

## Applying benchmarking tool in assessment financial safety of organization

### Применение инструмента бенчмаркинга при оценке финансовой безопасности организации

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#### Abstract

The aim of paper is to assess financial safety of organization using benchmarking method which was initially involved in business practices such companies as Xerox and Hewlett-Packard. Our research addresses using benchmarking relating to assessment of financial state of three Russian oil companies in order to develop a set of suggestions leading to desirable financial state. Proposed technique for assessment financial safety implies next steps: identifying key factors affecting the financial state of company, the choice of financial safety indicators by means of correlation analysis, a calculation of integral indexes of financial safety, development of guidance for decisions making. The next fundamental indicators of financial safety are examined - financial independence ratio, leverage ratio, accounts receivable turnover ratio, accounts payable turnover ratio, returns on

#### Аннотация

Целью статьи является оценка финансовой безопасности организации с использованием метода бенчмаркинга, который изначально был задействован в бизнес практиках таких компаний как Ксерокс и Хьюлетт-Паккард. Наше исследование посвящено использованию бенчмаркинга применительно к оценке финансового состояния трех российских нефтяных компаний, для того чтобы разработать ряд предложений, ведущих к желаемому финансовому состоянию. Предлагаемая методика оценки финансовой безопасности предполагает следующие этапы: выявление ключевых факторов, влияющих на финансовое состояние компании, выбор показателей с помощью корреляционного анализа макроэкономических факторов и финансовых коэффициентов, расчет

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assets, return on borrowed capital. To improve financial ratios the matrix of management decisions was elaborated.

**Keywords:** financial safety, benchmarking, financial ratios.

## Introduction

Benchmarking has been widely applied in almost all business fields; it keeps a purpose of continuous performance improvement through referring the best practices. The benchmarking analysis is based on comparison key indicators – benchmarks that can be different depending on industry, sectors and scale. Oil industry is regarded as a driver of economic growth in Russia; oil prices predetermine development trends in oil industry and related branches. Tough market environment, increased sanction pressure makes matters of financial sustainability vital. The basic factors affect oil companies under current condition are declining oil prices, recession in industrial production, high interest rates on loans.

Our research addresses using of benchmarking tool focusing in mind financial safety. We study the influence of macroeconomic factors on financial ratios to identify set of latter's for including into integral index. We present integral indexes of financial safety for three companies, among which Gazprom was chosen as a market-leader in comparison with Rosneft in terms of revenue and net profit. The remainder of article is organized as follows. Section 1 presents literary review on benchmarking and financial safety issues. Section 2 (methodology) reveals the calculation of financial coefficients used in assessment of financial safety, proposes benchmarking technique. Section 3 (Results) highlights main findings. Conclusions contain final remarks.

интегральных показателей финансовой безопасности, разработка руководства для принятия решений.

Рассматриваются следующие основные показатели финансовой безопасности - коэффициент финансовой независимости, коэффициент лeverеджа, коэффициент оборачиваемости дебиторской задолженности, коэффициент оборачиваемости кредиторской задолженности, рентабельность активов, рентабельность заемного капитала. Для улучшения финансовых показателей была разработана матрица управленческих решений.

**Ключевые слова:** финансовая безопасность, бенчмаркинг, финансовые коэффициенты.

## Literature review

Benchmarking concept has been highlighted in the vast body of economic literature since 1990 both in developing and advanced economies. Benchmarking is considered as a universal tool, which could be used in different fields of enterprise's performance such as accounting, logistics, management processes etc. In its traditional sense benchmarking involves capture, sharing, and spreading of best practices. It is worthy note that at early stages of concept development the benchmarks relating to efficiency of business units were of interest; in present innovative, knowledge-based benchmarks are in the focus of researches.

Zairi M. (1996) provides pithy review and classifies benchmarking into next groups: competitive benchmarking, functional benchmarking, internal benchmarking and generic/process benchmarking. Author highlights key steps in benchmarking process - measuring operational and financial indicators, clarifying the objectives of study and understanding of own processes.

