

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



Bachelor Thesis

Financial Analysis of Chelyabinsk zinc company in Russia

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BACHELOR THESIS ASSIGNMENT

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Economics and Management

Thesis title

Financial Analysis of Chelyabinsk Zinc Company in Russia

Objectives of thesis

The aim of the Bachelor thesis is to measure the financial performance and development by using different techniques of financial analysis.

The objectives to achieving the aim of the thesis are as follows:

- to analyze and to study the theoretical foundations of financial analysis;
- to evaluate the current financial situation of the company;
- to make suggestions for possible improvements.

Methodology

The Bachelor thesis is divided into two parts – the theoretical and practical part. The theoretical part provides important information about the financial analysis itself and the ways of its evaluation. Literature review is done using methods of synthesis, deduction, induction and extraction. In the practical part will be used horizontal, vertical analysis and different kind of ratios for analyzing financial statements. For identifying strengths, weaknesses, opportunities and threats will be used SWOT analysis. Synthesis and extraction is used as well to process data.

The proposed extent of the thesis

40 pages

Keywords

financial analysis, annual report, company, horizontal analysis, vertical analysis, fundamental analysis, financial statement

Recommended information sources

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Declaration

I declare that I have worked on my bachelor thesis titled "Financial analysis of Chelyabinsk zinc company in Russia" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any third person.

In Prague on 15.03.2018

_____ Islam Melordoyev

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Financial Analysis of Chelyabinsk zinc company in Russia

Summary

The Bachelor thesis is devoted to the theoretical aspects of the financial analysis and the way of its evaluation. Stable financial condition is a necessary condition for the effective operation of the enterprise. This thesis is about the Chelyabinsk Zinc Plant JSC – is the largest producer of zinc in the Russian Federation.

Theoretical part is based on literature review, concerning the financial analysis. This part contains the definitions of different types of financial analysis, which were used in the practical part of the bachelor thesis.

The practical part includes description of the selected company, industry analysis, financial analysis and analysis of financial stability, allowing to evaluate the profitability of the company. Carrying out the financial analysis of economic activity of the enterprise during 2015-2017 is the purpose of this research. This analysis was performed on horizontal and vertical analysis for the balance sheet and income statement. The financial ratio analysis was conducted. Based on this analysis the state of profit and loss was calculated.

Keywords: financial analysis, annual report, company, horizontal analysis, vertical analysis, fundamental analysis, financial statement.

Finanční analýza Čelabinské zinkové společnosti v Rusku

Souhrn

Bakalářská práce je zaměřena na teoretické aspekty finanční analýzy a způsobu jeho hodnocení. Stabilní finanční situaci, je nezbytnou podmínkou pro efektivní fungování podniku. Tato práce se zabývá Čelabinské zinkové společnosti – největším producentem zinku v Ruské Federaci.

Teoretická část vychází z odborné literatury, týkající se finanční analýzy. Tato část obsahuje definice různých typů finanční analýzy, které byly použity v praktické části bakalářské práce.

Praktická část obsahuje popis vybraného podniku, analýza odvětví, finanční analýza a analýza finanční stability, což umožňuje vyhodnotit ziskovost společnosti. Provádění finanční analýza hospodářské činnosti podniku v průběhu 2015-2017 je účel tohoto výzkumu. Tato analýza byla provedena na horizontální a vertikální analýzu rozvahy a výkazu zisku a ztráty. Finanční poměr analýza byla provedena. Na základě této analýzy stavu zisk a ztrát byli vypočtený.

Klíčová slova: finanční analýza, výroční zpráva, společnosti, horizontální analýza, vertikální analýza, fundamentální analýza, finanční výkaz.

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1. Introduction

The topic of the Bachelor thesis is a “Financial analysis of Chelyabinsk zinc company in Russia”. The relevance of the thesis is determined by the fact that in the market conditions increases the independence of enterprises in the adoption and implementation of management decisions, their economic and legal responsibility for the results of economic activities. Stable financial condition is a necessary condition for the effective operation of the enterprise, as from the security and optimal use of financial resources depends on the timeliness and completeness of the repayment of its obligations to suppliers, banks, budget, employees, etc. The results of such analysis are necessary for owners, shareholders, creditors, investors, suppliers, tax authorities, managers and managers of enterprises. The results of the analysis of the financial condition of the company help to make informed management decisions, to take into account the potential and reserves optimization of assets, growth of equity, improving the efficiency of the use of economic potential for the coming years. Sources for the analysis of the financial condition of the company is financial statements.

Forecasting the financial condition of the organization is an important component of financial analysis, which is the study and development of possible ways of developing finance in the future. The task is to determine the expected amount of financial resources in the forecast period, to find the sources of their formation and directions of the most effective use on the basis of the analysis of emerging trends and taking into account the impact of various factors on them. Forecasting of financial condition allows considering possible alternatives of financial policy development, ensuring achievement by the organization of a stable position in the market, strong financial stability and solvency.

The theoretical and methodological basis of the study were the books of Russian and foreign scientists devoted to the problem of assessing the financial condition of the enterprise and its forecasting. Among them are scientific publications Kovaleva V. V., Sheremet A. D., the I. Mazurova, Fabozzi, F. and Peterson Drake. P.

2. Objectives of the thesis and methodology

2.1. Aim of the thesis

The aim of the Bachelor thesis is to measure the financial performance and development of Chelyabinsk zinc company in Russia by using different techniques of financial analysis.

The objectives to achieving the aim of the thesis are as follows:

- to analyse and to study the theoretical background of financial analysis;
- to evaluate the current financial satiation of the company;
- to make own suggestions for possible improvements.

2.2. Methodology

The Bachelor thesis is divided into two parts – the theoretical and practical part. The theoretical part provides important information about the financial analysis itself and the ways of its evaluation. In the practical part will be used horizontal, vertical analysis and different kind of ratios for analyzing the financial statements. For identifying strengths, weaknesses, opportunities and threats will be used SWOT analysis. Synthesis and extraction is used as well to process data.

3. Theoretical Part

3.1. Financial analysis

Financial analysis in its traditional sense is a method of research through the dissection of complex phenomena into its component parts. In a broad scientific understanding, financial analysis is a method of scientific research (cognition) and evaluation of phenomena and processes, which is based on the study of components, elements of the studied system. The economic essence of financial analysis is best reflected in the following definition: "Financial analysis is an assessment of the financial and economic activities of the company in the past, present and projected future."

3.1.1. Objectives of Financial Analysis

In Economics, where the constituent element is finance, the analysis is used to identify the essence, patterns, trends and evaluation of economic and social processes, the study of financial and economic activities at all levels and in different areas of reproduction.

This work is focused on the definition of financial analysis of a particular enterprise.

From this point of view, the purpose of the financial analysis is to determine the state of financial health of the enterprise, identify weaknesses, potential sources of problems in its further work and discover the strengths on which the company can bet.

The goals of financial analysis are achieved by solving a certain interrelated set of analytical tasks. The analytical task is to specify the objectives of the analysis, taking into account the organizational and informational capabilities of the analysis.

If financial analysis is the process of assessing the financial condition of the company based on the study of its financial statements, then its main objectives can be identified as follows:

1. Monitoring the current state of the enterprise;
2. Ability of the enterprise to Finance investment projects

3. Ability to repay loans
4. Bankruptcy prevention
5. Formation of forecasts of financial activity of the enterprise;
6. Valuation of an enterprise when it is sold or merged;
7. Tracking the dynamics of financial condition

3.2. Users of Financial Analysis

Parties interested in financial analysis and enterprise activities are divided into two main categories: external and internal users.

Internal users: those who are directly related to the company, i.e. managers and other employees who usually have access to all information about the company.

External users: those who are indirectly related to the company and have only the information provided to them by the management.

3.2.1. Internal Users

Current and potential owners of the organization—to determine the increase or decrease the share of their own funds, to assess the effectiveness of management resources. It is important for them to know what will be the return on investment, profitability and profitability, the level of economic risk, the possibility of losing their capital;

Managers and specialists of economic services — to determine ways to improve the efficiency of financial activities;

Financial managers at various levels - to determine the need for financial resources, assess the correctness of investment decisions, the effectiveness of the capital structure, the main directions of dividend policy;

Trade unions - to determine the requirements for wages, terms of employment agreements, assessment of trends in the development of the industry as a whole;

Lawyers - to assess compliance with the terms of contracts, compliance with legal norms in the distribution of profits and dividends, determine the conditions of pension;

Employees - to determine the level of wages and assess the prospects of work in the organization.

3.2.2. External Users

State bodies – to assess the economic situation of the industry and the region, monitor the activities of local organizations and non-local branches, develop financial policy; making decisions on the registration of organizations, suspension of the activities of organizations;

Potential investors - to make informed decisions about the possibility of purchasing shares of specific organizations, the choice of investment decisions, the opportunity to implement the investment program;

Business partners (suppliers and buyers defining business relations with clients) - for the solution of questions of expediency of the conclusion of contracts (transactions), the assessment of payment of the delivered production, the performed works, the rendered services;

Banks - to determine the terms of lending and assess the possibility of repayment of loans;

Auditors - checking the reporting data for compliance with the legislation, generally accepted rules of accounting and reporting in order to protect the interests of various entities;

consultants on financial issues - to make recommendations to customers regarding their capital in a particular organization;

Press and information agency - for the preparation of the surveys, evaluation of trends and analysis of activities of the organizations and industries, the calculation of the generalizing indicators of financial activities.

3.3. Characteristics of Financial Statement

The main source of information for financial analysis is the public financial statements of the organization. The main forms of reporting – balance sheet and income statement – make it possible to calculate all the major financial indicators and ratios. For a more in-depth analysis, you can use the reports on cash and capital flows of the organization, which are compiled based on the results of the financial year. Even more detailed analysis of certain aspects of the company's activities, for example, the calculation of break-even point, requires the initial data lying outside the reporting (data of current accounting and production records). In Europe and most countries of the world (including Ghana), these financial statements are prepared in accordance with international financial Reporting Standards (IFRS). The result of the qualitative analysis should be a well-founded, supported by calculations conclusion about the financial position of the organization, which will be the basis for decision-making management, investors and other stakeholders.

3.3.1. The Balance sheet

Balance sheet is a set of information about the value of property and liabilities of the organization, presented in tabular form. The balance sheet consists of two sections of asset and liability.

Accounting (financial) statements of the company is the final stage of the accounting process. It reflects the final data characterizing the property and financial position of the enterprise, the results of its economic activity. Analysis of accounting data allows you to determine the true property and financial condition of the enterprise. The accounting equity is the basis of this financial report:

$$\text{Assets} = \text{Liabilities} + \text{Shareholders' equity}$$

The asset of the balance sheet consists of two sections:

* non-current assets (assets used for more than 1 year: equipment, buildings, intangible assets, long-term investments, etc.);

- * current assets (assets that use less than 1 year: raw materials, short-term accounts receivable, cash, etc.).

The liabilities side of the balance sheet consists of three sections:

- * capital and reserves (own funds of the company's owners);

- * long-term liabilities (loans, borrowings and other receivables with a maturity of more than 1 year);

- * short-term liabilities (current debts to employees, suppliers, etc., payable within 1 year).

3.3.2. The income statement

Statement of income and expenses (profit or loss) — is an integral part of the financial management accounting, reporting and analysis of the company. This report will show whether the organization is earning enough and whether the current level of costs can afford it. A profit or loss statement (p&l statement) summarizes income and expenses that have arisen over a period of time, usually a month or tax quarter. The purpose of the p&l report is to provide stakeholders with information about the financial performance of the company and its ability to generate cash flows. Alternative p&l report names: income and expense report, statement of profit and loss, income statement, or income and expense report.

The income statement is the basis for assessing the financial performance of the company for a certain period by detailing the data. Consists of:

- * company's income for the period

- * costs associated with obtaining these revenues

- * all periodic income and costs not associated with specific types of products.

