

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

**FINAL QUALIFYING PAPER  
on the topic:**

**“DIAGNOSTICS OF AN ENTERPRISE’S SOLVENCY”  
( basedof the materials of PJSC “Obolon”, Kyiv)**

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АНОТАЦІЯ**

**Бродовенко К.В. «Діагностика платоспроможності підприємства» (за матеріалами ПрАТ«Оболонь», м. Київ). – Рукопис.**

Випускна кваліфікаційна робота за спеціальністю 051 «Економіка», спеціалізація «Фінансовий менеджмент» – Київський національний торговельно-економічний університет – Київ, 2019.

Випускну кваліфікаційну роботу присвячено вивченню теоретичних основ і економічної сутності управління платоспроможністю підприємств. Представлена робота дозволяє дослідити методи проведення аналізу платоспроможності на підприємствах, а також розробка шляхів покращення платоспроможності Прат «Оболонь».

**Ключові слова:** платоспроможність підприємства, ліквідність підприємства, фінансовий стан, фінансова стійкість, показники фінансового стану, показники ліквідності підприємства.

## ABSTRACT

**Brodovento K.V."Diagnostics of an enterprise's solvency" (based on the materials of PJSC "Obolon", Kyiv). – Manuscript.**

Final qualifying paper on the specialty 051 "Economics", specialization "Financial Management ". – KyivNationalUniversity of Trade and Economics. – Kyiv, 2019.

The final qualifying paper is devoted to study of theoretical foundations and economic essence of managing the solvency of enterprises. It allows investigating methods of conducting solvency analysis at enterprises, and to develop ways to improve the solvency of PJSC "Obolon".

**Key words:** solvency, liquidity of the company, financial position, financial stability, indicators of financial condition, indicators of liquidity of the enterprise.

## CONTENT

INTRODUCTION.....	4
CHAPTER 1. THE THEORETICAL BASES OF SOLVENCY MANAGEMENT AT THE ENTERPRISE.....	7
CHAPTER 2. ANALYSIS OF SOLVENCY PJSC “OBOLON”.....	16
2.1 <u>The main financial indicators of enterprise’s economic activity analysis</u> .....	16
2.2 <u>Determination and analysis of liquidity and solvency</u> .....	23
2.3 <u>The influence of cash turnover on the solvency at the enterprise</u> .....	31
CHAPTER 3. THE MAIN WAYS TO INCREASE SOLVENCY OF PJSC “OBOLON”.....	39
CONCLUSIONS AND PROPOSALS.....	51
REFERENCES.....	53
APPENDICES.....	58

## INTRODUCTION



**Actuality of theme.** In terms of market relations, the solvency of enterprises is considered to be the most important condition for their economic activity. The solvency of the enterprise as its ability to fulfill planned payments and urgent obligations on time and in full, while maintaining a normal rhythm of economic activity is one of the conditions for competitiveness of the enterprise. Unfortunately, most businesses have an unstable financial position. In these circumstances, the importance of the system of management of the financial condition of enterprises is increased, an element of which is also the assessment of the solvency of the enterprise. Liquidity and solvency ranked first among financial condition indicators, the level and prospects of which are of interest not only to owners but also to their counterparties. The ability of the company to settle on its debts in the volumes and terms stipulated by contracts and legislation is a prerequisite for successful functioning in the market, which determines the relevance of the chosen topic.

The conceptual foundations of the essence and theory of the solvency enterprises are considered in the scientific works of domestic and foreign economists: I.O. Blanka, A.A. Mazaraki, N.M. Ushakova, L.O. Ligonenko, G.V. Sitnik, L.O. Omelyanovich. Some other issues of this topic were reflected in the writings of foreign scholars: J. K. Van Horn, E. Brigham, L. Bernstein, R. Knight, E. Altman, and other.

However, there are a number of theoretical and practical problems that remain unresolved both at the level of enterprises in the general and at the level of individual branches. These should include the problem increasing long-term bank loans, the predominance of the share of debt capital over own equity, development of practical ways of achieving solvency of the enterprise.

**The purpose and tasks.** The purpose of this work is to study theoretical provisions and to develop practical tools for assessing liquidity and solvency at the enterprise of PJSC Obolon .

To achieve this goal, we need to solve the following tasks:

- to determine the theoretical bases of solvency management of the

enterprise;

- to evaluate the main financial indicators of enterprise's economic activity analysis;
- of liquidity and solvency;
- to analyze the influence of cash turnover on the solvency of the enterprise;
- to develop the main ways to increase solvency of PJSC Obolon;

**The object of the research** is the process of formation and assessment of liquidity and solvency of enterprises.

**The subject of the research** is theoretical and methodological approaches to the liquidity and solvency assessment of the PJSC Obolon enterprise.

PJSC Obolon is the largest national beer producer in Ukraine with 100% Ukrainian capital. PJSC Obolon is among the top three beer markets, where it is represented by six beer brands in all price categories. It is also engaged in the production of soft and low alcohol drinks, mineral water. In addition, the company has permits for wholesale and retail beverages, transport agencies. The company includes a main plant in Kyiv and two subsidiaries - the Siebert Brewery and Krasylivske.

**Methods of the research.** The methodology used for data collection includes document review combining case study method thesis. Research methods were based on general scientific and empirical methodical techniques of economics. During the literature review economic-statistical and mathematical methods of analysis, abstraction techniques were used. Such general theoretical methods of scientific knowledge as synthesis, deduction, induction and other methods were also used. Concerning methodical approaches, according to specific scientific (empirical) research of selected topics was conducted, among them the most frequently used in the work were calculation and analytical methods of comparison, data grouping, summarizing.

The main method used during practical part was linear regression analysis compared with descriptive and inferential analyses were conducted using Microsoft Excel.

The **information base** for research is articles, books and other scientific works of scientists regarding the importance and role of efficiency, performance or analysis of enterprise, methodical approaches to the implementation of a comprehensive economic analysis of the enterprises activity. Secondary data was retrieved from statistical, annual reports of enterprises for the period 2015-2018.

The **scientific novelty** of the results development of practical methods for improving solvency at the enterprise in several years.

**Practical meaning.** The results of the conducted research and the suggested ways of optimization can be taken into account and used by the enterprise in the further decision-making concerning financial crisis diagnostics of an enterprise.

**Approbation.** The results of the study were presented at the enterprise for their further application and published in the collection of master's articles "Economics and Finance of Enterprise" in an article on the topic: "Management of the enterprise solvency, features of beer industry".

**Structure of the paper.** The logic of the research resulted in the structure of the work: introduction, 3 chapters, conclusions and proposals, references, 4 appendices. Total amount of pages in the work 52 pages.



## **CHAPTER 1**

### **THE THEORETICAL BASES OF SOLVENCY MANAGEMENT AT THE ENTERPRISE**

The objective conditions for ensuring stable business and financial sustainability of enterprises are their liquidity and solvency, which determines the real financial capabilities of enterprises, the ability to finance their activities, in a timely manner and in full compliance with obligations. Proceeding from the practice, it depends on the liquidity and solvency of the existence of enterprises, because enterprises cease their activities, mainly from the lack of funds, not because of insufficient profitability [1, p.312].

In the context of market relations, the question of the solvency of business entities is paid special attention, since information on the availability of funds to cover obligations is required not only managers of the company in order to predict financial activity in the future, but also in assessing the solvency of interested banking institutions in determining borrower's creditworthiness and business partners [ 2 ].

Generally solvency - the ability of a subject of economic activity to repay its long-term commitments or the ability of the borrower to timely calculate all types of their obligations. Often characterized by a debt ratio [ 3 ].

To find the origins of the emergence of the concept of “solvency” appeal to history. The development of solvency as a concept originates in the XV-XVIst. with the separation of the science of finance into an independent sphere of knowledge.

At first, solvency was understood as the ability to pay taxes. The emergence of theories of tax burden laid the foundations for substantiating the concepts of solvency, which were built taking into account the taxpayer's property status and source of payment.

At the end of the 19th century, solvency as an economic category began to be

used by bankers in the United States, which began to demand from their clients applying for loans, financial reporting to determine their creditworthiness.

Today, the term “solvency” also has no consistent content. Most economists, the solvency of an enterprise is associated with the ability to pay for obligations. In this case, the special subject of their dispute is the urgency of debt: some claim that it is short-term, others - long-term, the third do not make differences in terms.

Ivashchenko V.I., Boluh M.A. considers solvency the most important indicator that characterizes the financial state of the enterprise [4, p.136], Makarchuk I.M. - an important generalized indicator of the stability of the financial condition of the enterprise [5, p.120-126], and Zyatkovsky I.V. identifies solvency with financial stability [6, p.364]. According to the authors, this point of view does not determine the very essence of solvency, but only states its fact on certain indicators.

In our opinion, if we combine all the above words, we can say that solvency is the sufficiency of assets for timely repayment of its debt obligations to all counterparties and the state, the presence of sufficient funds on the current account and the absence of overdue accounts payable.

Interpretations of the solvency essence is shown in the Tab. 1.1.

*Table 1.1*

### **Approaches to the definition of “solvency”**

Author	Definition
Krein M.N., [ 7, p.256 ]	Solvency is the availability of facilities at the enterprise sufficient to pay off debts for all short-term obligations and, at the same time, the uninterrupted implementation of the production and sales process.
Artemenko V.G., Ivashchenko V.I., Bolyuh M.A. [ 8, p.200 ]	Determine solvency as the ability of an enterprise to timely and fully fulfill its payment obligations arising from production, trade, credit and other monetary transactions.
Kostyrko L.A., [ 9, c.200 ]	Solvency is the an enterprise willingness to make its initial payments at the expense of current proceeds of funds.
Lakhtionova L.A., [ 10, c.388 ]	Solvency is an opportunity for an enterprise to repay its time commitments in a timely manner with available cash resources.
Kovalev V.V., Volkov O.N. [ 11, c.424 ]	Solvency refers to the presence of cash or equivalent equivalents in an enterprise that is sufficient to settle accounts payable, requiring immediate repayment.
Sheremette A.D., [12, c.345 ]	Solvency is the ability to cover all obligations of an enterprise (short-term and long-term) with all assets.



Law of Ukraine "On restoring the debtor's solvency, or recognizing it as a bankrupt" [ 14]	Solvency is the availability of funds and their equivalents at the enterprise that are sufficient for the settlement of accounts payable, which requires immediate repayment, including wages, as well as fulfill obligations for payment of taxes and duties (mandatory payments)
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When studying solvency, it is important to consider the main types of this concept. In the economic literature, there are different approaches to determining the types of solvency depending on different classification characteristics (Fig. 1.1).

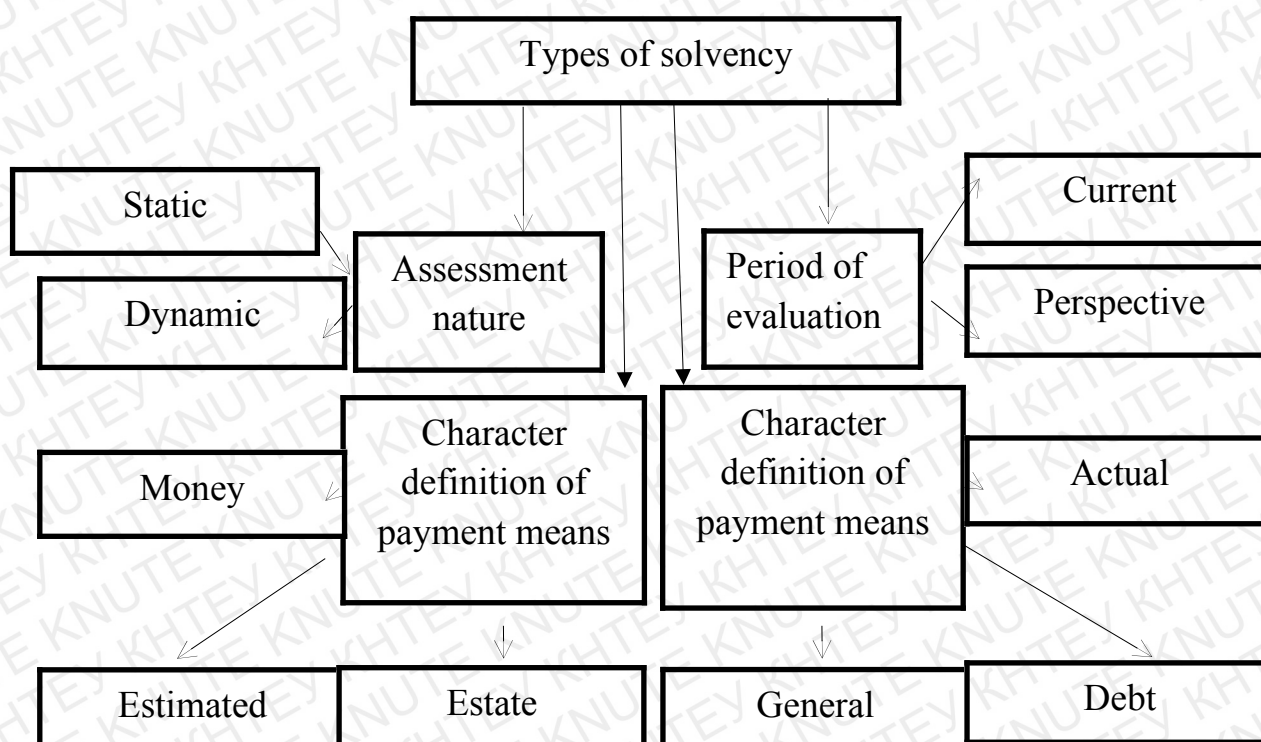


Figure. 1.1. Types of solvency of the enterprise [ 13 ]

Static solvency is investigated in a certain time period and shows the company's ability to execute planned payments and urgent obligations during the period. The assessment of dynamic solvency is based on the analysis of the monetary turnover of the enterprise.

