

Kyiv National University of Trade and Economics  
Department of Economics and Finance of Enterprise

**FINAL QUALIFYING PAPER (PROJECT)**

on the topic:

**«Management of solvency of the enterprise»**

(based on the materials of Limited Liability Company  
«Antikor plus», Novodnistrovsk, Chernivtsi region)

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## CONTENT

ANNOTATION.....	3
INTRODUCTION.....	4
1. THEORETICAL BASIS OF THE ENTERPRISE SOLVENCY MANAGEMENT..	7
1.1. The essence and types of the enterprise solvency.....	7
1.2. The methodological support of enterprise solvency management.....	17
1.3. The stages of enterprise solvency management.....	27
2. INVESTIGATION THE CURRENT MANAGEMENT OF LLC «ANTIKOR PLUS» SOLVENCY.....	35
2.1. Analysis of dynamics and structure of the enterprise's assets.....	35
2.2. Analysis of dynamics and structure of the enterprise's liabilities.....	43
2.3. Assessment of the main indicators of the enterprise's solvency.....	48
3. THE MAIN DIRECTIONS OF IMPROVEMENT LLC «ANTIKOR PLUS» SOLVENCY MANAGEMENT.....	56
3.1. Creation the proposals of improvement the informational and organizational base.....	56
3.2. Substantiation the economical ways of the enterprise solvency strengthening.....	63
3.3. Creation the budget of the enterprise according to target solvency indicators.....	70
CONCLUSIONS.....	85
REFERENCES.....	90
APPENDICES.....	95

## ANNOTATION

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The final qualification work is devoted to the study of theoretical and methodological principles and practical aspects of solvency management of the enterprise.

In this paper it is substantiated the economic essence of the concept of "solvency of the enterprise" and "solvency management of the enterprise"; improved classification of solvency of the enterprise; proposed a set of indicators for the assessment and analysis of solvency of the enterprise; developed a sequence of solvency management of the enterprise. Conducted the analysis of composition and structure of assets and capital of the enterprise, its solvency, as well as measures to restore the solvency of enterprise.

Key words: solvency of the enterprise, solvency management, assessment of solvency.

## АНОТАЦІЯ

Слободянюк К. В. «Управління платоспроможністю підприємства». – Рукопис.

Випускна кваліфікаційна робота спеціальності 051 «Економіка», спеціалізації «Фінансовий менеджмент». – Київський національний торговельно-економічний університет. – К., 2018.

Випускна кваліфікаційна робота присвячена вивченню теоретико-методичних засад та практичних аспектів управління платоспроможністю підприємства.

В даній роботі обґрунтовано економічну сутність поняття «платоспроможність підприємства» та «управління платоспроможністю підприємства»; удосконалено класифікацію платоспроможності підприємства; запропоновано набір показників для оцінки та аналізу платоспроможності підприємства; розроблено послідовність управління платоспроможністю підприємства. Проведено аналіз складу та структури активів і капіталу підприємства, його платоспроможності, а також запропоновано шляхи відновлення платоспроможності підприємства.

Ключові слова: платоспроможність підприємства, управління платоспроможністю підприємства, оцінка платоспроможності.



## INTRODUCTION

At the current stage of development of the world economy, which is accompanied by an increase in global financial crisis, the successful performance of enterprises depends to a large extent on their current and prospective solvency. They can preserve their market positions only by applying financial management, which is aimed at creating positive expectations from contractors about the ability to meet their financial obligations to them.

The solvency of an enterprise as its ability to make planned payments and urgent obligations in time and in full, while maintaining the normal rhythm of economic activity, is one of the conditions for the competitiveness of the enterprise and its financial stability.

The ability of an enterprise to pay off its debts in volumes and terms provided by contracts and legislation is a prerequisite for the successful functioning on the market, which determines the *relevance of the chosen topic*.

The management of solvency of the enterprise was investigated by foreign and domestic scientists and practitioners in their works, in particular: Ya. V. Vaskovskaya, E. V. Mni, R. V. Fedorovich, V. M. Seredinskoy, N. Gavrishka, S. Yaroshchuk, O. N. Volkova, VV Kovaleva, MM Kreinina, I. I. Mazurovoy, M.S. Abrutina and others.

The purpose of the final qualifying paper is to investigate theoretical and practical aspects of enterprise solvency management.

To achieve the goal it is necessary to solve the following tasks:

1. to explore the theoretical foundations of the concept of "solvency of the enterprise", to reveal its essence;
2. to consider the conceptual principles of solvency management of the enterprise;
3. to characterize the system of indicators, allowing to assess the solvency of the enterprise;
4. to analyze the composition and structure of assets and liabilities of LLC «Antikor Plus»;
5. to conduct an analysis of the solvency of this enterprise;

6. to develop the main directions for improving the information and organizational base of the enterprise;

7. to substantiate the economical ways of the enterprise solvency strengthening;

8. to create the budget of the enterprise according to target solvency indicators.

The object of the study of the final qualifying paper is the process of enterprise solvency management.

The subject is the mechanism of enterprise solvency management on example of LLC «Antikor Plus».

The empirical base of the research is a limited liability company «Antikor Plus», that was established in 2011 to meet the needs of the national economic complex of Ukraine and its citizens in its services (works, products), obtaining the maximum profit and ensuring its growth, as well as implementation, on the basis of profit received, interests of the participants of the Company. The enterprise belongs to the construction industry of Ukraine.

The founders of LLC «Antikor plus» are Ryaba Alla and Matsak Lyudmila.

The address of the enterprise: Chernivetska region, Novodnistrovsk

The subject of the enterprise activities is:

1. construction, expansion, reconstruction, capital and current repair of objects, as well as protection of structures, equipment and networks at the request of enterprises and organizations of all forms of ownership.

2. production of concrete, mortar and articles thereof and their implementation;

3. construction work;

4. production of building materials and constructions.

Number of employees is 47.

In the process of writing a scientific work, the following research methods were used:

- The definition of the essence of "enterprise solvency" was based on the use of logical analysis, methods of analysis and synthesis.

- The methodological approaches to the analysis and assessment of solvency of the enterprise were analyzed using methods of generalization, comparison and classification.

- Experimental-analytical part, analysis of financial and economic activity of the enterprise was provided using methods of comparative and factor analysis, grouping.
- Recommendations for solvency management was developed using forecasting, correlation-regression analysis, analogy and modeling methods.

The information base of the research is the current system of normative legal acts (laws of Ukraine, Decrees of the Cabinet of Ministers, etc.), financial information of «Antikor plus», textbooks, materials of publications in the special and periodical press, Internet source.

The theoretical generalizations and practical recommendations, formulated in the final qualifying paper, are aimed at improving the solvency management of the enterprise. The results of the theoretical studies of this work were tested at the university conference with the publication of an article «Methodical provision of enterprise solvency and liquidity analysis».

The final qualifying work consists of an introduction, three sections with separate units, conclusion, list of used literature and attachments.



# **CHAPTER I**

## **THEORETICAL BASIS OF THE ENTERPRISE SOLVENCY MANAGEMENT**

### **1.1. The essence and types of the enterprise solvency**

The research of the economic essence of solvency and its importance for the further profitable activity of the enterprise is an actual task of the modern economic system.

Even in an administrative-command economy, solvency indicators were considered the most important for reflecting the financial condition of the enterprise. In Soviet times the solvency associated with a willingness to make timely and full payments to industrial production and non-production personnel, suppliers, budget.

Today, the term "solvency" is a complex and multifactorial, predetermined by the economic environment within which the activities of the company, and the results of its operations.

The Law of Ukraine "On Restoring Debtor's Solvency or Declaring it Bankrupt" states the following definition of solvency: an availability of cash and cash equivalents in the enterprise, that are sufficient to pay for accounts payable requiring immediate repayment, including wages, and execute obligation to pay taxes and duties (mandatory payments) [41].

The analysis of modern professional literature of domestic and foreign scholars testifies to the lack of a unified approach to the interpretation of this concept. That is why the disclosure of the essence of solvency of the enterprise is extremely relevant not only from the theoretical point of view, but also from the methodological point of view.

Most economists attribute solvency to the ability to pay for obligations. At the same time, the special issue of disputes is the urgency of debt: some argue that it is short-term, others - long-term, the third do not make differences in terms.

Therefore, it is necessary to analyze the approaches of various scholars to the definition of the concept of the enterprise solvency, which are presented in the table 1.1.

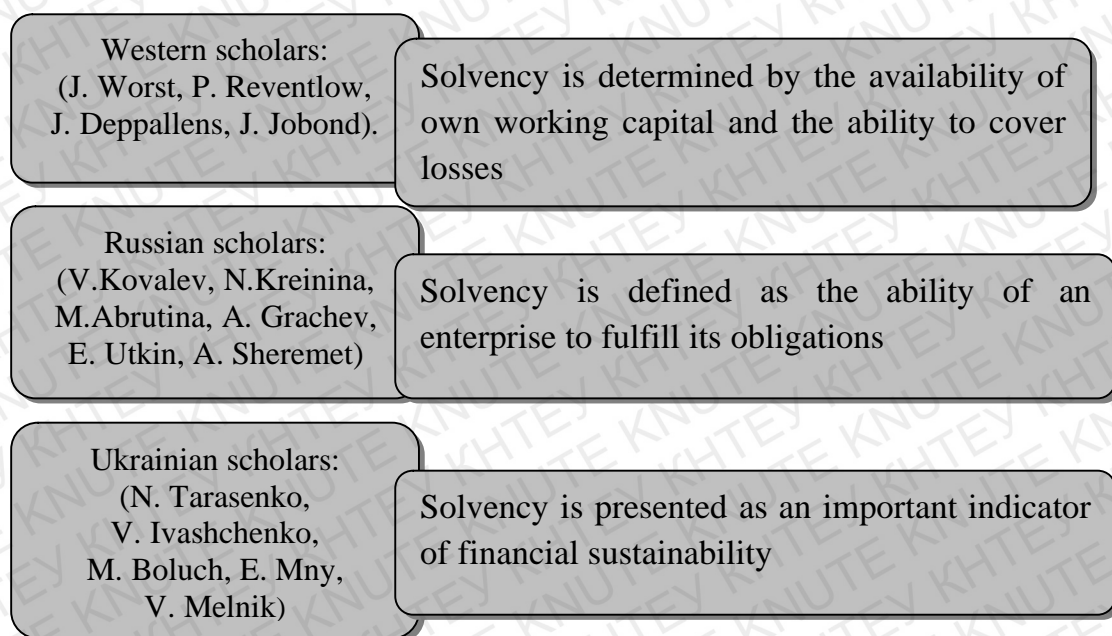
Table 1.1

**Interpretation of the category "solvency of the enterprise" by scientists-economists**

Author	Definition
J. Worst, P. Raventlou	The solvency of an enterprise is the ability to withstand losses [36, p. 244].
V.V. Kovalev	Solvency means the presence in the enterprise cash resources and cash equivalents sufficient to pay for accounts payable, which requires immediate repayment [17, p.132].
M. M. Kreinina	Solvency is the availability of sufficient funds for the company to pay off debts for all short-term obligations and, at the same time, the uninterrupted implementation of the production and sales process [20, p. 22].
M. S. Abrytina A. V. Grave	Solvency means sufficient liquidity of assets to repay at any time all its short-term liabilities to creditors [36, p.245].
E.I. Utkin	Solvency is the ability of an enterprise to timely and fully fulfill its long-term obligations [36, p.244].
A. D. Sheremet	Solvency of an enterprise is defined as the ability to cover all liabilities of the enterprise by all assets [36, p.245].
N.V. Tarasenko	Solvency is presence in the enterprise funds to repay them on time and in full the debt arising from credit and other monetary operations [40, p.156].
G.V. Savitskaya	Solvency of an enterprise is the ability to cash in cash in a timely manner to repay its payment obligations [36, p. 214].
E. V. Mnyh	An enterprise is considered a solvency if its total assets are larger than long-term and short-term liabilities [31, p.155].

On the basis of these and other definitions it is possible to single out separate approaches to the interpretation of the concept of "solvency of the enterprise" (Fig. 1.1)





*Fig.1.1 Approaches to the definition of the economic essence of "solvency".*

Source: developed by the author.

1) Theoretical views of Western scholars (J. Worst, P. Reentlou, J. Deppallens, J. Jobord): solvency is determined by the availability of own working capital and the ability to cover losses. That is, the authors have in mind not only the repayment of obligations of the enterprise, but also the existence of some potential or reserve, which would enable the company, working at a loss, to cover losses.

2) The approach proposed by Russian scientists (V. Kovalev, M. Kreinin, M. Abryutin, A. Grachev, E. Utkin, A. Sheremet, etc.): solvency is defined as the ability of an enterprise to fulfill its obligations. Within this approach, different points of view can be singled out regarding the urgency of these obligations:

- V. Kovalev, M. Reykin, I. Mazurov, M. Abryutin and other economists believe that the company should have such a sum of money resources that it could pay for short-term obligations at any time. However, it should be noted that the company does not have enough money to repay short-term liabilities, as in a significant part of enterprises there is a large number of long-term liabilities that will also need to be covered in time;

- along with the statement about the repayment of only short-term liabilities, some scholars believe that solvency should be understood as the ability of the company to repay only long-term loans. This approach is also not very precise, because existing

current payments in the short term represent a significant part of the sum of all payments. Consequently, the dependence of solvency on repayment of short-term loans is obvious, because they will affect the solvency of the enterprise;

- the third group of researchers is characterized by a combination of the two previous points of view. The most typical is the definition of A. Sheremeta: "... the solvency of an enterprise is defined as the ability to cover all liabilities of the enterprise (short-term and long-term) by all assets". This definition is, in our opinion, more precise, because it includes all kinds of obligations and indicates by what purpose the goal is achieved.

3) For the third approach (Ukrainian scientists: N. Tarasenko, V. Ivashchenko, M. Bolyukh, E. Mnyh, V. Melnik), the following definition is typical: "solvency of the enterprise is the most important indicator characterizing the financial state of the enterprise ". This approach is inherent mainly to economists and analysts and does not determine the essence of solvency, but only ascertains it on certain grounds.

The solvency of an enterprise may change: due to late payment of receivables to an enterprise, it can become insolvent, since it is time to pay lenders, and there is not enough money on the current account to repay this debt. Therefore, it is necessary that the liquid funds were sufficient to pay the necessary payments.

Of course, all of the above approaches make sense, but they also have certain disadvantages:

- the majority of scientists consider the adequacy of assets to repay obligations as the main criterion of solvency - this is a significant but inadequate condition, since the enterprise may be insolvent if in the structure of its assets a significant part is occupied by doubtful accounts receivable, fixed assets, long-term investments and the like;

- solvency of the enterprise is not only an indicator. Proof of this can be the fact that the value of the indicator shows the state of the company's solvency at a certain date of calculation, that is, it is characterized by a moment, and this value depends on objectively caused changes related to the receipt and payment of funds;

- the debate on the urgency of obligations, which are highlighted in the definition of solvency, is not significant, since these contradictions don't have a fundamental nature.

Also, in some works of Ukrainian economists, we can find the identification of the concepts of "liquidity" and "solvency", which in fact have a significant difference between them. The liquidity of any asset is understood as its ability to transform into cash, and the degree of liquidity is determined by the duration of the period during which this transformation can be realized. The shorter the period, the higher the liquidity of this type of asset. Solvency, in turn, means the presence of cash and cash equivalents at the enterprise sufficient to pay off accounts payable. The solvency of the enterprise is considered broadly in relation to the quality of the financial condition of the enterprise, compared with liquidity, as it involves not only the ability to convert working assets into cash, but also financial stability [8, p.37].

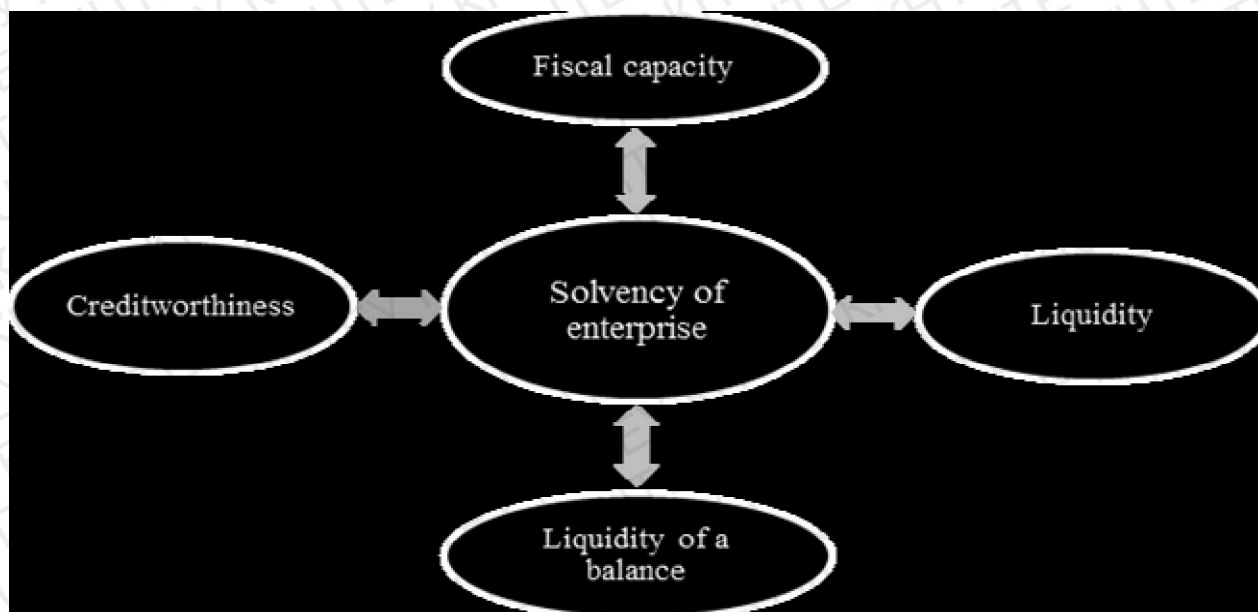
The solvency of an enterprise, above all, depends on the level of liquidity and, accordingly, those factors that determine it. But there are a number of specific factors inherent in the formation of their own solvency. These include:

- duration of operational and financial cycles;
- compliance with the payment discipline by the enterprise and its counterparts;
- the soundness of financial planning and its completeness and effectiveness implementation;
- the rate of turnover of cash resources .

The solvency of an enterprise reflects the availability of funds and their equivalents, sufficient for settlement of accounts payable, which requires immediate repayment. Characteristic features of solvency of an enterprise are the availability of sufficient funds on the current account and the absence of overdue accounts payable. Such insolvency is evidenced by the following statements in the accounts: "Losses", "Loans and loans not repaid in due time", "Overdue payables", "Promissory notes issued, past due". Consequently, the concept of "solvency" and "liquidity" are very close in their content, but liquidity is more wide concept, since the level of solvency of an enterprise depends on the liquidity of the balance sheet.

The solvency of the enterprise in the broadest sense includes creditworthiness, solvency and liquidity (Fig. 1.2).





*Fig.1.2 Interconnection of solvency with creditworthiness, fiscal capacity and liquidity*

Source: developed by the author on the basis of [8].

Unlike its solvency, the borrower's creditworthiness does not record non-payment for the current period or any date, and predicts its solvency in the near future. Credibility means the ability of an enterprise to obtain a loan, and the ability to fulfill its tax obligations to the state is characterized by its ability to pay.

Every company that operates in the market has both external and internal obligations. External obligations are obligations to state and local budgets, banks, suppliers, buyers. Internal commitment is obligations to affiliates, founders, employees of the enterprise, etc.

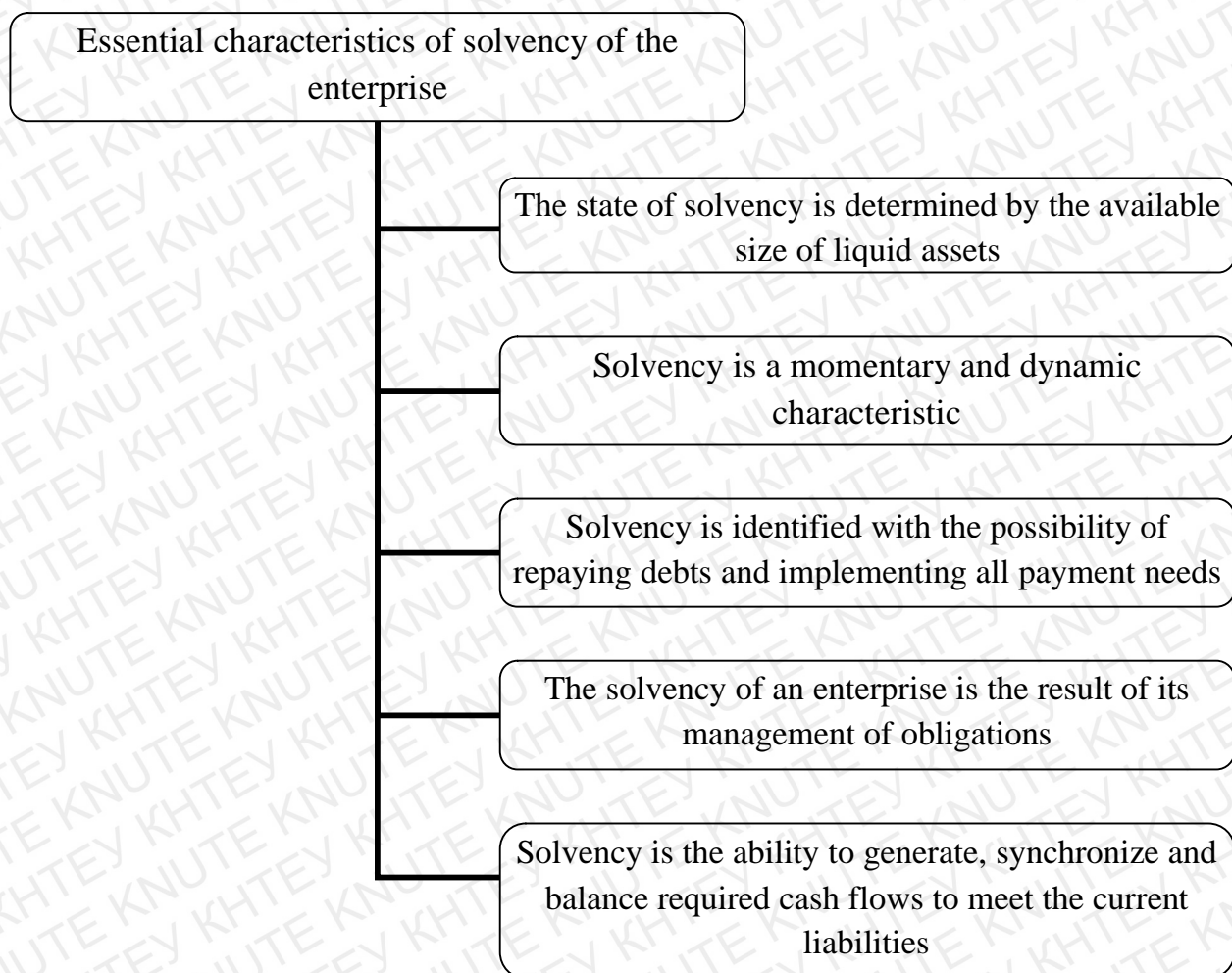
In the Ukrainian economic literature, there is an opinion that considering solvency enterprises, it is necessary to take into account its external obligations. An explanation of this position is that when assessing the financial sustainability of the enterprise the sources of financing its assets (internal or external) are decisive external, in accordance with what is happening the differentiation of capital on its own and involved [8, p. 38].

