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FINANCIAL RESTRUCTURING AS A MEANS OF FINANCIAL RECOVERY OF ENTERPRISES**О.І. Гарафонов**, канд. екон. наук**Д.О. Ульченко**, студент

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ФІНАНСОВА РЕСТРУКТУРИЗАЦІЯ ЯК ЗАСІБ ФІНАНСОВОГО ОЗДОРОВЛЕННЯ ПІДПРИЄМСТВ**О.И. Гарафонов**, канд. экон. наук**Д.О. Ульченко**, студент

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ФИНАНСОВАЯ РЕСТРУКТУРИЗАЦИЯ КАК СРЕДСТВО ФИНАНСОВОГО ОЗДОРОВЛЕНИЯ ПРЕДПРИЯТИЙ

Justified by the different valuation techniques for the implementation of enterprise financial restructuring as an example of domestic enterprises, taking into account existing tools and features of the release of its application. Analyzing, systematizing and summarizing the results of scientific activities of many scientists proposed a general approach to the definition of "financial restructuring". Identified the main instruments for the implementation of financial restructuring. Expediency of using scorecards Altman and Olson when deciding on the possibility of financial restructuring in domestic enterprises.

Key words: financial restructuring, tools, financial recovery, financial performance.

Обґрунтовано різні методики оцінювання підприємства щодо здійснення фінансової реструктуризації на прикладі діяльності вітчизняних підприємств з урахуванням наявного інструментарію та виділенням особливостей його застосування. Аналізуючи, систематизуючи та узагальнюючи результати наукової діяльності багатьох учених, було запропоновано загальний підхід до визначення «фінансова реструктуризація». Визначено основні інструменти здійснення фінансової реструктуризації. Обґрунтовано доцільність використання систем показників Альтмана та Олсона при прийнятті рішення про можливість здійснення фінансової реструктуризації на вітчизняних підприємствах.

Ключові слова: фінансова реструктуризація, інструменти, фінансове оздоровлення, фінансові показники.

Обоснованы различные методики оценки предприятия по осуществлению финансовой реструктуризации на примере отечественных предприятий с учетом существующего инструментария и выделением особенностей его применения. Анализируя, систематизируя и обобщая результаты научной деятельности многих ученых, был предложен общий подход к определению «финансовая реструктуризация». Определены основные инструменты осуществления финансовой реструктуризации. Обоснована целесообразность использования систем показателей Альтмана и Олсона при принятии решения о возможности осуществления финансовой реструктуризации на отечественных предприятиях.

Ключевые слова: финансовая реструктуризация, инструменты, финансовое оздоровление, финансовые показатели.

Statement of the problem. Under conditions of unstable economic and political situation in Ukraine, frequent change of legal framework, a high level of competition in the markets, the issue of financial recovery of enterprises through restructuring activities is becoming increasingly important. Also, a large number of enterprises have no system of financial controlling and their management structure does not allow for financing stability and increase profits in the long-term perspective. Thus, implementing financial restructuring can increase the level of solvency and also generally able to help the company overcome crisis.

Analysis of recent researches and publications, highlighting unsolved aspects of the problem. Nowadays, many scientists engaged in research on financial restructuring of the enterprise. Their approaches are quite reasonable and informative, but at the same time have different means and mechanisms of understanding the financial restructuring of the enterprise. In particular, the problems highlighted in the works of local and foreign scientists: I.V. Babi, L.P. Belyh, E.O. Frese, J.M. Chernavskiy, O.M. Kleimenov, R. Karasuk, D.I. Kovalenko, V.V. Lavrynenko, A.V. Lepohina, L. Lihonenka, J.G. Lysenko, T. Misernuy, A.A. Tereshchenko, J. Champi, V.D. Shapiro and others. Despite the deep researches and

experience gained, some aspects of the implementation of financial restructuring require additional analysis.

The purpose of the article. The purpose is to justify variety of valuation techniques for the implementation of the financial restructuring as an example of domestic enterprises, taking into account existing instruments and distinguish characteristics of its application.

