

TOOLS FOR ASSESSING OF BUSINESS RECEIVABLES AND PAYABLES

Liana Ptashchenko, D.Sc. (Economics), Professor
Daria Korniienko
National University «Yuri Kondratyuk Poltava Polytechnic»

*ORCID 0000-0002-4228-0421

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Introduction. In today's market economy, repayment of debts to creditors is a necessary element of the good reputation of an enterprise. In fact, if the debt is not repaid in time or in part, the company's business reputation as a receiver will sharply decline and the resulting benefit will be far greater than the value of the outstanding debts, which implies that the asset is highly liquid in business. However, liquidity ratios do not always fully reflect the liquidity and solvency of entities, so it is necessary to have a tool to estimate the value of debts.

Analysis of recent publications. Such scientists as Blank I.O. [1], Vlasova N.O. [2], Dublei V.V., Humeniuk M.M. [7], Levchenko Yu. H. [12], Tsal-Tsalko Yu.S. [20] et al. studied the problems of receivables and payables management.

The following scientists paid attention to the economic essence of accounts payable and receivables and their classification: M.D. Bilyk, V.O. Hunia [4], T.M. Malkova, E.O. Ivanov [8], F.F. Butynets, L.L. Nosach [14], and the methods of analysis of these debts are devoted to the works by L.V. Kruchak [10], O.P. Prokhorenko, [15], O. Sharapa [22] and many other scientists. However, not many works are devoted to the problem of estimating the value of receivables and payables, which actualizes the research topic.

Problem statement. The aim of the study is to explain how to improve the policy for the level of receivables and payables owed by an enterprise by assessing their value and determining their effectiveness.

Main body. To achieve this goal, we identify the main elements of the evaluation process that do not differ from the general approaches to business evaluation. In general, the valuation of any object is an orderly, purposeful process of determining in monetary terms the value of the object, taking into account the amount of potential and actual income received from the object for a certain period [23]. In the context of analyzing, it is important to remember that the company's income is generated by a large number of factors that are directly involved in the production and sale of the product. That is why it is important not only to take into account the impact of each factor on the overall result, but also to compare the calculated result with the costs of the respective type of asset. In addition, an important point in the process of valuation is to take into account the balance and proportionality in the system of relations and objects that are valued, between debts, between their values and income values of enterprises [18].

Scientists of Kyiv National University of Trade and Economics Mazaraki A.A., Lihonenko L.O. teach the method of assessing the feasibility of providing deferred payment to customers in terms of comparing costs and revenues [13], which allows you to determine the total value of the effect. We will use this method to estimate the value of receivables and payables on the example of the company Poltava Oil-Extraction Plant – Kernel Group, PJSC in 2019.

First, it is necessary to determine the amount of costs associated with the formation of receivables of Poltava Oil-Extraction Plant – Kernel Group, PJSC in 2019. The first element of the costs associated with the diversion of capital into receivables (C_{dr}), which are calculated by the formula [2]:

$$C_{dr} = (R_a \times WACC \times P_r) / 365 \times 100, \quad (1)$$

where C_{dr} – costs associated with the diversion of capital into receivables, thousand UAH;

R_a – average accounts receivable, thousand UAH;

WACC – weighted average cost of capital, % per annum;

P_r – receivable maturity period, days [2].

The index of the weighted average value of capital (WACC) is taken from the foreign report of Poltava Oil-Extraction Plant – Kernel Group, PJSC to the foreign bank [24].

$C_{dr} = (484964 \times 17,1\% \times 220) / 365 \times 100 = 49985$ thousand UAH. That is, the cost of diverting capital into accounts receivable amounts to 49985 thousand UAH.

The second cost element is the loss of inflationary depreciation of capital (L_i) [2]:

$$L_i = R_c \times (1 - 1/I_i), \quad (2)$$

where R_c – the opening of the receivable at the time of its creation, thousand UAH.

L_i – losses from inflationary capital depreciation, thousand UAH;

I_i – inflation index for the waiting period for repayment of receivables [2].

$L_i = 521549 \times (1 - 1/1,015) = 7823$ thousand UAH.

That is, the company will lose 7823 thousand UAH from inflation having all receivables in 2019, 521549 thousand UAH.

The costs and losses incurred should be adjusted for changes in the operating costs of the business due to the creation of debts by buyers and the increase in turnover.

$$\Delta C_r = \Delta C_t - \Delta C_{is} - \Delta S_{cc} \times \Delta F_c / 100, \quad (3)$$

where ΔC_r – cumulative changes in current costs due to receivables, thousand UAH;

ΔC_t – increase in transaction costs for servicing receivables, thousand UAH;

ΔC_{is} – reduction of inventory storage costs on shipment to buyer, thousand UAH;

ΔS_{cc} – increase in sales through commercial credit, thousand UAH;

ΔF_c – reduction of fixed costs with increased turnover, %.