In our view, this approach has several principal shortcomings. Firstly, it is impossible to identify the internal obligations of the enterprise with the internal sources of financing (statutory capital, unallocated profit, etc.). Secondly, the external and internal obligations of the enterprise constitute a single external one source of funding - attracted capital. Thus, the company is more correct to consider solvency if its means of

payment exceed the term obligations, both external and internal. At the same time, it is necessary to pay include cash, short-term securities and part of the receivable the debt.

As these scientific approaches of determining the solvency do not reveal its essence in its full size and have certain disadvantages, we have been offered additional essential characteristic of solvency. Solvency is not only the ability to repay obligations at the time of assessment at the expense of cash, but also the ability of the enterprise to provide conditions for the fulfillment of obligations, to wit to generate, synchronize and balance cash flows that meet the obligations and payment requirements of the enterprise in terms of volumes and timing. That is, solvency can also be considered as a period of time for which an enterprise generates the required cash flow that will cover its liabilities.

Consequently, on the basis of the study, we can determine the essential characteristics of solvency of the enterprise (Fig. 1.3).



*Fig.1.3 Essential characteristics of solvency of the enterprise*

Source: developed by the author.

Based on the analysis of existing approaches to the interpretation of the concept of "solvency of the enterprise" and own theoretical developments, we offer a more precise and complete definition, which can be stated as follows: "solvency of an enterprise is its ability to pay in full and for a specified period of time its liabilities (short-term and long-term) with the help of monetary resources and other assets, while carrying out continuous financial and economic activity, that is provided by generating synchronized and balanced cash flows."

Solvency is formed under the influence of all types of economic activity enterprise, but it reflects the quantitative reflection in the movement of funds.

If the company is solvent, then there is no problem with providing the production process with the necessary resources, that is, with implementation of production plans. An enterprise is considered solvent in the absence of overdue debts to suppliers, banking institutions and other organizations.

One of the tasks of studying the solvency of an enterprise at the present stage is the need for its comprehensive classification. There are many classifications of solvency in the scientific literature.

1. Depending on the ability to make payment there are three types of solvency: instant, current and prospective [4, p. 15].

Instant solvency characterizes the state of affairs ("at the present moment and under the circumstances") of the enterprise's calculations, and the current solvency means the ability of the company to pay its obligations in the near future (up to six months). As for prospective solvency, this concept is defined as follows: the ability of an enterprise to fulfill not only short-term and long-term obligations, but also the availability of reserve capital for development and insurance support in order to avoid a possible crisis situation.

2. Depending on the nature of the formation and the information base of the research: static and dynamic solvency [22, p.156].

Static solvency is investigated in a certain period of time and characterizes the ability of an enterprise to execute planned payments and urgent liabilities at the expense of real balances of cash assets (reserves) [22, p.156].



Dynamic solvency is estimated using the analysis of the company's cash turnover, ie, the definition and comparison of the size of the input (receipt of funds) and the initial (spending of funds) cash flows of the enterprise for a given period of time [22, p.156].

The latter characteristic can be extended and supplemented in connection with the distribution of monetary turnover by type of activity of the enterprise to operational, financial and investment, which allows to assess the degree of participation of each activity in the formation of cash flows.

### 3. Depending on the assessment period: actual and prospective solvency [22, p.158].

The actual solvency characterizes the payment capabilities of the enterprise on the date or during the assessment period. Prospective solvency determines the potential for execution of payment obligations and expenses, takes into account potential receipts and necessary cash expenses during the future period [36, p.158].

### 4. Depending on the types of payment means: monetary, estimated and property solvency [37, p. 121].

Monetary solvency provides for the fulfillment of obligations only at the expense of available funds. Estimated - due to available funds and possible (real) sources of their growth (funds in the calculations). Property (potential) - due to all types of current assets of the enterprise (in case of their conditional sale) [37, p. 121].

However, we think that this classification can not be implemented, because it is impossible to select universal criteria for the division of solvency into such types.

### 5. Depending on the approach to determining the required amount of spending (solvent needs): debt (accounting), current and total solvency [23, p.158].

Debt (accounting) solvency is determined by the possibilities of occurrence of external (urgent) obligations. Current solvency is determined by the possibilities of financing current activity. The general solvency is determined by the degree of coverage of external urgent obligations and planned expenditures [23, p.158].

### 6. Many authors, considering the category of insolvency, note that it can be accidental, temporary and prolonged, chronic [21, p.123]. Such a characteristic we propose to use for solvency, that is, it can be urgent, periodic and lengthy.

7. Depending on the operational process, it is suggested to investigate the following types of solvency: consumer, which arises when replenishing current assets to continue the production process; production that is directly related to the uninterrupted implementation of production (for example, labor remuneration); commercial, relating to the sale of products (for example, payment marketing research, advertising costs) [34, p. 345]. But we cannot agree with this classification, because it does not correctly reflect the essence of solvency. Since the solvency of an enterprise is the ability to repay its obligations, in this case solvency equates to the ability of an enterprise to carry on its business.

We conclude that for a deeper disclosure of the solvency essence and its analysis, it would be advisable to consider the types of solvency depending on the sources of funding.

8. Depending on the sources of funding, we propose to divided solvency by the one that is formed at the expense of internal or external sources. The internal solvency is formed at the expense of a return flow of payment means and at the expense of self-financing (surplus of funds and accumulation of profit). External solvency is provided by the increase of own capital (shares, additional unit investments, etc.) and liabilities (long-term and short-term).

Based on presented research and our own developments, we can distinguish a generalized solvency classification that most closely characterizes its essence and considers solvency as a phenomenon from all sides (table 1.2)

*Table 1.2.*

**Classification of enterprise solvency**

Classification type	Types of solvency
Depending on the nature of the formation	Static Dynamic
Depending on the assessment period	Actual Perspective
Depending on the terms of low solvency	Accidental Temporary Prolonged Chronic

*Continuation of table.1.2*

Depending on the solvency requirement	Debt Current General
Depending on the sources of funding	Inside Outdoor

Source: developed by the author.

So, investigating the essence of the concept of "solvency of the enterprise", we can conclude that today there is no clear approach to the interpretation of this concept. Almost all approaches characterize solvency on the one hand and have significant disadvantages, such as: taking into account only short-term obligations; timeliness; identification with the concept of liquidity and creditworthiness, and others.

However, on the basis of the generalization of existing approaches and own theoretical developments, it can be formulated as follows: «The solvency of an enterprise is its ability to pay in full and for a specified period of time its liabilities (short-term and long-term) with the help of monetary resources and other assets, while carrying out continuous financial and economic activity, that is provided by generating synchronized and balanced cash flows».

## **1.2 The methodological support of enterprise solvency management.**

Solvency analysis is one of the most important components of financial management. However, in practice, the process of conducting such an analysis is complicated by the lack of a unified approach to its organization and methodology.

In Ukrainian practice, the indicators used in the analysis of solvency are not clearly defined. Theoretically, only certain aspects of the methodology are developed and applied in practice.

Recently, a number of studies of foreign and domestic scientists devoted to this problem have been published. However, the methods proposed by them do not always



take into account the requirements of domestic enterprises regarding the volume of analytical information. Consider the views of some Ukrainian scholars on the system of indicators and methodology for solvency analysis of enterprises.

V. I.Ivashchenko, M. A. Bolyuch [36] based their methodology of solvency analysis of an enterprise on the calculation and theoretical values of the coefficients of absolute, intermediate and total solvency.

The authors note that in order to prevent subjectivity in assessing solvency in such a way that it involves the use of normative, often theoretically unreasonable, values, it is necessary to calculate the urgent liquidity (the ratio of cash and debts that will be returned within thirty days to liabilities, which are subject to payment up to thirty days); liquidity of the second level (the numerator and denominator are the same, but the term is ninety days); third-level liquidity (the numerator and denominator are the same, but the term is a year).

The principal disadvantage of the proposed approach is that its authors, from the very beginning, emphasize that solvency of the enterprise is confirmed by the absence of overdue debts, and only in the absence of this debt, a solvency analysis is conducted. Thus, from this it follows from the conclusion that in the presence of short-term debt, the company is already insolvent. But in the process of production and economic activity, the situation can quickly change, for example, the company will receive funds necessary to repay the debt due to repayment of receivables.

E.V.Mniak's methodology [31] for solvency analysis is based on the use of such indicators: absolute solvency ratio, urgent solvency ratio, intermediate solvency ratio, total solvency ratio.

The author emphasizes that in order to assess the solvency coefficients, it is necessary to determine the information links of the factors of their formation according to the balance sheet data.

According to the method of N.V. Tarasenko [40], the analysis of the enterprise is carried out according to the balance sheet based on indicators: the size of its working capital; liquidity ratios; debt / equity ratio; the coefficient of long-term attraction of borrowed funds; loan guarantee ratio. The author proposes to carry out an operational

analysis of the current solvency of the enterprise using a payment calendar, which is an integral part of the internal assessment of the financial state.

Thus, a brief overview of the positions of domestic scientists and methods for analyzing the solvency of the company proves that this issue is still not resolved. All of them have common disadvantages:

- exclusively static character, that limiting their analytical value and the objectivity of the results of the analysis;
- ignoring the quality of management of current assets and cash flows of the enterprise, which are the main factors in the formation of solvency;
- lack of a unified approach to determining the optimal theoretical values of indicators;
- neglect of sectoral features of enterprises that are essential for the assessment of their liquidity and solvency;
- ignoring future earnings and cash expenditures that can change the current solvency assessment.

In the methodological aspect today, in Ukraine can also use the normative methodologies of ministries and departments to assess the solvency of an enterprise. They cover the general directions of analysis and establish the main methodological principles of conducting in-depth analysis of solvency of the enterprise.

However, the synthesis of the recommendations in the normative documents allows us to conclude that they are based mainly on the principles of a "short-term" approach to determining the essence of solvency and provide for its assessment and management solely for the purpose of preventing bankruptcy [15].

Thus, in the normative method of assessing the solvency of enterprises, it is foreseen the use of special indicators to identify the signs of current insolvency and the differentiation of its types. Among them: the existence of overdue payables, the negative value of the difference between the amount of cash available to the company, its equivalents and other highly liquid assets and its current liabilities, - evidence of current insolvency.

Also, according to the recommendations for identifying insolvency, critical insolvency can be detected if there are signs of current insolvency at the beginning and at the end of the reporting quarter, and the coverage ratio and own funds ratio (autonomy coefficient, financial stability analysis) at the end of the reporting quarter are less their normative values are 1 and 0.1 respectively. If the coverage ratio is less than 1 by the end of the year and the company has not received profits, then such a financial condition is characterized by signs of supercritical insolvency, according to regulatory sources [35].

However, in reality, an enterprise can be relatively solvent even under the above conditions, if its cash flows are synchronized in time. Therefore, in this case, the assessment of solvency exclusively on the coverage ratio does not quite accurately reflect the reality.

Differences in methodological approaches complicate the calculation and lead to difficulties in determining the financial state of the enterprise, therefore it would be advisable to create a generalized methodology for analyzing liquidity and solvency of the enterprise, including all necessary factors and indicators. This technique should cover the assessment of both static and dynamic solvency. In this case, the company will be able to conduct analysis in full and in abridged form, depending on the purpose and tasks of this analysis.

The beginning of the analysis should include a quality assessment of solvency based on the development of a "liquidity balance". The analysis of liquidity of the balance is carried out by comparing the assets located in the order of reducing their liquidity, with liabilities by the increase of its maturities.

There are different approaches to the group of assets and liabilities in the liquidity balance, since the assignment of a particular balance sheet to a particular group depends on the specifics of the enterprise under consideration. The traditional division of assets and liabilities is shown in table 1.4



Table 1.4

**Characteristics of groups of assets and liabilities of the aggregated liquidity balance**

Name	Groups
A1 – The most liquid assets	Cash Current financial investments
A2 – High liquidity assets	Current accounts receivable
A3 – Low liquidity assets	Inventories and expenses of future periods
A4 - Assets that are difficult to realize	Non-current assets
P1 – The most urgent liabilities	Payables
P2 - Short-term liabilities	Current liabilities, except for the most urgent liabilities
P3 – Long-term liabilities	Long-term liabilities
P4 - Permanent liabilities	Own capital

Source: developed by the author on the basis of [22].

We can note that the finished products of the company and goods can be classified as liquid assets if there is a steady demand for them. Doubtful receivables, work in progress, and future expenses may be classified as heavily liquid assets.

The proportion in which these groups must be relative to each other is determined by the nature and scope of the activity; rate of turnover of the enterprise; the ratio of current and long-term assets; amount and term of obligations for covering of which articles of assets are assigned; the degree of liquidity of current assets [22, p. 117].

The balance is considered to be completely liquid if it satisfies the following conditions:  $A1 \geq P1$ ;  $A2 \geq P2$ ;  $A3 \geq P3$ ;  $A4 < P4$  [3].

An analysis of solvency of any enterprise is expedient to carry out both for the current and for the forecast period. The information base for assessing solvency is a balance sheet, income statement, cash flow statement and accounting information on current calculations.

We suggest to evaluate the current solvency using the three most important solvency ratios: the absolute solvency ratio, the intermediate coverage ratio, and the overall

coverage ratio. To calculate these indicators, a common denominator is used - short-term liabilities.

Absolute solvency ratio (absolute liquidity ratio) reflects the ratio of current financial investments, cash and cash equivalents to current liabilities of the enterprise and is calculated according to the formula:

$$Ras = \frac{CFI + C}{CL} \quad (1.1)$$

where CFI are current financial investments;

C - cash and cash equivalents;

CL - current liabilities.

Its normative value ranges from 0,2 to 0,25 [2, p. 36]. This means that on 20-25% the company can currently pay off all its short-term debt and solvency is considered normal.

A lower value indicates that the company will not be able to repay its debts in a timely manner if the payment period is due shortly. A value above normative may also indicate problems in the company and indicate an ineffective strategy for managing financial resources. Cash, unlike other assets, does not participate in the production process, they do not generate income for the company. Therefore, the too high absolute liquidity index indicates that a significant portion of capital is diverted to the formation of non-productive assets.

The main purpose of using this indicator is to determine the ability to repay current liabilities and to determine the provision for liquid assets to repay liabilities in the event of imbalances in its cash flows.

Banks, that are lending to enterprises and suppliers of material resources, have particular interest of this indicator [2, p.36].

The intermediate solvency ratio (quick liquidity ratio) takes into account future receipts from debtors and is calculated as the ratio of cash and cash equivalents, current financial investments and real short-term receivables to current liabilities of the enterprise. The coefficient is calculated according to the following formula:

$$Ris = \frac{C + CFI + R}{CL} \quad (1.2)$$

where C - cash;

CFI - current financial investments;

R - receivables;

CL - current liabilities.

M. N. Davydenko determines the theoretical lowest value of the coefficient - 1, the highest – 2 [8, p. 38]. However, we think that the positive value of this indicator is also considered to be within the range of 0.6-0.8 or the observance of its average industry value.

This indicator is important for the owners of the company's shares. It involves determining the possibilities of repayment of current liabilities at the most critical position of the enterprise, since it means the avoidance of the impact of its reserves.

Coverage ratio is defined as the ratio of the amount of current assets to current liabilities. The indicator is calculated using the following formula:

$$Rc = \frac{CA}{CL} \quad (1.3)$$

where CA - current assets;

CL - current liabilities.

Consequently, if the current assets exceed current liabilities, the enterprise is considered liquid. The value of this indicator depends on the industry and on the type of activity. Theoretically, the value of this indicator varies within 1.5-2.5. With a high turnover of money, this value may be smaller, but necessarily - higher than one.

Coverage ratio reflects the solvency forecast for a relatively long-term perspective and is particularly important for holders of corporate bonds [4, p. 14].

Sufficiently informative in assessing the solvency of an enterprise is also the coefficient of availability of own working capital, which shows the share of current assets of the company, formed at the expense of its working capital.



The coefficient of equity by own funds, which reflects the ratio of the difference between real equity and non-current assets to the actual value of current assets held by the enterprise is calculated by the formula:

$$C_e = \frac{OC - NA}{CA} \quad (1.3)$$

where OC - own capital;

NA - non-current assets;

CA - current assets.

Net working capital characterizes the freedom of maneuver and financial stability of the enterprise from a short-term perspective. The assessment of the solvency of enterprises with its help makes sense in the study of trends in the dynamics and when compared with the performance of analogue companies (competitors) [2, p. 37].

For the quantitative assessment of solvency, we propose to use the method of cash flow analysis, which allows to assess the ability of an enterprise to generate cash in the right amount and in terms of time needed to make payments.

The amount of cash can be determined using the method of liquid cash flow, which can be used for express diagnosis of the financial condition of the enterprise. The liquid cash flow is an indicator of a deficit or surplus of cash flows that arise in the event of full coverage of all debt obligations. The liquid cash flow is calculated according to the following formula:

$$LCF = (LL1 + SL - C1) - (LL0 + SL0 - C0) \quad (1.5)$$

where LL1 and LL0 - long-term loans at the end and at the beginning of the period;

SL1 and SL0 - short-term loans at the end and at the beginning of the period;

C1 and C0 - cash at the end and at the beginning of the period.

In order to analyze the solvency of an enterprise, the liquid cash flow needs to be analyzed in the dynamics in terms of years, quarters, and months based on the financial statements.

Considering the static approach to determining the solvency of an enterprise, which is based on calculating the ability of an enterprise to calculate current liabilities, it is also important to consider the calculation of the future solvency of an enterprise that is

necessary for effective financial and economic activity in the future. Determination of this problem is necessary for using a dynamic approach to assessing the solvency of an enterprise, that is, studying it for a certain time [2, p. 37].

Among the indicators that characterize the solvency of the enterprise in the dynamics, it is possible to distinguish the amount of the balance of cash flow, the coefficient of recovery (loss) of solvency and the synchronicity of income and expenditure of cash flows.

The volume of cash flow is defined as the difference between incoming and outgoing cash flows, in the case of a positive value of the indicator, there is the availability of free cash, otherwise their deficit is observed [16, p. 90].

The coefficient of recovery (loss) of solvency characterizes the immediate prospect of changing the level of solvency of the enterprise (recovery or loss). It is determined by the formula:

$$Crls = \frac{Cgs + \frac{3(6)}{T}(Cgs - Cis)}{C} \quad (1.6)$$

where  $Cgs$  - coefficient of general solvency;

$Cis$  - intermediate solvency ratio;

$C$  - normative value ( $Kznp = 2$ );

$T$  - duration of the analyzed period (in months);

$3(6)$  - the period of recovery of solvency in the months for the period of recovery of solvency take 6 months, for the period of loss of solvency - 3 months).

If the indicator is equal to one or more than one, this is evidence of the availability of reserves for improving solvency, with a recovery rate (loss) of solvency of less than 1 - the level of solvency of the company in the near future will be insufficient.

If the balance sheet structure is satisfactory, the solvency ratio is calculated for a period equal to three months. The formula for calculating is similar to the solvency restoration factor, but the period of loss is 3 months. The coefficient of loss of solvency, accepting a value greater than 1, indicates the presence of a real opportunity for enterprises not to lose their solvency in the next three months.

To timely identify the formation of an unsatisfactory balance structure, which can lead to insolvency in the long run, it is also advisable to use the Beaver coefficient, which is calculated according to the formula:

$$Cb = \frac{NP + A}{I} \quad (1.7)$$

where NP - net profit;

A - amortization;

I - inventories.

According to international standards, the value of the Beaver coefficient: less than 0.17 - high risk of loss of solvency; from 0.17 to 0.4 - average risk of loss of solvency; over 0.4 - low risk of loss of solvency [30, p. 15].

The set of indicators recommended for solvency assessment is systematized in the form of a table in Appendix A.

An analysis of enterprise solvency requires constant monitoring of the balance and synchrony of the formation of a positive and negative cash flow in the context of individual intervals. For this analysis, we propose to use the indicators presented in Appendix B.

Consequently, the solvency analysis of an enterprise should include not only a static, but also a dynamic approach, that is, an analysis of changes in solvency over a certain period and a forecast for the future. When evaluating static solvency, a number of different coefficients are used such as: absolute, intermediate and total solvency, equity ratio by own funds. In assessing the dynamic solvency, calculate the amount of the cash flow of the cash flow, the synchrony of cash flow and cash flow ratios, the coefficient of recovery (loss) of solvency and a number of other auxiliary indicators. Such a sequence of analysis and the system of indicators that it generates can deepen the process of assessing the solvency of an enterprise and increase the objectivity of its results.



### 1.3. The stages of enterprise solvency management

In modern conditions, a successful activity of the enterprise is possible due to ensuring its proper solvency. Reliable protection of the company's solvency can be provided only with a comprehensive and systematic approach to its organization.