Statement of the material. Financial restructuring can be carried out as part of the reorganization, because the total reorganization always involves a change in the financial mechanism, and can be implemented separately as a means of financial recovery company. In this case, it performs only function of sanitation. The legislation of Ukraine financial restructuring is seen as "... a system of measures implemented during the proceedings in bankruptcy to avoid bankruptcy and liquidation, aimed at improving financial and economic situation and satisfy in full or in part by creditors adjustment, debt restructuring and capital and (or) changing its legal structure of the debtor" [7].

There are different approaches to the definition of "financial restructuring". According to N.A. Grynyuk, financial restructuring involves reforming corporate governance with compulsory investment attraction for the recovery of the enterprise [4].

M.D. Bilyk under financial restructuring sees its own way to achieve strategic financial reforms in the implementation of financial strategies. Specifies that the financial restructuring of the company is a system of financial, economic and other measures aimed at reforming its financial operations and achieve the goal of its financial strategy by implementing the necessary reforms part of its capital, assets and cash flows, adjusted for changes conjuncture of financial market and other external factors of financial performance [3].

Some authors interpret this term as only change the structure of the balance sheet liabilities (French economist M. Perar) or just a change in accounts payable (L.P. Batenko), some see it as a redistribution of receivables and payables (A. Butnyk-Seversky, G. Lozovaja, A. Donchenko).

M.I. Nebava notes that the financial restructuring involves changing the structure and size of equity and debt capital, as well as to changes in the investment of the company. So, these are the measures: restructuring of debts to creditors; obtain additional credit; increase of share capital; freezing investments. Financial restructuring must be accompanied by the restructuring of production, or liquidation of the company later can not be avoided [8].

So based on the above definitions, we note that: financial restructuring is a set of measures designed to improve the financial condition of the company, which is achieved by means of asset management, liabilities optimization and expanding investment attraction.

There are several different approaches to determining the primary purpose of financial restructuring. Thus, according to M.D. Bilyk purpose of financial restructuring is to restore fiscal balance with the threat of bankruptcy, says S.E. Shershneva - stabilizing the company, V.M. Grinyova and A.V. Green - growth in sales. Characteristic features in determining the financial restructuring is that the financial restructuring include optimization of the structure of liabilities and improving the efficiency of using assets [6].

Financial restructuring is highly effective in the short term, it minimizes the threat of liquidation of the company and thus enable the enterprise to focus on its strategic goals aimed at increasing production efficiency. It is important to choose reasonable instruments of financial restructuring that will allow for the development of the enterprise in the long term. For instance, using debt management optimization solves only the current financial turmoil, and not affects the overall economic situation in the enterprise. Therefore, it is reasonable to use complex of methods aimed at the following areas of business: the restructuring of the balance of liabilities (short-term and long-term debt of the company and the structure of equity and debt), restructuring asset balance (types of current and non-current assets and their

correlation) and restructuring cash flows (certain types of positive and negative cash flow). The choice of instruments should provide timely adaptation enterprises to the dynamic business environment.

We can distinguish the following main instruments of financial restructuring:

- delay of payment of payables;
- obtain additional loan;
- write-off of bad debts;
- reduce the interest rate on the debt;
- determine more favorable repayment scheme;
- increase of share capital;
- receive new investment;
- freeze investments;
- replace the part of debt for shares;
- cancellation of the part or whole debt [5].

In order to determine advisability of implementation of financial restructuring, we can use Altman's Z-score Model and Ohlson's O-score Model for predicting bankruptcy.

The most popular model for predicting corporate bankruptcy by using financial ratios is Altman's Z-score Model. The prediction accuracy of this model on the horizon of one year is 95 %, in two years – 83 %, which is its advantage. Calculating the Z-score is based on the following formula (1) [1].

$$Z = 1,2 \cdot X_1 + 3,3 \cdot X_2 + 1,4 \cdot X_3 + 0,99 \cdot X_4 + 0,6 \cdot X_5, \quad (1)$$

where X_1 – Working Capital / Total Assets. The ratio is often used in studies of corporate issues is a measure of net liquid assets relative to total assets of the company. Working capital is defined as the difference between current assets and current liabilities.

