# PROFITABILITY OF COMPANY X UNDER INFLATION - CASE STUDY[1]

*MARZENA NITECKA, ZYGMUNT MIETLEWSKI, BEATA BROWARCZYK*

DOI: https://doi.org/10.59505/IRHNS.22352007.2023.4.04

**Abstract:**

**Aim of the work:** The aim of the work is to present the impact of management profitability in company X on its business continuity in conditions of high inflation.

**Main research hypothesis:** The price of fuels on the market played a special role in managing profitability under inflation conditions in company X.

**Methodology:** The research material is based on the economic categories: profitability and inflation, subject literature and other sources (the author, by analyzing the economic categories: profitability and inflation, tried to discover their impact on the business continuity of company X). The studies used, among others, the Du Pont model, the Quick Test method, the E. Altman method and the β-business paradigm method of Z. Mietlewski.

**Research results:** Return on sales (ROS) ratios in company X in the analyzed period was lower than the inflation rate, and the return on assets

1 The role of research promoter Zygmunt Mietlewski and scientific supervisor Beata Browarczyk in the research of the author Marzena Nitecka: Indicating the topic, developing the concept, scope and schedule for research, including: formulating the problem in the form of a research question, assumption, hypothesis and goal. Indication of research methods and techniques as well as sources of information. Participation in the review of the definition of profitability (sales, assets, capital) and inflation by Polish and foreign authors from selected literature on the subject. Choose the one that was used to solve the problem under study. Participation in the analysis of empirical material, research results and formulation of conclusions and conclusions, as well as in emphasizing the practical value of research and indicating the direction of actions to improve profitability management in the surveyed company in conditions of inflation. Editing the text of the article.

(ROA) ratio was higher than the inflation rate, as was the return on equity (ROE) ratio. All of these indicators at company X were significantly above the average in the transport and logistics sector. High inflation was not severe for company X, because the company compensated the increase in fuel purchase prices in this period by raising the rates for transport services, and thanks to the repayment of their loan, it did not experience an increase in interest rates. Hence, e.g. during this period, the company was characterized by high profitability compared to the competition. In 2022, the year of high inflation, the company started to generate profit earlier than in the period of low inflation in 2019-2020. The profitability management model adopted by the company focused on regulating the sale prices of transport services depending on fuel prices and on reducing the costs of external services in the company's activities. Company X was not at risk of bankruptcy during the period under study and its equity had little impact on its business continuity. A major risk for company X is having only one large contractor in its portfolio, which determines the company's profitability.

**Keywords:** Profitability, inflation, Quick Test model, E. Altman's model, Z. Mietlewski's β-business paradigm

## Introduction

Referring to the etymology profitability comes from the word „*renta*" meaning return on capital.[2] Term „*renta*" was borrowed from German noun „*rente*", income, profit, which was created from the verb „*rendere*" - give back, return.[3] From the viewpoint of this article we will focus on the idea of profitability in a business entity, and we will use the operational definition of this concept introduced by Witold Gabrusiewicz, who says that „*profitability it is the ability of company to generate profit, that is to generate revenues exceeding the costs obtaining them*".[4] The author points out that such definition of profitability is given in the encyclopaedias'.[5] Terms connected to the word profitability are terms such as adjective profitable, and noun breakeven point (próg rentowności in polish). According to Polish dictionary PWN, profitable means „*generating*

2 Jerzemowska, M. (2018). Analiza ekonomiczna w przedsiębiorstwie. Warszawa: PWE, 2018, s. 297.

3 Malinowski, M. (2014) „Angora", [on-line]. Dostępne: https://www.pressreader.com/poland/angora/20140608/282746289818170.

4 Gabrusewicz, W. (2019). Metody analizy finansowej przedsiębiorstwa. Warszawa: PWE, s. 233-234.

5 Ibidem, s. 233-234.

*profit"*,[6] on the other hand breakeven point it is „*total price which the company covers total expenses and obtains profit*".[7] Such reasoning shows that company's means obtaining revenues, what is identified with covering the costs of running the business. Profitability is higher, the higher is excess revenue over the costs. If a company do not generate, we can say it is unprofitable. As W. Gabrusiewicz notices „*without a profit company cannot be profitable, ant it cannot exist*".[8] The concept opposite to profitability is „*deficit recorded in case of negative results – loss*".[9]

In 2019 – 2022 from the world economic map hundred thousand companies disappeared due to pandemic COVID-19,[10] And after its ending companies that were able to survive, had to face the next devastating experience –INFLATION, causing yet again the disappearance of a hundred thousand companies. One of the reasons for this to happen is that the trading profitability was so small that it was unableing them to maintain business continuity on the market.

Profitability is a measure of effective management of company resources, but high profitability just like low, does not mean that the "health" of the company is good at all. Company X we investigated, belongs to these lucky companies who survived a difficult pandemic period, and are still, in time of raging inflation, on the market. How in this difficult time does Company X cope with profitability? This is a question we tried to answer in this study.