3.3.3. The cash-flow statement

Cash flow within a company, project or product. It means free money in accounts and at the box office (free reserve), that is, the most liquid assets. Expressed as a result with a negative or

positive sign, which is formed from receipts and payments. Obviously, positive cash flow is better than negative. After all, a company that has available funds can quickly invest them in business and get even more money and profits. Also this is a powerful argument for the banks and creditors who are considering granting a loan. Without this indicator is not necessary in the preparation of business plans, forecasts, budgets. Cash flow is also used in investment analysis. Knowing the value of the cash flow, it is possible to calculate indicators NPV (net present value) and IRR (internal rate of return).

Operating cash flow. Money received or spent in the course of internal (operational) business processes. It is calculated as the sum of working capital and cash inflow. If the company is solvent, the result will be positive.

Investment cash flow. Money received from the sale of long-term assets, or spent on investment needs (construction, investment).

Financial cash flow. Money received from a loan/loan or paid in the form of dividends, loan repayment or share repurchase.

3.3.4. Statement of Shareholders' Equity

The statement of equity is made to disclose and analyse the reasons that led to changes in the equity of the company during the reporting year. It reflects the sources of replenishment of equity capital, as well as operations, as a result of which equity was reduced. In addition, the structure of the statement of equity allows you to track the internal movement of equity, such as its change associated with the distribution of profit of the enterprise.

3.3.5. The Annual Report

The document provided annually to the Executive body of the economic company to the General meeting of participants (shareholders) of the company and contains the report on the main results of the activities of the society during the period. Includes description of the company's activities, balance sheet and profit and loss statement.

3.4. Financial Statements

The assessment of the financial condition can be performed with varying degrees of detail depending on the purpose of the analysis, available information, software, technical and personnel support. The most expedient is the allocation of procedures for rapid analysis and in-depth analysis of the financial condition.

Financial analysis makes it possible to evaluate:

- property status of the enterprise;
- degree of entrepreneurial risk;
- capital adequacy for current activities and long-term investments;
- the need for additional sources of funding;
- capacity to build capital;
- rationality of borrowing;
- validity of the policy of distribution and use of profits.

There are also qualitative methods that allow on the basis of analysis to draw qualitative conclusions about the financial condition of the enterprise, the level of its liquidity and solvency, investment potential and creditworthiness of the organization. Methods and techniques of qualitative analysis include heuristic methods of analysis, which include: expert evaluation method; scenario development; brainstorming; business games.

As for quantitative methods, they, in turn, provide an opportunity to assess the degree of influence of factors on the effective indicator, to calculate regression equations for their use in planning and forecasting analysis, to find the optimal solution for the use of production resources.

Variables of quantitative methods will be divided into absolute and relative terms:

Absolute indicators characterize the number, volume (size) of the studied process. They always have some unit of measurement: natural, semi-natural, cost (money). Absolute figures are obtained either by direct calculation of the data collected or by calculation.

Relative indicators represent the ratio of absolute (or other relative) indicators, that is, the number of units of one indicator per unit of another indicator. Relative values are not only ratios of different indicators at the same time, but also of the same indicator at different points (for example, growth rate). Relative values are used in different types of analysis, depending on the specific economic task, they facilitate the process of financial analysis. Depending on the analytical task, different types of relative values can be used.

3.4.1. Horizontal Analysis

Horizontal analysis of reporting is a comparative analysis of financial data for a number of periods. Horizontal analysis is like viewing all articles of an asset and a liability horizontally. Horizontal analysis consists in the construction of an analytical table in which the absolute figures are supplemented by relative growth rates. It allows to reveal tendencies of change of separate articles of asset and liability of analytical balance sheet, to define how, for example, articles of asset and liability have changed in absolute and relative terms on the end of the analyzed period in comparison with its beginning.

Horizontal analysis of reporting (e.g. balance sheet) takes the indicator (row) and traces its change over two or more periods. Periods can take any of the same time intervals, but are usually used for accounting quarterly analysis or analysis of data by year. The number of analyzed periods may vary depending on the specific task, but qualitative analysis is usually possible when the analyzed series of more than 3 periods.

Horizontal analysis uses two approaches:

- Comparing the change in absolute values (for example, crowns)
- * Comparison of changes in relative (percentage) value
- * Absolute increase = amount of fixed assets in the current year - amount of fixed assets in the previous year
- * Relative increase = (absolute increase / amount of fixed assets in the previous year) * 100%

The purpose of the horizontal analysis is to identify the absolute and relative changes in the values of different items of the balance sheet for a certain period, to assess these changes. However, in conditions of inflation, the real dynamics of the analyzed articles may be distorted. Therefore, in modern conditions, the interest is not so much an absolute change in the articles of asset and liability as the structure of assets and their sources.

3.4.2. Vertical Analysis

Vertical reporting analysis-a technique for analyzing financial statements, in which the ratio of the selected indicator with other homogeneous indicators is studied within one reporting period.

The vertical analysis (i.e. the analysis of indicators of puffiness on a vertical) is directed on studying of structure of property, obligations, the income, expenses of the organization. For example, a vertical analysis of an asset's balance sheet shows the share of fixed assets, intangible assets, inventories, receivables and other property in the total assets of an enterprise. Having determined the percentage share of each indicator in the total, the analyst has the opportunity to compare the company according to the indicators with other companies, which is impossible if you operate with absolute values. In the part of the balance sheet liability, structural analysis of equity and borrowed funds, as well as the composition of borrowed funds by maturity (long-term and short-term liabilities).

The calculation of the structure of assets is done by dividing a certain element of the asset by the total amount of assets. For example, the determination of the share of inventories in total assets structure is as follows:

$$\text{The share of inventory} = (\text{inventory value} / \text{total assets}) * 100$$

As part of the profit and loss statement analysis, vertical analysis is used to identify the structure of expenses and expenses, determine the share or net profit of expenses in sales revenue. That is, the purpose of the vertical analysis is to calculate the proportion of individual articles in the balance sheet and assess its changes.

3.4.3. Financial Ratio Analysis

Analysis of relative indicators (coefficient financial analysis) – calculation of relations between individual items of the report or positions of different forms of reporting on individual indicators of the company, determination of the relationship of indicators. The corresponding figures, calculated on the basis of financial statements, are called financial ratios. When using this analysis, we can determine whether a business is profitable or not, we can also say whether the organization has enough money to pay its bills, and we can even say whether the owners of the organization or shareholders should be happy to own such an organization.

Financial ratio analysis can also help us to check whether the business under study is more successful this year than last year; analysis can help to understand whether the business is more successful or not compared to other organizations producing and selling the same goods.

The financial ratios are the basis of the financial condition analysis and are based, as determined by the financial statements. Financial ratios are calculated according to the Balance sheet (Form 1) and statement of profit and loss statement (Form 2). Each factor maps to a single article of balance with the other articles of the balance with hottest of profit and loss. The analysis uses geese, quarterly, semi-annual, God rates. These factors allow us to give objective information about the state of business, as well as the trend in changing this state. The ratio analysis can be used to assess three main aspects of a company: liquidity, solvency and profitability (Wild 2008, p.549).

Return-on-investment compares measures of benefits, such as earnings or net income, with measures of investment (Fabozzi and Peterson, 2003).

Return on assets (ROA) shows how many monetary units of net profit each of the assets available to the company brings. Allows to estimate quality of work of its financial managers.

Calculated by the formula: $\text{Return on assets} = \text{Net income} / \text{Total assets}$

The numerator of this formula displays the entire profit of the enterprise before interest on the loan. Since in accounting payments made for servicing loans are deducted from taxable profit,

the reverse operation is performed - the amount of net profit is added to the amount of deducted interest including income tax.

Return on equity (ROE) ratio is essential to assess the investment attractiveness of the company in the long term. It shows how much profit comes from each unit of currency invested in the company's business is its owners.

The starting point for the analysis of the efficiency of the enterprise can be a comparison of ROE with the value of the Bank rate. If the ratio of net profit to equity is lower than or equal to the yield of the Bank Deposit, then the company's business is not effective. The ROE factor is often used to compare similar companies in the same industry. Comparison of the efficiency of the use of equity capital shows the quality of the management apparatus.

Calculated by the formula: Return on equity = Net income /Book value of shareholders' equity (Fabozzi and Peterson, 2009).

Under private capital is understood as indicated in the balance sheet the share of the property that can qualify for equity holders. Represents the total value of assets less debt.

Liquidity ratio

Liquidity of the balance sheet is the degree of coverage of the enterprise's liabilities by assets, the period of conversion of which into cash corresponds to the maturity of liabilities. The solvency of the enterprise depends on the degree of liquidity of the balance sheet. The main feature of liquidity is a formal excess of the value of current assets over short-term liabilities. And the more this excess, the more favourable the financial condition has the enterprise from a liquidity position. Analysis of the company's balance sheet liquidity and its relevance in determining the liquidity of the balance sheet becomes particularly important in the conditions of economic instability, as well as in the liquidation of the company due to its bankruptcy. The most used liquidity ratios are *current ratio*, *quick ratio* and net working capital-to-sales ratio.

The current liquidity ratio gives an overall assessment of the liquidity of assets, showing how many unit of currency of current assets of the company falls on one unit of currency of current liabilities. Logic of calculation of this indicator lies in the fact that the company repays short-term liabilities mainly due to current assets; consequently, if the current assets exceed

the value of current liabilities, the company can be seen as well-functioning (at least theoretically). The formula for calculating the current liquidity ratio is as follows:

Current ratio= Current assets/ Current liabilities

The quick ratio - is the most rigid criterion of liquidity of the enterprise; shows what part of short-term debt obligations can be repaid immediately if necessary. In practice, it is desirable to analyse the dynamics of these indicators, complementing it with a comparative analysis of the available data for enterprises with a similar orientation of their economic activity. The formula for calculating the absolute liquidity ratio is as follows:

Net working capital-to-sales ratio = Net working capital /Sales

Profitability ratio

Profitability factors - financial indicators that characterize the profitability of the company. Profitability is the result of a complex strategic decision. It reflects the impact of liquidity indicators, asset management and debt management on the results of the company. The main criterion for evaluating the effectiveness of any commercial organization are the indicators of profitability ratio.

Gross profit margin (GPM) is an indicator of financial analysis that reflects the efficiency of the company. The ratio reflects the profitability of the enterprise on gross profit and is used in macroeconomic analysis to assess the performance of large enterprises and industries, when it is difficult to assess the net profit.

Calculated by the formula: Gross profit margin = Sales – Cost of goods sold / Sales (%)

The Operating margin (OPM) to assess operating efficiency, it is necessary to take into account operating expenses in addition to the cost of goods sold. To do this, we remove operating expenses (such as sales and general administrative expenses) from gross profit, leaving operating profit, also known as profit before interest and taxes (EBIT). The indicator shows the share of operating profit in sales.

Operating profit margin (OPM) = Sales – Cost of goods sold – Operating expenses / Sales = Earnings before interest and taxes / Sales

The net profit margin, (NPM) a ratio equal to the ratio of the carrying profit from the sale to the average annual value of all invested capital. The level and dynamics of the net profitability indicator is the main object of attention of company managers, it contains: the structure and movement of all types of production and financial resources of the organization. Net profitability

reflects the balance of economic interests of internal and external business participants achieved in the company.

This ratio shows the share of net profit in the amount of sales (Fabozzi and Peterson, 2009).

Net profit margin = Net income /Sales

Solvency ratio

The solvency in the general sense, according to V. V. Kovalev is the ability of the enterprise to perform the payment calendar without violations. In a narrow sense, this is the presence of the company's cash and cash equivalents sufficient to settle accounts payable, requiring immediate repayment. Cash equivalents are short-term, highly liquid investments that are easily convertible into a certain amount of money and are subject to a slight risk of changes in value, with a placement period usually not exceeding 3 months. In international practice, cash equivalents also include overdraft lending.

