

Projekt implementace konceptu EVA do podniku Slovmet spol. s r.o.

Bc. Jana Širilová

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Jméno a příjmení: **Bc. Jana ŠIRILOVÁ**
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Zásady pro vypracování:

Úvod

I. Teoretická část

- Zpracujte kritickou literární rešerši problematiky konceptu ekonomické přidané hodnoty (EVA) a její implementace do podniku.

II. Praktická část

- Analyzujte vývoj vnějších a vnitřních podmínek pro řízení výkonnosti podniku.
- Analyzujte výkonnost podniku pomocí tradičních a moderních přístupů.
- Vypracujte projekt implementace konceptu EVA do podniku Slovmet plus spol. s r.o.

Závěr

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Ve Zlíně dne 28. července 2006


doc. PhDr. Vojtěch Nováček, CSc.
děkan




doc. Dr. Ing. Drahomíra Pavelková
ředitel ústavu

Abstract

The aim of my work is to analyse different approaches for measuring and managing company's performance, to measure the performance of chosen company by using traditional and modern performance indicators, to compare them, to define their characteristics, advantages and disadvantages and define the most suitable concept for the company and finally to suggest proper implementation process.

Keywords: Economic Value Added, Shareholder value, Implementation

Abstrakt

Cílem této práce je prozkoumat různé přístupy pro řízení a měření podnikové výkonnosti, změřit výkonnost vybraného podniku použitím tradičních a moderních měřítek, jejich porovnání, určení jejich vlastností, výhod a nevýhod a vybrání nejvhodnějšího konceptu a následně navrhnout vhodného procesu implementace pro danou společnost.

Klíčová slova: Ekonomická přidaná hodnota, Shareholder value, Implementace

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INTRODUCTION

Company's performance is very discussed issue nowadays in changing modern world. To be a successful company means to be flexible, adaptable and with perspective in future.

There exists wide spectrum of concepts concerning about company's performance, its managing and measuring. It is important to choose the right one between them to suit the company and to meet its mission and goals.

Traditional indicators are criticized a lot, because they have many drawbacks, using them can be conflicting and can lead inattentionally to value destroying. That is reason why many modern approaches solving weaknesses of traditional indicators for measuring and managing value of company were developed recently. They have one common denominator which is value managing.

In my paper I want to compare traditional and modern approaches measuring performance and to mention traditional indicators drawbacks. I would like to focus on these concepts and especially on Economic Value Added and its implementation to company, because I think successful implementation of this modern system is a great competitive advantage for any company, it brings value not just for its owners, but also for all subjects concerned.

For value creating it is necessary to define the value drivers. Identification of them is essential, because understanding them can effect company's performance significantly. I will also pay attention to them in my thesis and I will try to analyse them.

I choose this topic, because I think this issue is getting more popular and more important. Today value creation means company's success

I. THEORY

1 SHAREHOLDER VALUE

In nowadays for company to be succesful it has to be focused on all subjects related or somehow connected to it. And all of these subjects look on the company from its own point of view. Owners are expecting return of capital invested, customers want to satisfy their needs by buying products or services, banks and debtors expect company to meet its liabilities and pay on time, employees expect good salary and working conditions etc. Succesful companies can be only those reacting flexible to market changes and investing into improvement.

The modern approach of shareholder value is based on different points of view of all subjects involved in company, but it has only one common goal of business – the value creation. Owners came up with the idea of their business, invested money in it and they are expecting to earn adequate value for their risk: the shareholder value. To meet this they have to think about satysfying all others involved: the stakeholders value. This concept of value creation is more and more important nowadays. [6]

The traditional financial management system has no common denominator of value. Managers in company are very often paid to worry about things other than creating value. They are focusing on all kinds of different goals as volume growth, market share, customer satisfaction, which may conflict with value creation. Traditional approach is heavily dependent on corporate synthesis and reconciliation of departmental figures and moreover information in it transfers slow and inefficient. It results, not intentionally, in destroying value.

Recently a lot of companies all around the world recognized this problem and adopted new performance metrics as EVA, RONA and CFROI to track management success in value creation. Companies are trying to motivate managers with evaluation more consistent with shareholders value. The basic of all these metrics is to create value for its shareholders and it simply means that companies must earn returns on invested capital, that exceed the cost of capital.

According to Young and O'Byrne the growing predominance of the shareholder wealth culture is largely a consequence of several major developments:

- The globalization and deregulation of capital markets
- The end of capital and exchange controls

- Advances in information technology
- More liquid securities markets
- Improvements in capital market regulation
- Generational changes in attitudes toward savings and investment
- The expansion of institutional investment [9]

According to this approach the basic criteria for taking investments and its effectivity is Net Present Value.

1.1.1 Net Present Value (NPV)

Net present value is the difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyze the profitability of an investment or project. NPV is sensitive to the reliability of future cash inflows that an investment or project will earn.

It compares the value of a crown today to the value of that same crown in the future, taking inflation and returns into account. If the NPV of a prospective project is positive, it should be accepted. However, if NPV is negative, the project should probably be rejected because cash flows will also be negative. In case NPV equals zero, the project is indifferent.

1.3.3 Internal Rate of Return (IRR)

This ratio is very often used in capital budgeting, it's the interest rate that makes net present value of all cash flow equal zero. It is also true to say, that this is the return that company would earn by investing in itself. The use of IRR often comes to the same findings as by using NPV. It uses only one single discount rate to evaluate every investment.

2 VALUE MEASURING AND COMPANY'S PERFORMANCE

Many approaches and criterias were developed to measure and evaluate company's performance. There are two main categories of indicators: the traditional and modern. Traditional metrics are based on profit maximalization, modern metrics on value creation as the main goal of business.

2.1 Classical indicators of company's performance

Between classical indicators of company's performance belong earnings ratios, cash flow and return ratios.

2.1.1 Earnings ratios

Earnings After Taxes (EAT)

Profit available for the owner. This is the most important indicator for owner, because it shows earnings after taxes ready for distribution, while the way of distribution plays significant role in developing the value for company.

Earnings Before Taxes (EBT)

This category of earnings include income taxes and applies for comparing performance of companies with different tax jurisdiction.

Earnings Before Interest and Taxes (EBIT)

An indicator of a company's profitability, calculated as revenue minus expenses, excluding tax and interest. EBIT is also referred to as "operating earnings", "operating profit" and "operating income". EBIT is all profits before taking into account interest payments and income taxes. An important factor about EBIT, that makes him so popular, is the way in which it nulls the effects of the different capital structures and tax rates used by different companies. By excluding both taxes and interest expenses, the figure hones in on the company's ability to profit and thus makes for easier cross-company comparisons. That is why it is widely used at divisional level.

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA)

This ratio is very popular in United States. The contribution of EBITDA is the possibility to compare companies abstractedly from their way of depreciation and amortization, and moreover it eliminates the effect of financing and accounting.

The following calculation captures main earnings ratios starting with EAT.

Earnings After Taxes

+ *Income tax*

= *Earnings Before Taxes*

+ *Interests*

= *Earnings Before Interest and Taxes*

+ *Depreciation*

+ *Amortization*

= *Earnings Before Interest, Taxes, Depreciation and Amortization*

2.1.2 Cash flow ratios

Another important group of ratios are cash flow ratios. The simple definition of cash flow is that it is the difference between the cash flowing into a business and out of a business over accounting period. It is positive when actual disbursements are lower than receipts, and negative cash flow is when cash flowing out of the business is bigger than cash flowing in. It has a big importance nowadays in financial accounting. Cash flow can be used as an indication of a company's financial strength, for evaluating company's financial stability, for short and long period planning, for evaluating investments, measuring performance of the company and much more.

There exist two basic ways of calculating cash flow: direct and indirect method. Both formats have advantages and disadvantages. By using indirect method it is easy to see how

it is linked to the operating profit, but it is difficult for non-experts to understand. The direct method is much easier to understand, but it is not obvious how it is linked to the operating profit.

The direct method

The direct method, also referred to as the income statement method, reports major classes of operating cash receipts and payments. In this respect, it is more consistent. Supporters of the direct method contend that it is more revealing of a company's ability to generate sufficient cash from operations to pay debts, reinvest in operations, and make distributions to owners. Critics point out that many corporate providers of financial statements do not currently collect information that would allow them to determine the information necessary to prepare the direct method. More important, the direct method effectively presents income statement information on a cash rather than an accrual basis and may erroneously suggest that net cash flow from operations is as good as, or better than, net income as a measure of performance. [10]

Beginning state of Cash and cash equivalents

+ *cash earnings in time period*

- *cash paid in time period*

= *Ending state of Cash and cash equivalents*

The indirect method

The indirect, or reconciliation, method focuses on the difference between net income and net cash flow from operations. Advocates of the indirect method note that it provides a useful link among the statement of cash flows, the income statement, and the balance sheet. Critics point out that the direct method requires a supplemental disclosure to present a reconciliation of net income and net cash. The incremental cost of providing the additional information disclosed in the direct method is, however, not significant. [10]

Total cash flow

Cash flow is divided into three main categories. Cash flow from operating, investing and financing activities. By adding those three flows we get the total cash flow. Cash provided or used by operating activities can be collected from customers for sales, cash payments to employees and suppliers, interest paid, income taxes paid. This indicator is widely used. The next one is cash provided or used by investing activities it is mainly cash disbursements and collections from making and collecting loans, investments made and proceeds from sales of investments in debt and equity instruments, cash disbursements from the purchase and cash proceeds from the sale of property, plant, and equipment. And finally the cash provided or used by financing activities is presented by principal amounts borrowed and repaid on debt. Proceeds from the issuance and cash disbursed in the repurchase of equity securities and dividends paid. [10]

Indirect Cash Flow is calculated as follows:

Net Income

+ *Depreciation*

± *Adjustments To Net Income*

± *Changes In Accounts Receivables*

± *Changes In Liabilities*

± *Changes In Inventories*

± *Changes In Other Operating Activities*

= ***Total Cash Flow From Operating Activities***

- *Capital Expenditures, Investments*

+ *Gains from selling Long term assets*

± *Other Cashflows From Investing Activities*

= *Total Cash Flow From Investing Activities*

± *Long term Liabilities, Short term*

± *Equity changes*

± *Other Cash Flow From Financing Activities*

= *Total Cash Flow From Financing Activities*

= *Total Cash Flow*

Free Cash Flow (FCF)

Free Cash Flow is defined as a measure of financial performance calculated as operating cash flow, minus capital expenditures. In other words, it represents the cash that a company is able to generate after laying out the money required to maintain or expand its asset base. Free cash flow is important because it allows a company to pursue opportunities that enhance shareholder value. Without cash, it's tough to develop new products, make acquisitions, pay dividends, reduce debt, etc. Free cash flow is also often used to calculate company's value. It is important to note that negative free cash flow is not bad in itself. If free cash flow is negative, it could be a sign that a company is making large investments. If these investments earn a high return, the strategy has the potential to pay off in the long run.

It is calculated as follows:

Operating Cash Flow

- *Investments Into The Long Term Assets*

= *Free Cash Flow*

2.2 Return ratios

2.2.1 Return on Sales (ROS)

ROS is widely used to evaluate a company's operational efficiency. This ratio is also known as a firm's "operating profit margin". It is calculated using this formula:

$$\text{Operating Profit Margin} = \text{Net Income (EBIT)}/\text{Sales} \quad (1)$$

It says how much profit is being produced per unit currency of sales. This ratio is best to compare over time to look for trends, and compare it to other companies in the industry. An increasing ROS indicates the company is growing more efficient, while a decreasing ROS could signal financial troubles.

2.2.2 Return on Assets (ROA)

ROA shows how efficient is company by using its total assets to generate earnings. It is calculated by dividing a company's annual earnings by its total assets, that is why it is displayed as a percentage.

$$\text{ROA} = \text{Net Income} / \text{Total Assets} \quad (2)$$

Some investors add interest expense back into net income when performing this calculation because they'd like to use operating returns before cost of borrowing.

ROA for public companies can vary substantially and will be highly dependent on the industry. This is why when using ROA as a comparative measure, it is best to compare it against a company's previous ROA numbers or the ROA of a similar company. This ratio includes also debt and also equity. The higher the ROA is the better for company. It simply means it earns more money on less assets invested.

2.2.3 Return on Investment (ROI)

This ratio is calculated to show the efficiency of an investment or to compare more investments and their efficiency. The benefit of the investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio.

$$\text{ROI} = (\text{Gain from Investment} - \text{Cost of Investment}) / \text{Cost of Investment} \quad (3)$$

Return on investment is a very popular metric because of its versatility and simplicity. That is, if an investment does not have a positive ROI, or if there are other opportunities with a higher ROI, then the investment should not be undertaken. The calculation for return on investment can be modified to suit the situation. This flexibility has a downside, as ROI calculations can be easily manipulated to suit the user's purposes, and the result can be expressed in many different ways. When using this metric managers must understand what inputs are being used.

2.2.4 Return on Equity (ROE)

A measure of a corporation's profitability, calculated as:

$$\text{ROE} = \text{Net Income} / \text{Shareholder's Equity} \quad (4)$$

It shows how much profit a company generates with the money invested to company by their shareholders. It is often used to compare profitability of the company with other firms in the same industry. This indicator should be higher than alternative cost of capital.

2.2.5 Earnings per share (EPS)

It is defined as the portion of a company's profit allocated to each outstanding share of common stock. This indicator also measures the profitability of company.

$$\text{EPS} = \text{Net Income} / \text{Number of shares issued} \quad (5)$$

An important aspect of EPS that's often ignored is the capital that is required to generate the earnings (net income) in the calculation. Two companies could generate the same EPS

number, but one could do so with less equity (investment) - that company would be more efficient at using its capital to generate income and, all other things being equal, would be a "better" company. Investors also need to be aware of earnings manipulation that will affect the quality of the earnings number. It is important not to rely on any one financial measure, but to use it in conjunction with statement analysis and other measures.[3]

2.3 Critique of traditional performance indicators

Most of the traditional performance indicators are far from being the ideal investment evaluation tool. There are a couple of reasons why they can't always be trusted. They don't consider the risk factor, the level of inflation, the current value of money and the alternative costs of capital and moreover they are using accounting based figures. For starters, the 'return' numerator of net income is suspect, given the deficiencies of accrual-based earnings and the use of managed earnings. The other thing is the way how assets are valued on the balance sheet. There is a problem with evaluation of people or ideas. Some companies are 'lighter', having their value based on things such as trademarks, brand names and patents, which accounting rules don't recognize as assets. A software maker, for instance, will have far fewer assets on the balance sheet than a car maker. As a result, the software company's assets will be understated, and its ROA may get a questionable boost.

„The main shortcoming with all these rates of return is in all cases that maximizing rate of return does not necessarily maximize the return to shareholders. Operations should not be guided with the goal to maximize the rate of return. As a relative measure and without the risk component returns fails to steer operations correctly. Therefore capital can be misallocated on the basis of returns. First of all they ignore the definite requirement that the rate of return should be at least as high as the cost of capital. Secondly they do not recognize that shareholders' wealth is not maximized when the rate of return is maximized. Shareholders want the firm to maximize the absolute return above the cost of capital and not to maximize percentages. Companies should not ignore projects yielding more than the cost of capital just because the return happens to be less than their current return. Cost of capital is much more important hurdle rate than the company's current rate of return.“[11]

„EPS is raised simply by investing more capital in business. If the additional capital is equity (cash flow) then the EPS will rise if the rate of return of the invested capital is just positive. If the additional capital is debt then the EPS will rise if the rate of return of the invested capital is just above the cost of debt. In reality the invested capital is a mix of debt and equity and the EPS will rise if the rate of return of that additional capital invested is somewhere between cost of debt and zero. Therefore EPS is completely inappropriate measure of corporate performance and still it is very common yardstick and even a common bonus base. EPS and earnings can be increased simply by pouring more money into business even though the return on that money would be entirely unacceptable from the viewpoint of owners. EPS, earnings and earnings/EPS growth should therefore be abandoned as performance measures.“[12]

3 MODERN PERFORMANCE INDICATORS

Based on the critique of the traditional performance metrics there are forming and developing new approaches and metrics for capturing company's performance. According to Mařík and Maříková the modern indicator should satisfy following criteria:

- it must be connected to shareholders value, this link should be detectable and clear
- to be able to use as much as possible from the information and figures based on accounting principles and numbers from balance sheet, so it makes the calculation more simple
- it should reflect the riskness and capture the amount of capital
- it should be a good performance measurement and also evaluation tool
- it should help managing the value
- it should be connected to all the company's levels [3]

It is complicated to find a ratio that would satisfy all those criteria. Nowadays there are many new approaches. I will mention the most popular.

3.1.1 Discounted Cash Flow (DCF)

This is the ratio, that calculates future cashflows, discounts them at an interest rate or rate of return, that reflects the risk. And the discount rate reflects the time value of money and also risk premium.

3.1.2 Market Value Added (MVA)

The difference between the market value of a company and the capital contributed by investors. In other words, it is the sum of all capital claims held against the company plus the market value of debt and equity. The higher the MVA, the better. A high MVA indicates the company has created substantial wealth for the shareholders. A negative MVA means that the value of the actions and investments of management is less than the value of the capital contributed to the company by the capital markets, meaning wealth or value has been destroyed. MVA increases only when invested capital earns a rate of return

greater than the cost of capital. But growth creates value only when it is incremental, because the growth itself is not a good indicator. That is why MVA is not really good value measurement. It also doesn't consider dividends paid and share buybacks. The solution to MVA is Excess Return indicator.

3.1.3 Excess Return

Excess return not like MVA charges a company for the capital it has used since it was founded, while crediting companies for the returns their shareholders should have earned from distributions, such as dividends and share buybacks, reinvested in the market. It is much more true measure of a company's cumulative wealth creation than MVA. Simply said it is difference between actual wealth and expected wealth at the end of measured period. Calculation of Excess return is very complicated, because paid in capital can change of new share issues and share repurchases. Moreover it can be calculated only for public traded companies. Another disadvantage is, it is only measurement by certain date and it is not flow measurement. Most of this problems solves EVA.

4 ECONOMIC VALUE ADDED (EVA)

Based on the literature studied EVA was chosen for the implementation for Slovmet company and I will focus on it more closely. It is a very popular approach for managing companies nowadays. Author of this concept is Stern Steward & Company. The basic idea behind EVA is simple: The wealth is created only when a company covers all operating costs and the cost of capital. But EVA is much more than a measure of performance. By following one aim, which is maximizing future stream of EVA, it can be a centerpiece of strategy.

EVA can be used for:

- Measuring and managing company's performance. It can be calculated for divisions as well and practically at all the company's levels. That is why the value creation can be controlled and produced by using value drivers at all the levels of company, even the most bottom ones.
- Managing and motivation of employees, as a management compensation tool, because it provides strong incentives for managers and it motivates them to take decisions increasing company's value.
- Evaluating company and acquisitions
- Investments evaluation
- And finally it is a highly effective communication tool, connecting all the company's activities. [9]

EVA is also so popular, because it solves problems that most of the modern indicators have:

- It can be calculated at divisional levels
- It doesn't have to be publicly traded company
- It is a flow measure
- It is based on economic profit, not on accounting [9]

4.1 EVA and the Value Based Management (VBM)

“There is much confusion these days between value-based management and EVA. VBM is normally viewed as a broader concept than EVA, although some practitioners use the terms interchangeably. VBM instills a mind-set where everyone in the organization learns to prioritize decisions based on their understanding of how those decisions contribute to corporate value. This means that all key processes and systems in a company must be oriented to the creation of value. For example, the creation of shareholder value must be the paramount goal in managing a company's supply chain or developing new products. A comprehensive VBM program should consider each of the following elements:

- Strategic planning
- Capital allocation
- Operating budgets
- Performance measurement
- Management compensation
- Internal communication
- External communication (with the capital markets)“[9]

4.2 Calculating EVA

The most common calculation of EVA is:

$$EVA = NOPAT - WACC \times C \quad (6)$$

NOPAT stands for Net Operating Profit After Taxes. It is the company's operating profit, net of tax, and measures the profits the company has generated from its ongoing operations.

WACC is Weighted Average Costs of Capital. Capital charges equal the company's invested capital (also called capital or capital employed) times the weighted-average cost of capital. The WACC equals the sum of the cost of each component of capital—short-term debt, long-term debt, and shareholders equity—weighted for its relative proportion, at market value, in the company's capital structure.

C, Invested capital, is the sum of all the firms financing, apart from short-term, non-interest-bearing liabilities, such as accounts payable, accrued wages, and accrued taxes. That is, invested capital equals the sum of shareholders equity, all interest-bearing debt, both short-term and long-term, and other long-term liabilities.

EVA measures how the company increased or decreased value for its owners during examined period.[9]

Template for calculating EVA according to Young, S. David:

Operating income

+ *Interest income*

+ *Equity income (or - equity loss)*

+ *Other investment income*

- *Tax shield on interest expense*

- *Net operating profit after tax (NOPAT)*

= ***Short-term debt***

+ *Long-term debt (including bonds)*

+ *Other long-term liabilities (deferred taxes and provisions)*

+ *Shareholders' equity (including minority interest)*

= ***Invested capital (IC)***

$$\text{Average IC} = (IC_{\text{Beg}} + IC_{\text{End}}) / 2$$

NOPAT

- ***Capital charges (average IC * cost of capital)***

= ***EVA***

Another way of calculating EVA is:

$$EVA = (RONA - WACC) \times C \quad (7)$$

To calculate EVA is not hard unless we know all the input datas. Stern and Steward introduced about 164 possible adjustments. The goal of these adjustments is to translate an accounting profit into an economic profit that more accurately reflects cash invested and cash generated. Otherwise accounting leads to unquestionably misleading results. It is mostly due to the accrual method, which tells companies to recognize revenue when they earn it, not necessarily when they get the cash. Even if managers' intentions are entirely honorable, a manager can make a poor judgment. The result will be misleading financial reports, however inadvertent the misstatements may be. And managers' intentions are not always so honorable. Sometimes they exploit the latitude given to them under GAAP and intend to mislead the capital markets. Anytime there is scope for judgment and estimation, there is also the chance of manipulation. Applying the accrual method to expenses is just troublesome. [9]

In reality company does not need to use all 164 adjustments possible to calculate EVA. These adjustments are complex and difficult to understand. They may also require assumptions about future performance that investors or directors may not agree with. Most of all company should keep the calculation simple and clear to everyone involved and easy to explain it to all the employees. It is important not to be seduced into an almost-impossible quest for absolute precision. From an investor's perspective, consistency is more important. That is why an income statement adjustment should always be matched by a balance sheet adjustment. These chosen adjustments should be kept by company for three years at least and they should be really transparent and understandable, especially to anyone whose bonus is tied to EVA. In most cases only around 15 adjustments or less are necessary, depends on the character of company.