Depending on the assessment period, is considered current and future solvency.

The current solvency characterizes the payment capabilities of the enterprise on the date or during the assessment period, the prospective determines the potential performance of payment obligations and expenses.

Depending on the nature of the definition of the volume of payment facilities of the enterprise, one can distinguish the following types of solvency, such as:

- money - only at the expense of available cash;
- estimated - at the expense of available cash and possible (real) sources of their growth (funds in settlements, accounts receivable);
- estate (potential) - due to all types of current assets of the enterprise (in case of their conditional sale);

Depending on the nature of the definition of the required amount of money spent, solvency can be used to assess: the possibility of continuing the financing of current activities - actual solvency; the degree of coverage of external urgent liabilities and planned expenditures - the total solvency [13].

The level of solvency of an enterprise is determined by a number of factors that can be classified according to the following features:

- at the place of origin: external and internal;
- by structure: simple, complex;
- by the time of influence: constant and variables;
- by the degree of quantitative measurement: qualitative (measurable), quantitative (not measurable) [15].

External factors in the enterprise are those that it can not influence, or this impact may be insignificant (endogenous). The external financial factors of solvency of enterprises include: state of the economy, monetary, tax, credit and depreciation policy, stability of the financial and currency markets, payment and settlement discipline of partners. External factors are divided into: international, national, market.

International factors are shaped by the causes of the general economic nature (economic cyclical development of leading countries, the state of the world economic system, characterized by the policy of international banks).

National factors include political, economic-demographic, cultural and scientific and technical.

Market factors. The most important of the external business conditions of

enterprises are the size of tax rates, the level of interest on loans, the degree of monopolization of the industry, the level of development of market relations and market structures, the state of the labor market, investment activity of the enterprise.

The group of financial internal factors of solvency of an enterprise include: the composition and structure of non-current and current assets, cash and cash equivalents, the amount of short-term liabilities, management of enterprise liquidity, receivables and payables, financial planning [15].

Internal factors that affect the financial position of the enterprise can be divided into qualitative and quantitative.

Qualitative ones include: purpose, industry, tradition, reputation and image, ownership, organizational structure of management, organization of management system, level of production stocks.

The quantitative ones include: qualified personnel and personnel, market share and life cycle stage, innovation activity, firm adaptability, production cycle length, inventory level, balance structure, solvency, liquidity, profitability and profitability [16].

Consider the principles of solvency. The first principle is that the sufficiency principle implies some excess of incoming cash flows over the weekend over a certain period of time, caused by uncertainty and risks when forecasting them (Fig. 1.3).

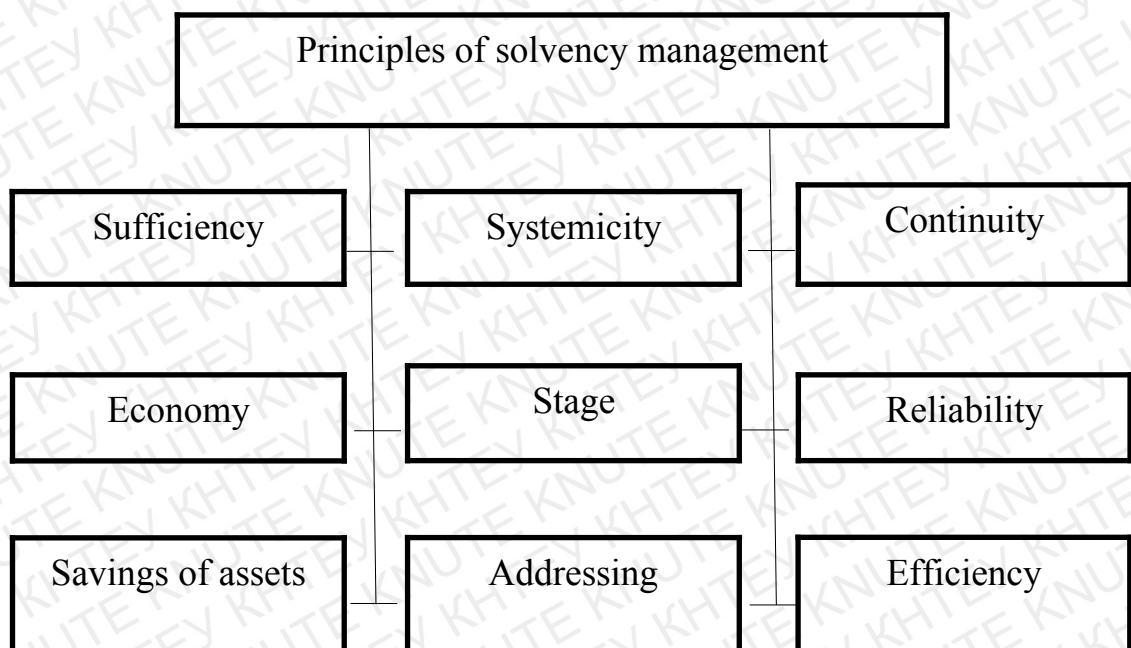




Figure 1.3 Principles of solvency management [ 17 ]

The principle of systemicity implies the availability of all types of solvency - operational, current, medium and long-term - as a system of interconnected and interconnected elements.

The principle of continuity involves maintaining solvency for a certain period.

The principle of economics involves making decisions related to solvency management based on minimizing costs (losses) when determining the required cash backing to ensure sustainable solvency and when choosing sources for attracting additional financial resources with a negative balance of inbound and outbound cash.

The principle of phasing involves a certain sequence of solvency assessment: the operational solvency is firstly estimated, then the current and so on.

The principle of reliability involves the need to create a high image of the enterprise, which ensures the trust of suppliers, consumers, investors, representatives of state and local authorities, social and social groups.

The principle of reasonable conservation of own assets implies that, firstly, assets are not subject to sale, even if they are highly liquid, the absence of which will lead to a drop in production volumes; and secondly, we need a weighted decision regarding the assets not currently involved in the production process, but which, in the long run, will be in demand in connection with the projected increase in production.

The addressing principle involves securing certain sources of cash inflow for certain obligations of the enterprise.

The principle of efficiency implies, in the case of early detection of a crisis, immediate analysis to identify the causes of loss of solvency and take appropriate measures to restore it [17].

The most complex and ambiguous problem of the process of assessing liquidity and solvency of an enterprise is the substantiation of methods and methodological approaches.

The method of evaluation, in our opinion, depends on the object, subject, goal,

criterion, information base. Regarding the system of indicators, it is selected based on the methodological approach and depth of the evaluation process (express or fundamental research).

In the economic literature, there are various methodological approaches to assessing the liquidity and solvency of economic entities.

Express-analysis of liquidity and solvency involves an operational, visual and sufficiently simple assessment, which can be based on the official financial statements of both internal and external users of its results. In the process of express evaluation, the main articles of the company's balance, changes in the size and structure of current assets and current liabilities are studied.

A fundamental or in-depth analysis is a thorough detailed examination of not only a large number of various indicators of liquidity and solvency of the enterprise, but also of all processes and phenomena that contribute to their development at the time of the assessment and in the future.

The static approach to the analysis of economic systems in its pure form is a theoretical construct, which proceeds from the fact that the parameters of the environment are given and remain unchanged, the achieved situation is determined only by the internal properties of the system and is stored for an arbitrarily long time, the factor of time is not significant.

The comparative statics is based on the estimates of the new state of the system in comparison with the old one and, which is very important, takes into account the impact of changes in the environment. The role of time is defined as a discrete variable whose value corresponds to the ordinal sequences of the events under consideration [18].

To assess the liquidity, solvency and creditworthiness of an enterprise it is expedient to use a system of indicators calculated according to the data form No. 1 "Balance" of the annual report(App. C).

To survive in a market economy and prevent bankruptcy of the enterprise, we need to know how to manage finances, solvency, what should be the structure of capital in composition and sources of education, what share should own funds, and

which - borrowed. The main goal of solvency management is timely identify and eliminate deficiencies in financial activities and find reserves to improve solvency.

Management solvency of the enterprise and its analysis are engaged not only managers and related services, but also its founders, investors. To study resource efficiency, banks to assess the conditions lending, risk assessment, suppliers for timely receipt of payments, tax inspections to implement the plan budget revenues, etc. In accordance with this analysis in order solvency management is divided into internal and external.

Internal analysis is carried out by the services of the enterprise, and its results used for planning, forecasting and control. His goal is establish a systematic cash flow and place own and borrowed funds in such a way as to provide the normal functioning of the enterprise, maximizing profits and the exclusion of bankruptcy.

External analysis is carried out by investors, suppliers material and financial resources by regulatory authorities on based on published reporting. His goal is to establish the opportunity profitable to invest to ensure maximum profit and eliminate the risk of loss.

The solvency management of the enterprise is carried out by comparing the availability and receipt of funds with payments of the first necessary. Distinguish between current and expected (prospective) solvency. Current solvency is determined at the date balance sheet. An enterprise is considered solvent if it has no overdue debts to suppliers on bank loans and other calculations. Expected (prospective) solvency determined for a specific forthcoming date by comparing the amount means of payment with urgent (primary) obligations enterprises on this date. In the analysis of solvency, except quantitative indicators, you should study the qualitative characteristics, not quantifiable, which can be characterized as depending on the financial flexibility of the enterprise.

In contrast to liquidity, which is an indicator solvency, liquidity management is a process systematic, conscious, deliberate impact enterprise management to the level of its liquidity on the basis of knowledge and use of objective patterns and progressive trends in the interests of ensuring effective functioning and development enterprises



in general [19].

Practice shows that there are no universal methods management of the solvency of the company, the choice of ratio equity and borrowed capital not only for similar economic subjects, but even for one company at different stages of its development and at different conjuncture of commodity and financial markets.

Three fundamentally different approaches to strategic solvency management of the company:

- strategy of accumulation and transformation of assets, involving the constant presence on the balance sheet of a significant amount of the company highly liquid resources as a guarantee of repayment of obligations. This strategy is rated as the least risky and the most expensive, leading to a decrease in the overall level of business profitability;
- a borrowing strategy, consisting in attracting capital only at the time of insufficiency for repayment of obligations. With this approach, payment opportunities are characterized as a stream, rather than as a stock. This strategy is the most risky;
- balancing strategy, assuming the optimal combination of two previous approaches: part of the need for liquid resources covered by own reserves, the other part – by borrowing. This strategy is flexible, lower cost versus accumulation strategy and transformation assets with less risk than strategy borrowing.

Whatever strategy the company chooses, it should become an instrument of long-term trends in economic development and adaptation to them [20].

Consequently, liquidity and solvency indicators are important in the system of enterprise performance indicators, as they provide support for the financial equilibrium of the enterprise. On this basis, we can draw reasoned conclusions about accelerating the turnover of all components of the company's property and assets, and therefore, on the state of its business activity.

## CHAPTER 2

### ANALYSIS OF SOLVENCY PJSC OBOLON

#### 2.1 The main financial indicators of enterprise's economic activity analysis

Traditionally, an enterprise analysis begins with the study of key indicators that can affect the economic activity of the enterprise. Therefore, we initially decided to consider the main components of the Balance of the enterprise.

First of all, we will analyze the dynamics (Tab. 2.1) and structure (Tab. 2.2) of assets of PJSC "Obolon" for 2016-2018.

*Table 2.1*

#### Dynamics analysis of the assets of PJSC "Obolon" for 2016-2018, ths. UAH

Indicator	31.12.2016	31.12.2017	31.12.2018	Growthrate, %		
				2017/2016	2018/2017	2018/2016
Fixed assets	5421561	5141361	4867736	-5,17	-5,32	-10,22
Intangible assets	9810	8337	6857	-15,02	-17,75	-30,10
Construction in Progress	24363	48455	20201	98,89	-58,31	-17,08
Others financial investments	18931	18522	109397	-2,16	490,63	477,87
The others long term assets	14	14	14	0	0	0
<b>Total non-current Assets</b>	<b>5474679</b>	<b>5216689</b>	<b>5004205</b>	<b>-4,71</b>	<b>-4,07</b>	<b>-8,59</b>
Inventories	881787	750563	719638	-14,88	-4,12	-18,39
Accounts Receivable for goods and services	169695	297870	203818	75,53	-31,57	20,11
Accounts receivable (arrears) in payments:						
to budget	35477	51466	89746	45,07	74,38	152,97
Other current accounts receivable	39468	71280	35310	80,60	-50,46	-10,54
Cash and cash equivalents	9597	430965	9897	4390,62	-97,70	3,13
Other Current Assets	48394	46172	16876	-4,59	-63,45	-65,13
	5707	16455	30659	188,33	86,32	437,22

<b>Total current Assets</b>	<b>1190125</b>	<b>1664771</b>	<b>1105944</b>	<b>39,88</b>	<b>-33,57</b>	<b>-7,07</b>
<b>Total Assets</b>	<b>6664804</b>	<b>6881460</b>	<b>6110149</b>	<b>3,25</b>	<b>-11,21</b>	<b>-8,32</b>

According to the data presented in Tab. 2.1, we can conclude that the volume of assets of the enterprise for the investigated period decreased by 554655 thousand UAH, which was 8.32%. Such a dynamics of assets is ensured by the decrease of irreversible and reversible components of assets of PJSC "Obolon". Although the growth rate of non-current assets was characterized by larger decrease, over the period by 8.59%, than current assets, which reduce by 7.07% for 2016-2018.