The solvency generally characterizes the ability of the company to repay its liabilities in a timely manner. If the financial condition of the company is stable, it is characterized by a stable solvency. In the opposite situation, the solvency of the company can be described as weak. When calculating solvency ratios, it is important to take into account that the company's assets differ in terms of liquidity, namely, the possibility of circulation of existing assets in real money.

The most common solvency ratios include:

The debt-to-equity ratio is the ratio of borrowed and own capital of the organization. It belongs to the group of the most important indicators of the financial position of the company, which includes similar in terms of the coefficients of autonomy and financial dependence, also reflecting the proportion between own and borrowed funds of the organization

The financial leverage ratio is calculated as the ratio of debt to equity:

Debt to Equity Ratio= Total liabilities/Total equity

Liabilities include both long-term and short-term liabilities (i.e. everything that remains of deduction from the balance sheet).

Debt ratio characterizes the ratio of the organization's borrowed capital to all capital (assets). In other words, it shows the share of the organization's assets, which are covered by equity (provided by its own sources of formation). The remaining share of assets is covered by borrowed funds. Investors and lending banks pay attention to the value of this ratio. The higher the coefficient value, the more likely the organization will repay debts at its own expense. The higher the indicator, the higher the financial independence of the company. This ratio belongs to the group of indicators describing the capital structure of the organization, and is widely used in the West. The debt ratio is calculated by dividing total liabilities by total assets (Fabozzi and Peterson, 2003).

Debt ratio = total liabilities/total assets

Equity ratio characterizes the ratio of equity to the total amount of capital (assets) of the organization. The ratio shows how independent an organization is from creditors. Investors and lending banks pay attention to the value of this ratio. The higher the coefficient value, the more likely the organization will repay debts at its own expense. The higher the indicator, the higher the financial independence of the company.

The equity ratio is calculated by dividing total equity by total assets. (Fabozzi and Peterson, 2003)

Equity ratio= total equity/total assets

Both numerator and denominator of the formula are reflected in the balance sheet of the organization, where the value of assets is always equal to the amount of equity and borrowed capital of the organization. According to the value of this indicator, the extent to which the organization is independent from attracting capital belonging to other organizations is judged. The greater the share of equity the more stable is the activity of the organization.

Activity ratio

According to Fabozzi and Peterson, business activity of the enterprise in the financial aspect is manifested primarily in the speed of turnover of its assets. Analysis of business activity is to study the levels and dynamics of a variety of turnover ratios, the main of which are:

Inventory turnover shows how many times during the analyzed period the company used the average available inventory balance.

Inventory turnover = Cost of goods sold / inventory

The higher the turnover of the company's reserves, the more efficient is the production and the less need for working capital for its organization. Especially important is the increase in turnover and reduction of reserves in the presence of significant debt liabilities of the company.

Accounts Receivable Turnover characterizes the rate of payment of receivables of the company, that is, how quickly the company receives payment for goods sold (work, services) from their customers.

Accounts receivable turnover = Net credit sales / Accounts Receivable

The coefficient determines the effectiveness of the company's work with buyers and customers in the collection of receivables, as well as reflects the policy with respect to sales on credit.

Total Asset turnover - indicator of the intensity of the company's use of all available assets.

Asset turnover = Revenues / Total assets

Characterizes efficiency of use of the resources attracted for the organization of production. It is an indicator that indirectly reflects the potential profitability of the company. This ratio shows how many times in a year the full cycle of production and circulation is made, bringing the corresponding effect in the form of profit. This ratio also varies greatly from industry to industry.

Fixed assets turnover is an indicator used to characterize the dynamics of the efficiency of the use of fixed assets of the company, as well as to compare the effectiveness of the use of fixed assets in the enterprises of one industry.

Fixed assets turnover = Revenues / Fixed Assets

This ratio characterizes the efficiency of the enterprise's use of the fixed assets at its disposal. The higher the coefficient value, the more effectively the enterprise uses fixed assets. The low level of return on equity indicates insufficient sales or too high a level of capital investment.

However, the values of this coefficient are very different from each other in different industries. Also, the value of this coefficient depends heavily on the methods of depreciation and valuation practices of assets.

3.5. SWOT analysis

SWOT analysis is one of the most effective tools in strategic management. The essence of swot analysis consists in the analysis of internal and external factors of the company, risk assessment and competitiveness of goods in the industry. SWOT analysis method is a universal method of strategic management. The object of SWOT analysis can be any product, company, shop, factory, country, educational institution and even a person. Very often, companies conduct SWOT analysis not only of their products, but also the products of competitors, as this tool is very clearly systematizing all the information about the internal and external environment of any organization.

The advantages of SWOT analysis are that it allows you to simply, in the right way, look at the position of the company, product or service in the industry, and therefore is the most popular tool in risk management and decision-making.

The result of SWOT analysis of the company is an action plan indicating the timing, priority of implementation and the necessary resources for implementation.

SWOT analysis divides the factors of influence on the company into four categories, which helps to evaluate it from all sides like: strengths, weaknesses, opportunities and threats.

4. Practical Part

4.1. Characteristic of Chelyabinsk zinc company

Chelyabinsk Zinc Plant JSC – is the largest producer of zinc in the Russian Federation. Its share in the domestic market is circa 62% and contributes about 2% of the world output of zinc. During 2016, control over stocks of the company has passed to Ural Mining and Metallurgical Company.¹

Chelyabinsk Zinc Plant JSC (CZP) represents vertically focused production, meaning a full cycle of production of non-ferrous metals – from production and processing of ore as raw materials before receiving finished goods.

The raw materials complex of CZP is presented by the operator of the Akzhalsky zinc and lead deposit of “Nova Zink” LLP located in Karaganda region of the Republic of Kazakhstan.

Within the strategy of vertical integration in 2006 Chelyabinsk Zinc Plant has got 100% control over the “Nova Zink” LLP company which is the operator of the Akzhalsk deposit of zinc and lead located in the Republic of Kazakhstan (Karaganda Region, Shetsky district, Akzhal settlement).

Introduction of the most modern of production capacities in Europe, implementation of programs of modernization, provide production of zinc of the quality “SPECIAL HIGH GRADE” confirmed by registration at London Metal Exchange of the “CZP SHG” trademark (CHELYABINSK ZINC PLANT SPECIAL HIGH GRADE) guaranteeing purity of metal not lower than 99,995% on the content of zinc.

Chelyabinsk Zinc Plant manufactures over a half of the refined zinc and its alloys in Russia.

Priority task of CZP at realization of strategic objectives is an observance of the ecological legislation.

The list of extensive arrangements for environmental protection includes repairs of the existing gas-cleaning installations, project works on the calcination workshop. Within the

¹ <http://fb.ru/article/314206/chelyabinskiy-tsinkovyy-zavod-istoriya-proizvodstvo>

program of the modernization calculated till 2020 modernization of the enterprise actively is conducted.

4.1.1. Production

The considerable share and range of alloys and rare metals production of the Chelyabinsk Zinc Plant is as follows:

- zinc refined with the minimum content of impurity (99,995%);
- zinc-nickel-aluminium alloys;
- zinc sulphate;
- zinc - aluminium alloys;
- foundry zinc alloys of CAM 4-1 brand;
- cadmium;
- indium;
- sulphuric acid.

4.1.2. Partners

Chelyabinsk Zinc Plant is one of the few suppliers of non-ferrous and rare-earth metals in the market of Russia. The largest consumer of zinc is ferrous metallurgy using metal by production of galvanized steel. In particular, the main buyers of the goods, produced by CZP are Magnitogorsk Iron and Steel Factory, joint venture of “Severstal” (North Steel) and “Arcelor” company producing galvanization and also the Metal Plant of Novolipetsk and the Kashirsky Plant, producing steel with a covering. These companies produce over 90% of the total sales at CZP.

Part of production is consumed by the enterprises which are producing rolled metal products from alloys of latten and bronze. Among them are Kirov, Moscow, Revda and Kolchuginsky non-ferrous metals processing plants. In recent years a considerable share of CZP products were sold for export. As expected, demand for zinc will continue to grow in Russia, especially

from a construction segment in this connection metallurgists made active the projects on production of galvanized steel.

4.1.3. Competitive advantages

CZP has a very strong competitive advantage: as the leader in the output of zinc and proceeds from its sales the Russian Federation. The share of the metal produced under the SHG brand is about 96% in the Russian Federation. At the enterprise the long-term relations with the main buyers, generally in the Russian steel industry are improved. The plant makes the wide range of the highly profitable zinc alloys based on the SHG brand possessing special characteristics thanks to high extent of cleaning.

For reduction of operational expenses CZP invested in modern technologies and has carried out measures for control of expenses on the production capacities. Besides, as production is in the Russian Federation, CZP also has access to labor with lower payment, to cheaper electric power and transport, in comparison with some of its international competitors.

4.2. Industry analysis

Nonferrous metallurgy of Russia produces construction materials of various physical and chemical properties. This branch of heavy industry includes copper, zinc-lead, nickel - cobalt, aluminum, zinc-lead, titanium-magnesium, tungsten-molybdenum industry and also production of precious and rare metals.

Nonferrous metallurgy of Russia developed using its own large resources and under production, takes the second place in the world after USA. Over 70 various metals and elements are manufactured in Russia. Nonferrous metallurgy of Russia includes 47 mining enterprises. The best situation in nonferrous metallurgy is observed in Krasnoyarsk Krai, Chelyabinsk and Murmansk regions where 2/5 industrial outputs are the share of nonferrous metallurgy.

Nonferrous metallurgy has its own specific features:

1. This industry differs in high concentration of production. The enterprises – monopolists make 12% of the total number of the enterprises;
2. This is ecologically harmful production. Nonferrous metallurgy surpasses all other branches having the mining industry in structure in extent of air pollution, water sources and the soil;
3. At the enterprises of nonferrous metallurgy the highest expenses are connected with consumption of fuel and transport transportations. And in recent years because of increase in prices for resources and transport, stiff monetary policy of the state, huge taxes the share of expenses on fuel and energy has increased from 16 to 40%, and the share of transportation costs has increased from 6 up to 20%.

As in nonferrous metallurgy it is necessary to excavate much more, than in ferrous metallurgy, rocks on unit of finished goods, and because of considerable capital intensity of process of production and the enrichment which is carried out in areas of production, essential significance is attached to an open way of developments of fields of ores of non-ferrous metals (more than 2/3 all fields). Receiving expensive concentrates of ores of non-ferrous metals gives the chance to transport them over long distances and by that territorially to separate processes of production, enrichment and directly metallurgical conversion.

Zinc-lead industry is based on use of polymetallic ores, different in structure. The feature of their processing consists in production, enrichment, release of ore minerals, receiving by different methods of metals, refinement. Lead and zinc are widely applied in various spheres of human activity. Zinc, having anticorrosive properties, is used for galvanizing of an iron leaf, cable wires, pipes of different function, is a part of some pharmaceutical medicines.

The territorial rupture of separate stages of technological process is characteristic of the industry. It becomes possible when receiving concentrates of ores with the content of metal of 60-70% that does favorable their transportation on long distances. In general, the zinc-lead industry is drawn towards deposits of polymetallic ores which are in the North Caucasus, in Western Siberia, Eastern Siberia, in the Far East. In Urals zinc contains in copper ores. Full metallurgical conversion is presented in Vladikavkaz, in Chelyabinsk production of metal zinc from imported concentrates is carried out, and in Middle Ural area zinc concentrates are produced; in Belovo (Western Siberia) companies, involved in industry output a lead concentrate and melt zinc; in Nerchinsk (Eastern Siberia) plants produce lead and zinc

concentrates. The deficit of the lead consumed in Russia is covered by deliveries from Kazakhstan.