There are three main ideas in adjusting which should be paid attention to:

First of them is to translate accrual-based operating profit (EBIT) into cash-based net operating profit after taxes (NOPAT). This is because cash flows are the best indicators of performance and therefore accounting distortions must be fixed.

Second idea is that some expenses are really investments and should be capitalized on the balance sheet. True investments must therefore be recognized. This is done by reclassifying some current expenses as balance-sheet items.

And the last adjustment is to deduct a capital charge for invested capital, because equity capital is expensive and this expense must therefore be accounted for.

Keeping EVA simple will go a long way towards successful implementation.

4.2.1 Accounting adjustments

In Quest of Value, Bennett describes the following equity equivalent adjustments:

Deffered Taxes:

The Income Statement reflects tax expenses which may or may not be paid. The difference between what has been expensed and what has been paid is called deferred taxes. By adding deferred taxes back to capital, we reverse out the distortion for taxes not paid. An increase to deferred taxes in the current year would be added back to income in arriving at NOPAT (Net Operating Profits After Taxes).

LIFO Reserve:

LIFO (Last In First Out) is used to price inventories on the Balance Sheet. Under LIFO, investments in inventory are subject to understatement. A LIFO Reserve Account captures the difference between LIFO and FIFO (First In First Out). This amount is added back to capital since we want to reflect the total amount of capital invested. An increase to the LIFO Reserve in the current year would be added back in arriving at NOPAT.

Amortization of Goodwill:

Non-cash expenditures such as goodwill will distort capital deployed. We are trying to measure the cash return on all cash invested into the business. Therefore, we would add back the total amount amortized for goodwill in arriving at capital and we would add back the current year's amortization in arriving at NOPAT.

Capitalized Intangibles:

Intangibles such as Research & Development expenditures provide a long-term economic benefit. These transactions are capitalized under EVA as opposed to expensing the entire amount within traditional accounting. The original R & D expense is reversed out and

replaced with a Net Capitalized Intangible (NCI). The total amount for R & D less the amount amortized is the NCI and this represents an adjustment to capital. The amount amortized in the current year would be adjusted to earnings in arriving at NOPAT.

Other Reserves and Allowances:

Besides the LIFO Reserve, we may have material amounts related to other types of reserves and allowances. Examples include Reserve for Inventory Obsolescence and Allowance for Doubtful Accounts. These accounting transactions would be treated similarly to the LIFO Reserve.

In summary, we are trying to arrive at earnings that are close to cash and compare this return to a capital base that is expressed in cash equivalent terms. This means that we recognize economic values, such as expenditures that provide long-term benefits and reverse out non-cash entries as well as reserve account balances. Also, we must express the asset base (capital) in terms of replacement capital. This requires removing distortions like goodwill write offs, asset write offs, and highly depreciable fixed assets that have a carrying (book) value substantially different than market or replacement values. In *Quest for Value*, Bennett summarizes the following adjustments: [4]

Table 1. Adjustments for calculating capital and NOPAT

Adjustments Required to Calculate NOPAT:	Adjustments Required to Calculate Capital:
+ Increase to Deferred Taxes	+ Deferred Taxes
+ Increase to LIFO Reserve	+ LIFO Reserve
+ Goodwill Amortized in Current Year	+ Total Goodwill Amortized to Date
+ Increase to Net Capitalized Intangibles	+ Net Capitalized Intangibles
+/- Unusual Loss or (Gains) net of tax	+/- Cumulative Loss or (Gain) net of tax
+ Increase to Other Reserves & Allowances	+ Other Reserves & Allowances

4.2.2 Calculating Cost of Capital

Calculation of EVA uses WACC. WACC is weighted average of the equity cost and debt cost in this formula:

$$WACC = E/V * Re + D/V * Rd*(1-Tc) \quad (8)$$

Where:

Re = cost of equity

Rd = cost of debt

E = market value of the firm's equity

D = market value of the firm's debt

V = E + D

E/V = percentage of financing that is equity

D/V = percentage of financing that is debt

Tc = corporate tax rate

By calculating WACC we should consider the changes of capital structure caused by adjusting assets for calculation NOA.

Cost of Equity is very hard to calculate. There are many ways and models, which of them has own advantages and disadvantages and it depends on company which to choose.

Cost of Debt is easier to calculate than cost of equity, because the cost here is the rate that a company pays on its current debt lowered by tax shield.

Also seeking precision in the calculation of WACC is difficult in most of the cases. It is far better to charge the company with an approximate but consistent estimate of WACC and to realize that capital is not for free.

According to Young, S.David EVA increases in following cases:

- Increase returns on existing capital. It means if RONA increases while holding WACC and invested capital constant, EVA increases.

- When an investment is expected to earn returns greater than the WACC, value is created. Even if a growth strategy is expected to reduce RONA, value is created as long as the incremental RONA exceeds the WACC.
- Divestment on value – destroying activities. Invested capital is decreasing when division is sold or closed down. If the improvement in spread is bigger than reduction in invested capital.
- The periods over which is expected to earn RONA greater than WACC are longer.
- There is a reduction in the cost of capital [9]

4.3 Management compensation

Management compensation is a very important issue for managing company. There is a conflict of goals between managers and owners. Aim of the owner is to maximize company's value and the aim of manager is to create value for himself. That is why it is necessary to link those two goals. If managers and owners will have the same intentions and their decisions will be in agreement the value of company will increase.

4.3.1 Traditional bonus system

Traditional incentive plans have other deficiencies, apart from being grounded on the wrong criteria. The main are following:

- They are based on budgetary calculations for following year and they are not linked with shareholders value.
- There exist some limits, and managers try to keep the goals within those limits, they are cautious about not exceeding them to any significant degree not to make them „unrealistic“. Moreover bonuses are „capped“ so it means it would eliminate any incentives for extraordinary performance. [6]

These reasons lead to demotivation of managers and moreover they are based on accounting calculations, which can be intentionally undervaluated.

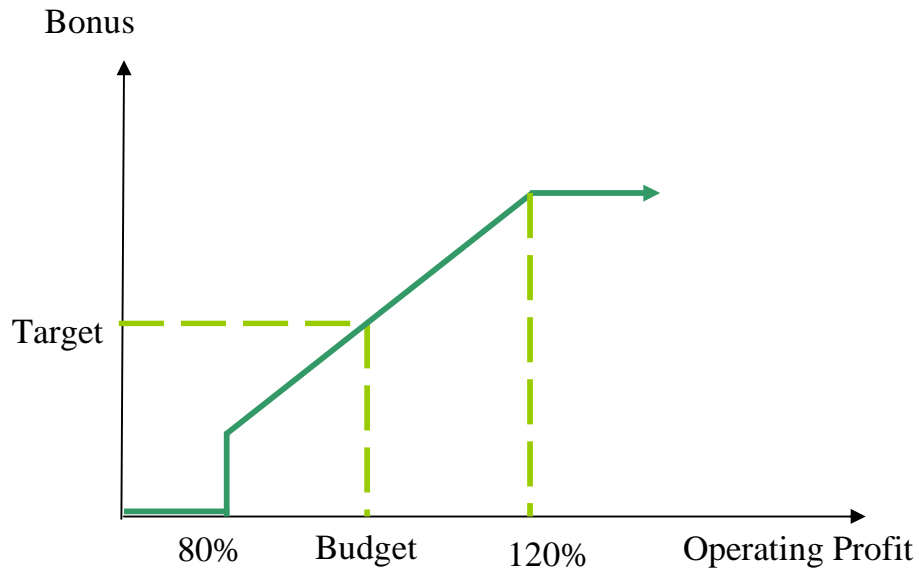


Figure 1. Traditional bonus system

4.3.2 EVA compensation system

EVA compensation system is totally different from traditional. The main advantages are:

- „The essence of an EVA incentive plan is that it promotes the goal of increasing shareholder value, to which the measurement program and the entire EVA management system are dedicated.“[9]
- Second of all it is not set annually, but usually in the three or five year period after the consultation with outside experts.
- The other advantage of this system is, that EVA bonuses are not capped and this means, if company is successful, the amount of compensation can be much higher than with EVA system than with traditional bonus plan.

There are more versions of EVA bonus system (version X, version XY). I will explain only the newest one, which is called Modern version of EVA bonus system.

4.3.3 Modern version of EVA bonus system

The upgrade of this version is the fact, that more important than the absolute value of EVA is the amount of EVA increased. This model is more effective, especially for companies that still don't create value for their owners. The bonus is equal to the sum of a target bonus plus a fixed share of excess EVA improvement. Important is, that target bonus is earned after expected EVA improvement.

$$\text{Bonus} = \text{target bonus} + y \% (\Delta\text{EVA} - \text{EI}) \quad (9)$$

Target bonus = bonus after reaching expected EVA improvement

EI = expected EVA improvement

In this version managers pay is based on the extent to which they deliver the expected EVA improvements that investors have already paid for. If they outperform these expectations, they receive an above-target bonus; if they underperform, their bonus falls below the target. The sharing percentage (i.e., the proportion of excess EVA improvement that belongs to managers), or y percent, equals the ratio of the target bonus to the EVA interval. The EVA interval is simply the shortfall in excess EVA improvement that results in a bonus of zero. In this approach the basic idea for managers is not only to reach market expectations of improved performance, but to exceed them. This means also if they underperform, they should be penalized. If shareholders suffer, so too should managers. Simply said this bonus plan is designed for managers to produce excess EVA improvement. [6]

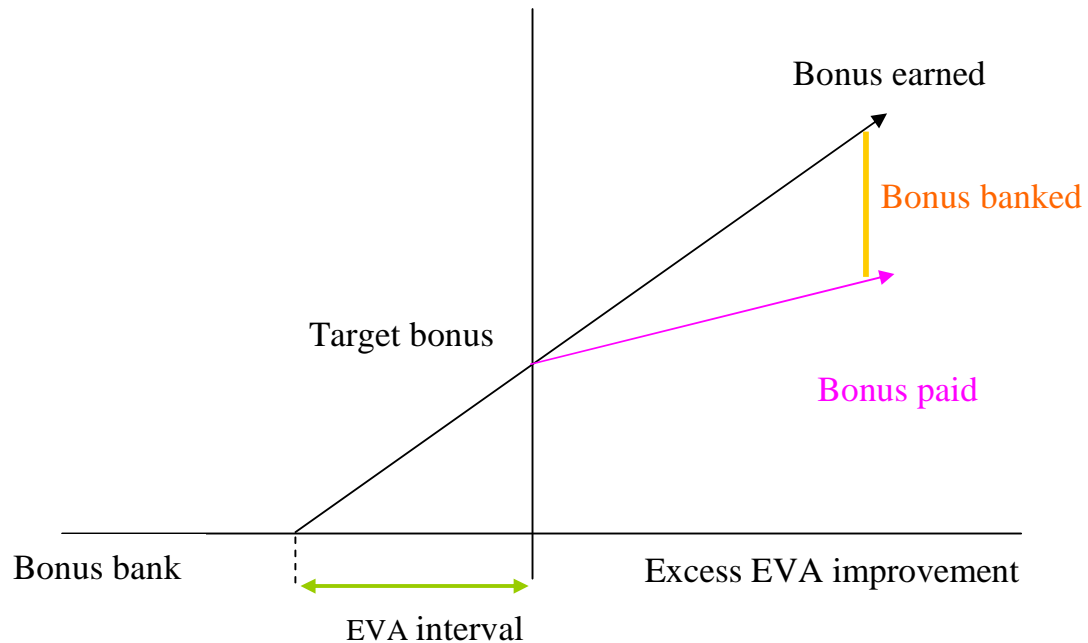


Figure 2. EVA modern bonus system

„The figure highlights the plans three key parameters: the target bonus, the expected EVA improvement, and the EVA interval. It is important to realize that:

- The target bonus is based on peer company compensation levels.
- Expected EVA improvement targets are chosen that, if met, will provide shareholders with a cost-of-capital return on the market value of their investment.
- An EVA interval is used to define the amount of EVA shortfall that makes the investor return equal to zero and therefore leads to a zero bonus for the manager.“[9]

Important in all EVA concepts is the existence of bonus bank. That means that usually managers get paid the whole bonus earned in that year, but part of the bonus is stored in the bonus bank. When the bonus bank is negative, no bonus is paid. Bonus bank is designed for a long term motivation of managers.

However this bonus system has a lot of advantages it should not be used in some cases:

- Some companies and national cultures refuse to work with such a strong incentives based on value creation, in such a case EVA system will not work properly

- The use of bonuses and bonus bank may be problematic in some branches of industry where the strong fluctuations exist
- It can be problematic in developing industries, where big investments are necessary
- It can be also problematic for new companies trying to explore new markets with big investments [6]

4.4 Strengths and Weaknesses of EVA

As every concept EVA has not only its advantages, but also disadvantages. I will start to summarize its strengths and than its weaknesses.

4.4.1 Strengths

EVA`s strengths include following:

EVA is a residual performance metric, and it conveniently summarizes into a single statistic the value created.

By applying a capital charge, it corrects the key deficiency of earnings and EPS: they do not incorporate the balance sheet. Economic profit explicitly recognizes - by way of the capital charge - that capital is not free and, if growth is purchased with capital, economic profit recognizes that the growth is not free and assigns a charge for the capital used to purchase the growth.

As an operational metric, it helps managers clarify how they create value. Generally, they do it either by investing additional capital that produces returns above WACC, by reducing capital employed in a business, by improving returns by growing revenues or reducing expenses or by reducing the cost of capital.

4.4.2 Weaknesses

Although EVA is a positive step away from the traditional forms of accounting measurement, it does have its limitations. Now consider the weaknesses of EVA:

First problem is the fact that EVA comes from the very same model that it disputes, the traditional accounting model. Adjustments are calculated based on the accounting model to

arrive at EVA. These adjustments are to some extent subjective in nature and thus some distortions can carry over into EVA.

The calculation of Cost of Capital is difficult, especially Cost of Equity so it can lead to mistakes.

EVA does not consider inflation.

It is a backward looking measure and there is some question as to its ability to successfully predict corporate success or failure.

It is not suitable for certain types of industries. Specifically, financial institutions which are required to set aside capital for regulatory purposes or young companies where revenue calculations would be inaccurate.

It is difficult to calculate ratios in industries with large intangible assets such as brand names and marketing brains.

When compensation is tied to EVA executives are discouraged from making large capital investments because of the upfront capital charge for them immediately depresses EVA.
[12]

4.5 Implementing EVA

I will now focus on implementation more closely, because I suggest it to the Slovmet.

Implementation of EVA must begin at the top of the organization. The top managers must understand the whole concept. It is not just measuring profits new way, it is about changing attitudes and behavior and it is very important, that this change must be driven from top of the organization.

Another important thing is that company should have a formal implementation plan for how EVA will be used. It is necessary that EVA will become a part of strategic planning process, capital allocation, operating budgets, compensation and investor relations. Simply it should incorporate in all the company's key processes and systems.

EVA effect will not be strong unless the performance is measured at least two rungs below the corporate level and also managers compensation should be based on EVA.

EVA is designed to be calculated at division levels. At the beginning of implementation company may experience problems because of difficult measurement problems. In such

cases can be used EVA drivers instead of EVA itself. Also applying balanced scorecard can help managers identify these drivers. A similar approach can be used to identify EVA drivers for lower-level employees. [9]

A CHECKLIST FOR IMPLEMENTING EVA according to Young, S. David [9]

Step 1: Establish buy-in at the board and top management levels.

Step 2: Make the major strategic decisions on the EVA program (subject to board approval).

- Ø How will EVA measurement centers be defined?
- Ø How will EVA be calculated?
 - What adjustments will be made?
 - Divisional versus corporate cost of capital
 - Are changes needed to the company's accounting system?
 - How often will EVA be calculated?
- Ø Management compensation
 - Who will be covered initially, and will there be a gradual expansion of participation in EVA-based incentives?
 - Sensitivity of bonuses to EVA performance
 - Will there be a deferred component, and if so, for which managers?
 - The role of stock options in the compensation program
 - Mix of divisional versus company-wide or group EVA bonuses
 - Relation to nonfinancial measures

Step 3: Develop an implementation plan.

Step 4: Set up a training program:

- Ø Who will need the training?
- Ø How will the training needs be executed?
 - Number of training sessions per employee

- How will the concept be explained?
- Ongoing training, after initial implementation

By implementation can be also helpful approach called 4Ms designed by Stern Stewart. 4Ms stand for measurement, management, motivation and mindset.

Stern Stewart's 4Ms

1. Measurement (M1)

The initial step in the EVA implementation process is developing the EVA measure. Key adjustments to GAAP accounting translate financial statements from an accounting framework into an economic framework. Although the recommended adjustments vary from industry to industry and even company to company, the overall goal of the EVA measure remains the same—to better capture the economic performance of the measured unit. Adjustments are selected on after weighing factors such as behavioral impact, materiality and complexity. Common adjustments include the capitalization of research and development, operating leases, and unusual items such as restructuring charges.

2. Management (M2)

The management phase of the implementation brings EVA into action to drive better decision-making throughout the organization. Included in this component are the review of key projects and the development of spreadsheet-based decision tools to help improve the analysis of business issues, consistency of decision-making, documentation, and approval processes throughout the corporation.

3. Motivation (M3)

A key component of any EVA implementation is the creation of incentives that link directly to the creation of shareholder value. By creating an incentive plan based on EVA, managers are rewarded only if they create shareholder value through sustainable improvements in operating performance.

4. Mindset (M4)

In order to transition employees into a mindset of value creation, a significant effort is made on training and communications. Training of key staff on EVA concepts and corporate finance topics creates a foundation for better understanding. The continued communication of the EVA philosophy and its successful application then builds on this foundation and maintains the momentum of these ideas.[16]

II. ANALYTIC PART

5 COMPANY PROFIL

Company SLOVMET Ltd. is a company, that gives its owners limited liability. Slovmet engages in production and supplying copper wires and in wholesale distribution of non-ferrous semifinished materials in Slovak republic and related countries. The company activities contain as well non-ferrous waste purchase and sale. Customers of SLOVMET include fabricated metal products producers, machinery manufacturers, electrical machinery producers and construction-related purchasers. The outputs are used in manufacturing products such as photocopiers, laser printers, compact disc players, laser disc players, cassette players, computer equipment, electronic components, electrical connectors. Company is situated in Považská Bystrica, Slovakia and was originated by consolidation of two different companies: Company Slovmet Ltd. and company Eltramo Ltd. In nowadays it is owned by four partners, who are also the founders and managers of the company. The basic idea of their business was to exploit own teoretical and practical knowledge and experience and to provide high quality products, that will quickly expand the market size and meet the demand.

Vision

- To become a leading copper wire and transformer manufacturer in Slovak market and in middle-europeans markets.
- To dominate purchasing and retailing the goods, semifinished goods, copper products and copper-base alloys in Slovak republic and related countries.

Mission

- To enhance business activities and strenghten market position by producing the premium quality copper wires and toroidal transformers.
- To maximize customer satisfaction in all phases of trade contract by great dealing and excellent service.
- To provide a high quality machinery and finish building production and service facilities.

- To build copper materials wholesale business, high level manipulation technique and improve and develop technology used.
- To be a successful and trustful company in industry to be able to compete european and world market.

5.1.1 Slovak economy

According to OECD Slovak economic growth is expected to remain strong, reaching more than 6% per year in 2006 and 2007, with some shifting of the stimulus from domestic to external demand. While strong growth is projected to generate employment gains, unemployment is likely to remain relatively high. Further tightening of monetary policy is likely be necessary to ensure that the inflation target is met in 2007, while further labour market reforms would improve the capacity of the economy to generate more employment without raising inflation. Greater fiscal consolidation would help damping inflation while reducing the risk of deteriorating competitiveness.[15]

Table 2. Chosen Slovak economy indicators

		2003	2004	2005	2006 P	2007 P
Private consumption	% changes, volume	-0,6	3,5	5,8	4,9	4,9
Government consumption	% changes, volume	2,7	1,1	2,0	3,3	2,6
Gross fixed capital formation	% changes, volume	-1,5	2,5	12,4	9,5	8,0
GDP deflator	% changes, volume	4,7	4,6	2,5	2,1	2,2
Unemployment rate	% changes, volume	17,5	18,0			

Resource : MH SR

5.1.2 Electro technical industry development analysis

Electrotechnical production represents in Slovak republic the third biggest sector in entire processing industry. Nowadays there are many positive aspects of economic development to for this branch of industry to become stable.

At the beginning of year 2000, the electro-technical industry grew the fastest out of all manufacturing sectors. Due to this fact also employment and value added in this sector were growing rapidly, so in 2004 the production from 2000 doubled. Also there was significant growth of employment noted in the manufacturing of electrical and optic devices. There are preconditions created for the further fast development of the electro-

technical industry in Slovakia, as this sector is a significant automotive industry supplier and it participates by big portion in automotive production, which is really expanding in Slovakia nowadays. Cars are filled by the latest electronic, vintage hardware and software and software components. And this trend is expected to go for the following years. A strong position of automotive industry in Slovakia creates conditions not just for consumption growth of the Slovak production but it gives a great occasion to all capable innovators to concentrate on the own research and development, to search for new opportunities.

But development of the electro-technical industry should also focus on products outside the automotive industry.

In year 2004, significance of the electro-technical production in a foreign trade has grown. Share of electro-technical production on entire exports represented 13,3 %. It has grown by 2,3 percentage points compared to year 2003. Also import had created big part in 2004. It reached 16 % share on overall imports. Compared to year 2003, the share has grown by 0,5 percentage point.

Also foreign direct investments are important catalyst of structural economy changes. The highest level of foreign direct investments has been noticed in manufacturing of electric equipment and instruments, but so far there was no in information technologies in Slovakia. Foreign direct investments contribute to productivity especially through know how.

