

MANAGEMENT OF CASH FLOWS BETWEEN A DEBTOR AND A CREDITOR IN THE ENTERPRISE BANKRUPTCY PROCESS

An Y., Stępień M., Abusalma A., Lozitskaya O.*

Abstract: The purpose of this study is to determine the direction and alternatives for effective flow management between the debtor and the creditor in the enterprise bankruptcy process. The study is based on data received from Russian and the UAE's oil refining companies. The methodology of this study was based on a scenario approach, in particular, the formation of five alternative flow management options in the process of bankruptcy of companies. The basis for developing scenarios was to determine the efficiency of flow management of companies within five years before the bankruptcy. This allowed determining the most advantageous option for both the debtor and the creditor. The scenario of companies' liquidation was recognized as the worst of the possible options for both enterprises. The reorganization scenario, which proposed to sell companies as integral property complexes, involved a rather long period of debt repayment for creditors. The reorganization scenario with the full exchange of shares for debts was identified as beneficial for the creditor; however, company owners could lose their right to participate in the profit distribution. The last proposed scenario with a partial exchange of shares for debts was considered the most profitable both for creditors and owners of reviewed companies since it assumed the highest possible annual income, as well as the highest level of cash flows.

Key words: bankrupt, scenario, liquidation, financial rehabilitation, reorganization.

DOI: 10.17512/pjms.2020.22.1.03

Article history:

Received August 11, 2020; Revised October 15, 2020; Accepted October 20, 2020

Introduction

In modern conditions for dynamic and competitive businesses, more and more companies face financial problems and eventually go bankrupt. A noteworthy trend: not only new companies that have not yet managed to establish themselves in the market go bankrupt but also large companies operating for years and maintaining good traditions. Bankruptcies of companies cause many problems not only for the companies themselves but also for the state and many members of society (Mackevičius et al., 2018). Bankruptcy is an integral part of a market

* **Yevgeniy An** Department of International Economy, Altai State University, Almaty, Kazakhstan **Marcin Stępień** Faculty of Management at Częstochowa University of Technology, Poland **Abdallah Abusalma** College of Business Administration, Al Ain University, Abu Dhabi, UAE **Olga Lozitskaya** Department of Public Finance, Financial University under the Government of the Russian Federation, Moscow, Russian Federation
✉corresponding author: kaznu2050@gmail.com

economy and can happen to any company (Altman et al., 2020). Although the current political, economic and legal systems try to minimize the bankruptcy risks, this process is widespread (Menova et al., 2020). The internationalization and globalization of today's business have resulted in greater dependence and interconnection between enterprises, often leading to their bankruptcies (Adamko and Chutka, 2020). Therefore, the bankruptcy and insolvency of enterprises are an inherent phenomenon of any market economy, the dynamics, and intensity of which vary along with changes in business conditions.

Literature review

Over the decades, numerous empirical and theoretical studies have been carried out in the field of bankruptcy and insolvency of business entities in many countries and sectors of the economy (A. Tokarski and M. Tokarski, 2018; Korshenkov, and Ignatyev, 2020; Vigliarolo, 2020). A business firm should be able to devise various ways for selecting components of its cash flow, which would be used in the company's operation to raise its productivity (Liman and Mohammed, 2018; Fanea-Ivanovici, 2019). Petriashvili highlights that "an accurate prediction of declining business activity that leads to bankruptcy allows time for managers and creditors to take corrective actions" (Petriashvili, 2018, Kliestikova et al., 2017; Grabowska 2015). Thus, companies incur relatively high costs while managing debtors, which complicate their activities (Bukreeva et al., 2018).

The excess cash flow tends to be invested in things that are not related to the main activity of the company (Plaček et al., 2019; Glembotskaya et al., 2020). Therefore, it will cause the difference in interest between principal and agent as if investors prefer investments with high risk while management preferring lower risk in investing (Sakti and Kartikaningdyah, 2018; Panfilova et al., 2019). There is compelling evidence that both cash flow and debt have a positive and significant impact on the level of investment. At the same time, the price of the book value, debt to equity ratio, current liquidity ratio, and asset turnover ratio affect the company's performance (Kristanti, 2019, Otola, 2018). Although companies going had significantly higher levels of external debt and bank loans, they did not manifest any investment–cash flow sensitivity in the pre-crisis period, which indicates that they were probably not financially constrained at all (Schwarz and Pospíšil, 2018). Therefore, in this case, fluctuations in the development of companies should be taken into consideration (Boichenko et al., 2019). Firms during the introduction, growth and decline stages (mature stage) of life-cycle experience higher (lower) bankruptcy risk. Moreover, in juxtaposition with the growth stage, bankruptcy risk is higher at the introduction stage of life-cycle. This means that financial managers should be cautious about the financial fragility of the firm at each stage of corporate life-cycle (Akbar et al., 2019; Nukusheva et al., 2020; Tsindeliani, 2019). At the same time, Kumaraswamy and George state that

effective trade credit management can substantially improve the cash flows and profitability of the manufacturing firms (Kumaraswamy and George, 2019).