Camp R. (2006) in his fundamental work «Current Position and Future Development of Benchmarking» conducted a cross-section analysis to assess the current position and future development of the benchmarking tool. He revealed key problem in transferring best practices from one organization to the others that restricts outcomes of benchmarking concepts.

Thus, benchmarking tools could be transferred in different research areas depending on the chosen

benchmarks and kind of benchmarking; however, traditionally competitive benchmarking is most popular due to a strong need of operating under present market conditions. The revenues of modern oil companies form the bulk of Russian budget income while being significantly dependent from economic sanctions and export volumes. The financial safety of huge oil organizations is an essential prerequisite for meeting the state's

social commitments and providing people well-being. Thus, matters of providing financial safety of oil companies are becoming important and require research that is more detailed. To achieve the goal we are supposed to explore experiences on benchmarking tools in foreign companies and clarify the definition «financial safety of organization». By now, there are many firms have applied this method (table 1).

**Table 1.** Comparative analysis of financial analysis techniques

| Organization name    | Object of benchmarking                              | The kind of benchmarking | Results   |
|----------------------|---|--------------------------|---|
| Hewlett-Packard      | breakeven time (BET)                                | internal                 | Improved breakeven time   |
| Ford                 | key properties of motor-cars valuable for customers | competitive              | Ford Taurus that became the best seller and was called «the motor-car of year»                                    |
| General Motors       | quality management system                           | functional               | According conducted consumer surveys the quality of firm's product was higher in comparison with competitors ones |
| Xerox                | production processes and costs, internal costs      | generic                  | Xerox evaluated gaps in key production processes and filled them using benchmarking method                        |
| GPT Payphone Systems | customer service quality                            | functional               | Improving the efficiency of customer service quality  |
| Southwest Airlines   | flight schedule and the number of flights           | competitive              | Reducing an aircraft servicing time, improving financial performance  |

Source: processing by authors

A.C. Lyons, J.E. Grable, S-H. Joo (2018) explore financial safety of households in the context of developed and developing countries focusing on these groups: women, the less educated and poor. Authors treat financial safety as a household's abilities to recover from negative financial shocks.

Piotrowska M. (2017) considers influence in matters concerning status-oriented consumption behavior on household's financial safety. The study covers 12 categories of consumption expenditure (food, clothing, health, transport etc.). Index of financial safety is based on three factors: financial assets, housing and budget. The

findings showed that consumption patterns in Poland and the others transitional countries in Europe are similar.

Delas, V., Nosova, E., & Yafinovich (2015) treat system, resource and functional approaches to identify a financial safety of enterprise. They propose liquidity ratios, asset management ratios, debt management ratios, profitability ratios to assess economic safety of enterprise. Issues of financial safety are explored at different territorial scales (Danilová, I., Karetniková T., 2016) and related research fields (Litvinenko I.L., Zernova L.E., Kiyanova L.D. etc., 2018; Khamzina D., Goloviznin, S., Nogovitsina etc., 2019; Acuña M., 2011; Muñoz, 2019).

**Table 2.** Definitions of the term «financial safety of organization»

| Author                | Definition  |
|-----------------------|---|
| Arefyeva A. V. (2009) | Financial safety is the state of using resources in the most effective way.   |
| Shlykov V.V. (2009)   | Financial safety is a state of protection against the negative influences of external and internal threats, destabilizing factors while key commercial interests and goals are being adhered. |
| Sudakova A.I. (2008)  | Financial safety is the part of company's economic security representing the set of measures focusing on business protection from internal and external financial threats.                    |
| Sorokina O.N. (2012)  | Financial safety is the limit of company's financial protection from actual and potential threats determining by quantitative and qualitative parameters of its financial state.              |

Source: processing by authors

We determine financial safety of organization as a financial state where it is effectively coping with current threats under market conditions keeping on its strategic goals. In other words, it represents some kind of financial «financial sustainability» that makes possible gaining successful development. Involving benchmarking method in assessment of financial safety arises next questions to be solved. Firstly, what is benchmarking technique? Secondly, which of benchmarks should be applied? At last, how the best practice should be chosen? Therefore, our paper differs because it proposes approach covers all essential benchmarking

matters regarding financial safety of organization.