The implementation of information society is one of the basic pillars in long term competitiveness, but slovak government is still not very successful in launching information society vision in Slovakia. The IT market growth has accelerated in last year and it is approaching Western markets. In year 2004 an average of EUR 137 has been spent on purchase of IT products and services per capita, this value is deep below the EU average.

According to Slovak rating agency Slovak customers are brand oriented and prefer branded PCs. Sales of PCs have been supported by a general fall of PC prices. Development and spread of digital cameras, camcorders and growing popularity of PC games and Internet play also an important role.

Possibilities of Internet connection for inhabitants massively increased lately. And also the coverage by broadband technology in fixed phone and cable TV network is constantly expanding.

There are several trends in Electric industry in Slovakia nowadays. The most significant one is the connection to automotive industry. Through the arrival of contractors and sub-contractors for car factories, Slovakia becomes a significant logistics centre.

Another important trend is the job transfer from western EU members to eastern part of EU. According to SR Ministry of Economy, up to 80 000 new jobs could be created due to new foreign investments in Slovakia in coming years. Industries feeling the impact of jobs transfer abroad the most include metal works, electrotechnics and textile industries.

Because electrotechnical companies are export oriented it makes them to be dependant on international economic development and stronger competition. Production volume and economic results are impacted by strong competition not only at the level of final products, but also within the actual concerns. Slovak examples are Sony Slovakia, s.r.o. and Panasonic AVC Networks Slovakia, s.r.o.

Using Economic activities industry classification (EAIC), company SLOVMET belongs to the EAIC 31 which is Manufacturing of electric equipment and instruments. Partly the company belongs to 31.1 Manufacturing of electric motors, generators and transformers and partly to 31.3, which is Manufacturing of insulated wires and cables. Following table shows the classification. [15]

Table 3. Economic activities industry classification of electric industry

31.1 Manufacturing of electric motors, generators and transformers
31.2 Manufacturing of electric distribution and control equipment
31.3 Manufacturing of insulated wires and cables
31.4 Manufacturing of accumulators, galvanic segments and batteries
31.5 Manufacturing of lights and electric lamps
31.6 Manufacturing of electric equipment
31.61 Manufacturing of electric equipment for engines and automobiles
31.62 Manufacturing of other electric equipment

6 MICRO AND MACRO ANALYSIS OF COMPANY SLOVMET

6.1 Macro analysis of Slovmet environment - STEP analysis

Geographical environment

Company lies in the middle of Slovakia on the main road between Bratislava and Košice. Another advantage is that Považská Bystrica is close to Czech border.

Social and cultural environment

Efflux of labour is a big problem in Slovakia nowadays. Young educated people have better possibilities to earn money abroad or in bigger cities. Company has to consider this factor and try to design a strategy to attract possible young absolvents and to motivate current employees by wages and other allowances.

Technical and technological environment

With respect to dynamic growth of electronics in automobiles, electro-technical production for automotive industry is one of the most perspective electro-technical segments. That is why electro companies should work on long term strategy including product diversification to prevent cyclic characteristics of automotive industry.

Ecological environment

The production activity of Slovmet does not harm the environment of company.

Economic environment

Company Slovmet exports a big part of its production abroad. It is very important to consider the exchange rate, especially EURO and Czech Crown, which is floating and may cause possible exchange rate profits or losses for company. This problem should be preceded in 2010 when Slovak republic will introduce EURO. Inflation doesn't influence the operation of firm much. According to this estimation this year it should approach the EU inflation level.

In year 2005 the average monthly salary for the sector reached SKK 16 336 in electro-technical industry for companies employing over 20 people and it was lower than the

national economy average, as well as industry average. The average pay in Slovmet is about 12 000 SKK which is much lower than industry average. Company considers the 3% increase of wages a year, which effects the payroll.

Political and legislative enviroment

Slovak government introduced flat rate tax to create more competitive and non-disortive market enviroment in Slovakia. Its ultimate goal is to transform the Slovak tax system by its efficiency, transparency and non distortiveness into the most competitive one in the entire EU and OECD area. New taxation improves company`s business. It provides additional free cash, that can be reinvested. The EU membership is also connected with harmonization of legislative in terms of production. Slovak legislative will gradually adapt to EU standards, which will also increase new technology costs etc.

6.2 Micro analysis

6.2.1 Company

Employees and organization structure

Company Slovmet is small and the organization structure is very flat, but it is flexible. Figure 3 shows the structure. The number of employees is quite stable, around 30 people. The ratio of the manual to office workers is about 40%. The following table (Tab.4) shows the employee development.

Table 4. Number of employees in Slovmet, Ltd.

Year	Office worker	Manual worker	Total	Manual / Office
1999	7	18	25	0,39
2000	9	20	29	0,45
2001	9	22	31	0,41
2002	12	23	35	0,52
2003	11	23	34	0,48
2004	11	22	33	0,50
2005	9	22	31	0,41

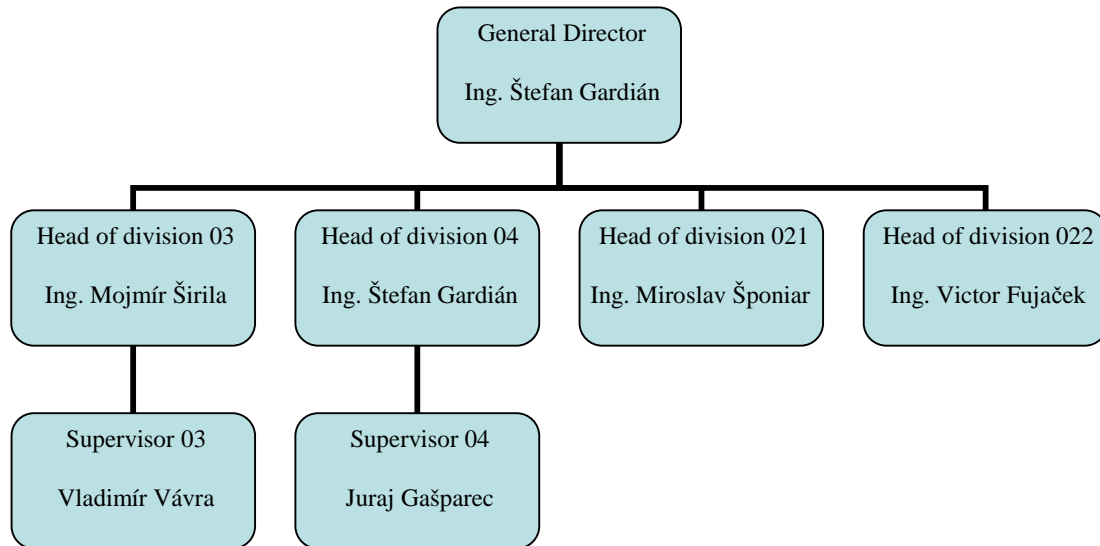


Figure 3. Organization structure

6.2.2 Five Forces Model of Porter

Entry of competitors

Company has two main production activities: copper wire production and transformer production. Copper wire production has a very strong position on slovak market, it has a very good and high quality products. There are strong barriers to entry this market: The equipment for copper wire production include very expensive and dedicated devices. Entering cost are very high. and for 12 years only one minor competitor appeared, who can not wipe Slovmet market position, which is about 80% market share nowadays.

For transformer production there are about 4 other competitors in market that are about the same size as Slovmet and each of them has about the same market share.

Threat of substitutes

Copper wire does not have any substitute, because of its specific characteristics. Transformers can be substituted with electric adapters, which are more and more popular. But the substitution strongly depends on the use of them. For some purposes electronic adapters can not substitute transformers, so again this is very specific. Substitutes do not effect company running significantly.

Bargaining power of buyers

Slovmet has more foreign buyers than domestic. Exports to Poland, Czech republic, Germany, Italy and France create about 70% of company's production. Slovmet has an excellent reputation among them and has a big number of stable buyers who are satisfied with quality and services. They have many little buyers and couple of large ones, but the bargaining power is reasonably equal.

Bargaining power of suppliers

Company trades mostly with foreign suppliers, especially from Czech, Germany and Poland. There is less but bigger suppliers that have bigger bargaining power than Slovmet. Company is choosing suppliers according to specific price and quality criteria. Because of high number of foreign suppliers, company must consider exchange rate risk. The most important suppliers are:

- DRAHTWERK WAIDHAUS GmbH, Waidhaus, Germany
- HAARLÄNDER GmbH, Roth, Germany
- FJL Ltd. Prague, Czech republic
- ELTRON-KABEL Spółka Jawna, Javorzno, Poland
- IRCE SPA, Imola, Italy
- TIMEX-Q Ltd., Trnava, Slovak republic
- NEXANS 128, Chauny, France
- LEONI DRAHT, Weissenburg, Germany

Rivalry among the existing players

There is no rivalry among existing players in copper wire slovak market, because only Elektrokabón Topolčany is specializing in the same type of production, but they are producing this wires for themselves and only some kind of special wires that are not able to produce themselves they buy from Slovmet.

Slovak and Czech transformers market has five companies, which are about the same size and same market share.

6.3 SWOT Analysis of company Slovmet

Strenghts

Slovmet has a good business location in the centre of Slovakia republic, very close to czech border, on the main traffic road from Bratislava to Kosice.

Since year 2004 company introduced ISO certification, which guarantees that company is using transparent quality system management.

Company`s strenght is also high quality processes and procedures of production. Slovmet can please customers with special asks, because it can modify products according the needs of customers. Company can produce wires in special variations without any problems and easy to switch final layer.

It has a strong position on Slovak market and it has a very good name between its customers, because of the high quality, complying of delivery terms.

Slovmet does not have any minimal required amount for goods production, they are able to produce even superminimal amount of goods.

Another advantage is quick responding with dealing with customers and business partners, as there is no need for higher management approval and the organization structure is low and flexible.

Managers of company are experienced and already many years in business with worthy connections. They devote a lot of time for customers and they take a great care of them. Firm has some number of stable customers that are satisfied and Slovmet reaches excellent vendor rating every year.

Because of the small size of company and not many employees Slovmet is able to change quickly marketing direction if the current one is not working.

Weaknesses

Slovmet is a small company, which is not able to compete the large companies prices especially in Germany and China.

Another big disadvantage are the language skills. None of the managers speak english or german. This is quite important, because company has many foreign customers, especially

from germany. They always need interpreter for business trips and international phone calls.

The equipment of the company is really old and very specific. It is big difficulty nowadays to find proper machinery for the fair price.

Opportunities

Big development of internet opens new markets and makes international trading easier.

Growing importance of automotive sector, which is connected to electrotechnical industry.

Also trade barriers are loosing.

For the copper wires there is not much competitors in Slovak market specializing in this type of production and there are very difficult barriers to entry this market. For the recent 12 years only one minor competitor appeared, who can not endanger Slovmet position in copper wires.

Threats

Because of the new exploring markets there are also possibilities of new competitors and their low prices.

There is also treath of bad trend of exchange rate, that can lower income, because Slovmet exports and imports about 70 % of its production.

6.3.1 Current management system

Company introduced in year 2004 the Quality Management System, which is strongly concerned about customers and customers satisfaction. Company has four main processes: Copper wire production, Transformer production, Distribution of non-ferrous semifinished materials, Sale of non-ferrous waste and one administration centre. Copper wire producation creates about 5% of company`s activities, Transformer production about 18%, Sale of non-ferrous waste has the biggest turnover and it creates about 51% and finally the Distribution of non-ferrous semifinished materials 26%.

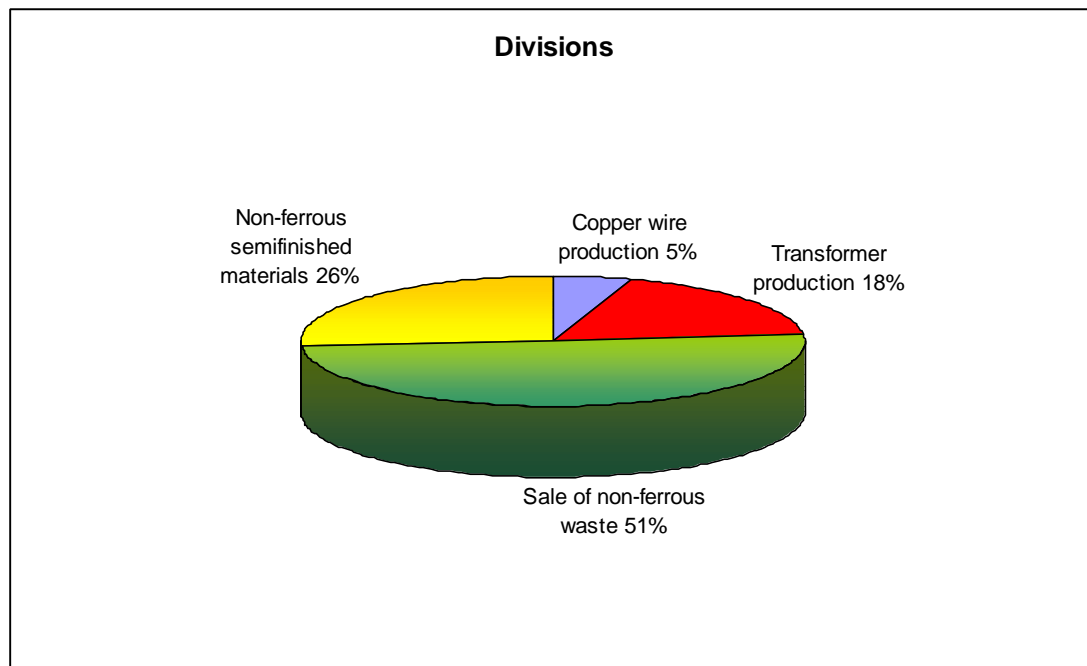


Figure 4. Shares of particular divisions in Slovmet, Ltd.

All the company's processes and aims are trying to meet customers asks. It leads to high quality processes and products, which are controlled regularly by different forms of questionars and ankets. As the main indicator for performance of firm Slovmet choose Net Income, ROE, Altman Z- score and number of new customers. Net Income and Z score are traditional indicators. And I will calculate them in following part of my paper.

7 FINANCIAL ANALYSIS

Financial analysis is very important instrument of financial operating. It evaluates the past and current economy trend of company from different point of views. It gives us information about company`a performance, how company met the plans and which goals it reached and which not. It uses traditional indicators a lot. Financial analysis is used as a information source for managers, owners, investors, business partners, government institutions, employees, auditors, competitors etc. This analysis is very important for following implementation.

In following financial analysis I will monitor years from 2000 to 2005. I will start with balance sheet analysis.

7.1 Balance sheet analysis

Company`s balance sheet determines its structure of assets and also financial structure. The value of total assets has rising trend. During the period from 2000 to 2005 the value of assets more than doubled. As we can see in the year 2000 there is really insignificant share of fixed assets. This is due to the fact that the equipment and machinery is really old and almost all of it is depreciated. So is the value of the buildings. Fixed assets create less than 3% of total assets in first three years. In the year 2003 we can see improvement, because company bought a land and in 2004 they received even more land as a present. Fixed assets have in time rising trend, because company is making investments in new technology and machinery for knitting the wires and also they build a new warehouse in their areal last year. For all its existence company does not own any intangible assets. This is mainly due to the fact that Slovmet is a producing company. Also as we can see from balance sheet there is zero share of financial assets.

The share of current assets is much higher. It creates more than 90 %. The biggest part of them is created by current trade receivables, inventory and merchandise. In recent years 2004 and 2005 cash in bank is in deep negative values, in year 2005 it is even 4 and half milion slovak crowns, because company is using bank overdraft.

Table 5. Assets structure in %

		2000	2001	2002	2003	2004	2005
	TOTAL ASSETS	100%	100%	100%	100%	100%	100%
A.	Stock subscriptions rec.	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
B.	Fixed assets	0,27%	0,27%	0,11%	6,58%	25,64%	25,04%
B.I.	Intangible assets	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
B.II.	Tangible fixed assets	0,27%	0,23%	0,11%	6,58%	25,64%	25,04%
B.III.	Investments financial	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
C.	Non-fixed assets	99,73%	99,54%	99,89%	93,33%	70,35%	72,99%
C.I.	Inventory	43,33%	46,87%	17,51%	27,56%	34,82%	49,61%
C.II.	Long-term receivables	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
C.III.	Current receivables	48,48%	38,47%	46,67%	76,71%	53,63%	54,27%
C.IV.	Current liquid assets	9,12%	14,20%	35,71%	-10,94%	-18,10%	-30,89%
D.	Other assets	0,00%	0,00%	0,00%	0,09%	4,01%	1,97%
D.I.	Accruals (accrued assets)	0,00%	0,00%	0,00%	0,09%	4,01%	1,97%

Table 6. Assets development in %

		00/01	01/02	02/03	03/04	04/05
	TOTAL ASSETS	12,76%	18,84%	12,74%	3,71%	42,20%
A.	Stock subscriptions rec.	0,00%	0,00%	0,00%	0,00%	0,00%
B.	Fixed assets	11,09%	-50,00%	6400,00%	304,31%	38,85%
B.I.	Intangible assets	0,00%	0,00%	0,00%	0,00%	0,00%
B.II.	Tangible fixed assets	12,98%	-50,00%	6400,00%	304,31%	38,85%
B.III.	Investments	0,00%	0,00%	0,00%	0,00%	0,00%
C.	Non-fixed assets	13,00%	19,03%	5,34%	-21,82%	47,54%
C.I.	Inventory	9,00%	-51,97%	77,46%	31,02%	102,61%
C.II.	Long-term receivables	0,00%	0,00%	0,00%	0,00%	0,00%
C.III.	Current receivables	8,36%	17,32%	85,31%	-27,49%	43,90%
C.IV.	Current liquid assets	12,00%	365,08%	-134,54%	-71,60%	-142,70%
D.	Other assets	0,00%	0,00%	0,00%	4466,67%	-30,17%
D.I.	Accruals (accrued assets)	0,00%	0,00%	0,00%	4466,67%	-30,17%

Assets structure of electrotechnical sector has much higher percentage of fixed assets than company Slovmet. The industry average is about 40% of fixed assets and 60 % of current.

Table 7. Asset structure of industry in %

	2000	2001	2002	2003	2004	2005
Total assets	100%	100%	100%	100%	100%	100%
Tangible and intangible fixed assets	74,29%	76,30%	76,89%	77,54%	80,15%	74,58%
Adjustment to gained property	30,85%	33,31%	34,16%	33,88%	35,13%	34,09%
Inventory	21,71%	21,21%	20,70%	17,72%	17,63%	18,23%
Current liquid assets	4,19%	6,20%	6,76%	9,05%	8,93%	8,61%
Receivables	30,66%	29,59%	29,81%	29,58%	28,42%	32,66%
Receivables after expiration term	10,31%	8,43%	6,75%	6,98%	3,99%	4,57%

Table 8. Liabilities and equity structure in %

		2000	2001	2002	2003	2004	2005
	LIABILITIES AND EQUITY	100%	100%	100%	100%	100%	100%
A.	Owner's equity	51,29%	51,29%	45,16%	48,17%	47,95%	38,41%
A.I.	Invested capital (Ltd.)	3,01%	2,71%	2,28%	2,02%	1,95%	1,37%
A.II.	Other equity accounts	45,42%	44,76%	38,22%	42,09%	40,59%	30,26%
A.III.	Restricted retained earnings	0,19%	0,16%	0,16%	0,00%	0,00%	0,00%
A.IV.	Retained earnings	-0,04%	-6,00%	2,50%	0,93%	3,91%	3,81%
A.V.	Net income or net loss (+/-)	3,01%	3,06%	2,01%	3,13%	1,50%	2,97%
B.	Total liabilities	46,82%	46,81%	50,05%	51,74%	52,00%	61,59%
B.II.	Long-term liabilities	0,00%	0,00%	0,00%	0,19%	13,69%	11,29%
B.III.	Current liabilities	46,82%	45,87%	50,05%	51,54%	38,31%	50,31%
B.III.1	Accounts payable	41,80%	41,62%	46,78%	46,50%	28,03%	46,83%
B.III.3	Payroll (Salaries) payable	1,30%	1,30%	0,98%	1,95%	1,88%	1,12%
B.III.4	Social security payable	2,86%	2,86%	1,83%	2,02%	2,45%	1,13%
B.III.5	Taxes payable	0,79%	0,79%	0,27%	1,06%	0,96%	0,92%
B.III.9	Other payables	0,24%	0,24%	0,18%	0,00%	5,00%	0,28%
B.IV.	Bank loans and other credit	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
C.	Other liabilities and equity	1,90%	1,87%	4,79%	0,09%	0,05%	0,00%
C.I.	Accrued liabilities	1,38%	1,35%	2,28%	0,09%	0,05%	0,00%
C.II.	Contingencies and accruals	0,52%	0,52%	2,51%	0,00%	0,00%	0,00%

Table 9. Liabilities and equity development in %

		00/01	01/02	02/03	03/04	04/05
	LIABILITIES AND EQUITY	11,11%	18,84%	12,74%	3,71%	42,20%
A.	Owner's equity	16,00%	4,65%	20,26%	3,23%	13,90%
A.I.	Invested capital (Ltd.)	0,00%	0,00%	0,00%	0,00%	0,00%
A.II.	Other equity accounts	8,00%	0,00%	24,18%	0,00%	6,01%
A.III.	Restricted retained earnings	7,00%	0,00%	-100,00%	0,00%	0,00%
A.IV.	Retained earnings	12,34%	-7400,00%	-57,99%	335,87%	38,40%
A.V.	Net income or net loss (+/-)	9,82%	-20,72%	75,57%	-50,16%	181,17%
B.	Total liabilities	11,48%	27,05%	16,55%	4,24%	68,42%
B.II.	Long-term liabilities	0,00%	0,00%	0,00%	7284,21%	17,25%
B.III.	Current liabilities	16,51%	27,05%	16,12%	-22,91%	86,71%
B.III.1	Accounts payable	10,63%	33,58%	12,07%	-37,49%	137,59%
B.III.3	Payroll (Salaries) payable	11,11%	-10,42%	124,42%	0,00%	-15,54%
B.III.4	Social security payable	11,11%	-24,17%	25,00%	25,50%	-34,66%
B.III.5	Taxes payable	11,11%	-58,62%	337,50%	-6,67%	36,73%
B.III.9	Other payables	11,11%	-11,11%	-100,00%	0,00%	-91,99%
B.IV.	Bank loans and other credit	0,00%	0,00%	0,00%	0,00%	0,00%
C.	Other liabilities and equity	14,20%	200,00%	-97,86%	-44,44%	-100,00%
C.I.	Accrued liabilities	11,11%	96,08%	-95,50%	-44,44%	-100,00%
C.II.	Contingencies and accruals	8,00%	478,95%	-100,00%	0,00%	0,00%

Financial structure shows us that owner's equity has rising trend in absolute value, but its share on total liabilities and equity is decreasing. Company is getting more involved in debt

every year. Slovmet is not using any bank loans or credits, but it uses bank overdraft, which reflects on the negative value of current liquid assets. Rising trend of liabilities is mainly created by the increase of current liabilities, especially accounts payable.