Credit rating has long been a topic of interest in academic research. There are lots of studies about credit rating methods for large and listed companies. However, due to the lack of financial data and information asymmetry, developing credit ratings for small and medium-sized enterprises are difficult (Panfilova et al., 2020). The accuracy of bankruptcy prediction for such companies can be improved through the use of cash flow data (Xu et al., 2019).

These days, some studies exploit the information found in stock prices surrounding the bankruptcy process and reveal that volatility after, but not before, filing for bankruptcy significantly predicts a firm's likelihood to emerge. Besides, the market-based probability of emergence is considered to have better predictive power on the recovery rates of unsecured creditors than measures based on financial statements (Nishi and Peabody, 2019).

Bankruptcy researches are carried out, taking into account several areas and approaches. The examination of the insolvency phenomenon is mainly focused on corporate management of bankruptcy risks, costs, share prices, long-term results, and legal norms regarding this issue. Multiple works have also focused on the prediction of enterprises' bankruptcy. These contribute to the determination of the current paper's objective - to identify areas and alternatives for effective flow management between a debtor and a creditor in the bankruptcy process.

Such hypotheses were determined on the basis of the formed goal of the research:

H1. Liquidation of a company through a sale of assets or an integral property complex is the easiest but the last way to restore solvency for a debtor.

H2. Reorganization of a company by the debtor involves cash flows over a long-term period between the debtor and the creditor.

H3. Reorganization with a full exchange of shares for debts contributes to effective cash flow and restoration of solvency of the company in the short term.

H4. Reorganization with a partial exchange of shares for debts promotes diversification of risks of the debtor and creditor in the process of restoring the solvency of the company.

Methodology

The study was based on materials from the Antipinsky Refinery (Russia) and the Sharjah Oil Refining Company (UAE), which became bankrupt oil refineries. Recently, the economic conditions of development in the context of the "oil war" between key market players, as well as the impending global crisis provoked by the spread of COVID-19 (Ajami, 2020; Skeel, 2020), create and try conditions for oil enterprises. Therefore, it is necessary to minimize negative consequences, and on the basis of effective flow management between a creditor and a debtor. The present study develops strategies to overcome future challenges. All the above provoked the selection of mentioned companies for analysis.

According to financial reports published on their official websites, cash flow management at the enterprises under study was assessed based on their structure. Cash flow statements were the basis for the calculations. These companies were studied within 5 years before their bankruptcy, namely, in the period from 2014 to 2018.

The data needed for analysis included a number of elements. The total book value of the shares of the Antipinsky Refinery corresponded to \$1 866 million, and \$4 247.345 million for Sharjah Oil Refining Company, while credit debt constituted \$2 914 and \$6 629 million, respectively. The authorized capital of the Antipinsky Refinery equaled \$17 281 thousand, while for the Sharjah Oil Refining Company, it came to \$22 578 thousand. Additional capital, funds, and reserves amounted to \$187 513 and \$262 535 thousand. The uncovered loss of companies was \$1 252 948 and \$2 735 478 thousand, respectively. Under these circumstances, enterprises were not able to repay current liabilities and therefore went through bankruptcy proceedings initiated by one of the creditors.

The study consisted of two stages. Firstly, the assessment of flow management strategies for five years before bankruptcy by assessing their structure according to the available financial statements was performed. Since the company had both incoming and outgoing cash flows, their difference (net cash flow) was considered an adequate indicator characterizing the increase or decrease in cash resources. In the present study, this indicator was calculated for each type of activity to decide which of them was the most developed and which one needed improvement. The amount of net cash flow was calculated according to the following formula:

$$NCF = NCF_o + NCF_i + NCF_f, (1)$$

Where NCF is the company's total net cash flow for the analyzed period, NCF_o is the net cash flow from operating activities, NCF_i is the net cash flow from investment activities, and NCF_f is the net cash flow from financing activities. The amounts are in thousands of dollars.

The second stage of the assessment comprised the consideration of five alternative flow management scenarios in the process of company bankruptcy and determination of the most profitable option for both the debtor and the creditor.

Results

To characterize the increase or decrease in the cash resources of enterprises and outline the prerequisites for bankruptcy, it is necessary to determine the amount of the NCF over the past five years (Fig. 1).