## The place of in researching company's goals and the ways of measuring it.

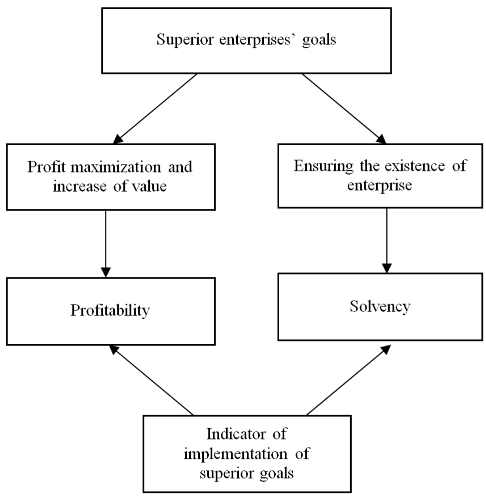
The Company can reach high sales profitability (trading profitability) and still have trouble with financial liquidity (cash flow) because the profit generated by the Company is so small, it cannot pay off current liabilities, including loans, even though it uses pay it off money surplus (sum of net profit and depreciation). Important for the company is proper relation between obtained revenues and incurred expenses of business activity, to maintain financial liquidity, which is one of determinants to its continuity.

Carrying out considerations in the area of profitability, it is important to underline that the primary task of every business entity is to note profit,

6 SJP PWN [on-line]. Dostępne: https://sjp.pwn.pl/slowniki/rentowno%C5%9B%C4%87.html.
7 SJP PWN [on-line]. Dostępne: https://sjp.pwn.pl/slowniki/rentowno%C5%9B%C4%87.html.
8 Gabrusewicz, W. op. cit., s. 235.
9 Jerzemowska, M. op. cit., s. 297.
10 W pracy zamiennie używa się pojęcia firma (nazwa), przedsiębiorstwo (podmiot) oraz spółka (forma prawna). [Moje – M.N.]

understood as ensuring company's profitability. This task is connected with main goal of running a business, which are: ensuring financial benefits to investors, gaining profit, and increasing value of a company.[11] Picture 1 shows the place of profitability in achieving superior goals of enterprise (company).

**Picture 1. Profitability in achieving company's goals.**




Source: own elaboration based on: W. Gabrusiewicz (2019) Metody analizy finansowej przedsiębiorstwa. Warszawa PWE, s 236.

It needs to be highlighted that determining a value of a profit itself is not the appropriate method of measurement of a company's profitability. To assess company's profitability it is necessary, apart from absolute value – profit amount, apply relative values presenting profit ratio to a specific frame of reference.[12]

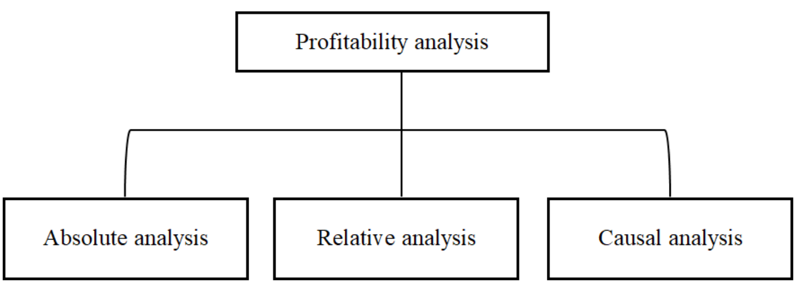
There are many ways of conducting profitability assessment, and one of them is ratio analysis of profitability, that is done by calculating relevant indicators built on the basis of the ratio of obtained profit to the chosen basis of comparision.[13] They usually reflect profit relationships calculated on different levels of business activities, revenues or capital held. They are captured (recognized) in percentage terms so relevant actions are multiplied by factor one hundred (100).[14] Profitability

11 Jerzemowska, M. op. cit., s. 297.
12 Gabrusewicz, W. op. cit., s. 234.
13 Gabrusewicz, W. op. cit., s. 235.
14 Gołębiowski, G., Tłaczała, A. (2005). Analiza ekonomiczno-finansowa w ujęciu praktycznym. Warszawa: Difin, s. 128.

ratios inform „*on the level of operational efficiency of enterprise in given time and show if this activity complies with superior goals of every enterprise*".[15]

The basic profitability indicators include return on sales index (ROS), return on assets ratio (ROA), and return on equity ratio (ROE).[16] Return on sales is also called the profit margin. Return on sales index informs what sale value is needed to obtain the specified profit amount. High index proves that financial situation of entity is good, but it is necessary to underline that value obtained depends greatly on the type of business activity.[17] Return on assets in other words called profit rate,[18] shows the ability of entity to make profit by own property.[19] Whereas return on equity ratio shows the ability of equity capital to make profit.[20] This ratio defines the amount of net profit for every unit of equity capital engaged in a company. Watching indicators cannot be run without the knowledge of the company's lifecycle. Conducting analysis of indicators, it is necessary to remember, that enterprises just entering market usually do not obtain profit at adequate level or do not notice it at all.[21] For objective assessment of profitability, it is crucial to select appropriate indicators according to specificity of enterprise and subject of analysis. Comprehensive approach to profitability analysis is shown in picture 2.

