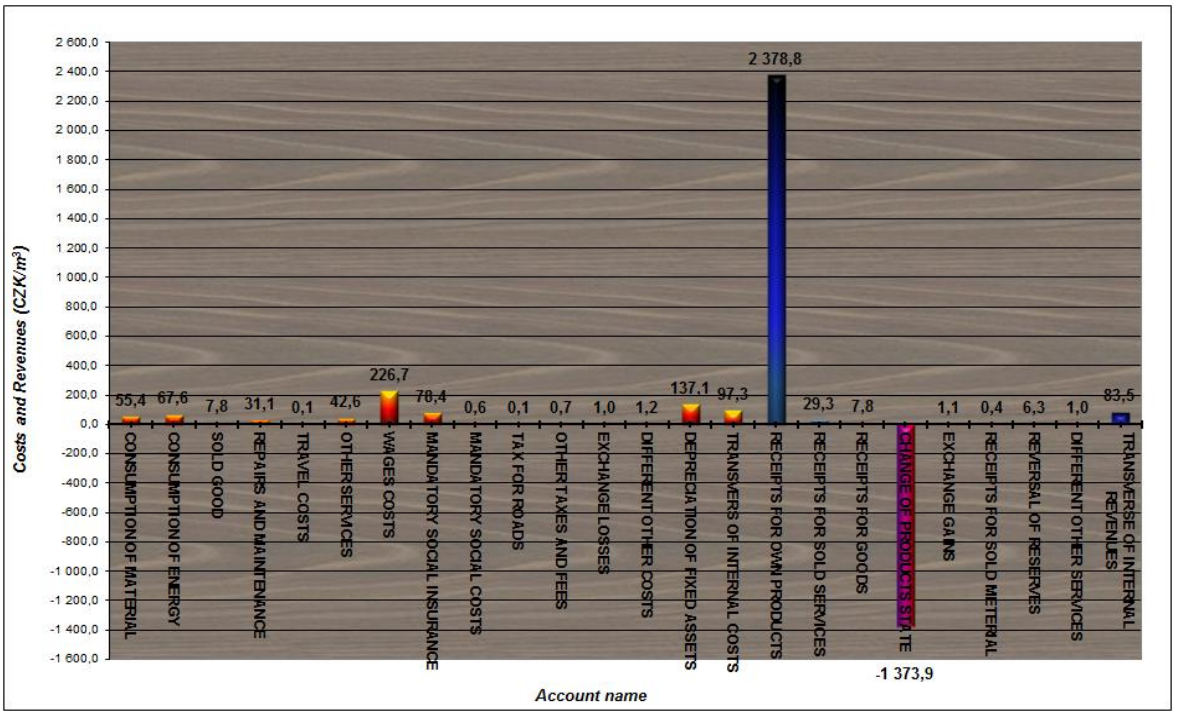
b. **Financial** - resulting from financial operations in the financial market (eg, income from securities, revenues from their sales, received interest, etc.)
c. **Extraordinary** - arose unexpectedly and suddenly (compensation for shortages and losses, payment of loans, etc.)

Table no. 5: Revenues are divided into groups:

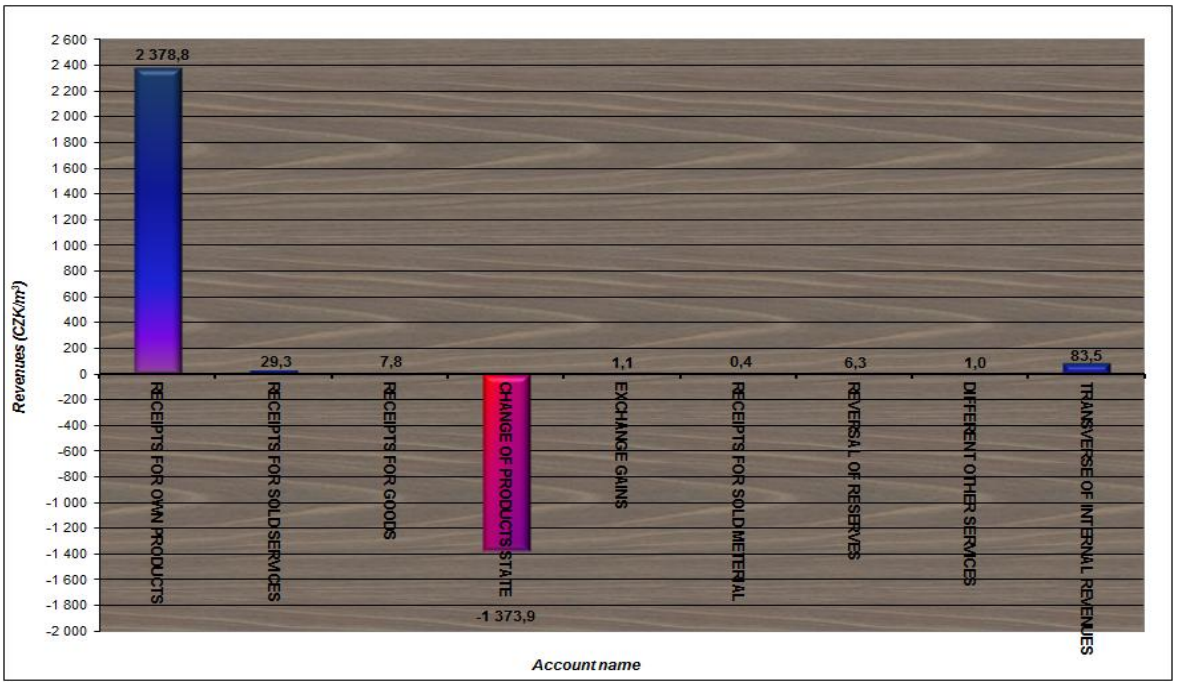
60 - Revenues from own operations and goods 61 - Changes of internal services 62 - Activation 64 - Other operating revenues 65 - Provisions and adjustments to operating revenues 697 - Transfer of operating revenues	Operating revenues
66 - Financial revenues 67 - Provisions and adjustments to financial revenues 698 - Transfer of financial revenues	Financial revenues
68 - Extraordinary revenues	Extraordinary

For CULS Forest Enterprise, respectively the forest production resorts, as mentioned in chapter 6.1.1. Recognition of expenses and change of product state, was compiled the graph no. 1 that illustrates the highest average costs and revenues of one cubic meter according types of accounting for the monitored period of 2008 - 2013.

Graph no. 1: Monitoring of costs (including the minus item named as Change in product state) and revenues of timber production resort by accounting types for period 2008 – 2013 (CZK/m^3)



Graph no. 15: Comparison of revenues (including the minus item named as Change in product state) of the timber production resort according accounting types for the period 2008 – 2013 (CZK/m^3)



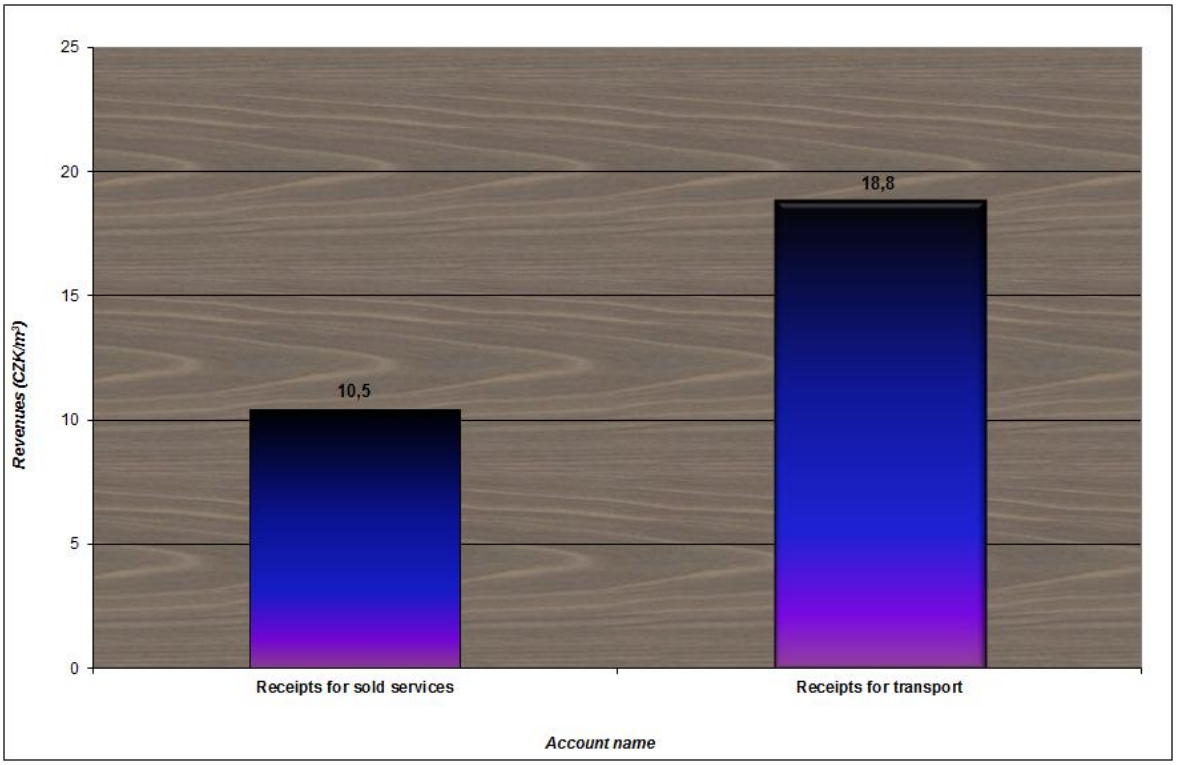
Accounts that have the highest average revenues per one cubic meter in the monitored resort are: account no. 601 Receipts for own products, account no. 699 Transfer of internal revenues, and account no. 602 Receipts of services.