In calculating the total change in the current cost of the accounts receivable, the reduction in the cost of storing the inventory when it is shipped to the customer is not included because the company does not market it, and the stock includes spare parts for equipment.

Transaction costs of Poltava Oil-Extraction Plant – Kernel Group, PJSC contain costs for the maintenance of contracts with receivables, lawyers' salaries are included. The increase in transaction costs can be calculated on the basis of the increase in staff salaries, taking 30 per cent of the salaries of administrative staff, and 10 per cent of the administrative staff are occupied by lawyers, whereas only one tenth of the increase in the salaries of administrative staff is taken.

$\Delta C_r = 11953 - 854 - 50694 \times 117,06\% / 100 = -48243$ thousand UAH.

Thus, the change in operating costs for accounts receivable would be (-48243 UAH).

Increases the cost of commercial credit through direct losses from bad debt (C_{cc}), the amount of which can be determined on the basis of the business weighted average. That is, this type of expenditure should be reduced by saving tax payments, as such losses are offset by losses and reduce the taxable profit [24]:

$$C_{cc} = R \times L_{ur} \times (100 - TP) / 100, \quad (4)$$

where L_{ur} – level of uncollectible receivables as a percentage of total unit;

TP – profit tax rate, %;

$C_{cc} = 521549 \times 1/50 \times (100-18\%) / 100 = 8553$ thousand UAH.

Consequently, losses of uncollectible receivables would amount to 8555 thousand UAH.

By counting the elements of total expenditure, we can find the total of total expenditure:

$$C_r = C_{dr} + L_i \pm \Delta C_r + C_{cc}, \quad (5)$$

$C_r = 49985 + 7823 - 48243 + 8553 = 18118$ thousand UAH.

Thus, the total cost of the accounts receivable would be 18118 thousand UAH.

The next step is to determine the income generated by the receivables. Income from deferred payment to its purchasers is calculated on the basis of the increase in sales of the goods from this factor and the level of actual commercial income, as follows:

$$AI_c = L_{ci} \times \Delta S_{cc} / 100, \quad (6)$$

where AI_c – additional income from extending credit to buyers, thousand UAH;

L_{ci} – level of commercial income (after VAT) in %.

It is worth noting that for the subject under study, the level of commercial income is the level of net income growth.

$AI_c = 108,71 \times 50694 / 100 = 55109$ thousand UAH.

In addition, scholars consider income to include those received by enterprises when making advance payments to suppliers [2]:

$$AI_{ad\ i=1} = \sum (P_n - P_a) \times Ag \quad (7)$$

where AI_{ad} – additional income from discounts received in advance payments to suppliers, thousand

UAH;

P_n, P_a – normal and advance purchase prices respectively, thousand UAH;

A_g – amount of goods purchased, pieces.

$AI_{ad} = (0,5 - 0,45) \times 5545 = 277$ thousand UAH. So, in 2019 Rawlansk cardboard-package combine, CJSC granted Poltavsky vegetable oil extraction plant - Kernel Group, PJSC 10% discount on four-valve boxes of American type with three-layer corrugated cardboard on condition of advance payment of goods, with the price of one box of 500 UAH and after discount 450 UAH.

By calculating income, one can find total income:

$$AI_r = AI_c + AI_{ad} \quad (8)$$

$AI_r = 55109 + 277 = 55386$ thousand UAH. The total income from receivables will thus be 55386 thousand UAH.

In the methodology, scientists compare total costs and revenues, determining that under $AI_r > C_r$ lending is effective. In our case $55386 > 18118$, that is the granting of credit to Poltava Oil-Extraction Plant – Kernel Group, PJSC is effective.

The absolute amount of the effect (E_r) can be calculated as the difference between total income and total costs, and its ratio to the average annual amount of the receivable describes the efficiency of diversion to receivables (C_{er}) [2]:

$$E_r = AI_r - C_r \quad (9)$$

$$E_r = 55386 - 18118 = 37268 \text{ thousand UAH.}$$

The absolute sum of the receivable effect of Poltava Oil-Extraction Plant – Kernel Group, PJSC after calculations in 2019 is 37268 thousand UAH.

$$C_{er} = E_r / R_a \quad (10)$$

$$C_{er} = 37268 / 484964 = 0,077.$$

Thus, the efficiency of the diversion of funds into the receivable is 0,077 UAH/UAH, that is, sufficient. The method considered makes it possible to estimate the possible income from the provision of commercial credit to different parties, both in sum and in relative terms. An important consideration is the weighted average cost of capital and is diverted into receivables [14].