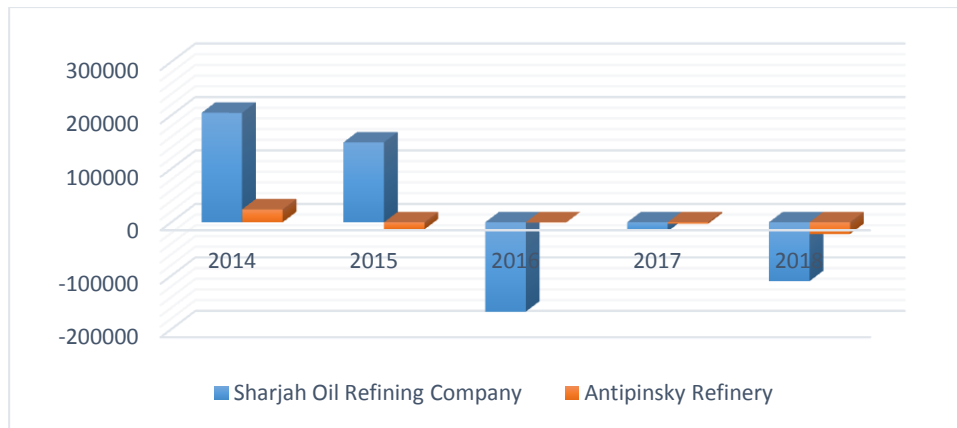


Figure 1: The dynamics of the net cash flow

Source: developed by the authors on materials of the enterprises

Since 2014 NCF decreased rapidly at both enterprises. In the Sharjah Oil Refining Company, it reduced its value by \$7 663 thousand for three years. Such dynamics designates a deficit in income from investment and financial activities. At the same time, in the Antipinsky Refinery, a significant proportion of NCF was accounted for investment transactions. After obtaining the negative cash flow values, its further decrease was noted for both companies. It means that top management tried to improve the efficiency of cash flow management. In 2018, negative NCF increased, as compared to the previous period. To perform a more accurate assessment, the pattern of positive cash flow of the reviewed companies should be considered (Fig. 2).

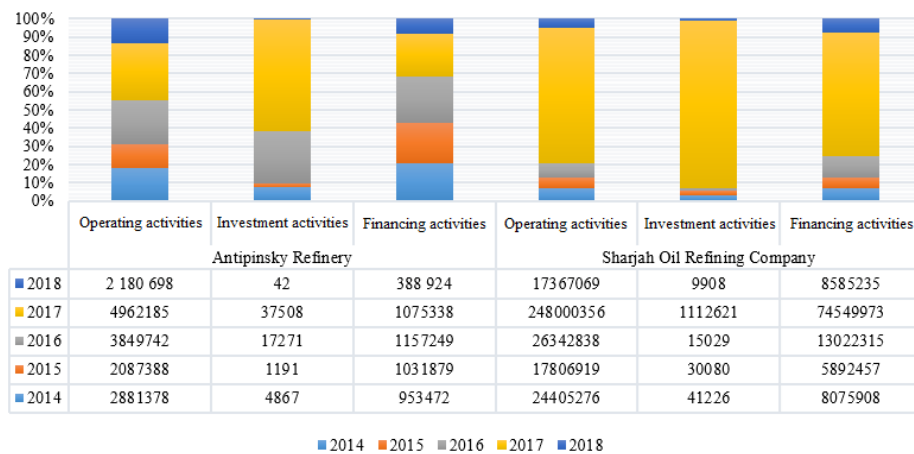


Figure 2: The pattern of positive cash flow

Source: developed by the authors on materials of the enterprises

The most significant part of the positive cash flow was from the operating activities section, while cash flow from investing was not a chief source of revenue. The Sharjah Oil Refining Company's investment income in 2018 was only 0.01% and 5% in 2017. During 2015-2018, the volume of income from financial activities at the Antipinsky Refinery halved from 33% to 15% because there was no income from dividends, interest on loans granted, or other transactions. In the pattern of the negative cash flow of the Antipinsky Refinery, the largest share was occupied by the operating costs (Fig. 3). During the analyzed period, their percentage increased from 62.8% to 93%. This indicates that the Antipinsky Refinery was focused on maintaining an adequate level of production, while other activities were almost unfunded. Besides, in 2018, the investment activities' share in the negative cash flow of the Antipinsky Refinery was 3%, which is 1% less than in the previous year, and 9% less than in 2014. This means that almost no investment activities were carried earlier, and enables a prediction on their further decrease.