Other items reach negligible income, therefore we do not take them in consideration.

Accoun no. 602 Receipts for services belongs to accounting group no. 60 (Revenues from own operations and goods) OPERATING REVENUES; in resort of timber production, there are included follow items:

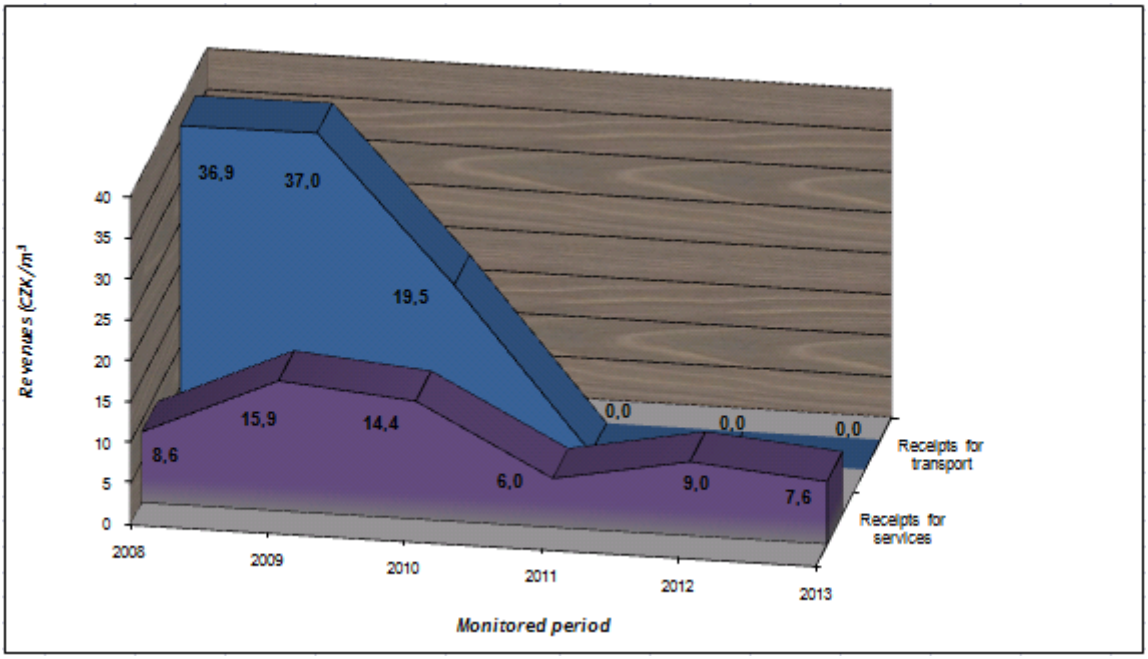
- Receipts for sold products
- Receipts for transport

Graph no. 16: Development of revenues on the account no. 602 RECEIPTS FOR SERVICES in the period 2008 – 2013 (CZK/m^3)



Graph no. 14 shows two items that constitute revenues of account no. 602, Revenues from services and the item with higher revenues named as Revenues from transportation.

Graph no. 16.1: Monitoring items – Receipts from services and Receipts from transportation in the period of 2008 – 2013 (CZK/m^3)



The item named as Revenues for services had the highest revenue in 2009 its revenue was almost 16 CZK/m^3, in 2011, the company had received only 6 CZK/m^3. Since 2011, sales of services have stabilized at the same level. For the item named as Revenues for transport, there was occurred a radical fall to 0 CZK/m^3, and since then, the revenue keeps on zero, while this revenues in 2009 amounted to 37 CZK/m^3.

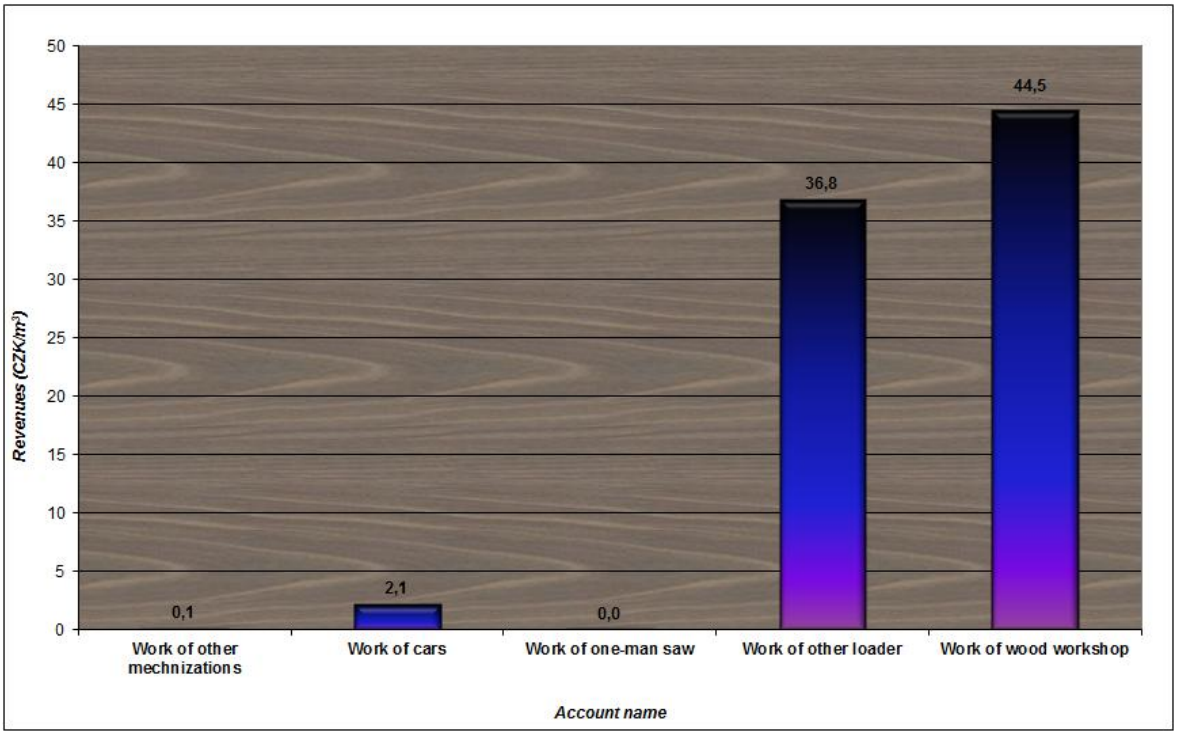
Due to the culminating of global financial crisis there is still a lack of demand for the products of for timber prduction resort. The item named as Receipts of services registered a negligible sales for the year 2011. This item is diverse and depends on supply and demand of these services. Revenues from the sale of timber prduction services of the resorts could be increased by their species and specialized extensions. The item named as Revenues for transport accounts for a significant part of the revenues because the company offers a paid service for timber transport. Reasoning about service price increase is debatable, since any decrease in interest of customers about products may have an adverse effect not only on account no. 601 Receipts for own products, but also other income accounts. The item Receipts for fortransport, among others, include additional services beyond the sale of own products, and such as: manufacture of small joinery, grinding of saw blades, etc. The reason for remaining the item Receipts for transport to 0 CZK/m^3, for

the last three years is mainly for non futilization of services of foreign customers, as center uses its own vehicles.

Account no. 699 Transfer of income revenues belongs to accounting group of FINANCIAL REVENUES. This is a synthetic account of the account no. 599 Transfer of income costs; in timber production resort, there are included follows items:

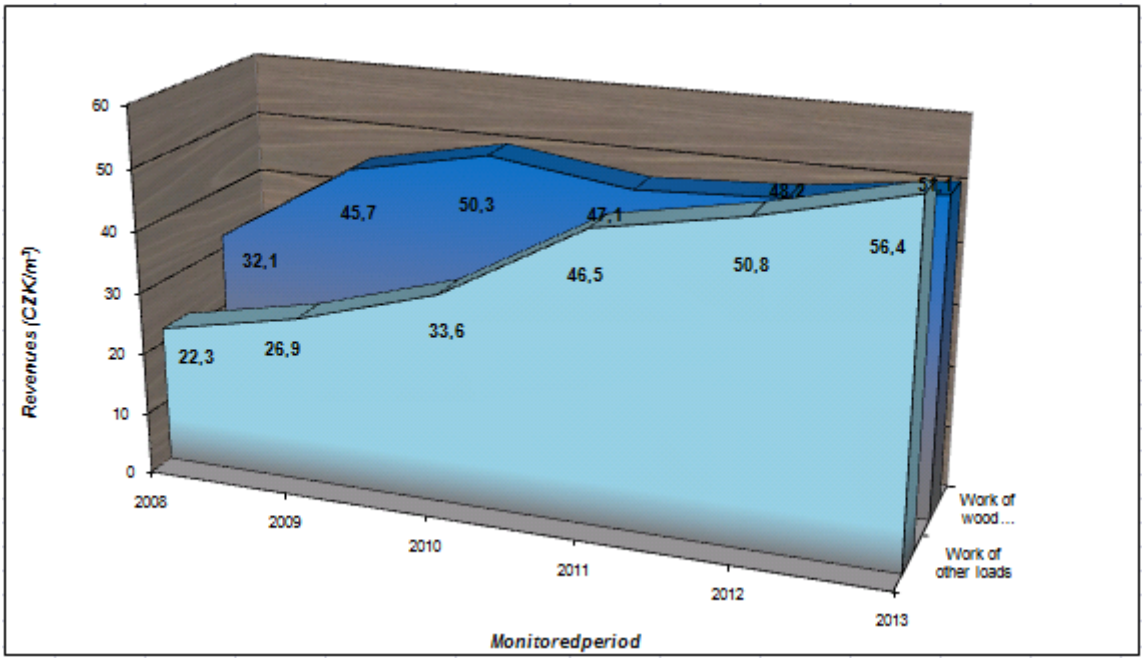
- Work of cars
- Work of OMS
- Work of other loaders
- Work of wood workshop

Graph no. 17: Development of revenues on the account no. 699 TRANSFER OF INTERNAL REVENUES in the period of 2008 – 2013 (CZK/m^3)



Two entries with the highest rates of return are the items Work of other loaders and Work of wood workshop. This is the reciprocal values of the costs, as auxiliary operations must be at the end of the certain period settled and their values are transmitted to the primary operations (evenly) in the cost and revenue section.