Under the concept of "solvency management of an enterprise" scientists understood the purposeful activities of the management of the company to ensure its short and long-term solvency, optimize the debt load and increase the efficiency of the use of funds received by the enterprise as a result of operating activities and the emergence of debt obligations [15].

However, in our opinion, this definition does not fully disclose the essence of this concept.

First of all, the solvency management should be considered as an integral part of the financial management of the enterprise associated with other its elements.

The second, we conceptualize that in general the aim of solvency management is prevention of impossibility to execute and pay enterprise's debts in conditions of maintaining an uninterrupted effective activity, and this is an important feature of solvency management.

But also it is important to consider the purpose of solvency management according to the types of solvency. The purpose of management of the short-term solvency is determined by the full satisfaction of the needs of creditors in the established terms. The purpose of the management of long-term solvency is to ensure the implementation of strategic directions of activity.

Thirdly, in our opinion, the main task of solvency management is to search for the most correct ratio of own and borrowed funds, which allows the company to make the most successful activity and to make the highest possible profit.

In accordance with the above-mentioned features, we propose to consider solvency management as an integral part of enterprise financial management, which include continuously planning and monitoring company's assets and liabilities, its the most acceptable ratio, synchrony of cash flow, as well as the results of activities in general, in order to prevent situations of impossibility to execute and pay enterprise's debts and search of reserve in case of such situations.

The solvency management process should be considered on the basis of economic principles (requirements) that are adequate to the conditions and characteristics at different levels of economic activity.

Ivanov V.K. [15] determines that the main requirements (principles) to ensure the solvency of the enterprise are the system approach, profitability, liquidity, stability, optimality and efficiency.

1) the system approach involves taking into account all types of resources used in the enterprise, all types of areas and activities for which it is planned to make payments or receive funds;

2) the principle of profitability determines the receipt of a positive financial result from activity, which is evidence of the correctness of the chosen strategic behavior and the source of coverage obligations;

3) the principle of liquidity is used to provide a reserve of resources (working capital) in case of need for early repayment of obligations;

4) the principle of stability determines the achievement of the solvent state of the enterprise in the long run, achieved by observing the optimal relationship between own and borrowed capital;

5) the principle of optimality involves the use of modern methods of analysis, planning, organization and control during the provision of solvency;

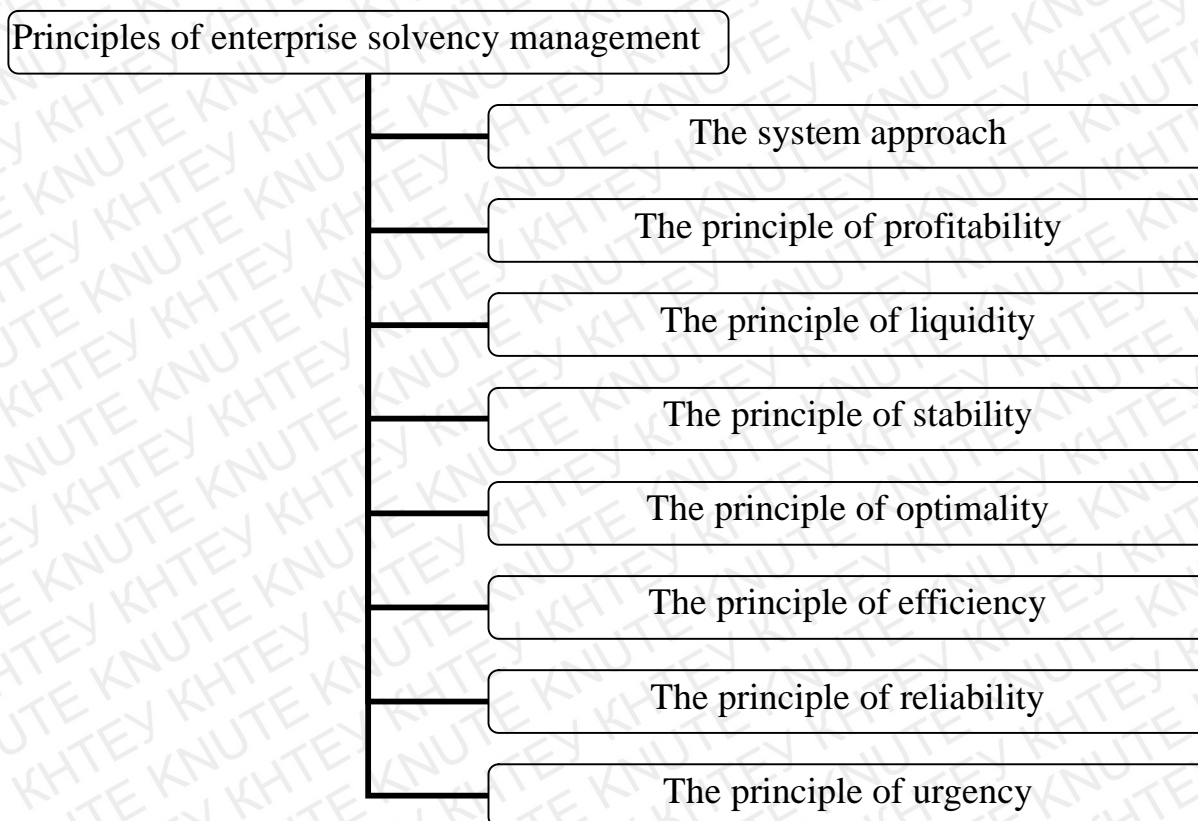
6) the principle of efficiency is the full realization of the planned tasks and management functions to achieve the main goal, that is, the ability of the enterprise in a timely manner and in full to meet the payment requirements of creditors.

We agree with the principles developed by the scientist, but for the purpose of effective solvency management, we propose to extend this list of principles and add to it the principle of reliability and the principle of urgency.

The principle of reliability involves the need to create a high reputation of the enterprise, which provides from external stakeholders: suppliers, consumers, investors, representatives of state and local authorities, social groups. This will enable, in the event of a financial crisis and a temporary loss of solvency, not to bring the case to the sale of assets, but to obtain a preferential loan, deferral of payments, the ability to pay a bill.

The high business reputation of an enterprise makes it possible to reduce reserves for maintaining solvency and reduce loss of revenue from selling assets. Thus, reliability has not only ethical, but also economic value.

The principle of urgency implies, in case of an early detection of a crisis, an immediate analysis to identify the causes of the loss of solvency and the use of appropriate measures to restore it. The application of this principle will enable the use of all the benefits of early detection of crisis situations and preventing its development. A complete list of solvency management principles is depicted in Figure 0.



*Fig. 1.4 Principles of enterprise solvency management*

Source: developed by the author on the basis of [15].

The implementation of the goal of solvency management is based on solving a number of tasks, the main of which are the following:

- ensuring the liquidity of the assets of the enterprise: in the process of solving this problem it is necessary to carry out, first of all, analysis of the current assets of the enterprise with a view to allocating the part of the company that will be difficult to realize in the economic conditions that have developed for the period of analysis;



- ensuring the effective use of enterprise capital: the realization of this task involves the study of long-term solvency (financial stability) of the enterprise in terms of analysis of its capital structure;
- management of accounts receivables: to solve this problem, the task is to reduce the amount of debtors' debts before the enterprise and thereby increase the level of liquidity of current assets;
- management of accounts payable: the solvency of this task of solvency management involves reducing existing and overdue debts, despite the fact that payables are considered an additional source of cash resources for the enterprise;
- the use of effective forms of settlement: the solution to the problem is to choose the most appropriate forms of settlement from the standpoint of saving costs for payment of banking services for the transfer of funds, from the position of insurance (minimizing risks) from non-payment for the delivered products, taking into account the fact that the implementation of contractual arrangements with the business a partner is for the first time, from the position of the earliest receipt (or transfer) of funds.

Conceptual framework of enterprise solvency management, which includes the purpose, tasks and principles is presented in fig. 1.5.

The purpose of enterprise solvency management	<ul style="list-style-type: none"> <li>• The full satisfaction of the needs of creditors in the established terms</li> <li>• The ensuring the implementation of strategic directions of activity</li> </ul>
The tasks of enterprise solvency management	<ul style="list-style-type: none"> <li>• Ensuring the liquidity of the assets</li> <li>• Ensuring the effective use of enterprise capital</li> <li>• Management of accounts receivables</li> <li>• Management of accounts payables</li> <li>• Using of effective forms of settlement</li> </ul>
Requirements (principles) for solvency management	<ul style="list-style-type: none"> <li>• The system approach, the principles of profitability, liquidity, stability, optimality, efficiency, reliability, urgency</li> </ul>

*Fig. 1.5 Conceptual framework of enterprise solvency management*

Source: developed by the author.

The solvency management process should be consistent and properly organized. Proper organization of this process is an important prerequisite for its effectiveness.

We propose to include the following stages in the process of solvency management:

I. Assessment and analysis of the current solvency of the enterprise. The method of assessing the solvency of the enterprise is expedient to carry out the following items:

- liquidity analysis of the balance of the enterprise;
- assessment of the financial condition of the enterprise;
- calculation and analysis of the main indicators of solvency in a static approach;
- calculation and analysis of the main indicators of solvency in a dynamic approach;
- analysis of synchrony and balance of cash flows of the enterprise.

The analysis of solvency is based on the use of a system of indicators, the list of which depends on the methodological approach to the definition of their level.

II. Identification of factors causing deterioration of solvency and crisis situations and development of measures for their elimination. At this stage the company has to solve a number of tasks, presented in fig 1.5.

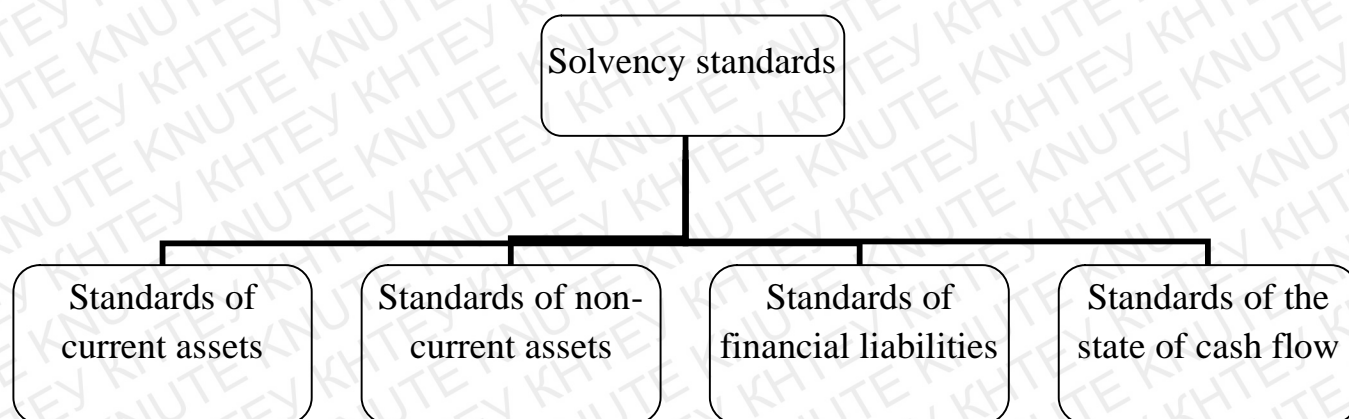
At the same time, the main attention should be paid to the introduction of new technologies that will help to increase the capacity of the enterprise. Also, the implementation of resource-saving technologies, that is, the use of secondary raw materials, is very urgent as the introduction of these new technologies will help to save resources and reduce unproductive costs and losses.

In general, there are such reserves of recovery and increase of solvency of enterprises [35]:

1. Sale of unnecessary equipment, materials and remnants of finished products.
2. Introduction of advanced technology and automation of production.
3. Provision of financial participation of the personnel in the sanitation of the enterprise.
4. Solving the problem of power consumption.
5. Use of new effective technologies.
6. Increase in gross profit by reducing costs.

III. Establishing the necessary norms. Norms and standards of financial stability are important in the management of the solvency of the enterprise. Based on the established financial norms and technical and economic standards, the enterprise needs in financial resources are calculated and the sources of their financing are determined.

The standards for ensuring the solvency of an enterprise should be classified according to the directions depicted in Fig. 1.6.



*Fig.1.6 Classification of standards for solvency of enterprises*

Source: developed by the author on the basis of [26].

IV. Development of forecasts and planning of solvency for different periods. Solvency planning is the development of planned indicators to ensure a stable financial position of the company in the process of predictive planning at the enterprise.

Prospective financial planning defines the most important indicators, proportions and rates of expanded reproduction, is the main form of implementation of the main objective of the enterprise. It should include the development of a financial strategy of the enterprise and the forecasting of its financial activity in the following areas: forecast of financial results (form №2); forecast of cash flow (form №3); balance forecast (form №1); forecast of the financial state of solvency of the enterprise.

Today, the planning of the financial state of solvency requires the use of new principles. This is due to the fact that the planning of indicators of the financial state should be oriented to the market situation, take into account the probability of occurrence of certain events and, at the same time, develop the methods of the enterprise to change the situation with current assets, non-current assets, own funds, financial liabilities [15].

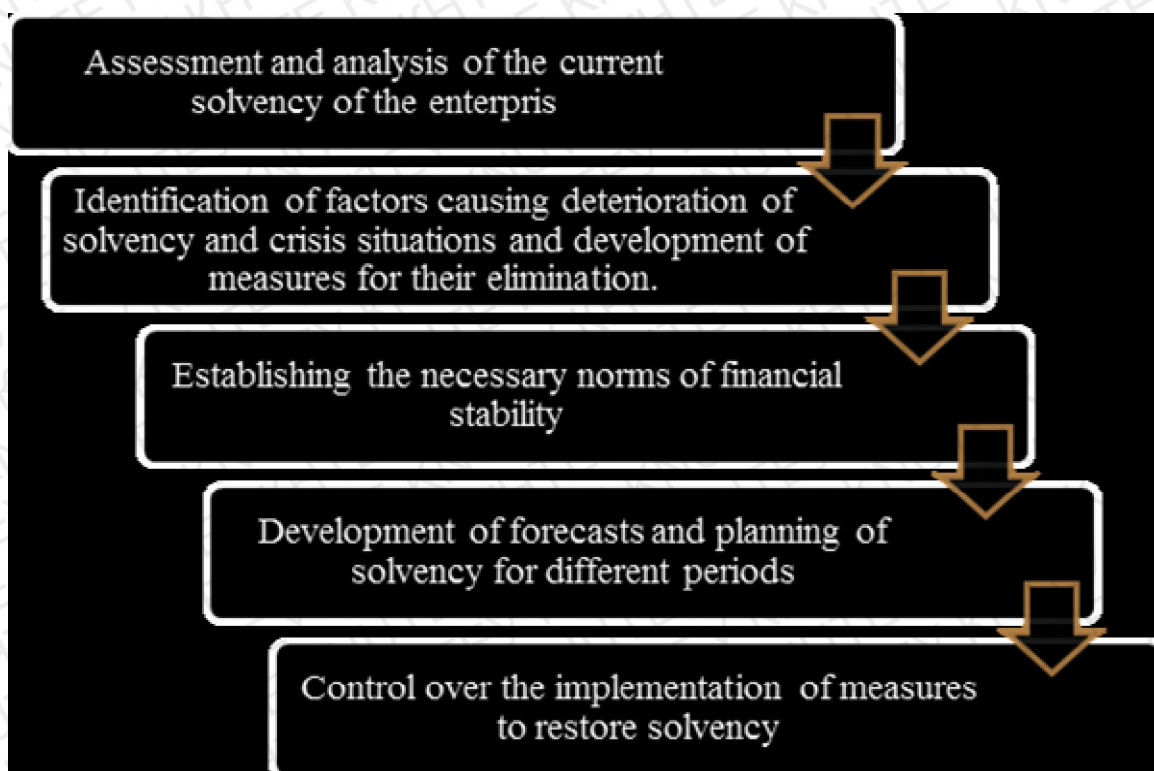


For more accurate planning, we recommend using several methods in the context of three scenarios: pessimistic, moderate and optimistic. This approach will allow to assess the risks of the enterprise in the future more accurately.

The process of forecasting solvency of the enterprise as a scientific prediction, in addition to economic laws, also requires the scientific orientation and intuition of financial managers. Predictability of the company's solvency is necessary for determining the financial state and developing the directions of enterprise development in a market economy [9, c.35].

V. Control over the implementation of measures to restore solvency. Control is a continuation of the planning process and it accompanies the process of implementation of the plans. The control activity is directed not only to checking the actual results, but primarily it is a management function that seeks to identify reserves and make new management decisions.

The proposed sequence of stages of solvency management is demonstrated in fig. 1.7. This approach allows provide effective management based on the analysis of solvency indicators and identified factors and the reasons for its possible deterioration.



*Fig.1.7 Stages of solvency management of the enterprise*

Sources: developed by the author.

Consequently, we argue that the solvency management is a complex multifaceted process, which is an integral part of the financial management of an enterprise. The main purpose of solvency management is prevention of impossibility to execute and pay enterprise's debts in conditions of maintaining an uninterrupted effective activity. To realize this goal the enterprise must conduct enterprise management in a consistent implementation of the stages: analysis of the current solvency indicators; identification the factors of its deterioration; establishing the necessary norms of financial stability; planning of solvency indicators; control over the implementation of measures to restore solvency.

## CHAPTER II

### INVESTIGATION THE CURRENT MANAGEMENT OF LLC «ANTIKOR PLUS» SOLVENCY

#### 2.1. Analysis of dynamics and structure of the enterprise's assets

The analysis of the efficiency of the current functioning of the enterprise, its solvency can not be carried out without studying the qualitative and quantitative composition of assets. Assets are a prerequisite for the operation of an enterprise. The presence of a sufficient amount of necessary assets at the enterprise, with a condition of its effectively using, indicates the organization of the company's activity at a high level and its effective functioning. Therefore, it is worth to estimate the composition and structure of the company's assets in dynamics.

The analysis used financial statements of the enterprise for the period 2014-2017, in particular a statement of financial position, a statement of financial results.

In order to analyze the structure and changes in the value of the assets of the enterprise, we should compare the indices of non-current and current assets in the last three years, which are shown in table 2.1.

*Table 2.1*

**The composition of the assets of the enterprise «Antikor plus» for 2014-2017 years,  
ths UAH**

Indexes	At the beginning of the year					The pace of growth			
	2014	2015	2016	2017	2018	2015	2016	2017	2018
Total Assets	6008	4765	8269	7562	6872	-20,7	73,5	-8,6	-9,1
Non-current assets	823	626	540	821	694	-23,9	-13,7	52,0	-15,5
Current assets	5185	4139	7729	6741	6178	-20,2	86,7	-12,8	-8,4
The ratio of current and non-current assets	6,30	6,61	14,3	8,21	8,90	-	-	-	-

Source: developed by the author on the basis of financial statements.



Table 2.2

**The structure of the assets of the enterprise «Antikor plus» for 2014-2017 years, %**

Indexes	At the beginning of the year					Deviations in the structure			
	2014	2015	2016	2017	2018	2015	2016	2017	2018
Non-current assets	13,7	13,1	6,5	10,9	10,1	-0,6	-6,6	4,3	-0,8
Current assets	86,3	86,9	93,5	89,1	89,9	0,6	6,6	-4,3	0,8

Source: developed by the author on the basis of financial statements.