### Methodology

Methodological issues of our study are fallen into two groups. The first group aims on identifying financial ratios to assess financial safety. Therefore, we should choose appropriate metrics. The second one is dealing with benchmarking technique adapted to financial safety of enterprise. Regarding the first issue, we have laid initial groundwork by conducting analysis of most commonly used financial indicators (table 3).

**Table 3 -** Financial indicators for financial safety assessment

| Author                                | Groups of indicators  |
|---------------------------------------|---|
| Blazhevich, O.G, Kirilchuk N.A (2016) | Liquidity, solvency, property status, financial stability, financial autonomy, rates of return, cash flows. |
| Sotskova S.I, Emelianov A.A. (2015)   | Liquidity, solvency, rates of return, ratios of receivables and payables, financial autonomy.               |
| Sukhina N.Yu., Sibireva D.V. (2018)   | Liquidity, WACC, financial autonomy, rates of return, asset and revenue growth                              |
| Badaeva O.N., Tsupko E.V. (2013)      | Solvency, financial strength, rates of return, enterprise development indicators.                           |

Source: processing by authors

According above-mentioned metrics of financial security there are next most used indicators that are supposed to be involved into consideration: equity and leverage ratios, liquidity and solvency indicators, cost-effectiveness values. However, operating with all these measures is complicated

in the context of decision- making due to their number. To reduce the measures it seems effective to choose some of them that affect the financial state of Rosneft in significant way by using correlation analysis. However, oil industry is directly dependent from macroeconomic

conditions thus these factors were identified to find out if they make effects on financial ratios

determining the financial state of oil company (table 4).

**Table 4.** Variable notations of correlation matrix

| Variable                                | Label |
|---|-------|
| Index of industrial production          | IP    |
| Oil price                               | OP    |
| Export oil duty                         | ED    |
| Production of crude oil                 | PC    |
| Dollar exchange rate                    | DR    |
| Inflation                               | IN    |
| Interbank loan rates, LIBOR             | LB    |
| Expenditures related to oil exploration | EX    |

Source: own elaboration

The data of all stated above variables came from official site Federal State Statistic Service. The values of export oil duty are available on official site of Ministry of economic development of the Russian Federation. The data of dollar exchange rate came from the website of Central Bank of the Russian Federation. The period under review is from Rosneft's sales revenue was collected from accounting statements on organization

official site. The period under consideration is 2018. But these macroeconomic factors may be interconnected therefore the multicollinearity checking was conducted under results of which variables DR, ED и PC were excluded and the set of end macroeconomic factors was created (table 5). All variables were entered and processed with SPSS 23 software.

**Table 5.** Correlation matrix of key macroeconomic variables

|    | OP     | EX     | IP     | LB     | IN     |
|----|--------|--------|--------|--------|--------|
| OP | 1      | 0,240  | -0,330 | -0,560 | 0,074  |
| EX | 0,240* | 1      | 0,327  | -0,483 | 0,316  |
| IP | -0,330 | 0,327  | 1      | 0,277  | 0,027  |
| LB | -0,560 | -0,483 | 0,277  | 1      | -0,580 |
| IN | 0,074  | 0,316  | 0,027  | -0,580 | 1      |

\* – statistically significant at the 5% level

Source: own elaboration

To assess ratios regarding Rosneft's financial safety the next set of variables was proposed (table 6).