As a part of current assets, there was a significant decrease in the amount of cash and cash equivalents by 65.13% and inventories by 18.39%. Other components have been increasing, especially other current accounts receivable, which is not quite good dynamics, because free money decreased in circulation.

As part of the non-current assets, most of the components have experienced a slight decrease, the largest decrease in intangible assets by 30.10%, which indicates the non-innovative orientation of the enterprise and the reduction of investment in intellectual property. The largest growth was due to unfinished capital investments of 477.87%, which indicates an improvement in the production potential of the enterprise and to be the result of the commissioning of new facilities in order to expand production.

*Table 2.2*

**Structure analysis of the assets of PJSC "Obolon" for 2016-2018, %**

<b>Indicator</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Growth rate, %</b>		
				<b>2017/2016</b>	<b>2018/2017</b>	<b>2018/2016</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Fixed assets	81,346	74,713	79,666	-8,15	6,63	-2,06
Intangible assets	0,147	0,121	0,112	-17,69	-7,37	-23,76
Construction in Progress	0,366	0,704	0,331	92,63	-53,05	-9,56
Others financial investments	0,284	0,269	1,790	-5,24	565,19	530,33
The others long term assets	0,000	0,000	0,000	-3,15	12,62	9,08
<b>Total non-current Assets</b>	<b>82,143</b>	<b>75,808</b>	<b>81,900</b>	<b>-7,71</b>	<b>8,04</b>	<b>-0,30</b>
Inventories	13,231	10,907	11,778	-17,56	7,98	-10,98
Accounts Receivable for goods and services	2,546	4,329	3,336	70,01	-22,94	31,01
Accounts receivable	0,532	0,748	1,469	40,50	96,39	175,93



(arrears) in payments:						
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*Continuation of Tab. 2.2*

1	2	3	4	5	6	7
to budget	0,592	1,036	0,578	74,92	-44,21	-2,41
Other current accounts receivable	0,144	6,263	0,162	4249,24	-97,41	12,49
Cash and cash equivalents	0,726	0,671	0,276	-7,60	-58,84	-61,96
Other current Assets	0,086	0,239	0,502	179,25	109,84	485,98
<b>Total current Assets</b>	<b>17,857</b>	<b>24,192</b>	<b>18,100</b>	<b>35,48</b>	<b>-25,18</b>	<b>1,36</b>
<b>Total Assets</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>-</b>

Consider the structure of assets of the enterprise in Tab. 2.2. As a part of current assets, there was a significant decrease in the amount of cash and cash equivalents by 61.96% and inventories by 10.98%. Other components have been increasing, especially other accounts receivable in payments, which is not quite good dynamics, because free money decreased in circulation.

As part of the non-current assets, most of the components have experienced a slight decrease, the largest decrease in intangible assets by 23.76%, which indicates the non-innovative orientation of the enterprise and the reduction of investment in intellectual property. The largest growth was due to unfinished capital investments of 530.33%, which indicates an improvement in the production potential of the enterprise and to be the result of the commissioning of new facilities in order to expand production.

Regarding the structure of the company's assets, non-current assets account for 75% to 82%, while the share of current assets is about 20%. This asset structure is typical for industrial enterprises. As a part of the structure of assets of the enterprise for the period under study, no significant changes occurred, the share of non-current assets decreased during the reporting period, respectively, the share of current assets increased. Non-current assets account for the largest share of fixed assets (from 74% to 81%), while other indicators are less than 1%. As a part of current assets a large share occupy only inventories of about 13%, and the lowest of the last reporting date, other current accounts receivable of 0.162%.

After analyzing the assets of the enterprise, it is necessary to consider the dynamics of the overall capital structure of PJSC "Obolon". In App. A, shows the main components of the company's equity.

From App. A, we can see that the Owner's Equity capital is decrease over the entire period under investigation by 10.17%, which indicates that the enterprise may be on the verge of bankruptcy. The greatest loss were reserve capital, which indicates the deterioration of the financial stability of the enterprise and retained earnings, which characterizes the part of net profit, which remains at the disposal of the enterprise after the payment of income to owners in the form of dividends, formation of reserve capital, replenishment of the authorized capital and use for other needs.

Let's turn to the analysis of the debt capital of the enterprise of PJSC "Obolon" for 2016-2018.

From App. A, we can conclude that Long-term liabilities shows a tendency to a steady increase of 4.90% over the entire period, which results in liabilities to the banking institution for the principal amount and interest accrued. When calculating interest on a loan, the company increases not only its current liabilities, but also financial expenses.

Short-term liabilities decreased over the study period, this indicates good dynamics, because the enterprise improves its ability to meet its current obligations within one year.

If we talk about the capital structure (App.B), over the whole period, borrowed capital was about 65%. Short-term liabilities prevail over Long-term liabilities in 2016 and 2018. In 2017, we can observe that Long-term liabilities account for about 40% of total capital, due to the growth of Long-term bank loans by 356.17%. Borrowing is contributing to the growth of the enterprise, but it is important that the company can repay its debts in advance by creditors and suppliers.

In the structure of Owner's Equity no significant changes were not observed during 2016-2018. The largest share is held by capital in surplus about 45%. The largest changes in the structure were made by retained earnings, which decreased by 7.40% over the period. That means that the enterprise does not have sufficient funds

to invest in the development of production and the efficient operation of the enterprise.

From this analysis, one can see that equity is less than a loan, which indicates the unsatisfactory financial sustainability of the enterprise. In order to ensure this, consider the main indicators that characterize the financial situation of the enterprise in Tab. 2.3.

The coefficient of financial autonomy indicates which part of the assets a company can finance from its own financial resources. The financing ratio characterizes the amount of borrowed funds borrowed per unit of equity, that is, the degree of dependence of the company on external sources of financing. The debt ratio shows the share of borrowed capital in the total capital of the enterprise.

*Table 2.3*

**Dynamics of financial stability of PJSC “Obolon”, 2016-2018**

Indicator	2016	2017	2018	Normative value	Absolute deviation, +/-		
					2017/2016	2018/2017	2018/2016
The coefficient of financial autonomy	0,33	0,35	0,36	$\geq 0,5$	0,02	0,01	0,03
Financing factor	2,01	1,87	1,76	$\leq 1$	-0,14	-0,11	-0,25
Debt ratio	0,67	0,65	0,64	$\leq 0,5$	-0,02	-0,01	-0,03
Long term liability	0,53	0,76	0,55	$\geq 1$	0,23	-0,21	0,02

Based on tables above, it can be said that all of the above figures for the period 2016-2018 do not correspond to normative values, indicating poor financial stability. In order to increase financial sustainability, it is necessary to change the financial strategy in order to accelerate economic growth, increase the volume of positive cash flow, increase the amount of cash assets that cover current liabilities and reduce the amount of current external (internal) financial liabilities of the enterprise.

For a more detailed study of an enterprise, it is necessary to consider the Report on the financial results, which contains information on income and expenses, financial results of the enterprise and total income.



According to Tab. 2.4, we can observe that the net income from sales of products is increasing during the period under investigation.

From Tab. 2.4 we can see that the average number of employees with each year decreased, according to which the wage fund increased by 59548 thousand UAH in 2018 compared to 2015. Labor productivity characterizes the number of products produced per unit time by the employee for a certain period, from the table we can see that labor productivity increased during the period, with a decrease in the number of employees, indicating the effective use of labor resources.

The turnover rate of working capital, decreased for the period under study, such a decrease suggests that the company needs more resources in order to maintain the current level of activity. Such a reduction leads to a reduction in the part of free financial resources that could be used to finance current activities.

The average number of full-time employees decreased for the period of 705 people, the productivity of labor increased by 650,75 thousand UAH / person, according to which the payroll increased too.

During 2015-2016, the company is loss-making, since net profit (NP) has a negative value, while this indicator tends to change in 2017, net profit increased by 1061823 thousand UAH compared to the previous period.

However, such a positive dynamic did not last long in 2018, the PJSC Obolon had a net loss of 365420 thousand UAH, which is a rather negative dynamics, as it will hold back the development of the company, will not allow dividends to be paid and reserve funds to be created.

*Table 2.4*

**Dynamics of the main economic indicators of the enterprise, 2015-2018**

Indicator	2015	2016	2017	2018	Growth rate, %		
					2016-2015	2017-2016	2018-2017
1	2	3	4	5	6	7	8
Net income from sales of products (goods and services), thousand grivens	444124 6	4310214	4963232	507876 4	-2,95	15,15	2,33

Prime cost of sold products, thousand grivens	309170 2	3290800	3565168	429237 0	6,44	8,34	20,40
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*Continuation of Tab. 2.4*

1	2	3	4	5	6	7	8
Operating expenses, thousand grivens	4403114	4726833	5062584	5663043	7,35	7,10	11,86
Gross profit, thousand grivens	1349544	1019414	1398064	786393	-24,46	37,14	-43,75
Net profit, thousand grivens			176580			119,9 5	
Net loss, thousand grivens	-711875	-885243		-365420	24,35		- 306,94
Operating expenses for one UAH net income, grivens	0,99	1,1	1,02	1,11	11,11	-7,27	8,82
The average number of full-time employees, persons	3192	2830	2602	2487	-11,34	-8,06	-4,42
Payroll, thousand grivens	279183	316144	338219	338731	13,24	6,98	0,15
Productivity, thousand grivens / persons	1391,37	1523,04	1907,47	2042,12	9,46	25,24	7,06
Average annual salary of staff, thousand grivens / persons	87,46	111,71	129,98	136,2	27,73	16,35	4,79
- Average annual salary of staff per month, thousand grivens / persons	7,29	9,31	10,83	11,35	27,71	16,33	4,80
Average working capital balances, thousand grivens	1344233	1367535	1190125	1664771	1,73	-12,97	39,88
Working capital turnover ratio	3,3	3,15	4,17	3,05	-4,55	32,38	-26,86

From the above, we do not have the opportunity to calculate the financial profitability of the company in 2015-2018, since the net profit  $\leq 0$ , except for 2017, it can be concluded that PJSC "Obolon" for this period was not profitable.

For the further growth of these indicators, first of all, more attention should be paid to increasing the speed of working capital, reducing all types of stocks, reducing production costs by increasing the level of productivity, economic use of raw materials, materials, fuel, electricity, equipment.

## 2.2 Determination and analysis of liquidity and solvency

In the previous paragraph, we found that the company has poor financial stability and is unprofitable for 2015-2016 and 2018 years. Therefore, let's turn to the study of solvency and liquidity of PJSC "Obolon". We will find out the company's cash and cash equivalents sufficient for timely repayment of its debt obligations.

To do this we will find the main indicators of liquidity and solvency of the company for 2016-2018 years.

Table 2.5

### Dynamics of indicators of liquidity and solvency PJSC "Obolon", 2016-2018

Indicator	Actually on:			Absolute deviation, +/-		
	31.12.2016	31.12.2017	31.12.2018	2017/2016	2018/2017	2018/2016
1	2	3	4	5	6	7
Total liquid assets, ths. UAH	1190125	1664771	1105944	474646	-558827	-84181
Total quickly liquid assets, ths. UAH	308338	914208	386306	605870	-527902	77968
Total means of payment, ths. UAH	48394	46172	16876	-2222	-29296	-31518
Security ratio:						
Liquid assets	0,179	0,242	0,181	0,009	-0,061	0,002
Quickly liquid assets	0,046	0,133	0,063	0,087	-0,07	0,017
Means of payment	0,007	0,007	0,003	-	-0,004	-0,004
Current liquidity ratio	0,383	1,041	0,405	0,658	-0,636	0,022
The ratio of intermediate liquidity	0,099	0,571	0,141	0,472	-0,43	0,042



*Continuation of Table 2.5*

1	2	3	4	5	6	7
The ratio of absolute liquidity	0,016	0,029	0,006	0,013	-0,023	-0,01
Coefficient of diversion current assets:						
In inventories	0,741	0,451	0,651	-0,29	0,2	-0,09
In receivables	0,214	0,511	0,306	0,297	-0,205	0,092
The ratio of inventories to cover current liabilities	0,284	0,469	0,264	0,185	-0,205	-0,02
Own working capital, ths. UAH	-3156439	-2721207	-2921657	435232	-200450	234782

First, we fix the amount of liquid assets in the enterprise, which is equal to the second section of assets, that is, current assets, then calculate the sum of highly liquid assets, which are equal to the main assets minus stocks.

The next step we calculate the security ratio for 2016-2018, which represents the level of provision of the company with liquid assets, quick-liquid assets and ready-made means of payment. In Tab. 2.5, we compute the main solvency ratios of the enterprise, which include the ratio of absolute liquidity, the ratio of intermediate liquidity and current liquidity ratio.

Next can be considered the ratio of diversion of current assets to stocks and receivables. Diversion of current assets in stocks during the period decreases, meanwhile, the diversion of current assets into accounts receivable increases.

Own working capital has a negative value, so the calculation of the self-financing factor and maneuvering are impossible.