In Russia there are two key producers of zinc - Chelyabinsk Zinc Plant and Vladikavkaz "Electrozinc". The first one produces about 70% of all Russian zinc, the second - about 30%. Chelyabinsk Zinc Plant which almost entirely covers requirements of domestic market is a leader of branch. The location of the enterprise is also very favourable – it is in the Ural region 70% of domestic stocks of a zinc concentrate are extracted.

The zinc industry of Russia doesn't play now a key role in the world market yet, however has powerful value for the national economy using galvanized materials in construction and mechanical engineering. In general, from all zinc consumed in Russia 54% are used for galvanizing, 30% - for production of brass mill products, and nearly 14% are demanded by chemical industry. In recent years about 1,7% of world extraction of zinc and 2,2% of global production of the refined metal are the share of Russia. At the same time the country share in world reserves of zinc is much higher. On reserves of ores of this metal Russia concedes only to Australia and the People's Republic of China.²

In the territory of Russia, there are two large-scale deposits of zinc noted as world value - In the Republic of Buryatia others are located, distinguished from the rest of producers are Korbalkhinsky and Rubtsovsk in Altai Krai, Novoshirokinskoye in Transbaikalia. Leaders in balance reserves of zinc in the Russian Federation are the Republic of Buryatia (about 48% of all stocks), the Republic Bashkiria (11%) and Altai Krai (8%), besides, significant fields of zinc are available in the Orenburg and Chelyabinsk regions. Now the main centres of zinc extraction in Russia are the Urals, the Far East and Eastern Siberia. At the same time the largest volume of production of zinc in ore for the present is the share of the Urals (The republic Bashkiria, the Orenburg region), however in the future Siberia - the Republic of Buryatia, the Altai and Transbaikal regions will probably become the main supplier of zinc in ore and a concentrate.

Now extraction of zinc in Russia is considerably controlled by three large corporate structures - holdings "Ural Mining and Metallurgical Company" ("UMMC"), "Russian Copper Company" ("RCC") and "Management Company "Russian Ore Mining company" LLC

² <https://www.metalbulletin.ru/publications/3596> (metallurgical newsletter dd. 02.2018)

("ROMC"). Production of ready metal in the country is in many respects controlled by the structures belonging to "Ural Mining and Metallurgical Company".

Traditionally extraction of zinc by "Ural Mining and Metallurgical Company" holding is conducted in South Ural. At that territory UMMC JSC involves in extraction of copper-zinc ores "Uchalinsky" Mining and Processing Plant, Sibay branch of "Uchalinsky Mining and Processing Plant" JSC, (both in the Republic Bashkiria) and "Taysky Mining and Processing Plant" JSC (Orenburg Region) which are controlled by it. In 2005 within "UMMC" holding created "Bashkirian copper" LLC (Republic Bashkiria) which since 2006 conducts in the republic, development in the open way of the field Yubileinoe (Haybullinsky mine).

New Processing Plant in the neighbourhood of this field will be able to process in the future up to 3 million tons of ore per year and to produce copper and zinc concentrates with the maintenance of useful components in 20 and 50% respectively.

"Ural Mining and Metallurgical Company" holding, intends to invest in construction of new sites of the zinc industry in Altai Krai. It will finance some design and installation-construction projects including construction of infrastructure facilities of new mines and purchasing of the import mountain equipment. Thus, subdivisions of UMMC have assets on extraction of zinc generally in two regions (Urals and Altai), capable of making concentrates in huge volumes.

"Russian Copper Company" holding has no own zinc refining capacities, but produces a zinc concentrate, generally at the enterprises of Ormet CJSC (Orenburg Region), "Alexandrisk Mining Company" JSC and "Verkhneuralsk ore" JSC (two last are in Chelyabinsk Region). Shipments of a concentrate abroad are difficult for "Russian Copper Company" owing to high transportation costs.

"Russian Ore Mining company" LLC is controlled by "Dalpolimetall" JSC (Primorsky Krai), that conducts, exploration, investigation, production and processing of polymetallic ores in Dalnegorsk District of Primorsky Krai. Annual capacities of this company for production of metals in concentrates are 12 thousand tons of lead and 25 thousand tons of zinc. At the beginning of the 2000th years "Dalpolimetall" JSC supplied Chelyabinsk Zink Plant with zinc

concentrate, but later, it became more favourable for the company to export the production, than to deliver it to Urals Sales Market. Management of the company considers to be perspective for itself to sell at Asian region market, especially to the People's Republic of China. Zinc concentrate produced by “Yaroslavl Mining Company” LLC (subdivision of "Russian Ore Mining company" LLC) is of a great interest for Netherlands Company “Trafigura” with which the company concluded a contract for delivery of this production.

The Russian refining zinc enterprises are no longer among world's leading ones. The main Russian producers of pure zinc are “Chelyabinsk Zinc Plant” JSC and “Electrozinc” JSC (Vladikavkaz) which are under control of “Ural Mining and Metallurgical Company”.

Kazakhstan where now the enterprises of this profile surpass the Russian in scale remains the main competitor of the Russian Federation in the regional markets of this metal.

If the volume of production of the refined zinc of “Electrozinc” JSC approaches the level of designed capacities (90 thousand tons per year), then “Chelyabinsk Zink Plant” JSC is not able reach so powerful indicators yet. Having the potential for production of approximately 200 thousand tons of metal per year, in fact “Chelyabinsk Zink Plant” JSC couldn't load the production capacities.

Production scales of Russian companies are much lower than world leaders, in connection with a low share of world production in the territory of Russia. As the absolute leader in extraction and production of zinc in Russia is “Chelyabinsk Zink Plant” JSC. On production of lead of “Electrozinc” JSC advances “Chelyabinsk Zink Plant” JSC. In both cases production of metals has positive dynamics.

Following the results of 9 months 2017 the world volume of extraction of zinc was 9,8 million tons that is 4,5% more than rather same period of 2016. Increase in production has been connected with increase in production in mines of India, Canada, Peru, Turkey. The greatest gain is fixed in Turkey (+66%, to 231 thousand tons) and India (+53%, up to 632 thousand tons).³

Production of zinc has decreased by only 0,6% and has made 10,1 million tons. At the same time growth of consumption of metal was 0,7% - to 10,4 million tons. Growth of universal

³ http://www.ugmk.com/analytics/surveys_major_markets/tsink/

consumption of zinc will be caused by increase in demand from the USA (+12,2%) and Europe (+0,4%)

“Glencore” company has increased production of zinc in 9 months 2017 for 4,8% - to 827,4 thousand tons (totally zinc and a zinc concentrate in terms of metal). This growth is caused by increase in production of zinc in Kazakhstan for 15%, up to 157 thousand tons and high rates of release of a zinc concentrate in the “Antamina” mine in Peru.

“Hiindustan Zinc” (under control “Vedanta” company) has reported on growth of production of zinc in 9 months 2017 for 48% - up to 601 thousand tons due to restoration of production in the “Rampura Agucha” mine (India).

Also, it became known that Australia and the USA are planning to resume work on zinc mines. The Australian company “New Century Resources” intends to start again operation in 2018 the largest zinc-lead mine “Century”. Before its closing in August 2015, “Century” was the third largest zinc mine in the world. The volume of production was 460-480 thousand tons of zinc in a concentrate. Now there is a period for drawing up technical and economic assessment. According to the project, the company is going to start about 80 million tons of dumps which, by its estimates, contain 2,4 million tons of zinc in processing.

The Canadian company Titan Mining declared renewal at the end of January, 2018 of extraction of zinc ore on the mine in the American state New York. The design capacity of the mine is ~ 500 thousand tons of ore (content of zinc of 9,4%) a year. There will be enough reserves of ore at least, eight years.

The Canadian company “Titan Mining” declared renewal at the end of January, 2018 of extraction of zinc ore on the mine in the American state New York. The design capacity of the mine is ~ 500 thousand tons of ore (content of zinc of 9,4%) per year. There will be enough reserves of ore at least for eight years.

Besides, the group of investors has concluded the agreement with the “Placer Mining” company on purchase from it of the zinc mine “Bunker Hill” stopped in the late seventies in the State of Idaho. The mine is planned to start within two years. Production capacity of concentrating factory is about 550 thousand tons of ore per year (the average content of zinc is about 6%).

During 2017-2019 increase in extraction and production of zinc will also be promoted by starts of new mines. At the end of 2017 input of “Castellanos” mines (joint development of the “Trafigura” company with the Cuban state company “Geominera”) which will annually produce 100 thousand tons of zinc in a concentrate and “Dugald River” is expected (the mine is in Australia and owned by “Minerals and Metals Group” company, MMG Limited), with an annual production of zinc in a concentrate of 170 thousand tons). In 2019 input of the “Gamesberg” mine is planned (annual production of zinc in a concentrate of 250 thousand tons). The mine is in South Africa and belongs to the “Vedanta” company.

According to the data of Rosstat in Russia, the index of metallurgical production in 9 months 2017 in comparison with 2016 has made 98,6%. Despite the general recession in metallurgical branch, the zinc output following the results of the same period has increased by 5,3% in comparison with 2016. The share of Russia in world production of zinc in 9 months 2017 (including zinc - aluminium alloys) has made 2,1%.

Picture no. 1 Structure of zinc market in RF



Source: <http://eng.customs.ru>

The Russian production of zinc in 9 months 2017 has increased by 5,3% to 196 thousand tons relatively 2016. Growth has been provided generally due to realization of metal in the Russian market. Export to the considered period has decreased and has made 33,2 thousand tons (-16%).

Picture no. 2 Changes in export and import of zinc

Indicator	9 months 2016	9 months 2017	Changes year/year	
			tons	%
Zinc import	23 546	19 280	-4 266 ↓	-18% ↓
Zinc export	39 339	33 182	-6 159 ↓	-16% ↓

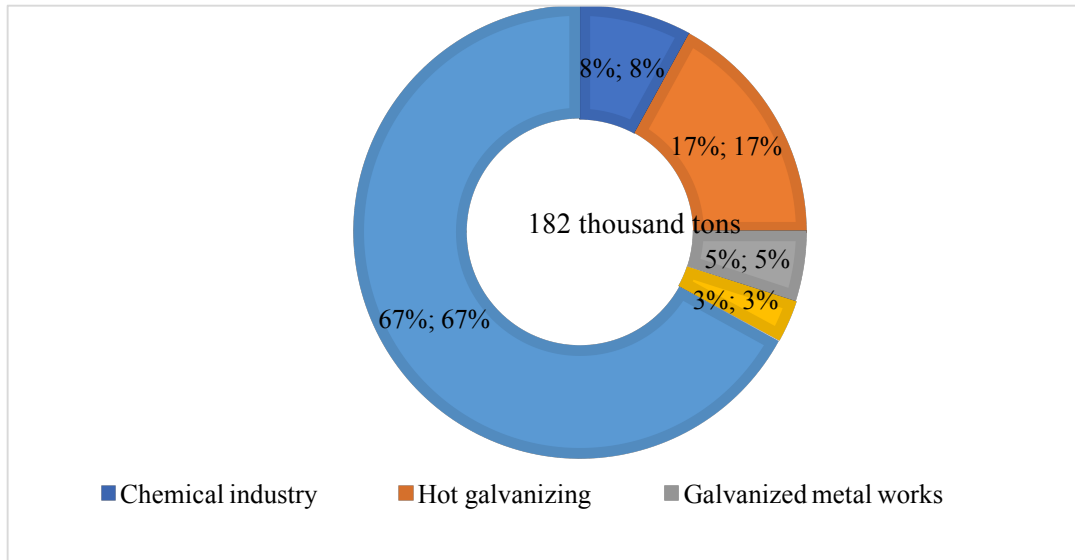
Source: <http://eng.customs.ru>

Apparent consumption of zinc in the Russian Federation in 9 months of 2017 has grown by 7% and has made 182,1 thousand tons. The share of imported zinc in structure of consumption has made 10,6%. The most part of zinc is imported from Uzbekistan (50%) and Kazakhstan (49%).