**Table 6.** System of indicators offered for the assessment of financial safety

| Indicators                             | Calculation algorithm  |
|--|--|
| Cash ratio ( $x_1$ )                   | Absolutely liquid assets / hot and short-term liabilities                                    |
| Current ratio ( $x_2$ )                | Current assets less accounts receivable due after 12 months / hot and short-term liabilities |
| Quick ratio ( $x_3$ )                  | Highly liquid assets / short-term liabilities  |
| Financial independence Ratio ( $x_4$ ) | Own capital and reserves/ total assets   |
| Leverage ratio ( $x_5$ )               | loan capital / own capital   |

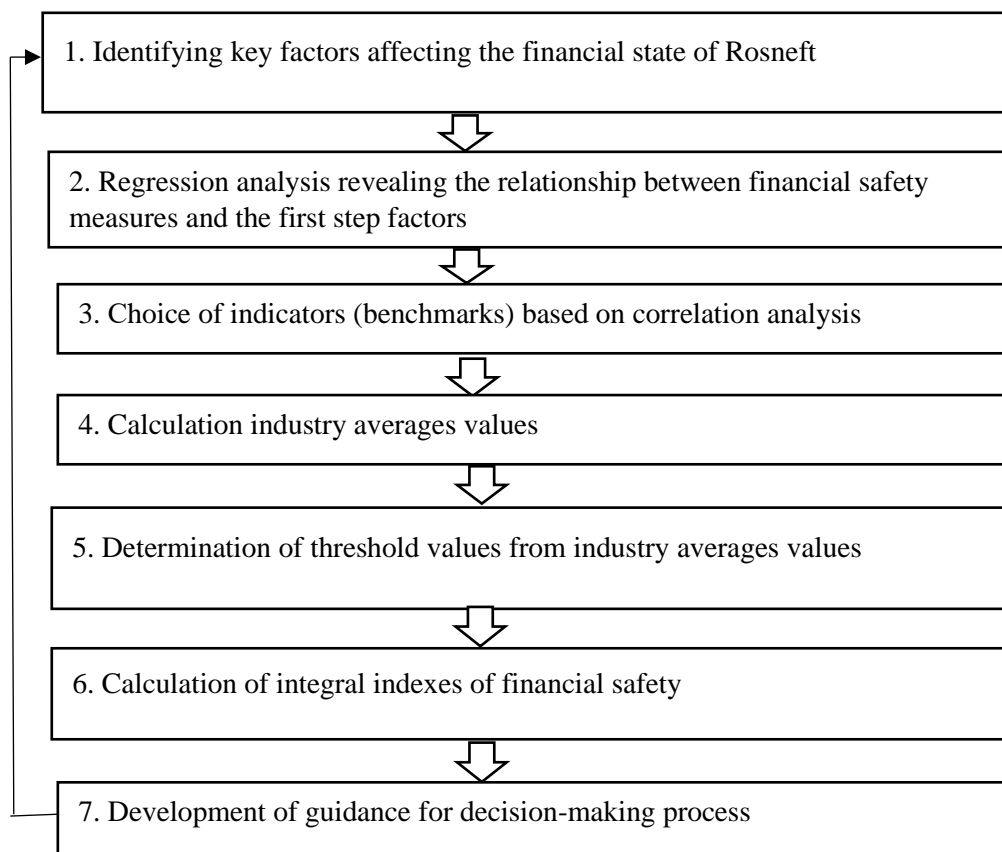
|  |  |
|--|--|
| The ratio of availability by own funds ( $x_6$ ) | Own current assets/ total assets                                 |
| Inventory turnover ratio ( $x_7$ )               | Sales cost / average volume of inventory                         |
| Accounts receivable turnover ratio ( $x_8$ )     | Revenue/ accounts receivable                                     |
| Accounts payable turnover ratio ( $x_9$ )        | Cost price of the sold goods /annual average of accounts payable |
| Returns on sales ( $x_{10}$ )                    | Profit from the sale of goods/Proceeds from the sale of goods    |
| Returns on assets ( $x_{11}$ )                   | Net income /assets   |
| Return on equity ( $x_{12}$ )                    | Net income /equity   |
| Return on loan capital ( $x_{13}$ )              | Net income/ loan capital   |
| Capital productivity ( $x_{14}$ )                | Net income /property, plant and equipment                        |

\* – statistically significant at the 5% level

Source: own elaboration

The second matter is related to benchmarking technique adapted to financial safety. Traditional benchmarking algorithm consists of next general steps (Danilov I.P., Mikhailova S. Yu., Danilova

T.V., 2005): planning, searching, observation, analysis, adaptation. Translating it to our research field, this benchmarking algorithm is proposed (figure 1).