Negative value of own working capital arises when the short-term debt of an enterprise exceeds the value of all current assets. Thus, enterprises that do not form their own working capital are in a situation of increased financial risk, including the risk of loss of solvency and bankruptcy.

From Tab. 2.5, we can draw the following conclusions: in the study of security

ratios for 2016-2018, we can say that all indicators have different dynamics. The amount of liquid assets per unit of total assets during the period increased by 0.002; fast-liquid assets at 0.017; the ready-made means of payment during the period decreased by 0.004. The least on the total number of assets is cash.

The current liquidity ratio also shows a tendency to increase, during the period it increased by 0.022, that is, the increased degree of coverage of short-term liabilities of working assets, which means an increase in the number of working capital to repay debts. The intermediate coverage ratio also shows a similar trend over the entire period, it increased by 0.042, which is quite substantial, that is means that a part of current liabilities that could be repaid immediately was reduced.

The absolute liquidity ratio decreased by 0.001 over the period from 2016 to 2018, that is, a portion of current liabilities that could be repaid immediately was reduced.

Fig. 2.1 shows the dynamics of the data of the three coefficients, and the corresponding color is the boundary of the normative value of the indicator. Based on the schedule, one can observe that absolutely no indicator for 2016-2018, did not meet the norm.

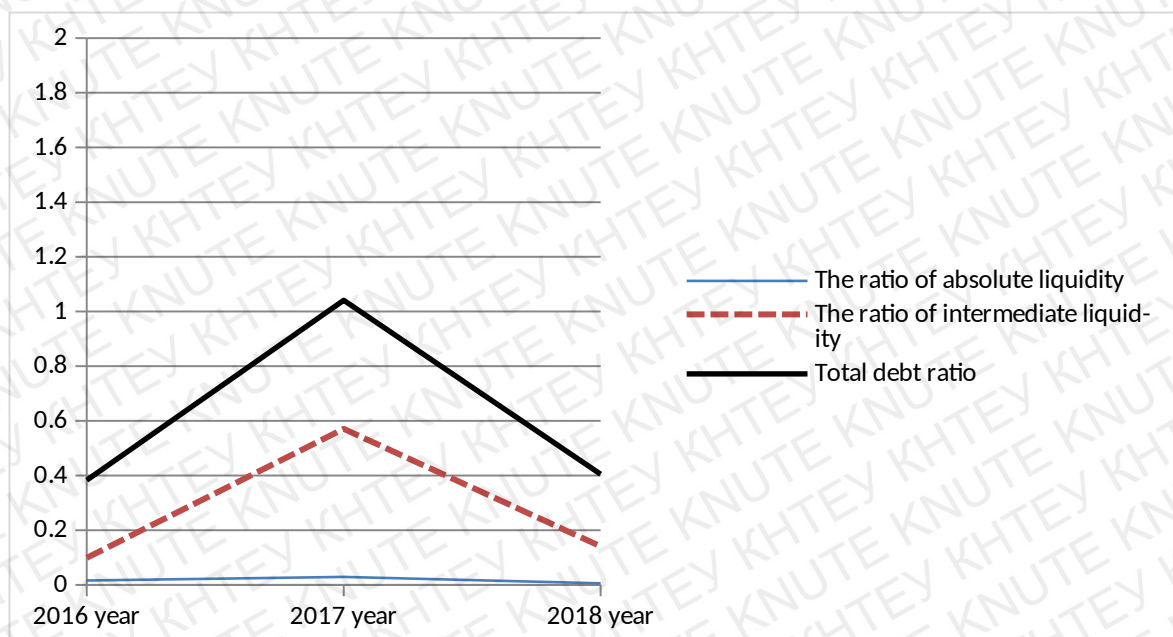


Figure 2.1. Dynamics of the main solvency ratios of 2016 -2018

The overall coverage ratio below the regulatory one indicates the problem of

solvency, because current assets are not enough to respond to current liabilities. This leads to lower credibility of the company by lenders, suppliers, investors and partners. In addition, solvency problems lead to an increase in the cost of borrowed funds and, as a result, to direct financial losses.

The low absolute liquidity ratio indicates that the company will not be able to repay its debts in a timely manner if the maturity is due shortly. Significance above normative may also point to problems in the company and indicate an ineffective strategy for managing financial resources. Cash, unlike other assets, does not participate in the production and sales process, they do not generate income of the company.

Now, turn to the analysis the type of financial stability the enterprise PJSC "Obolon". Financial stability of an enterprise (Financial Stability) depends on the effective management of financial resources and is determined by the optimal structure of assets, the optimum ratio of own and borrowed funds, the optimum ratio of assets and sources of their financing.

The simplest method of assessing liquidity and solvency is to analyze the liquidity of the balance sheet, which is based on the comparison of individual groups of assets of an enterprise of different levels of liquidity with individual groups of sources of formation of its capital at different maturities. To perform liquidity analysis of the balance form one of the types of analytical balance, Tab. 2.6.

*Table 2.6*

**Analysis of liquidity balance PJSC "Obolon", 2016-2018**

Assets				Liabilities			
Group name	Value			Group name	Value		
	2016	2017	2018		2016	2017	2018
Absolutely liquid assets (A1)	48394	46172	16876	Most urgent obligation (L1)	170911	207088	141540
Fast-moving assets (A2)	254237	851581	338771	Short term liabilities (L2)	936447	964495	1157521

*Continuation of Tab. 2.6*



Assets				Liabilities			
Assets with average liquidity (A3)	906425	785540	140056	Long-term liabilities (L3)	2002306	428268	1431062
Difficult to liquid and illiquid assets (A4)	5455748	5198167	5614446	Permanent liabilities (L4)	3555140	5281609	3380026
<b>Total assets</b>	<b>6664804</b>	<b>6881460</b>	<b>6110149</b>	<b>Total liabilities</b>	<b>6664804</b>	<b>6881460</b>	<b>6110149</b>

The sum of all four groups of liabilities and assets should be equal to the cumulative value of the balance sheet currency of the enterprise. Assets and liabilities groups are compared with each other in internal and external diagnostics when assessing liquidity balance. The balance is recognized as absolutely liquid in cases where all inequalities are fulfilled, namely:  $A1 > L1$ ,  $A2 > L2$ ,  $A3 > L3$ ,  $A4 < L4$ .

Comparison of assets and liabilities of PJSC "Obolon" is shown in Tab. 2.7. We can observe that in 2016 and 2018 the balance was illiquid, because  $A4 > L4$ . When this inequality is fulfilled, one can judge about the poor financial stability of the enterprise, the absence of his own working capital. In 2017 we observed prospective liquidity - this is a solvency forecast based on a comparison of future receipts and payments:  $A3 > L3$ ;  $A4 < L4$ . But since this trend did not hold in 2018, we cannot say that in 2017 it was good dynamics.

*Table 2.7*

**Comparison of groups of assets and liabilities PJSC "Obolon", 2016-2018**

Group name	31.12.2016	31.12.2017	31.12.2018
A1 and L1	<	<	<
A2 and L2	<	<	<
A3 and L3	<	>	<
A4 and L4	>	<	>

This stage of analysis of the financial condition of the enterprise allows to determine the current level of financial stability of the enterprise among the possible options - absolute financial stability, satisfactory, problematic financial condition, crisis state. Define the type of financial stability in Tab. 2.8:

Table 2.8

**Type of financial stability of the enterprise PJSC "Obolon", 2016-2018**

Indicators	Method of determination	Value of indicators, thousand UAH		
		2016	2017	2018
Own working capital	OWC = Owner's Equity - non-current assets	-3156439	-2721207	-2921657
Working capital	WC = Own working capital + Long-term liabilities	-2394506	-446252	-2166580
The total value of the main sources of working capital formation	TV = own and long-term liabilities + short-term loans	557810	1057806	482277
Inventories		881787	750563	719638
Correlation		Inventories > total value of the main sources of working capital formation	Inventories < total value of the main sources of working capital formation	Inventories > total value of the main sources of working capital formation
Value		881787 > 557810	750563 < 1057806	719638 > 482277
<b>Type of financial stability</b>		<b>crisis financial condition</b>	<b>unstable financial condition</b>	<b>crisis financial condition</b>

In 2016 the company had crisis financial condition characterized by complete loss of solvency. The source of financing the stocks of such enterprises is their accounts payable. Usually, this condition is a consequence of the lack of response to the manifestations of weak signals of the financial crisis, which later turned into strong ones. Such strong signals (for example, long-term generation of losses from the implementation of production and financial activities, which is accompanied by the presence of overdue loans), the management staff of the enterprise is no longer able to overcome on their own. In 2016 the enterprise PJSC "Obolon" had a considerable amount of short-term loans, which were not repaid on time.

In 2017 we can see that commitments for short term bank loans significantly decreased by 79.00%. Resulting this inventories was less than total value of the main sources of working capital formation. So the enterprise PJSC "Obolon" had an unstable financial condition, characterized by a breach of its current solvency. The

source of financing the stocks of such enterprises is their own working capital, long-term liabilities and short-term loans.

However, the company was unable to maintain this position and in 2018 increased the number of short-term loans, the company was could not repay in time her short-term liabilities and long-term liabilities. So the enterprise PJSC "Obolon" had again crisis financial condition. We can say, the enterprise not enough working capital and short-term bank loans, that is, it finances its main activity only with long-term bank loans.

Additional indicators that provide an opportunity to comprehensive assess the ability of an enterprise to repay liabilities can be considered through a group of relative indicators characterizing the long-term solvency of the organization (Tab. 2.9).

*Table 2.9*

**Long-Term Solvency Assessment Indicators, 2016-2018**

Indicator	2016	2017	2018	Absolute deviation, +/-		
				2017/2016	2018/2017	2018/2016
<b>Owner's Equity, thousand UAH</b>	2318240	2495482	2082548	177242	-412934	-235692
<b>Working capital</b>	-3156439	-2721207	-2921657	435232	-200450	234782
<b>Financial autonomy ratio</b>	0,348	0,363	0,341	0,015	-0,022	-0,007
<b>Factor of financing</b>	0,533	0,569	0,517	0,036	-0,052	-0,016
<b>Equity ratio in long-term sources of financing</b>	0,652	0,472	0,616	-0,180	0,144	-0,036

For research the long term solvency we need to consider an indicator such as own equity of the enterprise PJSC "Obolon". If consider this indicator for the whole period, we can see that its value has decreased due to decreased of reserve capital. The decrease reserve capital indicates that the enterprise has a large amount of profit that is not sufficient to finance the activity of the enterprise and it has losses from its activities.



Using own equity we can calculate the financial autonomy ratio, which show what part of the assets the company is able to finance at the expense of its own financial resources, for example, in 2016 the enterprise PJSC "Obolon" the company is able to finance 34,8% of assets at the expense of equity, in 2017 – 36,3% and in 2018 – 34,1%.

In all periods, the indicator does not meet the regulatory value (more than 0.5), and a low indicator indicates a high level of risk and low sustainability of the company in the long run. During the period the financial autonomy ratio is declined, it means that if it continues, the enterprise may be on the verge of bankruptcy.

The next indicator we considered the financing ratio, which indicates how much equity of a company's equity equals each hryvnia. The regulatory value of this indicator is more than 1, but the low value of the indicator does not indicate a bankruptcy, it may indicate the presence of financial risks in the long run. The enterprise PJSC "Obolon" has a value that is not compliance normative, moreover, the coefficient of financing has decreased over the whole period as well as the previous indicator.

The last ratio is equity ratio in long-term sources of financing, the enterprise PJSC "Obolon" is not stable enough, so the positive growth of equity ratio in long-term sources of financing will be positively evaluated. But during 2016-2018 this indicator decreased, that is, the share of equity took a smaller part in financing sources.

Based on the above information, we can say that the company is in a difficult position. To increase the value of current liquidity it is necessary to work in the direction of increasing the amount of current assets and reducing the amount of current liabilities, for a reduction in the amount of current liabilities, company can arrange a loan for a longer period of time.

### 2.3 The influence of cash turnover on the solvency at the enterprise

Generally, the company's cash turnover is a real movement of cash associated with the distribution and use in the course of business, includes revenue and expenses.

Analysis of cash turnover, proceeding from its types. As we know, the main types of cash turnover include: cash turnover from operating activities, cash turnover from investment activities, cash turnover from financial activities.