Industry figures show about the same proportion of equity and debt as Slovmet. The following table (Tab.10) shows the industry values.

Table 10. Liabilities and equity structure – INDUSTRY

	1999	2000	2001	2002	2003	2004	2005
Total liabilities and equity	100%	100%	100%	100%	100%	100%	100%
Owner`s equity	35,99%	35,36%	34,24%	33,50%	31,90%	37,61%	41,08%
Bank loans and other credit	13,13%	14,89%	16,22%	13,67%	17,46%	9,02%	3,36%
Liabilities	50,87%	49,75%	49,54%	52,83%	50,63%	53,36%	55,57%
Liabilities after expiration term	10,35%	8,63%	7,19%	7,85%	4,74%	3,77%	8,15%

7.2 Income statement analysis

7.2.1 Revenues

Revenues were growing constantly from year 2000 to 2005. The biggest portion of them is due to the trading of non-ferrous waste, which is traded in large volumes. The copper wires and transformer production activities create about 20% of all company`s revenues.

Table 11. Revenues structure of Slovmet in %

		2 000	2001	2002	2003	2004	2005
I.	Merchandise sales	79,83%	80,83%	79,75%	80,11%	76,11%	74,42%
II.	Internal Activities	6,67%	7,77%	13,69%	16,58%	23,14%	23,10%
II.1	Service and manufactured goods rev.	6,42%	7,75%	13,63%	16,47%	23,05%	21,87%
II.3	Revenue from self-constructed assets	0,25%	0,02%	0,05%	0,12%	0,09%	1,24%
III.	Revenue from sale of f. assets, mat.	0,44%	0,58%	6,42%	1,20%	0,50%	1,42%
VI.	Miscellaneous operating receipts	13,05%	10,72%	0,00%	2,08%	0,17%	0,23%
XII.	Interest received	0,08%	0,02%	0,02%	0,01%	0,00%	0,00%
XIV	Other financial receipts	0,07%	0,07%	0,13%	0,02%	0,07%	0,82%
	Total revenues	100%	100%	100%	100%	100%	100%

Revenues in industry reached an average growth of 22,6 % in period of years 2002 - 2004. For entire year 2002, revenues growth represented 13,4 % and 19,2 % in year 2003. Markedly above-average revenues growth has been reached on level of 35.1 % in 2004.

7.2.2 Costs

Costs were also growing proportionally with revenues. The biggest part created cost of merchandise sold. Cost used in manufacturing again only about 20%, but they were growing rapidly in last years. The costs in 2005 are seven times bigger than in year 2000. Also interest paid and other financial expenses have rising trend. Payroll costs are increasing constantly about the same proportion each year without any significant fluctuations.

Table 12. Cost structure of Slovmet in %

		2 000	2001	2002	2003	2004	2005
A.	Cost of merchandise sold	72,13%	74,10%	74,76%	76,30%	73,15%	71,83%
B.	Cost of materials in manufacturing	6,42%	6,75%	12,23%	16,42%	17,60%	18,31%
B.1	Raw materials and utilities used	3,12%	3,18%	5,53%	8,81%	13,71%	15,67%
C.	Payroll	6,98%	7,69%	6,79%	5,21%	7,86%	6,77%
C.1	Wages and salaries	4,97%	5,56%	4,88%	3,72%	5,95%	5,19%
C.3	Social security expenses	1,79%	1,87%	1,79%	1,29%	1,67%	1,38%
C.4	Fringe benefits	0,22%	0,26%	0,12%	0,21%	0,23%	0,20%
D.	Taxes and fees	0,01%	0,01%	0,01%	0,02%	0,04%	0,09%
E.	Depreciation of int. and tang. assets	0,07%	0,06%	0,02%	0,05%	0,36%	0,59%
F.	Book value of disposed f. assets, mat.	0,22%	0,37%	5,86%	1,20%	0,22%	1,00%
I.	Miscellaneous operating expenses	13,82%	10,79%	0,01%	0,04%	0,03%	0,02%
N.	Interest paid	0,00%	0,00%	0,00%	0,17%	0,24%	0,44%
O.	Other financial expenses	0,31%	0,21%	0,33%	0,52%	0,42%	0,83%
Q.	Income tax on operating income	0,04%	0,03%	0,00%	0,08%	0,08%	0,12%
	Total costs	100%	100%	100%	100%	100%	100%

The industry average year-to-year increase is around 23,7 %. This value is 1 percentage point higher than the growth of revenues rate. In year 2002, the growth presented 14,2 %, in the following year it was 17,3 % and the costs has grown by 39,5 % in year 2004.

7.2.3 Income

Net Income is company's main indicator of performance. Company is trying to increase its value by growing revenues and lowering costs. As we can see from the income statement the operating income is growing constantly year by year. In year 2005 it even increased very sharply by 60%, but the loss from financial operations is bigger every year too, which lowers net income significantly. The extraordinary income is not essential. Following table (Tab. 13) demonstrates income figures in years 2000 -2005.

Table 13. Net income of company Slovmet in years 2000 – 2005

	In thousands SKK	2000	2001	2002	2003	2004	2005
*	Operating income	254	282	263	432	580	940
*	Income/loss from financial operations	-42	-47	-87	-305	-376	-397
**	Income from operations	200	222	176	92	154	433
*	Extraordinary income/loss	0	0	0	0	0	0
***	Net income for fiscal period	200	222	176	92	154	433

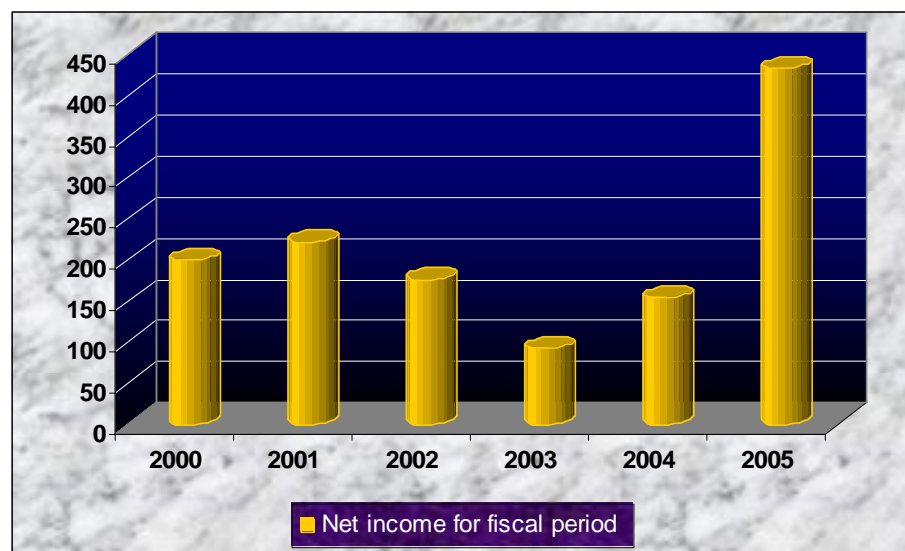


Figure 5. Net income development in years 2000-2005

7.3 Differential ratios analysis

7.3.1 Working Capital Requirement

Working capital is a valuation metric that is calculated as current assets minus current liabilities. It is also known as operating capital. In company it represents the day by day operating liquidity, which is available to a business. If assets cannot be converted into cash company will be short of liquidity. It represents some kind of „contingency fund“ to preserve company against unexpected financial problems. It is effected by day`s sales in inventory, in receivbles and current liabilities.

$$WCR = \text{CurrentAssets} - \text{CurrentLiabilities} \quad (10)$$

Table 14. Working Capital Requirement

	2000	2001	2002	2003	2004	2005
Current assets	6 620	7 356	8 756	9 224	7 211	10 639
Current liabilities	3 108	3 453	4 387	5 094	3 927	7 332
Working Capital Requirement	3 513	3 903	4 369	4 130	3 284	3 307
WCR / current assets	0,53	0,53	0,50	0,45	0,46	0,31

The table (Tab. 14) shows that the Working Capital Requirement of company Slovmet is reaching the value about 50% of all current assets. It has more current assets than current liabilities, which means it has free cash and it is liquid. Value of WCR has lowering trend in time and it goes down to 30% in year 2005. The recommended value of this ratio is between 30 and 50 %. It means company has a good financial base and in case of extraordinary and unexpected financial expense, company would be able to continue working without financial problems. With this lowering trend company should try to increase this ratio not to let it drop under 30%.

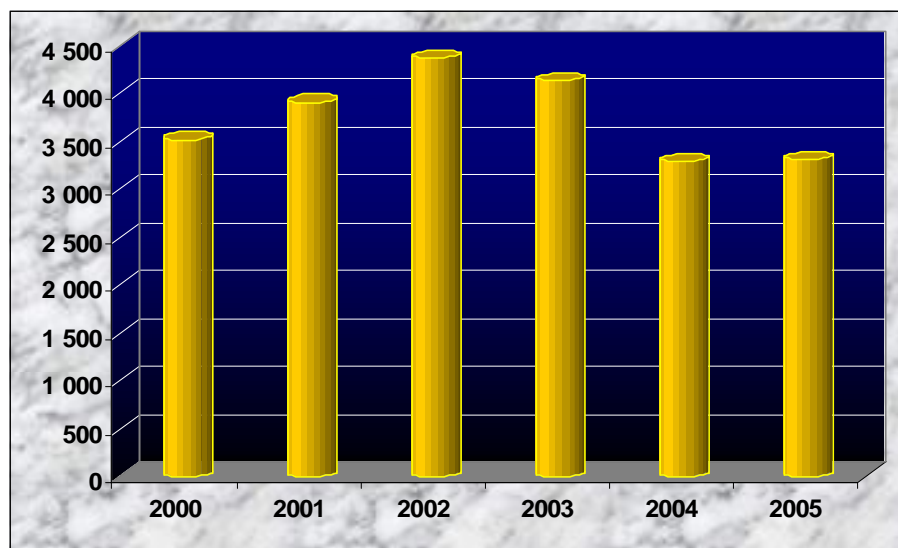


Figure 6. Working Capital Requirement development in years 2000 - 2005

7.4 Ratio indicator analysis

7.4.1 Returns ratios

Returns ratios belong between the most important indicators assessing the company's performance. They reveal how much profit a company earned in comparison to the total amount of shareholder equity (ROE) or in comparison to the total amount of assets (ROA). It is better to compare those ratios in time and with industry. The bigger the ratio, the better, company should try to keep them in positive values.

Table 15. Return ratios of Slovmet, Ltd.

	2000	2001	2002	2003	2004	2005
ROA	3,19%	3,29%	2,01%	2,06%	3,49%	6,44%
ROE	5,87%	5,84%	4,45%	1,93%	3,13%	7,73%
Profit Margin	0,58%	0,48%	0,36%	0,20%	0,24%	0,49%

A business that has a high return on equity is more likely to be one that is capable of generating cash internally. For the most part, the higher a company's return on equity compared to its industry, the better. Return on Equity is one of the Slovmet main performance indicator. From the table we can see, that it is much lower than the average of industry. This is not a good sign of company's performance. However the values are not negative. The average in industry goes almost to 18%, and company Slovmet has the ROE of about 8%. But it has rising trend since year 2003. ROE should be higher than the alternative cost of capital, which is about 4% according to CAPM method, which is calculated later in this paper.

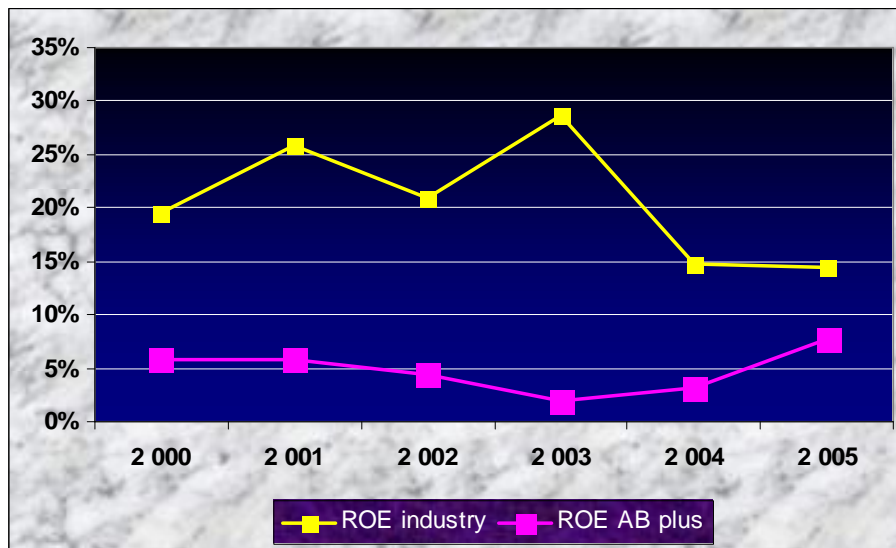


Figure 7. Comparing ROE of Slovmet and industry

The return on assets ratio is also growing in time. It goes up to 6% in year 2005. The reason for such a low values is the low profit of company. Industry figures have lowering trend and it goes to 4,78% in 2005.

Profit margin ratio shows how much profit company gets from one SKK of revenues. This indicator is also very low caused by low net income. Industry profit margin is higher in average by two percentage points.

Table 16. Return ratios - Industry

	2 000	2 001	2 002	2 003	2 004	2 005
ROA	7,42%	9,22%	7,88%	9,88%	4,80%	4,78%
ROE	19,60%	25,90%	21,00%	28,70%	14,70%	14,40%
Profit Margin	4,80%	5,32%	4,50%	6,38%	2,76%	2,45%

7.4.2 Activity ratios

This ratios indicate the ability of company to employ the contributed resources. Usually those are Day`s sales in total inventory, Day`s sales in manufacturing inventories, Day`s sales in inventories of work in progress etc. It shows how many time the asset turns back in company or how much time it takes to turn back in days.

Table 17. Activity ratios of company Slovmet, Ltd.

	2000	2001	2002	2003	2004	2005
Total asset turnover in years	5,21	5,31	5,36	4,67	6,29	6,18
Inventory turnover time in days	30	30	11	22	20	29
Receivables turnover time in days	34	33	30	60	31	32
Liabilities turnover time in days	33	33	32	41	30	36

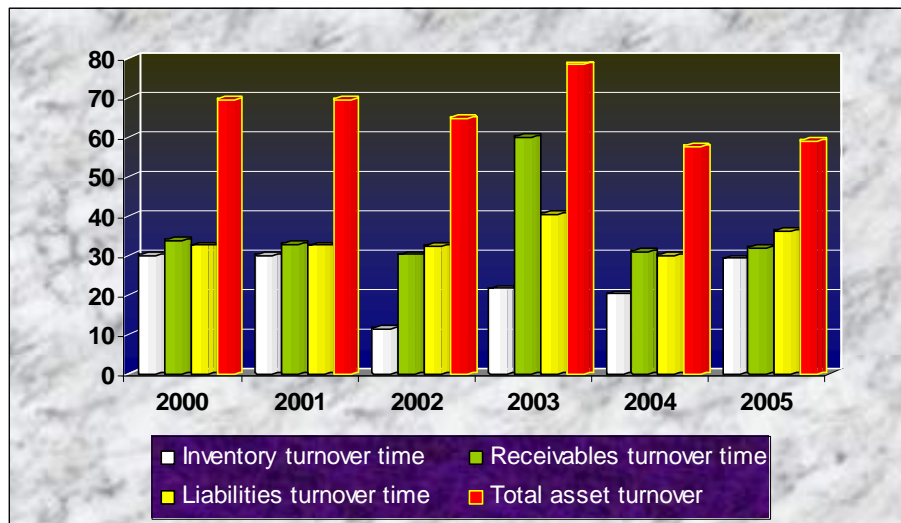


Figure 8. Activity ratios of Slovmet, Ltd. in days

By analysing the activity ratios we can see, that total asset turnover is about 5,3 times a year in first three observed years, then it drops to 4,67 and last two years it is more than six times a year. This means the assets turn back in company approximately in about 60 days, which is very good sign of company's performance. These results are also caused by high depreciation. This indicator is very suitable to compare with industry. In this case Slovmet shows much better results than industry figures. Turnover time in industry has rising trend, so it is improving, but still the values are much lower than in Slovmet. Average turnover time in industry rose from 2,32 in year 2000 to 3,79 in 2005.

Turnover of inventories defines how much days takes for inventories to transfer to other form of assets. Firm should try to minimize this time, because lowering this time increases profit. In Slovmet it is only about 30 days and in year 2002 it is even 11 days. In the last year it comes back to about 30 days, so about 12 times a year. Company is effective in

using its inventories. Industry figures have lowering trend without significant fluctuation starting by 33 days in year 2000 and coming up to 17 days in 2005, which is better than Slovmet.

Receivables turnover time shows the time receivables turn into cash. We can see that for company it takes about 30 days in first three years, than in sharply increases to 60 days and goes again to 30 in last two years. Indicators of industry reach numbers around 30 days in last two years as Slovmet.

Liabilities turnover time of Slovmet has different values every year, but they are much lower than in industry. On the other hand industry has lowering trend.

When we compare the time of receivables turnover and liabilities turnover we can see, that company pays in about the same time when it gets paid. In last year it is slightly better and the liabilities turnover is 36 days. Exception is year 2003 when company pays much earlier than it gets paid itself. This way actually grants a credit to its buyers. Company should try to prolong the time of liabilities turnover and to shrink the time of receivables turnover.

Table 18. Activity ratios - Industry

	2000	2001	2002	2003	2004	2005
Total asset turnover in years	2,33	2,73	2,68	2,66	3,27	3,79
Inventory turnover time in days	33	28	28	24	19	17
Receivables turnover time in days	47	39	40	40	31	31
Liabilities turnover time in days	80	69	70	70	60	50

7.4.3 Debt ratios

Debt ratios are important for signaling the riskness of company by its capital structure. Debt itself is not bad sign of company`s performance. Some level of debt is useful for company. Financial structure of company should have positive effect on return and not endanger company`s liquidity.

Table 19. Debt ratios of Slovmet, Ltd.

	2000	2001	2002	2003	2004	2005
Total Debt Ratio	45,71%	46,81%	50,05%	51,74%	52,00%	61,59%
Debt Equity Ratio	93,48%	91,28%	110,81%	107,39%	108,44%	160,36%
Interest Coverage	0,00	0,00	0,00	2,65	2,32	2,37
Fix. Assets Coverage by Equity	191,23	189,15	395,90	7,32	1,87	1,53
Assets Coverage by L.T.Liabilities	191,23	189,15	395,90	7,35	2,40	1,98

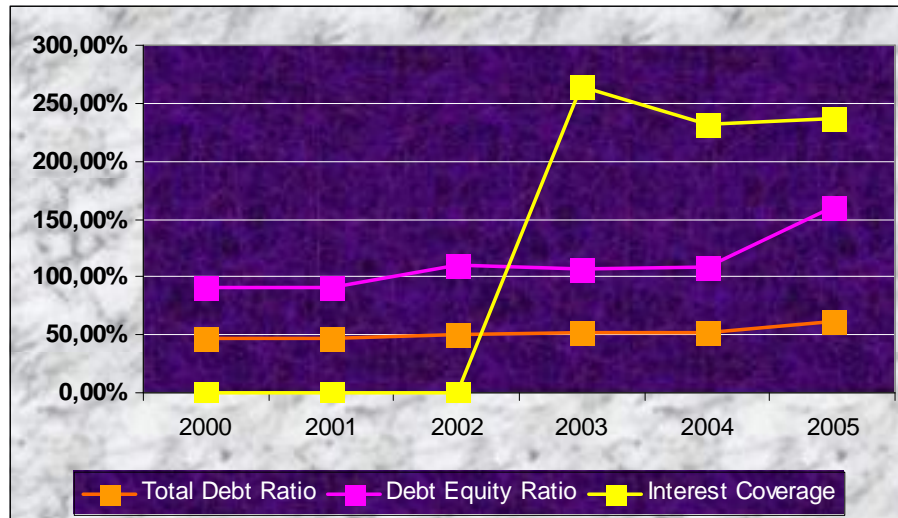


Figure 9. Debt ratios of Slovmet, Ltd.

Total Debt Ratio shows by what proportion is company covered by liabilities. The recommended value is between 30 to 60 %, but it depends on the industry in which company functions. This ratio in Slovmet is about 50 % in almost all years, and it increases above 60% in last year. So it stays in recommended values, but it has increasing trend. Values in industry show about the same figures, except the last year.

Also very popular indicator for judging the debt is Debt Equity Ratio, which sticks up the equity and liabilities. It is important to watch this ratio in time, if it has rising or decreasing trend. The recommended value is around 1, company shows much higher results, because it rose up to 1,6. Values in industry are higher in almost all years, in the last one the figures are very similar.

Interest Coverage defines the level of debt by measuring the ability of company to pay for interests. This ratio is very important in case company is using interest bearing liabilities. The value higher than 1 means that company is able to meet liabilities even by zero profit. Recommended value is 5 and more. In first three years are the values of this ratio in company 0. They rose in 2003 to 2,65 which is significant improvement and stays around

this level in last two years. But still it is very low. Slovmet should try to improve this indicator by increasing profit or lowering interest paid.