**Picture 2. Comprehensive profitability analysis**




Source: own elaboration based on: W. Gabrusiewicz (2019) Metody analizy finansowej przedsiębiorstwa. Warszawa PWE, s 238

15 Gabrusewicz, W. op. cit., s. 235.
16 Czerwonka, L. op. cit., s. 25.
17 Gołębiowski, G., Tłaczała, A. op. cit., s. 131-132.
18 Ibidem, s. 130.
19 Czerwonka, L. op. cit., s. 25.
20 Ibidem, s. 25.
21 Gołębiowski, G., Tłaczała, A. op. cit., s. 129.

Profitability analysis should be first considered within a given enterprise[22]. The higher the value of profitability indicators obtained in a company the better financial position it has. However, in order to compare financial effectiveness of business activities it is crucial not only to compare obtained indicators in different periods, but also to compare them with sector indicators specially, with indicators of leading companies in given industry[23]. Final part of profitability analysis should be causal analysis, that refers to obtained results in absolute dimension, as well as relative to similar companies in sector[24].

Study of the phenomenon of company profitability leads usually to analysis of free indicators ROS ROA and ROE. For in- depth analysis of the ROE indicator and identification of economic categories, which take part in increasing or decreasing its value, different methods are also used. One of such a method is method of Du Ponta, which enables factorization of ROE indicator for measures in the arrangement of pyramidal structure, that enables to identify those economical categories that affect results of return on equity ratio[25]. Broadview on profitability and financial condition of a company gives Quick Test method. And detection of possible threat of insolvency by a company allows Edward Altman method. First method it is an early warning system, which serves for a quick testing of financial condition of a company, using four indicators: „*self-financial (participation of equity capital in total assets), debt ratio (participation of total debt in financial surplus), asset profitability ratio (participation of net profit in total assets), and turnover profitability ratio (participation of profit and depreciation in total revenue)*"[26]. The second method E. Altman method enables detecting the threat of insolvency in a company. This method depends on using the formulas for calculations. There are two formulas that are used. First of them was created in 1968 for companies that do not issue shares, the second one was developed in 1984 and is intended to analyze Stock Enterprise. Altman by own research established limit values, which classify surveyed enterprises to the group of companies at risk of bankruptcy, not at risk of bankruptcy, and companies

22 Gabrusewicz, W. op. cit., s. 237.

23 Czerwonka, L. op. cit., s. 26.

24 Gabrusewicz, W. op. cit., s. 237-238.

25 Gabrusewicz, W. (2019). Metody analizy finansowej przedsiębiorstwa. Warszawa: PWE, s. 260.

26 Kralicek, P. (1995)*Podstawy finansowania finansami*, Międzynarodowa Szkoła Menedżerów, Warszawa 1995, s. 64; cyt. za: Mietlewski, Z. (2008). Quick Test. W: R. Walkowiak (red.) *Konkurencyjność i adaptacyjność przedsiębiorstwa. E-laboratorium diagnostyczne*. Olsztyn: Olsztyńska Wyższa Szkoła Informatyki i Zarządzania im. Tadeusza Kotarbińskiego, 2008, s. 123.

operating in business grey area[27].

In the study conducted also analysis this of revenue costs in sales and their breakeven point using mathematical tables β-business of Zygmunt Mietlewskii to find out not only the value of operational risk of company X, but also to answer the question, how many hours per month did employees of company X work to cover fixed costs incurred by the company, and from which moment the company generated profits[28]. At the end of the survey the surveyor conducted an interview with the company owner.

## Inflation reasons and its connexion with implement implementation of company goals

The term inflation was borrowed from medical science from Latin word inflatio which means diseases manifesting in swelling. In economy science, in the economic area inflation is called sickness manifesting in[29] „*excessive overflow of the market by banknotes imitated by state and its banking system*"[30]. In 16th century French researcher Jean Bodin, pointed out to correlation between amount of money on the market and the price level [31]. Once researchers pointed that increase in the general price level can be called inflation, if this increases last at least one year, or if most of enterprises have to adjust to new, increased price level[32]. Presently inflation is measured even in monthly reference, and it has meaning both neutral- as a measurement of price increase - and negative as continuing high trend of price increasing in the marketplace in a long period. „*In the assumption of Polish monetary policy, inflation goal is assumed at increase*

27 Biernacka J. (2005). *Wielomian altmana jako narzędzie badań kondycji ekonomicznej spółek giełdowych branży drzewnej*, „Intercathedra Annual Bulletin of Plant – Economic Department of The European Wood Technology University Studies" nr 21, s. 16.

28 Mietlewski, Z. DIGITAL BUDGETING FOR BUSINESS. MATHEMATICAL TABLES β-business. SELLING COST AND ITS CRITICAL POINTS. Wyższa Szkoła Społeczno Ekonomiczna w Gdańsku, Gdańsk 2023.

29 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 42.

30 Kołodko G. (1987). Polska w świecie inflacji. Warszawa 1987, s. 9; cyt. za: Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1987, s. 42.

31 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 42.

32 Woll, A. (1987). Allgemeine Volkswirtschaftslehre. Monachium, s. 487; cyt. za: Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1987, s. 43.

*of price level at 2,5 % per year"*[33]. *„Not every temporary increase of price level can be explained by inflation, because the reasons should be seen in the growth of economy"*[34].