The main consumers of zinc in the domestic market of the Russian Federation are producers of galvanized steel - 67% out of total, they are followed by the enterprises which are engaged in galvanizing of metalwork - 17%. The share of enterprises involved in chemical industry is 8%, enterprises of galvanized metal works industry - 5%.

In the medium term perspective, internal consumption of zinc will increase at the expense of projects on input of new capacities of galvanizing of cold-rolled flat-rolled products and a metalwork. In 2017 capacities for galvanizing at Magnitogorsk Metallurgic Plant's companies and "Tochinvest" JSC have been already started. In 2018-2019 a number of projects of such companies as "Severstal" PJSC, "NLMK" Group and "Tochinvest" JSC is planned to be started.

Picture no. 3 Structure of zinc consumption in Russia under branches



Source: <http://en.zinc.ru>

Following the results of 9 months during 2017, quotation of zinc have shown high growth. Since the beginning of 2017 metal has risen in price for 28%. At the same time the average cost of zinc for this period has increased by 45%, to \$2 831 for ton (relatively same period in the previous year). Especially good period for metal has appeared on 3rd quarter of 2017 when the quotations of zinc have struck through the level in \$3 200 per ton and were fixed at the level of \$3 200 for ton that is the maximum level since October, 2007.⁴

Such positive dynamics was promoted, first of all, by the increasing deficiency of zinc in the world market. For the period January-September, 2017 the deficiency of zinc was 348 thousand tons whereas in January-September, 2016 it made 219 thousand tons.

Import of a zinc concentrate to China in 9 months of 2017 has grown by 38%, having reached 795 thousand tons (in terms of metal). This fact also says about great demand on zinc raw materials in the market of China that it affects in a consequence world balance

⁴ http://www.ugmk.com/analytics/surveys_major_markets/tsink/

of supply and demand. As for country macroeconomic, in the 3rd quarter of 2017 the Chinese GDP has grown by 6,8% in annual terms.

Among other factors which have influenced growth of quotations of zinc it is possible to allocate the continuing decrease in warehouse stocks for LME. So, in the 3rd quarter of 2017 average reserves of zinc have decreased by 41% up to 260,9 thousand tons (relatively same period in the previous year).

Picture no. 4 Dynamics of quotations and reserves of zinc at LME on 2015-2017



Source: <https://www.lme.com>

Table no. 1 Average prices and reserves of zinc, LME

Period	2016		2017		Changes year/year	
	Reserves at LME, tons	Cash LME official, \$/t	Reserves at LME, tons	Cash LME official, \$/t	Reserves at LME, tons	Cash LME official, \$/t
1 st quarter	465 315	1 679	393 359	2 780	-15%	66%
2 nd quarter	401 886	1 918	335 686	2 596	-16%	35%
1 st part of the year	433 346	1 799	365 215	2 690	-16%	50%
3 rd quarter	444 075	2 255	260 958	3 039	-41%	35%
9 months	437 017	1 955	323 016	2 831	-26%	45%
4 th quarter	444 738	2 517				
2 nd part of the year	438 939	2 095				

Source: <https://www.lme.com>

According to consensus–forecast from investment and research groups, the average price of zinc in in 2018 will be \$3 023 for ton.

Picture no. 5 Consensus–forecast for zinc prices



Source: <https://www.lme.com>

In 2017 deficiency of metal in the world market up to 400 thousand tons, in 2018 the deficiency will remain and will be 223 thousand tons. Thus, the limited offer of zinc in the market and also growth of economies of the leading countries will exert positive impact on the quotations of zinc.

Limiting factors of growth for prices of zinc will be: toughening by the Chinese government of ecological requirements to domestic productions, renewal of volumes of extraction of zinc in the stopped mines of the companies “Glencore”, “Vedanta”, “Nyrstar” and input of new mines in 2017-2019 (“Gamesberg” in South Africa, “Dugald River” in Australia, “Castellanos” in Cuba). It is expected that with an exit of new mines to design capacity, in addition will annually come about 520 thousand tons of zinc in a concentrate to the market.

5. Financial analysis

The goal of the financial analysis of “Chelyabinsk Zinc Plant” JSC is to review and determine the financial state of the company. The purpose will be to carry out the analysis of dynamics of absolute and relative financial indicators, the structural analysis of assets and liabilities, Cash flow analysis, analysis for coefficients of solvency and liquidity, coefficients of profitability and debt. For the analysis of financial stability will be used Altman's Z model and Kralicek Quick Test. For the analysis, the accounting reports over three consecutive years is used.

5.1. Horizontal and vertical analyses

The balance sheet contains information on assets, liabilities and the financial position of the company on the latest reporting date and on the previous reporting dates.

For studying of dynamics of balance indicators, a horizontal analysis of assets and liabilities we will carried out.

Table no. 2 Horizontal analysis of balance

	On 31.12. 2015	On 31.12. 2016	On 31.12. 2017	Changes of 2016 to 2015		Changes of 2017 to 2016	
				Absolutet housand USD	Relative , %	Absolutet housand USD	Relati ve, %
Assets							
Fixed assets	223 757	232 668	237 641	8 911	4,0	4 973	2,1
Nominal assets	221	199	177	-22	-10,0	-22	-11,1
Research and development results	1 009	1 148	1 228	139	13,8	80	7,0
Capital assets	88 049	96 265	100 589	8 216	9,3	4 324	4,5
Financial investments	133 608	133 629	133 618	21	0,0	-11	-0,0
Deferred tax assets	806	1 397	1 853	591	73,3	456	32,6
Other fixed assets	64	30	176	-34	53,1	146	486,7
Current assets	68 482	220 965	277 169	152 483	222,7	56 204	25,4
Stocks	35 766	46 186	58 634	10 420	29,1	12 448	27,0

Value added tax on acquired assets	602	999	4 858	397	66,0	3 859	386,3
Accounts receivable	28 018	145 513	85 502	117 495	419,4	-60 011	-41,2
Financial investments	789	24 119	122 131	23 330	in 30 times	98 012	406,4
Cash and cash-equivalent items	3 271	4 095	6 017	824	25,2	1 922	46,9
Other current assets	36	53	27	17	47,2	-26	-49,1
Total assets	292 239	453 633	514 810	161 394	55,2	61 177	13,5
Liabilities							
Capital and stocks	249 469	290 456	360 013	40 987	16,4	69 557	23,9
Ownership capital	951	951	951	-	-	-	-
Fixed assets re-evaluation	18 002	17 603	17 397	-399	-2,2	-206	-1,2
Added capital (without re-evaluation)	25 521	25 521	25 521	-	-	-	-
Capital reserves	48	48	48	-	-	-	-
Undistributed profits (unrecovered loss)	204 947	246 333	316 096	41386	20,2	69 763	28,3
Long-term liabilities	3 166	91 214	4 605	88 048	in 28 times	-86 609	-95,0
Credits and loans	0	87 719	0	87 719	-	-87 719	-
Deferred tax liability	3 166	3 495	4 605	329	10,4	1 110	31,8
Short-term liabilities	39 604	71 963	150 192	32 359	81,7	78 229	108,7
Credits and loans	0	0	74 561	-	-	74 561	-
Account payable	38 928	64 556	66 013	25 628	65,8	1 457	2,3
Estimated liabilities	676	7 407	9 618	6 731	995,7	2 211	29,9
Total liabilities	292 239	453 633	514 810	161 394	55,2	61 177	13,5

Source: own processing

On the basis of the data presented in Table 1, the following conclusions could be made: In 2016 in comparison with 2015, there was an increase in the total cost of property by 55,2%. It is connected generally due to increase in cost of current assets. The cost of current assets in 2016 in comparison with 2015 has increased by 222,7%. As a part of current assets there was an increase in all respects: stocks have increased by 29,1%; cash for 25,2%, financial

investments by 30 times. The greatest increase has happened under the article "accounts receivables" - for 419,4% (+117 495 thousand dollars). This fact reflects derivation of a part of the current assets on crediting of consumers of finished goods that testifies to the actual immobilization of this part of current assets from the production process. On the other hand, considering that accounts receivables not overdue and the enterprise have solvent debtors, debt indicates the forthcoming receipt of money. Fixed assets have increased by 4,0%. As a part of non-current assets the largest growth (+8 216 thousand dollars) under the article "fixed assets" is observed. It indicates investments into fixed assets. Data of the analysis of liabilities indicate growth of long-term liabilities in 2016 in comparison with 2015 by 28 times. It is connected with attraction of long-term loans in 2016. Short-term liabilities in 2016 in comparison with 2015 have increased by 81,7% generally due to increase in the sum of accounts payable which increase has made 65,8% (+25 628 thousand dollars). Growth of the sum of borrowed funds is connected with investments into fixed assets and increase in stocks. Growth of equity of the company by 16,4% is connected with growth of undistributed profit by 20,2%. In 2017 in comparison with 2016 the total cost of property has increased by 13,5%. Fixed assets have increased by 4 973 thousand dollars, growth was 2,1%. As a part of non-current assets growth of cost of fixed assets was observed (for 4,5%) that is a positive tendency and indicates investments. Current assets have increased by 25,4%. As a part of current assets accounts receivable have decreased by 41,2% that demonstrates improvement of work with buyers. The sum of financial investments has increased by 406,4%. It says about an investment of available funds in securities which are the easily realized assets, and improve solvency of the enterprise. Stocks have grown by 25,4%. Increase in stocks, against the background of growth of revenue, indicates increase in production. It is a positive factor. Cash has increased by 46,9% that is connected with decrease in the sum of accounts receivable and growth of amount of sale. Equity in 2017 in comparison with 2016 has increased by 23,9% in connection with growth of undistributed profit. Long-term liabilities have decreased by 95,0%. It is result of completion of calculations for long-term borrowed funds. Short-term liabilities have increased by 108,7% in connection with attraction of a short-term loan. Accounts payable have grown slightly (by 2,3%). The vertical analysis shows structure of funds in the company and their sources. It represents calculation for share of balance items in the total result of balance. Advantage of the vertical analysis is that in the conditions of inflation

relative sizes of indicators of the balance sheet for the beginning and the end of the year could be more easily compared, than absolute values of these indicators.

Table no. 3 Vertical analyses of balance

	On 31.12. 2015 , %	On 31.12. 2016 , %	On 31.12. 2017, %	Changes of 2016 to 2015, %	Changes of 2017 to 2016, %
Assets	76,57	51,29	46,16	-25,28	-5,13
Fixed assets	0,08	0,04	0,03	-0,04	-0,01
Nominal assets	0,35	0,25	0,24	-0,10	-0,01
Research and development results	30,13	21,22	19,54	-8,91	-1,68
Capital assets	45,72	29,46	25,96	-16,26	-3,50
Financial investments	0,27	0,31	0,36	0,04	0,05
Deferred tax assets	0,02	0,01	0,03	-0,01	0,02
Other fixed assets	23,43	48,71	53,84	25,28	5,13
Current assets	12,24	10,18	11,39	-2,06	1,21
Stocks	0,21	0,22	0,94	0,01	0,72
Value added tax on acquired assets	9,58	32,08	16,61	22,50	-15,47
Accounts receivable	0,27	5,32	23,72	5,05	18,4
Financial investments	1,12	0,90	1,17	-0,22	0,27
Cash and cash-equivalent items	0,01	0,01	0,01	-	-
Other current assets	100,00	100,00	100,00	-	-
Total assets					
Liabilities	85,37	64,03	69,93	-21,34	5,90
Capital and stocks	0,33	0,21	0,18	-0,12	-0,03
Ownership capital	6,16	3,88	3,38	-2,28	-0,50
Fixed assets re-evaluation	8,73	5,63	4,96	-3,10	-0,67
Added capital (without re-evaluation)	0,02	0,01	0,01	-0,01	-
Capital reserves	70,13	54,30	61,40	-15,83	7,10
Undistributed profits (unrecovered loss)	1,08	20,11	0,90	19,03	-19,21
Long-term liabilities	0	19,34	0	19,34	-19,34
Credits and loans	1,08	0,77	0,90	-0,31	0,13
Deferred tax liability	13,55	15,86	29,17	2,31	13,31
Short-term liabilities	0	0	14,48	-	14,48
Credits and loans	13,32	14,23	12,82	0,91	-1,41
Account payable	0,23	1,63	1,87	1,40	0,24
Estimated liabilities	100,00	100,00	100,00	-	-

Source: own processing

The vertical analysis shows that in 2016 in comparison with 2015 the specific weight of current assets has increased by 25,28% and has made 48,71% of the cost of property owned by the company.