Fixed assets coverage by long term liabilities shows how fixed assets are covered by long term liabilities. To keep the long term financial balance it is important to keep this indicator above 1. In company Slovmet is this ratio very high, because it does not own much fixed assets. In year 2000 and 2001 is the value about 190, then in year 2002 395,9 and since year 2003 it drops to around 7, because company invested in fixed assets. Still this ratio is above 1 and moreover company uses long term liabilities to cover even current assets, so it means its more stable, but less effective. Industry figures are above one, they have slightly increasing trend, but are much lower than Slovmet.

Table 20. Debt ratios – Industry

	2000	2001	2002	2003	2004	2005
Total Debt Ratio	51%	50%	49%	50%	55%	54%
Debt Equity Ratio	134%	141%	131%	144%	168%	161%
Bank loans and other crd. mil. SKK	4 877	4 600	4 049	8 013	6 290	1 888
Fixed Assets Coverage by Equity	1,32	1,30	1,34	1,36	1,36	1,59
Equity loan insolvency	44,20%	38,70%	28,80%	47,30%	31,40%	7,10%

7.4.4 Liquidity ratios

Liquidity ratios compare the amount of money available with amount of money needed to be paid. The most simple payment is of course by cash or current account. If company does not have enough liquidity assets, which are easy transfered to cash, it does not have resources to meet its liabilities and it will get in financial problems.

Table 21. Liquidity ratios of Slovmet, Ltd.

	2000	2001	2002	2003	2004	2005
Cash Ratio	0,20	0,19	0,71	-0,19	-0,46	-0,61
Quick Ratio	1,19	1,20	1,65	1,30	0,91	0,46
Current Ratio	2,10	2,13	2,00	1,78	1,92	1,45
Working Capital Req.	3 513	3 903	4 369	4 130	3 284	3 307
WCR/Current Assets	53,06%	53,06%	49,90%	44,77%	45,54%	31,08%
WCR/Total Assets	52,91%	52,91%	49,84%	41,79%	32,04%	22,69%

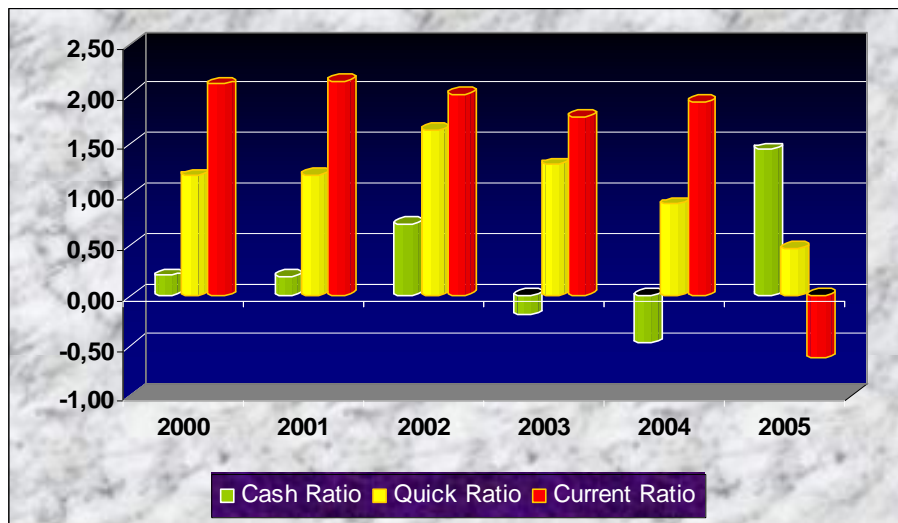


Figure 10. Liquidity ratios of Slovmet, Ltd.

Cash ratio measures the ratio of current liquid assets to current liabilities. The suggested value is between 0,2 – 0,5. Company is approaching this value in first two years, in 2002 is the ratio higher than recommended, so company has free cash. But in years 2003 and 2004 this indicator goes into negative values, which is caused by the negative value of current liquid assets in these years, because company is bank overdraft, which is not very suitable. And finally last year is the value much higher than recommended, so again the company is not using its free financial resources effectively. Figures in industry are around 20% in all monitored years. In first and last two years are values under recommended level.

Quick ratio compares current receivables plus current liquid assets to current liabilities. Suggested values are between 1 and 1,5. Slovmet does not meet this condition in last two years, where the values are lower, but industry shows about the same results. The figures are also lower than recommended.

Current ratio is an indication of a company's ability to meet short-term debt obligations; the higher the ratio, the more liquid the company is. It shows the ability of company transfer all its current assets to cash. This ratio is very sensitive to assets, their turnover time, their structure and liquidities. If the current assets of a company are more than twice the current liabilities, then that company is generally considered to have good short-term financial strength. If current liabilities exceed current assets, then the company may have problems meeting its short-term obligations. Suggested values are between 1,5 and 2,5, which is true

in all monitored years for Slovmet. Industry has lowering trend and in last two years are figures under recommended values.

Table 22. Liquidity ratios – Industry

	2000	2001	2002	2003	2004	2005
Cash Ratio	0,16	0,22	0,23	0,35	0,19	0,16
Quick Ratio	0,99	1,01	1,00	1,21	0,83	0,77
Current Ratio	1,81	1,74	1,66	1,89	1,45	1,33
WCR/Current Assets	44,73%	42,47%	39,84%	47,01%	31,04%	24,98%
WCR/Total Assets	27,43%	26,79%	25,48%	29,63%	19,95%	17,04%

But this ratios have many drawbacks, and that is why they dont have such a predicative ability. The most important fact of this drawback is, that they are calculated lumpsum, and they do not define the development of debt during the year.

7.5 Value added structure

Table 23. Value added structure of Slovmet, Ltd. in %

	2000	2001	2002	2003	2004	2005
Value added	100%	100%	100%	100%	100%	100%
Wages and salaries	67,64%	67,62%	71,90%	88,98%	68,10%	66,13%
Social security expenses	21,62%	22,82%	26,40%	30,83%	19,17%	17,56%
Fringe benefits	2,11%	3,11%	1,73%	5,02%	2,63%	2,60%
Depreciation	0,72%	0,74%	0,30%	1,09%	4,14%	7,58%
Interest paid	0,00%	0,00%	0,00%	3,98%	2,76%	5,57%
Tax	0,37%	0,37%	0,00%	1,81%	0,90%	1,55%
Net income	5,99%	6,34%	5,33%	4,76%	2,76%	6,09%
Others	1,55%	-1,00%	-5,66%	-36,47%	-0,45%	-7,07%

The biggest part of value added is created by wages and salaries. Social security expenses are about 20%. In table 22. is the structure of value added in percentage points. Net income creates very small part, it is only about 6% in last year. Interest paid are also not very high.

7.6 EBIT structure

EBIT is one of the main indicators of performance for company and Slovmet is watching its development carefully. The structure of EBIT is important for Slovmet. It has growing trend in time, which is good sign for company`s health. EBIT is created in biggest portion

by net income in first three years, there are not interest paid, because company does not use any bank loan or credit. After year 2003 situation changes and almost 40 % of EBIT are interest paid and this trend continues until last year. In all the monitored years there is really insignificant share of tax. The following tables (Tab.24) and (Tab.25) shows the development of EBIT and its structure in percentage points.

Table 24. EBIT structure of Slovmet, Ltd.

	2000	2001	2002	2003	2004	2005
Interest paid				77	154	396
Tax	12	13		35	50	110
Net income	200	222	176	92	154	433
EBIT	212	235	176	204	358	939

Table 25. EBIT structure of Slovmet, Ltd. in %

	2000	2001	2002	2003	2004	2005
Interest paid	0,00%	0,00%	0,00%	37,75%	43,02%	42,17%
Tax	5,53%	5,53%	0,00%	17,16%	13,97%	11,71%
Net income	94,47%	94,47%	100,00%	45,10%	43,02%	46,11%
EBIT	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

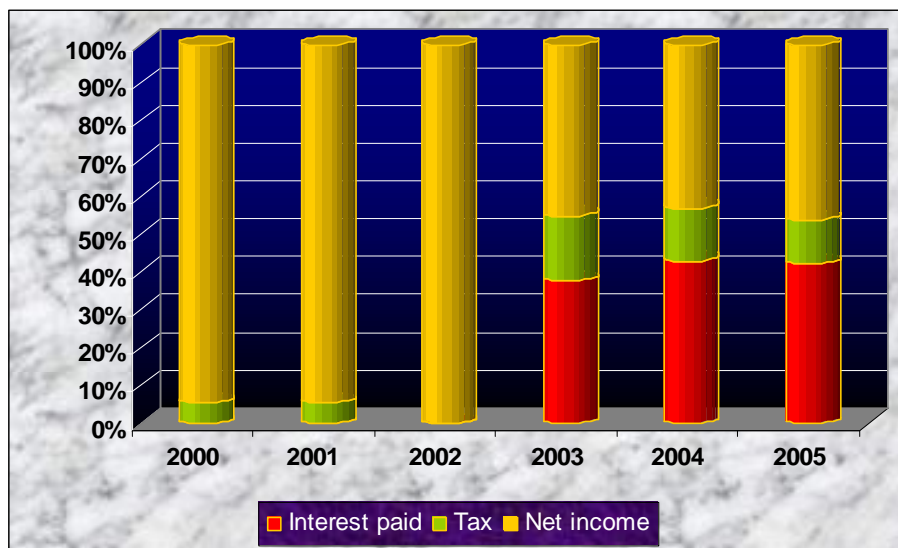


Figure 11. EBIT structure – Company Slovmet, Ltd.

7.6.1 The debt effect on ROE

It can be expressed by Equity multiplier, which defines the total assets divided by common stockholder`s equity. This is a measure of leverage. The higher the ratio is, the more the company is relying on debt to finance its asset base.

$$EBT / EBIT * Assets / Equity > 1 \quad (11)$$

Table 26. Equity multiplier

	2000	2001	2002	2003	2004	2005
Equity multiplier	1,95	1,95	2,21	1,29	1,19	1,51
EBT/EBIT	1,00	1,00	1,00	0,62	0,57	0,58
Financial leverage A/E	1,95	1,95	2,21	2,08	2,09	2,60

In first two monitored years the value of Equity multiplier is 1,95 and later above 2 and finally in last year it rises to 2,6. It means that company can rise the proportion of liabilities in its structures, because the leverage effect is positive and it will increase ROE.

7.7 Summary ratios

Summary ratios are indicators trying to express the company`s financial position by one number. Their predicative ability is not very trustful, because company is a complex entity and one figure expression is not adequate and sufficient.

7.7.1 Altman Z – score

This is a model created by Edward Altman in 1960s. It combines five different financial ratios to determine the likelihood of bankruptcy amongst companies. The lower score, the higher possibility of bankruptcy. Companies with Z-scores above 2,99 are considered to be healthy, scores between 1,81 to 2,99 signal neutral position and scores under 1,81 means that company has a strong financial problems.

This model was adjusted in year 1983 to suit also non public traded companies. I will use this model.

$$Z - score = 0,717 * x_1 + 0,847 * x_2 + 3,107 * x_3 + 0,420 * x_4 + 0,998 * x_5 \quad (12)$$

x_1 – Working Capital Requirement / Assets

x_2 – Retained income / Assets

x_3 – EBIT/Assets

x_4 – Value of equity / Liabilities

x_5 – Revenues / Assets

Table 27. Z-score calculation of Slovmet, Ltd.

	2000	2001	2002	2003	2004	2005
x_1 – WCR/Assets	0,529149	0,529149	0,498403	0,417889	0,32039	0,226895
x_2 – Retained earnings /A	0	0	0,024983	0,009309	0,039122	0,038079
x_3 – EBIT/Assets	0,04586	0,03186	0,020078	0,020642	0,034927	0,064425
x_4 – Equity / Liabilities	1,034565	1,095569	0,902439	0,931156	0,922139	0,623594
x_5 – Revenues / Assets	5,154959	5,178959	5,563541	4,588081	6,226732	6,105729
Z - score	6,052349	6,055339	6,316699	5,295753	6,910683	6,689476

According to this ratio company shows very good results, because the values are above 2,99 in all monitored years. The high figures are mainly caused by very high value of revenues to assets ratio. But this indicator is really difficult to suit to company Slovmet. Especially defining the market value of equity. I used the balance sheet equity value, because Slovmet is not publicly traded. I think this ratio is not very substantial.

7.7.2 Index IN01

Index IN01 is designed for czech enviroment by Inka Neumaierová and Ivan Neumaier. So it suits company Slovmet more than Z-score. This index is suitable to use when company has problem to estimate alternative cost of equity. It is calculated by following formula:

$$IN = 0,13*A + 0,04*B + 3,92*C + 0,21*D + 0,09*E \quad (13)$$

A- *Assets / Liabilities*

B- *EBIT / Interest paid*

C- *EBIT / Assets*

D- *Revenues / Assets*

E- *Current Assets / Current Liabilities + Short term bank loans and other credit*

The results above 1,77 indicate healthy company, that creates value. Figures between 1,77 and 0,75 are in so called grey zone and the situation of company is neither good neither bad, but company could have financial problems. And figures under 0,75 warn about bad performance and indicate problems. In table 27. are calculated values for index IN01.

Table 28. Calculation of Slovmet Index IN01

	2000	2001	2002	2003	2004	2005
A	2,14	2,14	2,00	1,93	1,92	1,62
B	0,00	0,00	0,00	2,65	2,32	2,37
C	0,03	0,03	0,02	0,02	0,03	0,06
D	5,18	5,18	5,56	4,59	6,23	6,11
E	2,13	2,13	2,00	1,81	1,84	1,45
IN01	1,68	1,68	1,69	1,56	1,95	1,97

Last two years the values of IN01 are higher than 1,77. According to this indicator company in those years create value and this indicator has slighty rising trend. Again the stress of revenues to assets is the most significant and influences the IN01 results. I think these figures are more realistic than using Z-score. Following figure (Fig.12) shows the comparison of both indexes.

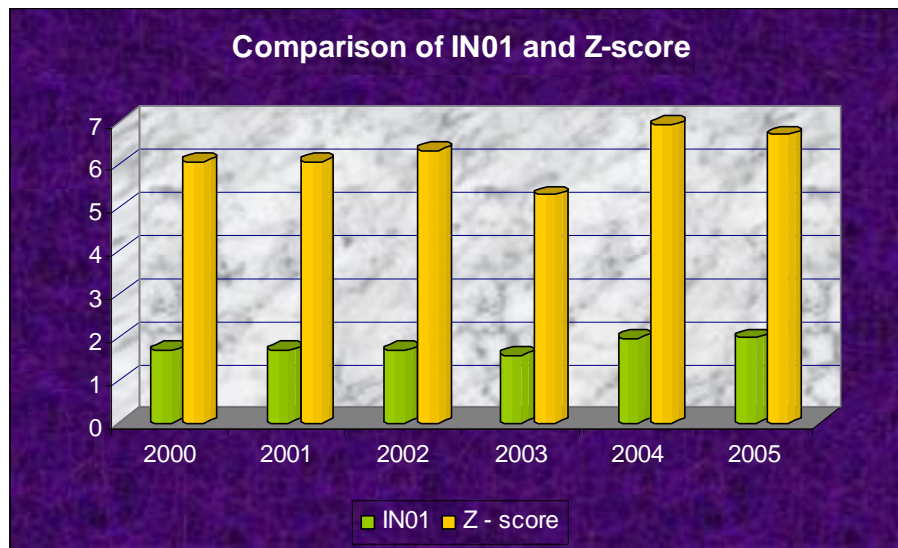


Figure 12. Comparison of Index IN01 and Z-score of Slovmet, Ltd.

7.8 Financial analysis summary

After calculating financial ratios and evaluating them I conclude this:

The fixed assets of the company are proportionally very low to current assets, which is due to the obsolescence. But they have rising trend in time, because owners bought land and trying to invest more in last two years in equipment and machinery. They want to modernize the company. I think in the future they should invest even more in new technology and equipment.

Current assets are also rising year by year, specially due to the increased level of inventory and short term receivables. Current liquid assets are falling deeper in negative values every year, because of the bank overdraft. It can endanger the financial stability and company may have problems to meet their liabilities.

The value of equity is rising, because of the rising amount of operation income. Invested capital remains at the same level for all monitored years. Also liabilities have growing trend, which causes larger debt of company. Company does not use any loans or credits, instead Slovmet uses bank overdraft in last three years.

By income statement analysis it is obvious that company has in all monitored years positive value of income, which is growing in last three years. This indicator is very important for

company. Financial operation income is negative in all years and it lowers the amount of operation income. Interest paid are causing this negative fact.

Revenues and costs are rising proportionally without significant distortions every year.

Return ratios belong between the most important indicators measuring the company's performance. They are not very favourable. They are much lower than average return ratios in industry and they are rising only slightly from year to year. This is caused by the low amount of profit. Company should try to minimize costs and improve the revenues.

Activity ratios are satisfactory. Company's days of transferring inventories to other form of assets and turnover time of assets are lower than in industry, which is a good sign. And it signals the effective use of inventories and assets in general.

Very important is to stress that company's turnover time of assets is much higher than industry and it is positive. Company Slovmet should try to prolong the Liabilities turnover time ratio by paying postponing the payments to suppliers and to minimize the Receivables turnover time from buyers, because this effects the liquidity.

The debt ratio of company is in recommended values, but it is rising every year and company is loosing the financial stability and trustworthiness.

Summary ratios showed quite good results especially in last years and they have growing trend, but Z score is not really suitable for our environment, so the results are not substantial.

8 CALCULATION OF EVA USING ECONOMIC MODEL

Economic value added incorporates residual or economic profit, which is created after paying all costs including cost of debt and alternative cost of equity. In this following section I will calculate EVA using economic model, which is based on accounting model. It belongs between the most important modern indicators.

It is necessary to converse the accounting model into the economic, which reflects the economic reality. This model mounts to capital market view.

Economic model:

$$EVA = NOPAT - WACC \times NOA \quad /: NOA \quad (14)$$

$$EVA/NOA = NOPAT/NOA - WACC \quad /*NOA$$

$$EVA = (RONA - WACC) \times NOA$$

8.1 Calculating Capital (NOA)

This calculation is based on balance sheet. It is necessary to:

- a, take out the nonoperating assets
- b, capitalize items, which are not in balance sheet
- c, subtract non-interest bearing liabilities from assets

Table 29. Balance sheets assets

	2000	2001	2002	2003	2004	2005
Balance sheet assets	6 638	7 376	8 766	9 883	10 250	14 575

8.1.1 Taking out nonoperating assets

First of all we must decide which of the assets is company using for the main operating activity and which are necessary for running the company. We must consider the following items:

Current liquid assets

Current liquid assets is taken out in the case it serves as strategic reserve or in case its value is higher than necessary for principal activity of business. Operating necessary level of current liquid assets we can establish by the cash ratio. Recommended values for this ratio are between 20 and 50 %. From the table we can see, that cash ratio has recommended value only in first year. In following years is the value much lower and since 2003 its going more and more into negative numbers due to overdraft. The only year we need to subtract extra liquid assets is year 2002, where the cash ratio is 71% and the extra amount is 937 000 SKK.

Table 30. Cash ratio of Slovmet

Cash ratio= current liquid assets / current liabilities	2000	2001	2002	2003	2004	2005
	0,20	0,19	0,71	-0,21	-0,47	-0,61
Maximal recommended value	0,50	0,50	0,50	0,50	0,50	0,50

Table 31. Calculation of cash ratio to recommended value in thousands SKK

Calculation of cash ratio to recommended value	2000	2001	2002	2003	2004	2005
Necessary current liquid assets	621,54	690,6	2193,5	1018,8	785,4	1466,4
Balance sheet current liquid assets	606	673	3 130	-1 081	-1 855	-4 502
Difference	16	18	-937	2 100	2 640	5 968

Financial investments

The most important criteria for including financial investments in operating assets is their purpose. If they have portfolio character we should subtract them from net operating assets, on the other hand if they are connecting principal activity of business we should

leave them. Company Slovmet does not have any financial investments in all years of existence, so I will not change the value of assets.

Fixed assets in progress

These assets are usually necessary for operating activities of business. However they are not disposable for present income. So we will subtract them from NOA.

Table 32. Acquisition of fixed assets in progress in thousands SKK

	2000	2001	2002	2003	2004	2005
Acquisition of fixed assets in progress	0	0	0	70	70	70

Other assets not needed for principal activity of business

It is for example assets as land or buildings, which are not used for main activity. It can be recreation areal of company, not used land etc. Company Slovmet owns a land, which is not needed so we will take it out of assets.

Table 33. Land in thousands SKK

	2000	2001	2002	2003	2004	2005
Land				421	837	837

8.1.2 Capitalization

Financial leasing

This asset is added to net operating assets in market value. But company Slovmet does not use leasing.

Difference in valuation of current assets, Difference in valuation of fixed assets, Long-effect expense capitalization, Goodwill

Company does not have them or they are not significant, so we will not provide capitalization.

Buried reserves (made on purpose)

In case company is lowering the asset value on purpose and creating hidden reserves this way, we must add this reserves to equity. Company Slovmet does not create any secret reserves. [6]

8.1.3 Subtracting non-interest liabilities

It is necessary to lower the assets of non-interest liabilities, which include current liabilities, accrued liabilities and other long term liabilities, because they do not include the cost of capital, which is subtracted from EVA.

Table 34. Short term non-interest liabilities in thousands SKK

Short term non-interest liabilities	2000	2001	2002	2003	2004	2005
Current liabilities	3108	3453	4387	5094	3927	7332
Accrued liabilities	92	102	200	9	5	0
Other long-term liabilities	0	0	0	19	1403	1645

The following table (Tab.35) shows the effects of NOA calculation to balance sheet, which is very important, because this adjusted balance sheet will be used for calculating cost of capital and EVA.

Table 35. NOA Adjusted balance sheet in thousands SKK

	2000	2001	2002	2003	2004	2005
Fixed Assets	18	20	10	159	1721	2742
Intangible Assets	0	0	0	0	0	0
Tangible Fixed Assets	18	20	10	159	1721	2742
Investments	0	0	0	0	0	0
WCR	3500	3801	3233	4111	2287	1949
Inventory	2876	3196	1535	2724	3569	7231
Receivables	3218	3487	4091	7581	5497	7910
Current Liquid Assets	606	673	2194	-1081	-1855	-4502
Accrued Assets	0	0	0	9	411	287
Non-bearing Liabilities	-3200	-3555	-4587	-5122	-5335	-8977
NOA	3518	3821	3243	4270	4008	4691

8.2 CALCULATING NOPAT

The most important rule for calculating NOPAT is to reach symmetry between NOA and NOPAT. If activities and assets relating to them belong to NOA, we must also add their expenses and gains related to them to NOPAT.