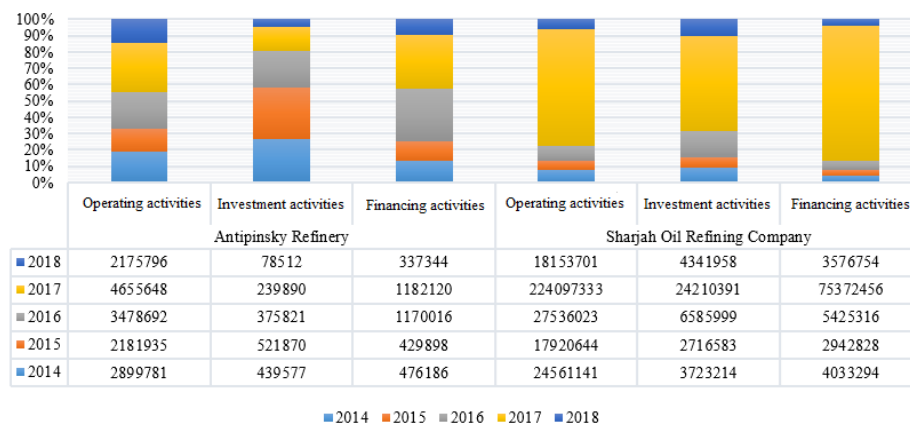


Figure 3: The pattern of negative cash flow

Source: developed by the authors on materials of the enterprises

In 2017, the spending of the Sharjah Oil Refining Company on financial needs was 23% and decreased to 14% over the next year. Simultaneously, in 2018, the amount of payment on investment activities increased more than twice (from 7 to 17%) and reached \$4 342 million. The highest percentage of expenses of the Antipinsky Refinery's negative cash flow in 2018 was given to operating activities (84%) and the lowest – to investment (3%).

Under the legal systems of Russia and the United Arab Emirates, in the event of insolvency, two options for the future development of events were suggested -- the liquidation and reorganization of the enterprise. They were based on specific scenarios for the studied companies, typical for modern enterprises (Fig. 4).

	Antipinsky Refinery		Sharjah Oil Refining Company	
	CF		CF	
	Creditor	Debtor	Creditor	Debtor
Scenario 1	859609	-	2286951	-
Scenario 2	1225000	-	1225000	-
Scenario 3	80392	(26 years)	292531	(15 years)
Scenario 4	424694	-	1114153	-
Scenario 5	267637	160582	759940	455964
	(8 years)		(6 years)	

Figure 4: Cash flows of the enterprises and creditors in the bankruptcy process (in thousands of dollars)

Source: developed by the authors

Scenario 1. Sale of assets.

The net liquidation value of the assets of the Antipinsky Refinery constitutes \$859 609 thousand, and \$2 286 951 thousand for the Sharjah Oil Refining Company. This sum of money should be distributed among the creditors of enterprises. Under such circumstances, creditors will receive only 30-34% of their claimed amount, while business owners will end up with nothing. The company will cease to exist and stop paying taxes to the budget. Its employees will join the ranks of the unemployed. This is the worst possible scenario, and it should be taken only as a last resort when the company has absolutely no hope for restoring its solvency.

Scenario 2. Company sale as an integral property complex.

This option was based on the assumption that the existing investor is interested in acquiring the entire enterprise and ready to pay \$1 225 million for it. In this case, the Antipinsky Refinery creditors will receive a little bit more than in Scenario 1, namely 42% of the total of their debt, and the creditors of the Sharjah Oil Refining Company will get only 18.5%. However, the future of enterprises remains undetermined. The ownership and the right to decide on the further strategy of the company pass to the new owner.

Scenario 3. Reorganization of the enterprise by the debtor.

According to this option, a strategy to restore solvency should be developed. A number of technological improvements are proposed to reduce the share of variable costs in production costs from 85% to 75%, as well as marketing measures to increase sales by 20% annually. Fixed costs are expected to decline by 20%. The management can remove a part of the unused assets, allowing a one-time sum of

\$149 300 thousand for the Antipinsky Refinery and \$341 300 thousand for the Sharjah Oil Refining Company. This sum can be used for partial repayment of the debt. Consequently, the annual income for the Antipinsky Refinery will come to \$2 107 564 thousand, variable costs will amount to \$1 520 379 thousand, fixed costs will comprise \$506 793 thousand, and the net cash flow will equal to \$80 392 thousand. In this case, the company will be able to repay the remaining debt (\$2 054 391 thousand) in 26 years, provided that creditors will be ready to wait. Correspondingly, the net cash flow for the Sharjah Oil Refining Company will constitute \$292 531 thousand, and it will take about 15 years to pay off the debt.

Scenario 4. Reorganization with a full exchange of shares for debts.

It is similar to Scenario 2, with the only difference being that the sale of the enterprise will not be carried out at auction, but through the exchange of debts for shares. Assume that there is a creditor who wants to become the owner of the enterprise. The market value of 100% of the debtor's shares before developing the rehabilitation plan was \$1 225 million (this is the price which the investor is ready to pay) and increased to \$2 130 million after the plan development. In this case, when all shares are exchanged for debts, the sum owed by the enterprise decreases by \$2 130 million. Taking into account the sale of part of the corporate assets, the owed debts of the Sharjah Oil Refining Company and the Antipinsky Refinery will amount to \$433 900 thousand and \$205 200 thousand, respectively.