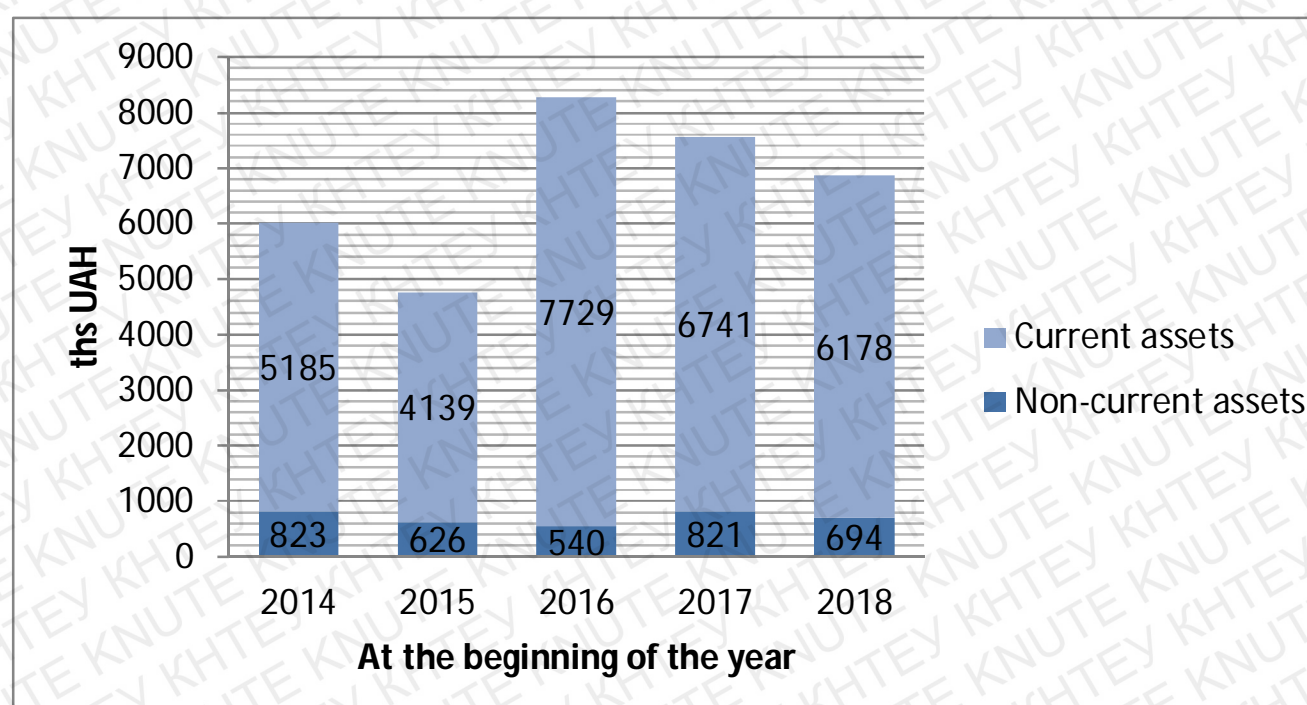
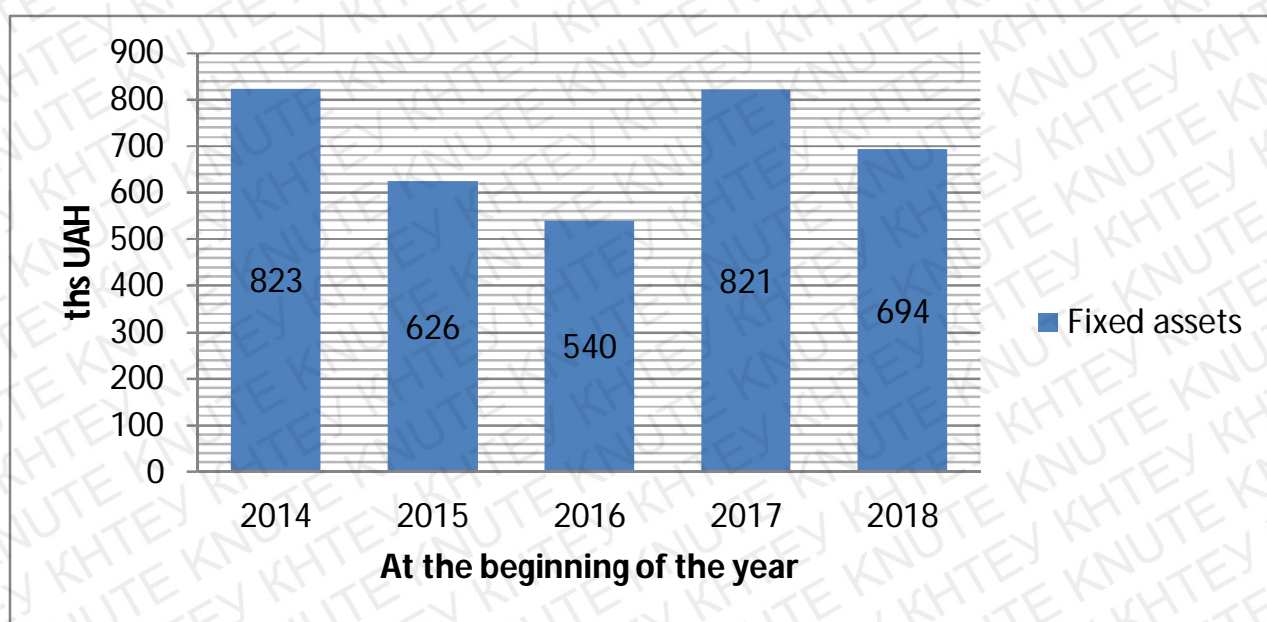


Fig. 2.1 The composition of the assets of the enterprise in dynamics, ths UAH

Source: developed by the author on the basis of financial statements.

First of all, it should be noted that during the investigated period there was no consistent steady tendency of increasing the assets of the enterprise, but at the end of the investigated period, the amount of assets of the company still exceeded a similar indicator at the beginning of the period on 25.9% . The unevenness in the growth of assets is primarily due to the crisis situation in the Ukrainian economy, which led to a significant reduction in the volume of provision of services by the enterprise in 2014. The financial statements for this year show a significant deviation from the usual dynamics of enterprise development.

According to the analysis, a considerable part of the assets of the enterprise holds current assets, which account for about 90% of the assets. Since the ratio of current and non-current assets significantly exceeds 1 and grows with each passing year (especially high on 01.01.2016 - 14.31, when the volume of non-current assets was the lowest throughout the period), it can be concluded that the resources of the enterprise remained lumped in more liquid assets. For an enterprise in this sector, this situation is optimal, since in the process of provision of anticorrosive and restoration services the components of working assets, in particular stocks, are used to a greater extent. Since there are only one item in non-current assets - fixed assets, we can conclude that the company uses a strategy for long-term investments - focusing on creating conditions for expansion of core business. Consider the change in the volume of fixed assets during 2014-2017 in Fig. 2.2. It would be advisable to assess the change in the volume of fixed assets (figure 2.2) and the dynamics of their wear and fitness.



*Fig. 2.2 The composition of the fixed assets of the enterprise in dynamics, ths UAH*

Source: developed by the author on the basis of financial statements.

Consequently, during 2014-2015 there was a tendency of decreasing the value of fixed assets at the enterprise from 823 thousand UAH. to 540 thousand UAH, which is due, first of all, to their depreciation. The state of fixed assets was unsatisfactory too, because their level of depreciation on 01.01.2016 amounted to 79%.



During 2016 there was a change in the value of fixed assets in connection with the acquisition and reconstruction of fixed assets, which virtually achieved the same amount of fixed assets as early in 2014. The update made it possible to increase the coefficient of fitness to 0.28, and also stopped the gradual decrease in the proportion of non-current assets in the total assets, increasing it to 10.86% on 01.01.2017. However, around 90% of the assets of LLC «Antikor plus» are current assets, therefore, it is advisable to analyze the change in the volume of current assets and their components, as well as the dynamics of specific weight during 2014-2017 (table 2.3 and table 2.4).

Table 2.3

**The composition of the current assets of the enterprise «Antikor plus»  
for 2014-2017 years, ths UAH**

Indexes	At the beginning of the year					The pace of growth			
	2014	2015	2016	2017	2018	2015	2016	2017	2018
Inventories	1791	1494	3768	2854	2963	-16,6	152,2	-24,3	3,8
Accounts receivable for products, goods, works, services	2923	2577	1367	3086	1530	-11,8	-47,0	125,7	-50,4
Accounts receivable on settlements with the budget	0	13	200	2	5	-	1438,5	-99,0	150,0
Other current accounts receivable	224	52	146	745	776	-76,8	180,8	410,3	4,2
Cash and cash equivalents	246	2	2248	53	892	-99,2	11230	-97,6	1583
Future periods expenses	1	1	-	1	12	0,0	-	-	1100
Total current assets	5185	4139	7729	6741	6178	-20,2	86,7	-12,8	-8,4

Source: developed by the author on the basis of financial statements.



Table 2.4

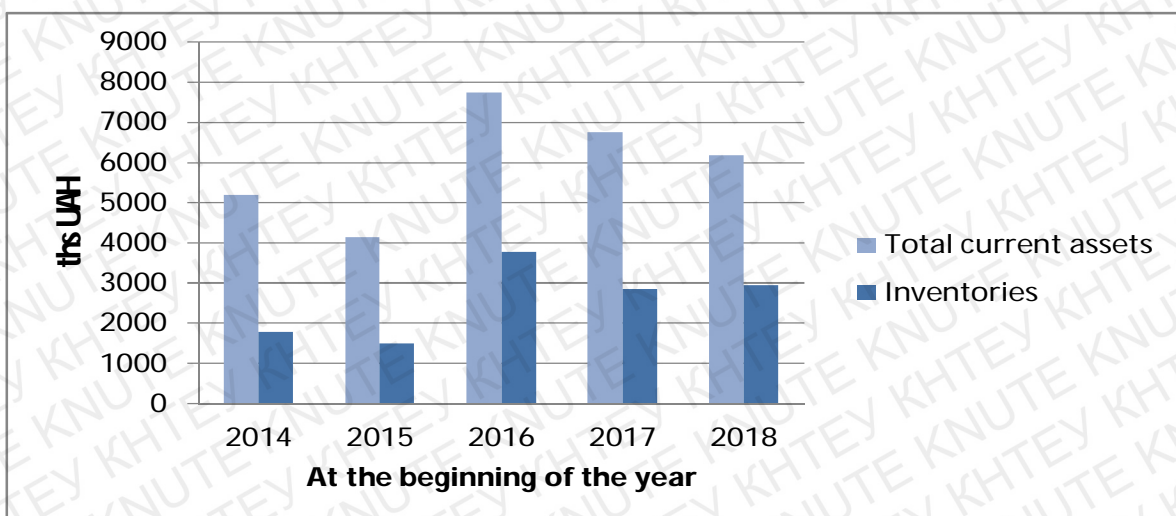
**The structure of the assets of the enterprise «Antikor plus» for 2014-2017 years, %**

Indexes	At the beginning of the year					Deviations in the structure, %			
	2014	2015	2016	2017	2018	2015	2016	2017	2018
Inventories	34,5	36,1	48,8	42,3	48,0	1,6	12,7	-6,4	5,6
Accounts receivable for products, goods, works, services	56,4	62,3	17,7	45,8	24,8	5,9	-44,6	28,1	-21,0
Accounts receivable on settlements with the budget	0,0	0,3	2,6	0,0	0,1	0,3	2,3	-2,6	0,1
Other current accounts receivable	4,3	1,3	1,9	11,1	12,6	-3,1	0,6	9,2	1,5
Cash and cash equivalents	4,7	0,0	29,1	0,8	14,4	-4,7	29,0	-28,3	13,7
Future periods expenses	0,0	0,0	-	0,0	0,2	0,0	-	-	0,2
Total current assets	100	100	100	100	100	-	-	-	-

Source: developed by the author on the basis of financial statements.

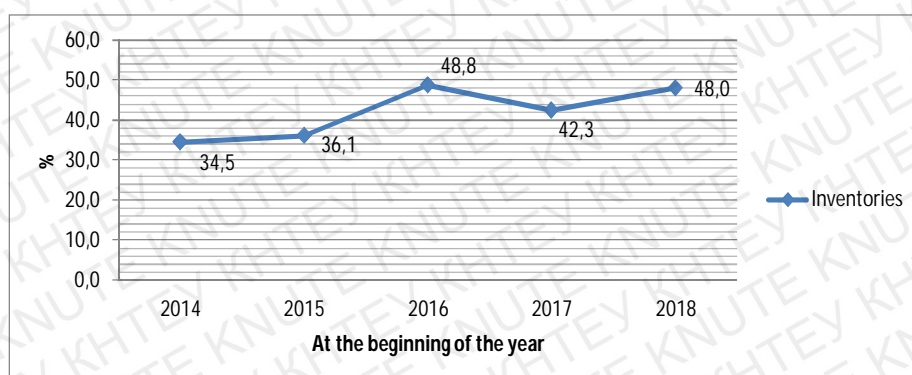
So, after analyzing the table, it can be argued that the volume of current assets has changed to some extent chaotic, because it is impossible to follow certain regularities to increase or decrease, primarily due to changes in the scope of the enterprise. Consider it in more detail, starting with inventories (figure 2.3)

The inventories are approximately in the range of 35-45% of the total volume of current assets, caused by their constant change, as well as by changes in receivables. It is also worth noting the increase in inventories over the past three years compared to the previous two. This was due to the purchase of goods by the enterprise for their further sale at the end of 2015, which does not indicate an expansion of the main type of activity (figures 2.3 and 2.4).



*Fig.2.3 Changes in volumes of current assets and inventories of enterprise during 2014-2017 years, ths UAH*

Source: developed by the author on the basis of financial statements.



*Fig. 2.4 Share of inventories in the structure of current assets during 2014-2017 years, %*

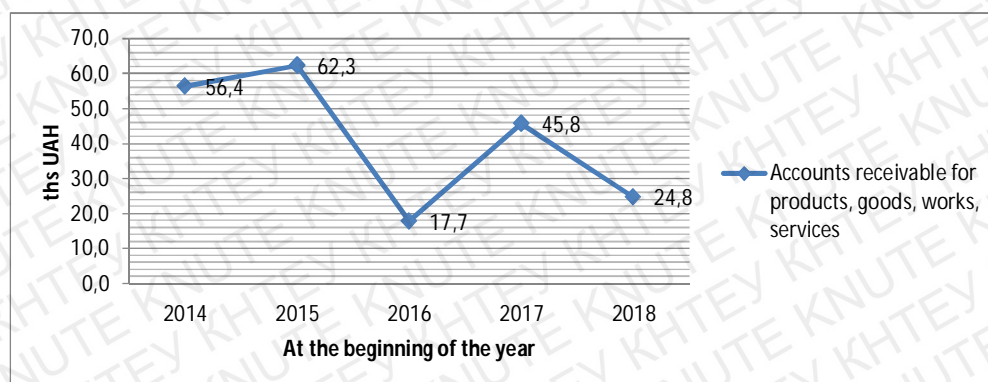
Source: developed by the author on the basis of financial statements.

Accordingly, the structure of stocks has changed, which until then was formed solely at the expense of production stocks. As of 01.01.2016, the share of goods was 56.4%, and as of 01.01.2018 already 23.3%.

During the investigated period, the share of receivables in current assets exceeded 40%, except for the beginning of 2016 and 2018, and sometimes reached more than 60% (figure 2.5). This situation is explained by the fact that the company operates on post-payment terms, which is usually carried out in the next months after the works



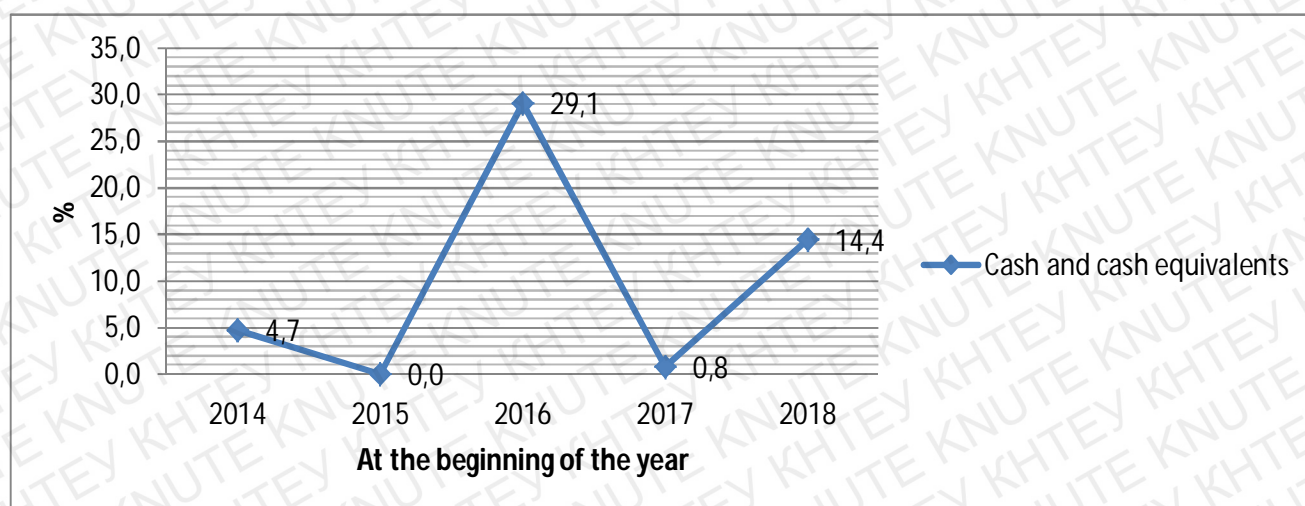
performed by the enterprise. However, the existence of overdue receivables shows that such debt management is ineffective and involves risks of significant financial losses for the enterprise. The availability of accounts receivable creates financial difficulties, generates a lack of financial resources and, of course, bears the risk of loss of solvency of the enterprise.



*Fig. 2.5 Share of accounts receivable for products, goods, works and services in the structure of current assets during 2014-2017 years, %*

Source: developed by the author on the basis of financial statements.

As for the share of cash in the structure of current assets (Fig. 2.6), then, as a rule, it was negligible and did not exceed even 5%.



*Fig. 2.6 Share of cash and cash equivalents in the structure of current assets during 2014-2017 years, %*

Source: developed by the author on the basis of financial statements.



However, in beginning of 2016 and 2018, the share of cash showed a deviation from the same indicator last year. Analyzing the cash flow statement for 2015 and 2017, it can be argued that cash inflows significantly outperformed their spending during this year. However, during 2016, the situation changed dramatically and the amount of funds amounted to 53 thousand UAH. or 0.79% of current assets.

The change in the assets of an enterprise, considered without comparison with the change in financial results, is not informative, therefore it is also necessary to examine the growth rates of assets, net realizable sales and net profit (Table 2.5).

*Table 2.5*

**Comparison of dynamics of Assets and Financial Results of enterprise activity for 2014-2017 years, ths UAH**

Indicators	2015 year	2016 year	2017 year	Absolute deviation		The pace of growth	
				2016 year	2017 year	2017 year	2017 year
Assets (average)	6517	7915,5	7217	1398,5	-698,5	21,5	-8,8
Net income	16343	36903	12860	20560	-24043	125,8	-65,2
Net profit	551	-44	-1409	-595	-1365	-108	3102,3

Source: Developed by the author on the basis of financial statements.

The volume of net income from sales of products is highly dependent on the volume of assets. In 2016 net income grew faster than the volume of assets, so the use of assets can be called effective. But in 2017, a decrease in the amount of assets led to a significant reduction in net income and loss.

Analyzing the data of financial statements it is impossible to distinguish a clear positive dynamics of the volume of assets of the enterprise. Their structure also changed quite unevenly during the studied period. In general assets of the company are formed by the current assets, which make up about 90%. Among the current assets, the largest share belongs to receivables for products, goods, works and services, which includes both overdue debts and stocks. Non-current assets are represented only by fixed assets, which company updates from time to time.

## 2.2 Analysis of dynamics and structure of the enterprise's liabilities

In modern conditions, the problem of capital formation is an important problem for an enterprise, because the financial status and viability of the company depends on its successful solution. Sources of financial resources of the enterprise are: 1) equity; 2) loan capital. The capital structure of an enterprise characterizes its financial status and stability [30, c. 45].

Compare the growth rates of «Antikor plus» obligations with the growth rates of financial results and the growth rates of assets.

Table 2.6

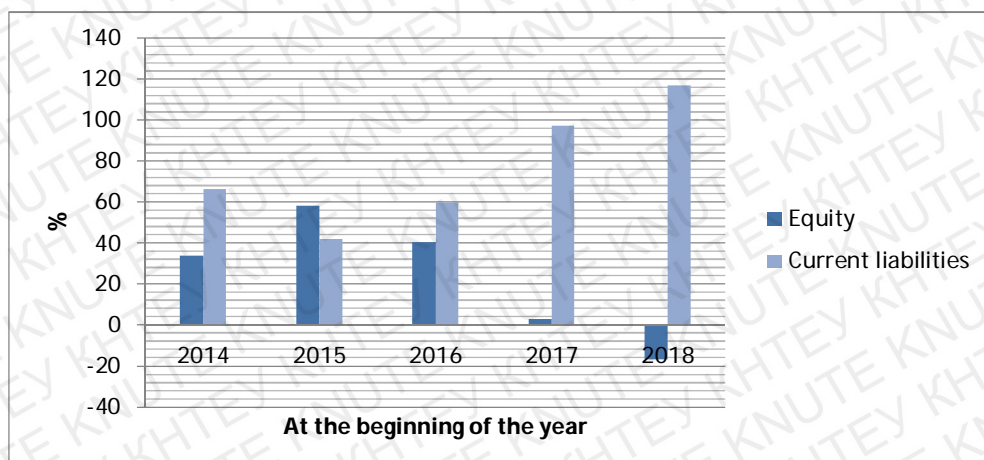
### Comparison of Dynamics of Assets, Current liabilities and Financial Results of enterprise activity for 2014-2017 years, ths UAH

Indicators	2015 year	2016 year	2017 year	Absolute deviation		The pace of growth	
				2016 year	2017 year	2017 year	2017 year
Assets (average)	6517	7915,5	7217	1398,5	-698,5	21,5	-8,8
Net income	16343	36903	12860	20560	-24043	125,8	-65,2
Net profit	551	-44	-1409	-595	-1365	-108	3102,3
Current liabilities	3461	6128,5	7685,5	2667,5	1557	77,1	25,4

Source: developed by the author on the basis of financial statements.

We can observe a steady tendency of increasing the volume of current liabilities. At the same time, in 2017, the company reduced the volume of assets and received a loss of 1409 thousand by the results of the year.

Analysis of the sources of assets of the enterprise is carried out according to the balance sheet. The structure of sources of property financing LLC «Antikor plus» can be seen in Fig. 2.7.



*Fig. 2.7. The capital structure of LLC «Antikor plus» 2014-2017 years, %*

Source: Developed by the author on the basis of financial statements.

Consequently, the assets of the enterprise are formed mainly from borrowed capital, namely, current liabilities and collateral, the amount of which depends, first of all, on the volume of activity of the enterprise, and, accordingly, on the volume of materials necessary for it. During 2014-2016, the share of borrowed funds varied within 40-65%, however, in the beginning of 2017, the liabilities structure reflects a critical imbalance, since the share of borrowed funds in the liabilities of the balance increased by 37.25% and was critical at 96.88%, then as equity of only 3.12%.

This was due to a simultaneous reduction in the amount of equity and an increase in current liabilities: 1) in 2016 year, the shareholders' meeting decided to reduce the authorized capital and state registration of changes to the charter. The amount of registered capital decreased by 89.9%; 2) the amount of current liabilities and provisions increased by 48.5%. Such a structure of capital is extremely negative characterizes the financial condition of the enterprise, its financial stability.

As the result of 2017 year, the company received a loss of 1409 thousand UAH, the amount of equity capital has become negative.

That is, the activities of the company at the moment are funded mainly from borrowed funds from various sources. Their structure can be considered in the table 2.7.