X_2 – Earnings Before Interest and Taxes / Total Assets. The ratio is essentially measuring the actual performance of the company's assets. Since the initial existence of the firm based on the profitability of its assets, the ratio used for studies of corporate bankruptcy.

X_3 – Retained Earnings / Total Assets. Describes the cumulative profit of the company for the period of its activity. Measures profitability that reflects the company's age and earning power.

X_4 – Sales/ Total Assets. Assesses the state of turnover and is a standard financial ratio that shows the ability to implement the company's assets. This is ratio of the quality management at work in a competitive environment.

X_5 – Market Value of Equity / Book Value of Total Liabilities. Adds market dimension that can show up security price fluctuation as a possible red flag.

Thus, the complex form Z-score Model takes into account such enterprises' characteristics as liquidity, profitability, turnover, capital structure and rate of accumulation (increase) in equity.

The probability of bankruptcy in the Altman's Model is estimated based on the value of Z-score calculated by the real data of the enterprise. The interpretation of the Z score is presented in Table 1.

Table 1

Z-score interpretation of the Altman's Model [1]

Value of Z-function	Company's situation and the risk of bankruptcy
$Z < 1,8$	the bankruptcy situation is imminent
$1,8 < Z < 3$	the financial situation of the company is difficult, with performances clearly diminished and very close to the bankruptcy state
$Z > 3$	the financial situation of the company is good and the creditors can trust the respective company; it is solvent

There is another model of the probability of bankruptcy – Ohlson's O-score Model. The Ohlson's O-score is the result of a 9-factor linear combination of coefficient-weighted business ratios which are readily obtained or derived from the standard periodic financial disclosure statements provided by publicly traded corporations. Two of the factors utilized are widely considered to be dummies as their value and thus their impact upon the formula typically is 0 [2]. The accuracy of prediction of this model is 95 %. The calculation for Ohlson's O-score has shown in the formula (2).

$$T = -1,32 - 0,407 \ln(AS_t) + 6,03 \cdot LM_t - 1,43 \cdot WCM_t + 0,757 \cdot ICR_t - 2,37 \cdot ROA_t - 1,83 \cdot FTDR_t - 1,72 \cdot DCLM + 0,285 \cdot DCRA - 0,521 \cdot CINI, \quad (2)$$

where AS_t – Adjusted Size: Ohlson measures a company's size as its total assets adjusted for inflation. Smaller companies are deemed to be more at risk of failure.

$AS = \log(\text{Total assets}/\text{GNP price-level index})$;

Where $\text{GNP price-level index} = (\text{Nominal GNP}/\text{Real GNP}) \cdot 100$.

LM_t – Leverage Measure: designed to capture the indebtedness of a company, the more leveraged the more at risk the company is to shocks.

$LM = \text{Total liabilities}/\text{Total assets}$.

WCM_t – Working Capital Measure: even if a company is endowed with assets and profitability, it must have sufficient liquidity to service short-term debt and upcoming operational expenses to avoid going bust.

$WCM = \text{Working capital}/\text{Total Assets}$.

ICR_t – Inverse Current Ratio: this is another measure of a company's liquidity.

$ICR = \text{Current liabilities}/\text{Current assets}$.

$DCLM$ – Discontinuity Correction for Leverage Measure: dummy variable equaling one if total liabilities exceeds total assets, zero otherwise. Negative book value in a corporation is a very special case and hence Ohlson felt the extreme leverage position needed to be corrected through this additional variable.

ROA_t – Return on Assets: an indicator of how profitable a company is, assumed to be negative for a close to default company.

$ROA = \text{Net income}/\text{Total Assets}$.

