

Czech University of Life Sciences Prague
Faculty of Economics and Management
Department of Trade and Finance (FEM)



Bachelor Thesis

**Assessment of the Financial Position and Performance of
the Chosen Agro-industrial Companies**

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BACHELOR THESIS ASSIGNMENT

Anastasiia Lazareva

Business Administration

Thesis title

Assessment of the Financial Position and Performance of the Chosen Agro-industrial Companies

Objectives of thesis

The aim of this bachelor thesis is to assess the financial position and performance of the chosen agro-industrial companies by analyzing the companies' financial statements with focus on the representation and changes of the reported assets, liabilities, expenses, revenues and cash-flow for a chosen period and to identify the potential financial problems and the most significant factors influencing the profit.

Methodology

Methodology for the literature overview is based on data collection from the relevant legal framework, specialized publications and other written or online sources. The practical part of the thesis will be based on the information gained from the published annual reports of the chosen companies. Vertical and horizontal analysis and ratio analysis of the financial statements will be used to assess the financial position and performance of the companies and to prepare the practical part of the thesis. The methods of analysis, synthesis, comparison and deduction will be used to formulate the conclusions of the thesis.

The proposed extent of the thesis

40-50

Keywords

financial statements, financial analysis, financial position, balance sheet, assets, liabilities, equity, financial performance, Income statement, expenses, revenues, profit, cash-flow, agro-industry

Recommended information sources

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Declaration

I declare that I have worked on my bachelor thesis titled "Assessment of the Financial Position and Performance of the Chosen Agro-industrial Companies" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 15.03.2024

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I would like to thank Ing. Enikő Lőrinczová, Ph.D and for her advice and support during my work on this thesis.

Assessment of the Financial Position and Performance of the Chosen Agro-industrial Companies

Abstract

The aim of this thesis is to assess the financial position and performance and comparison of the financial statements of three different Ukrainian competing companies, leaders in the field of agribusiness, Bunge, Karnel and ADM, to analyse these companies to identify their competitiveness to each other to find the strengths and weaknesses of each company. The thesis deals with the main forms of financial statements, which will be compared for the years 2022-21 of the companies (Karnel, Bunge, ADM). This thesis uses different methods of analysis mainly horizontal and vertical method of analyzing financial statements. Attention will be paid to the income statement because it is the revenue expenses and profit that will help to assess the performance and make a conclusion on the development of profit and the most significant factors affecting the profits, also how much the martial law affected the economic side of the agricultural business of two different enterprises and how each of them coped with it. In this bachelor thesis will also assess the risks of the company and based on these factors will give suggestions on how to improve profits.

Keywords: financial statements, financial analysis, financial position, balance sheet, assets, liabilities, equity, financial performance, Income statment, expenses, revenues, profit, cash-flow, agro-industry.

Zhodnocení finanční situace a výkonnosti vybraných zemědělsko-průmyslových společností

Abstrakt

Cílem této práce je zhodnotit finanční situaci a výkonnost a porovnat finanční výkazy tří různých ukrajinských konkurenčních společností, lídrů v oblasti agrobiznisu, Bunge, Kanel a ADM, analyzovat tyto společnosti a zjistit jejich vzájemnou konkurenceschopnost a najít silné a slabé stránky každé společnosti. Práce se zabývá hlavními formami finančních výkazů, které budou porovnávány za roky 2022-21 těchto společností (Kanel, Bunge, ADM). Tato práce využívá různé metody analýzy především horizontální a vertikální metodu analýzy finančních výkazů. Pozornost bude věnována výkazu zisku a ztráty, protože právě výnosy náklady a zisk pomohou posoudit výkonnost a učinit závěr o vývoji zisku a nejvýznamnějších faktorech ovlivňujících zisk, také jak moc ovlivnil válečný stav ekonomickou stránku zemědělského podnikání dvou různých podniků a jak se s ním každý z nich vyrovnal. V této bakalářské práci budou také zhodnocena rizika podniku a na základě těchto faktorů budou uvedeny návrhy, jak zisk zlepšit.

Klíčová slova: účetní závěrka, finanční analýza, finanční situace, rozvaha, aktiva, pasiva, vlastní kapitál, finanční výkonnost, výkaz zisku a ztráty, náklady, výnosy, zisk, cash-flow, agroprůmysl.

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1 Introduction

The problem of financial position research has always been relevant and occupied a special place among the directions of financial and economic research.

By means of analysis the strategy and tactics of the enterprise are developed, plans and management decisions are justified, their implementation is controlled, reserves for improving production efficiency are identified, and the results of the company's activity are evaluated. Analysing the financial position makes it possible to see what areas of activity should be paid attention to and improve their work.

Indicators of financial results characterise the absolute efficiency of the economy of the enterprise. Profit growth creates a base for self-financing, expanding production, solving problems of social and labour conflicts. At the expense of profit also covers part of the obligations of the enterprise to the budget, banks and other enterprises and organisations. That is why thanks to analysis of financial statements, investors make their decisions about investing their money in this company based on the reports on the past performance of the company. Also this reporting influences the decision of banks to approve the credit application of the company.

An important aspect of the implementation of the enterprise is rational and correct, and most importantly effective use of financial resources are at its disposal. Therefore, care of finances is a responsible moment for the final result of the financial activity of any enterprise. In the conditions of market economy this issue is of paramount importance. The growth of the role of finances in the enterprise is a characteristic feature and trend all over the world, as nowadays in many countries there is a crisis and many enterprises stop their functioning.

For entrepreneurs all over the world it is extremely important to timely identify the factors affecting the financial condition and if possible to eliminate the shortcomings of the financial activity of the enterprise. The main tool for such an assessment is financial analysis, with the help of which it is possible to objectively assess the external and internal financial activities of the enterprise. (AHSAN, 2020)

On 24 February 2022, the Russian Federation launched an unprovoked full-scale military aggression in Ukraine. (HYLKE DIJKSTRA, 2022) Immediately thereafter, the Government of Ukraine imposed martial law and related temporary restrictions affecting economic conditions.

The military actions, which are still ongoing as of the date of this work, have a significant impact on the economic, political and humanitarian situation in the country, and their consequences cannot be fully assessed with a sufficient level of predictability.

Due to good climatic conditions and the chemical and mineral composition of the soil, the territory of Ukraine is ideal for agricultural business. Ukrainian chernozem is the highest quality soil in the world. Even in the Constitution of Ukraine it is written "Land is the fundamental national wealth that is under special state protection. The right of property to land is guaranteed. This right is acquired and realised by citizens, legal persons and the State, exclusively in accordance with the law." (UKRAINE, 1991) The main crops grown in Ukraine are cereals and fodder crops such as wheat, corn, sunflower, sugar beet, barley, various fruits and vegetables.

The picture below shows which crops germinate in certain parts of Ukraine:

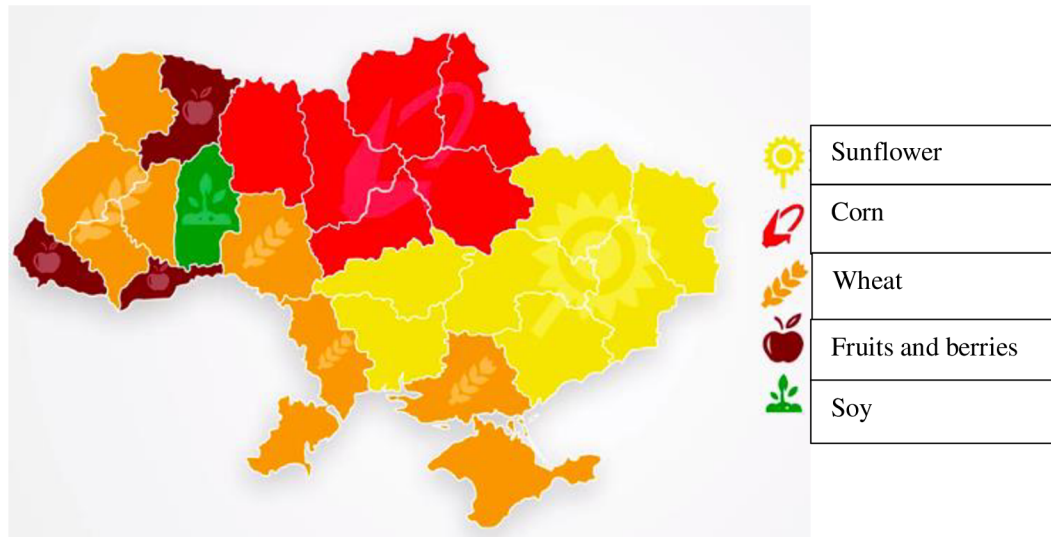


Figure 1: Map of agro-industrial complex of Ukraine

(EL_MURID, 2022)

How well the agrarian business is doing in the territory of the country is shown by GDP, because the agrarian sector occupies 10% of GDP, at the moment the agrarian business has suffered a lot because of the war, as most of the territories suitable for growing crops are currently occupied by Russia. (SAMOILOVA, 2022) For example, Kherson region is an important fruit and vegetable growing region because of its warm climate, but because of the occupation the country cannot harvest and sell crops from these territories. (KUDRYNETSKYI ROSTYSLAV, 2023) Kherson's crops were also affected by the explosion of the Kakhovka dam on 6 June 2023, which flooded the fields of the state farm. (VIKTOR VYSHNEVSKYI, 2023)

In addition to Kherson region, Ukraine lost agrarian business in Zaporizhzhya, Luhansk and Donetsk regions. Unfortunately, however, the loss of fields is not the only reason affecting the profits of agrarian business in the country. The key point was the loss of crop logistics. As a result of the war, Ukraine lost the most economical and convenient way to export by sea, as most of the territories with access to the sea are under occupation and as a consequence exports are now carried out by land routes, which is a more expensive form of delivery. As a result of the war, the direct losses of Ukraine's agribusinesses totalled \$8.7 billion. (MELNIK, 2023)

2 Objectives and Methodology

2.1 Objectives

The objectives of this bachelor's thesis is to assess and compare the financial position and performance of the chosen agro-industrial companies in Ukraine, namely Karmel, Bunge and ADM, based on the analysis of the financial statements of these companies in years 2021-2022 with focus on the changes and representation of assets, liabilities, expenses, revenues and profit and to identify the possible problems and the most significant factors influencing the profit. The aim is also to assess how the military conflict affected the economic components of the agrarian business of Ukraine and to identify the main causes of lost profits.

2.2 Methodology

Methodology for the literature overview is based on data collection from the relevant legal framework, specialized publications and other written or online sources. The practical part of the thesis is based on the information gained from the published annual reports of the chosen companies: Kernel Holding S.A., Bunge Ltd (Bunge) and Archer Daniels Midland Company (ADM). Vertical and horizontal analysis and ratio analysis of the financial statements is used to assess the financial position and performance of the companies and to prepare the practical part of the thesis. The methods of analysis, synthesis, comparison and deduction is used to formulate the conclusions of the thesis.

3 Literature Review

3.1 Financial statements as a basis for financial analysis.

Competent and careful study of accounting reports allows to identify the positive aspects of the financial situation, as well as the shortcomings in the work of the enterprise, helps to identify ways to improve its activities. The basis of the accounting statements of the enterprise is the “balance sheet - a tabular statement or summary of balances (debit and credit) carried forward after an actual or constructive closing of books of account kept by double-entry methods, according to the rules or principles of accounting. The items reflected on the two sides of the balance-sheet are commonly called assets and liabilities, respectively.” (KELLEY, 1986). Balance sheet is a summary bilateral table of all accounting accounts of the enterprise. It reflects its financial condition on the day of compilation in comparison with the beginning of the reporting year. Such a presentation of data in the balance sheet and gives the opportunity to analyse, compare indicators, determining their growth or decline. (KELLEY, 1986).

The main statements that are used for analysis:

- Statement of financial position (Balance sheet)
- Income statement
- Statement of changes in equity
- Cash Flow Statement
- Notes.
- Auditor's report.

The owners of the enterprise and other interested services cannot get answers to all their questions only on the basis of the information presented in the balance sheet, they need additional information not only on the balances, but also on the movement of economic assets and the sources of their formation. This is achieved by introducing other forms of accounting reports. First of all, " Income Statement", “Income Statement is a measure of the success or failure of an entity's business performance. “ (MALOLLE, 2023) It contains information about the current financial results of the business entity's activity for the reporting period, i.e. it reflects the main range of issues related to the formation, distribution and use of the enterprise's profit. It reflects all expenses related to the production of products (services) and the total amount of receipts for sold products, rendered services and other

sources of income. In order to objectively assess the state of the enterprise accounting statements must meet all the requirements and highlight the truthful information about the financial activities of the company. (MALOLLE, 2023) The main principles of financial reporting are summarised in Figure 2 below :

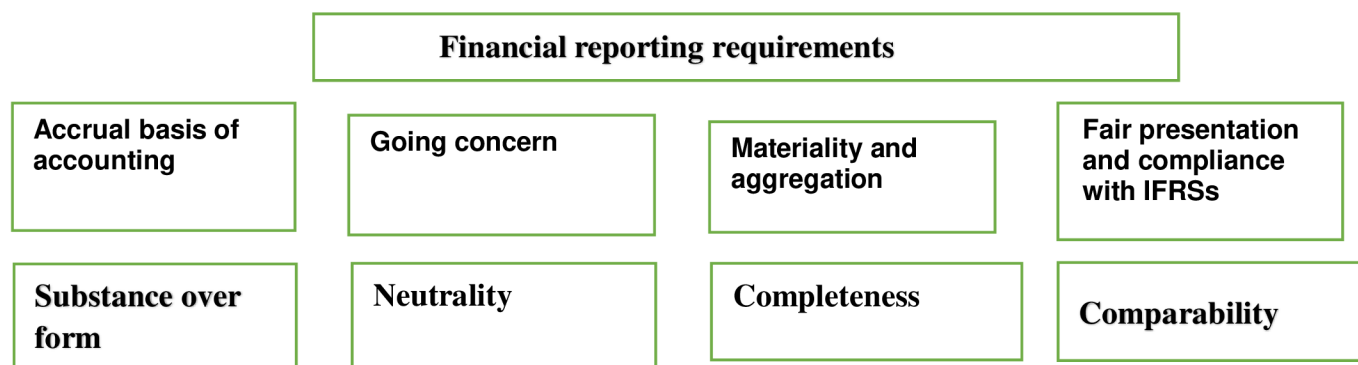


Figure 2: Financial reporting requirements

(IFRS, 2001)

The financial statement is the most important source of information for analysing the firm's profitability indicators, profitability of sold products, profitability of production of products, determining the amount of net profit remaining at the disposal of the enterprise, and other indicators. (AWUJOLA, 2020) (BALAS A., 2019) Therefore, it can be said that in order to more accurately and reliably determine the financial condition of the enterprise, it is necessary to thoroughly examine all the financial statements belonging to the enterprise.

3.2 Types, objectives and methods of financial analysis.

Financial analysis is aimed at obtaining key parameters, gives a comprehensive and objective assessment of the financial condition of the company. In the methodology of financial analysis can be distinguished three points, closely related to each other:

- 1) Analysis of financial condition.
- 2) Analysis of the financial results of the enterprise.
- 3) Analysis of the efficiency of financial and economic activity.

(SOKOLSKA, 2016) (LUCHKO M., 2016)

In using different types of analyses, it is necessary to take into account

A variety of factors:

- 1) The effectiveness of the planning and control methods used.

- 2) Reliability of accounting statements.
- 3) The use of various options for accounting for assets and liabilities.
- 4) The level of diversification of business activities, etc. (YATSUKH O., 2018)

The actively developed market environment is very rapidly changing the characteristics and methods of business functioning on the world stage. Such changes have affected almost all types of activities, but especially commercial, industrial, economic and social activities. (SOKOLSKA, 2016) In such a situation, it is important to understand the objectives of analysing the financial performance of a company. The tasks of analysing the financial activity of the company:

- 1) On the basis of studying the cause-and-effect relationship between various indicators of production, commercial and financial activities, to give an assessment of the fulfilment of the plan for the receipt of financial resources and their use from the position of the financial condition of the company.