First, consider the structure of cash turnover from operating activities for Tab. 2.10:

Table 2.10

#### Dynamics of cash flow from operating activities PJSC "Obolon", 2015-2018, ths.UAH

Indicator	2015	2016	2017	2018	Growth rate 2018/2015, %
1	2	3	4	5	6
<b>Inflows from:</b>	<b>5076965</b>	<b>5523213</b>	<b>6284209</b>	<b>7186872</b>	<b>2109907</b>
- from the sale of products (goods, works, services)	5043995	5337611	6143097	7045899	2001904
- from targeted funding	2778	6281	6158	5384	2606
- from buyers and customers	0	90683	57131	71276	71276
- from repayment of advances	653	1818	561	2229	1576
- from interest on balances on current accounts	307	3198	1192	1478	1171
- from debtors fines	369	39	178	0	-369
- Other revenues	28863	83583	75892	60606	31743
<b>Outflows on payment:</b>	<b>-4516924</b>	<b>-5050672</b>	<b>-5958680</b>	<b>-6736998</b>	<b>-2220074</b>
Goods (works, services)	-2892131	-2983697	-3788344	-4511185	-1619054
Work	-317165	-351255	-407522	-440557	-123392
Deductions for social events	-147130	-91666	-103553	-115726	31404

Obligations on taxes and fees	-1133795	-1572133	-1288479	-1307851	-174056
Expenditures for payment of tax obligations on:					

*Continuation of Tab. 2.10*

1	2	3	4	5	6
- profit			-5219	-4613	-
- added value	-292021	-352706	-320161	-301943	-9922
Expenditures for payment of liabilities from other taxes and duties	-832566	-1215169			-
Expenses on payment of return of advances	-1905	-6783	-1215	-4930	-3025
Spending on target pays	-2570	-2584	-2112	-3744	-1174
Other spending	-26832	-44683	-42075	-46449	-19617
<b>Net cash flow from operating activities</b>	<b>560041</b>	<b>472541</b>	<b>325529</b>	<b>449874</b>	<b>-110167</b>

Based on Tab. 2.10, we can observe positive net cash, during the period not substantially changed, but, looking at the values for the whole period, the net cash flow decreased by 110167 thousand UAH, which is not good dynamics, because operating activity is the main and related to the production and sales of products. The largest revenue from sales of products, the implementation of which over the past three years increased by 39.67%. The largest expense, respectively, for the payment of these goods and for payment of liabilities from other taxes and fees.

Investment activity is one of the important areas of multidisciplinary activity in a market environment, the firm's success in the near and far-off perspective depends on the intensity and efficiency of investment processes.

*Table 2.11*

**Cash flow as a result of investment activity PJSC "Obolon",  
2015-2018, ths.UAH**

Indicator	2015	2016	2017	2018	Growth rate 2018/2015, %
1	2	3	4	5	6



<b>Inflows from sale:</b>	<b>35420</b>	<b>12376</b>	<b>173676</b>	<b>422715</b>	<b>387295</b>
- financial investment			168490	411591	-
- non-current assets	8936	5294	2762	7444	-1492

*Continuation of Tab. 2.11*

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
- percentages	25600	6022	2043	2780	-22820
- dividends	884	1060	381	0	-884
Other revenues				900	-
<b>Outflows on acquisition:</b>	<b>-154345</b>	<b>-167677</b>	<b>-145484</b>	<b>-156995</b>	<b>-2650</b>
- financial investment	0	0	0	-7	-7
- non-current assets	-154345	-167677	-145484	-156988	-2643
<b>Net cash flow from investment activities</b>	<b>-118925</b>	<b>-155301</b>	<b>28192</b>	<b>265720</b>	<b>384645</b>

Considering the data in Tab. 2.11, it can be said that investment activity was going down during 2015-2016, and for the whole period of PJSC "Obolon" there were less revenues than expenditures. However, from 2017, we can observe that the net cash flow has a positive value, which indicates the effectiveness of investment deposits. Absolutely all revenues for 2015-2018, decreased by more than half, a drop in the percentage of revenues from the sale of interest, which decreased by 89.14%. Most of all, the company spends on the purchase of non-current assets for investing activities, the cost of which in recent years has grown by 1.72%.

*Table 2.12*

### **Dynamics of cash flow as a result of financial activity of PJSC**

**"Obolon", 2015-2018, ths. UAH**

<b>Indicator</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Growth rate 2018/2015, %</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Inflows from:</b>	<b>404067</b>	<b>34000</b>	<b>68834</b>	<b>74141</b>	<b>-329926</b>
Getting loans	403872	34000	68834	72250	-331622

Other revenues	195	0	0	1891	1696
<b>Outflows on payment:</b>	<b>-995332</b>	<b>-388427</b>	<b>-425882</b>	<b>-817899</b>	<b>177433</b>
Repayment of loans	-624034	-138418	-153722	-584796	39238

*Continuation of Tab. 2.12*

1	2	3	4	5	6
Payment of dividends	-17182	0	0	0	17182
Spending on interest payments	-336556	-240189	-270388	-233103	103453
other payments	-17560	-9820	-1772	0	17560
<b>Net cash flow from financial activities</b>	<b>-591265</b>	<b>-354427</b>	<b>-357048</b>	<b>-743758</b>	<b>-152493</b>

Financial activity is a system of norms and methods used to financially ensure the functioning of enterprises and achieve their goals, search for reserves for increased revenue and profit, profitability and solvency, mobilization of financial resources for the financing of industrial and social development and increase of own capital.

Net cash flow from financial activities also shows a slight downward trend for 2015-2018. This indicates that the company does not increase its profits, has poor profitability and solvency, which was also found above in the section.

We will create a general table on cash flows, Tab. 2.13. In table, the revenues and expenses of each activity of the enterprise of PJSC "Obolon" are grouped in amounts already. Also, we calculated the total net cash flow during the reporting period. Since only the cash flow of operating activities was positive, while others did not, the overall indicator would be negative in 2015-2018, which is negative for the enterprise, since costs exceed the inflow and the company does not have a pure cash flow.

*Table 2.13*

**Dynamics of cash flows of PJSC "Obolon", 2015-2018, ths. UAH**

Indicator	2015	2016	2017	2018	Growth rate 2018/2015, %
1	2	3	4	5	6

<b>1. Operating activities:</b>					
Inflows	5076965	5523213	6284209	7186872	141,56
Outflows	-4516924	-5050672	-5958680	-6736998	149,15

*Continuation of Tab. 2.13*

1	2	3	4	5	6
<b>Net cash flow from operating activities</b>	560041	472541	325529	449874	80,33
<b>2. Investment activities:</b>					
Inflows	35420	12376	173676	422715	1193,44
Outflows	-154345	-167677	-145484	-156995	101,72
Net cash flow from investment activities	-118925	-155301	28192	265720	-223,43
<b>3. Financial activities:</b>					
Inflows	404067	34000	68834	74141	18,35
Outflows	-995332	-388427	-425882	-817899	82,17
Net cash flow from financial activities	-591265	-354427	-357048	-743758	125,79
<b>Total Inflows</b>	<b>5516452</b>	<b>5569589</b>	<b>6526719</b>	<b>7683728</b>	<b>139,29</b>
<b>Total Outflows</b>	<b>-5666601</b>	<b>-5606776</b>	<b>-6530046</b>	<b>-7711892</b>	<b>136,09</b>
<b>Net cash flow during the reporting period</b>	<b>-150149</b>	<b>-37187</b>	<b>-3327</b>	<b>-28164</b>	<b>18,76</b>

As of 2017, we can observe that the negative value of net cash flow began to decrease, such a dynamics positively affects the activity of the company, because the company forms funds for further development.

Now let's move on to calculating the free cash flow of the enterprise in Tab. 2.14. Free Cash Flow mean a fixed-term cash flow that a company disposes after investing in maintaining or expanding its asset base.

Free cash flow is calculated by the formula:  $FCF = \text{Net cash flow from operation activities} - \text{Capex}$ . During 2015-2018 the company had the positive value of free cash flow. This shows that enterprise PJSC "Obolon" uses its long-term



credits to finance the operating activities of the enterprise, does not repay these funds, but on the contrary invests them in capital investments.

Table 2.14

### Free Cash Flow of PJSC "Obolon" in 2015-2018

Indicator	2015	2016	2017	2018	Growth rate, %		
					2016/2015	2017/2016	2018/2017
Net cash flow from operating activities	560041	472541	325529	449874	-15,62	-31,11	38,20
Capex	-154345	-167677	-145484	-156995	8,64	-13,24	7,91
<b>Free Cash Flow</b>	405696	304864	180045	292879	-24,85	-40,94	62,67

The cash turnover of the enterprise as an indicator of activity, is a set of cash in the process of economic activity, that is, contains only expenditure. Based on this, we will create a separate table on the monetary turnover of the enterprise, that is, on its expenditure (Tab. 2.15).

Table 2.15

Indicator	2016	Specific weight, %	2017	Specific weight, %	2018	Specific weight, %	Growth rate 2018/2015, %
Cash turnover from operating activities	-5050672	90,08	-5958680	91,25	-6736998	87,36	149,15
Cash flow from investment activity	-167677	2,99	-145484	2,23	-156995	2,04	101,72
Cash turnover from financial activities	-388427	6,93	-425882	6,52	-817899	10,60	82,17
Total cash turnover	-5606776	100	-6530046	100	-7711892	100	136,09

### Dynamics of cash turnover by expenditure, 2015-2018, ths.UAH

Based on the data, it can be said that the largest total monetary turnover was in 2018, which grew compared with 2017 by 1181846 thousand UAH, and for the whole period by 36.09%.

If we consider the monetary turnover for certain types of activities, then the largest share is cash turnover in operating activities from 79% to 91%. Monetary turnover in investment activity has the smallest share from 2.04% to 2.99%, which indicates a low income from the invested funds.

Another area of analysis of cash flows is to determine their level of liquidity. The analysis of the liquidity of the net cash flow allows to investigate the enterprise's ability to make the necessary payments and fulfill its financial obligations. The liquidity level of a company's net cash flow is estimated based on the indicators calculated in Tab. 2.16.

Table 2.16

#### Characteristics of net cash flow liquidity ratios of PJSC "Obolon", 2016-2018

Indicator	2016	2017	2018	Absolute deviation,+/-		
				2017/2016	2018/2017	2018/2016
Cash flow liquidity ratio	-0,9993	-0,9998	-1,0001	-0,0005	-0,0003	-0,0008
Ratio of cash flow to net cash flow	-149,772	-1961,743	-272,821	-1811,97	1688,92	-123,05
Receivables collection ratio	21,907	7,664	22,681	-14,24	15,02	0,77
Ratio of coverage of accounts payable with cash inflows	1,791	4,080	2,814	2,29	-1,27	1,02
Cash replenishment ratio	569,721	141,357	455,305	-428,36	313,95	-114,42
Turnover ratio of current assets based on cash flows	4,680	3,920	6,948	-0,76	3,03	2,27

Considering the cash flow liquidity ratio, it can be observed that its value is less than one, which means that the company of PJSC "Obolon" needs to take measures to further attract investment resources. During the period we can observe the deterioration of this indicator. Since the net cash flow of an enterprise is negative, we cannot correctly calculate the Ratio of Cash Flow to Net Cash Flow, because it shows how much cash flow is required to get 1 UAH of net cash flow.

Ratio of accounts payable debt characterizes the ability of an enterprise to meet current obligations at the expense of cash. For the period, this indicator increased by 1.02, which means that it increased the ability of the enterprise to cover its current liabilities with cash inflows.

During 2016-2018, the cash balance is positive. However, a significant balance in the accounts of the company is not a good indicator, because the company needs to rationally use all its available funds. Turnover ratio of current assets based on cash flows increased by 2.27, which indicates the increase of the assets turnover on the basis of cash flows.

After analyzing this section, it can be concluded that PJSC "Obolon" is in a crisis situation. Almost all indicators of financial stability, profitability and solvency do not meet the standards. If you do not take appropriate measures, this trend will be observed in the future. The enterprise needs to develop a strategic plan to exit such a financial position, it is necessary to introduce inventory management of the company in order to optimize inventories of materials, work in progress and finished products. The optimization of stock levels should affect the redistribution of working capital of the enterprise, which is expected to increase the amount of liquid funds and reduce the amount of illiquid inventories.



### CHAPTER 3

#### THE MAIN WAYS TO INCREASE SOLVENCY OF PJSC OBOLON

All enterprise in a market economy conducts its business for profit. Its absence or insufficient size over a long period means that the enterprise is uncompetitive and, accordingly, sooner or later it becomes bankrupt and is subject to liquidation. Therefore, achieving profitability is a top priority for a business entity operating on a commercial basis .

The main problem of PJSC «Obolon» in 2015-2018 was the lack of net profit. The constant increase in the net loss testified to the lack of funds for payment of dividends, the creation of reserve funds, meeting the social and material needs of employees of the enterprise, certain social activities.

Profitability increases by increasing sales and reducing costs. Under increasing sales, can be considered:

- stimulating demand for enterprise products. First of all informing potential buyers of products (targeted advertising), flexible system of discounts, after sales service, providing comprehensive technical information, before and after sales consultations on the technical characteristics of products and its operation;
- expansion of the distribution network;
- entering new markets;
- comprehensive marketing studies of potential markets, exploring the opportunities and consequences of conducting an offensive (aggressive) marketing policy;
- release of new competitive types of products.

Optimization of liquidity of the enterprise is realized by means of an operational mechanism of financial stabilization - a system of measures aimed, on the

one hand, at reducing financial liabilities, and on the other - at increasing the monetary assets that provide these obligations .

An enterprise may reduce its financial liabilities at the expense:

- reducing the amount of fixed costs (including maintenance costs for management staff);
- reducing the level of variable costs;
- extension of the term of accounts payable on commodity transactions.

Increase the amount of cash that can be paid:

- refinancing of receivables (through factoring, accounting and discounting of bills, forfeiting, compulsory collection);
- acceleration of receivables turnover (by reducing the terms of commercial credit);
- optimization of inventories of inventories (by setting norms of inventories by the method of technical and economic calculations).

Therefore, we can identify the main ways to improve the financial stability of the company:

- increase of efficiency of use of fixed assets of the enterprise;
- increasing the intensity of use of current assets of the enterprise;
- increase of labor productivity;
- further increase in sales of goods;
- reduction of material operating expenses;
- expansion of the market of products (goods);
- attraction of investments (credits), etc.