$FTDR_t$ – Funds to Debt Ratio: a measure of a company's ability to finance its debt using its operational income alone, a conservative ratio because it does not include other sources of cash. If the ratio of funds from operations to short-term debt is less than one the company may have an immediate problem.

$FTDR = \text{Funds from operations}/\text{Total liabilities}$;

Where $\text{Funds from operations} = \text{pretax income} + \text{depreciation}$.

$DCRA$ – Discontinuity Correction for Return on Assets: dummy variable equaling one if income was negative for the last two years, zero otherwise.

CNI – Change in Net Income: designed to take into account any potential progressive losses over the two most recent periods in a company's history.

$CINI = (\text{Net income}(t) - \text{Net income}(t-1)) / (\text{Net income}(t) + \text{Net income}(t-1))$ [2].

In order to calculate the probability of bankruptcy will use the following formula (3):

$$P = \frac{\exp(T)}{1 + \exp(T)}, \quad (3)$$

where T – Ohlson's O-score.

The probability of bankruptcy in the Ohlson's Model is estimated based on the value of O-score calculated by the real data of the enterprise. The interpretation of the O-score is presented in Table 2.

Table 2

O-score interpretation of the Ohlson's Model [2]

Value of P	Company's situation and the risk of bankruptcy
$P < 5$	the financial situation of the company is good and the creditors can trust the respective company
$P > 5$	the financial situation of the company is difficult and there is a high chance of default

Thus, the complex form O-score Model takes into account such enterprises' characteristics as adjusted size of the company, liquidity, profitability, turnover, capital structure and rate of accumulation (increase) in equity.

There are many disputes between investors, that Ohlson's Model determines the probability of bankruptcy more efficiently and with higher probability. Therefore, in order to ensure, we recommend using both Altman's Model and Ohlson's Model to determine the probability of bankruptcy. If ratios of models correspond to the normative values then the company has a good financial position. In this case, we can make decision not to implement financial restructuring for financial recovery of enterprise.

In order to assess possibility of using two models for domestic enterprises should explore the main advantages and disadvantages.

The advantages and disadvantages of each model are described in Table 3.

Table 3

Advantages and disadvantages of Altman's Model and Ohlson's Model

Model	Advantages	Disadvantages
Altman's Z-score	<ul style="list-style-type: none"> - prediction accuracy > 90 %; - ease of calculation; - existence of research sequence 	<ul style="list-style-type: none"> - can be used only in relation to companies listed on the stock market; - poorly developed stock market in Ukraine; - difference between Ukrainian Accounting Standards and IFRS or US GAAP, that would involve changing some parameters; - not taken into account fluctuations of stock prices
Ohlson's O-score	<ul style="list-style-type: none"> - prediction accuracy > 90 %; - clarity and justification of the calculation steps; - informativity of calculated indicators 	<ul style="list-style-type: none"> - difference between Ukrainian Accounting Standards and IFRS or US GAAP, that would involve changing some parameters; - model was created with a specific of Western countries

Thus the model is not fully adapted to domestic enterprises. But making some transformations can be achieved applicability of these models for Ukrainian companies.

Conclusions. Summarizing the above, we conclude that the use of instruments of financial restructuring is highly effective and contributes to financial recovery of the enterprise. But the election of financial restructuring instruments must take into account all the factors relating to the enterprise. Using the instruments of financial restructuring can solve problems related to the financial situation of the company and specific financial indicators at the moment, but in the long term, the company could again face a fall of financial performance. Therefore it is recommended to use a set of tools for the implementation of financial restructuring that enhances the competitiveness of enterprises and acquiring greater opportunity to raise capital.

In order to determine the advisability of implementation the financial restructuring should be used two models: the Altman's Z-score Model and Ohlson's O-score Model. Each model has its advantages and disadvantages, especially with regard to applicability for Ukrainian companies. But making transformation of some indicators and using these models together we

get the best result, depending on which we can make a decision on the implementation of financial restructuring for the recovery of the company.

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