If the creditor will manage the company effectively and reduce the share of variable costs to 65%, the expected annual cash flow of the Antipinsky Refinery will comprise \$424 694 thousand. Thus, the enterprise will be able to pay the rest of the debt to creditors in five years. Of course, it is beneficial for the creditor to receive a profitably working enterprise that can generate a stable and high income. However, the question of whether the owners of the enterprise will agree to this option remains open since they will not have a single share at their disposal, and therefore lose the right to participate in the distribution of profits.

Scenario 5. Reorganization with a partial exchange of shares for debts.

Owners of companies under study may face a dilemma. On the one hand, the concession of part of the shares to the creditor eliminates the need to pay a part of the debt and, what is the most important, significantly increases the profitability of the enterprise, allowing paying off the debts in an acceptable period. On the other hand, it obliges to share profit with a new co-owner, being a former creditor. A natural question for the debtor (Antipinsky Refinery and Sharjah Oil Refining Company) will be: What percentage of the shares should be given to the creditor? In the framework of this study, there is a theory that the more shares the creditor receives, the closer the annual sales and variable costs per unit of output will be to the "perfect" indicator (sales – \$2 318 32 thousand per year and variable costs – 65%). If it is assumed that there is a linear relationship between these values, then the transfer to the creditor of about 40% of the shares is considered optimal. In this case, the amount of debt will reduce by \$1 278 thousand. Hence, the Antipinsky

Refinery's net cash flow will comprise \$267 637 thousand, while for the Sharjah Oil Refining Company, it will reach \$759 940 thousand per year. Correspondingly, the rest of the debt will amount to \$2 053 thousand for the Russian company and \$4 341 thousand for the UAE's enterprise. The Antipinsky Refinery can fully repay it in eight years, and the Sharjah Oil Refining Company is expected to settle its payment obligation in six years. After the debt is paid, all the profit will remain at the disposal of the enterprise. About 40% of the total income will be given to the creditor as the partial owner. The other 60% belong to the original owners of the Antipinsky Refinery and Sharjah Oil Refining Company (approximately \$160 582 and \$455 964 thousand a year, respectively).

The indicated for the Antipinsky Refinery income is almost twice the amount that the company would start to receive only according to the plan proposed in Scenario 3. The sum of \$455 964 thousand is the maximum possible annual profit that owners of the Sharjah Oil Refining Company can receive. For this reason, considered enterprises may be interested in Scenario 5. Moreover, since the creditor is also involved, this plan will be beneficial for both parties.

Discussion

The economic well-being of any business in production or servicing depends on careful monitoring and management of the cash flow within and outside that organization (Wróblewski et al., 2019). The study on the cash flow structure can be supported by corporate financial performance measures the results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on investment, return on assets, return on equity, and value-added among others. The performance objectives are that an enterprise must generate sufficient cash through operating, investing and financing (Liman and Mohammed, 2018). By carrying out a thorough analysis of each of these elements, it is possible to obtain detailed and objective information about its financial status, activity results, and cash flows (Mackevičius et al., 2018).

The decrease in oil prices globally has an impact on the oil and gas company's financial health and the probability of bankruptcy (Rosdini and Nautika, 2019). The value-weighted portfolios of non-bankrupt oil and gas firms experience a negative stock price reaction 4-day around a bankruptcy filing announcement in the industry. This negative stock price reaction is not only statistically significant at 1% but also economically significant as the 4-day cumulative abnormal losses are averagely calculated at \$4.47 billion. The magnitude of spillover effects is conditional on the size of bankrupt firms and the degree of competition of sub-industries but not on the filing and sub-industry leverage chapters (Nguyen, 2019). The economic analysis makes it possible to conclude the advisability of making a decision while choosing a certain technique and includes determining the economic effect (Mustafin et al., 2019).

The performed study proposed the amount of the annual net cash flow, which remained at the disposal of the owners after the debt was paid, to be the criterion for choosing the percentage of shares given to the creditor in exchange for service (Nishi and Peabody, 2019). Although this criterion was simple to analyze, it remained imperfect since the year when the company will begin to receive profit was not considered. A more objective measure may be the net present value of future cash flows (Magni, 2020).

Net annual cash flow depended on the "perfect" indicators of annual sales volume and the share of variable costs that would occur if 100% of shares were given to the creditor. The lower the discount rate, indicators required by the creditor, and the longer the period for which the cash flow was calculated, the lower is the percentage of shares that can be transferred to the creditor to achieve the optimal cash flow (Kong et al., 2019). Moreover, it was discovered that the effectiveness of the company depends on the decisions of the top management. Therefore, understanding and controlling the behavior of managers must be done because with this requirement as a formal system in the company, management control systems can be used to influence the behavior of managers (Sari et al., 2019).