According to the Central Statistical Office's definition *„inflation is a process of changing prices in the economy as a whole. It is measured by public statistics and presented in the form of price indicators. Inflation is understood mostly as an average change in prices of consumer goods and services purchased by the average household. These indicators are calculated also in other areas of economy such as: agriculture, industry, construction, transport, import and export, wholesale and retail because changing in price at each stage of economic process has an impact on inflation felt by customers"*[35].

Discussing the phenomenon of inflation, it is necessary to refer to its causes[36]. As the main cause of price increases, they indicate excessive demand or growing costs of production too[37]. However, changes in prices at some companies cannot yet be called inflation. We have inflation only when the scale of changes is large, and they give dynamics to subsequent price changes[38]. The most popular inflation theories are: monetarist theory, cost -supply theory, and demand theory[39]. The Monetarist concept of inflation is also called quantity theory. It is theory that sees the reasons of inflation in reprinting money. In such situation entities have larger financial resources, so appreciable surplus is used for consumption or investing. This phenomenon as a result engages enterprises to increase their production, and this drives inflation[40]. According to S. Patrycki *„to avoid inflation, it is necessary to adjust the rate of increase in money demand to the rate of increase in real production*". Counteraction to inflation depends on cutting state spending and reduction of enterprise activities, and obtaining revenues

33 GUS (2019). Co warto wiedzieć o inflacji. Warszawa: Zakład Wydawnictw Statystycznych, s. 9.

34 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 43.

35 GUS (2019). Co warto wiedzieć o inflacji. Warszawa: Zakład Wydawnictw Statystycznych, s. 8.

36 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 77.

37 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 44.

38 Włodarczyk, J. (2015). O źródłach inflacji. Katowice: Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, 2015, s. 48.

39 Pfister, J. (1981). Grundzüge „Sozialtheorie" der Inflation, Berlin, 1981, s. 95; cyt. za: Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 44.

40 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 44-45.

from them. The phenomenon seen during fight against inflation is significant decrease of production an increase of unemployment[41]. On the other hand, Cost theory of inflation refers to rising production cost, that cause general increase of price level[42]. At enterprises during cost inflation increase at price level is caused by rising cost of production especially due to excessive increasing in salary increasing of prices of imported raw materials, increasing of taxes an elevating price by other economy entities[43]. Demand inflation, on the other hand, is caused by increased nominal monetary income that is not justified by performance at work. At this type of inflation income of individual groups of people surpass the real value of national income. Large amount of money people own is compensated by dynamic increases in the price level of consumer goods. Demanding inflation in causes of this situation sees also social and political conditions[44]. In the market economy prices of individual products are determined by entrepreneurs and traders. Limiting the unreasonable increase of prices is done thanks to market competition. Among the inflation sources we have external inflation shaped by prices of imported and exported resources, on international markets, and internal inflation shaped among others by disturbed structure of economy unbalanced state budget, or surplus of investment financed by state[45]. Different types of inflation are distinguished according to its rate: creeping inflation - its rate is under 10% per year, galloping inflation its rate is under 50 % and hyperinflation, the rate of inflation is over 50%[46]. Both increase in the amount of money on the market and accompanying this general increase in price level is not indifferent to society. One of the effects of inflation is manning destabilization that has an impact both on his its functions and users[47]. Development of inflation causes that people's income is very often enough only to pay basic needs, and due to this, they

41 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 45.

42 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 48.

43 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 48.

44 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 47.

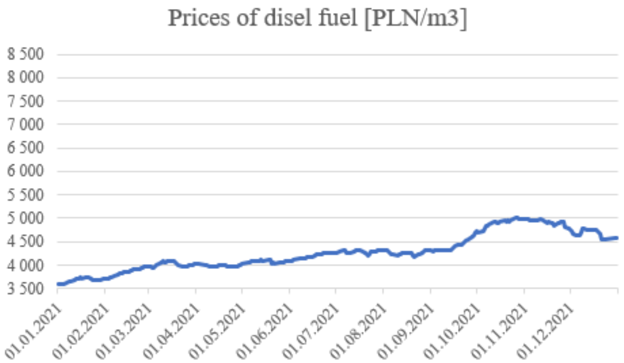
45 GUS (2019). Co warto wiedzieć o inflacji. Warszawa: Zakład Wydawnictw Statystycznych, 2019, s. 9; Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 48.

46 Heubes, J. (1989). Inflationstheorie. Monachium, 1989, s. 3; cyt. za: Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 48.

47 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 55.

are unable to save or invest money they earn [48]. Inflation in enterprises' cost is seen not only as an increase in salaries, or cost of raising capital, but also is seen as an increase in price of resources. In most industries in the modern economy an important role is playing fossil fuel, which differently to other resources may be used once only. One of these fuels is crude oil, from which diesel fuel is produced, necessary in the transport industry for powering lorries. In chart 1 whole sales prices of diesel fuel in 2021 are shown.