- 2) Forecasting of possible financial results, economic profitability, based on the actual conditions of economic activity and the availability of personal and attracted resources, development of models of financial condition under different options for the use of resources.

- 3) Development of specific measures aimed at more efficient use of financial resources and strengthening the financial position of the enterprise. (YATSUKH O., 2018)

There are several types of financial analysis. Types of financial analysis are classified according to the following criteria:

- 1) **By organisational forms of holding**

Internal analysis of financial statement:

- Focusing on balance sheet optimisation and resource mobilisation and allocation decisions

- Based on operational and accounting data

- Access to the results of analyses for a limited number of persons.

- Main objective: finding ways to improve the efficiency of operations and increase the economic potential of the enterprise

External analysis of financial statement:

- Orientation to the formation of information on the economic potential of the enterprise from the position of the "status quo" and possible prospects

- Based on publicly available information

- Access to the results of the analysis by any users
- Main objective: assessment of investment and counterparty attractiveness.

(MISHRA, 2015) (MANAGEMENT HEAVEN, 2009)

2) By the scope of analytical research

- Full financial analysis

all aspects of the company's financial activities

- Thematic financial analysis

certain aspects of the company's financial activities.

3) By the object of financial analysis:

- Analysis of the financial performance of the enterprise as a whole
- Analysis of the financial performance of individual business units
- Analysis of individual financial transactions

4) According to the method of operation followed in the analysis:

- Horizontal Analysis:

“Horizontal analysis is an approach used to analyze financial statements by comparing specific financial information for a certain accounting period with information from other periods.” (CFI TEAM, 2022)

In the course of horizontal analysis, absolute and relative values of dynamics (increments, growth and growth rates) of separate indicators of financial statements for a period (a number of periods) are calculated and general tendencies of their change are determined. (CFI TEAM, 2022)

Horizontal (time or trend) analysis is an analysis of the dynamics of individual items of financial statements and financial indicators over time in order to identify and forecast their inherent trends. In the course of horizontal analysis, absolute and relative values of dynamics (increments, growth and growth rates) of separate indicators of financial statements for a period (a number of periods) are calculated and general tendencies of their changes are determined.

In financial management the following types of horizontal financial analysis are the most widespread:

1. Comparison of financial indicators of the reporting period with indicators of the previous period (for example, with indicators of the previous month, quarter, year).

2. Comparison of financial indicators of the reporting period with indicators of the similar period of the previous year (for example, indicators of the second quarter of the reporting period with similar indicators of the second quarter of the previous year). This type of horizontal financial analysis is used at enterprises with pronounced seasonal features of economic activity.

3. Comparison of financial indicators for a number of previous periods. The purpose of this type of analysis is to identify trends in the change of individual indicators characterising the results of financial performance of the enterprise (determination of the trend line of dynamics).

All of the above types of horizontal financial analysis are usually supplemented by the study of the influence of individual factors on the change in the relevant performance indicators (factor analysis). The results of such an analytical study make it possible to build appropriate dynamic factor models, which are then used in the process of planning individual financial indicators.

(NINA.AZ, 2021)

- Vertical analysis

It is also known as ‘Static Analysis’

“Vertical analysis is a method of financial statement analysis in which each line item is listed as a percentage of a base figure within the statement.” (GRANT, 2022)

It is based on the structural decomposition of individual indicators of the company's financial statements. In the course of vertical analysis, the specific weight of individual structural components of aggregated financial indicators is calculated. The following types of vertical analysis are most common in financial management:

1. Structural analysis of assets

In the process of this analysis the specific weight of current and non-current assets; elemental composition of current assets; elemental composition of non-current assets; composition of the enterprise's assets by liquidity level; composition of the investment portfolio and others are determined. The results of this analysis are used in the process of optimising the composition of the enterprise's assets.

2. Structural analysis of capital.

In the process of this analysis the specific weight of equity and debt capital used by the enterprise is determined;

composition of used borrowed capital by periods of its provision (short-term and long-term borrowed capital); composition of used borrowed capital by its types (bank credit; financial credit of other forms; commodity or commercial credit, etc.).

The results of this analysis are used in the process of assessing the effect of financial leverage, determining the weighted average cost of capital, optimising the structure of sources of formation of borrowed financial resources and in other cases.

3. Structural analysis of income and expenses.

In the process of analysis the composition and structure of total income and expenses of the enterprise are studied, specific weights of income and expenses from operating and other types of activity, tax payments, financial results before and after taxation, etc. are determined.

4. Structural analysis of cash flows.

In the process of this analysis, cash flows on operating, investment and financial activities of the enterprise are singled out as part of the total cash flow; within each of these types of cash flow, cash inflows and outflows, the composition of the balance of cash assets by its individual elements are more deeply structured. The information base for the analysis is the Cash Flow Statement.

(VOLOSHCHUK & YUDIN, 2012) (MISHRA, 2015)

3.3 Main directions and principles of financial analysis.

Analysis of the financial condition of the enterprise is an analysis of the data of financial statements and plays an important role, because the information contained in it is the basis for making decisions on investment, financial and operational activities of the enterprise. (AHSAN, 2020) So it is possible to distinguish several directions of analysing the financial and economic activity of the enterprise.

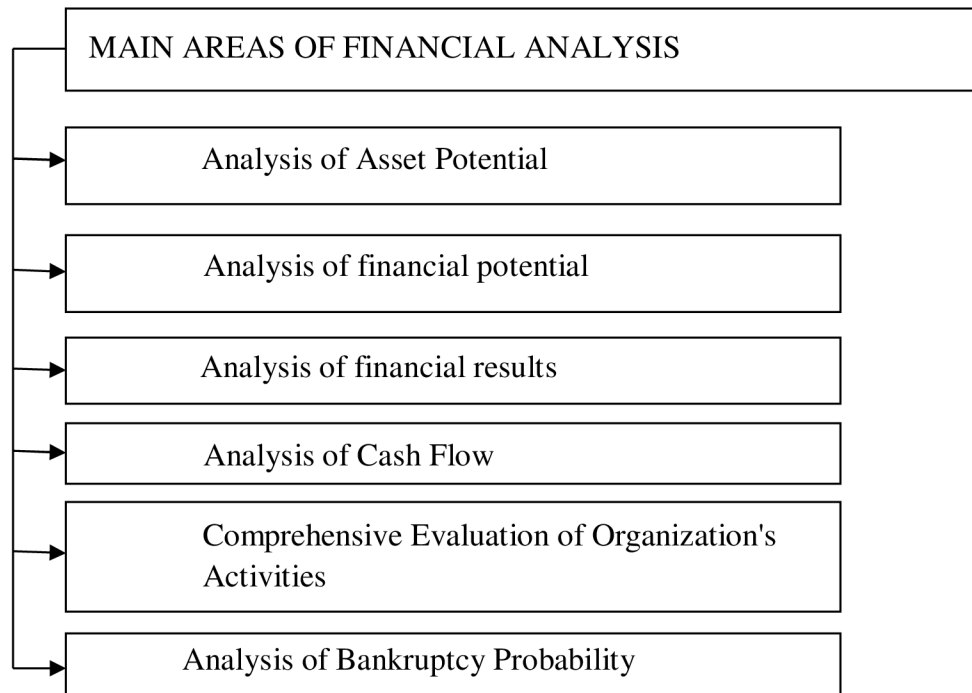


Figure 3: Main areas of financial analysis

(VOLOSHCHUK & YUDIN, 2012)

The content of financial analysis is presented as a purposeful activity consisting in the recognition of all indicators and algorithms. It allows to give a certain characteristic of the facts of economic activity of the enterprise (past and expected), as well as to systematise options for possible actions.

Comprehensive analysis is a comprehensive analysis that sets a single goal for all used characteristics and subjects in interrelation. Based on the results of a comprehensive analysis, strategic decisions are made based on the methods of prospective analysis and a full understanding of the situation in the enterprises.

Financial analysis, like any other, is governed by a system of principles for its conduct and controls the procedural side of its methodology and methodology.

The analysis of financial statement is based on the following main principle bases:

Gather accurate data

Understand accounting principles:

Normalize data

Horizontal comparison

Vertical evaluation

Ratio calculation

Quantitative interpretation
Common size perspective
Trend identification
Contextualize industry performance
Qualitative factors
Cash flow scrutiny
Scenario assessment
Creditworthiness evaluation
Intrinsic value determination
Conclusion formation
Effective communication (KUMARASWAMY, 2023)

So, the analysis of the financial condition of the enterprise is an analysis of the data of financial statements and plays an important role, because the information contained in it is the basis for making decisions on investment, financial and operational activities of the enterprise.

3.4 Method of of conducting analysis of solvency, creditworthiness, and liquidity of the company's balance sheet.

One of the main ways of financial analysis is the ratio analysis.

“Ratio analysis is a quantitative method of gaining insight into a company's liquidity, operational efficiency, and profitability by studying its financial statements such as the balance sheet and income statement.” (BLOOMENTHAL, 2023) The disadvantage of this method can be considered labour intensive.

The range of ratios is wide. In the course of work some liquidity and solvency ratios are calculated and analysed:

1) *Current ratio*

“Current ratio is a liquidity ratio that measures a company’s ability to pay short-term obligations or those due within one year.” (JASON, 2023)

To calculate the current ratio, the company's current assets should be divided by current liabilities.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

The higher the current liquidity ratio, the better it is. It indicates how easily a company can pay its liabilities. For example, a ratio below 1 indicates that the company's short-term debts exceed its assets, which will make it difficult for the company to cover all of its liabilities. At the same time, a very high current ratio such as 3, for example, is also a bad indicator and indicates that the company is inefficiently utilising its turnover.

The normative value is $\geq 1-2,5$ (JASON, 2023)

2) Quick Ratio

“The quick ratio is an indicator of a company’s short-term liquidity position and measures a company’s ability to meet its short-term obligations with its most liquid assets.” (SHOBHIT, 2023)

There are several formulas for calculating Quick Ratio. The basic formula is to add the most liquid assets and divide the total by current liquidity.

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

Quick Assets=Cash+CE+MS+NAR where:

CE=Cash equivalents

MS=Marketable securities

NAR=Net accounts receivable

Depending on what type of current assets are on a company's balance sheet, a company may also calculate quick assets by subtracting illiquid current assets from the balance sheet.

Quick Assets=TCA–Inventory–PE

where:

TCA=Total current assets

PE=Prepaid expenses

A higher quick ratio indicates that a company possesses greater liquidity and has the ability to generate cash rapidly in the event of an emergency.

Normative value $\geq 0.7-1$. (SHOBHIT, 2023)

3) Cash ratio

“The cash ratio is a measurement of a company's liquidity. It specifically calculates the ratio of a company's total cash and cash equivalents to its current liabilities.” (KENTON, 2022)

The formula for cash ratio is:

$$\text{Cash Ratio} = \text{Cash} + \frac{\text{Cash Equivalents}}{\text{Current Liabilities}}$$

If a company's cash ratio is less than 1, it means that current liabilities exceed cash and its equivalents.

If a company's cash ratio is greater than 1, it means that the company has more cash than liabilities. In this situation, the company can cover all short-term debt and still maintain cash.

The normative value is $\geq 0.2-0.7$. (KENTON, 2022)

4) Debt-to-equity ratio

Debt-to-equity ratio (DER) is ratio that shows the composition or structure of the total loan capital (debt) to total capital (equity) of the company in fulfilling its long term liabilities.” (AGUNG TRI ATIDHIRA, 2017)

$$DER = \frac{\text{Total Debt}}{\text{Total Shareholders Equity}}$$

High DER ratio is a bad indicator for the company. It shows low solvency of the company, which, in turn, affects the company's profitability. (AGUNG TRI ATIDHIRA, 2017)

The optimal debt-equity ratio is about 1-1.5. (BRITISH BUSINESS BANK, n.d.)

5) Debt to Total Asset Ratio

“Debt to Total Asset Ratio (DAR) is used to determine how much the company is financed by debt and capital, if debt is greater than capital in financing company activities, it is seen that the company is not good.” (PUTRI INDAH SARI, 2023)

$$\text{Debt to Total Asset Ratio} = \frac{\text{Total Account Payable}}{\text{Total Asssets}}$$

This ratio belongs to the group of indicators describing the capital structure of an organisation and is widely used in the West.

The normal ratio is not more than 0.6-0.7. The optimal ratio is 0.5. (PUTRI INDAH SARI, 2023)

6) Interest coverage ratio

“The interest coverage ratio (ICR) defined as the ratio of earnings before interest and taxes to interest expenses - is an indicator of the ability of a company to make interest payments using internal cash flows.” (FRANCISCO PALOMINO, 2019)

$$\text{Interest coverage ratio} = \frac{\text{Earnings before Interest and Taxes (EBIT)}}{\text{Interest Expense}}$$

A value between 2 and 4 is considered normal. (CFI, 2022)

7) Return on Assets (ROA)

“Return on assets is a ratio to determine the company's profit calculated from a specific period. ROA measures the company's ability to generate net income based on certain asset levels or ratios that show how capable the company uses existing assets to create profits or profits.” (SAPUTRA, 2022)

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

The higher the ROA, the higher the company's ability to generate profits.

An ROA above 5% is generally considered good, and over 20% is considered excellent. (HARGAVE, 2022)

8) Return on Equity (ROE)

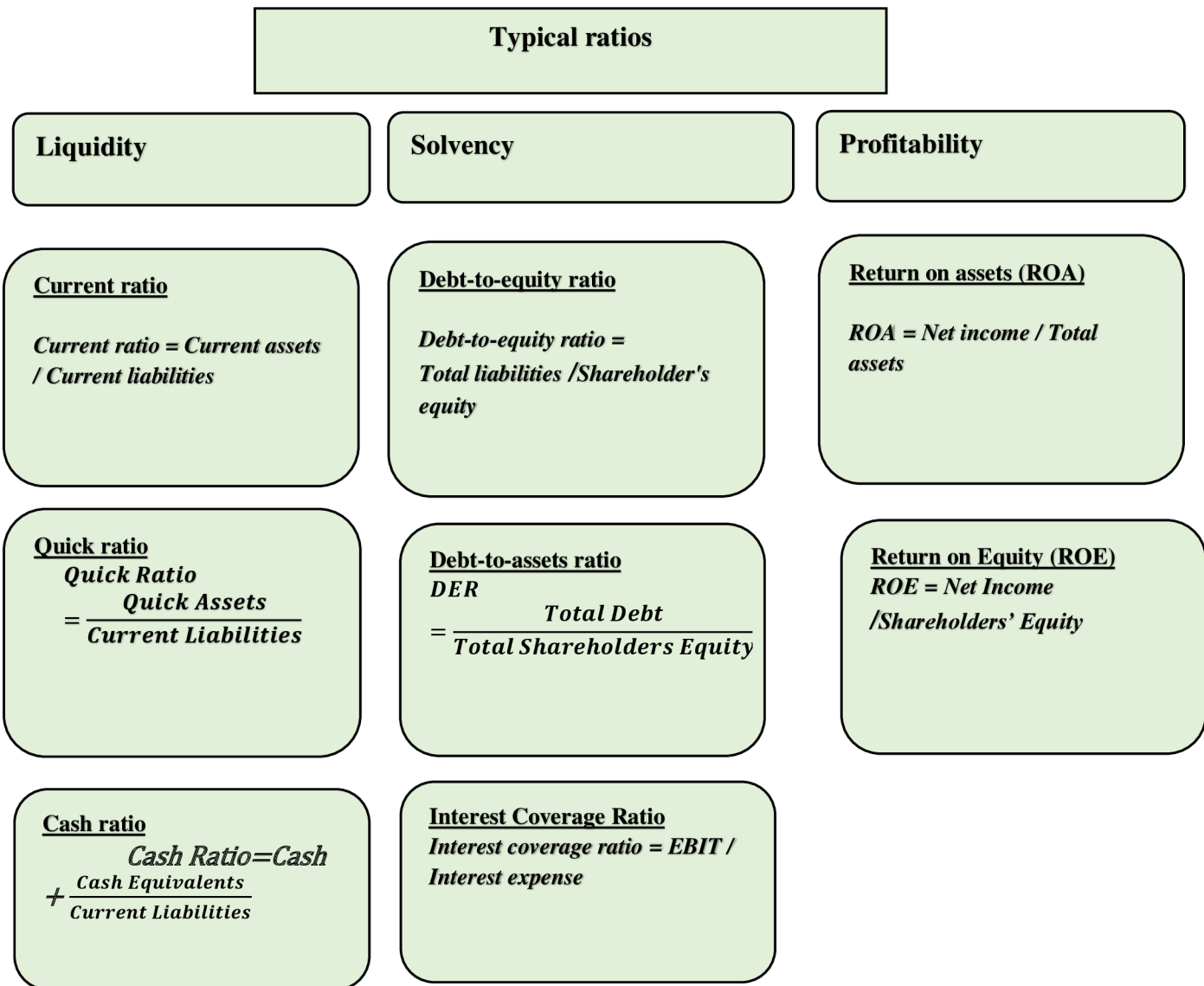
“The return on equity ratio is also known as the return on equity. This ratio examines the extent to which a company uses its resources to be able to provide a return on equity.” (SAPUTRA, 2022)

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Average Shareholders' Equity}}$$

Since a company's equity is the company's assets minus its liabilities, ROE is also considered to be a measure of the company's return on net assets. ROE measures how much profit is generated for each unit of equity.