The valuation of the value or price of the debt payable as an element of capital is based on the general underlying concept of the cost of capital. Capital prices refer to the relative annual cost of servicing its debt to suppliers, investors. In the scientific literature, the value of the commodity payables is determined on the basis of an estimate of the losses from underperformed price discounts (L_{ud}) that businesses could have received in advance payments [71]:

$$L_{ud} = LL \times P_a / 100, \quad (11)$$

where LL is the level of lost price discounts, %;

P_a – annual average of accounts payable, thousand UAH.

In this case, the purchasers' advances should be excluded from the annual average of the commodity component of the accounts payable. We believe that the value of the outstanding price discounts is 10 per cent of the amount of the payable for goods, works and services.

$L_{ud} = 10 \% \times 30484,5 / 100 = 3048$ thousand UAH. That is, the amount of the loss from the discounts is 3048 thousand UAH.

The additional income associated with inflationary processes is calculated in the same way as formula 12 [2]:

$$AI_i = P_s \times (1 - 1/I_i), \quad (12)$$

where P_s is the initial amount of the accounts payable at the time it is made available, thousand UAH;

AI_i – additional income from inflationary depreciation of capital upon its return to creditors, thousand

UAH;

I_i – Index of inflation for the period of use of accounts payable.

$$AI_i = 40866 \times (1 - 1/1,08) = 2861 \text{ thousand UAH.}$$

The formation of accounts payable also involves transaction costs, and breach of contractual obligations results in direct losses from fines and penalties paid.

Thus, the total cost of using accounts payable should be presented as follows [14]:

$$C_p = L_{ud} + \Delta C_{ct} + C_f - AI_i, \quad (13)$$

where the C_p is the total cost of using accounts payable, thousand UAH;

L_{ud} – underperformed price discounts that businesses could have received in advance payments;

ΔC_{ct} is an increase in current transaction costs associated with the formation of accounts payable, thousand UAH;

C_f it is a direct loss from fines, penalties and penalties for late repayment of accounts payable, thousand UAH.

We find the increase in current transaction costs by determining the percentage of accounts payable in the receivable and multiplying the interest earned by the increase in transaction costs that we thought were higher.

$C_p = 3048 + 68 + 112 - 3028 = 200$ thousand UAH. The resulting sum of 200 thousand UAH is also the absolute amount of the effect of using accounts payable.

Hence, the price of accounts payable:

$$P_r = C_p / P_a \quad (14)$$

$$P_r = 200 / 30484.5 = 0.0066.$$

During good debt management it is necessary to orient and observe «balance sheets of value» or «balance sheets of prices», that is expenses related to servicing of accounts payable, should not exceed revenues, benefits arising from delayed payment to buyers, that is:

$$E_r > C_p \quad (15)$$

$$37268 > 200$$

Thus, the expenses on servicing of the accounts payable are less income due to the delay of payment that is «balance of value» Poltava Oil-Extraction Plant – Kernel Group, PJSC in 2019 have been met.

$$C_{er} > P_r \quad (16)$$

$$0.077 > 0.0066$$

Figure 1 details the indicators that demonstrate the economic effect of the use of the accounts payable and receivables of Poltava Oil-Extraction Plant – Kernel Group, PJSC.

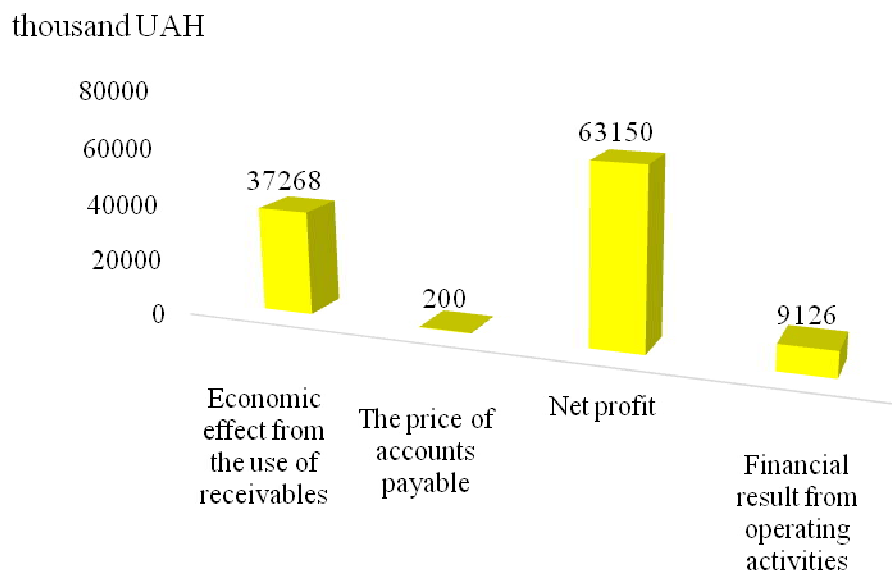


Fig. 1. Performance indicators of accounts receivable of Poltava Oil-Extraction Plant – Kernel Group, PJSC

Conclusions. Thus, after the study, it should be concluded that in the process of managing accounts receivable and payables it is necessary to observe «balance sheets of value», the basis of which indicates that expenses should not exceed revenues, which connected with deferred payment.