The calculations in the study are done from the point of view of the debtor. It is considered fair since shares cannot just be taken from the debtor and given to the creditor -- this point should be discussed by the parties. Hence, if reached, an agreement between the debtor and the creditor will provide a partial exchange, and the shares' amount will become an optimal value for both parties (Sun et al., 2018). In the future, the study can be extended to assess the organization of cash flows based on ratio analysis and the net present value of the examined enterprises and various companies in other industries.

Conclusions

During 2014-2018, cash flow was rapidly declining at both enterprises, which indicated a deficit in income from investment and financial activities. Almost the entire volume of cash receipts was received from operating activities. At the same time, payments on investment operations accounted for a significant share of expenses of the Antipinsky Refinery. The volume of income from financial activities at Antipinsky Refinery decreased from 33% to 15% during 2015-2018 since there was no income from dividends, interest on loans granted, or from other financial transactions. In the pattern of the negative cash flow, the operating activities' costs were the largest. At Sharjah Oil Refining Company, the share of payments on investment activities increased more than twice (from 7 to 17%) and amounted to \$4 342 million.

Consideration of five flow management scenarios in the bankruptcy process of the studied companies provided an opportunity to simulate the expected efficiency for the creditor and the debtor. The scenario of companies' liquidation was based on the sale of assets and was recognized the worst. It should be applied only in an

extreme case when the company has absolutely no hope of restoring its solvency. In the case of liquidation through the sale of the company as an integral property complex, the creditors of the Antipinsky Refinery will receive 42% of the total amount of their claims, and the creditors of the Sharjah Oil Refining Company will get only 18.5%. However, along with the ownership, the right to determine the further strategy of the enterprise, disposal of its assets, reprofiling, dismissal of employees, etc., also will pass to the new owner.

If the debtor reorganize the enterprise, the net cash flow of the Antipinsky Refinery will consist of \$80 392 thousand. In this case, the company will be able to repay the debt in 26 years, provided that the creditors agree to wait so long. For the Sharjah Oil Refining Company, the net cash flow will comprise \$292 531 thousand, and the full debt will be paid off in 15 years. According to the reorganization scenario with a full exchange of shares for debts, the Antipinsky Refinery's annual cash flow will equal \$424 694 thousand, and the remaining debt will be repaid in five years. For the Sharjah Oil Refining Company, the net cash flow will be \$1 114.153 thousand, while the remaining debt will be paid down in four years. It is advantageous for the creditor; however, the owners of the companies will lose the right to participate in the distribution of profits.

According to the reorganization scenario with the partial exchange of shares for debts, the Antipinsky Refinery's and the Sharjah Oil Refining Company's net cash flow will equal \$267 637 thousand and \$759 940 thousand per year, respectively. The rest of the debt will be repaid by the Antipinsky Refinery within eight years, and six years will be needed for the Sharjah Oil Refining Company. Following that, the profit will remain under the enterprise's control. This scenario considered the most profitable for both the creditor and the companies' owners because it assumed the highest possible annual income.

The limitation of the study is the assumption made that the amount of annual nominal net cash flow influences the choice of the share percentage transferred to the creditor in exchange for claims. It remains at the disposal of the owners after the debt balance has been repaid. This criterion does not consider the year from which the company will start making a profit for itself. In perspective, the study may be in-depth in the direction of evaluating the organization of cash flows based on the coefficient analysis and net present value not only of the surveyed enterprises but also of companies in other industries.

References

- Adamko, P., Chutka, J., (2020). Company bankruptcy and its prediction in conditions of globalization. In *SHS Web of Conferences* (Vol. 74, p. 05002). EDP Sciences.
- Ajami, R., (2020). Globalization, the Challenge of COVID-19 and Oil Price Uncertainty.
- Akbar, A., Akbar, M., Tang, W. and Qureshi, M. A., (2019). Is bankruptcy risk tied to corporate life-cycle? Evidence from Pakistan. *Sustainability*, 11(3), 678.
- Altman, E. I., Iwanicz-Drozdowska, M., Laitinen, E. K. and Suvas, A., (2020). A Race for Long Horizon Bankruptcy Prediction. *Applied Economics*, 52(37), 4092-4111.