Thus, the practical application of the proposed measures of stabilization of the production enterprise on the basis of the conducted analysis will contribute to the successful solution of the problems of solvency (financial stability) at the enterprise.

Currently, the demand for Ukrainian beer in the world is increasing due to the quality of the product, design and variety of varieties and methods of preparation. In 2018, Ukrainian producers exported 126 545 tonnes of malt beer, in financial terms -

worth \$ 5.42 million, which is 10% more than in 2017. Beer export directions in Ukraine in 2018 are shown in Fig. 3.1.

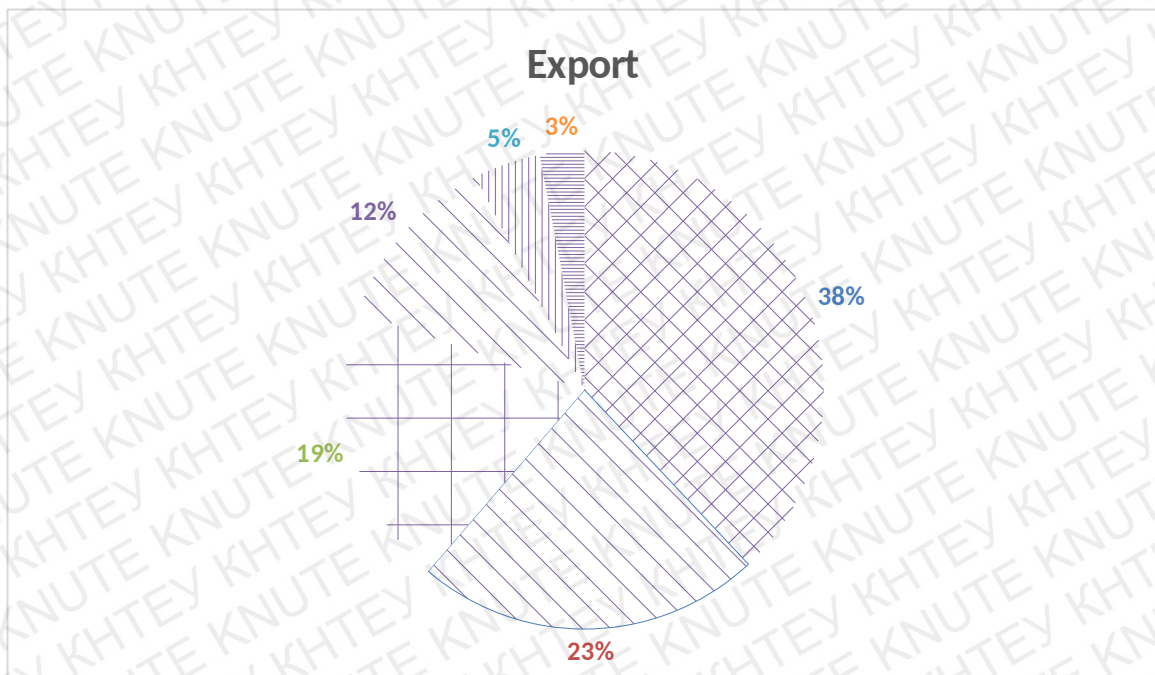


Figure. 3.1. Direction of export of Ukrainian beer in 2018

There is no information yet for the full year of 2019, but demand for beer has grown about 6% this year in the first six months. To forecast our performance, we also take into account the growth of the beer market in 2019

Let's try to consider the main ways to improve solvency and liquidity of PJSC "Obolon". For the last four years PJSC "Obolon" had net profit only in 2017, so we need to find some mechanisms that will help us make a profit in 2019.

In our opinion, to achieve a net profit we need:

- 1) access to new markets will allow to increase the net sales income by 10.2%, this value is achieved by increasing inflation in the country by about 2.70%, increasing product demand by 1.5% (through marketing operations) and include a 6% increase in beer market demand;
- 2) reduction of production cost by 2%, by means of improvement of means of labor: introduction of progressive technology, increase of a share of the improved equipment, application of progressive types of raw materials;



3) the payment of interest on the loan will reduce the amount of financial expenses.

Based on the above criteria, we will make a plan for 2019 and forecast for 2020 of the Statement of Financial Results (Table 3.1). The main purpose of this part of the forecast is to make a net profit that the enterprise will receive and then keep it in production during the planning year.

For forecasting 2020, we used a plan of measures that we used for 2019, only taking into account that inflation growth will be about 3.2%. Based on Tab. 3.1, it can be seen that by increasing the net sales revenue by 10.2% and reducing the cost by 2%, the company of PJSC Obolon will achieve a net profit of 120583 thousand UAH. Compared to the previous period net income from sales of products increase by 6.88%. We achieved this result by an average increase of the previous four years plus net income from sales of products 2018 multiplied this by the recommended increase of 4.2%. Cost of sales we calculated by the ratio of cost to net income of the previous period multiplied by net income in 2019, taking into account the decrease in cost for 2019. Other financial results, prior to the operating result, we deducted due to the ratio of a certain item to the net income from sales of products of the previous period and multiplied this amount by net income from sales of products in 2019. After the operating result, the remaining indicators were calculated due to the increase in the values of the previous periods. For the 2020 indicators, a similar calculation is made. Having received a net profit, we can calculate the profitability of the company.

*Table 3.1*

**Financial results forecast of PJSC "Obolon" for 2019-2020, ths.UAH**

Indicators	On 2018	Plan for 2019	Forecast for 2020	Growth rate, %	
				2019/2018	2020/2019
1	2	3	4	5	6
Net income from sales of products (goods, works, services)	5078764	5740605	6567546	13,03	14,41
Cost of sales (goods, works, services)	-4292370	-4354697	-4882356	1,45	12,12
Gross profit	786393	1385908	1685190	76,24	21,59

Other operating income	85301	96417	110306	13,03	14,41
Administrative expenses	-303955	-343565	-393056	13,03	14,41
Selling expenses	-675489	-763516	-873501	13,03	14,41

*Continuation of Tab. 3.1*

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Other operating expenses	-20451	-23116	-26446	13,03	14,41
Operating result: profit	0	352128	502493	-	42,70
Operating result: loss	-128200	0	0	-	-
Other financial income	4259	5295	6583	24,32	24,32
Other income	-23505	1282	2182	-105,46	70,16
Financial expenses	-275269	-240745	-220551	-12,54	-8,39
Losses from participation in capital	-90188	-865	-865	-99,04	0,00
Other expenses	-6725	-1055	-2505	-84,31	137,40
Financial result before tax: profit	0	116041	287337	-	147,62
Financial result before tax: loss	-325802	0	0	-	-
Income tax expense (revenue)	0	20887	51721	-	147,62
Net financial result: profit	0	95153	235616	-	147,62
Net financial result: loss	-365420	0	0	-	-

However, we first forecast the balance for 2019 and 2020 (Tab. 3.2). To predict the metrics, we used the extrapolation method and the metric planning over the turnover period.

Consider the calculation of non-current assets. The initial value was calculated as the ratio of the initial value 2018 to 2017 year, and the result obtained is multiplied by the initial value of 2018. In the calculation of depreciation and amortization, we used the ratio of these indicators to the initial value of the previous period. Then we

multiplied the obtained value by the initial value of the year. All other indicators for non-current assets were calculated as the average increase for 2016-2018.

In term of current assets, we calculated the turnover period for each indicator. Then we calculated all the metrics according to one method, we multiply the turnover period and net income from sales of products from the realization of 2018 and divide this amount by 360. But Inventories we are calculating due to the Cost of sales 2018.

Let's move to the balance sheet liability. In part Owner's Equity, almost all indicators remained from the previous period, only we reduced the Reserve capital and Retained earnings by 5% due to the increase in the net sales revenue.

In part non-current assets for planning indicators for 2019, we divided the value 2018 to value 2017 and multiplied this weight by the same indicator in 2018.

For the forecast Short-term liabilities we are counting the ratio of each indicator to Total Liabilities and then we each indicator of 2018 multiplied to this value. For the 2020 indicators, a similar calculation is made.

We can see that overall, the Balance Sheet increased by 7.13%, both current and non-current assets increased in terms of Assets. Non-current assets increased at the expense of Fixed assets by 0.76% and Others financial investments by 79.45%. Cash and cash equivalents increased by 86.79% in current assets, which indicates that the company needs to work better at distributing cash and reducing part of inventories, as this reflects the solvency of the enterprise. The optimal amount of money for an enterprise is determined by the influence of various factors, which often lead to reciprocal trends. Cash is ambiguously affected by inflation. On the one hand, it increases the risk of depreciation of free cash, on the other - it leads to the use of their growing mass.

*Table 3.2*

**Forecast balance of PJSC "Obolon" for 2019, ths.UAH**

<b>Assets</b>	<b>On 01.01.2019</b>	<b>On 31.12.2019</b>	<b>Liability</b>	<b>On 01.01.2019</b>	<b>On 31.12.2019</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Fixed assets	4867736	4904708	Registered capital	73144	73144
-initial value	11940760	12031454	Capital in surplus	2763289	2901453
-depreciation	-7073024	-7126746	Additional capital	8353	8353
Intangible assets	6857	6872	Reserve capital	-2356	-1256



initial value	43396	43490	Retained earnings	-746302	-728031
amortization	-36539	-36618	Called-up capital	-13580	-13580
Construction in Progress	20201	18978	<b>Total Owner's Equity</b>	<b>2082548</b>	<b>2240083</b>

*Continuation of Tab. 3.2*

1	2	3	4	5	6
Others financial investments	109397	196313	Deferred tax liabilities	542401	575538
The others long term assets	14	14	Long-term bank loans	487124	1042211
<b>Total non-current Assets</b>	<b>5004205</b>	<b>5126885</b>	Others long-term liabilities	267953	302844
Inventories	719638	735101	<b>Total Long-term liabilities</b>	<b>1297478</b>	<b>1920593</b>
Accounts Receivable for goods and services	203818	250844	Short term bank loans	1419600	2129400
Accounts receivable (arrears) in payments:	89746	70606	Current payables for:		
to budget	35310	53295	Goods and services	1021281	199291
Other current accounts receivable	9897	220431	In payments to budget	91167	17790
Cash and cash equivalents	16876	31524	In payment of ensurance	5926	1156
Other Current Assets	30659	57124	In payment of sellary	44447	8673
<b>Total current Assets</b>	<b>1105944</b>	<b>1418924</b>	In receipt of advances	64560	12598
			In payments with participants	1876	366
			Current reserves	11462	2237
			Other short-term liabilities	69804	13621
			<b>Total Short-term liabilities</b>	<b>2730123</b>	<b>2385133</b>
<b>Total Assets</b>	<b>6110149</b>	<b>6545810</b>	<b>Total Liabilities (and Equity)</b>	<b>6110149</b>	<b>6545810</b>

In the Liabilities structure, significant changes were made by Short-term bank loans, which reduced their amount by 12.64% and Long-term bank loans, which increased their amount by 48%. The increase in Long-term loans can be characterized

by an increase in the costs of marketing services and the improvement of some equipment of the enterprise.

When we formed the balance sheet, we reached a certain inequality in which the need for asset formation exceeds the available sources of financing by 457662.35 thousand UAH. So, we decide add the difference to Long-term bank loans. Thus we achieve equality of balance.

Let's move on to the balance sheet forecast for 2020 (Tab.3.3). We can see that Balance Sheet increased by 2.64%, non-current assets increased in terms of Assets by 5.20%. Non-current assets increased at the expense of Intangible assets by 1.33% and Others financial investments by 199.66%. Current assets decreased by 6.62%, in the context of a decrease in all indicators except Accounts receivable (arrears) in payments and Other Current Assets. Cash and cash equivalents decreased by 23.23% in current assets, which indicates that the company, began to manage their spare funds more effectively, which helps to improve the solvency of the company.

*Table 3.3*

**Forecast balance of PJSC "Obolon" for 2020, ths.UAH**

<b>Assets</b>	<b>On 01.01.2020</b>	<b>On 31.12.2020</b>	<b>Liability</b>	<b>On 01.01.2020</b>	<b>On 31.12.2020</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1. Fixed assets	4904708	4941680	Registered capital	73144	73144
-initial value	12031454	12122148	Capital in surplus	2901453	3046526
- depreciation	-7126746	-7180468	Additional capital	8353	8353
Intangible assets	6872	6964	Reserve capital	-1256	-670
initial value	43490	43568	Retained earnings	-728031	-698910
amortization	-36618	-36604	Called-up capital	-13580	-13580
Construction in Progress	18978	13885	<b>Total Owner's Equity</b>	<b>2240083</b>	<b>2414864</b>
Others financial investments	196313	431224	Deferred tax liabilities	575538	610699
The others long term assets	14	14	Long-term bank loans	1042211	753348
<b>Total non-current Assets</b>	<b>5126885</b>	<b>5393768</b>	Others long-term liabilities	302844	342278
Inventories	735101	727369	<b>Total Long-term liabilities</b>	<b>1920593</b>	<b>1706325</b>
Accounts Receivable for goods and services	250844	227331	Short term bank loans	2129400	2555280

Accounts receivable (arrears) in payments:	70606	80176	Current payables for:		
to budget	53295	44303	Goods and services	199291	32945

*Continuation of Tab. 3.3*

1	2	3	4	5	6
Other current accounts receivable	220431	115164	In payments to budget	17790	2941
Cash and cash equivalents	31524	24200	In payment of ensurance	1156	191
Other Current Assets	57124	106433	In payment of sellary	8673	1434
<b>Total Current Assets</b>	<b>1418924</b>	<b>1324976</b>	In receipt of advances	12598	2083
			In payments with participants	366	61
			Current reserves	2237	370
			Other short-term liabilities	13621	2252
			<b>Total Short-term liabilities</b>	<b>2385133</b>	<b>2597555</b>
<b>Total Assets</b>	<b>6545810</b>	<b>6718744</b>	<b>Total Liabilities (and Equity)</b>	<b>6545810</b>	<b>6718744</b>

In the Liabilities structure, significant changes were made by Short-term bank loans, which increased their amount by 8.91% and Long-term bank loans, which reduced their amount by 11.16%.