Graph no. 17.1: Monitoring of items - Work of other loaders and Work of wood workshop in the period of 2008 – 2013 (CZK/m^3)



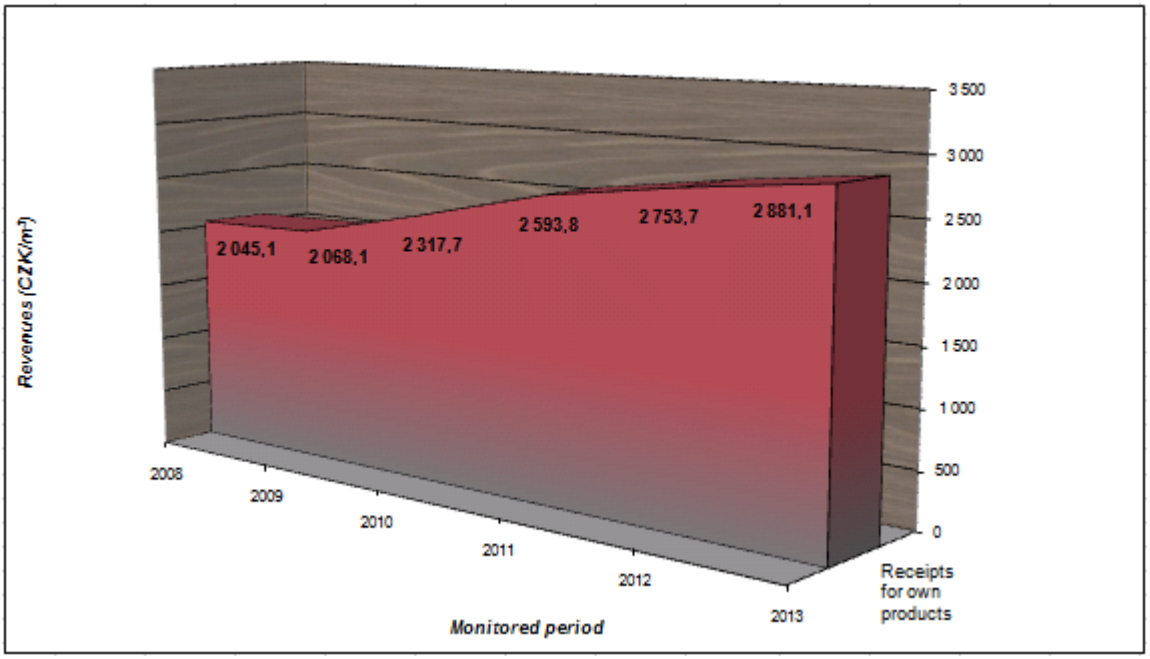
Work of other loaders, since 2008, when it amounted to 22.3 CZK/m^3, has increased to 64.4 m^3 (in 2013). The item Work of wood workshop is moving on similar values of about 45 CZK/m^3. In 2013, there was a slight decrease in the yield of 51.1 CZK/m^3.

Increased revenues (expenses) are caused primarily by increased repaira of loaders and replacement of their tires.

As the bill no 699 Transfer of internal revenues is synthetic with the account no 599 Transfer of internal costs, we can say that the cost reduction in the account no 599 leads to an increase in revenues to the account no 699. For both items Work of wood workshop and Work of other loaders revenues can be valued by the sum of operatoins of the workshops, or other loaders, at the expense of companys own costs incurred.

Account no. 601 Receipts for own products belongs to accounting group no. 60 (Revenues from own operations and goods) OPERATING REVENUES; sum of of these revenues in the timber production resort achieve follows values:

Graph no. 18: Development of revebue on the account no. 601 RECEIPTS FOR OWN PRODUCTS in each year (CZK/m^3)



The graph no. 18 shows the development of revenues for sales of products during the period of 2008 - 2013. Account no 601 Receipts for own products is the highest revenue of timber prduction resort, which represents the average amountof 2 278.8 CZK/m^3. The increase of profitability of the company depends on many factors, as are, for example, the performance of the business plan, market condition, natural conditions, company's strategy and especially on the price of wood mass for production.

Account no 613 Change of products state is a minus revenue, therefore is charged as an expense (see chapter no 6.1.1. Recognition of expenses and change of product state).

Items decreasing internal revenues represent the sum of the performance of individual sectors of activity that have been released from storage in the current period to implement a predetermined valuation.

Removal from storage its own inventory to sell for price of which was the inventory bought for is the first step of selling. After that has to follow a second step, that is accounting of revenues from sales in the sales price, i.e. external operating revenue, in terms of the external turnover of economic resources.

The first step of selling captures the sales, respectively decrease of internal revenues at price of their purchase (therefore it is called deduction internal revenue). The second step of selling at sales accounting captures the increase in external revenue on the slling price, ie receipts. Sales must be providing by accounting methods in two steps, because each return can be captured in accounting only once in terms of:

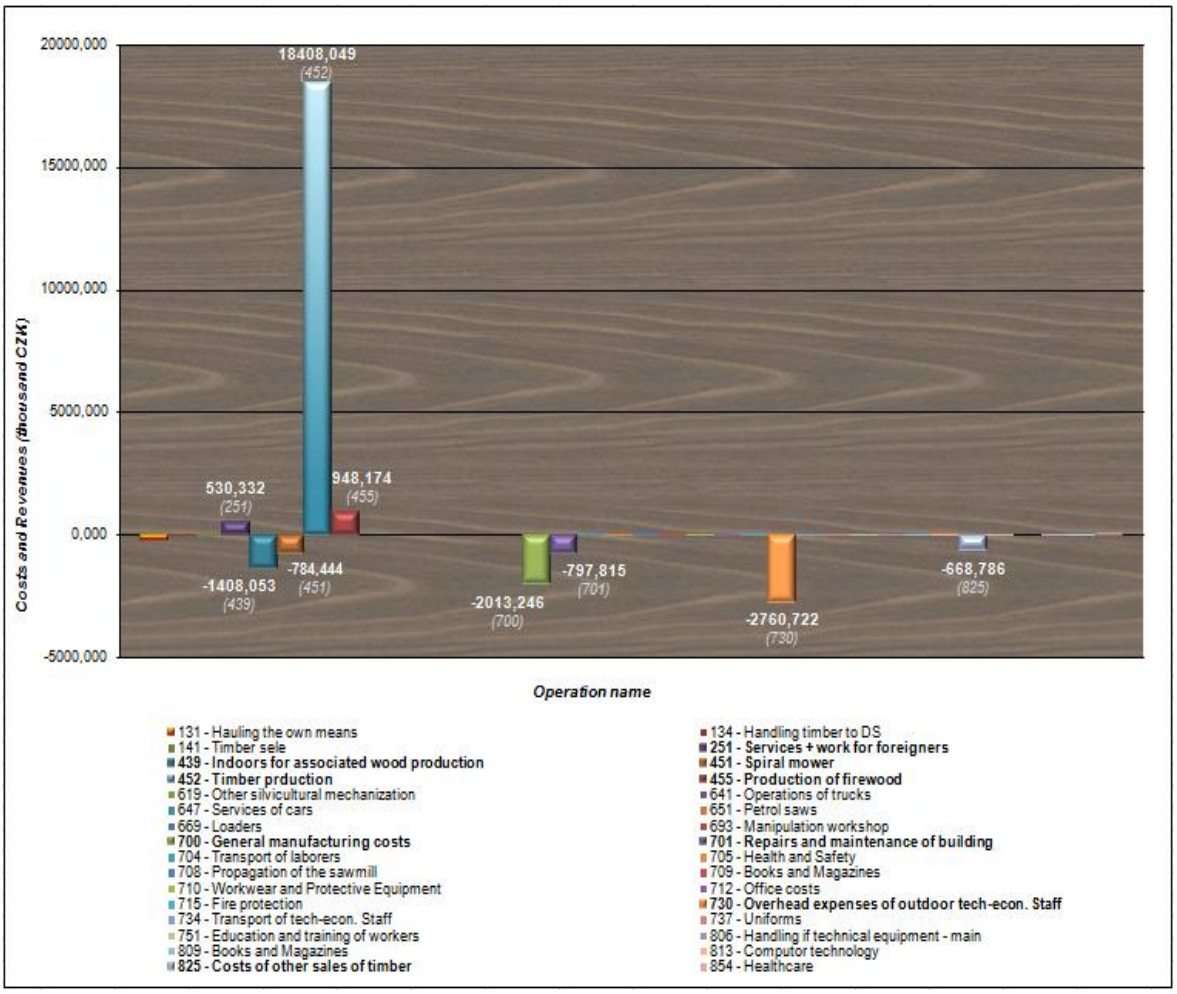
- As an internal revenue in the production
- As external revenue when selling

If the first step is omitted, the enterprise should registered the revenue in the books twice, first as internal income when creating the production and then as external revenue when salling the production (Landová 2009).