- Boichenko, K. S., Tepliuk, M. A., Reкова, N. Y., Stashkevych, I. I. and Morkūnas, M., (2019). Management of Fluctuation of Financial and Economic Integrated Development of Innovative Enterprise. *Financial and credit activity: problems of theory and practice*, 3(30), 62-69.
- Bukreeva, T., Minakova, I. and Tsukanova, N., (2018). Characteristics of Contraction of Economic Agents in the Framework of Bankruptcy Institute. In *Emerging Issues in the Global Economy* (pp. 93-100). Springer, Cham.
- Fanea-Ivanovici, M., (2019). Can Crowdfunding Come to the Rescue of Culture and Arts? Evidence from Romania. *Cultural Management: Science and Education*, 3(2), 73-82.
- Glembotskaya, G.T., Eremin, S.Yu., E.E. and Chupandina, E.E., (2020). Scientific priorities and real prospects for cost optimization in formulation development. *Entrepreneurship and Sustainability Issues*, 7(3), 1484-1499.
- Grabowska M., (2015). Innovativeness in Business Models, *Procedia Computer Science*, 65, 1023-1030.
- Kliestikova, J., Misankova, and M., Kliestik, T., (2017). Bankruptcy in Slovakia: International comparison of the creditor's position. *Oeconomia Copernicana*, 8(2), 221-237.
- Kong, A., Zhu, H. and Azencott, R., (2019). Predicting intraday jumps in stock prices using liquidity measures and technical indicators. *arXiv preprint arXiv:1912.07165*.
- Korshenkov, E., Ignatyev, S., (2020). Empirical interpretation and measurement of the productivity and efficiency of regions: The case of Latvia. *Insights into Regional Development*, 2(2), 549-561.
- Kristanti, F. T., (2019). The differences of company's performance from CEO diversity. *Polish Journal of Management Studies*, 19(2), 240-249.
- Kumaraswamy, S., George, S., (2019). Trade credit management and firm profitability of Saudi manufacturing firms. *Polish Journal of Management Studies*, 20(1), 243-253.
- Liman, M., Mohammed, A., (2018). Operating cash flow and corporate financial performance of listed conglomerate companies in Nigeria. *Journal Of Humanities And Social Science*, 23(2), 1-11.
- Mackevičius, J., Šneidere, R. and Tamulevičienė, D., (2018). Complex analysis of company bankruptcy forecasting: theoretical insight. In *Proceedings of the International Scientific Conference. Volume VI* (Vol. 316, p. 329).
- Magni, C. A., (2020). Valuation and Value Creation. In *Investment Decisions and the Logic of Valuation* (pp. 249-288). Springer, Cham.
- Menova, A. S., Ilyassova, G., Klyuyeva, Y. and Khashimova, A., (2020). Development of the Institution of Arbitration in Kazakhstan: Problems of Theory and Practice. *Journal of Advanced Research in Law and Economics*, 11(2 (48)), 557-573.
- Mustafin, A. N., Kotenkova, S. N., Shlyakhtin, A. E., Kotulič, R., Kravčáková Vozárová, I. and Benková, E., (2019). The governance of innovation in industrial enterprises. *Polish Journal of Management Studies*, 20(1), 318-331.
- Nguyen, K., (2019). Bankruptcy Spillover Effects on Oil and Gas Industry. Available at SSRN 3293160.
- Nishi, H., Peabody, S. D., (2019). The information content of stock prices after bankruptcy. *Managerial Finance*, 45(9), 1166-1182.
- Nukusheva, A., Ilyassova, G., Kudryavtseva, L., Shayakhmetova, Z., Jantassova, A. and Popova, L., (2020). Transnational corporations in private international law: do