When we formed the balance sheet, we reached a certain inequality in which the need for asset formation exceeds the available sources of financing by 51889.64 thousand UAH. So, we add the difference to Long-term bank loans, to delay repayment of loans to maintain solvency. Thus we achieve equality of balance. Own equity increased by 15.96% over the whole period, which led to improvement of all financial indicators

Having created a statement of financial position and a statement of financial results, we can directly go to the calculation of indicators that determine the financial position and solvency of the company PJSC "Obolon" .



By earning a net profit in 2019-2020, we can calculate the profitability of the company. One of the important indicators is the return on assets, which shows the efficiency of using the assets of the company to generate profit, high value of the indicator indicates the good work of the company. It is calculated by the ratio of the financial result from operating activities to the average annual value of assets.

Net Return on Assets, shows how much profit comes to 1 UAH. assets, is calculated as the ratio of net income to the average annual value of assets. Financial return on equity, characterizes the efficiency of using equity. Shows what return (rate of return) on invested equity.

The next indicator, the profitability of the turnover, shows how much operating profit the enterprise receives from each hryvnia of the products sold. The net profitability of the turnover shows how much net profit the enterprise receives from each hryvnia of the products sold, is determined by net profit and net sales revenue.

The calculation of profitability indicators formulated in Tab. 3.4. We can see that in 2019 for 1 UAH. assets account for 0.056 cents of operating profit, for 2019, this is one of the smallest indicators, in 2020 this value growth for 0.020. The financial return on equity shows that equity is used effectively enough, with 1 hryvnia of equity accounting for 4.4 cents in 2019 and for 10.1 cents in 2020. The profitability indicator for 2019-2020 indicates a good trend, since UAH 1. revenue accounts for a fair amount of profit. From the indicator of net profitability of turnover, we can conclude that the enterprise for each hryvnia sold products earns 1.66 cents of net profit in 2019, but in 2020 this value grows to 3.59 cents. However, it is necessary to continue work on improving the profitability of PJSC Obolon in order to improve the efficiency of the whole enterprise.

*Table 3.4*

**Profitability forecasts of PJSC "Obolon" for 2019-2020, %**

<b>Indicator</b>	<b>For 2019</b>	<b>For 2020</b>	<b>Absolute deviation, +/-2020/2019</b>
1. Return on assets	0.056	0.076	0.020
2. Financial return on equity	4.403	10.123	5.721
3. Profitability of turnover	6.134	7.651	1.517

4. Net return on turnover	1.658	3.588	1.930
5. Net return on assets	1.504	3.553	2.049

Let's move to the analysis of solvency and liquidity ratios of Obolon PJSC with forecast indicators for 2019 (Tab. 3.5).

From these calculations, we can conclude that the way we chose to improve liquidity and solvency was correct. Because, unlike in previous years the solvency ratios although not within the recommended values, but still significantly improved and if followed in this way, it will be possible to improve these indicators to normal.

The absolute liquidity ratio is the least consistent with the regulatory value (0.2-0.3), that is, on 2019, full liquidity assets can cover current liabilities of 0.013 and in 2020 by 0.009, which can be considered a good trend as the figure has increased compared to 2018, but the indicator shows an upward trend over the period.

With respect to the interim liquidity ratio, it also increased compared to the previous year, indicating that more current liabilities are being covered by liquid assets.

The last indicator, the ratio of total coverage remaining over the period, also shows a tendency to increase, if the current assets exceed the current liabilities, the enterprise can be considered as operating successfully.

The dynamics in the Tab. 3.5 shows us the possible improvement of the financial condition of the enterprise, now it will have more opportunities to settle on its obligations.

*Table 3.5*

**Dynamics of solvency ratios of PJSC "Obolon" for 2017-2020**

Indicator:	2017	2018	2019	2020	Absolute deviation,+/-		
					2018/2017	2019/2018	2020/2019
Current liquidity ratio	1,041	0,405	0,595	0,510	-0,6360	0,1899	-0,0848
The ratio of intermediate liquidity	0,571	0,141	0,287	0,230	-0,4300	0,1457	-0,0566
The ratio of absolute liquidity	0,029	0,006	0,013	0,009	-0,0230	0,0072	-0,0039

So, by plan for 2019 and forecasting for 2020, we can say that most indicators have improved and almost meet regulatory values. By increasing our net sales revenue by a minimum of 10.2% and at the same time reducing our production costs by 2%, we will achieve a net profit. This is a pretty good dynamic because net profit is one of the main goals of the company.

With regard to the balance of the enterprise, the main attention should be paid to the reduction of Obolon PJSC stocks and the increase in cash, which is due to the increase in net sales revenue and net profit. The company should work to reduce current liabilities and increase its current assets accordingly. Failure to comply with this statement will lead to a deterioration of the solvency of the enterprise.

In addition, obvious financial problems for the deterioration of the enterprise may be affected by: uncontrolled increase in the cost of production, loss of sales channels and regular customers, insolvency of customers and customers, and inflationary processes. Therefore, Obolon PJSC should adhere to the high quality of financial planning at the enterprise and making the right administrative decisions.

We will form the main measures for improving the liquidity and solvency indicators of the company at this stage:

- 1) In order to increase the liquidity and solvency indicators of the enterprise, it is proposed to introduce inventory management of the enterprise in order to optimize inventories of materials, work in progress and finished goods. The optimization of the inventory level should affect the redistribution of working capital of the enterprise, resulting in an increase in the amount of liquid cash and a decrease in the value of illiquid inventories.
- 2) The analysis of the assets of the company revealed the negative phenomenon of increase of receivables of the enterprise.
- 3) In addition, to improve financial and economic efficiency business needs to plan its financial activities and monitor the implementation of financial plans.

Optimization of the liquidity of the enterprise is realized through an operational mechanism of financial stabilization - a system of measures aimed, on the one hand,



to reduce financial liabilities, and on the other - to increase the monetary assets that provide these obligations.

## **CONCLUSIONS AND PROPOSALS**

Therefore, in a market environment, every business entity must have reliable information about the liquidity and solvency of both its enterprise and its partners.

Analysis of liquidity and solvency allows you to determine how effectively the financial management at the enterprise. However, according to the research, theory and practice of liquidity and solvency analysis in Ukraine, most companies do not carry out such analysis, which makes the research topic timely and relevant.

Today, solvency is the sufficiency of assets to repay their debt in a timely manner and the availability of sufficient funds in the current account and the absence of overdue accounts payable.

To study the solvency and liquidity of enterprises, use a system of indicators, which are calculated according to the form № 1 “Balance” of the annual report. The main ones include the absolute liquidity ratio, the intermediate liquidity ratio and the current liquidity ratio.

According to the calculations made on the basis of the Financial Statement and the Statement of Financial Results for 2016-2018, it can be said that PJSC Obolon was in a rather difficult situation. In 2016, the company had a net loss of UAH 885243 thousand. In 2017, the company was able to make a net profit of UAH 176580 thousand, due to the reduction of financial expenses and other expenses. However, this dynamic did not last long, and in 2018 the company again came to a net loss.

Having investigated the main causes of business insolvency, we decided that it would be advisable to increase our net sales revenue by 10.2% and reduce our cost by 2%, leading to a net profit.

Also in 2019, we were able to calculate profitability indicators, which were quite positive and carried out a planned calculation of solvency and liquidity indicators for 2020.

Liquidity and solvency indicators were deviating from regulatory values every year. This was due to an increase in the stock of the enterprise, insufficient cash and cash equivalents, as well as a significant increase in current liabilities. However, at the beginning of 2019 and 2020, we were able to predict the improvement of these coefficients and their growth during the period, which indicates a resumption of solvency at PJSC Obolon.

For example, the total debt ratio has increased by 0.19 and will be 0.595 at the beginning of 2019. The intermediate coverage ratio also shows a similar upward trend of 0.287. The absolute liquidity ratio, although showing a downward trend from 2016 to 2020, but since 2016 it has gradually increased, to 0.009 in early 2020.

When calculating the net cash flow for individual activities, we observed a negative value during 2015-2018, while free cash flow was positive, such dynamics positively affect the activity of the enterprise, as the enterprise forms funds for further development.

With the planning strategy chosen, we achieved an increase in net sales revenue by UAH 661841 thousand in 2019 and in 2020 - 826941 thousand UAH. We achieved net profit in 2019 in the amount of 95153 thousand UAH, in 2020 - 235616 thousand UAH. There is still work to be done to ensure that the indicators meet regulatory values and if PJSC Obolon continues its policy of reducing the current liabilities, and increase in current assets, in 3-5 years the solvency and liquidity indicators will be within the normal range.

Also, it is necessary to carry out constant work in the following areas:

- determination of the optimum volume of raw materials;
- establishment of conformity of production plans and sales plans.
- ensuring the continuity and rhythm of the enterprise;
- accounts receivable management envisages the use of all possible measures in dealing with debtors;

- refusal of capital investments that exceed the financial capacity of the enterprise;

- improvement of the management apparatus at Obolon PJSC.

After the analysis, Obolon PJSC has an opportunity to increase its net profit in 3-5 years and reach normative indicators of liquidity and solvency.

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**APPENDICES**

## Appendix A

Table A.1

**Dynamics of owner's equity and liabilities of PJSC "Obolon" for 2016-2018, ths. UAH**

Indicator	31.12.2016	31.12.2017	31.12.2018	Growth rate, %		
				2017/2016	2018/2017	2018/2016
1. Registered capital	73144	73144	73144	0,00	0,00	0,00
2. Capital in surplus	3129549	2945067	2763289	-5,89	-6,17	-11,70
3. Additional capital	8353	8353	8353	0,00	0,00	0,00
5. Reserve capital	-116	546	-2356	-570,69	-531,50	-1931,03
6. Retained earnings	-879110	-518048	-746302	-41,07	44,06	-15,11
7. Called-up capital	-13580	-13580	-13580	0,00	0,00	0,00
<b>Total Owner's Equity</b>	<b>2318240</b>	<b>2495482</b>	<b>2082548</b>	<b>7,65</b>	<b>-16,55</b>	<b>-10,17</b>
8. Deferred tax liabilities	474967	511172	542401	7,62	6,11	14,20
9. Long-term bank loans	432673	2037873	487124	371,00	-76,10	12,58
10. Others long-term liabilities	329260	237082	267953	-28,00	13,02	-18,62
<b>Total Long-term liabilities</b>	<b>1236900</b>	<b>2786127</b>	<b>1297478</b>	<b>125,25</b>	<b>-53,43</b>	<b>4,90</b>
11. Short term bank loans	1993283	417962	1419600	-79,03	239,65	-28,78
13. Current payables for:						
Goods and services	703976	830232	1021281	17,93	23,01	45,07
In payments to budget	119504	150294	91167	25,76	-39,34	-23,71
In payment of ensurance	4992	5364	5926	7,45	10,48	18,71
In payment of sellary	46415	51430	44447	10,80	-13,58	-4,24
In receipt of advances	82270	46900	64560	-42,99	37,65	-21,53
In payments with participants	1876	1876	1876	0,00	0,00	0,00
12. Current reserves	9023	10306	11462	14,22	11,22	27,03
13. Other short-term liabilities	148325	85487	69804	-42,37	-18,35	-52,94
<b>Total Short-term liabilities</b>	<b>3109664</b>	<b>1599851</b>	<b>2730123</b>	<b>-48,55</b>	<b>70,65</b>	<b>-12,21</b>
<b>Total Liabilities (and Equity)</b>	<b>6664804</b>	<b>6881460</b>	<b>6110149</b>	<b>3,25</b>	<b>-11,21</b>	<b>-8,32</b>