**Figure 1** - Benchmarking algorithm for assessment financial safety

The third step of algorithm implies setting up the industry averages values. Rosneft is a company under consideration. Lukoil, Gazprom, Surgutneftegaz, Tatneft are considered as industry competitors and their indicators (industry averages values) serve as reference values against which Rosneft performance would be measured. By now, there are different approaches to forming integral indexes of financial safety. In our case, we follow by Blazhevich O.G., Kirilchuk N.A. (2016) technique (equation 1-3).

$$x_i = \frac{a_i}{a_j^n}, \text{ if optimization direction tends to} \\ \max \quad (1)$$

$$x_i = \frac{a_j^n}{a_i}, \text{ if optimization direction tends to} \\ \min \quad (2)$$

Where  $a_i$  - actual value of the indicator;

$a_j^n$  -threshold value of the indicator.

The index of financial safety is calculated using the next equation 3.

$$R_{fs} = x_1 \pm x_2 \pm \dots \pm x_n. \quad (3)$$

## Results

With following benchmarking algorithm stated above the correlation analysis is applied to test the relationships between financial safety measures and macroeconomic variables (table 7) by using SPSS statistics 23 software.

**Table 7.** Relationships between financial safety measures and macroeconomic variables

| Variable | OP            | EX     | IP            | LB           | IN     |
|----------|---------------|--------|---------------|--------------|--------|
| $x_1$    | 0,445*        | -0,400 | -0,036        | -0,285       | -0,049 |
| $x_2$    | 0,498         | -0,399 | -0,224        | -0,400       | 0,055  |
| $x_3$    | 0,415         | -0,440 | -0,145        | -0,297       | 0,034  |
| $x_4$    | <b>0,777</b>  | -0,243 | -0,597        | -0,512       | -0,119 |
| $x_5$    | <b>-0,607</b> | 0,339  | <b>0,664</b>  | 0,577        | -0,029 |
| $x_6$    | 0,381         | -0,546 | -0,421        | -0,375       | 0,151  |
| $x_7$    | -0,442        | 0,073  | 0,476         | <b>0,677</b> | 0,008  |
| $x_8$    | <b>0,774</b>  | -0,230 | -0,371        | -0,455       | -0,160 |
| $x_9$    | <b>0,769</b>  | -0,242 | -0,403        | -0,469       | -0,116 |
| $x_{10}$ | 0,583         | -0,456 | <b>-0,694</b> | -0,007       | -0,343 |
| $x_{11}$ | <b>0,791</b>  | -0,200 | -0,502        | -0,482       | 0,112  |
| $x_{12}$ | 0,515         | 0,196  | -0,093        | -0,239       | 0,501  |
| $x_{13}$ | <b>0,755</b>  | -0,238 | -0,556        | -0,496       | 0,013  |
| $x_{14}$ | 0,472         | -0,504 | -0,508        | 0,290        | -0,469 |

\* – statistically significant at the 5% level

Source: own elaboration

Exploratory analysis defined six variables ( $x_4, x_5, x_8, x_9, x_{11}, x_{13}$ ) being significantly influenced by macroeconomic factors, strength of the correlation is varying from -0,607 to 0,777. For these indicators average values across oil

industry enterprises (Lukoil, Gazprom, Surgutneftegaz, Tatneft) which are serve as threshold values were calculated (table 8).