6.3. Costs and revenues according operations

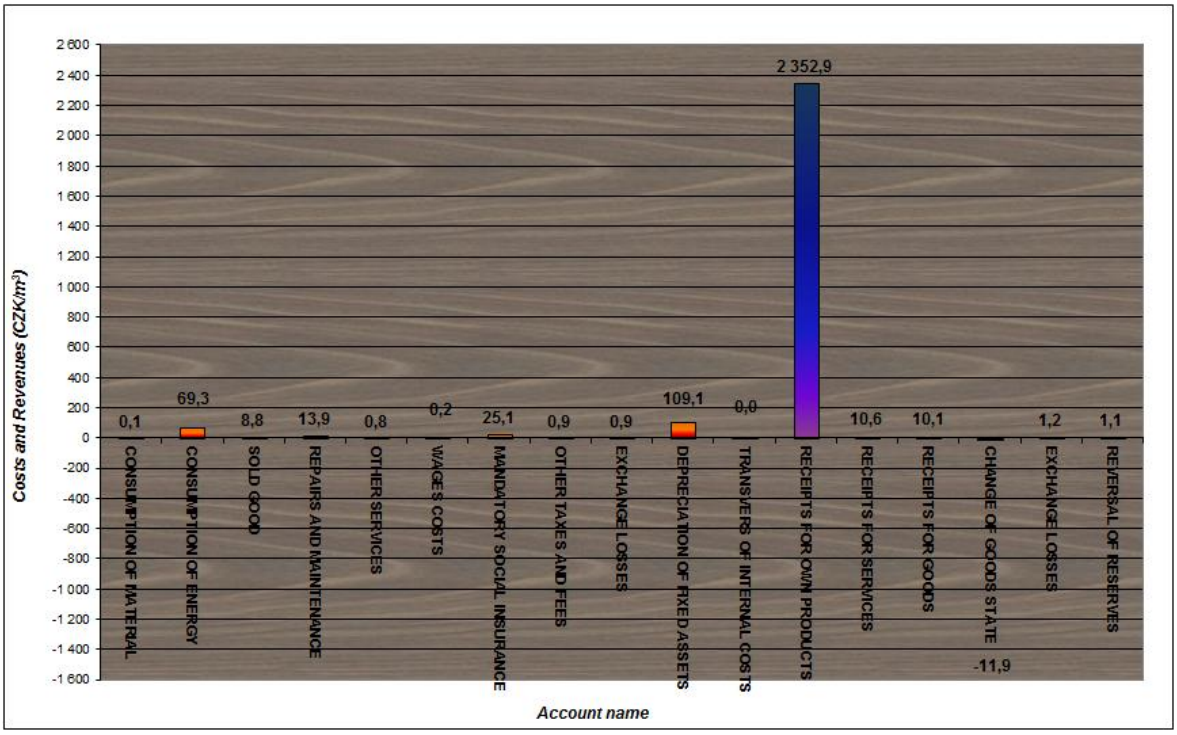
For the CULS Forest Enterprise and its resorts of timber production was built in graph no. 19, which illustrates the highest average costs and revenues of one cubic meter according to performance for the monitored period 2008 - 2013.

Graph no. 19: Comparison of average costs and revenues of timber production resort according their operations in the period 2008 – 2013 (thousand CZK)



This chart shows the performance of the items that the firm carry the highest costs and expenses during the reporting period. Greatly predominant item is the operation no. 452 Timber production, which is the main activity of the resort for the implementation of its production and subsequent sales of products.

Graph no. 20: Comparison of costs and revenues of timber production resort according the operation no. 452 TIMBER PRODUCTION in the period 2008 – 2013 (CZK/m^3)

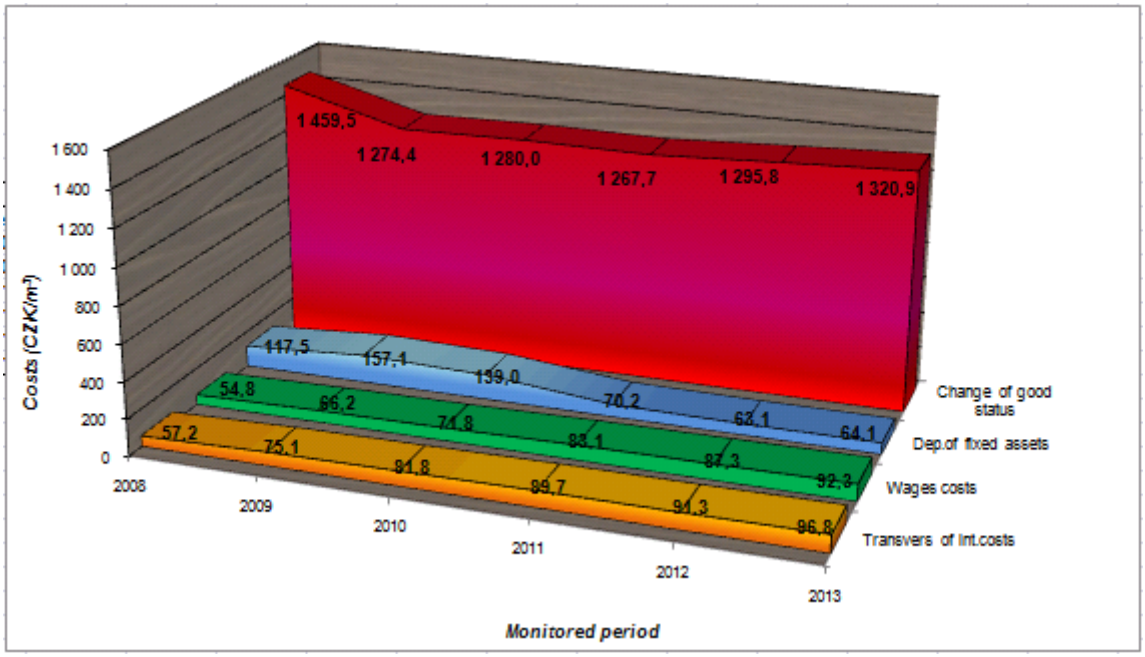


Operations which have the highest average cost per 1 m^3 in the reporting resort are follows operations: predominantly the (minus) operation no. 613 Changes of good state, afterwordas the operation no. 551 Depreciation of fixed assets, the operation no. 599 Transfer of internal costs, the operation no. 521 Wages costs, and lastly the operation no. 502 Consumption of energy.

The operation that achieves the highest average revenue per 1 m^3 in the reporting resort is the operation no. 601 Receipts for own products.

Monitoring the operation no. 452 is very important, because this item of the resort has a large influence on the results of the company.

Graoh no. 20.1: Monitoring of cost items – Change of good state, Depreciation of fixed assets, Transfer of internal costs and Wages costs in the period 2008 – 2013 (CZK/m^3)



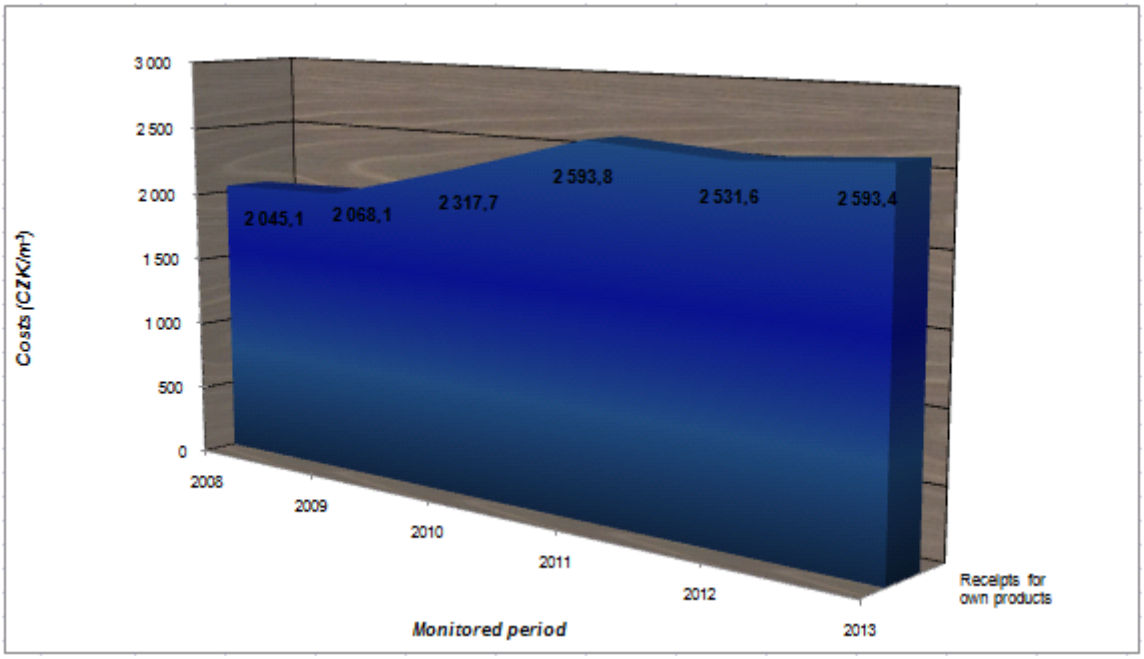
Items named as Transfer of internal costs and Wages costs represented an upward trend in the period 2008 - 2013, while the item named as Depreciation of fixed assets represented a downward trend in the same period. After the year 2008, prices of the timber input into the sawmill droped a lot (due to Kyrill wind calamity), after that those timber prices never reached the highest value which was in 2008 (1 459.5 CZK/m^3). Consequently, this item is holding on values around 1280 CZK/m^3.

The operation no. 452 Timber production is the main activity of the resort. Input prices for timber production decide about the level of future sales. The positive decline of input prices was recorded after the hurricane Kyrill, when the surplus of raw wood on the market was selling for below average prices.

Another item on this company is the operation no. 451 Spiral mower, which has been due to culminating financial crisis and its negative impact to interest of customers for more than 3 years out of service.

The timber resort should have an effort to keep the frame saw running as efficiently as possible, otherwise the frame saw would turn into losses and consequently stop working at all.