**Chart 1. Wholesale prices of diesel fuel in year 2021**

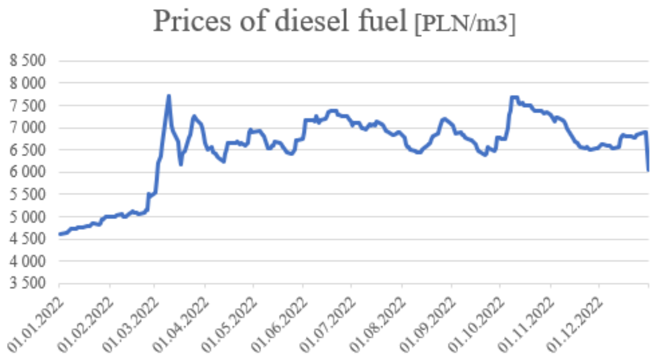



Source: own elaboration based on: ORLEN (2023) "wholesale fuel prices" (on-line) Available 23.01.2023. Time: 19:20 https://www.orlen.pl/pl/dla-biznesu/hurtowe-ceny-paliw#paliwa-archive.

Prices for 1000 liters of diesel fuel in year 2021 were shaped at 3500 to 5000 PLN level. After the outbreak of war in Ukraine in 2022 prices of diesel fuel significantly increased. Chart 2

48 Partycki, S. (1993). Społeczny wymiar inflacji. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii, 1993, s. 58.

**Chart 2. Wholesale prices of diesel fuel in year 2022**




Source: own elaboration based on: ORLEN (2023) "wholesale fuel prices" (on-line) Available 23.01.2023. Time: 19:20 https://www.orlen.pl/pl/dla-biznesu/hurtowe-ceny-paliw#paliwa-archive.

At the end of February 2022 diesel fuel was dramatically raised for both individual and institutional customers. High prices despite slight fluctuation lasted all year, and for wholesales customers oscillated between 5000 to 7000 PLN for 1000 liters.

Entrepreneurs in inflation conditions to be able to still run their business were forced to raise prices of their products or services, so as to still obtain profits [49]. So, it was in the case of company X.

**Impact of inflation on profitability of company X in the light of conducted research.**

Company X is a transport company specializing in transport of liquid groceries in tankers. It offers its services in Poland and Europe. It was founded in 2006 and at the beginning it was run as a single proprietorship. In 2015 the entity was transformed into a limited liability company. Company owns 24 tractor track sets with tankers, employs 30 lorry drivers and five office workers responsible for sales, customer service, and logistics.

Our research concentrated on studying profitability at transport and logistics sector company X belongs to. So, it is worth introducing how in recent periods

49 Włodarczyk, J. (2015). O źródłach inflacji. Katowice: Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, 2015, s. 52.

individual indicators of profitability in this industry were represented – table 1.

**Table 1. Indicators of profitability in transport and logistic industry**

| Indicator | 2021/ Q1 | 2021/ Q2 | 2021/ Q3 | 2021/ Q4 | 2022/ Q1 | 2022/ Q2 | 2022/ Q3 | 2022/ Q4 |
|---|---|---|---|---|---|---|---|---|
| **ROS** | 1,04% | 0,74% | -0,62% | 2,78% | 4,02% | 3,44% | 4,26% | 8,97% |
| **ROA** | 1,07% | 1,20% | -0,72% | 4,05% | 1,64% | 2,14% | 2,62% | 5,86% |
| **ROE** | 3,60% | 2,98% | 0,30% | 7,42% | 6,62% | 8,36% | 7,22% | 14,06% |

Source: own elaboration based on: Biznes Radar. (2023), [on-line]. Available 19.04.2023 r., time: 21:10 https://www.biznesradar.pl/spolki-wskazniki-rentownosci/branza:transport-i-logistyka,ROE,2,2.

Indicators shown in Table 1 dynamically change over time, the biggest fluctuations are shown at return on equity ratio in the analyzed period. They obtained the lowest value in the third quarter of 2021. This could be due to lockdown caused by pandemic COVID-19.

Which profitability model during the lockdown and high inflation period did company X realize to assure itself continuity of business activity? This is the research problem formulated by us in the form of the question to which answers were sought. In order to solve constructed this way research problem, previously an answer was looked for these specific questions:

How profitable was company x in 2021- 2022?

Was high inflation in 2022 server for company X?

Was profitability of company X in years 2019-2022 lower or higher than inflation?

How was profitability of company X, in years 2019-2022, shown against the transport and logistic industry?

How was in company X, sales revenue structure shaped, share of selling cost in revenues, and break even point?

How big was operational risk incurred by company X in 2019-2022?

What was the essence of the profitability management model in company X under conditions of inflation?

What impact in 2019-2022 on continuity of business activity of company X had equity capital?

What is company X in 2019-2022 threatened by bankruptcy?

The following research assumption was adopted: for efficient profitability management in inflation conditions, special impact has the situation of transport services which served to formulate the hypothesis: in profitability management in inflation condition in company X, special role played skillful fuel price management. The main goal of research was to point to real determinants of business activity of company X, indicating the competency gap in profitability management model of company X, and drawing diagnostic conclusions for the owners of company X.

Realization of research goals required putting in order the basic issues of terminology, reconstructing profitability management model of company X during inflation period and identifying competency gap in reconstructed profitability management. For such formulated goals an analysis of profitability was carried out, for company X for years 2020- 2022. Result of analysis for this period compared with results of analysis for years 2019-2020, when inflation was on a lower level than in years 2021-2022. The scope of research covers, among others, putting in order terminology issues regarding profitability and inflation definition by Polish and foreigner writers in selected literature of the subject, and describing the state of theoretical and practical knowledge on the researched topic of profitability and inflation, introduction of company X characteristic and its business model. Comparing profitability of company X in years 2021 and 2022 against industry and formulating conclusions.