**Table 8.** Average values of financial indicators in oil industry

| Variable | Years |      |      |      |      |      |      |      |      | Average (threshold values)  | Recommended value |
|----------|-------|------|------|------|------|------|------|------|------|-----------------------------|-------------------|
|          | 2011  | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |      |                             |                   |
| $x_4$    | 0,66  | 0,69 | 0,53 | 0,47 | 0,56 | 0,71 | 0,70 | 0,65 | 0,62 | $\geq 0,5$                  |                   |
| $x_5$    | 0,73  | 0,74 | 0,71 | 0,72 | 0,50 | 0,60 | 0,64 | 0,55 | 0,65 | $\leq 1$                    |                   |
| $x_8$    | 3,16  | 3,76 | 3,62 | 3,24 | 2,60 | 3,78 | 3,85 | 3,82 | 3,48 | $\geq 1$                    |                   |
| $x_9$    | 5,01  | 6,17 | 4,90 | 4,34 | 4,34 | 4,12 | 4,18 | 3,95 | 4,63 | Exceeds $x_8$               |                   |
| $x_{11}$ | 0,16  | 0,15 | 0,12 | 0,18 | 0,16 | 0,10 | 0,09 | 0,11 | 0,13 | $> 0$                       |                   |
| $x_{13}$ | 0,48  | 0,40 | 0,51 | 0,43 | 0,46 | 0,21 | 0,50 | 0,51 | 0,44 | Exceeds competitor's values |                   |

Source: own elaboration

The financial safety indexes of three oil companies demonstrate mixed dynamics (Figure 2); Gazprom and Lukoil are served as market-

leading companies in comparison with Rosneft in terms of revenue and net profit therefore these companies were entered into analysis (Figure 2).

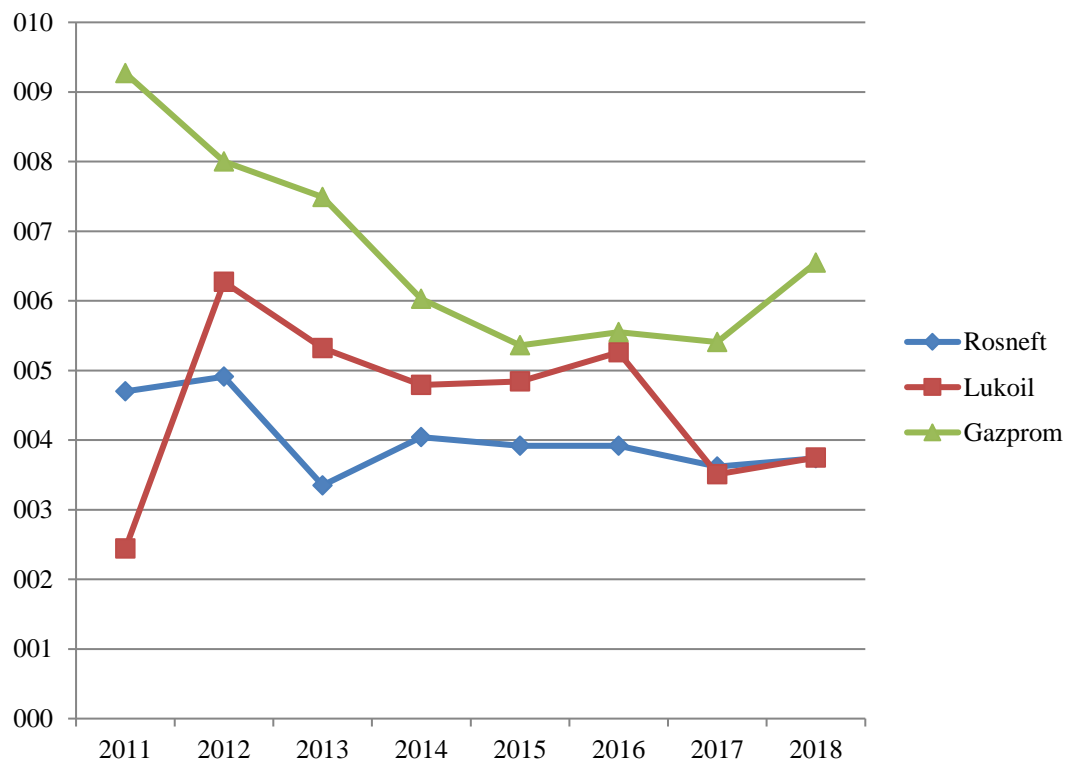

**Figure 2 -** Changes of financial safety indexes over 2011-2018 years

Figure 2 shows a sharp decline of Gazprom's financial safety indexes that is explained by influence of increases in tax rates on the extraction of minerals, reduced oil prices, rising costs on construction of pipelines. At the same time in 2018 Gazprom's net profit more than doubled than Rosneft's one while lower liabilities

and higher revenue. So, Gazprom should be considered as a company for benchmarking comparison. However, Rosneft reveals positive tendency; the highest record of financial safety index was in 2012 at 5.99. To detail our findings all variables comprising the indexes are studied (table 9).