Graph no. 20.2: Monitoring of revenue item Receipts for own products in period 2008 – 2013 (CZK/m^3)



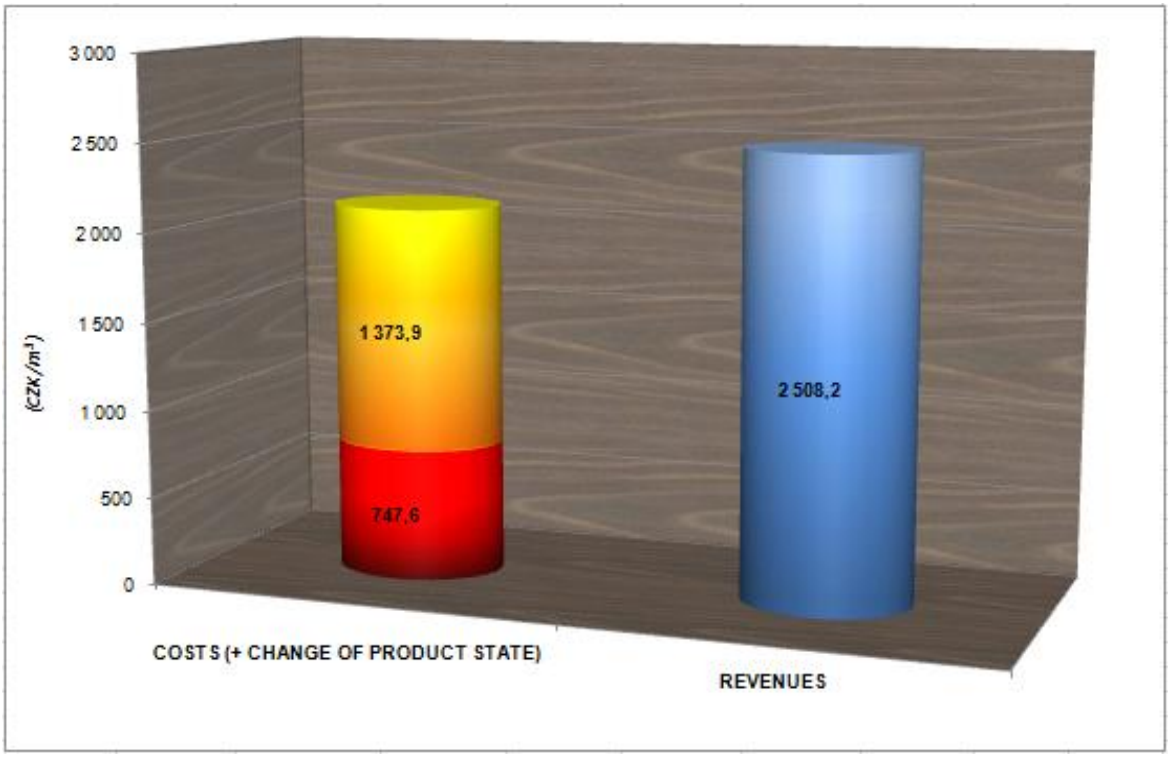
The operation no. 452 Timber production has the biggest claim on the revenue item named as Receipts for own products. The figure no. 20.2 is demonstrating the rising tendency of this revenue, especially from 2009. After stop working of Spiral saw all production was redirect to the frame saw and to the hall of AWP.

The item Receipts for own products mainly depends on the price of wood mass production. Resort of timber production is getting the wood from the conservation stock for the average activation price of 1254 CZK/m^3, which allows the realization of production and subsequent sales of the products more efficiently than buying wood from another supplier on the market for an average price of 2200 CZK/m^3.

6.4. Costs and revenues in total

Economic result of the timber production resort was calculated on the basis of the model example for CULS Forest Enterprise In Kostelec nad Černými lesy. Calculations illustrate the average of all costs including Changes of product state and average of the total revenue. The result was for better comparison displayed graphically (see the figure 21). There is also inquired the development of costs and revenues for each individual yeara nd their results were shown in graphic design as well as the previous example (see the figure 21.1).

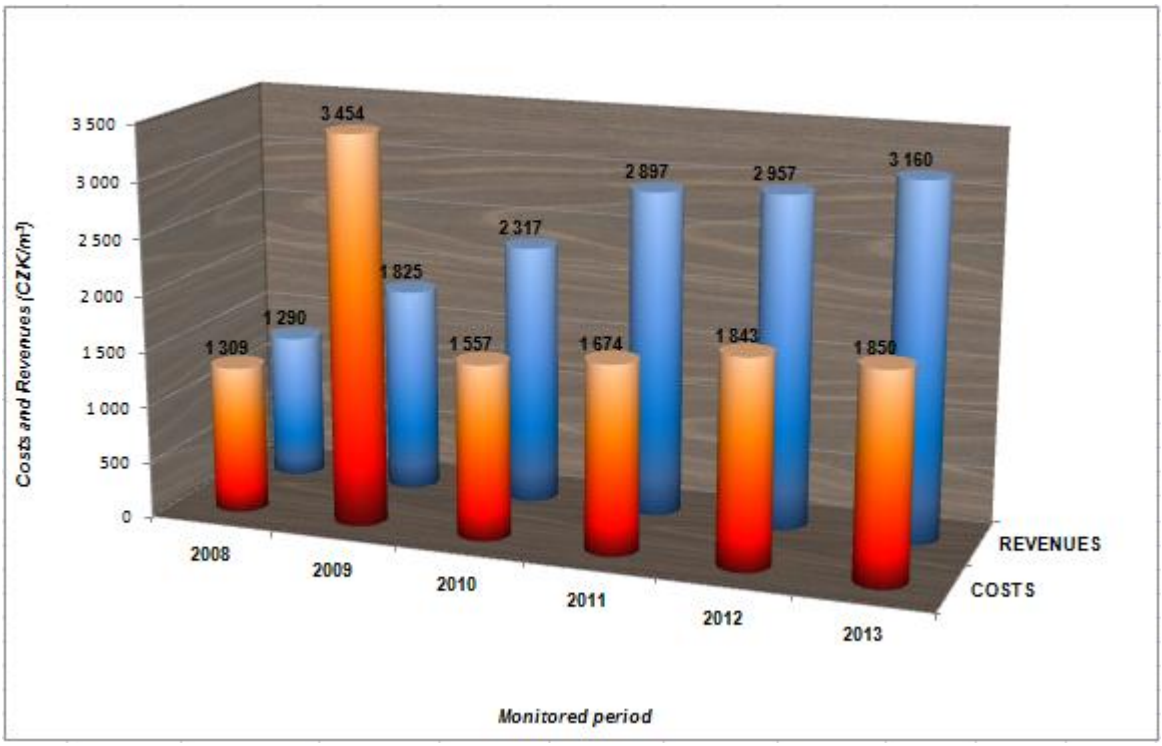
Graph no. 21: Comparison of COSTS ((including the item named as Change in product state) AND REVENUES of timber production resort in the period 2008 – 2013 (CZK/m^3)



As it is whown in the graph no. 21, it is possible to calculate the profit of the timber production resort by the differenciation between revenues and costs, which make up 1 760.6 CZK/m^3. In calculations, there was taken in to account the cost revenue no. 613 Changes in product state, which is calculated as an expense, therefore, in the graph no. 21 is this revenue included into the costs. The crucial influence on the economical profit of the

resort is primarily the operation no. 452 Timber production, which is a major activity of the resort, as it is processing the timber for future sales.

Graph no. 21.1: Comparison of COSTS (including the item named as Change in product state) AND REVENUES of timber production resort in each individual year (CZK/m^3)



The development of total costs and revenues during the period 2008 - 2013 ranged as follows: While revenues were (almost regular) rising, costs were rising only slightly, except the year of 2009, when their bar reached 3,454 CZK/m^3. That happened just due to the fact that the company spent funds for repairs and maintenance of both its machines - the rip saw, and the frame saw.

6.5. Inlet phase prices

Raw materials entering the own consumption are valued by phase prices. The accuracy of appraisal decides the outcome of the timber production. CULS Forest Enterprise determines the phase prices once a year, which represents a price, for which the resort buys and produces the logs for the whole year.

From a practical perspective, initial phase prices can be determined once per quarter, or even once per month. If the company determined these prices every month it would approached to the more current prices as are on the market. Very accurate prices that are entering into production would be compared with the market prices, that would for the company meant more efficient management, as the price of entry is a key factor influencing the real profit for the product. The most accurate and recent prices of incoming wood could thus reduce significant (negative) deviation, or so called loss resulting from the table no. 6 (the model selected a period of 2011 and 2013).

Table no. 6: Economic result in the year 2011

The average market price	Own price	Difference	Sawing	Total difference	The real profit	Difference/ Loss
(CZK/m^3)	(CZK/m^3)	(CZK/m^3)	(m^3)	(mill. CZK)	(mill. CZK)	(mill. CZK)
1 910	1 254	655	28 009	18 361 516	17 063 523	- 1 297 993

The mean activation price for timber in the company in 2011, according the table no. 6: Economic result in the year 2011 was amounted to 1,254 CZK/ m^3, the average price of timber on the market was 1910 CZK/ m^3. When the difference of those prices, which is 655 CZK/m^3 will be multiplyed by the total sawing number, which is 28,009 m^3 for the same year, we get the result of 18,361,516 million CZK. This result makes a total difference between actual profit and the profit that the company would reach when buying the timber for market prices. When this calculated difference will be subtracted from the actual profit, which is 17,063,523 million CZK, we get the number - 1,297,993 million CZK, it means that this sawmill is in loss. However, this loss is reflected in the way that it is posted to the conversion depots, so the overall management of the sowmill is thus not reflected.