The starting point for this calculation is operating income. Then we will provide following operations:

- we take out interest paid from financial expenses and add them back to income.
- we take out the extraordinary items, which are special and they will not repeat as for example compensation money for employees, fixed assets sale and the effect for expenses and gains etc. Slovmet has no extraordinary items.
- we must consider also the effect of equity changes for NOPAT calculation.
- we must decide the level of financial expenses and gains which leave in NOPAT in connection to operation financial assets. In year 2002 was the amount of current liquid assets higher than needed and gains from it were 4 000 SKK, so we will subtract them from income.
- **tax fixation** – we need to find out the tax amount paid from operation income. The most precise solution we get by calculating with payable income tax for particular year and this amount we either lower by tax liability or increase by tax saving that differs from balance sheet income.

Following table shows the calculation. In the first line there is an income from operation before tax. The fourth line shows the income after adding interest paid and subtracting revenues from nonoperating activities. The fifth line includes the difference between the income before tax and the adjusted income. The difference is then assessed at tax rate of particular year. NOPAT we get as adjusted income before tax minus original tax paid minus additionally calculated tax.

Table 36. Calculation of NOPAT in thousands SKK

	2000	2001	2002	2003	2004	2005
Income from operations before tax	212	225	176	127	204	543
Interest paid				77	154	396
Interest received from nonoperating activities			4			
Income from operations after adjustments	212	225	172	204	358	939
Income from operations before tax - after adjustments	0	0	-4	77	154	396
Original tax paid	12	13	0	35	50	110
Additionally calculated tax	0	0	0	19	29	75
NOPAT	200	212	176	73	125	358

After adjustments it is necessary to fix the balance sheet also. For EVA calculation is the capital structure change very important. Table (Tab.37). shows the amount of total capital, which matches with net operating assets. Equity equivalents serve as a compensatory element.[6]

Table 37. Adjusted equity and liabilities in thousands SKK

	2000	2001	2002	2003	2004	2005
Owner's equity (Stockholder's equity)	3518	3821	3243	4270	4008	4691
Invested capital	200	200	200	200	200	200
Other equity accounts	3015	3350	3350	4160	4160	4410
Restricted retained earnings	12,6	14	14	0	0	0
Retained earnings	-2,7	-3	219	92	401	555
Net income or net loss (+/-)	199,8	222	176	309	154	433
Equity equivalents	93,3	38	-716	-491	-907	-907
Total liabilities	0	0	0	0	0	0
Bank loans and other credit	0	0	0	0	0	0
Total capital	3518	3821	3243	4270	4008	4691

From the table it is obvious that company has no bank loans or other credits, but it uses bank overdraft.

8.3 WACC

After the definition of assets and capital structure we need to determine the costs for particular capitals.

8.3.1 Calculating cost of debt

Cost of debt are expressed by interest that company has to pay. Company Slovmet uses loan rate for overdraft based on PRIBOR to which is added the additional charge of 5 %.

Table 38. Costs of loan rate

	2000	2001	2002	2003	2004	2005
PRIBOR	5,76%	5,30%	3,62%	2,32%	2,71%	2,13%
Risk additional charge	5,00%	5,00%	5,00%	5,00%	5,00%	5,00%
Nominal interest loan rate	10,76%	10,30%	8,62%	7,32%	7,71%	7,13%

8.3.2 Calculating cost of equity

The most popular model for calculating cost of equity is Capital Asset Pricing Model CAPM. It represents the relationship between risk and expected return. The idea behind this model is that investors need to be compensated in two ways: time value of money and risk. The time value of money is represented by the risk-free r_f rate in the formula and compensates the investors for placing money in any investment over a period of time. The another half of formula describes risk and calculates the amount of compensation the investor needs for taking on additional risk. This is calculated by taking a risk measure (beta) that compares the returns of the asset to the market over a period of time and to the market premium ($r_m - r_f$). [12]

$$r_a = r_f + \beta_a (r_m - r_f) \tag{15}$$

r_f = risk free rate

β_a = beta of the security

r_m = expected market return

To use this model we need to know risk free rate, risk premium and beta of the security.

Risk free rate

There is no universal risk free rate, but in general treasury bills and government bonds are considered to be almost risk free. It is suggested to use the interest rate of decennary government bonds. It contains the inflation and additional charge for lowered liquidity as well.

Risk premium

According to the CAPM model authors risk premium should be defined as the difference between expected market return r_m and risk free return r_f . The market return using the

global stock index e.g. PX 50 in Czech republic. Global index reflects the average stock market return. For determining the risk premium we can also use the rating published by agencies as Moody's or Standard & Poor's. Risk premium is defined by the country's rating, which gives additional charge to basic risk level Aaa. Slovak republic has long term rating A3, risk premium 6,27% and country risk rate 1,43%. Using of model requires following presumptions:

- There exist risk free borrowing and lending rate
- It is possible to trade all assets, their price is determined
- Capital markets are ideal

Most of this presumptions do not exist even in very developed countries.

Beta coefficient

Determines the sensitivity of the asset returns to market returns. Beta coefficient measures the volatility, or systematic risk of a portfolio in comparison to the market as a whole. market (systematic) risk. It represents the tendency of a security's returns to respond to swings in the market. A beta of 1 indicates that the security's price will move with the market.

A beta less than 1 means that the security will be less volatile than the market.

A beta greater than 1 indicates that the security's price will be more volatile than the market.

Because company Slovmet is not publicly traded company we will use the model CAPM with substitutive estimations of beta. I will use the analogy method and beta of similar companies in industry. I took the data from damodaran.

$$\beta_l = \beta_u * \{1 + (1 - T) * Liabilities/Equity\} \quad (16)$$

β_l = leveraged beta

β_u = unlevered beta

T = tax

Table 39. Calculating alternative cost of capital

	2000	2001	2002	2003	2004	2005
rf	6,77	6,35	4,94	4,12	4,79	3,56
Beta unleveraged	0,81	0,81	0,81	0,81	0,81	0,81
Beta leveraged	0	0	0	0	0	0
Risk premium	7,70	7,70	7,70	7,70	7,70	7,70
liabilities	0	0	0	0	0	0
equity	3 518	3 821	3 243	4 270	4 008	4 691
liabilities/equity	0	0	0	0	0	0
1 + (1- Tax)	1,71	1,71	1,75	1,75	1,81	1,81
re in %	6,77	6,35	4,94	4,12	4,79	3,56

Source : Damodaran

8.3.3 Calculating WACC

WACC will be calculated as weighted average. The calculation is in the following table.

Because company does not use any debt WACC will be equal re.

Table 40. Calculating WACC

	2000	2001	2002	2003	2004	2005
Cost of Debt	10,76%	10,30%	8,62%	7,32%	7,71%	7,13%
re	6,77%	6,35%	4,94%	4,12%	4,79%	3,56%
Debt / Capital	0%	0%	0%	0%	0%	0%
Equity / Capital	100%	100%	100%	100%	100%	100%
WACC	6,77%	6,35%	4,94%	4,12%	4,79%	3,56%

Following graph shows the WACC trend in time. It is equal to alternative cost of capital.

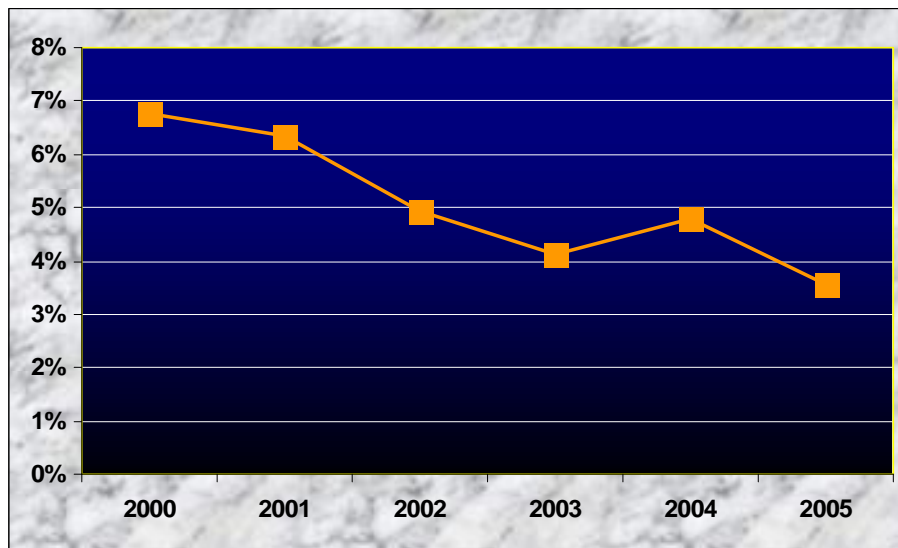


Figure 13. WACC trend in time

8.3.4 Calculating EVA

We use the economic model formula for calculating EVA: $EVA = NOPAT - WACC * C$. For EVA calculation we need to use NOA from the beginning of the year, so it is not possible to calculate EVA for year 2000 using economic model, because I don't have this information. I will calculate EVA just for years 2001 to 2005.

Table 41. EVA calculation in thousands SKK

	2001	2002	2003	2004	2005
NOA at the beginning of the year	3 518	3 821	3 243	4 270	4 008
NOPAT	212	176	73	125	358
WACC	6,35%	4,94%	4,12%	4,79%	3,56%
EVA	-11	-13	-61	-80	215

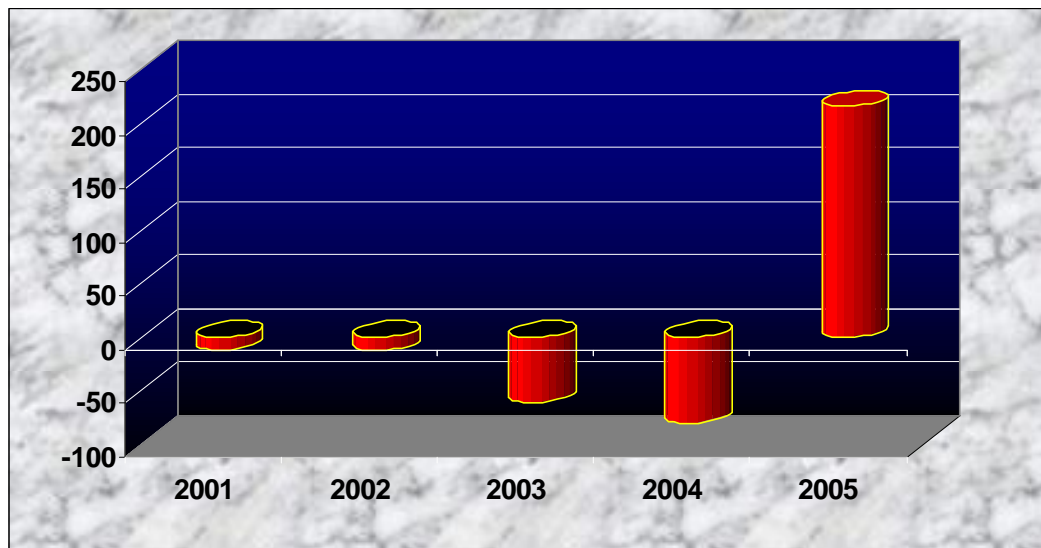


Figure 14. Economic model of EVA in thousands SKK

EVA is negative in almost all monitored years and value of company is decreasing every year until 2004 according to this ratio. Last year there is a significant improvement and the value is very positive. It means company created value for its owners. More important than absolute value of EVA are the improvements, and last year there is a huge jump.

9 CALCULATING EVA USING ACCOUNTING MODEL

To compare the models I will also calculate EVA using accounting model and following formula:

$$EVA = Net\ Income - Cost\ of\ Equity * Equity \quad (17)$$

First I need to calculate the cost of equity. I will again use the CAPM method. By using the information from balance sheet, that is not adjusted are the alternative cost of capital much higher than using NOA adjusted balance sheet. The ratio between liabilities and equity causes the big difference. The calculation is shown again in the table. (Tab.42)

Table 42. Calculating alternative cost of capital using CAPM

	2000	2001	2002	2003	2004	2005
rf	6,77	6,35	4,94	4,12	4,79	3,56
Beta unleveraged	0,81	0,81	0,81	0,81	0,81	0,81
Beta leveraged	1,26	1,26	1,57	1,52	1,59	2,35
Risk premium	7,70	7,70	7,70	7,70	7,70	7,70
liabilities	3 108	3 453	4 387	5 113	5 330	8 977
equity	3 405	3 783	3 959	4 761	4 915	5 598
liabilities/equity	0,91	0,91	1,11	1,07	1,08	1,60
1 + (1- Tax)	1,71	1,71	1,75	1,75	1,81	1,81
re in %	16,50	16,08	17,03	15,84	17,03	21,66

Using alternative costs of capital I will now calculate EVA as following table (Tab.43) shows.

Table 43. Calculating EVA using accounting model in thousands SKK

	2000	2001	2002	2003	2004	2005
Cost of Equity	16,50%	16,08%	17,03%	15,84%	17,03%	21,66%
Net Income	200	222	176	92	154	433
Equity	3 405	3 783	3 959	4 761	4 915	5 598
EVA	-362	-386	-498	-662	-683	-780

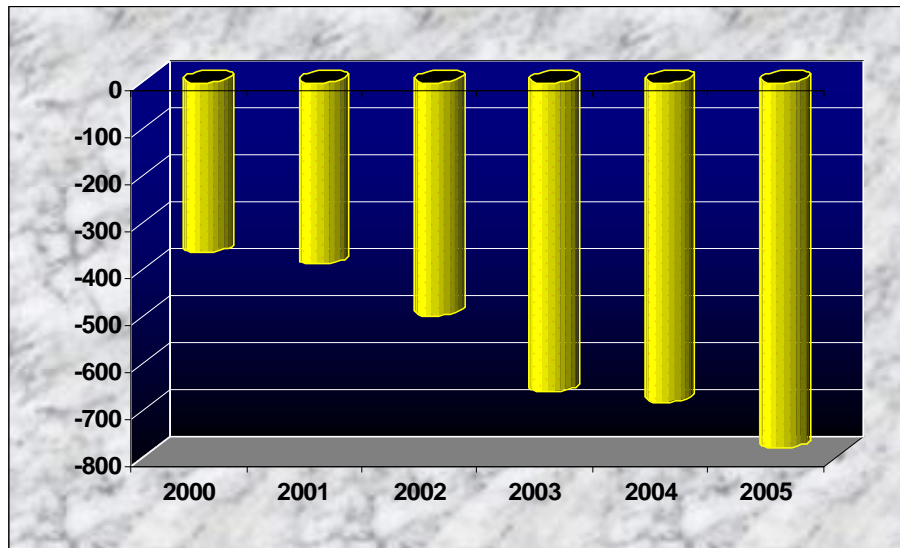


Figure 15. EVA results using accounting model

By using this model company's performance is very bad. All the monitored years are in deep negative values and the situation is getting worse year by year. The results from accounting and economic model are totally different, because of the adjustments made.

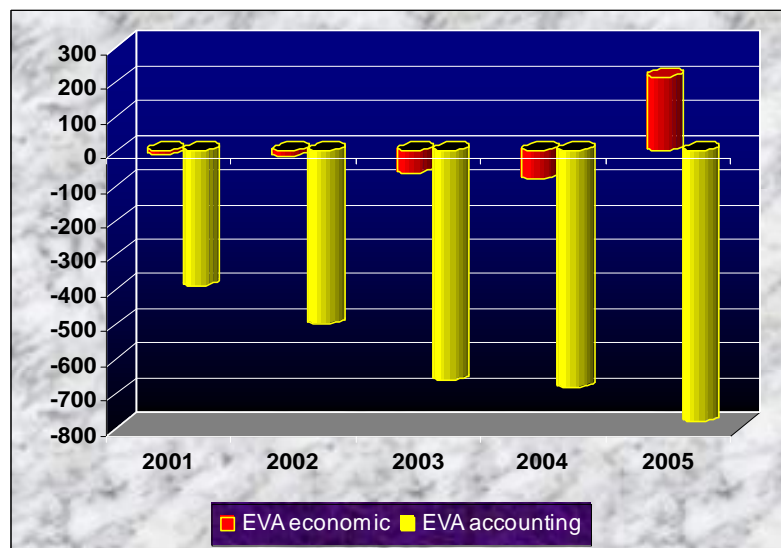


Figure 16. Comparison of EVA results using accounting and economic models

From the picture we can see that the results of EVA using economic model and accounting model are totally different. By using economic model the situation of company is improving and in the last year it reaches positive value, on the other hand, using accounting model based on unadjusted data from balance sheet indicates very bad financial situation. According to accounting model company does not create value for its owners in any of the monitored years. Last year is the biggest difference in measured values of EVA. It is a difference of 995 000 SKK. So the conclusion of this is, that using accounting model may be very inadequate.

10 FACTORS EFFECTING EVA

For identification of factors which have the strongest impact on EVA it is very suitable to use pyramidal analysis, which decompose the indicator to the parts and shows the effects of its particular elements.

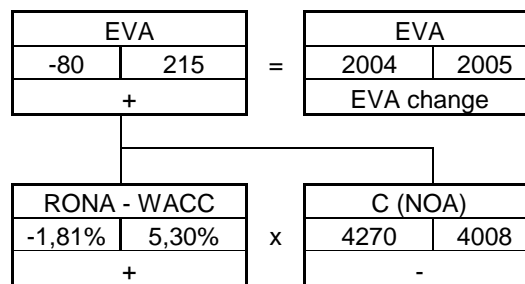
I will breakdown the following economic formula of EVA.

$$EVA = NOPAT - WACC * C, \tag{18}$$

which is modified to $EVA = (RONA - WACC) * C$

I will compare the change of the factors from year 2004 to year 2005 and how this changes effected EVA and EVAs development. Simply said how this change influenced the value of company. Under each value driver there is a sign to define positive or negative influence on EVA.

The breakdown starts on the top of EVA, where we can see how it changed from last year. EVA from 2004 improved from negative value of 80 000 to positive value of 215 000 in year 2005, which is a huge jump. This is very good sign for company. It is the first year when EVA is positive. The improvement of EVA is almost 300 000 SKK. It means that company is creating value for its owners. Spread of RONA – WACC is effecting EVA positively. With rising spread is value rising. The effect of capital depends on the positive or negative value of spread. In this case effects the company`s value negatively, because it is decreasing while spread is positive.



Spread (RONA – WACC) is created by return of invested capital RONA. If RONA decreases, it has negative influence on EVA. Another part of spread is WACC. The lower WACC, the better for EVA. RONA expresses the return of invested capital and WACC are the costs of this capital. So for value creation it is essential to increase RONA and decrease WACC.

The effect on RONA has Product margin and Return of capital invested. Value of Profit margin increased and so did the revenues on capital invested. Both of this factors effected the EVA creation in a good way.

RONA	
2,98%	8,86%
+	

NOPAT / Rev.	
0,20%	0,40%
+	

x

Revenues / C	
14,89	22,16
+	

Profit margin rose of the lowering payroll and other expenses. Value added effected EVA negatively, because it decreased and also depreciation rose a bit. And it means again negative effect on EVA. But in total the effect is positive.

NOPAT / Rev.	
0,20%	0,40%
+	

Value Added / R	
8,78%	8,01%
-	

-

Payroll / Revenues	
7,90%	6,91%
+	

-

Depreciation/R	
0,36%	0,61%
-	

+

oth. R.-oth.C/R	
-0,33%	-0,09%
+	

Another factor contributing to the return of capital invested is turnover time of assets. Assets should turn over in company in the shortest time and the most times. Decrease in net operating assets influenced the turnover positively. There was a huge drop in working capital, which had a big positive impact on total asset turnover. Fixed assets and accruals rose with negative result, but because of the big change in working capital the total effect on EVA is positive.

C (NOA)	
4 270	4 008
+	

WCR	
4 102	1876
+	

+

Fixed Assets	
159	1721
-	

+

Accruals	
9	411
-	

Intangible assets and financial investments were zero in all years, only tangible assets increased and it contributed to the company value negatively.

Fixed Assets					
159		1721		+	
+					
Tangible Assets		Intangible Assets		Financial Investm.	
159 1721		0 0		0 0	
+					

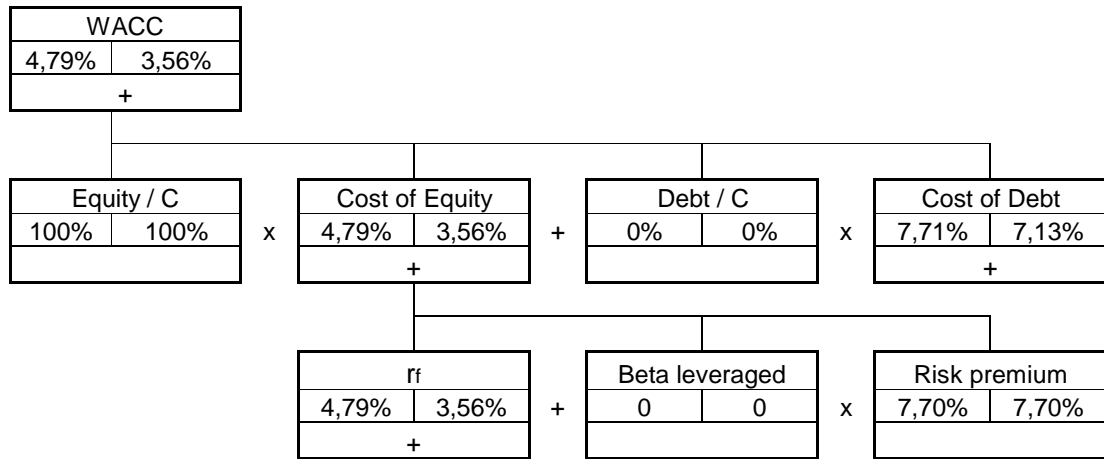
The individual parts of Working Capital Requirement were changing a lot during the year. Inventories rose by a big proportion. Also current liabilities had rising trend, but with positive results. Receivables decreased and so did current liquid assets.