## Research Conclusions

Analyzed by us research material and entitles to formulate following conclusions:

Conclusion 1. For the year 2021 for every 1 PLN income from sales (ROS), 2 PLN of profit was obtained, in 2022 6 PLN of profit. There was a significant increase in indicators informing about improvement of sales profitability. In the year 2022 for 1 PLN in sales, there was 4 PLN more than in previous years 2019-2021. Return on sales ratio in company X was 2% in 2021 and was lower than inflation at a ratio about 3.1% (5,15) and in 2022 return on sales ratio was 6% and was lower about 8.4% (14,4).

Conclusion 2. Return On Assets ratio (ROA) in company X in 2021 was 7% and was higher than inflation about 1.9% (5,1) and in 2022 ROA was 27% and was higher than inflation ratio about 12.6% (14,4)

Conclusion 3. Return On Equity (ROE) in company X in 2021 was 21% and was higher than inflation ratio about 15.9 % (5,1), and in 2022 ROE was higher than inflation ratio for 31.5% (14,4).

Conclusion 4. High inflation ratio in 2022 was not server for company X, because it compensated increase in fuel purchases prices by increasing rates for transport services and due to loan repayment, it did not feel increase in interest rates

Conclusion 5. Company X marks itself with high profitability against other companies in industry. Return ratios: ROS, ROA, and ROE in company X was significantly above the average in the transport and logistics sector in 2021 and 2022.

Conclusion 6. Company X in 2022, the year of high inflation rate, began to generate profit much sooner than in the period of low inflation in 2019-2020.

Conclusion 7. Adopted by company X, the profitability management model focused on adjusting sale prices of transport services according to fuel prices, and on reducing the cost of external services.

Conclusion 8. The essence of profitability management model of company X in inflation condition, is idea that company with increase in inflation ratio constantly increases price of its services and reduces participation of external services in business activity of company.

Conclusion 9. Equity capital of company X had a low impact on continuity of business activity in 2019-2020 2.

Conclusion 10. Company X, during the period covered by this research, was not threatened by bankruptcy.

Conclusion 11. Company X in its portfolio has one dominant client which has a decisive impact on the company's profitability.

In the study there was also an analyze of revenue cost of sales and its breakeven point carried out using mathematical tables (beta) business, to find out the answer to the question: how many hours in a month did Company X employees worked to cover fixed costs incurred by the company, and since when did they generate profits [50]. In the other words, how big operational risk did company X undertake in those years? In 2022, the year or year of galloping inflation, company X had the lowest fixed costs compared to the other years covered by this research, and it

50 Mietlewski, Z., DIGITAL BUDGETING FOR BUSINESS. MATHEMATICAL TABLES β-business. SELLING COST AND ITS CRITICAL POINTS. Wyższa Szkoła Społeczno Ekonomiczna w Gdańsku, Gdańsk 2023.

generated the highest 7% sales profitability, where employees spent 133.51 hours to cover fixed costs, and 34.49 hours to make profit. Operational risk ratio in the company X, in years 2019-2020 was 7.5, in 2021, it increased to 9.5 (increase about 26.7%) and in 2022 was 4,87% (decreased about 48.74%.). Operational risk ratio was high in years 2018 - 2020 and very high in 2021.It diminished in 2022 when inflation was the highest. However, company X in years 2019-2020 did not use the operating leverage, which is that increase in sales is accompanied by an over proportional increase of profit, unless there is, during this period, increase in fixed costs. In 2022 it partly did Company X, in 2022 increased sales compared to previous years about 22.44%, cost about 18.29% and profit up to 77.77%. Comparing positions A, B, and C in Profit and Loss Account, company X, in years 2019-2022 we will see that company at little cost generated 59.48% of profit compared to the year 2021.

The image of the company X, we have described, closes the interview with the owner of the company X who answered 6 questions.

Question 1, *how company X judges the last two years of its business activity?*

Owner: Year 2022 in transport was very good for company X. The company had a lot of orders and the rates of transport went up, and because of that there was a lot of work, and the work was expensive. Company X did not feel any decline in the number of orders because for 15 years we have had one big client who is our main customer. The last two years our cooperation with our main ordering party was also satisfying.

Question 2, w*hat influence on business activity company X, including its financial result, had pandemic COVID-19 and after that outbreak of war in Ukraine?*

Owner: At the beginning of pandemic COVID-19 in 2020 the company X noted a massive decrease in orders and problems with payment for services performed. Due to panic in the market, companies wanted to keep as much money as possible with them.

Question 3, *was the help from the government, in your opinion, offered at the right time? What did not work as expected by the company?*

Owner: In 2020 company received government subsidy, which is redeemed halfway. This subsidy was real help for the company. Besides, the received funds secured company financial liquidity in this difficult time, at the beginning of the pandemic.