**Table 9.** Recommendations according the results of benchmarking process

| Variable (benchmarks) | Trends in development (2011-2018)  |  | Management decisions for Rosneft  |
|-----------------------|--|--|---|
|                       | Gazprom  | Rosneft  |   |
| $x_4$                 | There was increase in 2011 of capital reserve because of revaluation of fixed assets.              | In 2013, there is a sharp decrease by more than 1.5 times (from 0.51 to 0.28). During 2018, the indicator drops to 0.16. | -increasing the equity through the reinvestment of profits;<br>- increasing the size of the reserve fund, as well as improve its accounting and reflection in the balance sheet;<br>- raising additional funds of shareholders.<br>- reducing long-term liabilities by selling unused stocks and equipment; |
| $x_5$                 | Reducing the ratio by half by 2018 in comparison with 2011.  | Increasing the ratio from 0.87 in 2011 to 5,07 in 2018   | - increasing the size of the reserve fund, as well as improve its accounting and reflection in the balance sheet;<br>- concluding the loan contract at minimum bet;<br>- early repayment of loans;  |
| $x_8$                 | The ratio steadily grows almost 4 times under examined period                                      | Uneven dynamics, in general the ratio has grown  | - accounts receivable restructuring;<br>- sale of non-core assets.  |
| $x_9$                 | A modest increase of indicator within 2011-2018  | A slight decrease of indicator in 2011-2018  | - improvement the schedule of payments with contracting parties to avoid penalties;<br>- analysis of effectiveness on related-party payments.<br>- cost reduction by setting up optimal purchase price;   |
| $x_{11}$              | The ratio is gradually declining under examined period   | In 2013, the indicator dropped sharply. It has decreased considerably through the examined period.                       | -increasing processing depth,<br>-implementation of technical re-equipment of the enterprise,<br>-introduction of energy efficient technologies.  |
| $x_{13}$              | The ratio has been extremely reduced due to high level of borrowing funds for expanding production | A decrease of this financial ratio in 2011-2018  | -increase revenues;<br>- reduction of non-operating losses;<br>- improving marketing system;<br>- concluding the loan contract at minimum bet.  |

Source: own elaboration

### Conclusions

The research question of this article was twofold. Firstly, revealing the key factors affecting financial ratios and, secondly, the calculation financial safety indexes and creation a set of recommendation based on benchmarking process. Traditional benchmarking approach was translated in the assessment of organization's

financial safety. We determined six benchmarks strongly correlated with macroeconomic conditions (financial independence ratio, leverage ratio, accounts receivable turnover ratio, accounts payable turnover ratio, returns on assets ratio and return on loan capital).

Gazprom is served as a market-leader for Rosneft. Having analyzed financial safety

benchmarking in details (within every variable included in the index) we find next highlights related to Rosneft. Financial independence ratio under examined period is higher than average threshold value therefore measures involving enhancing equity are required. Leverage ratio reflects company's dependence from borrowed funds because of the need to make a significant capital investment. Accounts receivable turnover ratio and accounts payable turnover ratio demonstrate uneven dynamics. At the same time declining returns on assets and return on loan capital is negative trend to reverse by cost reduction, improving marketing system and concluding the loan contracts at minimum bet.