Specific weight of receivables has increased by 22,50% that is connected with increase in volume of sales by 59,1% (Table 3). The share of stocks has decreased by 2,06%. In structure of liabilities in 2016 in comparison with 2015 the share of equity has decreased by 21,34%. It is connected with increase in a share of the loan capital. In 2016 the share of equity makes 64,03% that shows insignificant dependence on external financing.

In 2017 in comparison with 2016 the share of current assets has increased by 5,13% and has made 53,84%. The share of stocks has increased by 1,21%. It indicates accumulation of production potential. There was a decrease in a share of accounts receivable by 15,47% in connection with their repayment. In 2017 in comparison with 2016 the equity share in structure of a liabilities has increased by 5,90%.

The share of long-term obligations has decreased by 19,21%, the share of short-term obligations has increased by 13,31%. As a result, there was a decrease in dependence on external financing.

The report on financial result reflects statistical data on income and expenses of the company. Horizontal and vertical analyses of the report on financial result allow to reveal the changes which have arisen in reporting indicators and on this basis management can make decisions for effective functioning of the enterprise.

Table no. 4 Horizontal analysis of Financial Results Statement, thousand dollars

Description	2015	2016	2017	Changes of 2016 to 2015		Changes of 2017 to 2016	
				Absolute, thousand USD	Relative, %	Absolute, thousand USD	Relative, %
Revenue	215 830	343 302	410 946	127472	59,1	67644	19,7
Self-cost of the sold goods, products, works, services	(153 071)	(244 502)	(283 612)	(91431)	(59,7)	(39110)	(16,0)
Gross profit	62 759	98 800	127 334	36041	57,4	28534	28,9
Commercial expenses	(11 986)	(16 443)	(18 651)	(4457)	(37,2)	(2208)	(13,4)
Administrative expenses	(14 488)	(15 909)	(17 473)	(1421)	(9,8)	(1564)	(9,8)
Profit (loss) from sales	36 285	66 448	91 210	30163	83,1	24762	37,3
Participation capital	412	0	736	-412	-	736	-
Interest receivable	1 772	2 113	14 077	341	19,2	11964	566,2
Interest payable	(0)	(4 265)	(10 543)	4265	-	(6278)	(147,2)
Other incomes	19 161	23 965	14 661	4804	25,1	-9304	-38,8
Other expenses	(20 753)	(36 619)	(22 852)	(15866)	(76,5)	13767	37,6
Profit (loss) before taxation	36 877	51 642	87 289	14765	40,0	35647	69,0
Current income tax	(6 691)	(10 894)	(16 930)	(4203)	(62,8)	(6036)	(55,4)
including regular tax liabilities	89	303	232	214	240,4	-71	-23,4
Changes of deferred tax liabilities	-100	329	1 110	429	429,0	781	237,4
Changes of deferred tax assets	-694	591	457	1285	185,2	-134	-22,7
Other	180	23	149	-157	-87,2	126	547,8
Net profit (loss)	29 412	40 987	69 557	11575	39,4	28570	69,7

Source: own processing

According to data of the horizontal analysis, the revenue of the company in 2016 in comparison with 2015 has increased by 59,1%. Cost of sales has increased by 59,7%. Insignificant advancing of growth rates of prime cost over revenue was observed. Commercial

and administrative expenses in 2016 grew more slowly, than revenue. As a result, profit on sales in 2016 in comparison with 2015, has increased by 83,1%. It indicates efficiency of the primary activity of the enterprise. Interest receivables on the sum are less than interests payable, other income is lower than other expenses. As a result, in 2016 profit growth before the taxation makes 40,0% in comparison with 2015. Increase in net profit has made 39,4% to the level of 2015. In 2017 revenue has increased by 19,7% in comparison with 2016. Cost of sales has increased by 16,0%. The growth rate of prime cost is less than growth rate of revenue. It is the positive moment that demonstrates efficiency of control of product cost. Profit on sales has increased in comparison with 2016 by 37,3%. In 2017 company has gained income from participation in other organizations, the sum of interest receivable has exceeded the sum of percent to payment that promoted increase in profit up to the taxation at 69,0% in comparison with 2016. Net profit in 2017 has increased by 69,7%.

Table no. 5 Vertical analyses of Financial Results Statement

Description	2015, %	2016, %	2017, %	Changes of 2016 to 2015, %	Changes of 2017 to 2016, %
	100,0	100,0	100,0	-	-
Revenue	(70,9)	(71,2)	(69,0)	(0,3)	2,2
Self-cost of the sold goods, products, works, services	29,1	28,8	31,0	-0,3	2,2
Gross profit	(5,6)	(4,8)	(4,5)	0,8	0,3
Commercial expenses	(6,7)	(4,6)	(4,4)	2,1	0,2
Administrative expenses	16,8	19,4	22,1	2,6	2,7
Profit (loss) from sales	0,2	0,0	0,2	-0,2	0,2
Participation capital	0,8	0,6	3,4	-0,2	2,8
Interest receivable	(0,0)	(1,2)	(2,6)	(1,2)	(1,4)
Interest payable	8,9	7,0	3,6	-1,9	-3,4
Other incomes	(9,6)	(10,8)	(5,6)	(1,2)	5,2
Other expenses	17,1	15,0	21,1	-2,1	6,1
Profit (loss) before taxation	(3,1)	(3,2)	(4,1)	(0,1)	(0,9)
Current income tax	0,0	0,1	0,3	0,1	0,2
including regular tax liabilities	-0,3	0,2	0,1	0,5	-0,1
Changes of deferred tax liabilities	0,1	0,0	0,0	-0,1	-
Changes of deferred tax assets	13,6	11,9	16,9	-1,7	5,0

Source: own processing

Data of the vertical analysis show that the greatest share in revenue is made by cost of sales. In 2016 the share of cost of sales has slightly increased, in 2017 there was a decrease in a share lower than the level of 2015. The share of profit on sales during 2016 and 2017 increased. Shares of the profit before taxation and net profit tend growth. The vertical analysis indicates the efficiency of managing the business.

5.2. Cash flow analyses

Cash Flow is calculated by two methods: direct and indirect. For the direct cash flow method, each article of the Profit and Loss Statement is transformed in the course of what the actual receipt of money and the actual expense is defined. The lack of a direct method is that it doesn't disclose interrelation of size of financial result and size of money changing.

At indirect method, transformation of each article of the Profit and Loss Statement isn't supposed. According to this method the initial point of calculation is the size of annual profit (loss) for the analyzed reporting period which is corrected, adding all expenses which aren't connected with cash flow and subtracting all income which isn't connected with cash flows.

The indirect method is considered to be more suitable for administrative purposes, than a direct one. It allows to establish compliance between financial result and own current assets. In the long-term perspective indirect method allows to reveal the most problematic "places of a congestion" for frozen funds and to develop ways for solving current situation.

Cash Flow indirect method.

Net Cash Flow (NCF,) and Net Profit of the reporting period (NP) are practically never equal in practice. Net Profit can consist of profits or losses, the sign of Net Cash Flow can also be other in comparison with Net Profit.

Formula of Net Cash Flow on the balance sheet:

$$\mathbf{NCF = NP - \Delta FA - \Delta CA_{\text{without } \Delta F} + \Delta OC_{\text{without } \Delta OC} + \Delta LTL + \Delta STL,}$$

where NCF – Net Cash Flow;

NP – Net Profit;

Δ FA – changes of Fixed Assets over period;

Δ CA_{without Δ F} – changes of Current Assets (without regards of Funds) over the period;

Δ OC_{without Δ NP} – changes of Own Capital (without regards of Net Profit) over the period;

Δ LTL и Δ STL – changes of long-term and short-term liabilities over period.

Table no. 6 Calculation of Net Cash Flow [Indirect Method]

Estimate indicator	Period		
	2015	2016	2017
1. Net Profit (Loss) for the Period	29 412	40 987	69 557
2. Adjustments to reconcile Net Profit (loss) to Net Cash from (used in) operating activities:			
changes of Fixed Assets	68 310	8 911	4 973
changes of Current Assets (without regards of Funds (Cash), including	-6 733	151 659	54 282
increase in stocks	769	12 448	10 420
increase of VAT	414	397	3 859
Change of accounts receivable	-474	117 495	-60 011
Change of financial investments	-7 434	23 330	98 012
change of long-term liabilities	-100	88 048	-86 609
change of short-term liabilities	15 966	32 359	78 229
change of own capital (without regards of Net Profit)	0	0	0
3. Net increase (decrease) in cash and cash equivalents	-16 299	824	1 922
4. Cash and cash equivalents at beginning of period	19 570	3 271	4 095
5. Cash and cash equivalents at end of period	3 271	4 095	6 017

Source: own processing

Results for calculation of Net Cash Flow: Net Cash Flow during 2016 and 2017 has increased, has positive value. Receipts of cash exceed payments. The enterprise is financially steady.

5.3. Analysis of coefficients

5.3.1. Liquidity coefficient

For carrying out calculation of coefficients assets will be divided into groups on degree of liquidity (Table 6). Liabilities will be divided into groups on degree of urgency of their repayment (Table 7).

Table no. 7 Assets of the enterprise

Indicator	Indicator includes	On 31.12. 2015, thous.USD	On 31.12. 2016, thous.USD	On 31.12. 2017, thousand USD
A1	- cash - short-term financial investments	4 060	28 214	128 148
A2	- accounts receivable	28 018	145 513	85 502
A3	- stocks - value added tax on acquired assets - other assets	36 404	47 238	63 519
A4	- fixed assets	223 757	232 668	237 641

Source: own processing

Table no. 8 Liabilities of the company

	Indicator includes	On 31.12. 2015, thous.USD	On 31.12. 2016, thous.USD	On 31.12. 2017, thous.USD
L1	- account payable	38 928	64 556	66 013
L2	- short-term loaned funds - estimated liabilities	676	7 407	84 179
L3	- long-term liabilities	3 166	91 214	4 605
L4	- own capital of the company	249 469	290 456	360 013

Source: own processing

Condition of balance liquidity is keeping of the following inequalities:

$$A1 > L1$$

$$A2 > L2$$

$$A3 > L3$$

$$A4 < L4$$

Table no. 9 Results of balance liquidity

On 31.12. 2015, thousand USD		On 31.12. 2016, thousand USD		On 31.12. 2017, thousand USD	
A1 < L1	4060 < 38928	A1 < L1	28214 < 64556	A1 > L1	128148 ≥ 66013
A2 > L2	28018 > 676	A2 > L2	145513 > 7407	A2 > L2	85502 > 84179
A3 > L3	36404 > 3166	A3 < L3	47238 < 91214	A3 > L3	63519 > 4605
A4 < L4	223757 < 249469	A4 < L4	232668 < 290456	A4 < L4	237641 > 360013

Source: own processing

Following the results of the analysis in Table 8 could be seen, that the balance became liquid only at the end of 2017.