Table no. 7: Economic result in the year 2013

The average market price	Own price	Difference	Sawing	Total difference	The real profit	Difference/ Loss
(CZK/m^3)	(CZK/m^3)	(CZK/m^3)	(m^3)	(mill. CZK)	(mill. CZK)	(mill. CZK)
2,000 - 2,200	1,350	650 - 850	24,191	20 562 350 - 15 724 150	15 847 631	- 4 714 719 - 123 481

The average timber activation price in the company in the year 2013, according the table no. 7: Economic result, was amounted to 1,350 CZK/m^3, the average price of timber on the market ranged between 2 000 and 2 200 per m^3. The difference between the market price the activation price in the company was from 650 to 850 CZK/m^3. Total sawing in 2013 was resulting as 24,191 CZK/m^3. This implies that the overall difference between the actual profit and the profit that the company would reach when buying the timber for market prices was from 20,562,350 to 15,724,150 million CZK. Thus, the difference between the total difference and actual profit, which is 15,847,631 million CZK, ranges from – 4,714, 719 to 123,481 million CZK. Loss of this operation, as is mentioned above, is expressed by its accounting onto conversion depots, therefore the overall management of the company will not be reflected by this loss.

In order to approximate the own activation price with the close to market timber price, it is necessary for the company to provided those phase prices at least quarterly, but preferably once per month with respect to market prices that determine whether to cut the material, or rather to sell in the unchanged state.

7. CONCLUSION AND RECOMMENDATIONS FOR PRACTICE

This master thesis is builds upon the bachelor thesis of Alina Shmilyak (2012), exemined the period of 2008 - 2011. This master thesis investigates the rate of return as well as costs and revenues of timber production resort on the example of CULS Forest Enterprise in Kostelec nad Černými lesy for the period 2008 - 2013. For investigation of economic management of the timber production resort, there was compiled a model example according the types of operations and accounting settlemets including development of items with highest values in the monitored period. On the basis of resors economic result, there are proposed actions to reduce costs and increase revenues of the company.

As background information about costs and revenues there were used CULS Forest Enterprise accounting reports for the period 2012 - 2013, which are arranged into tables according accounting types, and operations of the timber production resort, and data of above mentioned bachelor thesis for the period 2008 - 2011. According to these tables and datas there were found entries representing the highest costs and revenues per technical unit for total research period 2008 - 2013.

Those accounts, on which this investigation, according figure no. 5 in chapter no. 6.1.1., targets in terms of percentage, represent the highest costs per cubic meter of timber production resort, and were analyzed in detail to determine whether it is possible to reduce their costs. These accounts with the highest cost values are as follows:

- Account no. 521 Wages costs
- Account no. 551 Depreciation of fixed assets
- Account no. 599 Transfer of internal costs
- Account no. 524 Mandatory social insurance
- Account no. 502 Consumption of energy
- Account no. 518 Other services
- Account no. 501 Consumption of material
- Account no. 511 Repairs and maintenance

Items with the highest costs on the account no. 511 are as follows: Repairs of machinery, and Repairs of buildings and constructions. After evaluating of their costs, there were designed actions for Repairs of machinery - friendly handling with machines, thereby also reducing the costs on other accounts such as Consumption of material. To reduce the item Repair of buildings and constructions, there were proposed investments in fixed assets, which represent new assets that does not require significant repairs, but the investment would increase the cost of depreciation of fixed assets, which are distributed against individual repairs over a longer period of time. A more precise calculation can evaluate alternatives of possible solutions.

Account no. 501 contains several cost items whose values could be reduced., They are mainly items of Consumption of other material, Consumption of spare parts , Consumption of oils and greasy fats, and further briefly mentioned items Consumption of materials - OPE and Consumption of diesel. Reduction of Consumption of dieses could be managed by higher loads of loaders, which would shorten their track, and thus they would use less diesel so. Furthermore buying of cheaper tools, detergents, funds for maintenance, etc. is a next proposal to reduce these items.

Consumption of oil and greasy fats can not be significantly affected, because the use of these materials belongs to the daily operation, and their prices are still increasing on the market. Behind the growth of this cost is thus not the increase of its consumption. In case of replacing those fats by the cheap quality greases, it would be reflected as higher consumption of those greases in absolute amount, and at the same time, increase the spare parts that wear out faster. Consumption of spare parts item could by influenced by friendlier handling of the machines, thereby would avoid any revisions and hence the use of these funds to re-launchthem. The increase in the item Consumption of spare parts in years 2011 - 2013 is associated with increased repairs and maintenance in these years. For the item Consumption of other material has proposed not only better treatment, but also purchase of cheaper material, especially with quantity discounts.

Another very wide cost is the account no. 518 Other services, which include this 3 highest costs: Other services of road transport, Other services and Other services of foreign laborers. Last years, the company was succesful in terms of cost reduction within the item

Other servicesof foreign laborers, as the company termined the employment for these workers (since 2010). In other case, this cost could be reduced by increasing the productivity of the workers, such as the acceleration of the slowest laborers, or limiting the employment of these workers at the expense of own laborers. There is no proposed action for cost reduction of the item Other services as this item is highly variable. Since 2010, these services were not extensively used. Other services of road transport is declining, because the resort uses less services of foreign shippers and transportation is provided mainly by own vehicles, which thus yield a secondary revenue effect for the resort of transport and manipulation in high revenues. Consequently, there is no increasing cost of auxiliary operations. Furthermore, this cost can be reduced also by shifting operations of own funds, thereby significantly reduce the cost items, especially by their using and reduction of depreciations per unit of operation.

Consumption of electricity is the account no. 502. For its cost reduction it is recommended to change, or negotiate a better tariff with the supplier, as rising prices for electricity on the market means for the company more expensive production and this is reflected in the final price of the product. The resort is currently working in one shift operation due to reduction in demand of timber on the market, which is favorable in that machines do not need to be constantly switching off and subsequently switching on while changing shifts - this would couse a large consumption of energy. Since this account, except electricity consumption, includes water and gas consumption, the firm uses its own sources of water, and source of heating is solved by using of the sawdust boiler. Despite these factors of own resources, which safe lots of energy, the company can not avoid high costs of energy due to the constant price rising on the market.

Another item representing high costs is account no. 524 Mandatory social insurance. This account is tightly related with the highest expensive account no. 521 Wages and salaries. When reducing the Wages costs, then reducing the Mandatory social insurance is coming with. Solutions for both accounts are a reduction in the number of employees (at least not accepting new employees) and increase employee productivity. The real growth of both items is due to the giving up carrying out the activity of foreign suppliers in order to ensure the work of own staff.

The two highest items of account no. 599 Transfer of internal costs are Work of other loaders and Work of wood workshop. As a cost reduction for the item Work of wood workshop is proposed to invest money inzo fixed assets, which would be more efficient and friendlier, and would not require as many repairs and the use of spare parts, oils, and greasy fats as the old property. To reduce this costs the company uses such activities like using the work of wood workshop directly while producing the lumber. Therefore, there is no outage due to workshop failure in the saw mill, nor other resorts of the organization. For the item Other loaders is proposed a greater burden of loaders and better cooperation of staff at work.

The second most costly item on the account no. 551 Depreciation of fixed assets is that one, which has an investment character. The company did not invest into fixed assets for few recent years, thus the cost of these depreciations decreased quite a lot. Non investment in new fixed assets probably caused the higher costs of Consumption of material, Consumption of energy, Repairs and maintenance, and others that were spent on repairs and maintenance of the old property. To reduce these costs, it is recommended to invest in new assets, for example in a new rip saw. In particular, it is recommended to regulate the working time in the resort at two or three shifts, during which the machine could cut the greater volume of logs for some certain time. Machines would be physically worn out faster, but slower in terms of accounting, because larger quantities of chopped logs per time unit reduce the cost of normal depreciation of the machines, and it would alenable purchasing new, more powerful machines. However, still culminating global financial crisis keeps wood prices on high level, and so low demand for timber. Therefore, the timber is not having a big success in sales (especially by companies building constructions), it is thus recommended amendment rather feasible in the future when there is an equilibrium on market.

Account no. 521 Wages costs is the highest cost (except the accoun no. 613 Change of product state) of timber production resorts. Items with the highest costs are follows: Wages of labourers, Wages of technical and economic workers (TEW), Bonuses of labourers, Wages of additional labourers, Rewards of labourers, Bonuses of technical and economic workers (TEW). Reduction of items Bonuses of technical and economic workers (TEW),

Rewards of labourers, Bonuses of laborers would be relatively possible, but with their reducing or completely abolishing there would be a lack of motivation of the workers concerned. Other items as Wages of additional laborers, Wages of technical and economic workers (TEW), and Wages of technical and economic workers (TEW), as was mentioned above, are tightly connected with the Mandatory social insurance. The total amount of wages is dependent on the amount of chopped material. Due to the low sales of timber in the Czech Republic, the total volume of wages can not be increased progressively. The proposal to reduce wages, which means increase of work productivity, not accepting new workers, nor even dismissal of personnel, would have reduced the fourth highest cost Mandatory social insurance

The highest cost of the timber production resort is the account no. 613 Change of product state. This account represents a revenue, but it has a minus sign, therefore it is charged as a cost due to “minus revenue”. This cost exhibits the item having the higher value, which is Change of timber state - "DS", it means the use of raw wood for own consumption. This item is very important, it is a foundation of all production and input prices, these prices are also important for the total amount of timber production and consequently prices for products offered to customers. It is, therefore, proposed to take preventive check of prices of raw wood on the market and depending on these prices adjust the average activation rates in the resort due to its own inputs of primary production. For the resort, it would be better to determine phase prices quarterly, or more preferably once a month according to prices that were on the market in the previous period. Regular updating of phase and entry prices would mean more efficient management, as the price of entry wood of timber production (which most closely matches market price) would not cause such a loss, which is now in the company, so difference between the actual profit and the profit of market would not be as large as the enter prise at the present (according to the Chapter 5.6).

Accounts that represent the highest revenues per cubic meter of wood in the timber production resort, were examined in detail and suggested measures to increase revenues were also suggestet as well as in case of costs. These accounts of highest revenue values are follows:

- Account no. 601 Receipts for own products
- Account no. 699 Transfer of internal revenues
- Account no. 602 Receipts for services

The third highest revenue of the timber production resort is the account no. 602 Receipts for services, under which fall two entries Receipts for services and Receipts for transport. Very low demand for timber products caused by the financial crisis was very intensive particularly in 2011, when it sharply droped the revenues on the item Receipts for services. It is proposed to extend the range of products to customers. The item Receipts for transport represents the drop charges, todays culminating crisis does not recommend to increase these fees for getting more revenues. The reason for remainingth the item Receipts for transport on 0 CZK/m^3 is due to (the last three years) particulary non-utilization the services of foreign customers, because the resort uses its own vehicles.