## Appendix B

Table B.1

**Structure of owner's equity and liabilities of PJSC "Obolon" for  
2016-2018, %**

Indicator	2016	2017	2018	Growth rate, %		
				2017/2016	2018/2017	2018/2016
1. Registered capital	1,097	1,063	1,197	-3,15	12,62	9,08
2. Capital in surplus	46,956	42,797	45,225	-8,86	5,67	-3,69
3. Additional capital	0,125	0,121	0,137	-3,15	12,62	9,08
5. Reserve capital	-0,002	0,008	-0,039	-555,87	-585,97	2115,40
6. Retained earnings	-13,190	-7,528	-12,214	-42,93	62,25	-7,40
7. Called-up capital	-0,204	-0,197	-0,222	-3,15	12,62	9,08
<b>Total Owner's Equity</b>	<b>34,783</b>	<b>36,264</b>	<b>34,083</b>	<b>4,26</b>	<b>-6,01</b>	<b>-2,01</b>
8. Deferred tax liabilities	7,126	7,428	8,877	4,23	19,50	24,56
9. Long-term bank loans	6,492	29,614	7,972	356,17	-73,08	22,80
10. Others long-term liabilities	4,940	3,445	4,385	-30,26	27,29	-11,23
<b>Total Long-term liabilities</b>	<b>18,559</b>	<b>40,487</b>	<b>21,235</b>	<b>118,16</b>	<b>-47,55</b>	<b>14,42</b>
11. Short term bank loans	29,908	6,074	23,233	-79,69	282,52	-22,32
13. Current payables for:						
Goods and services	10,563	12,065	16,715	14,22	38,54	58,24
In payments to budget	1,793	2,184	1,492	21,81	-31,68	-16,79
In payment of ensurance	0,075	0,078	0,097	4,07	24,42	29,49
In payment of sellary	0,696	0,747	0,727	7,32	-2,67	4,45
In receipt of advances	1,234	0,682	1,057	-44,79	55,03	-14,40
In payments with participants	0,028	0,027	0,031	-3,15	12,62	9,08
12. Current reserves	0,135	0,150	0,188	10,62	25,26	38,56
13. Other short-term liabilities	2,225	1,242	1,142	-44,18	-8,04	-48,67
<b>Total Short-term liabilities</b>	<b>46,658</b>	<b>23,249</b>	<b>44,682</b>	<b>-50,17</b>	<b>92,19</b>	<b>-4,24</b>
<b>Total Liabilities (and Equity)</b>	<b>100,000</b>	<b>100,000</b>	<b>100,000</b>	<b>-</b>	<b>-</b>	<b>-</b>

## Appendix C

Table C.1

## Звіт про фінансові результати ПрАТ «Оболонь» за 2015-2018рр.

Актив	Код рядка	На кінець звітного періоду			
		на 31.12.2015	на 31.12.2016	на 31.12.2017	на 31.12.2018
<b>I. Необоротні активи</b>					
Нематеріальні активи:	1000	11434	9810	8 337	6 857
первісна вартість	1001	43016	43114	43 259	43 396
накопичена амортизація	1002	31582	33304	(34 922)	(36 539)
Незавершені капітальні інвестиції	1005	11161	24363	48 455	20 201
Основні засоби:	1010	4508651	5421561	5 141 361	4 867 736
первісна вартість	1011	8976907	11765383	11 850 066	11 940 760
знос	1012	4468256	6343822	(6 708 705)	( 7 073 024)
інші фінансові інвестиції	1035	18931	18931	18 522	109 397
Інші необоротні активи	1090	18	14	14	14
<b>Усього за розділом I</b>	1095	4550195	5474679	5 216 689	5 004 205
<b>II. Оборотні активи</b>					
Запаси	1100	973297	881787	750 563	719 638
Дебіторська заборгованість за продукцію, товари, роботи, послуги	1125	222580	169695	297 870	203 818
Дебіторська заборгованість за розрахунками:	1130	23627	35477		
за виданими авансами	1130	23627	35477	51 466	89 746
з бюджетом	1135	46810	39468	71 280	35 310
у тому числі з податку на прибуток	1136	29241	10414	8 047	5 475
Інша поточна дебіторська заборгованість	1155	10068	9597	430 965	9 897
Гроші та їх еквіваленти	1165	85236	48394	46 172	16 876
Інші оборотні активи	1190	5917	5707	16 455	30 659
<b>Усього за розділом II</b>	1195	1367535	1190125	1 664 771	1 105 944
<b>Баланс</b>	1300	5917730	6664804	6 881 460	6 110 149

Table C.2

### Звіт про фінансові результати ПрАТ «Оболонь» за 2015-2018рр.

Пасив	Код рядка	На кінець звітного періоду			
		на 31.12.2015	на 31.12.2016	на 31.12.2017	на 31.12.2018
<b>I. Власний капітал</b>					
Зареєстрований (пайовий) капітал	1400	73144	73144	73 144	73 144
Капітал у дооцінках	1405	1900888	3129549	2 945 067	2 763 289
Додатковий капітал	1410	8353	8353	8 353	8 353
Резервний капітал	1415	-1594	-116	546	-2 356
Нерозподілений прибуток (непокритий збиток)	1420	-1122	-879110	-518 048	-746 302
Вилучений капітал	1430	-13580	-13580	- 13 580	13 580
Усього за розділом I	1495	1966089	2318240	2 495 482	2 082 548
<b>II. Довгострокові зобов'язання і забезпечення</b>					
Відстрочені податкові зобов'язання	1500	245516	474967	511 172	542 401
Довгострокові кредити банків	1510	224978	432673	2 037 873	487 124
Інші довгострокові зобов'язання	1515	232400	329260	237 082	267 953
Довгострокові забезпечення	1520	0	0	0	0
Довгострокові забезпечення витрат персоналу	1521	0	0	0	0
<b>Усього за розділом II</b>	<b>1595</b>	<b>702894</b>	<b>1236900</b>	<b>2 786 127</b>	<b>1 297 478</b>
<b>III. Поточні зобов'язання і забезпечення</b>					
Короткострокові кредити банків	1600	2144519	1993283	417 962	1 419 600
Поточна кредиторська заборгованість:	1610	0	0	0	0
за довгостроковими зобов'язаннями					
за товари, роботи, послуги	1615	724197	703976	830 232	1 021 281
за розрахунками з бюджетом	1620	108228	119504	150 294	91 167
за у тому числі з податку на прибуток	1621	819	340	282	-858
за розрахунками зі страхування	1625	4174	4992	5 364	5 926
за розрахунками з оплати праці	1630	51061	46415	51 430	44 447

*Continuation of Tab.C.2*



за одержаними авансами	1635	171413	82270	46 900	64 560
за розрахунками з учасниками	1640	1876	1876	1 876	1 876
Поточні забезпечення	1660	8647	9023	10 306	11 462
Інші поточні зобов'язання	1690	34632	148325	85 487	69 804
<b>Усього за розділом III</b>	1695	3248747	3109664	1 599 851	2 730 123
<b>Баланс</b>	1900	5917730	6664804	6 881 460	6 110 149

Table C.3

### Звіт про фінансовий стан ПрАТ «Оболонь» за 2015 -2018 рр.

Стаття	Код рядка	За 2015 р	За 2016 р	За 2017 р	За 2018 р
Чистий дохід від реалізації продукції (товарів, робіт, послуг)	2000	4441246	4310214	4963232	5 078 764
Собівартість реалізованої продукції (товарів, робіт, послуг)	2050	-3091702	-3290800	-3565168	-4292370
Валовий: прибуток	2090	1349544	1019414	1398064	786 393
Інші операційні доходи	2120	64966	62589	88488	85 301
Адміністративні витрати	2130	-251839	285569	-296579	-303955
Витрати на збут	2150	-961504	968802	-1111347	-675489
Інші операційні витрати	2180	-41893	61663	-29144	-20451
Фінансовий результат від операційної діяльності: прибуток	2190	159274	0	49482	0
Фінансовий результат від операційної діяльності: збиток	2195	0	-234031		-128200
Інші фінансові доходи	2220	27117	8604	97691	4 259
Інші доходи	2240	0	0	430848	-23 505
Фінансові витрати	2250	410470	463655	-314744	-275269
Втрати від участі в капіталі	2255	884	1060	-381	-90188
Інші витрати	2270	587972	222030	-42861	-6725
Фінансовий результат до оподаткування: збиток	2295	-811167	-910052	220797	-325802
Витрати (дохід) з податку на прибуток	2300	99292	24809	-44217	-39618
Чистий фінансовий результат: прибуток	2350			176580	0
Чистий фінансовий результат: збиток	2355	-711875	-885243		-365420

Continuation of Tab. C.3

III. ЕЛЕМЕНТИ ОПЕРАЦІЙНИХ ВИТРАТ					
Матеріальні затрати	2500	3218796	2807074	2960495	3 267 238
Витрати на оплату праці	2505	375232	419131	448146	529 153
Відрахування на соціальні заходи	2510	129591	89353	95052	113 058
Амортизація	2515	368092	702113	451790	457 032
Інші операційні витрати	2520	311403	709162	1107101	1 296 562
Разом	2550	4403114	4726833	5062584	5 663 043

Table D.1

## Solvency ratios of the enterprise

Ratio	Formula	Meaning
<b>Own working capital (OWC)</b>	$\text{OWC} = E - \text{NCA},$ Where, E – equity; NCA – non-current assets	Its economic nature consists in determining the amount of working capital, which remains at the disposal of the enterprise after settling on short-term obligations.
<b>Coefficient of security</b>	<b>a) Liquid Assets:</b>  $\text{CS}_{\text{LA}} = \frac{\text{LA}}{\text{A}}$ Where, LA - amount of liquid assets, that is, current assets of the enterprise; A – the total assets of the enterprise.	Is an indicator that characterizes the level of provision of the company with liquid assets, liquid assets and ready-made means of payment.
	<b>b) quickly liquid assets:</b> $\text{CS}_{\text{QLA}} = \frac{\text{QLA}}{\text{A}} = \frac{\text{R} + \text{C} + \text{CFI} + \text{DC}}{\text{A}}$ Where, QLA – the sum of highly liquid assets; R – receivables; C – cash; CFI – current financial investments; DC – deferred cost.	
<b>The ratio of absolute liquidity</b>	$\text{R}_{\text{Ab.l.}} = \frac{\text{MP}}{\text{CL}} = \frac{\text{C} + \text{CFI}}{\text{CL}}$ Where, CL – the amount of current liabilities.	Is determined by the ratio of funds and short-term financial investments to the total amount of short-term debt of the enterprise. Its level shows how much of the short-term liabilities can be redeemed due to available cash (the normative value is 0.2-0.3)
<b>The ratio of intermediate liquidity</b>	$\text{R}_{\text{in.l.}} = \frac{\text{CA} - \text{S}}{\text{CL}}$ Where, CA – the amount of current assets; S – the amount of stocks of the enterprise.	The ratio of funds, short-term finan. invest. and short-term receivables, payments expected within 12 months after the reporting date, to the amount of short-term financial liabilities (normative value is 0.7-0.8)



Continuation of Tab.D.1

<b>Ratio</b>	<b>Formula</b>	<b>Meaning</b>
<b>Current liquidity ratio (total debt ratio)</b>	$R_{\text{cur.l.}} = \frac{CA}{CL}$	Is the ratio of the total amount of current assets, including inventories, to the total amount of short-term liabilities. It shows the degree of coverage of short-term liabilities with current assets
<b>Coefficient of diversion of current assets in stocks</b>	$CD_s = \frac{S}{CA}$	Shows the share of stocks in working capital.
<b>Coefficient of diversion of current assets into accounts receivable</b>	$CD_r = \frac{R}{CA}$	Shows the share of receivables in working capital.
<b>The coefficient of material stock in the coverage of current liabilities</b>	$MS_{CL} = \frac{S}{CL}$	Shows how many current liabilities are covered by material inventories.
<b>The coefficient of equity maneuverability</b>	$C_{\text{Man.}} = \frac{WOC}{E}$	Shows which part of equity is used to finance current operations and which is capitalized (normative value greater than 0).
<b>The coefficient of providing own working capital</b>	$C_{\text{prov.}} = \frac{owc}{CA}$	Characterizes the availability of own working capital necessary to ensure the financial stability of the enterprise and independence from borrowed funds (normative value greater more than 0.1).
<b>Financial autonomy ratio</b>	$R_{\text{f.aut.}} = \frac{\text{Own capital}}{\text{Total Liabilities}}$	The value of the indicator indicates what part of its assets the company is able to finance at the expense of its own financial resources (normative value greater more than 0.5).
<b>Factor of financing</b>	$R_{\text{fin.}} = \frac{\text{Own capital}}{\text{Liabilities}}$	A financial soundness indicator that shows a company's ability to meet its obligations in the medium to long term

Continuation of Tab.D.1

<b>Ratio</b>	<b>Formula</b>	<b>Meaning</b>
<b>Equity ratio in long-term sources of financing</b>	$R_{\text{equity}} = \frac{\text{Own capital}}{\text{long-term sources of financing}}$	Shows how much equity is involved in financing long-term sources of financing.
<b>Cash flow liquidity ratio</b>	$CF_{\text{liq}} = \frac{\text{Inflows} - (A_e - A_b)}{\text{Outflows}}$ Where, A <sub>e</sub> – the amount of cash remaining at the end of the period, A <sub>b</sub> - the amount of the cash balance of the enterprise at the beginning of the period.	Characterizes the security of spending money by their receipt. If this indicator is less than 1, then the company needs to take measures to further attract investment resources
<b>Ratio of cash flow to net cash flow</b>	$R_{\text{ncf}} = \frac{\text{Inflows}}{\text{Net Cash Flow}}$	Describes how much cash is needed to get 1 UAH of net cash flow
<b>Receivables collection ratio</b>	$R_c = \frac{\text{Inflows}}{\text{Receivables}}$	Characterizes the extent of receivables turnover based on cash flows
<b>Ratio of coverage of accounts payable with cash inflows</b>	$R_p = \frac{\text{Inflows}}{\text{Payables}}$	Characterizes the ability of an enterprise to meet its current obligations through the flow of money
<b>Cash replenishment ratio</b>	$R_{\text{cr}} = \frac{\text{Inflows}}{\text{Cash balance}}$	Characterizes the degree of increase in cash balance
<b>Turnover ratio of current assets based on cash flows</b>	$R_{\text{ca}} = \frac{\text{Inflows}}{\text{Current assets}}$	Characterizes the degree of rotation of current assets of the enterprise on the basis of cash flows