Liquidity coverage ratio is calculated by a formula:

$$L1 = (A1 + (1/2)*A2 + (1/3)*A3) / (\Pi1 + (1/2)*\Pi2 + (1/3)*\Pi3)$$

Standard value $L1 \geq 1$

Table no. 10 Results of liquidity coverage ratio

On 31.12. 2015, thousand USD	On 31.12. 2016, thousand USD	On 31.12. 2017, thousand USD
L1 = 0,75	L1 = 1,18	L1 = 1,75

Source: own processing

In 2015 Liquidity Coverage Ratio is lower than the standard value. In 2016 and 2017 the Liquidity Coverage Ratio is within standard frames. During the analyzed period growth of an indicator is observed. It is a positive factor. For more detailed analysis of liquidity, will be carry out calculation of coefficients for group of indicators.

The coefficient of the current liquidity, characterizes the ability of the company to repay short-term obligations at the expense of all assets. It is calculated by a formula:

$$L2 = (\text{Current Assets}) / (\text{Shot-term liabilities})$$

Standard value of an indicator is in a side-altar from 1,5 to 2,5.

The coefficient of urgent liquidity characterizes ability of the company to repay obligations at the expense of the fast-realized assets minus commodity stocks. It is calculated by a formula:

$$L3 = (\text{Cash} + \text{Short-term financial investments} + \text{accounts receivable}) / (\text{Short-term liabilities})$$

Standard value of an indicator is in a side-altar from 0,8 to 1,5.

Absolute liquidity index characterizes ability of the company to repay liabilities by cash. It is calculated by a formula:

$$L4 = (\text{Cash} + \text{short-term financial investments}) / (\text{Short-term obligations})$$

Standard value of an indicator is more than 0,1.

Table no. 11 Calculation of liquidity index

Indicator	Meaning of the indicator			Changes of indicator	
	On 31.12. 2015	On 31.12. 2016	On 31.12. 2017	2016 to 2015	2017 to 2016
Current assets, thousand USD	68 482	220 965	277 169	152 483	56 204
Short-term liabilities, thousand USD	39 604	71 963	150 192	32 359	78 229
Cash, thousand USD	3 271	4 095	6 017	824	1 922
Short-term financial investments, thousand USD	789	24 119	122 131	23 330	98 012
Accounts receivable, thousand USD	28 018	145 513	85 502	117 495	-60 011
Current liquidity ratio	1,729	3,071	1,845	1,342	-1,226
Acid test ratio	0,810	2,414	1,423	1,604	-0,991
Absolute liquidity ratio	0,103	0,392	0,853	0,289	0,461

Source: own processing

During the period, 2015 - 2017, liquidity indicators are in limits of standard values. It says about stability of business activity of the enterprise. The tendency of growth of indicators is observed that means improvement of liquidity. The enterprise is ready to repay the short-term liabilities.

5.3.2. Profitability coefficient

The analysis of profitability allows to estimate ability of the enterprise to bring income on the

capital invested in the enterprise. In the analysis we will calculate several coefficients of profitability where profit corresponds to revenue, expenses, assets.

1. The general or accounting profitability shows the profit size before the taxation on unit of sales and is calculated by a formula:

$$\text{General profitability} = (\text{Profit (before the taxation)} * 100) / \text{the Revenues from sales}$$

2. Profitability of sales characterizes the size of profit on sales falling on unit of revenue from sales. The indicator is calculated by a formula:

$$\text{Profitability of sales} = (\text{Profit on sales} * 100) / \text{Revenues from sales}$$

3. True profitability shows the size of net profit on unit of revenue and is calculated by a formula:

$$\text{True profitability} = (\text{Net profit} * 100) / \text{Revenues from sales}$$

4. Economic profitability characterizes efficiency of use of all property. It is calculated by a formula:

$$\text{Economic profitability} = (\text{Net Profit} * 100) / \text{Average annual cost of property}$$

5. Profitability of equity characterizes efficiency of use of equity. It is calculated by a formula:

$$\text{Profitability of equity} = (\text{Net Profit} * 100) / \text{Average annual cost of equity}$$

6. Profitability of production determines the size of profit on sales on unit of full expenses.

Calculation is conducted on a formula:

$$\text{Profitability of production} = (\text{Profit from sales} * 100) / \text{Costs of production and sales}$$

Table no. 12 Analysis of profitability ratio

Indicator	Meaning of indicator			Changes of indicator	
	2015	2016	2017	2016 to 2015	2017 to 2016
Profit before taxation, thous.USD	36 877	51 642	87 289	14 765	35 647
Profit from sales, thous.USD	36 285	66 448	91 210	30 163	24 762
Net profit, thous.USD	29 412	40 987	69 557	11 575	28 570
Revenue from sales, thous.USD	215 830	343 302	410 946	127 472	67 644
Average annual cost of property, thous.USD	269 600	372 936	484 222	103 636	111 286

Average annual cost of equity	234 763	269 963	325 235	35 200	55 272
Cost of production and sales, thous.USD	179 545	276 854	319 736	97 309	42 882
General profitability, %	17,1	15,0	21,2	-2,1	6,2
Sales profitability, %	16,8	19,4	22,2	2,6	2,8
True profitability, %	13,6	11,9	16,9	-1,7	5,0
Economic profitability, %	10,9	11,0	14,4	0,1	3,4
Profitability of equity, %	12,5	15,2	21,4	2,7	6,2
Profitability of production, %	20,2	24,0	28,5	3,8	4,5

Source: own processing

In 2016 in comparison with 2015 there was a decrease in the general profitability and true profitability. It is connected with the fact that growth rates of revenue advanced growth rates of profit before the taxation and net profit. Other indicators of profitability have increased. In 2017 all indicators of profitability grow. Indicators of profitability and their dynamics indicate effective management of economic activity and uses of resources of the enterprise.

5.3.3. Debt ratio

Debt coefficient is one of the key financial indicators applied to the analysis of a condition of the company, tracking of negative tendencies and their timely elimination. Debt coefficient is calculated by a formula:

$$\text{Debt coefficient} = \text{loan capital} / \text{sum of assets}$$

$$\text{Loan capital} = \text{long-term liabilities} + \text{short-term liabilities}$$

The standard value of an indicator is in the frame from 0 to 1.

Debt coefficient is used for assessment of the general financial condition of the company. For deeper analysis calculation of additional coefficients should be carried out: coefficient of the current debt, coefficient of short-term debt and coefficient of financial leverage.

Coefficient of current debt shows a share of short-term debt in the total amount of the capital and is calculated by a formula:

$$\text{Coefficient of current debt} = \text{short-term liabilities} / \text{sum of assets}$$

Standard value of an indicator is in the frame from 0,1 to 0,2.

Coefficient of short-term debt reflects a share of short-term debt in the total amount of debt and is calculated by a formula:

$$\text{Coefficient of short-term debt} = \text{Short-term obligations} / \text{Loan capital}$$

Coefficient of financial leverage shows degree of dependence of the company on external sources of financing. It is calculated by a formula:

$$\text{Coefficient of financial leverage} = \text{loan capital} / \text{equity}$$

Table no. 13 Analyses of debt coefficients

Indicator	Meaning of indicator			Changes of indicator	
	On 31.12. 2015	On 31.12. 2016	On 31.12. 2017	2016 to 2015	2017 to 2016
Assets, thous. USD	292 239	453 633	514 810	161 394	61 177
Long-term liabilities, thous. USD	3 166	91 214	4 605	88 048	-86 609
Short-term liabilities, thous. USD	39 604	71 963	150 192	32 359	78 229
Sum of loan capital, thous.	42 770	163 177	154 797	120 407	-8 380
Sum of equity, thousand USD	249 469	290 456	360 013	40 987	69 557
Debt coefficient	0,146	0,360	0,301	0,214	-0,059
Coefficient of current debt	0,136	0,159	0,292	0,023	0,133
Coefficient of short-term debt	0,926	0,441	0,970	-0,485	0,529
Coefficient of financial leverage	0,171	0,562	0,430	0,391	-0,132

Source: own processing

During the period of analysis, the debt coefficient is in the frame of standard values. In 2016 and 2017 the enterprise attracted loans that has led to increase in an indicator in standard the frame. The coefficient of the current debt has increased in 2016 and 2017. The share of short-term liabilities has increased during the analyzed period, in connection with attraction of a loan. The coefficient of financial leverage has increased in 2016, in comparison with 2015, in 2017 there was a decrease in an indicator. Decrease in coefficient of financial leverage demonstrate decrease in dependence on external sources of financing.

5.3.4. Solvency ratio

Solvency coefficient is one of key parameters displaying a share of the capital invested by the owner of the company in property and also degree of independence of the enterprise of borrowed funds. The coefficient of the general solvency shows ability of the enterprise to cover the obligations with the current assets. It is calculated by a formula:

Coefficient of the general solvency = Equity of the organization/Sum of assets

The standard value of an indicator is in the frame from 0,5 to 0,7.

Table no. 14 Analysis of coefficients of the general solvency

Meaning of indicator			Changes of indicator	
On 31.12. 2015	On 31.12. 2016	On 31.12. 2017	2016 to 2015	2017 to 2016
0,854	0,640	0,699	-0,214	0,059

Source: own processing

The value of general solvency coefficient throughout the analyzed period is in standard the frame. It indicates independence of the enterprise of external sources of financing and ability to cover the obligations with the current assets.

For the analysis of solvency, it is necessary to study net working capital of the enterprise.

Using an indicator of net working capital, it is possible to calculate coefficient of security with own means (own sources of financing). Indicator formula:

Coefficient of security with own funds = net working capital / current assets

The standard value of an indicator is equal or higher than 0,1.

Table no. 15 Analyses of net working capital

Indicator	Meaning of indicator			Changes of indicator	
	On 31.12. 2015	On 31.12. 2016	On 31.12. 2017	On 2016 - 2015	On 2017 - 2016
Net working capital, thous. USD	25 712	57 788	122 237	32 076	64 449
Coefficient of security with own funds	0,375	0,262	0,237	-0,113	-0,025

Source: own processing

Net working capital of the enterprise during the analyzed period has increased. The value of coefficient of security with own funds is in standard the frame, but the tendency of decrease in an indicator is observed. It indicates advancing of growth rates of current assets over growth rates of net working capital.

The following calculation will show how fast the enterprise can lose ability to pay off according to liabilities by means of coefficient of solvency loss. Period for analyses is year 2017. Calculation is made by formula:

$$\text{Coefficient of solvency loss} = (\text{Ccl}_e + 3/P (\text{Ccl}_e - \text{Ccl}_b)) / 2,$$

where Ccl_e - coefficient of the current liquidity for the end of the analyzed year;

P (reporting period) – 12 months;

Ccl_b – coefficient of current liquidity for the beginning of the analyzed year.

$$\text{Coefficient of solvency loss} = (1,845 + 3/12(1,845 - 3,071)) / 2 = 0,769$$

Coefficient of solvency loss is less than 1. It indicates threat of loss of solvency.

5.4. Analysis of financial stability

5.4.1. Altman Z Model

Altman Z model defines an integrated indicator of bankruptcy threat. The five-factorial model for the complex coefficient analysis is the cornerstone of calculation. Altman has defined coefficients of the importance of separate factors to integrated assessment of probability of bankruptcy. Altman's model has the following view:

$$Z = 1,2 X_1 + 1,4 X_2 + 3,3 X_3 + 0,6 X_4 + 1,0 X_5 ,$$

where Z – integrated indicator of bankruptcy level;

X_1 – ratio of net working capital to the sum of assets;

X_2 – profitability of assets (net profit to the sum of assets);

X_3 –profit ratio before the taxation to the sum of assets;

X_4 – equity ratio coefficient to the loan capital;

X_5 – ratio of sales revenues to the sum of assets.