WCR							
4 102		1876		+			
+							
Inventory		Receivables		Current Liquid A.		Current Liabilities	
2 724 3569		7 581 5497		-1 081 -1855		5122 5335	
-		+		+		+	

The growth of revenues and the decrease of capital contributes to EVA growth.

Revenues / C			
14,89		22,16	
+			
Revenues		C (NOA)	
63562 88823		4 270 4 008	
+		+	

WACC is calculated using the CAPM method with the substitutive estimations of beta. Riskfree rate lowered in year 2005, so it had positive influence on EVA. The risk premium stayed on the same level and it didnt effect EVA. Very important thing to mention is that company is not using debt at all for financing. The cost of equity in this case equals WACC.



11 COMPARISON OF TRADITIONAL PERFORMANCE INDICATORS WITH EVA

Company Slovmet uses as the main performance indicator net income, ROE and Altman Z-score. I put them all together in to following table. To compare we can only absolute indicators as EVA and net income. In the term of net income it is in positive values all the monitored years. EVA is in negative values all four beginning years and it goes into positive value the last year. According to almost all indicators last year company improved its performance. Net income rose, ROE more than doubled, but accounting EVA shows bad results.

Table 44. Chosen indicators of Slovmet performance

	2001	2002	2003	2004	2005
Net income	222	176	92	154	433
EBIT	235	176	204	358	939
Return on assets	3,19%	2,01%	2,06%	3,49%	6,44%
Return on equity	5,87%	4,45%	1,93%	3,13%	7,73%
Profit margin	0,58%	0,36%	0,20%	0,24%	0,49%
Z - score	6,06	6,32	5,30	6,91	6,69
IN01	1,68	1,69	1,56	1,95	1,97
EVA accounting	-386	-498	-662	-683	-780
EVA economic	-11	-13	-61	-80	215

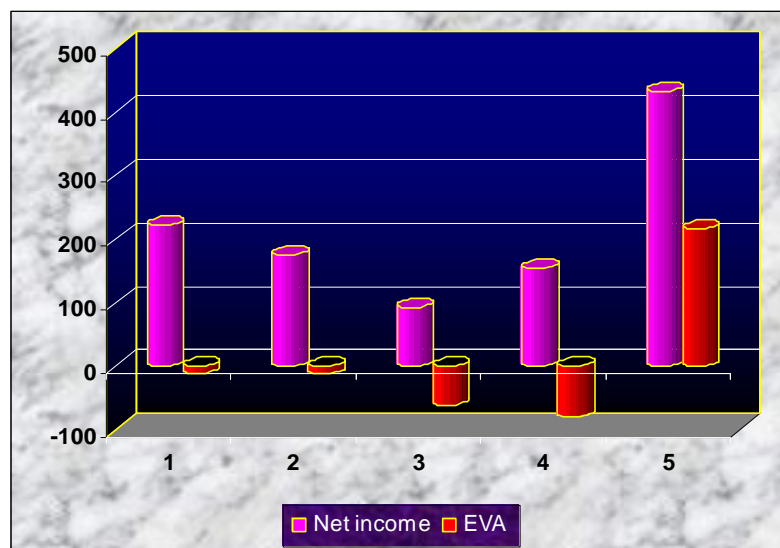


Figure 17. Comparing Net Income and EVA of Slovmet, Ltd.

12 IDENTIFICATION OF VALUE DRIVERS AT DIVISIONAL LEVEL

For identification of value drivers it is very suitable to use pyramidal decomposition as I did at corporate level. Now I will analyse EVA at divisional level. I will examine each division separately in for years 2004 and 2005. On the bottom of each value driver there is again a sign showing the effect on EVA.

To calculate EVA for each division it was necessary to define divisional NOA and NOPAT. Divisions 03 and 04 are producing divisions and they are using more fixed assets than distribution divisions 021 and 022. I used divisional income sheets and professional company estimation to calculate NOPAT and NOA. WACC is the same for each division as for whole company, so I will not analyse it in this chapter.

12.1 Division 03

I start with Division 03, which is Copper wire production and is the smallest division in company. The change of EVA from 2004 to 2005 is positive. This division created value for owners of 303 000 SKK. Spread rose by 27%, which is a huge change and it has very positive impact on EVA. Positive spread means that increase of invested capital had also positive contribution.

EVA		=	EVA	
52	355		2004	2005
+			EVA change	
RONA - WACC		x	C (NOA)	
32,43%	59,39%		206	603
+			+	

RONA represents the return on invested capital. The lower WACC and bigger return, the bigger effect on value creation. RONA is influenced by NOPAT/Revenues which is margin of profit and Revenues/Capital, which is the turnover of invested capital. NOPAT from revenues had positive influence, because it rose by 8,5%, but revenues from invested capital decreased and it had negative effect on value creation. The total effect was positive.

RONA	
30,03%	62,43%
+	
NOPAT / Rev.	
1,85%	10,52%
+	

 \times

Revenues / C	
16,18	5,93
-	

The significant growth of profit margin was due to the progress in other revenues, which rose by almost 12% and it influenced EVA. Value added rose also. Negative effect on EVA had rising share of payroll on revenues.

NOPAT / Rev.	
1,86%	10,52%
+	

 $-$

Value Added / R	
33,2%	37,76%
+	

 $-$

Payroll / Rev.	
24,27%	32,97%
-	

 $-$

Depreciation/R	
0,66%	0,67%
-	

 $+$

oth. R.-oth.C/R	
-6,42%	6,41%
+	

In year 2005 there was a significant improvement in invested capital in this division. Rising share of working capital requirement influenced EVA negatively. Also accruals rose a little bit with negative effect.

C (NOA)	
206	603
-	

 $+$

WCR	
206	582
-	

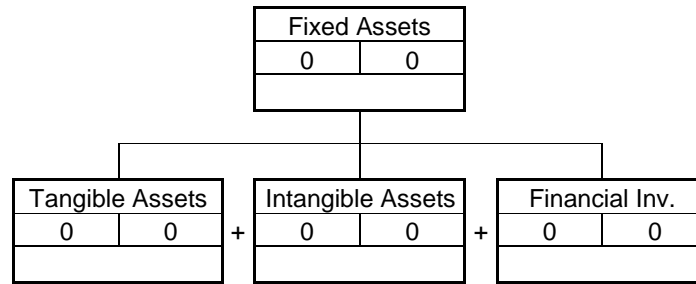
 $+$

Fixed Assets	
0	0
-	

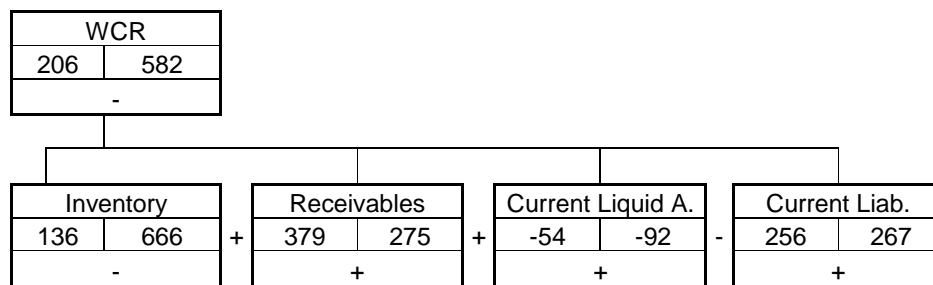
 $+$

Accruals	
0	21
-	

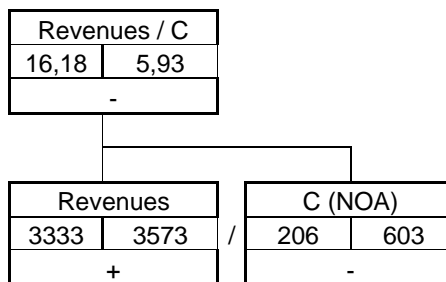
Division 03 has 30 years old machinery, which is all depreciated. Also it does not own any intangible assets or financial investments. The situation is the same as in year 2004, so it has no effect on EVA.



Rising share of inventory has negative impact on EVA. Receivables, current liquid assets and current liabilities on the other hand influenced EVA in good way. But still the total effect of working capital requirement on EVA is negative.



Revenues rose, but the growing share of invested capital had bigger effect and in total it had negative impact.



12.2 Division 04

Division 04 is a production division for transformers. It creates about 18% of all company's activities. Its improvement of EVA was positive. EVA rose by 88 000 SKK a year, which is significant improvement. Absolute value of EVA is positive and this division created value for its owners. Invested capital rose and because the spread rose also, it had positive influence on EVA.

EVA		=	EVA	
-9	79		2004	2005
+			EVA change	
+				
RONA - WACC		x	C (NOA)	
-0,90%	2,84%		899	2735
+			+	
+				

RONA increased from 3,89% to 6,40% which had positive effect on EVA improvement. On the other hand turnover of invested capital decreased by half. But the total effect on EVA is positive.

RONA		+		
3,89%	6,40%			
+				
+				
NOPAT / Rev.		x	Revenues / C	
0,31%	1,01%		12,57	5,92
+			-	
+				

There was not really significant growth of profit margin. It was less than one percentage point. Value added and depreciation had negative influence and payroll decreased and it was contribution for EVA.

NOPAT / Rev.		+								
0,31%	1,09%									
+										
+										
Value Added / R		-	Payroll / Rev.		-	Depreciation/R		+	oth. R.-oth.C/R	
33,2%	27,65%		29,69%	23,68%		1,59%	3,11%		-1,64%	0,23%
-			+			-			+	
-										

Rising invested capital has positive influence, because spread RONA - WACC is positive. Working capital requirement and fixed assets were rising in year 2005. Also accrued assets increased. All of these elements had good contribution to EVA and value creation.

C (NOA)	
899	2735
+	

WCR	
738	1059
+	

Fixed Assets	
159	1602
+	

Accruals	
2	74
+	

Fixed assets rose, because this division bought new machinery for transformer production. Intangible assets and financial investments stayed on zero level as in all monitored years.

Fixed Assets	
159	1602
+	

Tangible Assets	
159	1602
+	

Intangible Assets	
0	0

Financial Inv.	
0	0

Working capital requirement was created by the biggest part from receivables and inventory. The most significant change was in inventories, which rose from 490 000 to 1 363 000 SKK by year. Current liquid assets are in negative values, because company is using bank overdraft. Total effect on EVA is positive again.

WCR	
738	1059
+	

Inventory	
490	1363
+	

Receivables	
1365	989
-	

Current Liquid A.	
-195	-333
-	

Current Liab.	
922	960
-	

Revenues increased and it has positive effect on EVA, but also invested capital increased by big part, which has in this case negative effect on EVA. In total invested capital was rose higher than revenues and it lowers final EVA.

Revenues / C	
12,57	5,92
-	

Revenues	
11306	16200
+	

C (NOA)	
899	2735
-	

12.3 Division 021

Division 021 is the biggest one in Slovmet. It creates more than half of company's activities. It is the Sale of non-ferrous waste. This division was not very succesful accordint to EVA indicator. It has negative EVA in all monitored years. The change from 2004 to 2005 was also negative. It decreased the value of 200 000 SKK.

EVA	
-102	-300
-	

EVA	
2004	2005
EVA change	

RONA - WACC	
-4,79%	-86,15%
-	

C (NOA)	
2097	349
+	

Spread is negative and it means that decreasing invested capital has good influence on EVA. Margin of profit had also lowering trend into negative values, which effected the total RONA change of 82% and it also ended up in negative value.

RONA	
0,00%	-82,59%
-	

NOPAT / Rev.		x	Revenues / C	
0,00%	-0,64%		15,37	129,05
-			+	

Negative value of margine profit was caused by higher payroll than value added.

NOPAT / Rev.									
0,00%	-0,64%								
-									
		Value Added / R		Payroll / Revenues		Depreciation/R		oth. R.-oth.C/R	
0,93%	1,18%	1,92%	1,41%	0,02%	0,01%	1,01%	-0,39%		
+		+		+		+		-	

Decreasing trend of invested capital has positive contribution to EVA. It is influenced most by working capital requirement and also change in accruals, which rose last year.

C (NOA)									
2097	349								
+									
		WCR		Fixed Assets		Accruals			
2 092	139	0	0	5	210				
+						-			

Fixed assets are zero again in this division. They have on effect on EVA.

Working capital requirement amount dropped significantly, especially due to the decrease in receivables. All elements have positive impact, so total effect from working capital requirement is good for EVA growth.

WCR

2,81%	24,26%		
+			
NOPAT / Rev.		Revenues / C	
0,18%	0,21%	x	15,56 113,29
+		+	

Value added rose last year, payrolls decreased, so did depreciation and all these elements influenced EVA positively. Other costs were higher than other revenues.

NOPAT / Rev.							
0,18%	0,21%						
+							
Value Added / R		Payroll / Revenues		Depreciation/R		oth. R.-oth.C/R	
2,52%	3,29%	-	2,73%	2,13%	-	0,14%	0,03%
+		+		+		+	
						0,52% -0,91%	
						-	

Net operating assets are created mostly by working capital requirement, because company has really low share of fixed assets. Particularly in this year 2005. And again no fixed assets in this division.

C (NOA)							
1069	202						
+							
WCR		Fixed Assets		+		Accruals	
1067	96	0	0	+	2	106	
+							

Working capital decreased a lot in year 2005, mainly due to the lowering trend of inventories, receivables and current liquid assets. And influenced positively EVA.

WCR							
1 067	96						
+							
Inventory		Receivables		+		Current Liquid A.	
708	538	+	1 971	1429	+	-281	-484
+		+		+		+	
						- 1332 1387	
						+	

Revenues were rising and capital decreasing, so in total they had very positive effect on EVA.

Revenues / C				
15,56	113,29			
+				
Revenues		/	C (NOA)	
16637	22884		1069	202
+			+	

12.5 Comparison of divisional EVA results

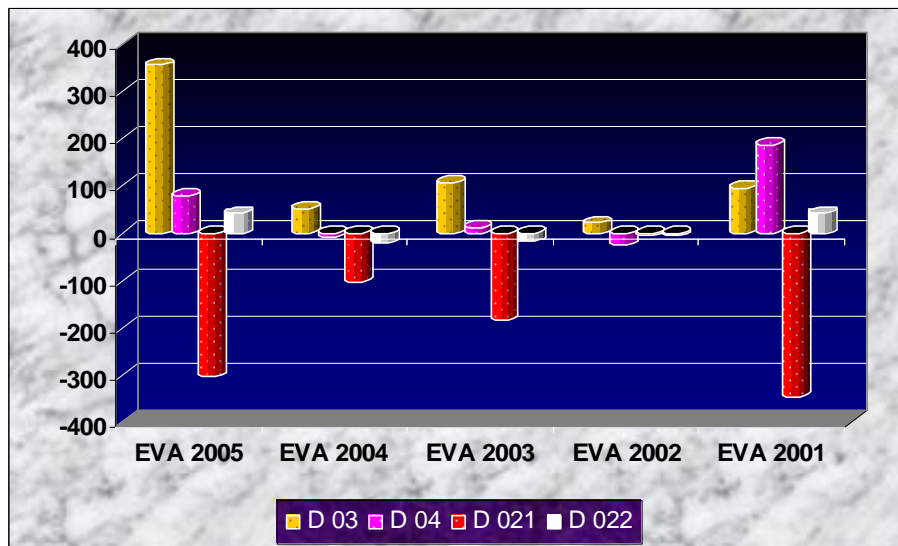


Figure 18. EVA at divisional level

According to EVA results Division 03 shows the best results and on the other hand Division 021 has the worst results. Company should try to enlarge the effective divisions and pay attention to value drivers and to factors which positively effect EVA.

13 EVA IMPLEMENTATION

After evaluating company's performance using traditional indicators and also EVA it is possible to start the implementation. There is no particular approach how to implement EVA into the company. Implementation is very specific process for each company and it has to suit to it perfectly. It depends on the number of employees, organization structure, size and management of company. As I said before organization structure is really flat. There is one general director and four heads of divisions and two supervisors.

For the process of implementation I will use the checklist of EVA implementation from the author of book EVA and Value Based Management, The practical guide to implementation Young, S.David [9], which is divided in four main steps.

13.1 Step 1: Establish buy-in at the board and top management levels

EVA implementation has to start at the top of the organization. It is very important, that general director and all four heads of divisions understand the whole concept of EVA and that they are conscious about the contribution for the company, otherwise the implementation will not be successful. The change of the company as a whole must be driven from the top. EVA and why it is introduced must be clear to everyone in company, but most of all to the top managers. In the case of Slovmet the general director and all four heads of divisions must have knowledge about EVA and value creating.

13.2 Step 2: Make the major strategic decisions on the EVA program

Company should create a formal EVA implementation plan. It is essential for value management that EVA will become a part of strategic planning process, capital allocation, operating budgets, compensation and investor relations. Simply it should incorporate in all the company's key processes and systems. Company has to make some key decisions according to which will be EVA program adapted. Those decisions are concerned about measurement centers, calculating of EVA and management compensation. And the board must approve them. Company must solve some important questions as follow:

13.2.1 How will EVA measurement centers be defined?

EVA effect will not be strong unless the performance is measured at least two rungs below the corporate level. The main indicator of company's performance will be the value of EVA and its improvements. All the key processes will lead to EVA improvements. Great advantage about it is that it can be calculated at division levels. All four divisions can calculate EVA separately to measure their performance. At the beginning some problems with measuring can occur, because the beginnings are difficult and it takes some time until company gets used to it. The calculation may be complicated, but for measuring can be also used value drivers instead of EVA. Value drivers are easier to read on low levels and are more directly controllable.

13.2.2 How will EVA be calculated?

I suggest to use the economic model, because it is more realistic than accounting model. It is more difficult to calculate, but it can be spread out to value drivers, which is also very useful for operating management. And I suggest also to make accounting adjustments to make the calculation of EVA easier.

What adjustments will be made?

It should be really carefully evaluated what accounting adjustments will be made. Under GAAP, value creating investments can make negative EVA for many years. It may lead to the fact, that managers will not undertake these projects not to lower their bonuses. Some adjustments as negative depreciation can overcome this problem. Adjustments in general increase the realistic view of EVA and its complexity. The number of adjustments should be kept small. Adjustments should be clear, significant and should have a positive influence on managerial behavior. Balance sheet should be adjusted to net operating assets, and NOPAT should be calculated, because the results from unadjusted data are very different. I showed the most important adjustments in chapter 5.

Divisional versus corporate cost of capital

Because the company is really small and all divisions are using the same account and one accounting department it is possible to calculate the cost of capital for the company as a whole.

It is necessary to define the cost of capital calculation method. I suggest to use CAPM method with the substitual estimations of beta for calculating alternative cost of equity. Company knows the cost of debt.

How often will EVA be calculated?

Company should calculate EVA at least two times a year and value drivers each month, because it is possible to use them in operating management. Company was so far calculating net income for each divisions mothly, I suggest to calculate EVA drivers each month. I think it can improve the operation processes and it is easy to see by decomposition of them what should be improved.

13.2.3 Management compensation

Managers must think like owners, not like employees. This is not possible unless managers are paid to do it this way. The driving point of all compensation system is a bonus system. The main idea behind this is bonus is paid out only in case EVA is positive and owners earned more than they expected (more than alternative costs of capital are). This way they have the same goal and benefit goes to both sides: to owners and also to employees. So it means that all the capital should be used in projects bringing higher earnings than WACC. It prevents managers from not making investments and from not taking these projects. Another thing about bonus is that it does not have the upper limit, but neither has the down limit, it is related to EVA trend. The upper limit is not necessary, because in case owners make value, they can share with employees.

Important part is a bonus bank. It means that all bonus is not paid out, part stays in bonus bank. If the balance in bonus bank is negative, there is no bonus paid out for that period.

From owners point of view bonus bank has a positive influence for long term motivation, it is not concerned only about one particular period.

I suggest to use modern bonus EVA system, which uses bonus bank and it is concerned about EVA improvements, not absolute value of EVA.

Who will be covered initially, and will there be a gradual expansion of participation in EVA-based incentives?

General director and heads of divisions should be included in EVA compensation program. The EVA system requires continuous reinforcement by top management. Because company director is also in the function of head of division I suggest to put them four in the compensation program at the beginning. After some time also supervisors from divisions 03 and 04 could be included.

Sensitivity of bonuses to EVA performance

To set the bonus to performance it is necessary to divide compensation into more phases. At least the beginning phase of implementing EVA into the organization should be evaluated differently. The first phase I would like to use the method of Esa Mäkeläinen [3], which is demonstrated later in this chapter. Because company needs to get used to this system. In the second phase I suggest the modern bonus system with target bonus with $y = 30\%$.

Relation to nonfinancial measures

There could be other measures used except EVA, but EVA still will be the most important one. And all nonfinancial measurements should be set up to lead to EVA. Meeting some goals can be in conflict with EVA improvement. For example work safety. To overcome problems, system can be set up, that bonus will be paid out after meeting work safety criteria.

Mix of divisional versus company-wide or group EVA bonuses

Because there are four managers in company and one of them is also in the function of general director director I suggest EVA should be calculated for each division separately to see the contribution of each division.

Calculation of EVA bonuses for each division

According to Esa Mäkeläinen [14] study there are more types of bonus system for different companies. For a typical industrial company, that has both new and old assets and is growing steadily, operates currently at small negative EVA (on average), EVA based bonus plan should be constructed so than it encourages reaching positive EVA and improving the performance continuously. Plan should also discourage making net present value negative investments. She suggests this possible system.

Amount of bonus earned for each year:

$$\text{Absolute EVA} * Z\% + \text{Periodic change in EVA} * 5 * Z\% \quad (19)$$

I choose 5% for Z to demonstrate the calculation. The amount of bonus will be put in bonus bank every year. The bonus paid is $\frac{1}{4}$ of the current balance in the bank. Change of EVA will increase bonus only if the EVA is positive. Improving negative EVA does not bring any bonus unless EVA increases above zero. [14]

I calculated EVA by this method for the beginning part of implementation for each division separately and according to the results I will calculate also bonus for each division. Detailed calculations EVA, NOA and NOPAT for each division are enclosed in appendix.