Table 2.7

**The composition of the current liabilities of the enterprise «Antikor plus»  
for 2014-2017 years, ths UAH**

Indexes	At the beginning of the year					The pace of growth			
	2014	2015	2016	2017	2018	2015	2016	2017	2018
Current payables for:	-	-	-	-	-	-	-	-	-
products, goods, works, services	2387	552	4316	2613	2916	-76,9	681,9	-39,5	11,6
settlements with the budget	273	40	116	289	300	-85,3	190,0	149,1	3,8
including income tax	133	-	114	98	-	-	-	-14,0	-
settlement for insurance	45	20	7	28	-	-55,6	-65,0	300,0	-
settlement for payroll	121	12	49	81	-	-90,1	308,3	65,3	-
Current payables to settlements with participants	775	-	-	-	-	-	-	-	-
Current payables from internal settlements	-	790	18	2153	323	-	-97,7	11861	-85,0
Other current liabilities	374	577	425	2162	4506	54,3	-26,3	408,7	108,4
Total current liabilities	3975	1991	4931	7326	8045	-49,9	147,7	48,6	9,8

Source: developed by the author on the basis of financial statements

During the period under investigation, the amount of current liabilities increased steadily, with the exception of the beginning of 2015. The growth rate of current liabilities in 2016 amounted to almost 50%, which is an indicator of a massive increase in borrowed funds, which, in the end, was rather unbalanced by the capital structure of the enterprise. This increase was mainly due to the increase in current payables for goods, work and services and other current liabilities.

However, it is impossible to follow the precise dynamics of the share of payables for goods, work and services; it depends on the volume of activity of the enterprise and on the quantity of goods purchased from the suppliers of inventory. Some of it is currently overdue.

Another current debt is a reverse financial aid from the side and its volume is also constantly changing, however, at the beginning of 2017 it amounted to 2162 thousand, which is 408.7% more than the same indicator of the previous year. Also, at the beginning of 2017, the share of internal payment arrears increased by 30%, which is an internal debt for the payment of business trips.

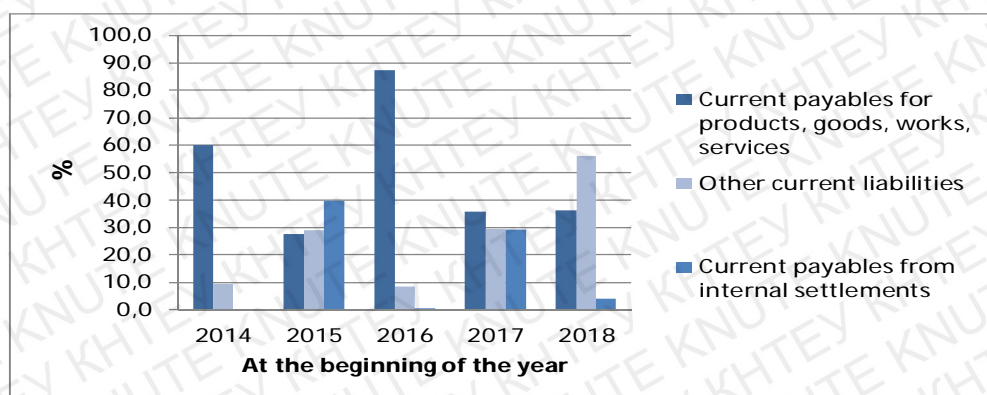
Table 2.8

**The structure of the current liabilities of the enterprise «Antikor plus»  
for 2014-2017 years, %**

Indexes	At the beginning of the year					Deviations in the structure, %			
	2014	2015	2016	2017	2018	2015	2016	2017	2018
Current payables for:	-	-	-	-	-	-	-	-	-
products, goods, works, services	60,1	27,7	87,5	35,7	36,2	-32,3	59,8	-51,9	0,6
settlements with the budget	6,9	2,0	2,4	3,9	3,7	-4,9	0,3	1,6	-0,2
including income tax	3,3	-	2,3	1,3	-	-	-	-1,0	-
settlement for insurance	1,1	1,0	0,1	0,4	-	-0,1	-0,9	0,2	-
settlement for payroll	3,0	0,6	1,0	1,1	-	-2,4	0,4	0,1	-
Current payables to settlements with participants	19,5	-	-	-	-	-	-	-	-
Current payables from internal settlements	-	39,7	0,4	29,4	4,0	-	-39,3	29,0	-25,4
Other current liabilities	9,4	29,0	8,6	29,5	56,0	19,6	-20,4	20,9	26,5
Total current liabilities	100	100	100	100	100	-	-	-	-

Source: developed by the author on the basis of [46].

Also, the company has a payable for settlement with the budget, which goes from month to month, settlement for insurance and payroll. The structure of the current liabilities of the enterprise is presented in figure 2.9.



*Fig.2.9 Specific gravity of main articles of current liabilities*

Source: developed by the author on the basis of financial statements.

Consequently, during 2014-2015, the financing of the enterprise was carried out to a greater extent at the expense of borrowed capital, which in different years ranged from 40% to 65%, while the amount of equity capital was constantly increasing. However, in 2016, the situation changed considerably as a result of obtaining losses from the company and a resolution of shareholders' meeting reducing the registered capital by 2500 thousand UAH. At the beginning of 2018, the share of equity is generally negative. Such data indicate a very negative financial situation of the company, which affects its solvency and continued functioning.

### **2.3. Assessment of the main indicators of the enterprise's solvency**

There is a fairly significant number of indicators to assess solvency. This can be explained by the fact that this is an important category for the effective operation of the company, and its in-depth analysis is the key to a stable business.

Consequently, the first stage of the analysis is a qualitative assessment of the solvency of the company, which involves conducting a liquidity analysis of the balance sheet.

The task of assessing the liquidity of the balance sheet is to determine the amount of the liability of the enterprise with assets, the term of transformation of which in cash corresponds to the maturity of obligations.



Tables 2.9 and 2.10 show the groups of assets and liabilities necessary for analyzing the liquidity of the balance sheet.

*Table 2.9*

**Classification of assets of LLC «Antikor plus» according to the level of liquidity during 2014-2017 years, ths UAH**

Assets	At the beginning of the year				
	2014	2015	2016	2017	2018
A1 - The most liquid assets	246	2	2248	53	892
A2 – High liquidity assets	3147	2642	1713	3833	2311
A3 – Low liquidity assets	1792	1495	3768	2854	2975
A4 – Assets that are difficult to realize	823	626	540	821	694

Source: developed by the author on the basis of financial statements.

Having grouped the assets of LLC «Antikor plus» according to the level of liquidity, they should be compared with the liabilities of the enterprise, having grouped them before the level of urgency of repayment.

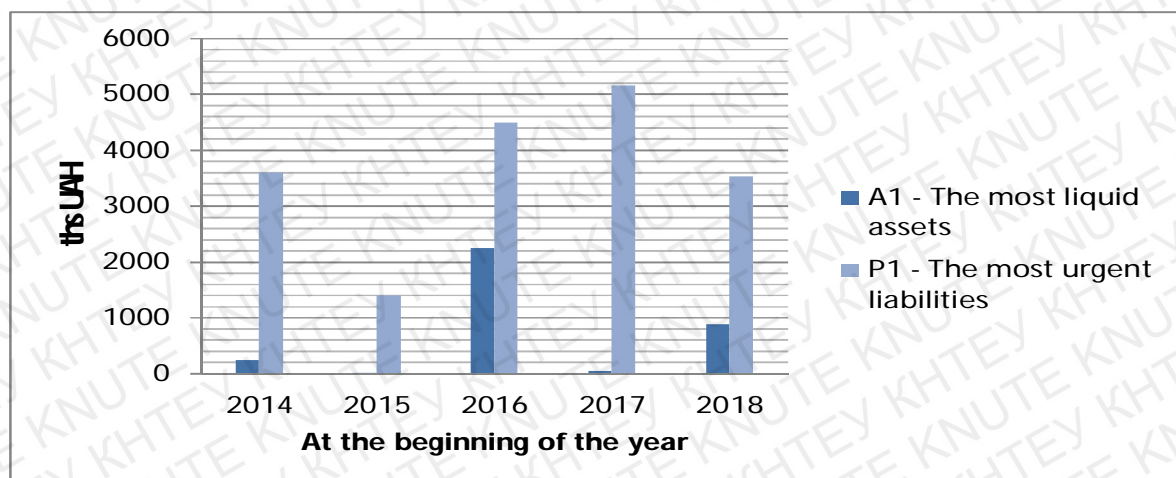
*Table 2.10*

**Classification of liabilities of LLC «Antikor plus» according to the urgency of payments during 2014-2017 years, ths. UAH**

Assets	At the beginning of the year				
	2014	2015	2016	2017	2018
P1 – The most urgent liabilities	3601	1414	4506	5164	3539
P2 - Short-term liabilities	374	577	425	2162	4506
P3 – Long-term liabilities	0	0	0	0	0
P4 - Permanent liabilities	2033	2774	3338	236	-1173

Source: developed by the author on the basis of financial statements.

Comparison of the assets of the first group with the liabilities of the first group is depicted in Fig. 2.10.



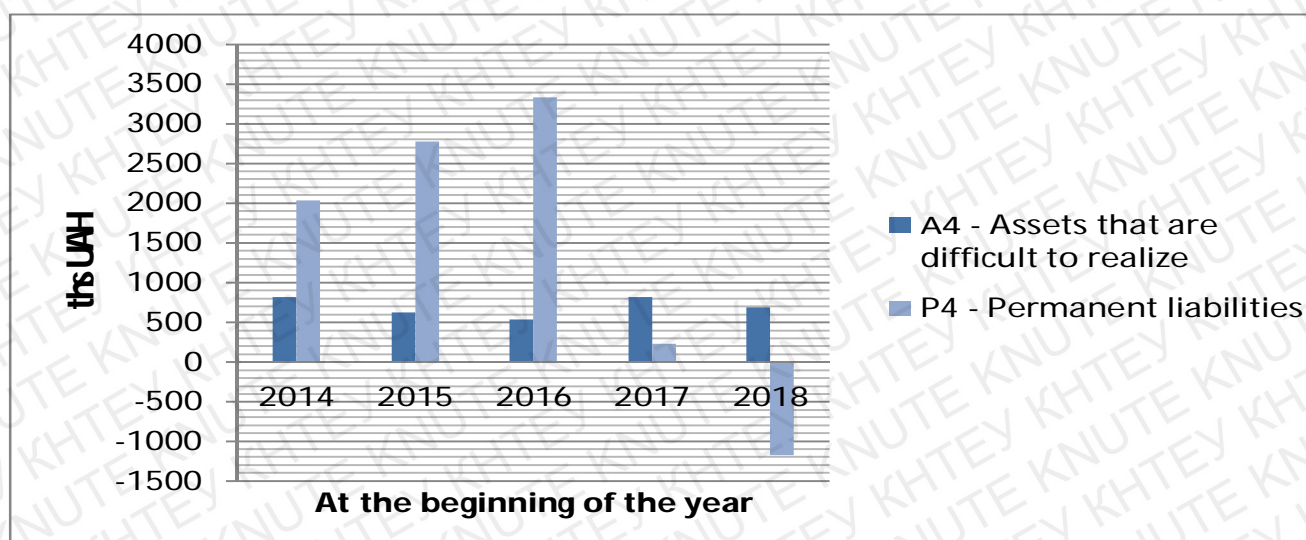
*Fig. 2.10 Comparison of the most liquid assets of LLC «Antikor plus» with the most urgent obligations*

Source: developed by the author on the basis of financial statements.

The inequality  $A1 \leq P1$  shows that the liquidity of the balance deviates to an absolute degree from absolute. The enterprise, if necessary, could repay liabilities on current and short-term liabilities, having realized assets A2. That is, the company most liquid assets (cash) were sent to repay the most urgent obligations.

A shortage of funds in one group of assets may be offset by surpluses on the other, but in practice less liquid assets can not replace more liquid ones, and this creates a rather big problem for solvency of an enterprise.

We compare the assets that are difficult to implement with constant liabilities (Fig. 2.11).



*Fig. 2.11 Comparison of the less liquid assets of LLC «Antikor plus» with the less urgent obligations*

The fulfillment of the latter condition ( $A4 \leq \Pi4$ ) indicates the adequacy of the company's own funds (equity), but in early 2018 this condition is not fulfilled, which confirms the fact of a critical imbalance in the proportions between its own and borrowed funds of the enterprise.

So, comparing the results of groups of assets and liabilities, we can deduce the following inequality:

- 1) for the balance of 2014, 2015 and 2016:  $A1 \leq P1$ ;  $A2 \geq P2$ ;  $A3 \geq P3$ ;  $A4 \leq P4$ ;
- 2) for the balance sheet of 2017 and 2018:  $A1 \leq P1$ ;  $A2 \geq P2$ ;  $A3 \geq P3$ ;  $A4 \geq P4$ .

Consequently, according to the results of the liquidity of the balance, it can be said that on 01.01.2018, LLC «Antikor plus» has significant financial problems, as the company is unable to pay its own resources in time in accordance with existing obligations.

Maintaining the liquidity of the balance is the basis for ensuring liquidity and solvency of the enterprise, since only in such a case the maturity of the obligations corresponds to the terms of receipt of funds from their execution.

The next stage of the analysis is the calculation of the solvency ratios of the enterprise. For a more detailed study of the solvency of LLC «Antikor plus», we will calculate the dynamics of the solvency indicators of the enterprise, which are presented in Table 2.11.

*Table 2.11*

**Dynamics of static coefficients of solvency of the enterprise during 2014-2017 years**

Indicators	At the beginning of the year					Normative value
	2014	2015	2016	2017	2018	
Absolute solvency ratio	0,06	0,001	0,46	0,007	0,002	0,2-0,35
Quick liquidity ratio	0,85	0,56	0,8	0,53	0,40	0,6-0,8
Coverage ratio	1,3	2,08	1,57	0,92	0,77	More than 1

Source: developed by the author on the basis of financial statements.

The static solvency indicators of LLC «Antikor plus», for the most part, do not correspond to certain industry norms.



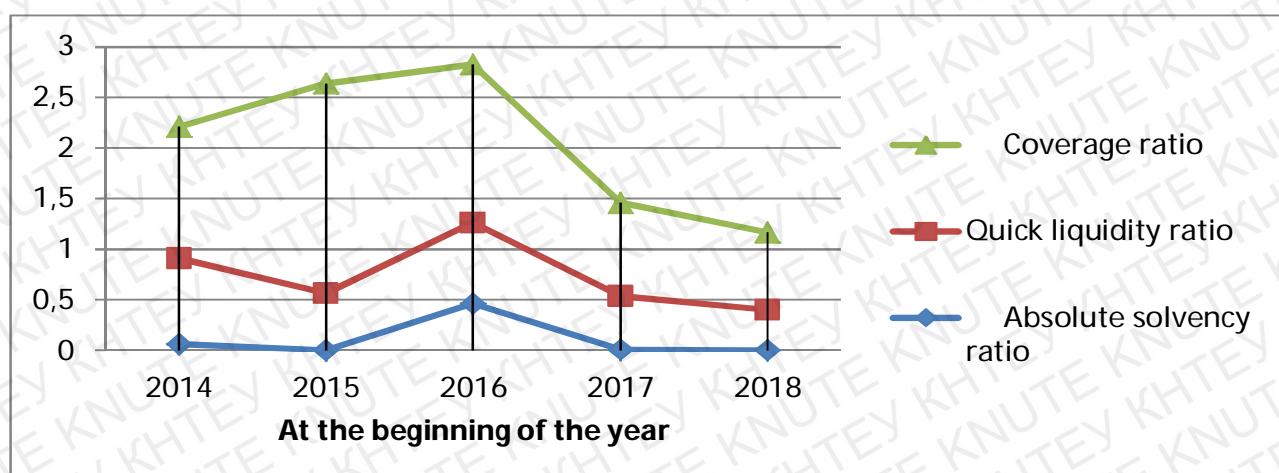


Fig.2.12 Dynamics of static solvency ratios of LLC «Antikor plus»

Source: developed by the author on the basis of financial statements.

The coefficients of absolute solvency of the enterprise show significant deviations from the normative values, especially the critical deviation is in 2017 and 2018. That is, it shows that the company does not have enough cash to immediately repay its current debt.

The intermediate solvency ratio does not quite match the required value, except for 2016. The enterprise does not have satisfactory payment possibilities for paying current liabilities due to rapidly expanding assets. However, deviations are not critical, and for efficient management of accounts receivable, this can be significantly improved.

In 2014-2016, the overall coverage ratio described the company's solvency as positive, but in 2017 its decrease was 0.65 and in general it was 0.92. This result shows that the company can not pay current liabilities even at the expense of current assets and indicates very poor solvency.

Consider table 2.12, which shows other solvency indicators.

Table 2.12

**Dynamics of net working capital maintenance during 2014-2017 years**

Indicators	At the beginning of the year					Normative value
	2014	2015	2016	2017	2018	
Net working capital, ths. UAH	1210	2148	2798	-585	-1867	>0
Coefficient of maintenance of own working capital	0,23	0,52	0,36	-0,09	-0,27	0,1 and more

Source: developed by the author on the basis of financial statements.

A similar situation with the indicator of net working capital, which grew until 2017, that is, the volume of current assets financed by equity increased. At the beginning of 2018, the company does not have its own current assets, as well as all non-current assets are financed by borrowed funds.

The coefficient of maintenance of own working capital shows the degree of coverage of current liabilities by their current assets (Fig. 2.13). Similarly to the previous indicator in 2018, this ratio decreased to a negative value of -0.27, which is a negative phenomenon, a sign of loss of solvency and the risk of bankruptcy.

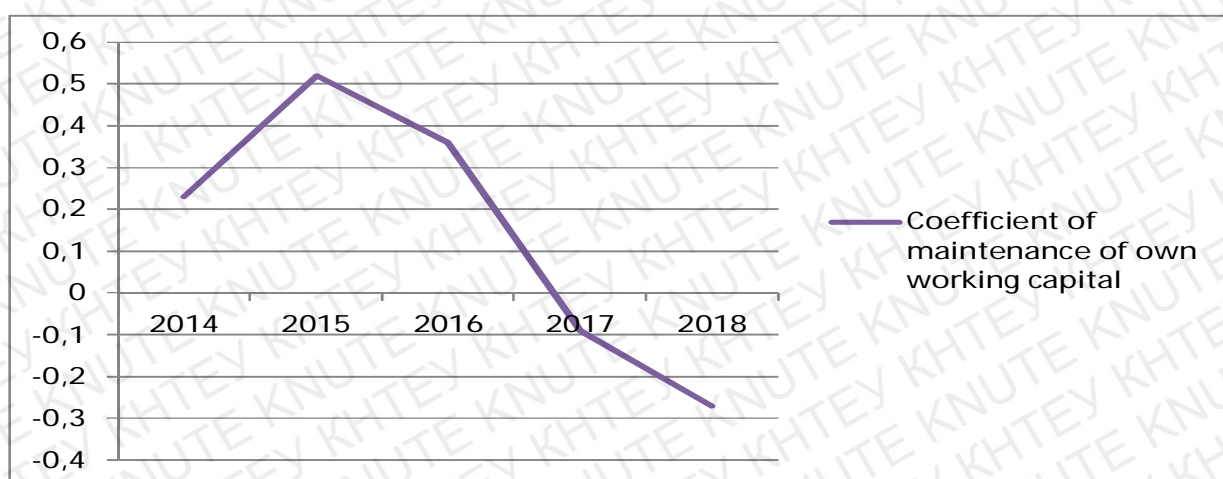


Fig.2.13 Dynamics of coefficient of maintenance of own working capital

Source: developed by the author on the basis of financial statements.

The next step of solvency assesment is the analysis of the ratio between receivables and payables (table 2.13).

Table 2.13

**The dynamics of the ratio coefficients between receivables and payables of LLC «Antikor plus» for 2014-2017 years**

Indicators	At the beginning of the year				
	2014	2015	2016	2017	2018
The ratio of current receivables and payables	0,87	1,87	0,38	0,74	0,65
The ratio of current receivables and payables to commercial calculations	1,22	4,67	0,32	1,18	0,52

Source: developed by the author on the basis of financial statements.



Consequently, according to the table, it can be concluded that the company does not implement a clear policy on the ratio of receivables and payables. Excess of receivables over payables in 2015 means diverting funds from business turnover and in the future may lead to the need of attractiveness expensive loans and loans to secure the current production and economic activities of the enterprise. However, a significant excess of accounts payable over the receivables in 2016-2018 poses a threat to the financial sustainability of the enterprise.

To deepen the solvency analysis of the enterprise, we should analyze the indicators of liquidity of the current assets and the quality of the payables of LLC «Antikor plus».

*Table 2.14*

**Dynamics of current assets and payables turnover LLC «Antikor plus» for 2014-2017 years, in days**

Indicators	2014 year	2015 year	2016 year	2017 year	Absolute deviation		
					2015 year	2016 year	2017 year
Turnover of inventory	271	66	33	29	-205	-33	-4
Turnover of accounts receivable	481	48	28	31	-433	-20	3
Turnover of accounts payable	348	99	48	39	-249	-51	-9
Duration of the operating cycle	752	114	61	60	-638	-53	-1
Duration of the financial cycle	404	15	13	10	-389	-2	-3

Source: developed by the author on the basis of financial statements.

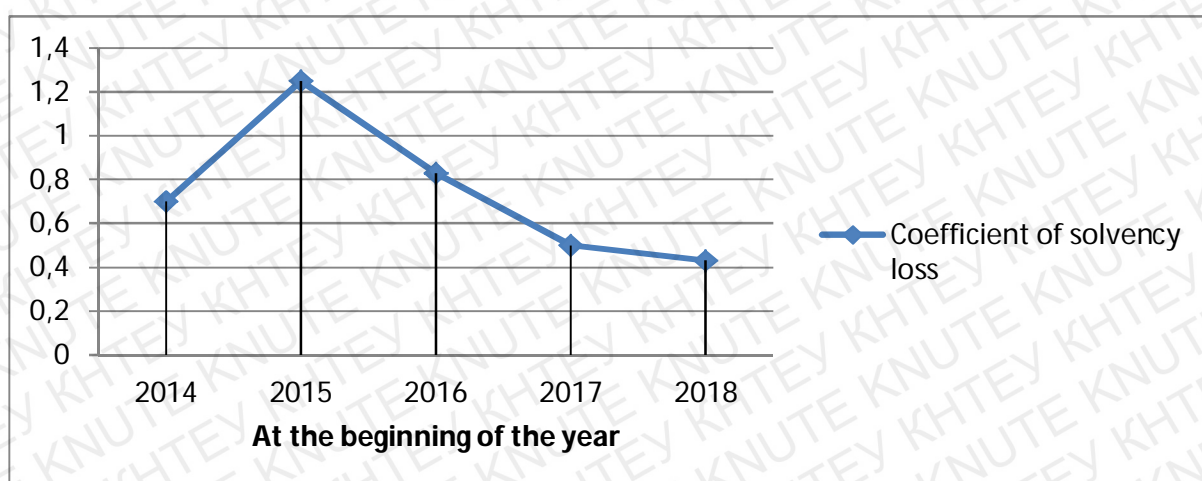
The period of the operating cycle, that is, the conversion of the purchased goods into the money in the company in 2016 was decreased by 53 days. It indicates an



increase in the business activity of the enterprise and a more effective management of accounts receivable compared with previous year.