Question 4, *what impact had fuel prices, increase in salaries, an increase in interest rates on company X in the last two years?*

Owner: Fluctuations of fuel prices were not a problem for company X, because 80% of fuel prices is covered by the client, we cover the remaining 20%, when the fuel price decreases, rates decrease too, but when the fuel price increases, rates also increase. It's a matter of contract with the client. At present, the company repaid the loan, which was taken in PLN, so we do not feel any impact of increase of interest rates. Moreover, 2/3 of the company's stock (tractors and tankers) are company's property, so we do not feel an increase in leasing price. But the negative effects of high inflation was the recent increase in the cost of new tankers. The tankers that cost 100,000 euros, now cost €130,000. In March 2023 we had to buy two new tankers, an increase of prices by 30% was incomprehensible for us. The biggest problem caused by high inflation in compound X refers to employees and their expectations regarding salaries. Employees expect that because everything costs more, so their salaries should increase with inflation. Companies cannot raise the transport rates as inflation rises, besides driver's salary increased 28% in the last two years, currently drivers' net salary totals 12,000 PLN in average per month. Additionally there are burdens due to mobility package[51]. The Mobility package proved to be worse in consequences even than pandemic COVID-19, because it generates high additional transportation costs.

Question 5, *was company X using an Anti inflation shield in 2020?*

Owner: No, it was not, the company was not using an Anti inflation shield in 2020.

Question 6, *what future companion X sees for its domain in the market?*

Owner: Company X is positive about the year 2023, but I think that it will bring the company profits down about 20% compared to 2022. I also hope that inflation will decrease and this will bring the diminished expectation about employees wages.

## Summary

Company X specializes in transporting liquid groceries in tankers. It provides services in Poland and Europe. In the period covered by this study, it increased sales, and decreased costs incurred, and this had an impact on its profitability. Adopted by company X profitability management model, concentrate mostly on diminishing the use of external services and instant redefinition of service selling prices according to fuel prices. Company X in order to increase its profitability

51 Since 2020, it is the package protecting workers of transport industry, and forcing Polish companies to equalasing salaries of their drivers with those in European Countries.

decided to buy new tankers. Large number of tankers enables the company to expand the transport offer. Company X expected that the scale effect would work. It will extend the offer in future, so the profit will also increase in future. Company X due to scale effect, will gain the ability to compete with service selling price in the industry, in the competitive local and European market. According to the company owner, high *inflation in 2021-2022 was not severe for the company. Increase in crude oil was not a problem for the company because with increase in fuel prices the company raised the prices of their services of transporting groceries. Moreover, company X repaid the loan, so increase in interest rates in 2022 was not a problem for the company"*[52]. One of the negative effect of high inflation according to the company owner is the „*increase in the price of new tankers and too extravagant employees expectation about wage increase*"[53].

It needs to be noticed that adopted and implemented by company X profitability management model, precisely by its owners, profitability management model was successful and effective, which proves among others, by high financial results achieved by company X in 2022. And also very high profitability indicators against the industry, and the fact that the company was not threatened by bankruptcy.

The competence gap in this profitability management model is that even though the company managed to protect the continuity of business activity, moreover, improved its economic status and by this reinforced its position on the market, but this model hardly takes into account improvement of economic status of its employees. The owner says that employees' wages in the last two years have increased about 28%. When we decrease this rise to the average inflation level for years 2021 and 22 (CPI, 5,1% and 14,4%) we will receive an increase in wages at 8.5% in two years.

In the modern concept of management, it is highlighted that an employee is for the company an asset not a cost. Companies that use this management concept to aim the business goals come out very good. Both company owners and employees are satisfied.

The company owners in the period covered by this study, managed profitability guided by situation on the market and their intuition. They rather do not use to make their business decision, any profitability management model recommended by literature, for example, the method of management by goals. „According to this management method regardless, the detailed solutions that have to be adjusted to specific needs and conditions of each enterprise, there are developed

52 Based on interview, that author of this study had with the Company owner on 10.03.2023 [Mine - MN]

53 Ibidem

individual work plans for every manager and his team, formulating strict and measurable results of his and their work. It is possible and necessary if we define the goal as a desirable result in the future. Specifying time to reach the goal, by implementation of the described task, we will call it deadline, and establish the final state (what we want to reach) measurability of the goal. Manager and his team will concentrate their attention mostly on what to do, not what needs to be done. The basic condition for really using this method must be unequivocal positive for all manager and subordinates positions of general management: why do we use the method of management by goals and what do we want to reach. Starting point must be the question " what is our business?"[54].

Company X in 2021-2022 was profitable, and inflation for the company was not severe, even though it was definitely higher than this year's profitability. Company X in 2021-2022 against the transport and logistic industry comes out the best. Although it generated not so small operational risk. The essence of profitability management was to control service selling prices depending on the fuel prices, and decreasing cost of external services. What is interesting is that equity capital had a little impact on continuity of business activity at this period of time. What is more important is that the company was not threatened by bankruptcy, at the time of study.