Table 45. EVA results for particular division

	Division 03	Division 04	Division 021	Division 022
EVA 2005	355	79	-300	42
EVA 2004	52	-9	-102	-22
EVA 2003	106	13	-184	-18
EVA 2002	22	-25	-6	-3
EVA 2001	96	185	-344	42

There are some significant differences between divisions. From the graph it is obvious that division 021, which is the Sale of non-ferrous waste is in negative values all of the years. This division creates the biggest part of company`s activities. On the other hand the smallest division, which is Copper wire production 03 has positive EVA in all the years. According to this results I calculated bonuses using the method of Esa Mäkeläinen. Following tables show them.

Table 46. Calculation of bonus for Division 03 in thousands SKK

Divison 03 bonus in thousands SKK	2001	2002	2003	2004	2005
Absolute EVA	96	22	106	52	355
EVA * Z%	4,8	1,1	5,3	2,6	17,75
Periodic change in EVA	x	-74	84	-54	303
Periodic change in EVA * 5 * Z%		-18,5	21	-13,5	75,75
Bonus		-17,4	26,3	-10,9	93,5
Bonus bank		-17,4	8,9	13,2	79,3
Paid out bonus			2,2	3,3	19,8

Division 03 is the Copper wire production. It has positive EVA in all of the monitored years. As I mentioned before this division creates the smallest part of company`s activities. Only about 5%, but it brings the best results. However EVA is positive in all years, EVA improvements are not. It reflects on the bonus bank. One quarter of bonus is paid out only in years, when EVA is positive and balance in bonus bank too. In this case only in years 2003, 2004 and 2005. According to EVA this division is most succesful and in this division also the biggest bonus is paid out.

Table 47. Calculation of bonus for Division 04 in thousands SKK

Divison 04 bonus in thousands SKK	2001	2002	2003	2004	2005
Absolute EVA	185	-25	13	-9	79
EVA * Z%	9,25	-1,25	0,65	-0,45	3,95
Periodic change in EVA	x	-210	38	-22	88
Periodic change in EVA * 5 * Z%		-52,5	9,5	-5,5	22
Bonus		-53,75	10,15	-5,95	25,95
Bonus bank		-53,75	-43,6	4,2	20
Paid out bonus	0	0	0	0	5

Division 04 is the Transformer production. This division creates about 18% of all company's operations. Absolute value of EVA varies in all the years. The biggest EVA is in year 2001, then it changes dramatically, in last year it is in positive values. According to it manager pay is linked and part of the bonus is paid out only in last year.

Table 48. Calculation of bonus for Division 021 in thousands SKK

Divison 021 bonus in thousands SKK	2001	2002	2003	2004	2005
Absolute EVA	-344	-6	-184	-102	-300
EVA * Z%	-17,2	-0,3	-9,2	-5,1	-15
Periodic change in EVA	x	338	-178	82	-198
Periodic change in EVA * 5 * Z%		84,5	-44,5	20,5	-49,5
Bonus		84,2	-53,7	15,4	-64,5
Bonus bank		84,2	30,5	-38,3	-49,1
Paid out bonus	0	0	0	0	0

Division 021, which is the Sale of non-ferrous waste has the worst results and it creates the biggest part of company, it represents about half of its all activities. However some years it shows positive EVA improvements, but in none of the years absolute EVA is positive, so no bonus is paid out.

Table 49. Calculation of bonus for Divison 022 in thousands SKK

Divison 022 bonus in thousands SKK	2001	2002	2003	2004	2005
Absolute EVA	42	-3	-18	-22	42
EVA * Z%	2,1	-0,15	-0,9	-1,1	2,1
Periodic change in EVA	x	-45	-15	-4	64
Periodic change in EVA * 5 * Z%		-11,25	-3,75	-1	16
Bonus		-11,4	-4,65	-2,1	18,1
Bonus bank		-11,4	-16,05	-6,75	16
Paid out bonus	0	0	0	0	4

Last division is the Distribution of non-ferrous semifinished materials. Results in this division have rising trend. EVA improvements are positive since year 2002. In last year this division reaches positive value of EVA and bonus 4 000 is paid out.

In the second phase when company gets used to this system I suggest to use the modern bonus type of compensation. By this type of model the earned bonus is created from two parts: the target bonus and the fixed percentage of EVA improvements. More important than the absolute value of EVA is the amount of EVA increased. This model is more suitable for Slovmet because it had negative EVAs in almost all the years, except the last one. The bonus is equal to the sum of a target bonus plus a fixed share of excess EVA improvement. Important is, that target bonus is earned after expected EVA improvement. I think in this phase they should also include in compensation supervisors from division 03 and 04.

$$\text{Bonus} = \text{target bonus} + y \% (\Delta\text{EVA} - \text{EI}) \quad (20)$$

Tagret bonus = bonus after reaching expected EVA improvement

EI = expected EVA improvement

13.3 Step 3: Develop an implementation plan.

Implementation plan includes following:

To define person who is responsible for implementation. I think it should be the general director.

To define persons who provide the implementation. The heads of division 021, 022, 03. It is essential to decide whether to hire consultation company for implementing EVA or whether company will implement EVA itself. Slovmet is really small company with flat organization structure, so the implementation process will not be so complicated. I suggest to provide implementation by company itself. There is only four top managers. Four heads of divisions including general director. There should be also company's documentation made for this concept and all implementation in company.

The whole implementation process will last about 6 weeks, the steps are in following table:

Table 50. Persons involved in implementation activities

Order	Activity	Persons involved
1.	Introduction of EVA	top managers
2.	Introduction to implementation of EVA	top managers
3.	Defining EVA measurement centres	top managers
4.	Setting up the documentation	administration centre
5.	Defining the compensation programm	top managers
6.	Beginning the training for EVA	whole company
7.	Training of EVA	whole company
8.	End of implemenation	whole company
9.	Control of processes	whole company

Table 51. Activities in weeks

Order	Activity	1.	2.	3.	4.	5.	6.
1.	Introduction of EVA	■					
2.	Introduction to implementation of EVA	■					
3.	Defining EVA measurement centres		■				
4.	Setting up the documentation		■				
5.	Defining the compensation programm			■			
6.	Beginning the training for EVA			■			
7.	Training of EVA				■	■	
8.	End of implemenation					■	■
9.	Control of processes and regular training						

The process of implementation in particular weeks shows the table above. The implementation will last 6 weeks. Some of the processes can run in the same time as the table shows.

Costs of training could be calculated by the number of hours spent on the training. I estimated the following:

Table 52. Number of hours for particular activity

Order	Activity	number of hours
1.	Introduction of EVA	4
2.	Introduction to implementation of EVA	4
3.	Defining EVA measurement centres	20
4.	Setting up the documentation	40
5.	Defining the compensation programm	20
6.	Beginning the training for EVA	12
7.	Training of EVA	20
8.	End of implemenation	12

Together	132
----------	-----

This table shows the estimation of number of hours needed for particular activities. There may be more people working on one activity to save the time. But this number of hours should be multiplied by the average hour and this shows the payroll.

13.4 Step 4: Set up a training program:

Training program is an important part of implementation. Implementing EVA is and at least should be more than just adding one line in the monthly profit report. EVA affects the way capital is viewed and therefore it might be some kind of change in management's attitude. This can not happen from day to day. It needs to be implemented with care to achieve understanding and commitment.

13.4.1 Who will need the training?

The general director, who is also a head of division of Transformer production, other three heads of divisions, and two supervisors. And also company's accountant should be trained how to calculate EVA. This is only seven people, so the training costs should not be very high.

13.4.2 How will the training needs be executed?

I think company should provide implementation by itself. I suggest instead of training company to hire me for explaining the most important principles of EVA and train the accountant to calculate EVA.

Ongoing training, after initial implementation

It is necessary that training will continue after the implementation process. At least once a year should be one meeting where the EVA and EVA contribution for company will be discussed. I suggest it should be two times a year, because EVA will be also calculated two times a year.

13.5 Contribution of EVA to company Slovmet, Ltd.

Successful EVA implementation leads to value creation, but not all of the creation is due to the new implementation. To calculate the contribution I will subtract from the estimated value of company after successful EVA implementation the value created of company without EVA. The estimated contribution of EVA in year 2006 is 800 000 SKK, but the effect will last also for other time periods, by discounting the estimated contributions the total effect will be 2 800 000 SKK.

Costs of EVA are based on the hours devoted to particular EVA activities. Together it was 132 hours. I will multiply 132 hours by average pay for activity responsible person. And the costs will be 66 000 SKK. I must also consider estimated material costs which is 7 000. The total estimated implementation costs will be 73 000 SKK.

The contribution in year 2006 is estimated to 800 000 and the costs to 73 000 SKK, so the effect of EVA will be 727 000 SKK. It means the project will be highly effective.

CONCLUSION

The main goal of my thesis was implementation of economic value added approach to company Slovmet, Ltd. Because new modern concepts are still more popular and important and traditional measurements using in company nowadays can lead to wrong decisions.

My thesis is divided into more parts. The first part is dedicated to theory behind this work. It deals with value based management and different approaches for measuring and managing company`s performance. It results into choosing the appropriate concept which is Economic Value Added and than it will be implemented in company Slovmet, Ltd.

Second part defines company`s current situation using different analysis to evaluate its company`s enviroment: analysis of slovak electro-technical industry followed by financial analysis to evaluate company`s performance and finally calculating EVA different ways and identifying its value drivers on corporate level.

Last part deals with the process of implementation in company Slovmet. This process is based on the previous analysis of EVA. In this part is suggested process of implementation step by step defining the most important questions.

I hope that this thesis has met the present requirements and reached the defined goals.

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LIST OF ABBREVIATIONS

C	Capital invested
CAPM	Capital assets pricing model
CFROI	Cash flow return on investment
EAT	Earnings after taxes
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, depreciation and amortization
EPS	Earnings per share
EVA	Economic value added
FCF	Free cash flow
FIFO	First in first out
GAAP	Generally accepted accounting principles
IAS	International accounting standards
MVA	Market value added
NPV	Net present value
PRIBOR	Prague interbank bid offered rate
ROA	Return on assets
ROE	Return on equity
VBM	Value based management
WACC	Weighted average cost of capital
WCR	Working capital requirement

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APPENDICES

- P I Balance sheet of Slovmet, Ltd. in thousands SKK
- P II Income statement of Slovmet, Ltd. in thousands SKK
- P III Adjusted NOA balance sheets for divisions in thousands SKK
- P IV NOPAT calculation for each division in thousands SKK

APPENDIX P I.: Balance sheet of Slovmet, Ltd. in thousands SKK

		2000	2001	2002	2003	2004	2005
	TOTAL ASSETS	6 638	7 376	8 766	9 883	10 250	14 575
A.	Stock subscriptions receivable	0					
B.	Fixed assets	18	20	10	650	2 628	3 649
B.I.	Intangible assets	0	0	0	0	0	0
B.II.	Tangible fixed assets	18	20	10	650	2 628	3 649
B.II.1	Land				421	837	837
B.II.2	Plant						1 140
B.II.3	Capital equipment	18	20	10	159	1 721	1 602
B.II.7	Acquisition of fix.as. in progress				70	70	70
B.III.	Investments	0	0	0	0	0	0
C.	Non-fixed assets	6 620	7 356	8 756	9 224	7 211	10 639
C.I.	Inventory	2 876	3 196	1 535	2 724	3 569	7 231
C.I.1	Raw materials	644	716	519	1 511	2 029	4 319
C.I.5	Merchandise	2 232	2 480	1 016	1 213	1 540	2 912
C.II.	Long-term receivables	0	0	0	0	0	0
C.III.	Current receivables	3 218	3 487	4 091	7 581	5 497	7 910
C.III.1	Current trade receivables	3 218	3 487	4 091	7 511	5 262	7 208
C.III.4	Receivable - taxes	0			70	235	702
C.IV.	Current liquid assets	606	673	3 130	-1 081	-1 855	-4 502
C.IV.1	Petty cash	1	1	8	39	45	71
C.IV.2	Cash in bank	605	672	3 122	-1 120	-1 900	-4 573
D.	Other assets	0	0	0	9	411	287
D.I.	Accruals (accrued assets)	0	0	0	9	411	287
D.I.1	Pre-paid expenses				9	411	287
	TOTAL LIABILITIES & EQUITY	6 638	7 376	8 766	9 883	10 250	14 575
A.	Owner's equity	3 405	3 783	3 959	4 761	4 915	5 598
A.I.	Invested capital	200	200	200	200	200	200
A.I.1	Invested capital	200	200	200	200	200	200
A.II.	Other equity accounts	3 015	3 350	3 350	4 160	4 160	4 410
A.II.2	Other paid in capital	3 015	3 350	3 350	4 160	4 150	4 400
A.II.3	Adjustment to investments	0				10	10
A.III.	Restricted retained earnings	13	14	14	0	0	0
A.III.1	Statutory reserve account	9	10	10			
A.III.3	Other equity accounts	4	4	4			
A.IV.	Retained earnings	-3	-3	219	92	401	555
A.IV.1	Retained earnings	0		219	92	401	555
A.IV.2	Retained loss	-3	-3				
A.V.	Net income or net loss (+/-)	200	222	176	309	154	433
B.	Total liabilities	3 108	3 453	4 387	5 113	5 330	8 977
B.I.	Allowances	0	0	0	0	0	0
B.II.	Long-term liabilities	0	0	0	19	1 403	1 645
B.II.6	Other long-term liabilities	0			19	1 403	1 645
B.III.	Current liabilities	3 108	3 453	4 387	5 094	3 927	7 332
B.III.1	Accounts payable	2 775	3 070	4 101	4 596	2 873	6 826
B.III.2	Payable to related partners	0					4

B.III.3	Payroll (Salaries) payable	86	96	86	193	193	163
B.III.4	Social security payable	190	211	160	200	251	164
B.III.5	Taxes payable	52	58	24	105	98	134
B.III.9	Other payables	16	18	16		512	41
B.IV.	Bank loans and other credit	0	0	0	0	0	0
C.	Other liabilities & equity	126	140	420	9	5	0
C.I.	Accrued liabilities	92	102	200	9	5	0
C.I.1	Accrued expenses	92	102	200	9	5	
C.II.	Contingencies and accruals	34	38	220			

APPENDIX P II.: Income sheet of Slovmet, Ltd. in thousands SKK

		2 000	2001	2002	2003	2004	2005
I.	Merchandise sales	31 168	34 631	38 972	37 153	48 740	67 780
A.	Cost of merchandise sold	28 423	31 581	36 403	35 313	46 735	65 114
+	Gross profit on merchandise sold	2 745	3 050	2 569	1 840	2 005	2 666
II.	Internal Activities	2 998	3 331	6 688	7 691	14 822	21 043
II.1	Service and manufactured goods revenue	2 990	3 322	6 663	7 636	14 762	19 916
II.3	Revenue from self-constructed assets	8	9	25	55	60	1 127
B.	Cost of materials used in manufacturing	2 591	2 879	5 954	7 598	11 244	16 596
B.1	Raw materials and utilities used	1 219	1 354	2 691	4 079	8 760	14 201
B.2	Services used	1 373	1 525	3 263	3 519	2 484	2 395
+	Value added	3 152	3 502	3 303	1 933	5 583	7 113
C.	Payroll	2 948	3 276	3 304	2 413	5 019	6 138
C.1	Wages and salaries	2 131	2 368	2 375	1 720	3 802	4 704
C.3	Social security expenses	719	799	872	596	1 070	1 249
C.4	Fringe benefits	98	109	57	97	147	185
D.	Taxes and fees	3	3	3	10	28	79
E.	Depreciation of infant.& tang.assets	23	26	10	21	231	539
III.	Revenue from sale of f.a. & mat.	222	247	3 135	555	322	1 295
F.	Book value value of disposed f.a. or mat.	141	157	2 853	555	141	907
VI.	Miscellaneous operating receipts	4 134	4 593		963	110	209
I.	Miscellaneous operating expenses	4 138	4 598	5	20	16	14
*	Operating income	254	282	263	432	580	940
XII.	Interest received	9	10	10	6	2	3
N.	Interest paid	0			77	154	396
XIV.	Other financial receipts	29	32	63	8	44	747
O.	Other financial expenses	80	89	160	242	268	751
*	Income/loss from financial operations	-42	-47	-87	-305	-376	-397
Q.	Income tax on operating income	12	13	0	35	50	110
Q.1	- payable	12	13		35	50	110
**	Income from operations	200	222	176	92	154	433
***	Net income for fiscal period (+/-)	200	222	176	92	154	433

APPENDIX P III.: NOA Adjusted balance sheets of Slovmet, Ltd. in thousands SKK

2005	D 03	D 04	D 021	D 022
Fixed Assets	285	1 887	285	285
Intangible Assets	0	0	0	0
Tangible Fixed Assets	285	1 887	285	285
Investments	0	0	0	0
WCR	554	1 537	-272	73
Inventory	821	2 498	2 451	1 461
Receivables	396	1 424	4 034	2 057
Current Liquid Assets	-225	-810	-2 296	-1 171
Accrued Assets	12	41	117	60
Non-bearing Liabilities (-)	-449	-1 616	-4 578	-2 334
NOA	839	3 424	13	358

2004	D 03	D 04	D 021	D 022
Fixed Assets	0	1 602	0	0
Intangible Assets	0	0	0	0
Tangible Fixed Assets	0	1 602	0	0
Investments	0	0	0	0
WCR	603	1 133	349	202
Inventory	666	1 363	1 002	538
Receivables	275	989	2 804	1 429
Current Liquid Assets	-92	-333	-946	-484
Accrued Assets	21	74	210	106
Non-bearing Liabilities (-)	-267	-960	-2 721	-1 387
NOA	603	2 735	349	202

2003	D 03	D 04	D 021	D 022
Fixed Assets	0	159	0	0
Intangible Assets	0	0	0	0
Tangible Fixed Assets	0	159	0	0
Investments	0	0	0	0
WCR	206	740	2 097	1 069
Inventory	136	490	1 389	708
Receivables	379	1 365	3 866	1 971
Current Liquid Assets	-54	-195	-551	-281
Accrued Assets	0	2	5	2
Non-bearing Liabilities (-)	-256	-922	-2 612	-1 332
NOA	206	899	2 097	1 069

2002	D 03	D 04	D 021	D 022
Fixed Assets	10	0	0	0
Intangible Assets	0	0	0	0
Tangible Fixed Assets	10	0	0	0
Investments	0	0	0	0
WCR	162	581	1 648	841
Inventory	77	276	783	399
Receivables	205	736	2 086	1 064
Current Liquid Assets	110	394	1 118	571
Accrued Assets	0	0	0	0
Non-bearing Liabilities (-)	-229	-826	-2 339	-1 193
NOA	172	581	1 648	841

2001	D 03	D 04	D 021	D 022
Fixed Assets	20	0	0	0
Intangible Assets	0	0	0	0
Tangible Fixed Assets	20	0	0	0
Investments	0	0	0	0
WCR	190	684	1 939	988
Inventory	160	575	1 630	831
Receivables	174	628	1 778	907
Current Liquid Assets	33,65	121,14	343,23	174,98
Accrued Assets	0	0	0	0
Non-bearing Liabilities (-)	-178	-640	-1 813	-924
NOA	210	684	1 939	988

2000	D 03	D 04	D 021	D 022
Fixed Assets	18	0	0	0
Intangible Assets	0	0	0	0
Tangible Fixed Assets	18	0	0	0
Investments	0	0	0	0
WCR	175	630	1 785	910
Inventory	144	518	1 467	748
Receivables	161	579	1 641	837
Current Liquid Assets	30	109	309	157
Accrued Assets	0	0	0	0
Non-bearing Liabilities (-)	-160	-576	-1 632	-832
NOA	193	630	1 785	910

APPENDIX P IV.: NOPAT calculation for each division in SKK

2005	D 03	D 04	D 021	D 022
Owner's equity (Stockholder's equity)	839	3 424	13	358
Invested capital	50	50	50	50
Other equity accounts	221	794	2 249	1 147
Restricted retained earnings	0	0	0	0
Retained earnings	365	190	0	0
Net income or net loss (+/-)	381	192	-256	72
Equity equivalents	-177	2 198	-2 030	-911
Total liabilities	0	0	0	0
Bank loans and other credit	0	0	0	0
Total capital	839	3 424	13	358

2004	D 03	D 04	D 021	D 022
Owner's equity (Stockholder's equity)	603	2 735	349	202
Invested capital	50	50	50	50
Other equity accounts	208	749	2 121	1 082
Restricted retained earnings	0	0	0	0
Retained earnings	267	134	0	0
Net income or net loss (+/-)	64	41	11	38
Equity equivalents	14	1 761	-1 833	-968
Total liabilities	0	0	0	0
Bank loans and other credit	0	0	0	0
Total capital	603	2 735	349	202

2003	D 03	D 04	D 021	D 022
Owner's equity (Stockholder's equity)	206	899	2 097	1 069
Invested capital	50	50	50	50
Other equity accounts	208	749	2 121	1 082
Restricted retained earnings	0	0	0	0
Retained earnings	62	30	0	0
Net income or net loss (+/-)	115	41	-106	20
Equity equivalents	-229	29	32	-83
Total liabilities	0	0	0	0
Bank loans and other credit	0	0	0	0
Total capital	206	899	2 097	1 069

2002	D 03	D 04	D 021	D 022
Owner's equity (Stockholder's equity)	172	581	1 648	841
Invested capital	50	50	50	50
Other equity accounts	208	749	2 121	1 082
Restricted retained earnings	14	0	0	0
Retained earnings	146	73	0	0
Net income or net loss (+/-)	32	9	90	46
Equity equivalents	-278	-300	-613	-337
Total liabilities	0	0	0	0
Bank loans and other credit	0	0	0	0
Total capital	172	581	1 648	841

2001	D 03	D 04	D 021	D 022
Owner's equity (Stockholder's equity)	210	684	1 939	988
Invested capital	50	50	50	50
Other equity accounts	208	749	1 311	1 082
Restricted retained earnings	14	0	0	0
Retained earnings			-3	0
Net income or net loss (+/-)	108	225	-231	100
Equity equivalents	-170	-340	812	-244
Total liabilities	0	0	0	0
Bank loans and other credit	0	0	0	0
Total capital	210	684	1 939	988