The period of the financial cycle of LLC «Antikor plus» (cash turnover period) in 2016 was decreased compared to 2015 for 2 days, which is also a positive trend.

For the analysis of the dynamic solvency of an enterprise, first of all, we should determine the immediate prospect of changing the level of solvency through the coefficient of solvency loss (fig. 2.14).



*Fig. 2.14 Dynamics of the coefficient of solvency loss during 2014-2017 years*

Source: developed by the author on the basis of financial statements.

As only in the beginning of 2015, the rate of loss of solvency exceeded 1, this indicates that in the coming years there is a real possibility of solvency loss. Particularly critical, this indicator reached at the beginning of 2017 and 2018 at 0,5 and 0,43.

Based on the analysis of the «Antikor Plus» cash flow balances, presented in Table 2.14, it can be argued that the company's operating costs prevail over its revenues, in particular in 2016. This violates the financial stability of the enterprise, in particular the ability to pay out current payments, and in the long run, has a negative impact on the company's business and development prospects.

A healthy company must form a positive net cash flow, especially from operating activities, and increase its volume. If an enterprise can not generate a positive net cash flow, it will need to rely on external sources of funding.

Table 2.15

**Dynamics of indicators of balance of cash flows LLC «Antikor plus» for  
2014-2016 years**

Indicators	2014 year	2015 year	2016 year	2017 year	Absolute deviation		
					2015 year	2016 year	2017 year
Net cash flow	-244	2246	-2195	839	2490	-4441	3034
Sufficient ratio of net cash flow on the position of financed needs	-0,19	0,99	2,4	3,4	1,18	1,41	1
Coefficient of net cash flow quality	-1,22	0,3	-0,05	-1,46	1,52	-0,35	-1,41

Source: developed by the author on the basis of financial statements.

According to Table 2.16, the company does not even provide the minimum liquidity of the cash flow in 2016.

Table 2.16

**Dynamics of cash flow liquidity indicator of LLC «Antikor plus»  
for 2014-2017 years**

Indicators	2014 year	2015 year	2016 year	2017 year	Absolute deviation		
					2015 year	2016 year	2017 year
Incoming cash flow	5946	19855	43373	20358	233,92	118,45	- 23015
Outgoing cash flow	6190	17609	47852	19519	184,47	171,75	- 28333
Coefficient of cash flow liquidity	0,96	1,13	0,91	1,04	17,38	-19,61	0,13

Source: developed by the author on the basis of financial statements.

Based on analysis, we can assert that the solvency of LLC «Antikor plus» is falling rapidly with each period. This is evidenced by the all solvency coefficients and indicators, which have significant deviations from the adopted normative values. Such a sharp deterioration in the solvency of LLC «Antikor Plus» threatens the bankruptcy of the enterprise or the deterioration of its performance (inhibition or cessation of development).

### **CHAPTER III**

## **THE MAIN DIRECTION OF IMPROVEMENT LLC «ANTIKOR PLUS»**

### **SOLVENCY MANAGEMENT**

#### **3.1 Creation the proposals of improvement the informational and organizational base**

For effective business management should receive complete and detailed information about the financial condition. The growth of information needs of managers to a certain extent led to a delineation of accounting and other information systems in the enterprise management system.

At the moment LLC «Antikor plus» conducts quarterly and annual reports according to the National accounting standards, which include profit and loss statement, balance sheet and cash flow statement. But in terms of solvency management this information is not enough.

The company is in a state of crisis, and therefore its managers should have detailed information about the all aspects that have an impact on the financial sustainability of the enterprise. In the process of managing solvency of the company, the main areas are the management of accounts receivable, inventory management, management of accounts payable, management of the cost of production. For effective management we recommend extending the list of financial statements for the period of the company's exit from the crisis. In the future, managers should evaluate the results of such reports with the cost of them.

Consequently, we propose to expand the information base by adding the following reports:

1. Procurement performance and inventories report. It should contain information about the expenses for the purchase of raw materials, as well as other commodities, in terms of segments of activity; remains of inventories in terms of major groups (raw materials, work in progress, finished goods). Responsible for the preparation of this report is the supply department with the affiliation of the financial department. This report is recommended to be conducted on a monthly basis.



2. Report on the implementation of the budget of the sales cost - this report should contain information about the cost of sales of products, types of products and cost elements. An enterprise will be able to control the level of cost, for which its activities will be profitable, to analyze the main components of cost and to optimize this components. Financial department is responsible for preparing of this report with the support of technical department.

3. Accounts receivable report is a consolidated document that provides information at any time on transactions with deferred payments and overdue debts. Accounts receivable report should be prepared by employees of the financial department, with a frequency of one month, on the basis of accounts receivable.

The standard receivables report should include the following information:

- 1) information about the product or the buyer;
- 2) dates of repayment of receivables, grouped as follows:
  - 0-30 days;
  - 31-60 days;
  - 61-90 days;
  - 91-180 days;
  - 181 day - 1 year;
  - more than 1 year.
- 3) the percentage of each of the above categories to the total amount of receivables;
- 4) problems with collection of accounts receivable (if any).

An example of such a report is presented in table 3.1.

*Table 3.1*

**An example of accounts receivable report**

Debitors	The amount of accounts receivables, ths UAH	Date of debt repayment	The share of total debt, %	Notes
LLC "LADA group", including:	212,08	-	31%	-
Contract № 320 from 13.08.18	138,08	13.11 18 (90 days from the shipment)	20%	20.08.18- prepayment of 30%; 01.01.18 - paid the whole sum.

*Continuation of the table 3.1*

Contract № 416 from 02.11.18	74,00	17.11.18 (15 days from the shipment)	11%	-
...	...	...	69%	...
Total	685 506,70			

Source: developed by the author.

Reports of overdue receivables should be drawn up separately to attract special attention of the managers.

Accounts receivable reports can be used by:

- the financial department managers, in coordination with the sales department managers, to track the process of obtaining deferred income and respond quickly to the problem that has emerged, planning for debt collection and compliance with the company's current lending policy;

- legal department for actions on collection of overdue payments;
- accounting or finance department for planning and tracking cash receipts;
- top management for the analysis and control of the policy of sales with deferred payments, for analyzing the dynamics of production, sales and purchases and their correction, as necessary, facilitating control and comparing the information received with the data provided by the accounting department, facilitating the process of planning cash flow.

4. Accounts payable report is a consolidated document summarizing information at any time on purchases on terms of deferred payment and overdue debts. Accounts payable reports should be prepared by employees of the financial department, with a frequency of one month, based on accounts payable.

The standard receivables report should include the following information:

- 1) information about the materials or the suppliers;
- 2) dates of repayment of payables, grouped as follows:
  - 0-30 days;
  - 31-60 days;
  - 61-90 days;

- 91-180 days;
- 181 day - 1 year;
- more than 1 year.

3) the percentage of each of the above categories to the total amount of payables;

4) problems with payment of accounts payable (if any).

Information in the statement of accounts payable can be grouped by suppliers, purchased materials or accessories, etc.

*Table 3.2*

### **An example of accounts payable report**

Creditors	The amount of accounts payable, ths UAH	Date of debt repayment	The share of total debt, %	Notes
LLC "Sika", including:	212,08	-	31%	-
Contract № 2345 from 10.10.18	138,08	10.12.18 (60 days from the moment of shipment)	20%	10.10.18 - prepayment of 30%
Contract № 2567 from 02.11.18	74,00	17.11.18 (15 days from the moment of shipment)	11%	-
...	...	...	69%	...
Total	685 506,70			

Source: developed by the author.

Accounts payable reports can be used by:

- the finance department managers, in coordination with the supply department managers, to monitor the debt repayment process with a condition of deferred payment and rapid response to accidents, aging of payables, and compliance with current company credit policies;
- accounting or financial department for planning and tracking outflows of money;
- top management for the analysis and monitoring of the policy of the company for the purchase of deferred payments, to analyze the dynamics of production, sales and



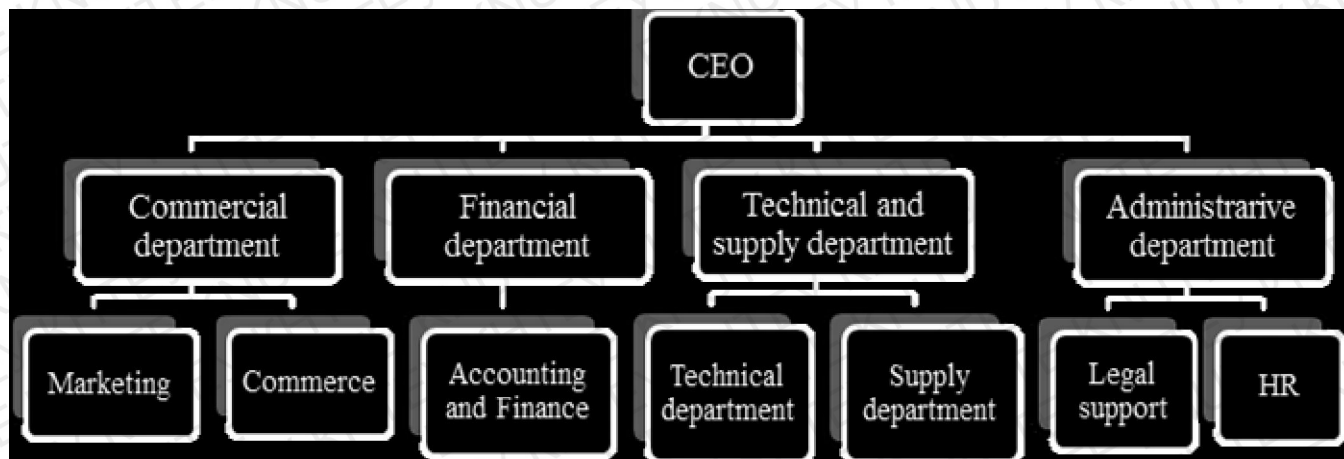
purchases and to correct them, if necessary, to facilitate the control and comparison of information with the data provided by the accounting department and the planning process.

An analysis of the calculations with business partners, with the budget and extrabudgetary funds, as well as with employees, is one of the most important conditions for a clear management of the company. With information provided in the receivables and payables reports, managers can:

1. Monitor the dynamics of production, sales and purchases.
2. Have a clear idea of the state of the company's calculations. This is always important because it allows to quickly navigate in the event of an emergency.
3. Plan income and expenses.
4. Assess their clients - it will prevent overdue accounts receivable. Analyzing the dynamics of the emergence and repayment of indebtedness over a fairly long period of time, financier can determine which of the partners pays well, and who does not fulfill the obligations assumed on time. These reports allow to rank customers by their degree of solvency. This will allow depending on the customer's reliability to set the main terms of supply of products (price, term of payment etc.).
5. Analyze the results of delays in payments. If payment delays are practiced, the receivables report will monitor the effectiveness of such policies.
6. Take measures on collection of overdue debts in a timely manner.
7. Regulate their relationship with suppliers.

It is important that the effectiveness of an industrial enterprise depends primarily on its management system, the perfection of which is determined by many factors, among which we can distinguish the following: the form of the organizational structure of the enterprise and its compliance with the conditions of functioning and production specificity, the level of coordination of the management system and the degree of consistency of the goals of individual management units with each other, optimality of staffing by quantity and professional requirements, employee interest in the results of tollgates of the level of organizational culture.

Properly constructed organizational structure allows managers to be unloaded from solving problems that do not require their attention. The activity becomes such that management decisions are made more effectively, the results of this activity become more controlled, that is, balancing decentralization and controllability. The organizational structure proposed by us is presented in figure 3.1.



*Fig. 3.1 Organizational structure of LLC «Antikor plus»*

Source: developed by the author.

The proposed organizational structure allows the construction company to co-operate with the external environment, productively and expediently distribute and direct the efforts of its half-employees and thus meet the needs of clients and achieve their goals with high efficiency.

We also propose to consider the financial structure of the company in order to determine the obligations and assess the impact of each unit on enterprise solvency.



*Fig. 3.2 Financial structure of LLC «Antikor plus»*

Source: developed by the author.

The financial department is responsible for analyzing and monitoring the financial condition of the enterprise, its financial stability and solvency. Employees of the financial department develop the necessary financial indicators, their normative values for the enterprise, as well as plan and forecast the activities of the enterprise, carry out crisis management and risk management. The financial department is directly responsible for the state of solvency of the enterprise, because it must determine and maintain the optimal structure of capital, in which the company can be successful.

The accounting department is responsible for ensuring the proper accounting and financial reporting of the enterprise, taking into account the peculiarities of the activity and processing of the credentials. The accounting department is responsible for operational solvency, that is, for timely payments with suppliers, budget, employees, creation of invoices.

The technical department is responsible for the direct execution of works, and therefore for their quality. The managers of the technical department are in charge of the current and perspective planning of the technical development of the enterprise, its production base, participate in the development and implementation of resource-saving technologies, progressive norms in the consumption of fuel, electricity, materials and raw materials, the introduction of best practices and the latest technologies in the enterprise, plans for conducting repair works, reconstruction and modernization. Quality service rises the company's revenues, and therefore positively affects its ability to pay.

The main task of the supply department is to provide the company with all the necessary resources for its production activities with the material resources of the required quality and their rational use. The department manages the development of long-term projects and current plans for material and technical support of production programs, maintenance and operational needs of the enterprise, as well as the creation of necessary production resources on the basis of identified needs in material resources (raw materials, semifinished products, equipment, component parts, fuel, energy, etc.). This department studies operational marketing information and promotional materials and makes purchases of material and technical resources, as well as ensures their delivery in accordance with the contractual conditions, controls the quantity, quality and



storage in the warehouses of the enterprise, compliance with the limits for the release of material resources and their costs in the divisions of the enterprise for direct appointment. Supply department is responsible for inventory management. Optimal stock management reduces production costs, and therefore increases profit of enterprise and increases its solvency.

The marketing department is responsible for analysis of market, market trends and competitors. Employees of the marketing department are developing a strategy for promoting the enterprise in a competitive environment. The marketing department affects the growth of provided services.

The proposed organizational structure provides the opportunity for rational enterprise management in the context of all aspects of its activities. Only the right combination of centralized and decentralized management leads to an increase in the efficiency of each unit, and therefore the work of the enterprise as a whole.

Consequently, for effective management of a construction company, its units should have the freedom to make decisions and should be responsible for the decisions made. To make effective management decisions, company managers must be provided with the necessary information. We propose to expand the current financial statements of enterprise, adding to them reports on receivables and payables, costs of sales and inventories.

### **3.2 Substantiation the economical ways of the enterprise solvency strengthening**

LLC «Antikor plus» is an enterprise of the construction industry of Ukraine, but this industry is experiencing a crisis today. Small construction companies become a bankrupt or significantly reduce their activity. Analyzing financial statements, we can assert that the investigated company is also in a state of crisis. Studying the causes of this condition in the context of a combination of external and internal factors, patterns and peculiarities will enable us to develop a qualitative and effective plan for the emergence of a crisis state. We should understand that the main goal of this plan will be

to achieve the profitability of the enterprise, because the possibilities of working capital optimization, reduction of capital investments, increase in deferral of payments and others sooner or later will be exhausted. And only a steady and sufficiently high level of profitability provides the company real opportunities to strengthen its financial standing and steady development.

The main factors that reduce the efficiency of enterprises in the construction industry of Ukraine include:

1. Decrease in volume of capital investments, outdated and worn technical equipment.
2. Reduction of demand for work with non-residential premises.
3. High material production capacity.
4. Inflation, a significant increase in prices for materials.
5. Lack of effective support from the state for the development of small Ukrainian construction companies.
6. Partial monopolization of market by large enterprises.

Almost all of this reasons we can belong to the investigated enterprise, while the lack of enterprise risk management and effective managerial decisions led to the fact that today the company is on the verge of bankruptcy. We should consider the reasons for such a situation in the enterprise.

Last two year LLC «Antikor plus» received losses from its performance, one of the main reasons for this was a high proportion of the cost of goods in revenue from sales.

The dynamic of this ratio is reflected in table 3.3.

*Table 3.3*

**Dynamics of cost price level LLC «Antikor plus» for 2014-2017 years**

Indicators	2014 year	2015 year	2016 year	2017 year	Absolute deviation		
					2015 year	2016 year	2017 year
Cost price level, %	99	87,9	98,9	97,5	-11,1	11	-1,4
Net profit, ths UAH	-732	551	-44	-1409	1283	-595	-1365

Source: developed by the author on the basis of financial statements.

Consequently, we can see that the cost of the enterprise activities is almost equal to the income from this activities. Of course, under such conditions there is no possibility of any profit. Only in 2015, when the cost of production was by 10% lower than the average, the company received a profit.

In a generalized form, the cost of production reflects all aspects of the economic activity of the enterprise, its achievements and disadvantages. The level of cost associated with the volume and quality of products, the use of working time, raw materials, materials, equipment, the wage fund, etc. The systematic reduction of the cost of industrial products - one of the main conditions for improving the efficiency of industrial production. It has a direct impact on the amount of profit, the level of profitability. Therefore, the formation of the costs of production and rotation, their accounting are important for the business activities of organizations.

In a crisis, cost reduction is one of the most effective tools that an enterprise can use to stabilize its financial situation. To reduce costs in a crisis, company need to save costs, motivate staff to reduce costs and reduce costs that are not related to the company's core business.

At this stage it is necessary to pay attention to the rational management of available financial resources, in particular, to determine the optimal amount of inventories, management of accounts receivable, coordination of production and sales plans, ensuring uninterrupted operation of the enterprise, etc. That is, the way out of a difficult situation and increase of efficiency of activity requires the development and implementation of a complex of measures.

1. In order to reduce the cost of production, it is proposed to introduce inventory management of the enterprise, which should optimize inventories of materials, work in progress and finished products. The optimization of inventories level should affect the redistribution of working capital of the enterprise, which is expected to increase the amount of liquid cash and reduce the amount of illiquid inventories.

Efficient inventory management allows to:

- reduce production losses due to shortage of raw materials and materials;
- accelerate the turnover of this category of current assets;



- minimize the excess of materials, which increase the cost of operations;
- reduce the risk of aging and damage to goods;
- reduce the cost of storing materials.

We propose to solve the problem of inventory planning, using the basic concept of organizing purchases: "for sale" (pull). When company use the system "for sale", the production program is formed depending on the size and structure of the target sales volume, which, in turn, determines the procurement budget. In this case, the company is focused on market demand and is guided by the dynamics of market share, elasticity of demand for price

The main components of the proposed inventory management policy and responsible departments for it are depicted in the form of a scheme (Figure 3.3).

Financial department	<ul style="list-style-type: none"> <li>• Research and planning of business activity trends.</li> <li>• Development and reconciliation of inventory budget.</li> <li>• Analysis of suppliers and their offers.</li> </ul>
Supply department	<ul style="list-style-type: none"> <li>• Determination the optimal size of the stock order.</li> <li>• Create a balanced assortment of inventories. For each group - individual approach.</li> </ul>
Technical department	<ul style="list-style-type: none"> <li>• Development of resource-saving technologies;</li> <li>• Determination of progressive norms for inventories using;</li> </ul>

*Fig. 3.3 Proposed measures for responsible departments to improve inventory management at the enterprise «Antikor plus»*

Source: developed by the author.

In 2017, the share of average commodity stocks was 22%, although in the previous year it was only 8%. This indicates a lack of inventory management policy, which in turn leads to increased costs. At the moment, it is worth to plan the stock size of 16% from the revenue, which was in 2015, when the company was profitable.

In the future, the company needs to manage inventories using EOQ and ABC models.

2. Analysis of the assets of the enterprise allowed to detect the negative phenomenon of increasing the receivables of the enterprise.

One of the main measures to increase the profitability of commodity receivables is the formation of appropriate parameters of their credit policy. Reviewing the conditions

of lending (the credit period, the credit limit, the system of price discounts for the implementation of urgent settlements, the system of penalties) in accordance with the type of credit policy, should lead to optimization of credit policy. It is worth defining the terms of overdue balances on accounts of debtors and comparing these terms with the average indicators in the industry, indicators of competitors and data of past years;

To accelerate the collection of receivables the following measures should be taken:

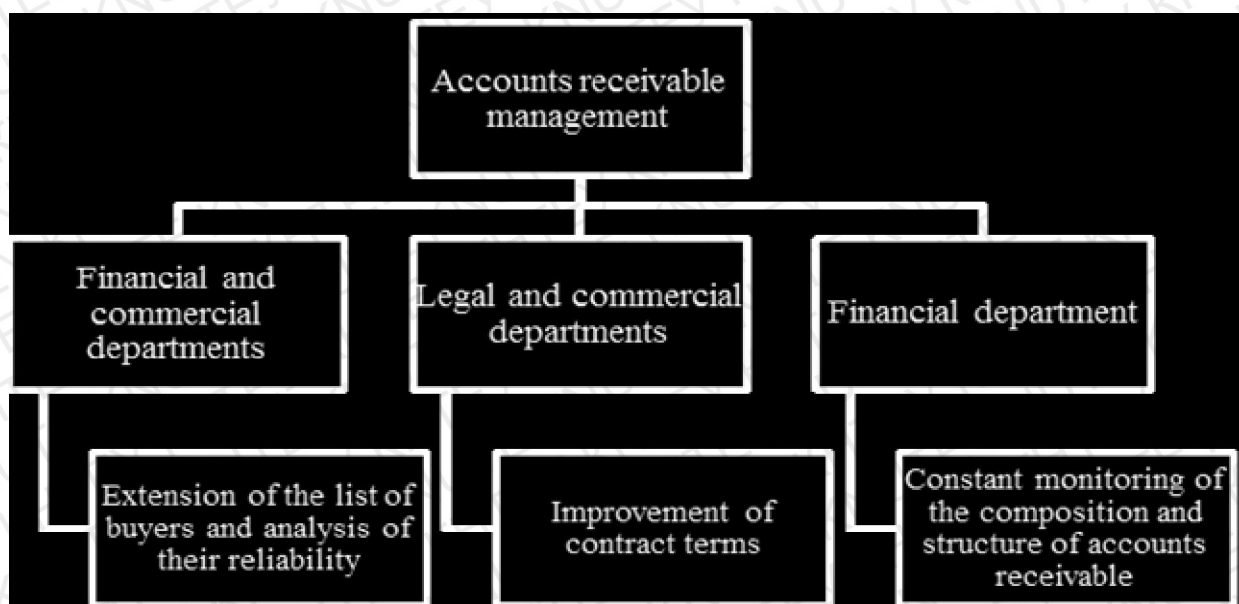
1. granting discounts to customers for reducing the maturity of debt to encourage them to pay the bills before the due date;
2. introduction of penalties for late payment;
3. registration of an agreement with buyers with a commercial bill with the receipt of a certain percentage for the delay of payment;
4. issuance of goods to customers on prepayment terms;
5. use of the factoring mechanism, etc.