The second highest cost, which is synthetic with the account no. 599 Transfer of internal costs, is the account no. 699 Transfer of internal revenues. This revenue is based on the operation of wood workshop and loaders in terms of own costs incurred within the timber production resort, which means - when reducing the cost of account no. 599, then the increase will appear on the revenues of the account no. 699, therefore the company would not have any effort to increase those revenues.

Account no. 601 Receipts for own products represent the highest revenues of timber production resort. The average amount of these receipts according the model example was 2,278.8 CZK/m^3. For each year, then: 2045.1 CZK/m^3 in 2008, 2,068.1 CZK/m^3 in 2009, 2,317.7 CZK/m^3 in 2010, 2,593.8 CZK/m^3 in 2011, 2,753.7 CZK/m^3 in 2012, and 2881.1 CZK/m^3 in 2013. Revenues from products in the resort of timber production from year to year increase, and this is a positive outcome for the company. However, in case of production of frame frame saw, the results are not so positive. During the crisis, many companies focusing on building of constructions dropped, and this throught had very negative impact on the resort as well. Demand of customers in wood products suddenly decreased due to high prices of raw wood on the market. Negative impacts on the timber

production resort were observed in terms of working on one shift, and Spiral mower is more than three and a half years out of servise. Merit of increasing sales has mainly the sale of timber, which is still interested.

Based on compiled table of operations there were evaluated all revenues and costs of these operations. After evaluation the results, it was founded that the operation no. 452 Timber production occupies the top spot. Of course, it is the main activity timber production resort, in which the wood is consumed for the production and subsequent sale. This performance thus represents the highest costs and revenues of the resort. With the rising production, are rising those costs. For the resort, it is recommended to manage its activity as efficiently as possible (see below), so the sawmill with a frame saw and the hall of AWP avoid losses, and will not have such problems as few years ago, the operation no. 451 Spiral mower, which stoped operating at all.

Efficiency of resorts management was examined on the basis of phase prices of the years 2011 and 2013. There were founded market prices, average activatin prices of wood in the enterprise, and the difference between them, which amounted from 650 to 850 CZK/m^3. By multiplying of this difference with an annual sawing amount it was concluded that the center is at the approximate loss from 123,481 million CZK to – 4,714,719 million CZK, this difference was accounted at the conversion depot (storage) of the resort as a difference of infut phase prices. Consequently, it proposed to set the phase prices not once a year, but at least quarterly, or once a month with respect to market prices that determine whether we have to cut the material, or rather to sell it in unchanged condition. Monitoring of wood prices on the market determines the precise of entry into production. One possibility is transforming the own consumption into material consumption, thus it would be possible to bypass the phases, because material consumption would be recognized according to its purchase price directly.

8. LIST OF ABBREVIATIONS

IFA	intangible fixed assets
TFA	tangible fixed assets
FFA	financial fixed assets
IP	investment property
S	stump
U.B.	under bark
TL	truck landing
DS	dispatch store
ER	economic result
OMS	one-man chainsaw
TEW	technical and administrative staff
AWP	associated with wood production

9. LIST OF USED LITERATURE

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10. LIST OF ANNEXES

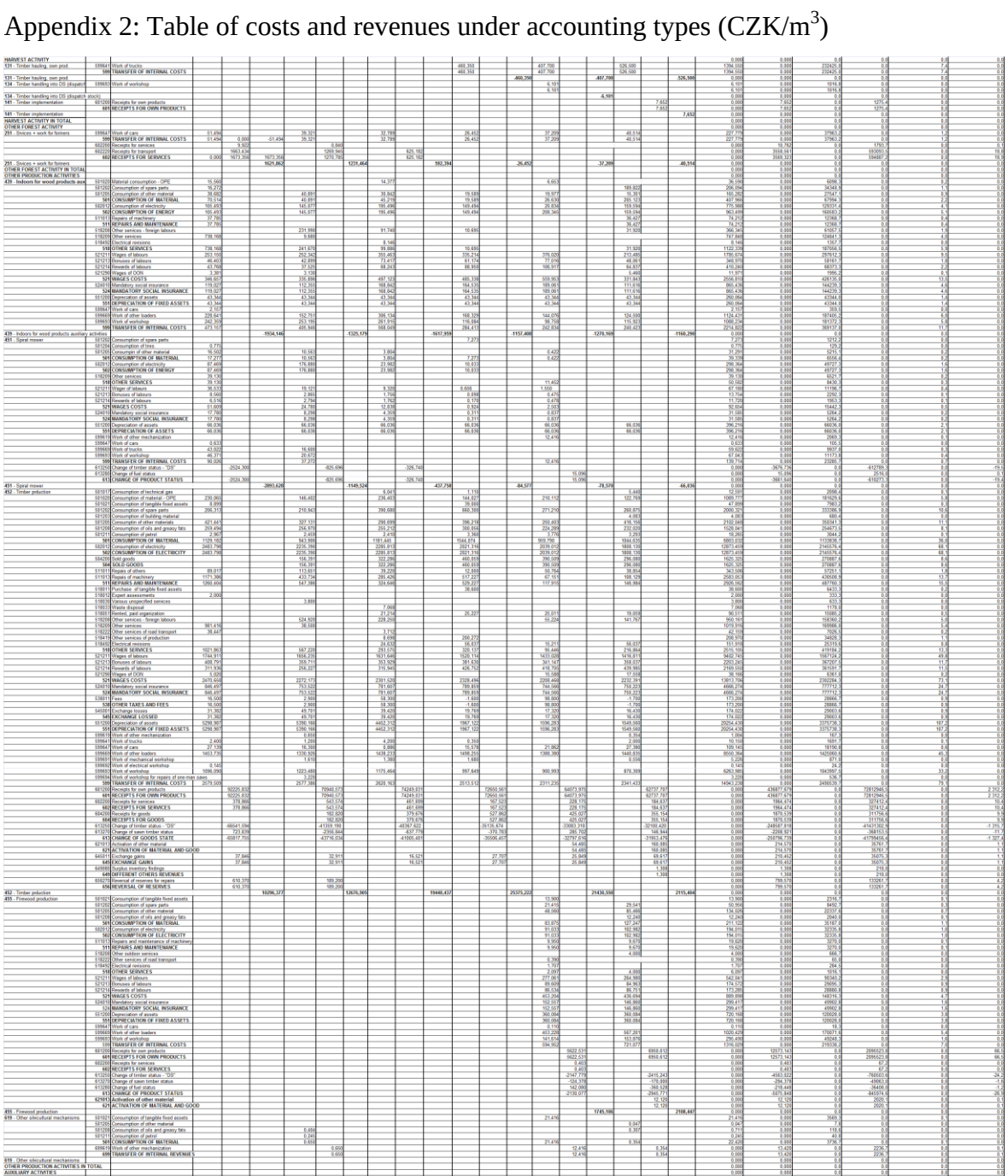
Appendix 1: Table of costs and revenues according operations (CZK/m^3)

Appendix 2: Table of costs and revenues under accounting types (CZK/m^3)

Appendix 1: Table of costs and revenues according operations (CZK/m^3)