ROE is approximately 10-12% for developed economies. For inflationary economies, the rate should be higher. In essence, ROE is the rate at which shareholder funds are working in a company.

Figure 4: System of ratios of the company's financial position



(VOLOSHCHUK & YUDIN, 2012)

To assess the liquidity of the Companies' balance sheet, the assets and liabilities of the balance sheet are grouped according to certain characteristics:

Asset group:		Liability group:	
Highly liquid assets (A1)	Cash and cash equivalents	The most significant liabilities (L1)	Current accounts payable.
Quick assets (A2)	The accounts receivable that will be settled in accordance with the terms of the contracts (HAYES, 2021)	Current liabilities (L2)	Short-term bank loans, other short-term liabilities. (TUOVILA, 2023)
Slow assets (A3)	Inventories, current biological assets, other current assets, and prepaid expenses	Long-term liabilities (L3)	“Long-term <u>liabilities</u> are a company's financial obligations that are due more than one year in the future.” (TUOVILA, 2022)
Illiquid (non-liquid) assets (A4)	“Non-liquid or illiquid assets include property that is not easily liquidatable, i.e. they cannot be readily converted into cash without losing out on overall value” (VOLOPAY, 2022)	Permanent liabilities (L4)	“Permanent liabilities are liabilities in a business that don't have a specific date to be cleared but are recorded in the company's financial accounts.” (STUDY.COM, n.d.)

Table 1: Assets by Decreasing Liquidity, Liabilities by Increasing Repayment Terms

(VOLOSHCHUK & YUDIN, 2012)

In order to determine liquidity correctly, the totals for groups of assets and liabilities are drawn up and compared. The balance sheet will be considered liquid if certain ratios between groups of assets and liabilities are met. (VOLOPAY, 2022)

4 Practical Part

4.1 General characteristics of companies

The paper considers the results of financial and financial activity and the methodology of complex financial analysis of large agrarian companies.

Kernel

Kernel is the largest producer and exporter of sunflower oil in Ukraine. The company produces 15% of the world's oil. It also produces strategic crops such as corn, wheat, sunflower, soya, barley. The company has been in existence since 1995. It is among the top 3 largest companies in Ukraine according to Forbes magazine. "Kernel" ranks first in the list of major producers of sunflower oil from Ukraine, almost twice ahead of its main competitor. The company puts most of its money into investments and innovations. The company has invested more than \$800 million in investments. It is one of the leaders in digital investments. The company has digitised logistics, commerce, document management and the company also uses DigitalAgriBusiness ecosystem which helps to monitor fields from satellite at any time. The company has its own charitable foundation "Together with Kernel", which helps kindergartens, schools, hospitals and cultural centres. Kernel is also among the top 5 best employers in the country. The company is developing and making a significant contribution to society.(KERNEL, 2020) (WIKIPEDIA, 2020)

Bunge

Bunge is the largest American agribusiness company, founded in 1818 in Amsterdam by Johann Peter Gotlieb Bunge and headquartered in St. Louis. Forbes 2000 ranked the company 572nd in 2023. The company's principal activities include the production of soybeans, sunflowers, canola, rapeseed, rapeseed, wheat and corn.

Among food products, the company produces: oil, mayonnaise, margarine, sugar, flour and blends. Flour products, feed, fertilisers and biofuels are also produced here. Bunge Company has branches all over the world, their offices and enterprises are located in more than 40 countries. In Ukraine, the company has existed since 2002 after purchasing shares of Cereol. At the moment Bunge in Ukraine is engaged in processing and marketing of oil under the trade marks Oleina and Rozumnitsa. The main enterprises are located in Dnipro

and Mykolaiv. The company owns a 94% stake in Dnipropetrovsk Oil Extraction Plant (DMEZ). In 2014-2016, the company invested \$180m in the construction of a plant in Nikolaev. To date, a modern vegetable oil production plant has been commissioned.

The condensed consolidated balance sheet provides information on the principal assets and liabilities in Ukraine. As of 31 December 2022, the total assets and total liabilities associated with Bunge of each of the Ukrainian subsidiaries represent approximately 1% of Bunge's consolidated total assets and total liabilities, respectively.

(BUNGE, 2020) (BUNGE, 2024)

ADM (Archer Daniels Midland Company)

The company was founded in 1902 in Minneapolis by George A. Archer and John W. Daniels as a linseed oil business. In 1923, the Archer-Daniels Linseed Company acquired the Midland Linseed Products Company, which was the beginning of the modern Archer Daniels Midland Company.

Archer Daniels Midland produces, stores, transports, processes, and trades agricultural products. Major divisions as of 2023:

Agribusiness and Oilseeds - grows, trades, transports, and stores agricultural products, also processes soybeans, sunflowers, canola, peanuts, cotton, and produces biodiesel into vegetable oils.

Carbohydrates - corn and wheat processing; produces syrup, starch, glucose, dextrose, ethanol.

Nutrition - production of raw materials for the food industry, including vegetable proteins, flavourings, colourings, emulsifiers, enzymes, and production of nutritional blends and animal feeds.

"ADM Trading Ukraine" is a subsidiary of Archer Daniels Midland Company, an international agro-industrial corporation, whose core business is sunflower oil production and grain trading.

(ADM, 2020) (WIKIPEDIA, 2022)

4.2 Kernel



Kernel Holding S.A. (Kernel).

Kernel is Ukraine's largest agro-industrial holding company.

The 2022 financial statements are prepared under IFRS as of 30.06.2022 in thousands of US dollars.

The subsidiaries of Kernel Holding S.A. (formed jointly with the Company) own assets mainly in Ukraine and operate along the entire agricultural value chain.

The auditing company that confirmed the accounts: PwC Société cooperative ("PwC").

Let's start assessing the liquidity of the company's balance sheet by comparing the asset and liability grouped data for the period 2021 and 2022, using vertical and horizontal analysis:

Table 2: Kernel Distribution of liabilities and assets depending on their liquidity

Assets		30.06.2022	30.06.2021	
Current assets				
Cash and cash equivalents	9, 37	447,625	574,04	A1
Trade accounts receivable	10, 34, 37	142,738	381,124	A2
Prepayments to suppliers	34	107,167	127,726	A2
Corporate income tax prepaid		12,228	12,041	A2
Taxes recoverable and prepaid	11	204,686	185,966	A2
Inventory	12	953,922	332,027	A3
Biological assets	13	161,911	376,644	A3
Other financial assets	14, 34, 37	205,811	294,156	A2
<u>Assets classified as held for sale</u>	<u>15</u>	<u>287,068</u>	=	A3
Total current assets		<u>2,523,156</u>	<u>2,283,724</u>	
Non-current assets				
Property, plant and equipment	16	1,018,073	1,065,205	A4
Right-of-use assets	17	247,74	364,699	A4
Intangible assets	18	124,198	62,144	A4
Goodwill	19	71,62	120,925	A4
Deferred tax assets	26	41,568	15,098	A4

Non-current financial assets	20, 34	52,532	46,322	A4
<u>Other non-current assets</u>	<u>11, 34</u>	<u>106,725</u>	<u>38,462</u>	A4
<u>Total non-current assets</u>		<u>1,662,456</u>	<u>1,712,855</u>	
Total assets		<u>3,979,801</u>	<u>3,996,579</u>	
Liabilities and equity				
Current liabilities				
Trade accounts payable	37, 34	161,342	150,061	L1
Advances from customers and other current liabilities	21, 34	89,2	140,543	L1
Corporate income tax liabilities		7,411	46,504	L1
Short-term borrowings	23	1,093,087	13,888	L2
Current portion of long-term borrowings	23	—	21,715	L2
Current portion of lease liabilities	24	39,111	37,338	L2
Current bonds issued	25	595,038	212,495	L2
Interest on bonds issued	37	7,612	15,353	L2
Other financial liabilities	22, 37	128,537	278,918	L2
<u>Liabilities associated with assets classified as held for sale</u>	<u>15</u>	<u>116,848</u>	<u>—</u>	L3
<u>Total current liabilities</u>		<u>2,238,186</u>	<u>916,815</u>	
Non-current liabilities				
Long-term borrowings	23	—	227,74	L3
Lease liabilities	24	200,441	287,154	L3
Deferred tax liabilities	26	21,893	20,806	L3
Bonds issued	25	—	593,942	L3
<u>Other non-current liabilities</u>	<u>37</u>	<u>38,871</u>	<u>1,216</u>	L3
<u>Total non-current liabilities</u>		<u>261,205</u>	<u>1,130,858</u>	
Equity attributable to Kernel Holding S.A. equity holders				
Issued capital	2	2,219	2,219	L4
Share premium reserve	2	500,378	500,378	L4
Additional paid-in capital	2	39,944	39,944	L4
Treasury shares	2	-96,897	—	L4
Equity-settled employee benefits reserve	2	—	1,85	L4
Revaluation reserve		104,303	57,29	L4
Other reserves	4	—	-896	L4
Translation reserve		-816,49	-703,034	L4
<u>Retained earnings</u>		<u>1,949,731</u>	<u>2,048,399</u>	L4
<u>Total equity attributable to Kernel Holding S.A. equity holders</u>		<u>1,683,188</u>	<u>1,946,150</u>	L4
<u>Non-controlling interests</u>		<u>3,033</u>	<u>2,756</u>	L4
<u>Total equity</u>		<u>1,686,221</u>	<u>1,948,906</u>	L4
<u>Total liabilities and equity</u>		<u>4,185,612</u>	<u>3,996,579</u>	

(KERNEL HOLDING, 2022)

Table 3: Kernel Asset Classification by Declining Liquidity, Liabilities by Increasing Repayment Terms.

Balance sheet asset groups	30.06.2022	30.06.2021	changes	
Highly liquid assets (A1)	447,625	574,040	- 126,415	-22,02%
Quick assets (A2)	672,630	1 001,013	- 328,383	-32,81%
Slow assets (A3)	1 402,901	708,671	694,230	97,96%
Illiquid (non-liquid) assets (A4)	1 662,456	1 712,855	- 50,399	-2,94%
Total Asset group	4 185,612	3 996,579	189,033	4,73%

Balance sheet liability groups	30.06.2022	30.06.2021	changes	
The most significant liabilities are accounts payable (L1)	257,953	337,108	- 79,155	-23,48%
Current liabilities (L2)	1 863,385	579,707	1 283,678	221,44%
Long-term liabilities (L3)	378,053	1 130,858	- 752,805	-66,57%
Permanent liabilities (L4)	1 686,221	1 948,906	- 262,685	-13,48%
Total liability group	4 185,612	3 996,579	189,033	4,73%

Source: own calculations based on the financial statements of the company (*KERNEL HOLDING, 2022*)

Analyzing Table 2, information on the correlation of the obtained results has been compiled. According to the condition, if any of the conditions are not met, the enterprise is not considered absolutely liquid.

Table4: Kernel Sustainable Liquidity Analysis

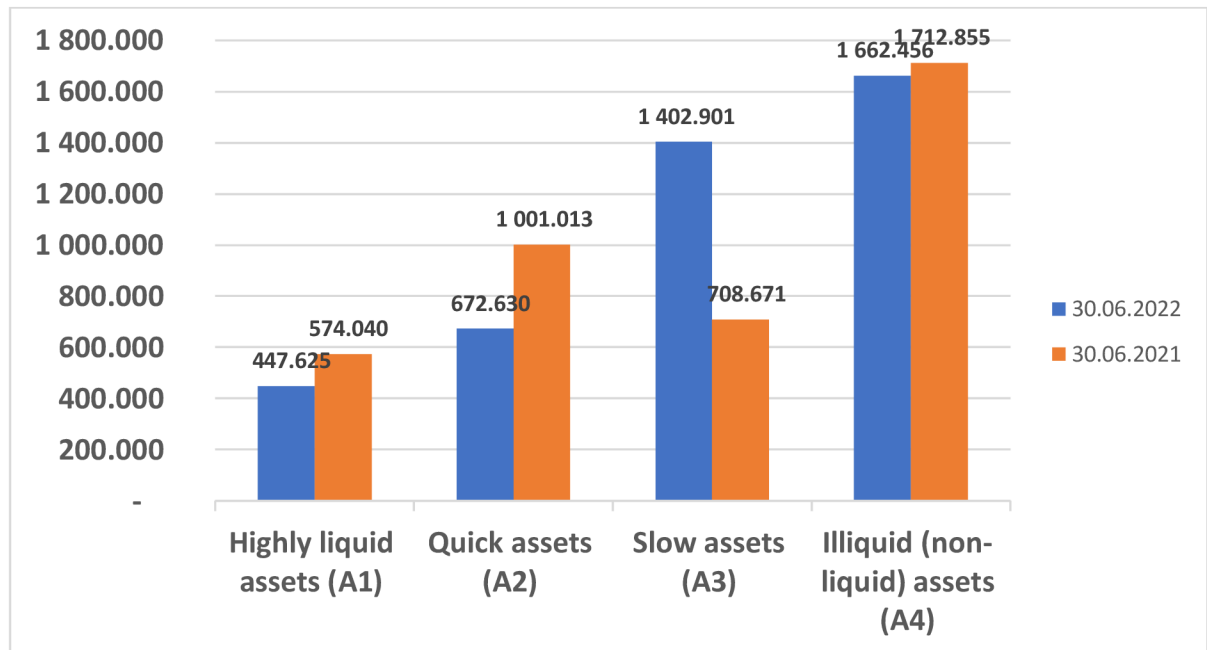
Liquidity stability condition	Result as of 30.06.2022	Result as of 30.06.2021
A1 ≥ L1	A1 ≥ L1	A1 ≥ L1
A2 ≥ L2	A2 ≤ L2	A2 ≥ L2
A3 ≥ L3	A3 ≥ L3	A3 ≤ L3
A4 ≤ L4	A4 ≤ L4	A4 ≤ L4

(VOLOSHCHUK & YUDIN, 2012)

According to the data above, we can say that the balance sheet of the company at the end of the reporting year 2022 and 2021 has partial liquidity.