In this case, it is necessary to compare the rate of the proposed discount for prepayment or a percentage increase for the delay in payment with the expected return on funds in the operating or investment activity of the enterprise.

The main condition for the effective implementation of the policy of the management of debtors is compliance with the limits of accounts receivable and the terms of its repayment. But if the first factor is within the competence of the manufacturer of the product, then the second often does not depend directly on him. The only way to ensure compliance with the terms of the contracts is to perform a preliminary analysis of each debtor. An important role in the management of receivables is the planning, organization and control of work with debtors

To reduce the amount of receivables of LLC «Antikor plus» it is necessary: to determine the degree of risk of non-payment of accounts by buyers; increase the number of buyers in order to minimize losses from non-payment by one or more buyers; control the ratio of accounts receivable and payables; to carry out operational control over the receipt of cash; to identify in a timely manner doubtful debts; to conduct pretentious work in cooperation with the legal service; provide payment documents in a timely manner; terminate the validity of contracts with buyers who violate the payment discipline.

The main measures in the management of accounts receivable are shown in the figure 3.4.



*Fig. 3.4 Proposed measures for responsible departments to improve receivable management at the enterprise «Antikor plus»*

Source: developed by the author.

3. The next step to improve the solvency of LLC «Antikor plus» is the management of cash in order to increase the company's urgent liquidity. In particular, it is proposed to increase the amount of cash by reducing receivables, inventories and balances of goods.

4. Conduct intensive and regular activities that ensure the timely sale of services. If an enterprise provides competitive services, but its marketing policy is non-aggressive and unsystematic, which leads to a loss in the rates of sales of goods and services and to disruptions in the circulation of funds, which ultimately leads to a loss of solvency.

5. Cash flow optimization. This is one of the important tasks of crisis management.

For this company need to:

1. Introduce a daily cash balance reconciliation procedure. This will eliminate possible abuses, will give managers reliable information about the current balance of funds necessary for making current payments.

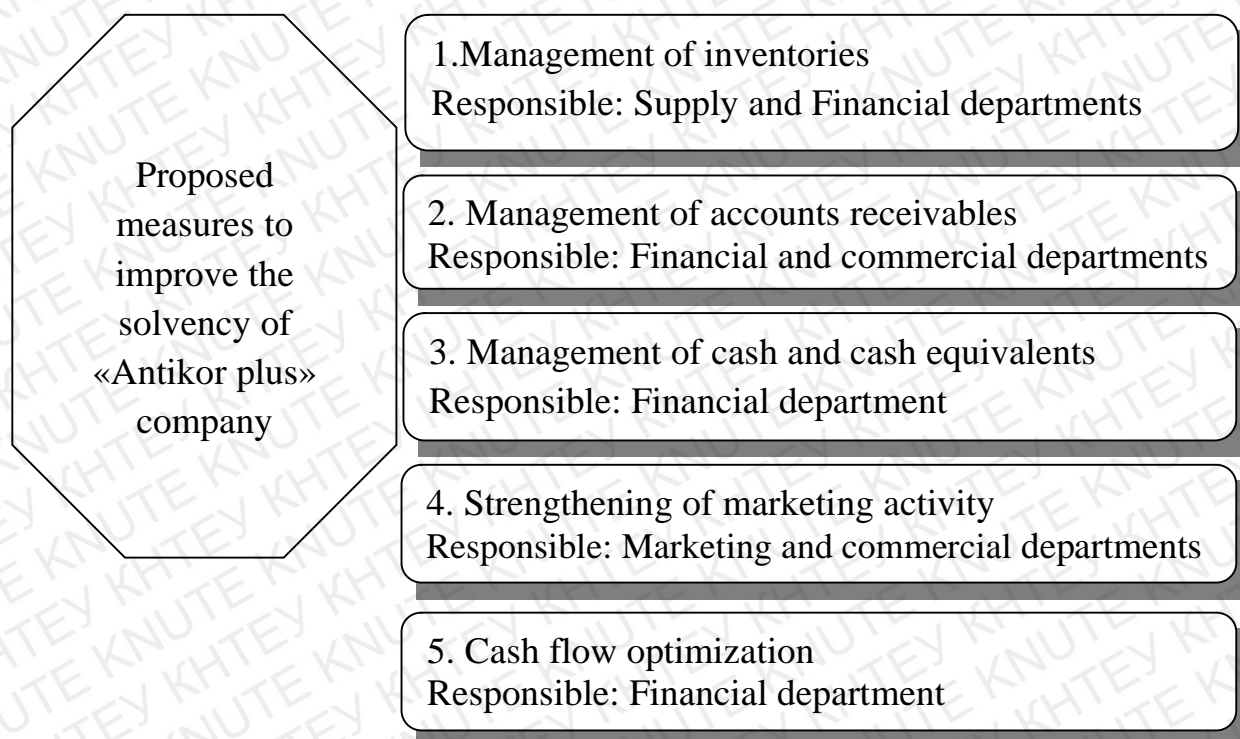
2. Create a register of current payments and prioritize.

3. Maintain a low balance on current accounts in various banks. If one of the company's accounts is frozen, it will be able to continue working using accounts at other banks. This will protect the company from such risks as bank failure or issuing a card file on accounts.



4. Consider the possibility of increasing non-operating income. For this, together with the engineering service, the possibility of selling part of unused equipment is analyzed.

So, the main steps to increase the solvency of the company «Antikor plus» are shown in the figure 3.5.



*Fig. 3.5 Proposed measures for responsible departments to improve the solvency of LLC «Antikor plus»*

Source: developed by the author.

So, the main reasons for reducing the company's solvency are loss-making activities, as well as an increase in current liabilities, financing of capital expenditures due to current liabilities, and a decrease in equity. Accordingly, the recommendations for improving the level of liquidity and solvency include, first of all, the achievement of profitability, which involves increased sales and reduced costs, the attraction of long-term loans to finance capital expenditures or the refusal of investment projects. Also important is the rational management of available financial resources, in particular the definition of optimal volumes of stocks, management of accounts receivable, coordination of production and sales plans, ensuring uninterrupted operation of the company, etc. That is, the way out of a difficult situation and increase of efficiency of activity requires the development and implementation of a complex of measures.

### 3.3 Creation the budget of the enterprise according to target solvency indicators

In order to determine the effectiveness of the proposed measures, it is necessary to plan the performance of the enterprise for 2018 in the context of three main financial statements: profit and loss statement, balance sheet, statement of cash flows.

This will enable us to assess the state of solvency of the company in the future and to prevent possible financial risks.

First of all, we need to elaborate the plan of profit and loss of LLC "Antikor plus". The dynamics of net sales revenue is presented in the table 3.4.

*Table 3.4*

#### **Dynamics of net revenue of LLC «Antikor plus» for 2013-2017 years**

Indicator	2013 year	2014 year	2015 year	2016 year	2017 year
Net revenue, ths UAH	15145	2186	16343	36903	12860

Source: developed by the author on the basis of financial statements.

So, analyzing the net revenue of enterprise, we can not distinguish the clear trend of its dynamic. Therefore, it is necessary to develop a plan of profit and loss based on different approaches, such as the growth rate of net revenues and the dependence of net revenues of the enterprise from GDP of Ukraine. Also, the need for sustainable crisis management of the enterprise necessitates multivariate substantiation of managerial actions, using the method of constructing scenarios, which most fully meets the modern conditions, when decision making is carried out under conditions of a high level of uncertainty. That is, each approach should be used in the context of optimistic, moderate and pessimistic forecasts.

We will calculate the net revenues from sales in 2018 in three scenarios.

Optimistic forecast:

We assume that the growth rate of net revenues in 2018 will be similar to the growth rate in 2017. This situation is possible due to the renewal of fixed assets, which was carried out in 2016, the availability of a large volume of production stocks, work in progress and goods at the beginning of 2018. Also company plans a significant increase in marketing activity and the search for new customers.

$$\text{Growth rate of NR} = \frac{(NR_{2016} - NR_{2015}) \times 100}{NR_{2015}} = \frac{(36903 - 16343) \times 100}{16343} = 125,8\%$$

Moderate forecast:

We assume that the net revenues in 2018 will be equal to the average annual net revenues during 2013-2017. The average net sales is 16687,4 UAH.

Pessimistic forecast:

We assume that due to the loss in 2017, the company will not be able to increase its activity; accordingly, the net revenue from sales will decrease. The growth rate of net revenues in 2018 will be similar to the growth rate in 2017.

$$\text{Growth rate of NR} = \frac{(NR_{2017} - NR_{2016}) \times 100}{NR_{2016}} = \frac{(12860 - 36903) \times 100}{12860} = -65,15\%$$

The cost of provided services will be determined by the level of cost of the last year, which is calculated as follows:

$$Lc = \frac{C}{NR} \quad (3.1)$$

where  $Lc$  – level of cost;

$C$  – cost of provided services;

$NR$  – net revenue.

The level of cost in 2017 will be a basis for the calculation of planned cost, but also we plan to decrease this level by 10% as a result of providing cost optimization in 2018.

$$Lc = \frac{12531}{12860} * 0,9 = 0,876$$

The enterprise does not plan to optimize administrative expenses in the near future, therefore we accept them as conditionally permanent and leave at the level of 2017 year, but we should adjust it by the possible inflation 10%.

Optimistic forecast:

We plan to increase the amount of other operating income to the level of 2016. This will be possible due to the availability of a large stock of goods that the company will be able to sell, as well as an increase in rental prices for the premises owned by enterprise.

Moderate forecast:



We assume that the other operating income in 2018 will be equal to the average annual income during 2013-2017. The average other operating income is 734,7 ths UAH.

Pessimistic forecast:

The growth rate of net revenues in 2018 will be similar to the growth rate in 2017.

$$\text{Growth rate of OOI} = \frac{(OOI_{2017} - OOI_{2016}) \times 100}{OOI_{2016}} = \frac{(676 - 1091) \times 100}{1091} = -38,1\%$$

Other operating expenses are planned through their average level to other operating income during 2016-2017 years.. Other operating expenses include transport costs, warehouse rental, costs for product purchases. As a result of optimization of these costs, we plan to reduce the level by 15%.

$$Looi = 1,93 * 0,85 = 1,64$$

Table 3.5

**Plan of profit and loss of LLC «Antikor plus» in 2018 year, ths UAH**

Indicators	2017 year	Planned indicators in 2018 year		
		Optimistic forecast	Moderate forecast	Pessimistic forecast
1. Net revenue from sales	12860	29037,9	16687,4	4481,7
2. Cost of goods, services	-12531	-25465,5	-14634,4	-3930,3
3. Gross profit	329	3572,4	2053,0	551,4
4. Administrative expenses	-509	-559,9	-559,9	-559,9
5. Selling expenses	-	-	-	-
6. Other operating income	676	1091	734,7	418,4
7. Other operating expenses	-1905	-1789,2	-1204,9	-686,2
8. Operating profit before taxes	-1409	2314,2	1022,9	-276,3
9. Other income	-	-	-	-
10. Other expenses	-	-	-	-
11. EBIT	-1409	2314,2	1022,9	-276,3
12. Profit tax	0	-416,6	-184,1	0,0
13. Net profit	-1409	1897,7	838,7	-276,3

Consequently, according to planned calculations, the company will receive profits in the case of an optimistic and moderate scenario. However, it is also advisable to develop the planned indicators based on the elasticity factor of the net income of LLC «Antikor Plus» to the GDP of Ukraine. Because the financial performance of enterprises also depends on the external conjuncture, in particular the economic component of the development of the state in which these enterprises operate.

Ministry of Economic Development and Trade of Ukraine has developed three scenarios for economic development of construction industry in 2018 [49]:

optimistic – GDP growth is about 35% per year;

moderate - GDP growth is about 20%

pessimistic – GDP growth is about 10%

Compare the growth rate of net revenue of LLC «Antikor Plus» with the growth rates of Ukraine's GDP during 2013-2017. Also, we will calculate the elasticity coefficient using the formula 3.2:

$$C e = \frac{\Delta NR / NR_0}{\Delta GDP / GDP_0} \quad (3.2)$$

where NR – net revenue;

GDP - Gross domestic product

Table 3.6

**Comparison of the dynamics of the net revenue growth rate of  
LLC «Antikor Plus» and the growth rate of Ukraine's GDP for 2013-2017 years**

Indicators	2013 year	2014 year	2015 year	2016 year	2017 year
Net revenue, ths UAH	15145	2186	16343	36903	12860
Growth rate of net revenue, %	-	-85,6	647,6	125,8	-65,2
Growth rate of GDP, %	-	-10,9	56,5	21,9	43,6
Elasticity coefficient, %	-	7,8	11,5	5,7	-1,5

Source: developed by the author.

Since it is impossible to determine the exact dependence of the growth rate of net revenues on GDP, we will take the average value of the elasticity factor – 5,9.

Thus, according to the coefficient of elasticity, with an increase in GDP by 1%, the net revenue of LLC «Antikor plus» is up by 5.9%.

Optimistic scenario: the rate of growth of Net revenue = 206%;

Moderate scenario: growth rate of Net revenue = 118%;

Pessimistic scenario: Growth rate of Net revenue = 59%.

All indicators are calculated using the same methods as in the previous plan. The growth of other operating income is equal to the increase in net revenues.

*Table 3.7*

**Plan of profit and loss of LLC «Antikor plus» in 2018 year, ths UAH**

Indicators	2017 year	Planned indicators in 2018 year		
		Optimistic forecast	Moderate forecast	Pessimistic forecast
1. Net revenue from sales	12860	39351,6	28034,8	20447,4
2. Cost of goods, services	-12531	-34510,4	-24585,8	-17931,9
3. Gross profit	329	4841,2	3449,0	2515,5
4. Administrative expenses	-509	-559,9	-559,9	-559,9
5. Selling expenses	0	0	0	0
6. Other operating income	676	2068,56	1473,68	1074,84
7. Other operating expenses	-1905	-3392,4	-2416,8	-1762,7
8. Operating profit before taxes	-1409	2957,4	1945,9	1267,7
9. Other income	0	0	0	0
10. Other expenses	0	0	0	0
11. EBIT	-1409	2957,4	1945,9	1267,7
12. Profit tax	0	-532,3	-350,3	-228,2
13. Net profit	-1409	2425,1	1595,7	1039,5

Source: developed by the author.

Experts point out the following probabilities for implementing these scenarios: pessimistic - 10%, optimistic - 17%, moderate - 73% [49].



That is, the most realistic among all calculations is a moderate forecast taking into account the coefficient of elasticity between the revenues of LLC «Antikor plus» and the GDP of construction industry of Ukraine, according to which in 2018 the enterprise can receive revenue of 28034,8 ths UAH. and a net profit of 1595,7 ths UAH.

#### Planning an enterprise balance sheet

##### 1. Fixed assets:

$$\Delta IV = IV_e - IV_b \quad (3.3)$$

where  $\Delta IV$  - change in the initial value of fixed assets;

$IV_e$  - the initial value of fixed assets by the end of the year;

$IV_b$  - the initial value of fixed assets at the beginning of the year.

$$\Delta IV_{2017} = 3080 - 3022 = 58 \text{ ths UAH}$$

According to internal information, the company plans to buy a compressor, which costs about 300 thousand UAH. The planned initial cost of property fixed assets at the end of 2018 will be:

$$\Delta IV_{2018} = 3080 + 300 = 3380 \text{ ths UAH}$$

Calculate the depreciation factor of fixed assets using the formula 3.4:

$$Cd = \frac{D}{IV} \quad (3.4)$$

де  $Cd$  – coefficient of depreciation;

$D$  – depreciation of fixed assets;

$IV$  – initial value of fixed assets.

$$Cd = \frac{2386}{3080} = 0,7747$$

The amount of depreciation of fixed assets is:

$$D = 0,7747 \cdot 3380 = 2618 \text{ ths UAH}$$

$$\text{Residual value of fixed assets} = 3380 - 2618 = 761,5 \text{ ths UAH}$$

2. Intangible assets are absent.

3. Incomplete capital investments are absent.

4. Long-term financial investments are absent.

5. Other non-current assets are absent.

## 6. Inventories:

As a result of the introduction of inventory management the company is expected to reduce period of inventories' turnover.

$$PTi = \frac{\bar{I}}{C} \times 360 \quad (3.5)$$

where PTi – period of inventories' turnover, days;

$\bar{I}$  - average inventories;

C – cost of goods and services .

$$PTi = \frac{2909}{12531} \times 360 = 83 \text{ days}$$

We propose to plan inventories, using a coefficient of elasticity between net revenue and period of inventory turnover. This information is presented in table 3.8.

Table 3.8

### **Comparison the dynamics of growth rate of inventories' turnover period of LLC «Antikor plus» and the growth rate of net revenue from sales for 2013-2017 years**

Indicators	2014 year	2015 year	2016 year	2017 year
Average inventories, ths UAH	1642,5	2631	3311	2909
Cost of goods and services, ths UAH	2182	14367	36481	12531
Period of inventories' turnover, days	271	66	33	84
Net revenue, ths UAH	2186	16343	36903	12860
Growth rate of inventories' turnover period, %	-	-75,67	-50,44	146,43
Growth rate of net revenue, %	-	647,62	125,80	-65,15
Factor of elasticity of the period of inventory turnover for NR, %	-	-0,12	-0,40	-2,25

Source: developed by the author on the basis of financial statements.

That is, on average during 2015-2016 years, with the growth of net revenues from sales by 1%, the turnover of stocks decreases by 0,3%. As the moderate forecast plans to increase net revenues by 118%, the planned period of turnover can be reduced by 36%, that is, for 53 days. But as a result of proper inventories management, a further 25% reduction in the turnover period is planned. The planned period of stock turnover will be 39 days.

Calculate the planned average amount of stocks by the formula 3.6:

$$\bar{I}_{pl} = \frac{PTi \times Cpl}{360} \quad (3.6)$$

where  $\bar{I}_{pl}$  - planned average inventories per year;

Cpl – planned cost of goods and services.

$$\bar{I}_{pl} = \frac{39 \times 24585}{360} = 2663,38 \text{ ths UAH}$$

Inventories by the end of the year = 2363,76 ths UAH

#### 7. Current accounts receivable for goods, works and services:

It is necessary to determine the period of turnover of receivables by the formula:

$$PTr = \frac{\bar{R}}{NR} \times 360 \quad (3.7)$$

where PTr – period of receivables' turnover;

$\bar{R}$  - average receivables per year;

NR – net revenue.

$$PTr = \frac{2308}{12860} \times 360 = 64 \text{ days}$$

Table 3.9

#### Comparison the dynamics of growth rate of receivables' turnover period and the growth rate of net revenue from sales for 2013-2017 years

Indicators	2014 year	2015 year	2016 year	2017 year
Average receivables, ths UAH	2750	1972	2226,5	2308
Period of receivables' turnover, days	453	43	22	64
Net revenue, ths UAH	2186	16343	36903	12860
Growth rate of receivables' turnover period, %	-	-90,41	-50,00	146,43
Growth rate of net revenue, %	-	647,62	125,80	-65,15
Factor of elasticity of the period of receivables turnover for NR, %	-	-0,14	-0,4	-2,25

Source: developed by the author on the basis of financial statements.



That is, on average, with the growth of net revenues from sales by 1%, the turnover of accounts receivable for goods, work and services is reduced by 0.25%. As the moderate forecast plans to increase net revenues by 118%, the planned period of turnover can be reduced by 30% or by 19 days. But as a result of proper receivables management, a further 25% reduction in the turnover period is planned. The planned period of stock turnover will be 34 days.

$$\bar{R}_{pl} = \frac{34 \times 28034}{360} = 2647 \text{ ths UAH}$$

Receivables by the end of the year = 3764 ths UAH

8. The planned current accounts receivable calculated according to the previous article will amount to 3 thousand UAH.

9. Other current receivables planned - 705 thousand UAH.

10. Since the amount of cash has changed significantly at the end of each of the previous years, so leave them unchanged - ths UAH.

#### Liabilities

1. Registered capital = 280 thousand UAH.

2. Additional capital, capital in surplus, issuance, reserve capital, withdrawn capital and other reserves are absent in the last 5 years.

3. Retained profit: since all profit in recent years is capitalized, so the amount of retained earnings will be 142,7 ths UAH.

4. Unpaid capital: as the company reduced the size of the authorized capital in 2016, there is no outstanding capital.

5. Long-term commitments are absent.

6. Current payables for goods, works and services:

$$PTp = \frac{\bar{P}}{C} \times 360 \quad (3.8)$$

where  $\bar{P}$  - average payables per year;

C – cost of goods and services.