Operation	Year 2008		Year 2009		Year 2010		Year 2011		Year 2012		Year 2013		Summary per monitored period 2008 - 2013		Average per monitored period 2008 - 2013	
(Reference: HaSoft report)	Costs	Revenues	Costs	Revenues	Costs	Revenues	Costs	Revenues	Costs	Revenues	Costs	Revenues	Costs	Revenues	Costs	Revenues
131 - Hauling the own means							460,350	0.000	407,700	0.000	526,500	0.000	1394,550	0.000	232,425	0.000
134 - Handling timber to DS									6,101	0.000			6,101	0.000	1,017	0.000
141 - Timber sale	0.000	0.000	0.000	0.000	0.000	-4,020	0.000	0.000	0.000	0.000	0.000	7,652	0.000	3,632	0.000	0.605
251 - Services + work for foreigners	51,494	1673,357	1621,663	39,321	12701,766	1231,465	54,756	487,592	432,836	26,452	0.000	37,209	40,514	0.000	40,514	249,746	3431,735	3181,969	441,624	571,956
439 - Indoors for associated wood production	1917,313	0.000	-1917,313	1325,178	0.000	-1325,178	1617,960	0.000	-1617,960	1157,408	0.000	-1157,408	1270,167	0.000	-1270,167	1160,290	0.000	8448,316	1408,053	0.000
451 - Spiral mower	366,357	2524,300	-2690,657	323,367	-925,597	-1149,064	111,022	-326,740	-437,792	84,577	93,666	15,096	-76,570	66,036	0.000	-66,036	1045,025	-3661,641	-4706,666	174,171
452 - Timber production	17063,522	27435,160	10371,638	15496,602	28773,344	12676,442	14661,090	34101,526	19440,436	12491,974	37867,197	25375,223	16579,345	32008,895	21430,550	10401,029	31555,034	21154,044	88693,562	191141,856
455 - Production of firewood			0.000		0.000		0.000	1774,640	3611,129	1835,489	1747,751	3492,858	1745,106	1908,514	4016,961	2108,447	5439,905	11119,948	5688,043	9051,151
619 - Other silvicultural mechanization	0.000	0.000	0.000	0.649	0.650	0.001	0.000	0.000	0.000	0.000	12,416	12,416	0.000	0.354	0.000	0.000	13,419	13,420	0.001	2,236
641 - Operations of trucks	0.000	0.000	0.000	0.000	0.000	0.000	227,214	227,214	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	227,214	227,214	0.000	37,869
647 - Services of cars	104,630	104,630	0.000	65,437	0.000	44,271	44,272	0.001	53,648	0.000	66,069	66,069	0.000	71,191	71,191	0.000	406,246	406,247	0.001	67,541
651 - Petrol saws	0.000	0.000	0.000	0.000	0.000	0.465	0.467	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.465	0.467	0.002	0.078
669 - Loaders	1005,197	1005,197	0.000	921,189	-9,001	1076,784	1076,784	0.000	1303,050	0.000	1285,223	1285,223	0.000	1364,496	1364,496	0.000	6955,940	6955,939	-9,001	1159,323
693 - Manipulation workshop	1448,611	1448,611	0.000	1568,131	1568,131	0.000	1609,874	1609,876	0.002	1319,472	0.000	1319,472	1219,206	0.000	1235,651	1235,651	0.000	8400,944	8400,946	0.002
700 - General manufacturing costs	2059,850	0.000	2059,850	2348,031	0.000	2348,031	1953,426	0.000	-1953,426	1934,229	0.000	-1934,229	1941,202	0.000	-1941,202	1842,658	0.000	12079,476	0.000	12079,476
701 - Repairs and maintenance of building	312,126	-51,366	-363,492	1205,910	-62,334	-1268,244	407,872	-47,418	-455,290	1340,122	-13,938	-1362,060	830,540	-33,167	-863,708	433,303	-40,792	-474,095	4537,874	-249,015
704 - Transport of laborers	5,223	0.000	-5,223	5,244	0.000	-5,244	4,367	0.000	-4,367	7,044	0.000	-7,044	2,487	0.000	-2,487	3,323	0.000	-3,323	27,758	0.000
705 - Health and Safety	0.000	0.000	0.000	0.000	0.000	2,590	0.000	-2,590	6,950	0.000	-6,950	5,403	0.000	-5,403	17,266	0.000	-17,266	34,209	0.000	-34,209
708 - Propagation of the sawmill	0.000	0.000	0.000	0.365	-0.365	0.365	0.000	-0.365	0.365	0.000	0.000	0.000	0.365	0.000	-0.365	1,460	0.000	-1,460	0.243	0.000
709 - Books and Magazines	0.092	0.000	-0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.092	0.000	-0.092	0.015	0.000
710 - Workwear and Protective Equipment	35,927	0.000	35,927	44,607	0.000	44,607	106,732	0.000	105,757	0.000	100,326	0.000	93,663	0.000	93,663	0.000	487,032	487,032	81,172	0.000
712 - Office costs	42,643	0.000	42,643	31,274	0.000	31,274	115,600	0.000	120,067	0.000	113,973	0.000	113,973	0.000	60,315	0.000	60,315	0.000	483,873	0.000
715 - Fire protection	75,310	0.000	75,310	23,740	0.000	23,740	14,022	0.000	14,022	17,955	0.000	17,955	20,275	0.000	20,275	17,285	0.000	17,285	168,597	0.000
730 - Overhead expenses of outdoor tech-econ	30095,352	0.000	30095,352	27102,818	0.000	27102,818	2476,104	0.000	2476,104	2617,422	0.000	2617,422	2835,236	0.000	2835,236	2926,400	0.000	2926,400	16594,332	0.000
734 - Transport of tech-econ. Staff	15,208	0.000	15,208	2,090	0.000	2,090	2,491	0.000	2,491	5,127	0.000	5,127	7,366	0.000	7,366	10,490	0.000	10,490	42,752	0.000
737 - Uniforms	22,832	0.000	22,832	21,380	0.000	21,380	41,745	0.000	41,745	44,776	0.000	44,776	17,135	0.000	17,135	25,690	0.000	25,690	173,428	0.000
751 - Education and training of workers	10,447	0.000	10,447	31,630	0.000	31,630	11,918	0.000	11,918	8,666	0.000	8,666	24,655	0.000	24,655	29,899	0.000	29,899	117,205	0.000
806 - Handling if technical equipment - main	0.000	0.000	0.000		0.000		0.000	0.350	0.000	0.350	0.000	0.000	0.000	1,500	0.000	1,500	0.000	1,850	0.000	0.308
809 - Books and Magazines	7,200	0.000	7,200	4,796	0.000	4,796	0.000	0.000	0.000	0.396	0.000	0.396	0.000	0.000	0.000	0.000	12,392	12,392	0.000	2,065
813 - Computer technology	2,589	0.000	2,589	1,410	0.000	1,410	23,538	0.000	23,538	151,381	0.000	151,381	66,977	0.000	66,977	34,094	0.000	34,094	279,990	0.000
825 - Costs of other sales of timber	1841,507	0.000	1841,507	1196,989	0.000	1196,989	629,482	0.000	629,482	162,526	0.000	162,526	79,126	0.000	79,126	103,089	0.000	103,089	4012,719	0.000
864 - Healthcare			0.000		0.000		0.000	9,900	0.000	9,900	0.000	0.000	0.000	0.000	0.000	0.000	9,900	9,900	1,650	0.000
898 - Financial costs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
815 - Fire protection	0.000	0.000	0.000	19,046	-19,046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19,046	0.000	-19,046	3,174
921 - Disposals of tangible fixed assets									6,930	0.000	-6,930						6,930	0.000	-6,930	1,155
989 - Other financial costs and revenues	0.000	0.000	0.000	1,250	191,469	190,219	3,079	20,714	17,635	10,169	25,951	0.000	0.000	2,000	12,880	10,880	16,498	261,183	244,685	2,750
TOTAL RESULTS OF THE SAWMILL	**303,211**		**3922,220**		**11993,485**		**18 950 915**		**15 290 961**		**15 847 632**		**156088,526**	**214615,564**	**63917,037**	**25116,421**	**35769,261**	**10652,840**

Appendix 2: Table of costs and revenues under accounting types (CZK/m^3)



	549	**Different others costs**	1,215																		1,215	0,000	202,5	0,0	0,0	0,0
	551200	Depreciation of assets	104,220			104,220			104,220			104,220			104,220			104,220			625,320	0,000	104220,0	0,0	3,3	0,0
	551	**Depreciation of fixed assets**	104,220			104,220			104,220			104,220			104,220			104,220			625,320	0,000	104220,0	0,0	3,3	0,0
	599647	Work of other cars																1,333			1,333	0,000	222,2	0,0	0,0	0,0
	599691	Work of mechanical workshop							1,150			10,080						8,278			11,508	0,000	1918,0	0,0	0,1	0,0
	599	**TRANSFER OF INTERNAL COSTS**							1,150			10,080						9,611			12,841	0,000	2140,2	0,0	0,1	0,0
	699669	Work of other loaders		1005,196			921,189			1076,784			1303,050			1285,223			1364,496		0,000	6955,938	0,000	1159323,0	0,0	36,8
	699	**TRANSFER OF INTERNAL REVENUES**		1005,196			921,189			1076,784			1303,050		1285,223				1364,496		1285,223	5670,715	214203,9	945119,1	6,8	30,0
669 - Loaders								3,917													0,000	0,000	0,0	0,0	0,0	0,0
693 - Handling workshop	501017	Consumption of technical gas																3,646			3,646	0,000	607,6	0,0	0,0	0,0
	501020	Consumption of material - OPE				1,165									2,252			1,079			4,496	0,000	749,2	0,0	0,0	0,0
	501021	Consumption of tangible fixed assets										14,245									14,245	0,000	2374,2	0,0	0,1	0,0
	501205	Consumption of other material	5,965			10,060						1,823			7,470			4,130			29,448	0,000	4908,1	0,0	0,2	0,0
	501208	Consumption of oils and greasy fats	0,968																		0,968	0,000	161,3	0,0	0,0	0,0
	501	**CONSUMPTION OF MATERIAL**	6,933			11,225						16,068			9,722			8,855			52,802	0,000	8800,4	0,0	0,3	0,0
	511011	Repairs of others	1,682																		1,682	0,000	280,3	0,0	0,0	0,0
	511	**REPAIRS AND MAINTENANCE**	1,682																		1,682	0,000	280,3	0,0	0,0	0,0
	521211	Wages of labours	707,123			768,540			769,160			591,110			558,598			563,400			3957,931	0,000	659655,2	0,0	20,9	0,0
	521213	Bonuses of labours	215,024			253,930			259,167			194,732			171,134			165,852			1259,839	0,000	209973,2	0,0	6,7	0,0
	521214	Rewards of labours	135,360			129,956			164,972			176,343			172,722			180,782			960,135	0,000	160022,5	0,0	5,1	0,0
	521250	Wages of DON	14,599			15,960			8,448			11,116			2,142			8,184			60,449	0,000	10074,8	0,0	0,3	0,0
	521	**WAGES COSTS**	1072,106			1168,386			1201,747			973,301			904,696			918,218			6238,364	0,000	1039726,7	0,0	33,0	0,0
	524010	Mandatory social insurance	367,890			388,520			408,127			330,103			304,888			308,578			2108,106	0,000	351351,0	0,0	11,2	0,0
	524	**MANDATORY SOCIAL INSURANCE**	367,890			388,520			408,127			330,103			304,888			308,578			2108,106	0,000	351351,0	0,0	11,2	0,0
	699693	Work of workshop		1448,611			1568,131			1609,874			1319,472			1219,206			1235,651		0,000	8400,944	0,0	1400157,4	0,0	44,5
	699	**TRANSFER OF INTERNAL REVENUES**		1448,611	0,000		1568,131			1609,874			1319,472			1219,206			1235,651		0,000	8400,944	0,0	1400157,4	0,0	44,5
693 - Handling workshop								9,482													0,000	0,000	0,0	0,0	0,0	0,0
AUXILIARY ACTIVITIES IN TOTAL																					0,000	0,000	0,0	0,0	0,0	0,0
OPERATING COSTS																					0,000	0,000	0,0	0,0	0,0	0,0