### References

- A. V. Arefyeva, T. B. Kuzenko (2009) Economic foundations for the formation of the financial component of economic security. Actual problems of the economy, №1, 98-103.
- A.C. Lyons, J.E. Grable, S-H. Joo (2018), A Cross-Country Analysis of Population Aging and Financial Safety, The Journal of the Economics of Ageing, <https://doi.org/10.1016/j.jeoa.2018.03.001>
- Badaeva O.N., Tsupko E.V. (2013) Financial security assessment of small and medium enterprises. Russian entrepreneurship 14, 71-83.
- Acuña, Marianela (2011). Crisis financiera internacional: rupturas y desafíos. *Revista de la Universidad del Zulia*, Vol. 2, Num. 4, 39-58, Septiembre-Diciembre 2011.
- Blazhevich, O.G, Kirilchuk N. (2016) Assessing the financial security of the enterprise and identifying ways of its increasing. Scientific Bulletin: Finance, Banking, Investment 2, 40-48.
- Camp R. Benchmarking (2006), The Search for Industry Best Practices That Lead to Superior Performance, the second edition, Productivity Press, 1563273527 (ISBN 13: 9781563273520).
- Danilov I.P., Mikhailova S. Yu., Danilova T.V. (2005) Benchmarking - an effective tool to increase competitiveness, Standards and Quality, 1, 66-68.
- Danilová, I., Karetniková, T. (2016) Competitive power of companies and industries: A methodical approach to evaluation. Indian Journal of Science and Technology, Volume 9, Issue 36, September 2016, Article number 102019
- Delas, V., Nosova, E., & Yafinovich, O. (2015). Financial Safety of Enterprises. *Procedia Economics and Finance*, 27, 248–266. doi: 10.1016/s2212-5671(15)00998-3
- Gazprom. The official website. <https://www.gazprom.ru/investors/disclosure/reports/2019/> (accessed 03.01.20)
- Khamzina, D., Goloviznin, S., Nogovitsina, O., Sarapulova, A., Aygumov, T., & Arishina, E. (2019). Methodological issues of financial analysis in oil construction companies. *Amazonia Investiga*, 8(22), 203-215. Retrieved from <https://www.amazoniainvestiga.info/index.php/amazonia/article/view/306>
- Litvinenko I.L., Zernova L.E., Kiyanova L.D., Korolkov V.E., Buevich A.P., Protas V.F. Public-private partnership based clustering in the sphere of innovations. *Ponte*. 2018. T. 74. № 4. C. 152-162.
- Lukoil. The official website. <http://www.lukoil.ru/>(accessed 03.01.20)
- Muñoz, Omar (2019). Cultura, gestión pública, gerencia y sistema de relacionamiento. *Revista Latinoamericana de Difusión Científica*, Vol. 1, Num. 1, Julio-Diciembre 2019.
- Piotrowska, M. (2017). The impact of consumer behavior on financial safety of households in Poland. *Contaduría y Administración*, 62(2), 461–504. doi:10.1016/j.cya.2017.02.001
- Rosneft. The official website. [https://www.rosneft.ru/Investors/statements\\_and\\_presentations/Statements/](https://www.rosneft.ru/Investors/statements_and_presentations/Statements/) (accessed 03.01.20)
- Shlykov V.V. (2009) Integrated ensuring the economic security of the enterprise. Third edition. Saint Petersburg.
- Sorokina O.N. (2012) The content of the enterprise financial safety. *Russian entrepreneurship*. Volume 13, Issue №14, 74-80.
- Sotskova S.I, Emelianov A.A (2015) Assessment of the financial security level of the economic subject. *Bulletin of Samara State University of Economics* 10, 82-86.
- Sudakova A.I. (2008) Strategic management of enterprise financial security. *Economic space*. №9, 140-148.
- Sukhina N.Yu., Sibireva D.V. (2018) Financial security of corporation. *Bulletin of modern research*, 12 (27), 499-503.
- Surgutneftegaz. The official website. <https://www.surgutneftegas.ru/>(accessed 03.02.20)
- Tatneft. The official website. <https://www.tatneft.ru/>(accessed 03.02.20)
- Zairi, M (1996), *Effective Benchmarking: Learning from the Best*, Chapman & Hall. ISBN 0412714906 / ISBN 9780412714900