The authors considered various methods of optimization of accounts receivable and payables, evaluated their value with determination of efficiency and analyzed «balance of value». This made it possible to establish that at Poltava Oil-Extraction Plant – Kernel Group, PJSC in 2019 the effect of lending to consumers in receivables exceeds the results obtained from the use of the accounts payable. However, in order to minimize the «cash gap» the enterprise is advised to use factoring and bill payments, which are reasonably effective tools in the management of payables and receivables, giving discounts to buyers.

The impact of inflation on accounts receivable would then be assessed on a variety of options, including the granting of discounts to buyers for quick payment, and the justification of the advantages of discounts granted for inflation, adjusted to modern events (Covid-19).

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UDC 330.69

Птащенко Ліана Олександрівна, доктор економічних наук, професор. **Корнієнко Дар'я**. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Інструментарій оцінювання дебіторської та кредиторської заборгованостей підприємства**. Досліджено методику оцінювання доцільності надання відстрочок платежу покупцям з точки зору зіставлення витрат і доходів, яку пропонують науковці Київського національного торговельно-економічного університету А.А. Мазаракі, Л.О. Лігоненко, та використано її інструментарій для оцінювання вартостей дебіторської й кредиторської заборгованостей на прикладі підприємства ПрАТ «Полтавський олійноекстракційний завод – Кернел Груп» 2019 року. Визначено рівень витрат і доходів підприємства з урахуванням різноманітних факторів, розраховано абсолютну суму ефекту дебіторської та кредиторської заборгованостей. Оцінено можливий дохід від надання комерційного кредиту різним контрагентам як у сумі, так і у відносних показниках. Підкреслено, що важливим моментом у ній є облік середньозваженої вартості капіталу, який відволікається в дебіторську заборгованість. Оцінювання вартості кредиторської заборгованості як елемента капіталу базується на загальній концепції вартості капіталу. Під ціною капіталу мають на увазі відносний розмір річних витрат на обслуговування заборгованості перед постачальниками, інвесторами. Ціну товарної кредиторської заборгованості визначено на основі оцінювання витрат від недоотриманих цінових знижок, які могли б одержати підприємства при здійсненні авансових розрахунків. Визначено ефективність заборгованостей та проаналізовано «баланс вартості». Це дозволило встановити, що на ПрАТ «Полтавський олійноекстракційний завод – Кернел Груп» у 2019 році ефект кредитування споживачів у дебіторську заборгованість перевищує результати, отримані від використання кредиторської заборгованості. Проте з метою мінімізації «касового розриву» підприємству рекомендовано застосувати факторинг і вексельні розрахунки, які є досить ефективними інструментами в управлінні кредиторською та дебіторською заборгованостями, надання знижки покупцям.

Ключові слова: дебіторська заборгованість, кредиторська заборгованість, вартість капіталу, інструментарій оцінювання вартості, споживачі, підприємство, витрати, доходи.

UDC 330.69

Ptashchenko Liana, D.Sc. (Economics), Professor. **Korniienko Daria**. National University «Yuri Kondratyuk Poltava Polytechnic». **Tools for assessing of business receivables and payables**. The method of assessing the appropriateness of paying deferred payments to buyers in terms of comparisons of costs and revenues, proposed by scientists of Kyiv National University of Trade and Economics Mazaraki A.A. and Lihonenko L.A., is investigated and its toolkit for estimating the value of receivables and payables is used as an example of the enterprise Poltava Oil-Extraction Plant – Kernel Group, PJSC in 2019. The level of expenditure and income of the enterprise is determined taking into account various factors, and the absolute amount of the effect of the receivables and payables is calculated. The valuation of creditor debt as an element of capital is based on the general concept of the value of capital. The capital prices refer to the relative annual cost of servicing debt to suppliers, investors. The value of the commodity payables is determined on the basis of an estimate of the losses from underpayment of the price discounts that would have been available to businesses in making advance payments. The effectiveness of debts is determined and «balance of value» is analyzed. This made it possible to establish that at Poltava Oil-Extraction Plant – Kernel Group, PJSC in 2019 the effect of lending to consumers in receivables exceeds the results obtained from the use of the accounts payable. However, in order to minimize the «cash gap» the enterprise is advised to use factoring and bill payments, which are reasonably effective tools in the management of payables and receivables, giving discounts to buyers.

Keywords: receivables, payables, capital values, valuation tools, consumers, enterprises, expenses, revenues.