Period for analyses is 2017

Table no. 16 Calculation of Altman Z model's factors

	Meaning	
Annual average total assets, thousand USD	484 222	
Net working capital, thousand USD	90 080	
Net profit, thousand USD	69 557	
Profit before taxation, thousand USD	87 289	
Annual average equity capital, thousand USD	325 235	
Annual average loan capital, thousand USD	158 987	
Revenue from sales, thousand USD	410 946	
X1	0,186	$1,2X1 = 0,2232$
X2	0,144	$1,4X2 = 0,2016$
X3	0,180	$3,3X3 = 0,5940$
X4	2,046	$0,6X4 = 1,2276$
X5	0,849	$X5 = 0,8490$

Source: own processing

$$Z = 0,2232 + 0,2016 + 0,5940 + 1,2276 + 0,8490 = 3,0954$$

When $Z > 2,99$ the probability of bankruptcy is insignificant.

By results of assessment it is possible to draw a conclusion that the enterprise has a margin of safety, the probability of bankruptcy, according to Altman's model, is insignificant.

5.4.2. Kralicek Quick Test

Method of Kralicek Quick Test is a type of Risk Index Models.

Table no. 17 Kralicek Quick Test, KQT_M

Indicators			Points (P_{Xi})				
			4	3	2	1	0
Financial stability	X_1	Share of equity	0,3	0,2-0,3	0,1-0,2	0,0-0,1	< 0,0
	X_2	Period for debt repayment, years	<3	3-5	5-12	12-30	>30
Assessment of indicators for financial stability (arithmetical average A)							
Efficiency	X_3	Return on Total Assets	0,15	0,12-0,15	0,08-0,12	0,00-0,08	< 0,00
	X_4	Cash flow/profit	0,1	0,08-0,1	0,05-0,08	0,00-0,05	< 0,0
Assessment of indicators for efficiency (arithmetical average B)							

Source: own processing

$$KQT_M = \frac{A+B}{2}$$

$$KQT = \sum_{i=1}^4 P_{Xi}$$

Analyzed period – year 2017

$$X_1 = 0,67 \text{ point } 4$$

$$X_2 = 1 \text{ year point } 4$$

$$X_3 = 0,14 \text{ point } 3$$

$$X_4 = 0,21 \text{ point } 4$$

$$A = (4 + 4) / 2 = 4$$

$$B = (3 + 4) / 2 = 3,5$$

$$KQT_M = (4 + 3,5) / 2 = 3,75$$

When $KQT_M > 3$ - financial condition of the company is stable (S).

$$KQT = \sum_{i=1}^4 (4 + 4 + 3 + 4) = 15$$

When $KQT > 11$ - very well financial condition.

According to test results the enterprise has a stable financial condition.

5.5. SWOT analysis

Strengths:

- S1 - Favorable economic and geographical position for cooperation with two regions-importers of zinc (Western Europe and Asia)
- S2 - Russian zinc successfully competes in the world market on the qualitative characteristics with similar production from other countries
- S3 - Low environmental costs
- S4 - Strong position on the markets (Turkey, Western Europe)

Weaknesses:

- W1 - Low level of zinc import (about 0.6% of world volume)
- W2 - Low level of support from the government
- W3 - Lagging behind world-class manufacturing technologies
- W4 - Significant but not high positions in world exports-2%

Opportunities:

- O1 - Strengthening the export potential of the industry
- O2 - Intensive process of integration of the industry into the world market
- O3 - Increasing the level of remuneration

Threats:

- T1 - Poorly predicted the extent of the deduction of production costs due to potential external changes within the industry
- T2 - Inconsistent formation of the market economy in Russia, its dependence on the world economic cycles
- T3 – High competition on the market

6. Conclusion and Recommendations

6.1. Recommendations

During analysis of a financial condition of the enterprise advancing of growth rates of current assets over growth rates of net working capital is revealed. On the basis of indicators of 2017 the coefficient of solvency loss has been calculated. The value of coefficient is less than unit. It indicates bankruptcy threat. It is necessary to carry out the analysis of turnover of net working capital.

The coefficient of turnover is calculated by a formula:

$$\text{Working capital turnover} = \text{Revenue} / \text{Net working capital}$$

Period of one turnover is calculated by the formula:

$$\text{Days of turnover} = 365 \text{ days} / \text{working capital turnover}$$

Table no. 18 Calculation for turnover of net working capital

	2016	2017	Changes of indicator
Average annual net working capital, thousand USD	41 750	90 013	48 263
Revenue (thousand USD)	343 302	410 946	67 644
Turnover coefficient	8,22	4,57	-3,65
Number of days for turnover, days	44	80	36

Source: own processing

In 2017 the turnover of working capital was slowed down almost twice. Increase in turnover leads to decrease in efficiency of use of funds that leads to increase in need for current assets. At the enterprise the growth rate of working capital considerably advances growth rate of revenue.

Considerable reserves of increase in efficiency and use of current assets exist directly in the enterprise. In 2017 in comparison with 2016 the cost of stocks has grown by 27,0%, and revenue for this period for 19,7%. Stocks play an important role in ensuring continuity of

process of production, at the same time, they represent that part of production funds which temporarily doesn't participate in production.

The following steps for reduction of production stocks are suggested:

- elimination of excess reserves of materials;
- improvement of rationing of current assets;
- improvement of the organization of supply, including by establishment of accurate contractual conditions of deliveries and ensuring their performance, optimum the choice of suppliers;
- improvement of the organization of warehousing.

We will count release of funds at acceleration of turnover of net working capital if duration of a turnover of working capital is reduced by 18 days.

Duration of one turn will be 62 days (80-18).

The sum of working capital at revenue of 2017 of equal 410 946 thousand dollars will be:

Working capital = (Revenue * Days of a turn) / 365 days

Working capital = (410946*62)/365 = 69 805 thousand dollars.

Release of current assets = 90 013 – 69 805 = 20 208 thousand dollars.

Acceleration of turnover of current assets and their release as a result of it in any form will allow the company to aim funds for business development, without attracting the additional financial resources.

6.2. Conclusion

Chelyabinsk Zinc Plant JSC is the absolute leader in extraction and production of zinc in Russia. Carrying out the financial analysis of economic activity of the enterprise during 2015-2017 was the purpose of this research.

Horizontal analysis has shown positive tendencies in a financial condition of the enterprise. Throughout the analyzed period, 2015 - 2017, the cost of property of the enterprise has increased. The profit sum has grown, investments into fixed assets were carried out, receivables sum has decreased, available funds were made in securities. The enterprise uses own and loan capital for production development.

According to the vertical analysis, over the analyzed period in structure of assets of the enterprise there was a decrease in a share of fixed assets. In structure of liabilities of the enterprise the share of borrowed funds from 14,63% in 2015 has increased to 30,07% in 2017. Equity share is about 70%. What indicates insignificant dependence on external financing.

Results of the horizontal analysis of the report on financial results indicate efficiency of primary activity of the enterprise during 2015-2017. The financial result from other activity is negative. Net profit has positive dynamics, for the analyzed period it has increased twice.

Vertical analysis of the report on financial results indicates efficiency of managing: the share of profit on sales has increased during 2016 and 2017, shares of profit before taxation and net profit tend growth.

Cash flow analysis shows that the enterprise is financially steady: the pure cash flow during 2016 and 2017 has increased, has positive value. Receipts of money exceed payments.

During the analyzed period liquidity indicators are in limits of standard values and tend growth. The enterprise is ready to repay the short-term liability, liquidity increases.

Indicators of profitability and their positive dynamics indicate effective management of economic activity and uses of resources of the enterprise.

During the analyzed period the coefficient of debt is in the frame of standard values. The share

of short-term liabilities has increased during the analyzed period, in connection with attraction of a loan. The coefficient of financial leverage has increased in 2016, in comparison with 2015, in 2017 there was a decrease in an indicator that points to decrease in dependence on external sources of financing.

The value of general solvency coefficient throughout the analyzed period is in standard the frame – the enterprise is capable to cover the liabilities with the current assets. Net working capital of the enterprise during the analyzed period has increased. The value of security coefficient with own funds is in standard the frame, but the value of an indicator decreases. Calculation of coefficient of loss of solvency indicates threat of loss of solvency. The coefficient of loss of solvency is less than 1.

For the analysis of threat of bankruptcy, the integrated indicator on Altman's model has been calculated. By results of assessment it is possible to draw a conclusion that the enterprise has a margin of safety, the probability of bankruptcy, according to Altman's model, is insignificant. Assessment of stability of a financial condition of the enterprise with application of Kralicek Quick Test indicates a stable financial state.

By results of the financial analysis of economic activity of Chelyabinsk Zinc Plant JSC it is possible to draw a conclusion: the enterprise has a stable financial condition, low dependence on external sources of financing, there is a readiness to repay short-term liabilities.

In 2017 the turnover of working capital was slowed down. Increase in turnover leads to decrease in efficiency of use of funds that leads to increase in need for current assets. Also some actions for strengthening of financial stability and for improvement of use of current assets were suggested after analyses. Calculation of the sum of the released current assets as a result of acceleration of turnover is made. The enterprise can use the released funds for production development, without attracting additional financial resources.

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8 Appendices

Appendix 1

Balance sheet
Chelyabinsk Zinc Plant JSC (Thousand USD)

Description	On 31.12.2017	On 31.12.2016	On 31.12.2015
ASSETS			
I. Fixed assets			
Nominal assets	177	199	221
Research and development results	1 228	1 148	1 009
Capital assets	100 589	96 265	88 049
Financial investments	133 618	133 629	133 608
Deferred tax assets	1 853	1 397	806
Other fixed assets	176	30	64
Subtotal section I	237 641	232 668	223 757
II. Current assets			
Stocks	58 634	46 186	35 766
Value added tax on acquired assets	4 858	999	602
Accounts receivable	85 502	145 513	28 018
Financial investments	122 131	24 119	789
Cash and cash-equivalent items	6 017	4 095	3 271
Other current assets	27	53	36
Subtotal section II	277 169	220 965	68 482
BALANCE	514 810	453 633	292 239
LIABILITIES			
III. Capital and stocks			
Stocks	951	951	951
Value added tax on acquired assets	17 397	17 603	18 002
Accounts receivable	25 521	25 521	25 521
Financial investments	48	48	48
Cash and cash-equivalent items	316 096	246 333	204 947
Subtotal section III	360 013	290 456	249 469
IV. Long-term liabilities			
Credits and loans	0	87 719	0
Deferred tax liability	4 605	3 495	3 166
Subtotal section IV	4 605	91 214	3 166
V. Short-term liabilities			
Credits and loans	74 561	0	0
Account payable	66 013	64 556	38 928
Estimated liabilities	9 618	7 407	676
Subtotal section V	150 192	71 963	39 604
BALANCE	514 810	453 633	292 239

Source: <http://en.zinc.ru>

Financial Results Statement (Thousand USD)

Description	2017	2016	2015
Revenue (minus VAT and excise duties)	410 946	343 302	215 830
Self-cost of the sold goods, products, works, services	(283 612)	(244 502)	(153 071)
Gross profit	127 334	98 800	62 759
Commercial expenses	(18 651)	(16 443)	(11 986)
Administrative expenses	(17 473)	(15 909)	(14 488)
Profit (loss) from sales	91 210	66 448	36 285
Participation capital	736	0	412
Interest receivable	14 077	2 113	1 772
Interest payable	(10 543)	(4 265)	(0)
Other incomes	14 661	23 965	19 161
Other expenses	(22 852)	(36 619)	(20 753)
Profit (loss) before taxation	87 289	51 642	36 877
Current income tax	(16 930)	(10 894)	(6 691)
including regular tax liabilities	232	303	89
Changes of deferred tax liabilities	1 110	329	-100
Changes of deferred tax assets	457	591	-694
Other	149	23	180
Net profit (loss)	69 557	40 987	29 412

Source: <http://en.zinc.ru>