Planned period of turnover = 35 days

$$\bar{P}_{pl} = \frac{PT \times Cpl}{360} \quad (3.9)$$

$$\bar{P}_{pl} = 2390 \text{ ths UAH.}$$

Payables at the end of the year = 1864,6 ths UAH

7. Current payables to settlements

Period of turnover = 36 days

Planned payables at the end of the year = 2617 thousand UAH

8. Other current liabilities will decrease by 15% - 3830 ths UAH.

Table 3.10

**Balance sheet of enterprise at 01.01.2019**

ASSETS	Amount, ths UAH	CAPITAL	Amount, ths UAH
1. Fixed assets at residual value	761,5	1. Registered capital	280
2. Intangible assets at residual value	0	2. Additional capital	0
3. Incomplete capital investments	0	3. Retained profit (uncovered loss)	142,7
4. Long-term financial investments	0	4. Other equity	0
5. Other non-current assets	0	Total equity	422,7
Total non-current assets	761,5	5. Long-term bank loans	0
6. Inventories	2363,76	6. Other long-term liabilities	0
7. Current accounts receivable for goods, works and services	3764	Total long-term liabilities	0
8. Current accounts receivable	3	7. Short-term bank loans	0
9. Other current accounts receivable	705	8. Current payables for goods, works and services	1864,6
10. Cash and cash equivalents	1137,04	9. Current payables to settlements	2617
11. Other current assets	0	10. Other current liabilities	3830
Total current assets	7972,8	Total current liabilities	8311,6
Total assets	8734,3	Total capital	8734,3

Source: developed by the author on the basis of financial statements.

Consequently, it is planned to increase the assets of the company by 28%.

Since none of the current financial plans of the enterprise, any of its large business operations can not be developed without planned cash flows for them, it is necessary to develop a cash flow plan of LLC «Antikor plus» in two commonly used methods: direct (table 3.11) and indirect (table 3.12).

Table 3.11

**Plan of cash flow of LLC «Antikor plus» by the direct method**

Indicators	Amount, ths UAH
Cash reserve at the beginning of the period	892
Cash flow from operational activities	
<b>Revenue:</b>	<b>34283,18</b>
+ Revenues from sales of goods (VAT included)	35043,5
- Change (increase) in current receivables for products	-2234
+ Other operating income	1473,68
<b>Expenditure:</b>	<b>-33749,66</b>
To purchase inventories:	-25037,96
- Cost of goods and services	-24585,8
+ Change (decrease) of inventories	599,24
- Change (decrease) in current payables for products	-1051,4
For financing of other operating expenses and payment of taxes:	-8711,7
- Other operating expenses	-2416,8
- Administrative expenses	-559,9
- VAT	-7008,7
- Income tax	-350,3
+ Change (decrease) in current receivables from payments and other accounts receivable	74
+ Change (increase) in current accounts payable on settlements and other liabilities	+1137,04
- Changes (decreases) of expenses of future periods	0
+ Depreciation	232
<b>Net cash flow from operating activities</b>	<b>533,52</b>
Cash flow from investment activities:	
<b>Expenditure:</b>	<b>-300</b>
- Purchasing of fixed assets	-300
<b>Net cash flow from investment activities</b>	<b>-300</b>
Cash flow from financial activities:	
<b>Net cash flow from financial activities</b>	<b>0</b>
<b>Net cash flow</b>	<b>245,04</b>
Cash reserve at the end of the period	1137,04



The results of calculating the amount of net cash flow for operational, investment and financial activities allow to determine its total size in the planned period – 245 thousand UAH. The net cash flow from operating activities will amount to UAH 533,52 thousand.

Also we should calculate the net cash flow, using indirect method, the basic element of the calculation is the net profit of the enterprise.

*Table 3.12*

**Plan of cash flow of LLC «Antikor plus» by the indirect method**

Indicators	Amount, ths UAH
Cash flow from operating activities	
Net profit	1595,7
+ Depreciation	232
- Change (increase) in current assets:	-1560,76
- short-term financial investment	0
- receivables	-2160
+ inventories	599,24
- other current assets	0
+ Change in current liabilities::	266,6
+ payables	954
+ other current liabilities	-676
Net cash flow from operating activities:	533,52
Cash flow from investment activities	
- Change in fixed assets	-300
Net cash flow from investment activities:	-300
Cash flow from financial activities	
+ Change in liabilities:	0
+ Change in equity:	
Net cash flow from financial activities	0
Total net cash flow:	245,04

Source: developed by the author on the basis of financial statements.

So, according to the moderate forecast net cash flow will be positive and it will have a positive impact on enterprise's solvency.

We need to assess the planned solvency more detailed. The first step is qualitative assessment, that means analysis of balance liquidity (table 3.13).

Table 3.13

**Analysis of the planned balance liquidity of LLC «Antikor plus» on  
01.01.2019**

Assets	01.01.2019	Liabilities	01.01.2019
A1 - The most liquid assets	1137,04	P1 - The most urgent liabilities	4481,6
A2 - High liquidity assets	4472	P2 – Short-term liabilities	3830
A3 - Low liquidity assets	2363,76	P3 – Long-term liabilities	0
A4 - Assets that are difficult to realize	761,5	P4 - Permanent liabilities	422,7

Source: developed by the author on the basis of financial statements.

So, comparing the results of groups of assets and liabilities, we can deduce the following inequality:

$$A1 \leq P1; A2 \geq P2; A3 \geq P3; A4 \geq P4;$$

It is the same in the beginning of 2018, however, the proportions have changed for the better, that is, the amount of coverage of the liabilities of assets has increased, which will positively affect the solvency of the company in the future.

The next stage of the analysis is the calculation of the solvency ratios of the enterprise. For a more detailed study of LLC «Antikor Plus» solvency, we will calculate the dynamics of the solvency indicators of the enterprise, which are presented in Table 3.14.

Table 3.14

**Coefficients of solvency of LLC «Antikor plus» on 01.01.2019**

Indicators	01.01.2018	01.01.2019	Normative value
Absolute solvency ratio	0,002	0,15	0,2-0,35
Quick liquidity ratio	0,4	0,67	0,6-0,8
Coverage ratio	0,77	0,96	More than 1

Source: developed by the author on the basis of financial statements.

We observe a significant improvement of all indicators, while the quick liquidity ratio is within the normal range. Absolute solvency ratio and coverage ratio are lower

than normal, but in the future, they will also improve in conditions of good management decisions.

Consider table 3.14, which provides the maintenance of own working capital.

*Table 3.15*

**Indicators of maintenance of own working capital**

**LLC «Antikor plus» on 01.01.2019**

Indicators	01.01.2018	01.01.2019	Normative value
Net working capital, ths. UAH	-1867	-338,8	>0
Coefficient of maintenance of own working capital	-0,27	-0,04	0,1 and more

Source: developed by the author on the basis of financial statements.

The coefficient of maintenance of own working capital shows the degree of coverage of current liabilities with its own current assets. According to planned calculations, its value will increase by 0,23, and in absolute terms it will increase by 1528 thousand UAH.

The next step in assessing the planned solvency is the ratio of current receivables and payables, as outlined in Table. 3.16.

*Table 3.16*

**Ratio of receivables and payables of LLC «Antikor plus» on 01.01.2019**

Indicators	Value, un.		Absolute deviation
	01.01.2018	01.01.2019	
The ratio of current receivables and payables	0,65	0,54	-0,11
The ratio of current receivables and payables for commercial agreements	0,52	2,02	1,50

Source: developed by the author on the basis of financial statements.

Consequently, according to the table, it can be concluded that a significant reduction in the amount of payables is planned. All of this indicators testifies to the improvement of the solvency of the enterprise and its financial stability.

So, we have developed the planned financial indicators of LLC «Antikor plus» performance in 2018, using the growth rate method and the elasticity factor. In our opinion, the most probable scenario is a moderate forecast, within the company will



receive a profit of 1595,7 thousand UAH. We plan to make a profit by conducting rational and effective measures that will include promoting sales and optimizing costs. According to our calculations, the company will be able to increase its assets by 27%, and its net cash will be positive.

Due to the expansion of the enterprise activities, the periods of turnover of stocks and receivables will decrease significantly, which will lead to their saving and improvement of the enterprise as a whole.

Analyzing the planned solvency indicators, we can make a conclusion about their significant improvement. Although in 2018 the majority of factors will not be normative, but we can see a good tendency of increasing the company's solvency and its financial sustainability. And with further correct management decisions, the company can become solvent and can pay off its obligations in time, while carrying out uninterrupted activities.

## CONCLUSIONS

The problem of solvency management of an enterprise has always been characterized by urgency and was a prominent place among the areas of economic research, since solvency is an integral concept of a market economy and its concept of financial management of business entities. Each entity seeks to maintain absolute liquidity, solvency and a steady financial position.

Investigating the essence of the concept of "solvency of the enterprise", we can conclude that today there is no clear approach to the interpretation of this concept. Almost all approaches characterize solvency on the one hand and have significant disadvantages, such as: taking into account only short-term obligations; timeliness; identification with the concept of liquidity and creditworthiness, and others.

However, on the basis of the generalization of existing approaches and own theoretical developments, it can be formulated as follows: "The solvency of an enterprise is its ability to pay in full and for a specified period of time its liabilities (short-term and long-term) with the help of monetary resources and other assets, while carrying out continuous financial and economic activity, that is provided by generating synchronized and balanced cash flows".

Solvency as viability and sustainability of an enterprise should be ensured by the following conditions: availability and provision of liquidity of assets and a satisfactory balance structure; balanced structure of sources of capital formation of the enterprise; effective management of accounts receivable and accounts payable; rational and balanced management of cash flows; application of effective norms of settlements.

The proposed conceptual bases of solvency management of an enterprise can become the basis for the development and implementation of measures to increase the efficiency of management of its solvency status in the short and long term.

In final qualifying paper we presented a general methodology for solvency analysis of an enterprise that allows us to carry out a comprehensive analysis of the solvency of the enterprise, to identify the reasons for its change over time, to take appropriate measures in a timely manner to improve the financial position and find ways to improve solvency management.

To assess solvency, we propose using two approaches: static, which is the starting point for analysis, and provides analytical information on the state of static solvency, and a dynamic approach that evaluates solvency over a certain period in dynamics. For assessment of static solvency a number of different coefficients should be used: absolute, intermediate and total solvency, equity ratio by own funds. Among the absolute indicators should be the volume of own working capital and liquid cash flow.

In assessing the dynamic solvency, we calculate the amount of the cash flow, the synchrony of cash flow and cash flow ratios, the coefficient of recovery (loss) of solvency and a number of other auxiliary indicators. Such a sequence of analysis and the system of indicators that it generates can deepen the process of assessing the solvency of an enterprise and increase the objectivity of its results.

Before assessing the solvency of the company, we conducted a general analysis of financial and economic activity and an analysis of the financial condition of the enterprise.

Analyzing the data of financial statements it is impossible to distinguish a clear positive dynamics of the volume of assets of the enterprise. Their structure also changed quite unevenly during the studied period. In general assets of the company are formed by the current assets, which make up about 90%. Among the current assets, the largest share belongs to receivables for products, goods, works and services, which includes both overdue debts and stocks. Non-current assets are represented only by fixed assets, which company updates from time to time.

During 2014-2015, the financing of the enterprise was carried out to a greater extent at the expense of borrowed capital, which in different years ranged from 40% to 65%, while the amount of equity capital was constantly increasing. However, in 2016, the situation changed considerably as a result of obtaining losses from the company and a resolution of the shareholders' meeting reducing the registered capital by 2500 thousand UAH. At the beginning of 2018, the share of equity is generally negative. Such data indicate a very negative financial situation of the company, which affects its solvency and continued functioning.



The first stage of solvency analysis of LLC «Antikor plus» was to conduct a liquidity analysis of the balance sheet.

So, comparing the results of groups of assets and liabilities, we can deduce the following inequality:

1) for the balance of 2014, 2015 and 2016:

$$A1 \leq P1; A2 \geq P2; A3 \geq P3; A4 \leq P4;$$

2) for the balance sheet of 2017 and 2018:

$$A1 \leq P1; A2 \geq P2; A3 \geq P3; A4 \geq P4.$$

Based on analysis, we can assert that the solvency of LLC «Antikor plus» is falling rapidly with each period. This is evidenced by the all solvency coefficients and indicators, which have significant deviations from the adopted normative values. Such a sharp deterioration in the solvency of LLC «Antikor plus» threatens the bankruptcy of the enterprise or the deterioration of its performance (inhibition or cessation of development). Absolute solvency indicators indicate that at the beginning of 2018 the company does not have its own current assets, as well as 1867 thousand UAH of non-current assets are financed by borrowed funds.

The main factors that reduce the efficiency of enterprise is the same as in construction industry in general:

1. Decrease in volume of capital investments, outdated and worn technical equipment.
2. Reduction of demand for work with non-residential premises.
3. High material production capacity.
4. Inflation, a significant increase in prices for materials.
5. Lack of effective support from the state for the development of small Ukrainian construction companies.
6. Partial monopolization of market by large enterprises.

Accordingly, the recommendations for improving the level of liquidity and solvency should include, first of all, the achievement of profitability, which involves increased sales and reduced costs, the attraction of long-term loans to finance capital expenditures. Also important is the rational management of available financial resources, in particular

the definition of optimal volumes of stocks, management of accounts receivable, coordination of production and sales plans, ensuring uninterrupted operation of the company, etc. That is, the way out of a difficult situation and increase of efficiency of activity requires the development and implementation of a complex of measures.

For effective management of a construction company, all its departments should have the freedom to make decisions and should be responsible for the decisions made. To make effective management decisions, company managers must be provided with the necessary information. We propose to expand the current financial statements of enterprise, adding to them reports on receivables and payables, costs of sales and inventories. This will allow to manage them and thus reduce the costs of the enterprise.

Also we have developed the planned financial indicators of LLC «Antikor plus» performance in 2018, using the growth rate method and the elasticity factor. In our opinion, the most probable scenario is a moderate forecast, within the company will receive a profit of 1595,7 thousand UAH. We plan to make a profit by conducting rational and effective measures that will include promoting sales and optimizing costs. According to our calculations, the company will be able to increase its assets by 27%, and its net cash will be positive.

Due to the expansion of the enterprise activities, the periods of turnover of stocks and receivables will decrease significantly, which will lead to their saving and improvement of the enterprise as a whole.

Analyzing the planned solvency indicators, we can make a conclusion about their significant improvement. Although in 2018 the majority of factors will not be normative, but we can see a good tendency of increasing the company's solvency and its financial sustainability. And with further correct management decisions, the company can become solvent and can pay off its obligations in time, while carrying out uninterrupted activities.

Based on the study, the following conclusions can be made that for successful strategic management of solvency of an enterprise it is necessary to anticipate the priorities of its development in advance, to track cash flows, to manage rationally the receivables and payables of the enterprise. An enterprise should strictly monitor the

maturity of receivables, prevent its delay, applying financial sanctions to violators; to define for itself the most optimal policy of lending to buyers and the attraction of commodity loans, to develop its own and build on its basis the methodology and procedure of activities, to formulate in the future the policy of financing the assets of the enterprise. In addition to the radical directions of raising the level of solvency of the enterprise, it is necessary to search for internal reserves to increase the profitability of activities and to achieve break-even work at the expense of more fully utilizing the production capacity of the enterprise, improving the quality and competitiveness of the goods, reducing their cost, rational use of material, labor and financial resources, reducing unproductive costs and losses.



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## APPENDICES



## Indicators for enterprise solvency assessment

Indicators	Formula	Explanation	Normative value
1. Absolute solvency ratio	$Ras = \frac{CFI + C}{CL}$	CFI - current financial investments; C - cash and cash equivalents; CL - current liabilities.	0,2 – 0,25
2. Quick solvency ratio	$Ris = \frac{C + CFI + R}{CL}$	C – cash; CFI - current financial investments; R - receivables; CL - current liabilities.	0,6 – 0,8
3. Coverage ratio	$Rc = \frac{CA}{CL}$	CA - current assets; CL - current liabilities.	1,5 – 2,5
4. Net working capital	$Ce = OC - NA$	OC - own capital; NA - non-current assets;	>0
5. The coefficient of equity by own funds	$Ce = \frac{OC - NA}{CA}$	OC - own capital; NA - non-current assets; CA - current assets.	>0
6. The coefficient of recovery (loss) of solvency	$Crls = \frac{Cgs + \frac{3(6)}{T}(Cgs - Cis)}{C}$	Cgs – coefficient of general solvency; Cis - intermediate solvency ratio; C - normative value (C = 2); T - duration of the analyzed period (in months);	>1
7. Beaver coefficient	$Cb = \frac{NP + A}{I}$	NP – net profit; A - amortization; I - inventories.	>0,4
8. The ratio of current receivables and payables to commercial calculations	$Cb = \frac{R}{P}$	R – receivables for current calculations; P – payables for current calculations;	0,8 – 1,2

### Indicators for the estimation of synchrony and balance of cash flows

Indicators	Formula	Explanation	The essence of the indicators
Coefficient of cash flow liquidity	$\frac{PCF}{OCF}$	PCF – positive cash flow; OCF – outgoing cash flow.	It characterizes the ability of an enterprise to cover the necessary expenses of cash with positive cash flow in the reporting period.
Coefficient of perspective cash flow liquidity	$\frac{C_b + PCF - C_e}{OCF}$	C <sub>b</sub> – planned cash at the beginning of period; C <sub>e</sub> – planned cash at the end of period; PCF – positive cash flow; OCF – outgoing cash flow.	If this ratio significantly exceeds one, this indicates the inefficient management of cash flows in terms of providing profitability. The value of the indicator is significantly less than one indicates an increased risk of liquidity loss.
Net cash flow	PCF – OCF	PCF – positive cash flow; OCF – outgoing cash flow.	The indicator characterizes the monetary result of the enterprise, the volume of its own financial resources, which are in cash form.
Net cash flow adequacy ratio from the position of needs financed	$\frac{NCF}{D + \Delta I + D}$	NCF – net cash flow; D - the amount of principal debt repayments on loans and loans; $\Delta I$ - amount of inventories increase. D – dividends.	This ratio describes the degree of sufficiency of cash from operating activities to cover capital costs, net investment in operating assets and cash dividends. The value of the indicator at the level of one indicates the adequacy of their own funds to cover their needs.
Coefficient of net cash flow quality	$\frac{NP + D}{NCF} \times 100$	NP – net profit; D – depreciation; NCF – net cash flow.	The high quality of the net cash flow is characterized by an increase in the share of net profit in its formation due to the growth of operating activities.

**Balance sheet of LLC «Antikor plus» during 2014-2017 years, ths UAH**

Assets	01.01.2014	01.01.2015	01.01.2016	01.01.2017	01.01.2018
<b>I. Fixed assets</b>					
Intangible assets					
Initial value					
Depreciation					
Incomplete capital investment					
Fixed assets	823	626	540	821	694
Initial value	2787	2633	2680	3022	3080
Depreciation	1964	2007	2140	2201	2386
Investment property					
Long-term biological assets					
Long-term financial investments: which are accounted for using the equity method of other enterprises					
other financial investments					
Long-term receivables					
Deferred tax assets					
Other non-current assets					
<b>Total</b>	<b>823</b>	<b>626</b>	<b>540</b>	<b>821</b>	<b>694</b>
<b>II. Current assets</b>					
Stocks	1791	1494	3768	2854	2963
Current biological assets					
Accounts receivable for products, goods, works, services	2923	2577	1367	3086	1530
Accounts receivable by settlement: on advance payments					
with budget	-	13	200	2	5
Other Current Accounts Receivable	224	52	146	745	776
Current financial investments					
Money and their equivalents	246	2	2248	53	892
Costs of future periods	1	1	-	1	12
Other current assets					
<b>Total</b>	<b>5185</b>	<b>4139</b>	<b>7729</b>	<b>6741</b>	<b>6178</b>
<b>III. Non-current assets held for sale and disposal groups</b>					
<b>Balance</b>	<b>6008</b>	<b>4765</b>	<b>8269</b>	<b>7562</b>	<b>6872</b>
<b>Capital</b>					
<b>I. Own capital</b>					
Registered (share) capital	780	2780	2780	280	280
Capital in surplus					
Additional capital					
Reserve capital					



## Continuation of Appendix C

Retained earnings (uncovered loss)	1253	521	1072	(44)	(1453)
Unpaid capital		(527)	(514)		
Capital withdrawn					
<b>Total</b>	<b>2033</b>	<b>2774</b>	<b>3338</b>	<b>236</b>	<b>(1173)</b>
<b>II. Long-term liabilities and collateral</b>					
Deferred tax liabilities					
long-term bank credits					
Other long-term liabilities					
Long-term security					
Targeted financing					
<b>Total</b>					
<b>III Current liabilities</b>					
Short-term bank credits					
Current payables for: long-term liabilities					
goods, work, services	2387	552	4316	2613	2916
calculations with the budget	273	40	116	289	300
including income tax	133	-	114	98	
insurance calculations	45	20	7	28	
payroll calculations	121	12	49	81	
Current provision					
future revenues					
Other current commitments	374	577	425	2162	4506
<b>Total</b>	<b>3975</b>	<b>1991</b>	<b>4931</b>	<b>7326</b>	<b>8045</b>
<b>IV. Obligations related to non-current assets held for sale, and disposal groups</b>					
<b>Balance</b>	<b>6008</b>	<b>4765</b>	<b>8269</b>	<b>7562</b>	<b>6872</b>

**Profit and loss statement of LLC «Antikor plus» during 2014-2017 years, ths UAH**

<i>Indicators</i>	<b>2014 year</b>	<b>2015 year</b>	<b>2016 year</b>	<b>2016 year</b>
1. Net revenue from sales	2186	16343	36903	12860
2. Cost of goods, services	2182	14367	36481	12531
3. Gross profit	4	1976	422	329
4. Administrative expenses	171	248	336	509
5. Selling expenses	-	-	-	-
6. Other operating income	859	313	1091	676
7. Other operating expenses	1367	1369	1142	1905
8. Operating profit before taxes	(675)	672	35	(1409)
9. Other income	13	-	113	-
10. Other expenses	11	-	94	-
11. EBIT	(732)	672	54	54
12. Profit tax		121	(98)	
13. Net profit	(732)	551	(44)	(1409)