The practical value of our study is illumination and visualization to the owner of the company and his managers that for continued of business activity had impact the situation on the market which „swept away" some companies and others it strengthened, at least for short period of time, and company X belongs to the lucky ones that still write its story. To be able to do this, company X in the opinion of the author of the study, should minimize the risks of falling out of the game. That is something that companies consider as its biggest asset. Namely in company X portfolio there is only one big client and that client determines its profitability. Company X should know when the situation is still good, start looking for other big clients and not wait with it, till the situation becomes bad. New clients may help expand the scope of business activity, profitability could increase, and for sure stability of the company would be better. On the other hand the company X into its profitability management model should enter appropriate motivation possessed and used in practise competencies of manager. These are two theses of the author of the study, on one hand shows and on the other recommends the direction for restructuring the profitability management model. in company X, with an impact on keeping balance and again on one hand the balance in the company's portfolio and, on the other hand balance between

54 Mietlewski Z., Smoleński St. (1998), Metody zarządzania przedsiębiorstwem, TNOIK OPO, Bydgoszcz, 1998, s.45-46.

economic status of the owners, and economic status of the employees.

Confronted in our survey definition of profitability on the basis of literature studied, let's remember „profitability is the ability of an enterprise to generate a profit, that is obtaining revenues exceeding cost of achieving it (W. Gabrusiewicz). With conclusion from our studies we come up to conclusion that this definition would be adequate if it took into account the inflation, that is why we suggest to broaden profitability definition by Gabrusiewicz, which in our opinion should be: „Company's profitability it is its ability to obtain expected revenues value exceeding the cost of achieving them or higher with purchasing power of money fit in the accepted by The Monetary Policy Council (RPP) inflation target".

**Bibliography**

Biernacka J. (2005). *Wielomian Altmana jako narzędzie badań kondycji ekonomicznej spółek giełdowych branży drzewnej*, „Intercathedra Annual Bulletin of Plant – Economic Department of The European Wood Technology University Studies" nr 21. 2005.

Czerwonka, L. (2018). *Zarządzanie finansami*. Wprowadzenie, przykłady i zadania. Warszawa: Wydawnictwo C.H.Beck, 2018.

Gabrusewicz, W. (2019). *Metody analizy finansowej przedsiębiorstwa*. Warszawa: PWE, 2019.

Gołębiowski, G., Tłaczała, A. (2005). *Analiza ekonomiczno-finansowa w ujęciu praktycznym*. Warszawa: Difin, 2005.

GUS (2019). Co warto wiedzieć o inflacji. Warszawa: Zakład Wydawnictw Statystycznych, 2019.

Heubes J. (1989). *Inflationstheorie*. Monachium, 1989.

Jerzemowska, M. (2018). *Analiza ekonomiczna w przedsiębiorstwie*. Warszawa: PWE, 2018.

Kołodko G. (1987). *Polska w świecie inflacji*. Warszawa, 2018.

Kralicek K . (1995) *Podstawy finansowania finansami*, Międzynarodowa Szkoła Menedżerów, Warszawa, 1995.

Mietlewski Z., Smoleński St. (1998), *Metody zarządzania przedsiębiorstwem*, TNOIK OPO, Bydgoszcz, 1998.

Mietlewski Z., (2023) DIGITAL BUDGETING FOR BUSINESS. MATHEMATICAL TABLES β-business. SELLING COST AND ITS

CRITICAL POINTS. Wyższa Szkoła Społeczno Ekonomiczna w Gdańsku, Gdańsk 2023.

Nowicka, S., Stankiewicz, J. (2009). *Analiza i ocena kondycji finansowej na przykładzie wybranych spółek*. Materiały pomocnicze dla słuchaczy studiów podyplomowych. Toruń: TNOiK „DOM ORGANIZATORA.

Partycki, S. (1993). *Społeczny wymiar inflacji*. Lublin: Uniwersytet Marii Curie-Skłodowskiej Wydział Filozofii i Socjologii.

Pfister, J. (1981). *Grundzüge „Sozialtheorie" der Inflation*, Berlin.

Walkowiak R., Mietlewski, Z. (2008). Quick Test. W: (red.) *Konkurencyjność i adaptacyjność przedsiębiorstwa. E-laboratorium diagnostyczne*. Olsztyn: Olsztyńska Wyższa Szkoła Informatyki i Zarządzania im. Tadeusza Kotarbińskiego.

Włodarczyk, J. (2015). *O źródłach inflacji*. Katowice: Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, 2015.

Woll, A. (1987). *Allgemeine Volkswirtschaftslehre*. Monachium, 1987.

https://www.pressreader.com/poland/angora/20140608/282746289818170.

https://sjp.pwn.pl/slowniki/rentowno%C5%9B%C4%87.html.

https://sjp.pwn.pl/slowniki/rentowno%C5%9B%C4%87.html.

https://www.pressreader.com/poland/angora/20140608/282746289818170.

**Contact:**

**Marzena Nitecka**
University of Social and Economics in Gdańsk
ul. Rajska 6, 80-850 Gdańsk, Poland
e-mail: marzena.nitecka@wsse.edu.pl

**Zygmunt Mietlewski**
University of Social and Economics in Gdańsk
ul. Rajska 6, 80-850 Gdańsk, Poland
e-mail: zygmunt.mietlewski@wsse.edu.pl

**Beata Browarczyk**
University of Social and Economics in Gdańsk
ul. Rajska 6, 80-850 Gdańsk, Poland
e-mail: beata.browarczyk@wsse.edu.pl