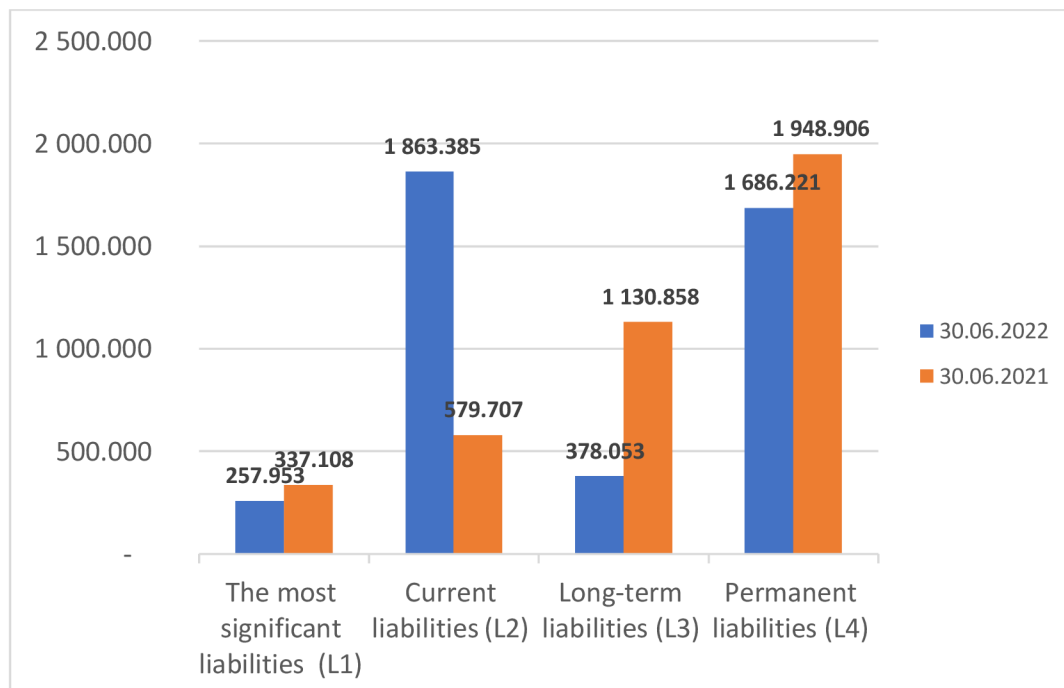
The year 2022 showed that there is no possibility to repay loans of up to one year at the expense of quick realisable assets. And in 2021 there were not enough slow-moving assets to repay long-term loans.

Let's see how Kernel's assets and liabilities changed in the 2021 and 2022 reporting years in Graph 1 and 2:



Graph 1: Kernel Dynamics of changes in 2022 assets compared to 2021.

Source: own calculations based on the financial statements of the company (KERNEL HOLDING, 2022)



Graph 2: Kernel Dynamics of changes in liabilities in 2022 compared to 2021. Source: table 3

Source: own calculations based on the financial statements of the company (KERNEL HOLDING, 2022)

Significant changes are observed in the groups:

Decrease in Quick assets (A2) is mainly due to the indicator of Trade accounts receivable. As of 30.06.2021, trade accounts receivable was \$381,124 thousand and as of 30.06.2022, the indicator was \$142,738 thousand, a 62.5% decrease. The company is actively struggling with financial problems, one of the levers is to reduce trade accounts receivable.

The increase in Slow assets (A3) is due to the increase in the book of inventories. As of 30.06.2021 the book value of inventories is 332.027 thousand \$, and as of 30.06.2022 the indicator is 953.922 thousand \$, which is 287.3% more. After the outbreak of war in Ukraine, Kernel faced difficulties in realising inventories.

Increase in Current liabilities (L2): Short-term credit line liabilities increased. As of 30.06.2021 short-term loans were 13,888 thousand \$, and as of 30.06.2022 the figure was 1093,087 thousand \$. That is Kernel tries to finance working capital by borrowings.

Vertical Analysis:

Table 4: Kernel Ratio of balance sheet elements to total assets for 2022 and 2021 in thousand \$

Balance sheet asset groups	30.06.2022	30.06.2021	changes
Highly liquid assets (A1)	447,625	574,04	
Percentage share%	10,69%	14,36%	-3,67%
Quick assets (A2)	672,63	1001,013	
Percentage share %	16,07%	25,05%	-8,98%
Slow assets (A3)	1402,901	708,671	
Percentage share%	33,52%	17,73%	15,79%
Illiquid (non-liquid) assets (A4)	1662,456	1712,855	
Percentage share %	39,72%	42,86%	-3,14%
Total Asset group	4185,612	3996,579	

Source: own calculations based on the financial statements of the company (KERNEL HOLDING, 2022)

Table 5: Kernel Ratio of balance sheet elements to total liabilities for 2022 and 2021 in thousand \$

Balance sheet liability groups	30.06.2022	30.06.2021	changes
---------------------------------------	-------------------	-------------------	----------------

The most significant liabilities are accounts payable (L1)	257,953	337,108	
Percentage share %	6,16%	8,43%	-2,27%
Current liabilities (L2)	1863,385	579,707	
Percentage share %	44,52%	14,51%	30,01%
Long-term liabilities (L3)	378,053	1130,858	
Percentage share %	9,03%	28,30%	-19,26%
Permanent liabilities (L4)	1686,221	1948,906	
Percentage share %	40,29%	48,76%	-8,48%
Total liability group	4185,612	3996,579	

Source: own calculations based on the financial statements of the company (KERNEL HOLDING, 2022)

In 2022, non-current and current assets prevail in the asset structure of the balance sheet, accounting for 39.72% and 33.52% respectively.

There is also a slight decrease in the asset groups Highly liquid assets (A1), Quick assets (A2), Slow assets (A3), Illiquid (non-liquid) assets (A4) in 2022 compared to 2021.

Regarding the structure of the balance sheet liabilities for 2022, Short liabilities (L2) has the largest share, reaching a maximum of 44.52% in 2022. It is explained by the increase of Short-term loans, classification of long-term liabilities into short-term ones.

We observe a decrease in the groups of liabilities The most significant liabilities are accounts payable (L1), Long-term liabilities (L3), Permanent liabilities (L4) in 2022 compared to 2021.

Liquidity can be examined and analysed more extensively by means of a number of ratios (table 6,7).

Ratio Analysis:

Kernel Selected Financial Data for the year ended 30 June 2022 (in thousands of USD, unless otherwise stated)

Table 6: Kernel financial data for the year ended June 30, 2022 and June 30, 2021

Reporting elements	Kernel, thousands USD		
	30.06.2022	30.06.2021	changes
Current assets	2 523,156	2 283,724	239,432
Current liabilities	2 238,186	916,815	1 321,371
Inventory	953,922	332,027	621,895
Cash and cash equivalents	447,625	574,040	-126,415

Total liabilities	2 499,391	2 047,673	451,718
Shareholder's equity	1 686,221	1 948,906	-262,685
Total assets	4 185,612	3 996,579	189,033
Operating income (or EBIT)	90,667	689,293	-598,626
Interest expense	130,549	147,709	-17,160
Net profit	-40,700	505,722	-546,422

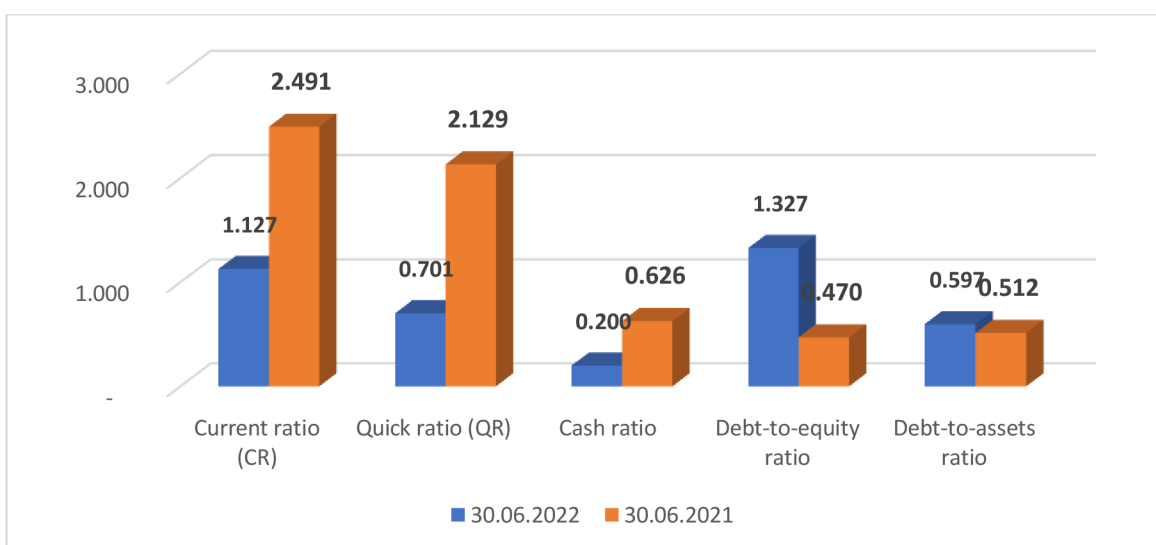
Source: own calculations based on the financial statements of the company (KERNEL HOLDING, 2022)

Table 7: Kernel coefficients of liquidity, solvency, and profitability for the years 2022 and 2021

Ratio	30.06.2022	30.06.2021	normal value
Current ratio (CR)	1,127	2,491	1-2,5
Quick ratio (QR)	0,701	2,129	0,7—1
Cash ratio	0,200	0,626	$\geq 0,2 - 0,7$
Debt-to-equity ratio	1,327	0,470	1-1,5
Debt-to-assets ratio	0,597	0,512	0.5-0,7
Interest Coverage Ratio	0,695	4,667	>2
Return on assets (ROA)	-1,613	22,145	$>5\%$
Return on Equity (ROE)	-2,414	25,949	$>10-12\%$

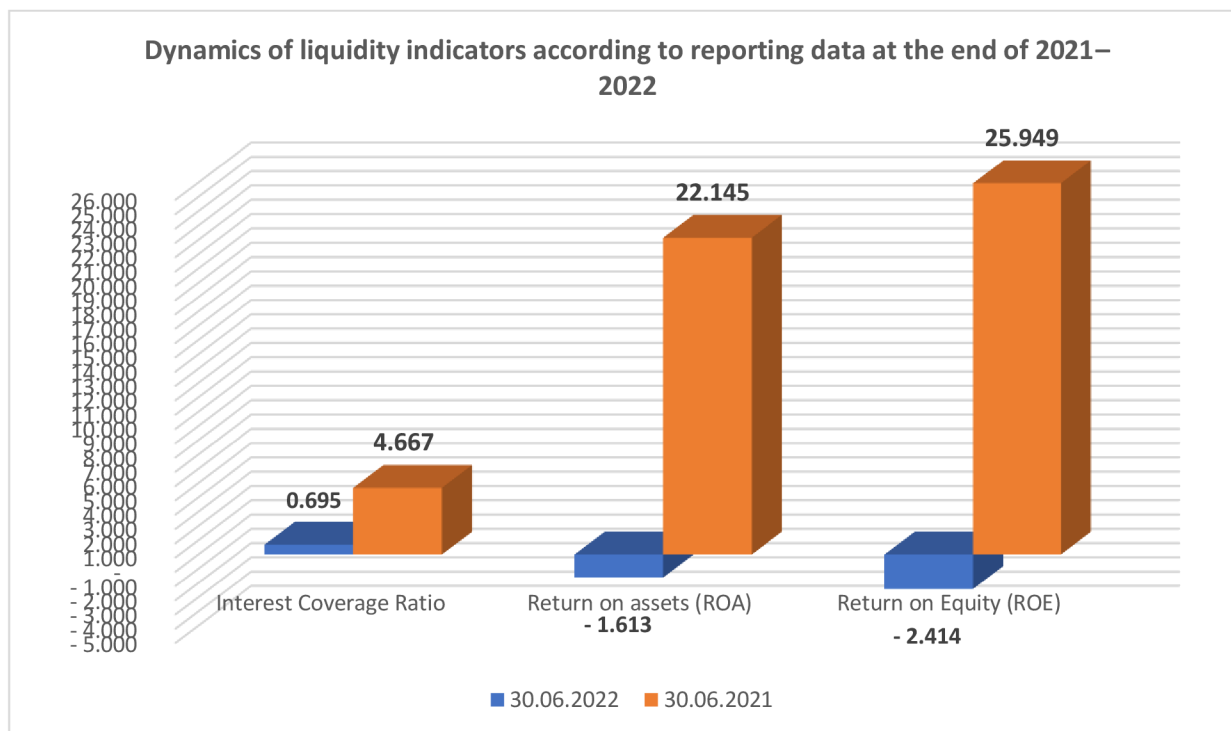
Source: own calculations based on the financial statements of the company (KERNEL HOLDING, 2022)

In order to objectively analyse and evaluate the results of the coefficient calculations performed, it will be advisable to present the data obtained in the form of a graph:



Graph 3: Kernel Dynamics of liquidity indicators according to reporting data at the end of 2021–2022.

Source: own calculations based on the financial statements of the company (KERNEL HOLDING, 2022)



Graph 4: Kernel Dynamics of liquidity indicators according to reporting data at the end of 2021–2022; source : table 7

Source: own calculations based on the financial statements of the company (KERNEL HOLDING, 2022)

Having analysed the dynamics of liquidity ratios, we can draw certain conclusions:

Current ratio (CR) for 2022 reporting year within the norm, it means that Kernel is able to fully cover short-term liabilities at the expense of current assets. But in 2021 Current ratio was slightly higher than normal as we can see from the calculations. This means that Kernel had a high ability to pay its current liabilities in the short term.

Quick ratio (QR) for the 2022 reporting year is within the normal range, i.e. short-term liabilities can be repaid with liquid current assets. In the 2021 reporting year, a higher figure for this value shows that the company had free funds, which means that it was able to quickly repay all its loans to investors without selling long-term assets.

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The Cash ratio for the reporting years 2022 and 2021 is normal, which shows the proportion of the company's current debts that can be repaid with cash and cash equivalent assets. The observed decrease in 2022 as compared to 2021 indicates that the cash of the enterprise is increasing slower than its short-term debts.

Debt-to-equity ratio is considered to be optimal, equal to the ratio of liabilities to equity (net assets), a value of up to 2 may be acceptable (in large public companies this ratio may be even higher). At higher values of the ratio the organisation loses its financial independence and its financial position becomes extremely unstable. It is more difficult for such organisations to attract additional loans.

In the 2022 reporting year, the Debt-to-equity ratio Kernel was 1.327 (i.e. 57% debt capital and 43% equity capital), which is within the normal range. In 2021 reporting year, Debt-to-equity ratio Kernel was 0.47 (32% debt capital and 68% equity capital). Too low a value of the financial leverage ratio indicates a missed opportunity to use financial leverage - to increase the return on equity through the involvement of borrowed funds.

Debt-to-assets ratio in 2022 and 2021 is normal. It means that the ratio of Kernel's borrowed capital to the company's total capital (assets) is liquid.

The Interest Coverage Ratio in 2021 was quite high at 4.667. The higher the Interest Coverage Ratio, the more stable the financial position of the organisation. But in 2022 reporting year we observe a significant decrease in Interest Coverage Ratio. In normal practice, a ratio below 1.5 calls into question the organisation's ability to service its debt. A ratio of less than 1 (i.e. EBIT is less than interest payable) is considered critical, which means

that the cash inflow is insufficient to pay interest to creditors. The Interest Coverage Ratio in 2022 is critical and was 0.695.

Return on assets (ROA) ratio in 2021 is quite high. But in 2022, ROA has decreased to a critical minimum, which indicates that the management of the company cannot effectively utilise its assets to generate more profit. This is a sign that the company has some problems.

The Return on Equity (ROE) ratio is essentially the rate at which the company employs shareholders' funds. In 2021, the ratio is quite good at about 26%, meaning that for every \$1 invested by shareholders, the company generated \$0.20 in net income. But in 2022 we see a sharp decline as the Company closed 2022 with a financial loss.

Kernel in 2022 in the notes to the accounts stated that in 2022, the company recognised a loss of \$495 million related to Russia's military aggression against Ukraine and spent \$26 million on social and military needs to support the Ukrainian army and communities affected by the war. The strong operational performance achieved up to 24 February 2022 has been eroded by the war and resulted in a net loss of US\$41 million attributable to shareholders.

Kernel Group manages liquidity risk by maintaining sufficient cash and cash equivalents and the availability of funding through adequate banking facilities by continuously monitoring forecast and actual cash flows and matching the maturity profiles of financial assets and liabilities. Management diversifies funding sources to ensure that sufficient liquidity is maintained to meet liquidity requirements. The Company is experiencing some difficulties but remains liquid and solvent.