- Kazakhstan and Russia have the potential to take the lead?. *Entrepreneurship and Sustainability Issues*, 8(1), 496-512.
- Otola, I., (2018). The Impact of Resources Meeting VRIN Criteria on the Economic Performance of Enterprises, [in:] 7th International Scientific Conference Changes in *Social and Business Environment* (ed.) D. Zostautiene, D. Susniene, V. Wereda, Lithuania, 69-74.
- Panfilova, E. E, Borisova, V. V., Demidov, L. N., Ushanov, A. E. and Maramygin, M. S., (2019). The assessment and management of credit risk of commercial banks. *Opcion*, 35(23), 613-627.
- Panfilova, E., Dzenzeliuk, N., Domnina, O., Morgunova, N. and Zatsarinnaya, E., (2020). The impact of cost allocation on key decisions of supply chain participants. *International Journal of Supply Chain Management*, 9(1), 552-558.
- Petriashvili, A., (2018). Prediction of Bankruptcy in Georgian Enterprises. In *Annual Conference on Finance and Accounting* (pp. 135-142). Springer, Cham.
- Plaček, M., Půček, M., Ochraňa, F., Křápek, M. and Matyáš, O. H., (2019). Risk Management for Cultural Organizations. The Example of Agricultural Museums in the Czech Republic. *Cultural Management: Science and Education*, 3(2), 111-122.
- Rosdini, D., Nautika, R. G., (2019). A Quantitative Study of Oil Price Decrease and Bankruptcy Probability in Oil and Gas Companies. *International Research Journal of Business Studies*, 12(2), 145-155.
- Sakti, B. H., Kartikaningdyah, E., (2018). Testing Bhandari Z-Score Model Bankruptcy Prediction Using Cash Flow. *Journal of Applied Managerial Accounting*, 2(1), 121-128.
- Sari, R. N., Zenita, R., Pratadina, A. and Omar, N., (2019). Management control system and its effect on organizational citizenship behaviour and turnover intention. *Polish Journal of Management Studies*, 19(2), 343-352.
- Schwarz, J., Pospíšil, M., (2018). Bankruptcy, Investment, and Financial Constraints: Evidence from the Czech Republic. *Eastern European Economics*, 56(2), 99-121.
- Skeel, D., (2020). *Bankruptcy and the coronavirus*. The Brookings Institution
- Sun, J., Lang, J., Fujita, H. and Li, H., (2018). Imbalanced enterprise credit evaluation with DTE-SBD: Decision tree ensemble based on SMOTE and bagging with differentiated sampling rates. *Information Sciences*, 425, 76-91.
- Tokarski, A., Tokarski, M., (2018). The influence of the macroeconomic factors on the scale and dynamics of the bankruptcy of enterprises in the Polish economy in the years 2000-2015. *Transformations in Business & Economics*, 17(2), 337-352.
- Tsindeliani, M. A., (2019). Institutional structure of public finance law. *Utopía y praxis latinoamericana: revista internacional de filosofía iberoamericana y teoría social*, 6, 370-377.
- Vigliarolo, F., 2020. Towards an ontological reason law in economics: principles and foundations. *Insights into Regional Development*, 2(4), 784-801.
- Wróblewski, Ł., Gaio, A. and Rosewall, E., (2019). Sustainable Cultural Management in the 21st Century. *Sustainability*, 11(17), 4665.
- Xu, Y., Kou, G., Peng, Y. and Alsaadi, F. E., (2019). Bankruptcy Forecasting for Small and Medium-Sized Enterprises Using Cash Flow Data. In *International Conference on Data Service* (pp. 477-487). Springer, Singapore.

ZARZĄDZANIE PRZEPLYWAMI PIENIĘŻNYMI MIĘDZY DŁUŻNIKIEM A WIERZYCIELEM W PROCESIE UPADŁOŚCIOWYM PRZEDSIĘBIORSTWA

Streszczenie: Celem pracy było określenie kierunków i alternatyw dla efektywnego zarządzania przepływem pomiędzy dłużnikiem a wierzycielem w procesie upadłości przedsiębiorstwa. Badanie zostało oparte na danych otrzymanych od rafinerii ropy naftowej w Rosji i Zjednoczonych Emiratach Arabskich. Metodologia badania została oparta na podejściu scenariuszowym, w szczególności na ukształtowaniu pięciu alternatywnych opcji zarządzania przepływem w procesie upadłości przedsiębiorstw. Podstawą do opracowania scenariuszy było określenie efektywności zarządzania przepływem firm w okresie pięciu lat poprzedzających upadłość. Pozwoliło to na ustalenie najkorzystniejszej opcji zarówno dla dłużnika, jak i wierzyciela. Scenariusz likwidacji spółek uznano za najgorszy z możliwych dla obu przedsiębiorstw. Scenariusz reorganizacji, który zakładał sprzedaż przedsiębiorstw jako integralnych kompleksów majątkowych, zakładał dość długi okres spłaty zadłużenia wierzycieli. Scenariusz reorganizacji zakładający pełną zamianę udziałów na długi został uznany za korzystny dla wierzyciela; jednak właściciele firm mogą utracić prawo do udziału w podziale zysków. Ostatni zaproponowany scenariusz z częściową zamianą udziałów na wierzytelności został uznany za najbardziej opłacalny zarówno dla wierzycieli, jak i właścicieli analizowanych spółek, gdyż zakładał najwyższe możliwe dochody roczne oraz najwyższy poziom przepływów pieniężnych.

Słowa kluczowe: upadłość, scenariusz, likwidacja, naprawa finansowa, reorganizacja.

企业破产程序中债务人和债权人之间的现金流量管理

摘要: 本研究旨在确定企业破产过程中债务人与债权人之间有效流管理的方向和替代方法。该研究基于从俄罗斯和阿联酋的炼油公司获得的数据。这项研究的方法基于一种情景方法，特别是在公司破产过程中形成了五种替代流程管理方案。制定方案的基础是确定破产前五年内公司的流程管理效率。这使得可以为债务人和债权人确定最有利的选择。公司清算的情况被认为是最糟糕的选择。提议将公司作为整体财产综合体出售的重组方案涉及为债权人偿还相当长时间的债务。完全以股份交换债务的重组方案被认为对债权人有利；但是，公司所有者可能会失去参与利润分配的权利。提议的最后一种方案是将股份部分交换为债务，对于债权人和被审查公司的所有者来说，这都是最有利可图的，因为它假定了尽可能高的年收入和最高现金流量。

关键词: 破产，情节，清算，金融复兴，重组。