The main challenges faced by the Company after 24 February 2022, when the Russian Federation launched an unprovoked full-scale military aggression in Ukraine:

- Employee mobilisation - 800 employees;
- The amount of partially or fully damaged property, plant and equipment is USD 592 thousand;

- The Group recognised write-off of inventories due to suspension of export and subsequent expiry of goods and destruction as a result of military actions;
 - The Group's liquidity position is under pressure due to lower revenues and higher logistics costs for alternative export destinations;
 - Banking facilities have been constrained;
 - Costs have been incurred to evacuate employees from regions where there is active hostilities;
 - Kernel's land bank is 494 thousand hectares and has managed to plant 95% of its land bank;
 - Logistical problems with exports.
- (KERNEL, 2022)

4.3 Bunge



Bunge Ltd (Bunge), International agro-industrial company.

The 2022 financial statements are prepared in accordance with U.S. GAAP standards as of 31.12.2022 in U.S.D in millions.

The agribusiness segment is an integrated global business engaged in the procurement, storage, transport, processing and sale of agricultural products and commodity products, while managing risk across various value chains. Approximately 36% of processing capacity is located in South America, 26% in North America, 23% in Europe (including Ukraine) and 15% in Asia Pacific.

Bunge's Ukrainian operations include two oilseed processing plants located in Mykolaiv and Dnipropetrovsk, a grain export terminal at the Mykolaiv Commercial Sea Port, numerous grain elevators and an office in Kiev. The Company also operates a corn processing plant in Ukraine through a joint venture.

As at 31 December 2022, total assets and total liabilities in Ukraine were \$262 million and \$125 million respectively, representing 1% of Bunge's assets and 0.5% of Bunge's Consolidated Statements.

The auditing company that confirmed the statements: Deloitte & Touche LLP.
(BUNGE, 2022)

Horizontal analysis:

Table 8: Bunge Distribution of liabilities and assets depending on their liquidity

ASSETS			
	December 31, 2022	December 31, 2021	Group
Current assets:			
Cash and cash equivalents	1,104	0,902	A1
Trade accounts receivable (less allowances of \$90 and \$85) (Note 5)	2,829	2,112	A2
Inventories (Note 6)	8,408	8,431	A3
Assets held for sale (Note 3)	0,036	0,264	A3
Other current assets (Note 7)	4,381	4,751	A2
Total current assets	16,758	16,460	
Property, plant and equipment, net (Note 8)	3,617	3,499	A4
Operating lease assets (Note 28)	1,024	0,912	A4
Goodwill (Note 9)	0,470	0,484	A4
Other intangible assets, net (Note 10)	0,360	0,431	A4
Investments in affiliates (Note 12)	1,012	0,764	A4
Deferred income taxes (Note 15)	0,712	0,550	A4
Other non-current assets (Note 13)	0,627	0,719	A4
Total assets	24,580	23,819	
LIABILITIES AND EQUITY			
Current liabilities:			
Short-term debt (Note 18)	0,546	0,673	L1
Current portion of long-term debt (Note 19)	0,846	0,504	L1
Trade accounts payable (includes \$643 and \$568 carried at fair value)	4,386	4,250	L1
Current operating lease obligations (Note 28)	0,425	0,350	L2
Liabilities held for sale (Note 3)	0,018	0,122	L3
Other current liabilities (Note 14)	3,379	3,425	L2
Total current liabilities	9,600	9,324	
Long-term debt (Note 19)	3,259	4,787	L3
Deferred income taxes (Note 15)	0,365	0,338	L3
Non-current operating lease obligations (Note 28)	0,547	0,506	L3
Other non-current liabilities (Note 23)	0,849	0,658	L3
Redeemable noncontrolling interests (Note 24)	0,004	0,381	L3
Equity (Note 25):			
Convertible perpetual preference shares, par value \$.01; authorized—21,000,000 shares, issued and outstanding: 2022 —zero shares, 2021—6,899,683 shares (liquidation preference \$100 per share)	—	0,690	L4

Common shares, par value \$.01; authorized—400,000,000 shares; issued and outstanding: 2022—149,907,932 shares, 2021—141,057,414 shares	0,001	0,001	L4
Additional paid-in capital	6,692	5,590	L4
Retained earnings	10,222	8,979	L4
Accumulated other comprehensive loss (Note 25)	- 6,371	- 6,471	L4
Treasury shares, at cost; 2022—18,835,812 and 2021—16,726,697 shares	- 1,320	- 1,120	L4
Total Bunge shareholders' equity	9,224	7,669	
Noncontrolling interests	0,732	0,156	L4
Total equity	9,956	7,825	
Total liabilities and equity	24,580	23,819	

(BUNGE, 2022)

Table 9: Bunge grouping of Balance Sheet Assets by decreasing degree of their liquidity, liabilities - by increasing terms of their repayment (payment).

Balance sheet asset groups	31.12.2022	31.12.2021	changes	
Highly liquid assets (A1)	1,104	0,902	0,202	22,39%
Quick assets (A2)	7,210	6,863	0,347	5,06%
Slow assets (A3)	8,444	8,695	- 0,251	-2,89%
Illiquid (non-liquid) assets (A4)	7,822	7,359	0,463	6,29%
Total Asset group	24,580	23,819	0,761	3,19%

Balance sheet liability groups	31.12.2022	31.12.2021	changes	
The most significant liabilities are accounts payable (L1)	5,778	5,427	0,351	6,47%
Current liabilities (L2)	3,804	3,775	0,029	0,77%
Long-term liabilities (L3)	5,042	6,792	- 1,750	- 25,77%
Permanent liabilities (L4)	9,956	7,825	2,131	27,23%
Total liability group	24,580	23,819	0,761	3,19%

Source: own calculations based on the financial statements of the company (BUNGE, 2022)

Table 10: Bunge Sustainable Liquidity Analysis 2022 and 2021

Liquidity stability condition	31.12.2022	31.12.2021
A1 ≥ Π1	A1 ≤ Π1	A1 ≤ Π2
A2 ≥ Π2	A2 ≥ Π2	A2 ≥ Π2

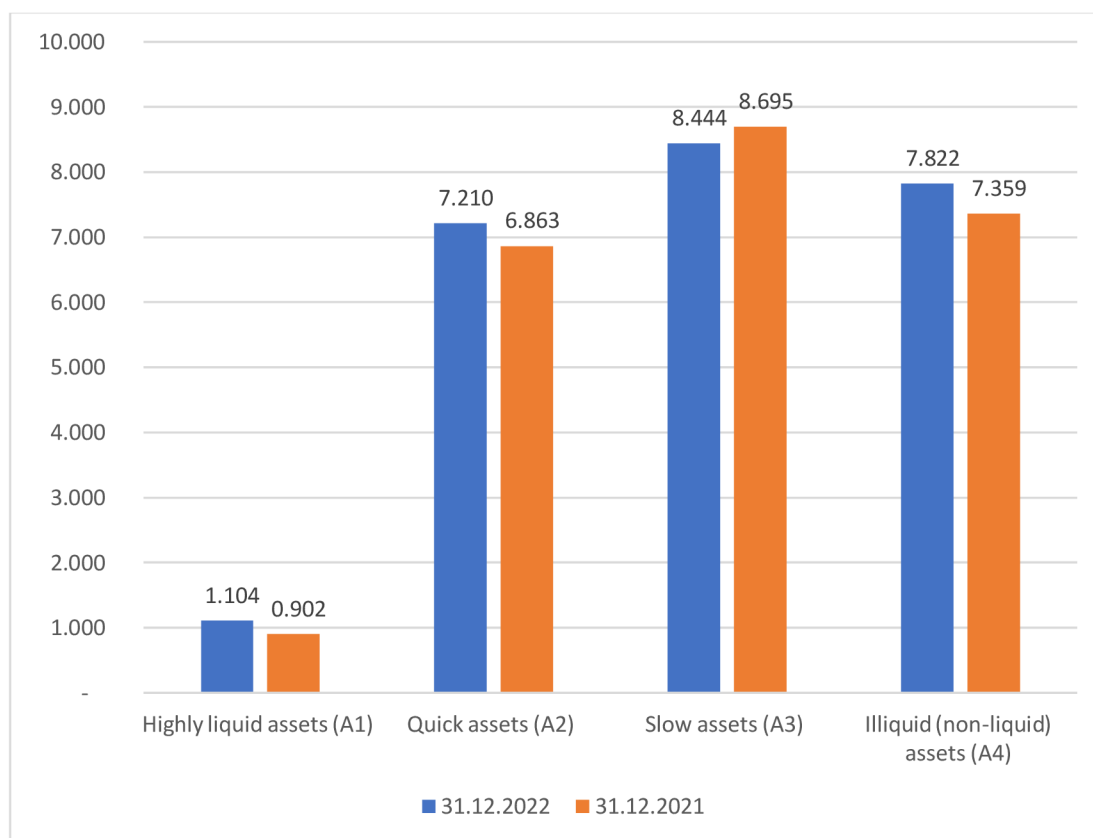
$A3 \geq \Pi3$	$A3 \geq \Pi3$	$A3 \geq \Pi4$
$A4 \leq \Pi4$	$A4 \leq \Pi4$	$A4 \leq \Pi4$

(VOLOSHCHUK & YUDIN, 2012)

Analysing Tables 8, 9 we can conclude that Bunge's Balance Sheet in 2022 and 2021 is generally liquid. There is slight difficulty in repaying loans of up to one year due to quick realisable assets.

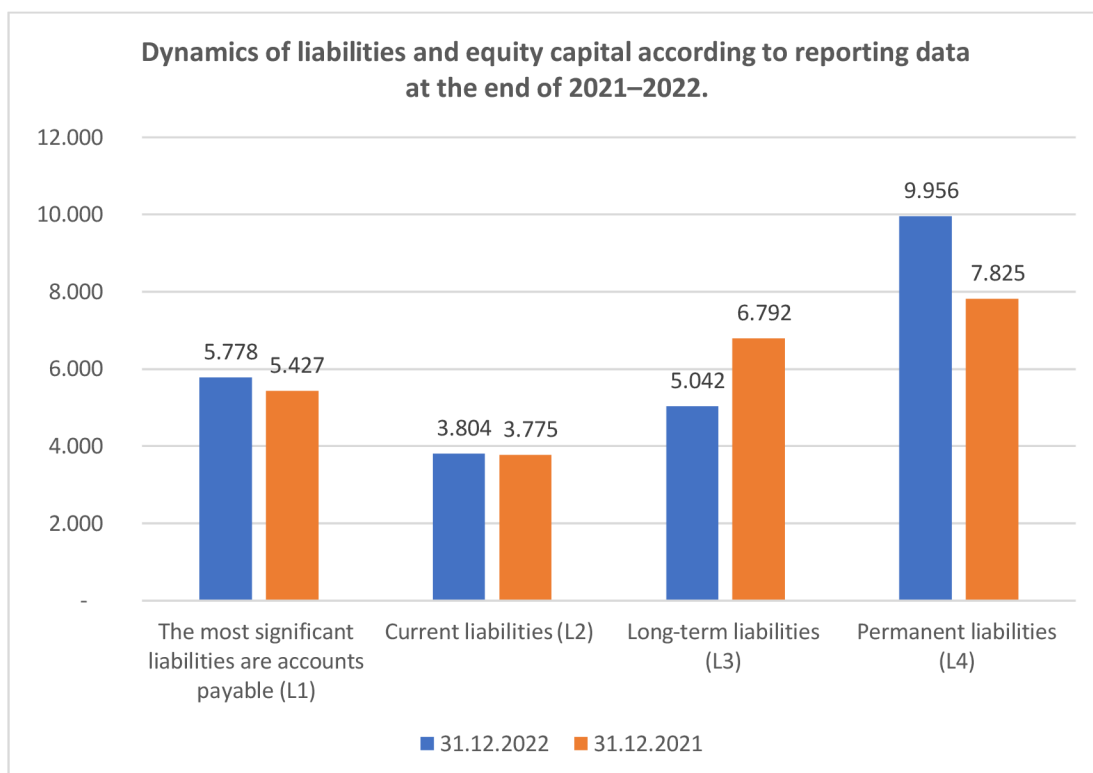
Bunge's assets and liabilities have not changed significantly in the comparison of 2021 and 2022 reporting years.

The changes in the assets and liabilities of the consolidated balance sheet are summarised in the graphs:



Graph 5: Bunge Dynamics of assets according to reporting data at the end of 2021–2022.

Source: own calculations based on the financial statements of the company (BUNGE, 2022)



Graph 6: Bunge Dynamics of liabilities and equity capital according to reporting data at the end of 2021–2022.

Source: own calculations based on the financial statements of the company (BUNGE, 2022)

Vertical Analysis:

Table 11: Bunge Ratio of balance sheet elements to total assets for 2022 and 2021

Balance sheet asset groups	31.12.2022	31.12.2021	changes
Highly liquid assets (A1)	1,104	0,902	
Percentage share %	4,49%	3,79%	0,70%
Quick assets (A2)	7,210	6,863	
Percentage share %	29,33%	28,81%	0,52%
Slow assets (A3)	8,444	8,695	
Percentage share %	34,35%	36,50%	-2,15%
Illiquid (non-liquid) assets (A4)	7,822	7,359	
Percentage share %	31,82%	30,90%	0,93%
Total Asset group	24,580	23,819	
Balance sheet liability groups	31.12.2022	31.12.2021	changes

The most significant liabilities are accounts payable (L1)	5,778	5,427	0,72%
Percentage share %	23,51%	22,78%	
Current liabilities (L2)	3,804	3,775	-0,37%
Percentage share %	15,48%	15,85%	
Long-term liabilities (L3)	5,042	6,792	-8,00%
Percentage share %	20,51%	28,52%	
Permanent liabilities (L4)	9,956	7,825	7,65%
Percentage share %	40,50%	32,85%	
Total liability group	24,580	23,819	

Source: own calculations based on the financial statements of the company (BUNGE, 2022)

In 2022 and 2021, Quick assets (A2), Slow assets (A3), Illiquid (non-liquid) assets (A4) prevailed in the structure of Bunge's assets, which indicates stable financial performance.

The structure of liabilities in 2022 and 2021 is dominated by equity capital of the organisation, which is a positive factor and indicates the growth of financial stability of the Company.

Let's consider and analyse liquidity with the help of a number of some ratios:

Ratio analysis:

Bunge Selected Financial Data for the year ended December 31,2022 (in millions of USD, unless otherwise stated):

Table 12: Bunge financial data for the year ended December 31, 2022 and December 31, 2021.

Reporting elements	Bunge, in millions USD		
	30.06.2022	30.06.2021	changes
Current assets	16,758	16,460	0,298
Current liabilities	9,600	9,324	0,276
Inventory	8,408	8,431	-0,023
Cash and cash equivalents	1,104	0,902	0,202
Total liabilities	14,624	15,994	-1,370

Shareholder's equity	9,956	7,825	2,131
Total assets	24,580	23,819	0,761
Operating income (or EBIT)	2,066	2,565	-0,499
Interest expense	0,403	0,243	0,160
Net profit	1,610	2,078	-0,468

Source: own calculations based on the financial statements of the company (BUNGE, 2022)

Table 13: Bunge Liquidity, solvency and profitability ratios for 2022 and 2021

Ratio	30.06.2022	30.06.2021	normal value
Current ratio (CR)	1,746	1,765	1-2,5
Quick ratio (QR)	0,870	0,861	0,7—1.
Cash ratio	0,115	0,097	≥ 0,2 – 0,7
Debt-to-equity ratio	0,964	1,192	1-1,5
Debt-to-assets ratio	0,595	0,671	0.5-0,7
Interest Coverage Ratio	5,127	10,556	>2
Return on assets (ROA)	9,607	12,625	>5%
Return on Equity (ROE)	16,171	26,556	>10-12%

Source: own calculations based on the financial statements of the company (BUNGE, 2022)

Cash ratio is below the normative values, it indicates that Bunge does not have enough "instant" liquidity, but it does not mean that the Company has problems. With such values it is necessary to evaluate the structure of short-term liabilities, interest rates on them and the ability to use other current assets to cover current liabilities. To complete the picture, it is necessary to analyse the cash flow from operating activities of the organisation.

From Bunge's reporting:

BUNGE LIMITED AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF CASH FLOWS (U.S.D in millions)

Table 14: Bunge Data from the statement of cash flows 2022-2021

Report article	2022	2021
Cash used for operating activities	(5,549)	(2,894)

(BUNGE, 2022)

Cash used for operating activities for the year ended 31 December 2022 was \$5,549 million, an increase of \$2,655 million compared to \$2,894 million used for operating activities for the year ended 31 December 2021.

Bunge states in his statements that there has been an increase in the use of operating cash due to the rising cost of raw materials.

All other indicators show Bunge's stable liquidity position.

For the year ended 31 December 2022, net profit attributable to Bunge was \$1,610 million, a decrease of \$468 million compared to Bunge's net profit of \$2,078 million for the year ended 31 December 2021.

One of the reasons for the decrease in profit is due to the military action in Ukraine.

Immediately after the invasion began, Bunge temporarily suspended its Ukrainian operations. However, Bunge subsequently resumed certain commercial and operational activities in Ukraine, including processing, refining and oilseed processing.

Extract from the consolidated balance sheet of the Company's activities in Ukraine as of December 31, 2022. consists of the following:

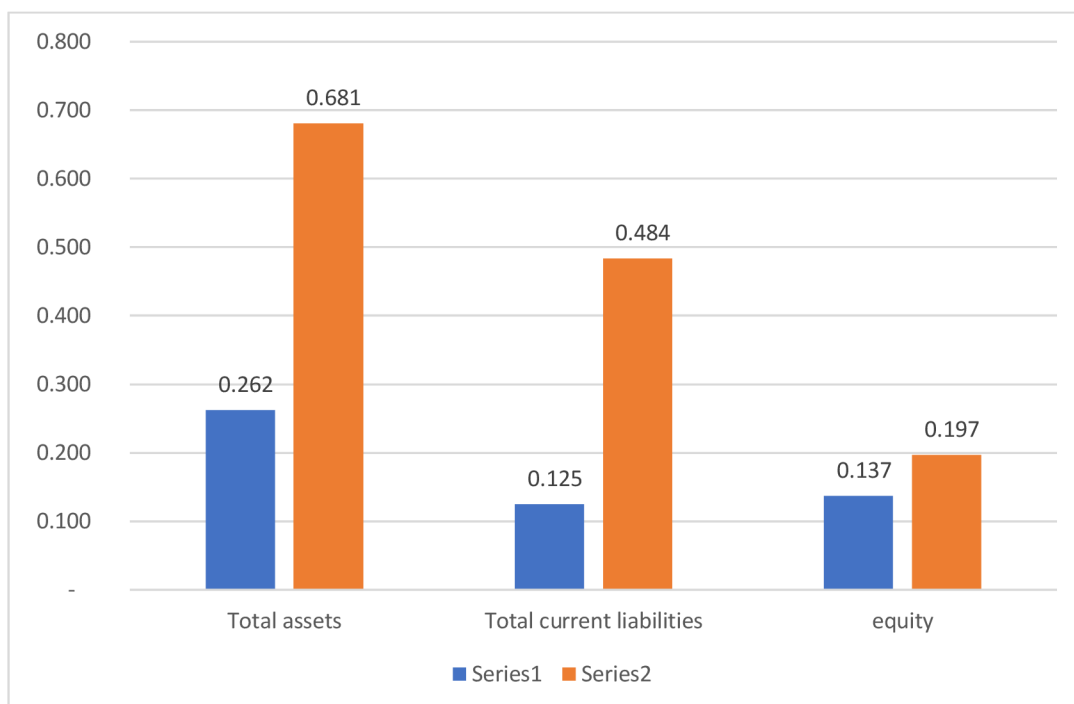
Table 15: Bunge Extract from the consolidated balance sheet of the Company's operations in Ukraine as at 31 December 2022.

Balance sheet	December 31,2022	December 31, 2021
Total assets	0,262	0,681
liabilities and equity		
Total current liabilities	0,125	0,484
equity	0,137	0,197
Total liabilities and equity	0,262	0,681

(BUNGE, 2022)

Analysing Table 14 we observe a sharp decrease in assets and liabilities of the balance sheet of Ukraine comparing 2021 and 2022 reporting years.

How the assets and liabilities of Bunge Ukraine Company changed in 2021 and 2022 reporting years we will see in Diagram 7:



Graph 7: Bunge Dynamics of assets, liabilities and equity according to reporting data at the end of 2021–2022 from the condensed financial statements of Ukraine.

(BUNGE, 2022)

Bunge notes in the Notes to the Consolidated Financial Statements the effects on profits and the challenges faced by the Company due to the military action in Ukraine:

Some Bunge Ukraine reserves are located in occupied territories, or in hard-to-reach locations with high recovery costs. Also due to the disruption of logistical routes, other inventories were prone to spoilage. In 2022, provisions were accrued to recognise inventories as illiquid.

Employee assistance expenses were incurred.

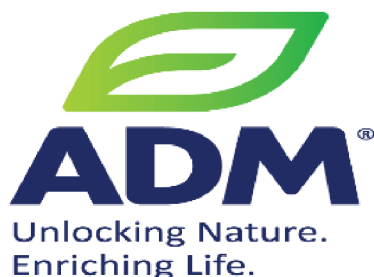
Recognition of low liquidity position due to lower revenue and higher logistics costs;

Incurred minor finance costs due to damage to fixed assets.

Shutdown of businesses for safety reasons.

Power outage, due to damage to infrastructure.

4.4 ADM



Archer Daniels Midland Company (ADM), International agro-industrial company.

The 2022 financial statements are prepared under U.S. GAAP as of 31.12.2022 in USD in millions.

The company has consolidated subsidiaries in more than 70 countries. As of 31 December 2022, ADM's assets in Ukraine consisted mainly of current assets, which accounted for less than 1% of total assets.

The auditing company that confirmed the statements: Ernst & Young LLP.

Let us consider the liquidity of the balance sheet by analysing the changes in the consolidated statements:

(ADM, 2022)

Horizontal analysis:

Table 16: ADM Distribution of liabilities and assets depending on their liquidity

	December 31, 2022	December 31, 2021	Group
Assets			
Current Assets			
Cash and cash equivalents	1,037	0,943	A1
Segregated cash and investments	9,010	8,016	A1
Trade receivables - net	4,926	3,311	A2
Inventories	14,771	14,481	A3
Other current assets	5,666	5,158	A2
Total Current Assets	35,410	31,909	
Investments and Other Assets			
Investments in and advances to affiliates	5,467	5,285	A4
Goodwill and other intangible assets	6,544	6,747	A4
Right-of-use assets	1,088	1,023	A4
Other assets	1,332	1,369	A4
Total Investments and Other Assets	14,431	14,424	
Property, Plant, and Equipment			
Land and land improvements	0,502	0,554	A4
Buildings	5,639	5,597	A4
Machinery and equipment	19,194	19,112	A4
Construction in progress	1,440	0,960	A4

	26,775	26,223	
Accumulated depreciation	- 16,842	- 16,420	A4
Net Property, Plant, and Equipment	9,933	9,803	
Total Assets	59,774	56,136	
Liabilities, Temporary Equity, and Shareholders' Equity			
Current Liabilities			
Short-term debt	0,503	0,958	L1
Trade payables	7,803	6,388	L1
Payables to brokerage customers	9,856	8,965	L2
Current lease liabilities	0,292	0,277	L2
Accrued expenses and other payables	4,795	4,790	L2
Current maturities of long-term debt	0,942	0,570	L2
Total Current Liabilities	24,191	21,948	
Long-Term Liabilities			
Long-term debt	7,735	8,011	L3
Deferred income taxes	1,402	1,412	L3
Non-current lease liabilities	0,816	0,765	L3
Other	1,014	1,233	L3
Total Long-Term Liabilities	10,967	11,421	
Temporary Equity - Redeemable noncontrolling interest	0,299	0,259	L4
Shareholders' Equity			
Common stock	3,147	2,994	L4
Reinvested earnings	23,646	21,655	L4
Accumulated other comprehensive income (loss)	- 2,509	- 2,172	L4
Noncontrolling interests	0,033	0,031	L4
Total Shareholders' Equity	24,317	22,508	
Total Liabilities, Temporary Equity, and Shareholders' Equity	59,774	56,136	

(ADM, 2023)

Balance sheet asset groups	31.12.2022	31.12.2021	changes	
Highly liquid assets (A1)	10,047	8,959	1,088	12,14%
Quick assets (A2)	10,592	8,469	2,123	25,07%
Slow assets (A3)	14,771	14,481	0,290	2,00%
Illiquid (non-liquid) assets (A4)	24,364	24,227	0,137	0,57%
Total Asset group	59,774	56,136	3,638	6,48%

Balance sheet liability groups	31.12.2022	31.12.2021	changes	
The most significant liabilities are accounts payable (L1)	8,306	7,346	0,960	13,07%
Current liabilities (L2)	15,885	14,602	1,283	8,79%
Long-term liabilities (L3)	10,967	11,421	-0,454	-3,98%

Permanent liabilities (L4)	24,616	22,767	1,849	8,12%
Total liability group	59,774	56,136	3,638	6,48%

Table 17: ADM grouping of the Balance Sheet Assets by decreasing degree of their liquidity, liabilities - by increasing terms of their repayment (payment).

Source: own calculations based on the financial statements of the company (ADM, 2023)

Comparing the obtained ADM results, we observe that there are difficulties to repay loans of up to one year at the expense of quickly realisable assets:

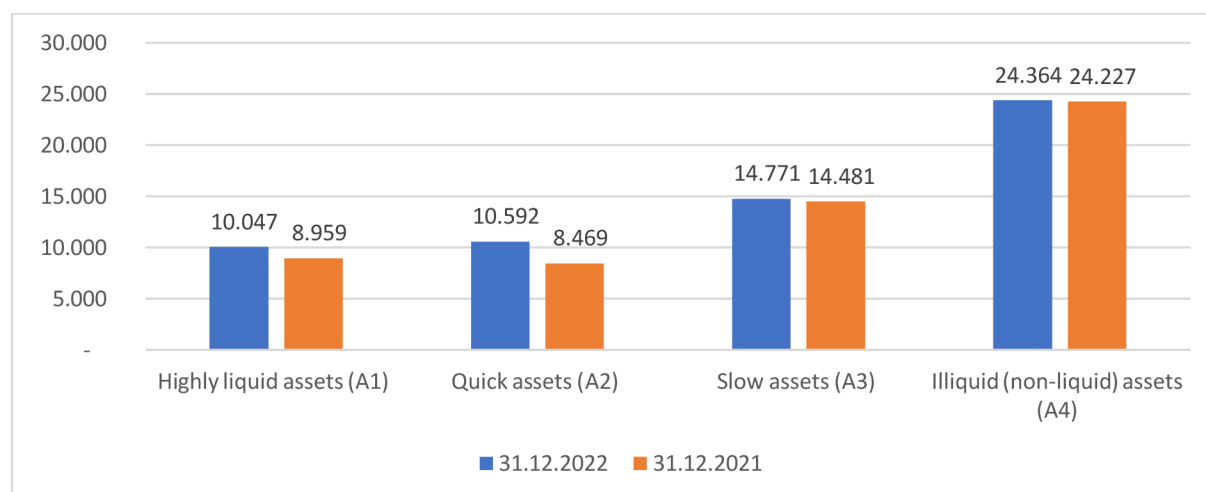
Table 18: ADM Analysis of sustainable liquidity 2022 and 2021

Liquidity stability condition	31.12.2022	31.12.2021
A1 ≥ Π1	A1 ≥ Π1	A1 ≥ Π2
A2 ≥ Π2	A2 ≤ Π2	A2 ≤ Π2
A3 ≥ Π3	A3 ≥ Π3	A3 ≥ Π4
A4 ≤ Π4	A4 ≤ Π4	A4 ≥ Π4

(VOLOSHCHUK & YUDIN, 2012)

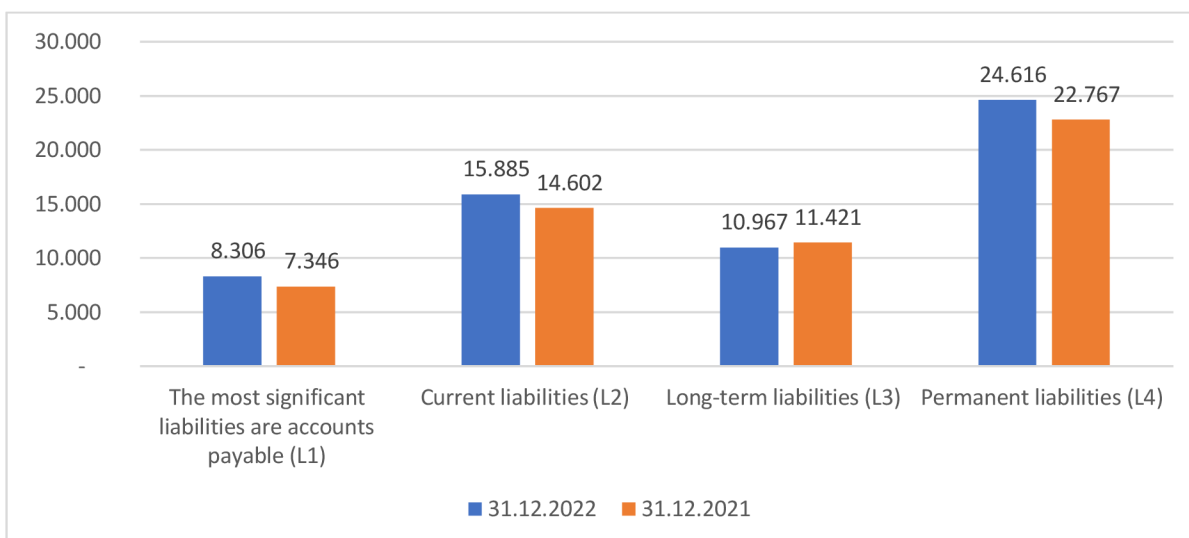
ADM's assets and liabilities did not have significant changes in the comparison of the 2021 and 2022 reporting years.

Changes in assets and liabilities of ADM's Consolidated Statements in the graphs:



Graph 8: ADM Dynamics of assets according to reporting data at the end of 2021–2022

Source: own calculations based on the financial statements of the company (ADM, 2023)



Graph 9: ADM Dynamics of liabilities and equity capital according to reporting data at the end of 2021–2022

Source: own calculations based on the financial statements of the company (ADM, 2023)

Vertical Analysis:

Table 19: ADM Ratio of balance sheet elements to total assets for 2022 and 2021

Balance sheet asset groups	31.12.2022	31.12.2021
Highly liquid assets (A1)	10,047	8,959
Percentage share %	16,81%	15,96%
Quick assets (A2)	10,592	8,469
Percentage share %	17,72%	15,09%
Slow assets (A3)	14,771	14,481
Percentage share %	24,71%	25,80%
Illiquid (non-liquid) assets (A4)	24,364	24,227
Percentage share %	40,76%	43,16%
Total Asset group	59,774	56,136

Balance sheet liability groups	31.12.2022	31.12.2021
The most significant liabilities are accounts payable (L1)	8,306	7,346
Percentage share %	13,90%	13,09%
Current liabilities (L2)	15,885	14,602
Percentage share %	26,58%	26,01%
Long-term liabilities (L3)	10,967	11,421
Percentage share %	18,35%	20,35%

Permanent liabilities (L4)	24,616	22,767
Percentage share %	41,18%	40,56%
Total liability group	59,774	56,136

Source: own calculations based on the financial statements of the company (ADM, 2023)

In 2022 and 2021, the structure of ADM's assets and liabilities indicates that the Company's financial strength is growing.

Let us consider the liquidity of the Company by means of a number of some ratios:

Ratio Analysis:

Selected Financial Data for the year ended December 31,2022 (in millions of USD, unless otherwise stated):

Table 20: ADM financial data for the year ended December 31, 2022 and December 31, 2021

reporting elements	Bunge, in millions USD		
	30.06.2022	30.06.2021	changes
Current assets	35,410	31,909	3,501
Current liabilities	24,191	21,948	2,243
Inventory	14,771	14,481	0,290
Cash and cash equivalents	1,037	0,943	0,094
Total liabilities	35,457	33,628	1,829
Shareholder's equity	24,317	22,508	1,809
Total assets	59,774	56,136	3,638
Operating income (or EBIT)	4,212	2,993	1,219
Interest expense	0,396	0,265	0,131
Net profit	4,365	2,735	1,630

Source: own calculations based on the financial statements of the company (ADM, 2023)

Table 21: Liquidity, solvency and profitability ratios for 2022 and 2021

Ratio	30.06.2022	30.06.2021	normal value
Current ratio (CR)	1,464	1,454	1-2,5
Quick ratio (QR)	0,853	0,794	0,7—1.
Cash ratio	0,043	0,043	≥ 0,2 – 0,7

Debt-to-equity ratio	0,995	0,975	1-1,5
Debt-to-assets ratio	0,593	0,599	0.5-0,7
Interest Coverage Ratio	10,636	11,294	>2
Return on assets (ROA)	12,327	8,571	>5%
Return on Equity (ROE)	17,950	12,151	>10-12%

Source: own calculations based on the financial statements of the company

A low Cash ratio indicates that the organisation is likely to have difficulties in repaying its current liabilities. For most companies it is unrealistic to maintain a high level of cash to cover current liabilities, which makes this ratio less popular with investors and analysts.

For completeness of the picture let's analyse the cash flow from operating activities of the organisation:

Archer-Daniels-Midland Company Consolidated Statements of Cash Flows:

Table 22: ADM Data from the cash flow statement 2022-2021

report article	2022	2021
Total Operating Activitie (ADM, 2023)	3,478	6,595

Cash flow from operating activities totalled US\$3.5 billion in 2022 compared to US\$6.6 billion in 2021. Compared to the same period in 2021, working capital has decreased due to higher costs as a result of the growth in operations in the current year.

Although our operations in Ukraine have historically represented less than 1% of consolidated revenues, the direct and indirect impact of the ongoing hostilities could adversely affect future ADM results. The conflict in Ukraine has disrupted global supply chains and resulted in the disruption of sales of key agricultural commodities. The indirect impact of these changes on our results will depend on a number of variables, including the duration of the conflict, the state of the processing industry and export infrastructure, and the demand and supply response in the rest of the world.

4.5 Conclusions to section 4

In Section 4 the analytical and research work was done. The activity of the enterprises was considered and analysed:

Kernel Holding S.A.- the main territory of activity Ukraine. According to the analytical data of Forbs takes the 1st place among agro-industrial companies of Ukraine in 2022. The first position among agro-industrial companies keeps during the last years.

Bunge Ltd (Bunge) is an international company. Assets of Ukraine account for 1% of the Company's Consolidated Statements. Bunge's activity in Ukraine is estimated at the 10th position according to Forbes in 2022.

Archer Daniels Midland Company (ADM) is an international Company. Ukraine assets account for 1% of the Company's Consolidated Statements. Forbs ranked ADM 4th among agro-industrial Companies in Ukraine in 2022.

Having reviewed the consolidated statements of the companies, it was found that the companies have an effective organisational structure, where each department has its clear functions and responsibilities, which are performed under the supervision of senior managers.

In the course of analysing the financial condition, the solvency, creditworthiness of specific companies and liquidity of balance sheets were calculated.

The final table of risky financial indicators of Kernel Holding S.A., Bunge Ltd (Bunge), Archer Daniels Midland Company (ADM):

Table 23: Significant deviations from the financial analysis of the Companies

Indicators:	Kernel		Bunge		ADM	
	2022	2021	2022	2021	2022	2021
Liquidity stability condition						
A1 ≥ Π1			A1 ≤ L1	A1 ≤ L2		
A2 ≥ Π2	A2 ≤ L2				A2 ≤ L2	A2 ≤ L2
A3 ≥ Π3		A3 ≤ L3				
Ratio analysis:						
Quick ratio (QR) (0,7—1)		2,129				
Cash ratio (≥ 0,2 – 0,7)			0,115	0,097	0,043	0,043
Debt-to-equity ratio (1-1,5)		0,470				
Interest Coverage Ratio (>2)	0,695					
Return on assets (ROA) (>5%)	- 1,613					
Return on Equity (ROE) (>10-12%)	- 2,414					

Significant changes in financial reporting (threshold for changes $\geq 30\%$).						
	thousands USD		millions of USD		millions of USD	
Quick assets (A2)	672,63	1001,013				
Slow assets (A3)	1402,901	708,671				
Current liabilities (L2)	1863,385	579,707				
Long-term liabilities (L3)	378,053	1130,858				
Loss/Profit for the period	- 40,700	505,722				

Source: own calculations based on the financial statements of the companies (KERNEL HOLDING, 2022), (BUNGE, 2022) ,(ADM, 2023)

The results obtained show the financial strength of international Companies, such as Bunge and ADM, whose business is concentrated all over the world and shows their ability to pay their liabilities. The financial statements of the companies are liquid and satisfactory. The value of Assets and Liabilities in Ukraine is insignificant, so the Ukrainian military actions did not have a significant impact on the financial data. It can be stated that Bunge and ADM companies are able not only to keep at a certain level the main indicators of their activity, but also to function and develop.

Kernel is the largest producer and exporter of agro-industrial products on the international market. The main area of business is concentrated in Ukraine. The results of the analysis of the 2021 and 2022 financial statements show a number of financial problems faced by the Company after the beginning of the invasion of Ukraine by the Russian Federation.

5 Results and Discussion

5.1 Risks and problems of financial activity of companies

During the war period, Ukrainian agricultural producers were able to successfully export almost 60 million tonnes of crops using sea, river and land routes. They had to adapt to difficult conditions by sowing under shelling, collecting rocket debris, learning demining skills, and operating with understaffed and dysfunctional ports.

The war, however, made agro-production an unprofitable occupation. The rising cost of fertiliser and fuel has almost doubled the cost of agricultural production, according to data provided.

Russia's blockade of seaports has put significant pressure on the economy of agribusinesses. Until 24 February 2022, Ukraine exported an average of 8 million tonnes of grain by sea every month. However, since the March-December 2022 blockade, average monthly exports have almost halved to 3.9 million tonnes. Overall, Ukraine's agro-exports have decreased by 16% to \$23.4 billion in 2022.

The unblocking of three Ukrainian ports under the "grain agreement" led to a significant increase in agro-exports, totalling 32 million tonnes of grains and oilseeds between August and July 2022-2023. Up until the end of this agreement, deep sea ports accounted for 50 per cent of cargo traffic, while western and Danube ports together accounted for another 50 per cent.

Ukraine found alternative routes, allowing \$11.8 billion worth of agro-products to be exported in the first half of 2023. However, Russia continues to direct missiles at Ukraine's port infrastructure, causing serious losses in the agro sector. Experts estimate direct losses for a year of war at \$8.7 billion and indirect losses at \$31.5 billion. According to analysts of think tanks, the recovery of the agro-sector requires \$29.7bn. (INVENTURE, 2023)

In the current economic environment, it is very important for enterprises to come to realise, adapt to new trends and support all possibilities of success from the crisis. The efficiency of enterprises will depend on intermediate indicators on a regular basis such shows as solvency, financial stability, profitability and business activity.

As a result of the analysis of Agroindustrial Companies operating in Ukraine during the beginning of hostilities, we observe the problem of declining balance sheet liquidity.

Reasons, which are taken into account to reduce the self-interest of assets of agro-industrial companies:

Disruption of the timing of winter harvesting and spring sowing campaign;
availability of agricultural labour affected by displacement;
access to and availability of agricultural inputs, especially fuel, seeds, fertilisers and pesticides;
logistics disruption and disruptions in all segments of food supply chains;
Desertion of and reduced access to agricultural land;
damage to crops as a result of warfare, particularly during the spring growing season;
destruction of assets and infrastructure of the agri-food system;
fluctuations in world commodity prices.

The situation is as volatile as possible, and it is almost impossible to predict future consequences. But the management of companies continues to take certain measures to minimise the negative consequences of military operations and monitors the possible impact of the current situation.

In addition to the above mentioned problems, there are negative trends both in Ukraine and in the world market, caused by the consequences of the COVID-19 epidemic. The situation with the pandemic has led to the loss of a large part of income.

Companies face such risks in the course of their operations as:

- 1) Tax risk.
- 2) Market risk.
- 3) Liquidity risk.
- 4) Credit risk.

Therefore, in cases where the risk of a percentage of resources is probable, the company makes certain provisions based on management's forecasts and estimates.

5.2 Proposals to strengthen the company's financial position

In the conditions of globalisation and uncertainty of the market environment, crisis time, the problem of ensuring solvency and financial stability of the enterprise is becoming increasingly relevant. The peculiarity of market relations lies in fierce competition, computerisation of information processing, technological changes, improvement of legislation and inflation. In such conditions the enterprise has a problem of rational

organisation of financial activity of the enterprise for further development, increase of efficiency by financial resources, maintenance of stable financial condition and solvency.

One of the most important characteristics of the financial condition of the enterprise is the stability of its activities both in the short term and in the long term. The analysis of monetary stability allows to find the efficiency of money management in companies. Financial ratios are of an applied nature and can not unambiguously answer when choosing the parameters of financial stability. But their calculation and constant monitoring is of great practical importance for the choice of financial stability strategy, being certain benchmarks, which together with other indicators allow to determine the optimal level of financial stability at this or that moment of market development. Therefore, it is important to constantly monitor the state of financial ratios and their changes depending on changes in the market environment. That is, the dynamics of financial ratios reflecting financial stability is of significant importance. These indicators have different meaning for different enterprises despite the fact that the enterprises belong to the same industry or operate in the same region. For each individual enterprise it is necessary to determine the level of financial stability, at which the enterprise reaches the optimal level of financial stability.

The new book "Turning Point for Nations in Crisis " by American scholar and philosopher Jared Diamond (DIAMOND, 2019) takes an interesting approach to crises and how they are resolved. The author not only identifies 12 factors that determine the extent to which an individual can emerge from a personal crisis, but also analyses the ways in which some nations deal with the challenges they face through the prism of the same factors. If this approach is valid for an in-depth understanding of state-level crises, it may prove useful and practical for analysing business crises.

Professor Diamond defines a crisis as a moment of truth, a turning point after which circumstances become different from what they were before. Coping with a crisis requires strategies that help to deal with these changes safely or with the least amount of disruption.

If we think about how these factors can be correlated to business crises, the list takes the following form:

Recognising or denying that the company is in crisis.

A crisis is an acknowledgement of a fact: what worked before is no longer working and change is needed.

Accepting the responsibility and authority of those who will take over the coordination of the crisis.

It is a serious mistake to appoint those in charge without giving them the authority to make changes and decisions.

Creating a "fence" - clearly separating what is currently working well in the company from what is causing problems and difficulties.

Clearly separating what is currently working well in the company from what is causing problems and difficulties. A common mistake of management on this point is the absence of such a "fence", and vice versa - increasing the load on those departments that are working well and do not need changes. Even in the most critical situation in every organisation there is a core that works like clockwork under any circumstances. Sometimes that core is a department, sometimes it is an individual. And it is a serious misconception to try to compensate for the difficulties of other departments by outweighing the extra load on those who are coping. "Creating a fence" involves insulating what works from change. In other words, not repairing what is serviceable.

Seeking and receiving help and resources from outside organisations.

An important factor is a company's ability to turn to outside organisations and obtain an additional managerial or material resource. Often, crisis managers or consultants act as such a resource. However, sometimes there are cases when not only strategic partners, but also direct competitors came to the aid of the company in crisis situations. And not with the aim of ruining the company completely, but with the aim of helping it get back on its feet.

Finding appropriate role models, examples of how other companies have successfully (or unsuccessfully) overcome situations.

This factor should not be underestimated and its influence is multifaceted. First, it helps you avoid potential mistakes that other companies have already made before you. Secondly, it allows you to adopt and adapt successful solutions that have already been used. This factor requires knowledge of the market and the manager's broad outlook, intuition and ability to reflect. It should be taken into account that it is impossible to repeat the strategy of another company completely and completely, it will always have an individual nuance, but the general directions of the solution can be useful.

Company strength.

Companies do not have what can be called ego strength or personal strength to overcome unfavorable situations. In addition to financial strength, this factor can be linked to the presence of strong partnerships that add strength to the company with concessions that would not otherwise be made. This is where the role of corporate culture comes into play, a

set of relationships within the team and attitudes towards the company itself that are developed long before crises occur.

A crisis is a test of these relationships, which in turn can have either a positive or negative impact on the outcome of a situation. There are many examples of workers who, in emergency situations, sacrifice their legitimate days off to get an urgent piece of work done. And there are known instances where no amount of bonuses and incentives can make workers go the extra mile. All the team-building and culture-building may not work in everyday life, but in times of adversity, team cohesion can be one of the deciding factors.

An honest assessment of the company's position.

A suitable tool is a description of the company's position data from financial statements, market research, and the state of the project portfolio. In general, the more tools used to determine the company's position and the more versatile they are, the better.

Experience in overcoming previous crises.

In this case, a great value is the combined experience of the crisis management team, which makes it possible to find solutions based on various cases. Again, the lack of this experience can have a negative impact and lead to even greater losses. Much is said about successful effective managers who lead enterprises out of the crisis, but those who know the situation from the inside have data on the sad statistics of bankrupt enterprises, which also provided for anti-crisis system of measures, but as a result only prolonged the inevitable end. Therefore, it is important to understand how different this crisis is from previous ones, how much the management team is really able to cope with it, and if necessary - to turn to professionals.

Patience.

Every time in times of crisis and trials, it is necessary to take into account that not always the right decisions will provide an immediate effect. And not always the immediate effect obtained in the short term will be the best for the company's development in the long term. It is often necessary to find some compromises. In this case, patience is not a psychological characteristic, but the viability of the company - to what extent it will be able to stay afloat and avoid bankruptcy during the changes, or to change the strategy in such a way as to get out of the crisis.

Manifesting flexibility is the development of some other qualities.

Often there are changes in the direction of a company as a result of a crisis. In essence, everything in the world is a response to constant change. Some responses are more

successful than others, but as long as they are viable, they can be considered successful strategies.

Appealing to values.

Talking about a company's mission causes a lot of skeptical remarks in the business environment. However, if we talk about people, in particular, everyone understands - how much the system of personal values determines his decisions and helps to withstand in difficult circumstances. Having a mission is an expression of a company's value system. It can become a real resource in times of crisis, but only if it is alive and not just an element of corporate culture with nothing else behind it.

Liberation from constraints.

A company cannot escape a number of actual constraints as, for example, a state cannot choose its geographical location and landscape. However, businesses have more options to overcome restrictions, from amending the articles of association to organizing virtual production with offices in other countries. At the same time, it is important to determine what exactly is a constraint and how many resources will be required to overcome it. (DIAMOND, 2019)

Consequently, the financial sustainability of enterprises depends on continuous monitoring of financial indicators; effective management of financial resources and selection of a successful financial strategy. Only a financially sustainable enterprise is able to function successfully and for a long time in the conditions of intense competition and economic instability.

At the time of writing, Kernel's Consolidated Statements for 2023 have been published. As of 30.06.2023 Kernel has received 298.774 million USD, which shows the effectiveness of the management to cope with the crisis times

6 Conclusion

This bachelor's thesis considered the issue of solvency management and financial stability of enterprises on the example of agro-industrial companies, whose activities are concentrated both worldwide and in Ukraine. Periods for the analysis were taken before and after the invasion of the Russian Federation in Ukraine.

The concepts of solvency and financial stability of the enterprise, external and internal factors of influence were considered.

“Solvency refers to a company's ability to cover its financial obligations.” (GOCARDLESS, 2021) to pay its debts and payment obligations in a timely manner. Due to the changes occurring in modern business activity, each company should implement a certain set of measures to improve solvency. In order to carry out the most effective and accurate forecasting of further activity and general development of the company it is necessary to improve and perfect the traditional methods of solvency assessment, as well as to analyze the risks and factors negatively affecting the solvency indicator.

To eliminate the negative impact of various external and internal circumstances, the solvency analysis should be based on relevant data corresponding to the current economic condition of both the company and the market as a whole. Qualified analysis and assessment of solvency allows the enterprise to form an effective organization of further financial development, as well as to increase the overall investment attractiveness of the company.

Financial stability of the enterprise is the indicator that reveals in the most detail the state of the enterprise in the internal and external environment. Financial sustainability is related to the ratio of equity to debt and indicates how effectively the enterprise uses its own funds. It can also be added that the financial stability of the enterprise is the state of its financial resources, their distribution and utilization, which ensure the development of the company through profit and capital growth, while maintaining solvency and creditworthiness under conditions of acceptable risk.

Conducting an analysis of the work of the enterprise with the help of solvency and financial stability ratios allows to characterize comprehensively the need of the enterprise in monetary resources, its dependence on borrowed funds, as well as to forecast the strategy of financial development in the current economic situation. Each enterprise should independently ensure the preservation of values of solvency and financial stability at the

optimal level, based on the analysis of its economic situation at a certain period of time, as well as on the projected results of the enterprise in the future period.

The analysis of the activity of agro-industrial enterprises was carried out, that is, the organizational structure of the enterprise was considered and the financial and economic condition of the enterprise was analyzed. Special attention was paid to the indicators of solvency and financial stability of the enterprise, reflecting the financial condition of the company, its liquidity.

Horizontal and vertical analysis of solvency, financial stability, profitability and business activity can be concluded that the selected Agro-Industrial Companies effectively manages funds and is able to pay its obligations. But during the analysis we observe that the Companies face certain difficulties due to military actions in Ukraine.

Were proposed measures to improve solvency and financial stability were proposed such ways as: reducing the dependence of the enterprise on borrowed funds; improving the efficiency of property management; improving the quality of products and sales policy.

The ways to optimize financial stability at enterprises were also considered, such as: the choice of effective financial policy of the enterprise; constant monitoring of financial activity and, as a consequence, timely identification of factors that have a negative impact on the enterprise; rational use of funds and reserves, etc.

Consequently, the analysis of solvency and financial stability is an integral part of assessing the financial condition of the enterprise. Through this information it is possible to determine the effectiveness of management decisions; prevent bankruptcy and improve its competitiveness.

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7.4 List of abbreviations

ADM- Archer Daniels Midland

CE- Cash equivalents

MS- Marketable securities

NAR- Net accounts receivable

TCA- Total current assets

PE- Prepaid expenses

ROE- Return on Equity

ROA-Return on Assets

DER- Debt-to-equity ratio

DAR- Debt to Total Asset Ratio

ICR- Interest coverage ratio

GAAP- Generally Accepted Accounting Principles

QR- Quick ratio

CR- Current ratio

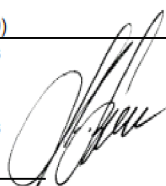
Appendix

Table 24: Kernel Consolidated Statement of Financial Position

	Notes	As of 30 June 2022	As of 30 June 2021 ¹
Assets			
Current assets			
Cash and cash equivalents	9, 37	447,625	574,040
Trade accounts receivable	10, 34, 37	142,738	381,124
Prepayments to suppliers	34	107,167	127,726
Corporate income tax prepaid		12,228	12,041
Taxes recoverable and prepaid	11	204,686	185,966
Inventory	12	953,922	332,027
Biological assets	13	161,911	376,644
Other financial assets	14, 34, 37	205,811	294,156
Assets classified as held for sale	15	287,068	—
Total current assets		2,523,156	2,283,724
Non-current assets			
Property, plant and equipment	16	1,018,073	1,065,205
Right-of-use assets	17	247,740	364,699
Intangible assets	18	124,198	62,144
Goodwill	19	71,620	120,925
Deferred tax assets	26	41,568	15,098
Non-current financial assets	20, 34	52,532	46,322
Other non-current assets	11, 34	106,725	38,462
Total non-current assets		1,662,456	1,712,855
Total assets		4,185,612	3,996,579
Liabilities and equity			
Current liabilities			
Trade accounts payable	37, 34	161,342	150,061
Advances from customers and other current liabilities	21, 34	89,200	140,543
Corporate income tax liabilities		7,411	46,504
Short-term borrowings	23	1,093,087	13,888
Current portion of long-term borrowings	23	—	21,715
Current portion of lease liabilities	24	39,111	37,338
Current bonds issued	25	595,038	212,495
Interest on bonds issued	37	7,612	15,353
Other financial liabilities	22, 37	128,537	278,918
Liabilities associated with assets classified as held for sale	15	116,848	—
Total current liabilities		2,238,186	916,815
Non-current liabilities			
Long-term borrowings	23	—	227,740
Lease liabilities	24	200,441	287,154
Deferred tax liabilities	26	21,893	20,806
Bonds issued	25	—	593,942
Other non-current liabilities	37	38,871	1,216
Total non-current liabilities		261,205	1,130,858

Equity attributable to Kernel Holding S.A. equity holders			
Issued capital	2	2,219	2,219
Share premium reserve	2	500,378	500,378
Additional paid-in capital	2	39,944	39,944
Treasury shares	2	(96,897)	—
Equity-settled employee benefits reserve	2	—	1,850
Revaluation reserve		104,303	57,290
Other reserves	4	—	(896)
Translation reserve		(816,490)	(703,034)
Retained earnings		1,949,731	2,048,399
Total equity attributable to Kernel Holding S.A. equity holders		1,683,188	1,946,150
Non-controlling interests		3,033	2,756
Total equity		1,686,221	1,948,906
Total liabilities and equity		4,185,612	3,996,579
Book value		1,683,188	1,946,150
Number of shares	2, 38	77,429,230	84,031,230
Book value per share (in USD)		21.74	23.16
Diluted number of shares	38	77,429,230	84,031,230
Diluted book value per share (in USD)		21.74	23.16
On behalf of the Board of Directors			

Andrii Verevskyi
Chairman of the Board of Directors



Anastasiia Usachova
Director, Chief Financial Officer



(KERNEL HOLDING, 2022)

Table 25: Kernel Consolidated Statement of Profit or Loss

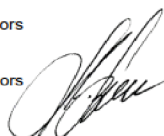
Consolidated Statement of Profit or Loss

for the year ended 30 June 2022 (in thousands of US dollars, unless otherwise stated)

	Notes	For the year ended 30 June 2022	For the year ended 30 June 2021 ¹
Revenue	27, 34	5,331,545	5,594,800
Net change in fair value of biological assets and agricultural produce	13	12,537	132,631
Cost of sales	28, 34	(4,691,973)	(4,821,872)
Gross profit		652,109	905,559
Other operating income	29	63,694	111,268
Other operating expenses	29	(44,710)	—
General, administrative and selling expenses	30, 34	(230,405)	(318,284)
Net impairment losses on financial assets	10	(32,993)	(4,689)
Loss on impairment of assets	31	(317,028)	(4,561)
Profit from operating activities		90,667	689,293
Finance costs	32	(130,549)	(147,709)
Finance income	32, 34	11,322	5,950
Foreign exchange gain/(loss), net		10,140	(6,306)
Other expenses, net	33, 34	(25,061)	(3,254)
(Loss)/Profit before income tax		(43,481)	537,974
Income tax benefit/(expenses)	26	2,781	(32,252)
(Loss)/Profit for the period		(40,700)	505,722
(Loss)/Profit for the period attributable to:			
Equity holders of Kernel Holding S.A.		(41,102)	512,708
Non-controlling interests		402	(6,986)
Earnings per share			
Weighted average number of shares		80,187,230	84,031,230
Profit per ordinary share (in USD)	38	(0.51)	6.10
Diluted number of shares	38	80,187,230	84,031,230
Diluted profit per ordinary share (in USD)		(0.51)	6.10

On behalf of the Board of Directors

Andrii Verevskyi
Chairman of the Board of Directors



Anastasiia Usachova
Director, Chief Financial Officer



(KERNEL HOLDING, 2022)

Table 26: Bunge Consolidated Balance Sheets

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 1,104	\$ 902
Trade accounts receivable (less allowances of \$90 and \$85) (Note 5)	2,829	2,112
Inventories (Note 6)	8,408	8,431
Assets held for sale (Note 3)	36	264
Other current assets (Note 7)	4,381	4,751
Total current assets	16,758	16,460
Property, plant and equipment, net (Note 8)	3,617	3,499
Operating lease assets (Note 28)	1,024	912
Goodwill (Note 9)	470	484
Other intangible assets, net (Note 10)	360	431
Investments in affiliates (Note 12)	1,012	764
Deferred income taxes (Note 15)	712	550
Other non-current assets (Note 13)	627	719
Total assets	\$ 24,580	\$ 23,819
LIABILITIES AND EQUITY		
Current liabilities:		
Short-term debt (Note 18)	\$ 546	\$ 673
Current portion of long-term debt (Note 19)	846	504
Trade accounts payable (includes \$643 and \$568 carried at fair value)	4,386	4,250
Current operating lease obligations (Note 28)	425	350
Liabilities held for sale (Note 3)	18	122
Other current liabilities (Note 14)	3,379	3,425
Total current liabilities	9,600	9,324
Long-term debt (Note 19)	3,259	4,787
Deferred income taxes (Note 15)	365	338
Non-current operating lease obligations (Note 28)	547	506
Other non-current liabilities (Note 23)	849	658
Redeemable noncontrolling interests (Note 24)	4	381
Equity (Note 25):		
Convertible perpetual preference shares, par value \$.01; authorized—21,000,000 shares, issued and outstanding: 2022—zero shares, 2021—6,899,683 shares (liquidation preference \$100 per share)	—	690
Common shares, par value \$.01; authorized—400,000,000 shares; issued and outstanding: 2022—149,907,932 shares, 2021—141,057,414 shares	1	1
Additional paid-in capital	6,692	5,590
Retained earnings	10,222	8,979
Accumulated other comprehensive loss (Note 25)	(6,371)	(6,471)
Treasury shares, at cost; 2022—18,835,812 and 2021—16,726,697 shares	(1,320)	(1,120)
Total Bunge shareholders' equity	9,224	7,669
Noncontrolling interests	732	156
Total equity	9,956	7,825
Total liabilities and equity	\$ 24,580	\$ 23,819

The accompanying notes are an integral part of these consolidated financial statements.

(BUNGE, 2022)

Table 27: Bunge limited and subsidiaries consolidated statements of income

	Year Ended December 31,		
	2022	2021	2020
Net sales	\$ 67,232	\$ 59,152	\$ 41,404
Cost of goods sold	(63,550)	(55,789)	(38,619)
Gross profit	3,682	3,363	2,785
Selling, general and administrative expenses	(1,369)	(1,234)	(1,358)
Interest income	71	48	22
Interest expense	(403)	(243)	(265)
Foreign exchange (losses) gains — net	(11)	(38)	150
Other (expense) income — net	(9)	509	126
Income (loss) from affiliates	105	160	(47)
Income from continuing operations before income tax	2,066	2,565	1,413
Income tax expense	(388)	(398)	(248)
Net income	1,678	2,167	1,165
Net (income) attributable to noncontrolling interests and redeemable noncontrolling interests	(68)	(89)	(20)
Net income attributable to Bunge	1,610	2,078	1,145
Convertible preference share dividends and other obligations	—	(34)	(34)
Adjustment of redeemable noncontrolling interest	—	—	10
Net income available to Bunge common shareholders	\$ 1,610	\$ 2,044	\$ 1,121
Earnings per common share—basic			
Net income attributable to Bunge common shareholders	\$ 10.83	\$ 14.50	\$ 7.97
Earnings per common share—diluted			
Net income attributable to Bunge common shareholders	\$ 10.51	\$ 13.64	\$ 7.71

The accompanying notes are an integral part of these consolidated financial statements.

(BUNGE, 2022)

Table 28: Bunge the condensed consolidated balance sheet related to the Company's Ukrainian operations as of December 31, 2022 consists of the following:

(US\$ in millions)	December 31, 2022
Current assets:	
Trade accounts receivable (less allowances of zero)	\$ 3
Inventories	31
Other current assets	38
Total current assets	72
Property, plant and equipment, net	132
Other non-current assets	58
Total assets	\$ 262
Current liabilities:	
Trade accounts payable and accrued liabilities	\$ 10
Short-term debt	110
Other current liabilities	2
Total current liabilities	122
Non-current liabilities	3
Total liabilities	\$ 125

(BUNGE, 2022)

Table 28: Bunge Consolidated Statements of Earnings

(In millions, except per share amounts)	Year Ended		
	December 31		
	2022	2021	2020
Revenues	\$ 101,556	\$ 85,249	\$ 64,355
Cost of products sold	93,986	79,262	59,902
Gross Profit	7,570	5,987	4,453
Selling, general and administrative expenses	3,358	2,994	2,687
Asset impairment, exit, and restructuring costs	66	164	80
Equity in earnings of unconsolidated affiliates	(832)	(595)	(579)
Loss on debt extinguishment	—	36	409
Interest and investment income	(293)	(96)	(111)
Interest expense	396	265	339
Other (income) expense - net	(358)	(94)	(255)
Earnings Before Income Taxes	5,233	3,313	1,883
Income tax expense	868	578	101
Net Earnings Including Noncontrolling Interests	4,365	2,735	1,782
Less: Net earnings (losses) attributable to noncontrolling interests	25	26	10
Net Earnings Attributable to Controlling Interests	\$ 4,340	\$ 2,709	\$ 1,772
Average number of shares outstanding – basic	562	564	561
Average number of shares outstanding – diluted	563	566	565
Basic earnings per common share	\$ 7.72	\$ 4.80	\$ 3.16
Diluted earnings per common share	\$ 7.71	\$ 4.79	\$ 3.15

(BUNGE, 2022)

Table 29: ADM Consolidated Balance Sheets and Consolidated Statements of Earnings

(In millions)	December 31, 2022	December 31, 2021
Assets		
Current Assets		
Cash and cash equivalents	\$ 1,037	\$ 943
Segregated cash and investments	9,010	8,016
Trade receivables - net	4,926	3,311
Inventories	14,771	14,481
Other current assets	5,666	5,158
Total Current Assets	35,410	31,909
Investments and Other Assets		
Investments in and advances to affiliates	5,467	5,285
Goodwill and other intangible assets	6,544	6,747
Right-of-use assets	1,088	1,023
Other assets	1,332	1,369
Total Investments and Other Assets	14,431	14,424
Property, Plant, and Equipment		
Land and land improvements	502	554
Buildings	5,639	5,597
Machinery and equipment	19,194	19,112
Construction in progress	1,440	960
	26,775	26,223
Accumulated depreciation	(16,842)	(16,420)
Net Property, Plant, and Equipment	9,933	9,803
Total Assets	\$ 59,774	\$ 56,136
Liabilities, Temporary Equity, and Shareholders' Equity		
Current Liabilities		
Short-term debt	\$ 503	\$ 958
Trade payables	7,803	6,388
Payables to brokerage customers	9,856	8,965
Current lease liabilities	292	277
Accrued expenses and other payables	4,795	4,790
Current maturities of long-term debt	942	570
Total Current Liabilities	24,191	21,948
Long-Term Liabilities		
Long-term debt	7,735	8,011
Deferred income taxes	1,402	1,412
Non-current lease liabilities	816	765
Other	1,014	1,233
Total Long-Term Liabilities	10,967	11,421
Temporary Equity - Redeemable noncontrolling interest	299	259

Shareholders' Equity		
Common stock	3,147	2,994
Reinvested earnings	23,646	21,655
Accumulated other comprehensive income (loss)	(2,509)	(2,172)
Noncontrolling interests	33	31
Total Shareholders' Equity	<u>24,317</u>	<u>22,508</u>
Total Liabilities, Temporary Equity, and Shareholders' Equity	<u>\$ 59,774</u>	<u>\$ 56,136</u>

(ADM, 2023)