

Теоретически обоснованно положение, что трансграничный регион можно рассматривать как субъект ведения хозяйства, то есть как самостоятельного участника специфического конкурентного рынка. Предложена структурная схема трансграничного региона как квазикорпорации. Разработана классификация направлений, за которыми может осуществляться операционное управление трансграничным регионом: ресурсы/финансы, рынок/клиенты, организация, учеба/развитие.

Ключевые слова: трансграничный регион, миссия, управление, рынок.

It is in theory grounded that transfrontier region can be examined as a subject of menage, an independent participant of specific competition market. The flow diagram of transfrontal region is offered. Classification of directions after which an operating management of a transfrontier region can be carried out is developed: resources / finances, market / clients, organization, studies / development.

Key words: transfrontier region, mission, management, market.

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THE TOOLS OF QUANTITATIVE FINANCE: ACCOUNTS RECEIVABLE MANAGEMENT

Tools of quantitative finance are formed for receivables management companies. Methods and models for assessing the effectiveness of the use of capital, which engaged in receivables allocated to the development of preventive measures to avert bankruptcy and estimate the closeness to the bankruptcy of companies.

Key words: quantitative finance, valuation of accounts receivable, liabilities, the company's financial liquidity, solvency, bankruptcy, working capital, of collection policy, credit policy.

In the implementation of preventive measures to avert bankruptcy and near bankruptcy for the companies need to conduct a qualitative assessment of the financial situation of companies. An important direction of this assessment is the analysis of efficiency of the involved accounts receivable capital. To ensure this goal, it seems necessary to examine the existing modern tools of quantitative finance to evaluate the activity of accounts receivable management with a view to its improvement.

In reviewing the existing methods and models of active receivables management must proceed from the fact that the priority analysis approach is the approach proposed Distress Predictors School. The essence of this approach is to analyze the activities of firms in order to predict their possible bankruptcy, which involves the development of methodologies and techniques of forecasting bankruptcy. This approach implies a primarily financial stability analysis (strategic dimension), the preference for long-term retrospective analysis. Value accounting is determined solely by its ability to ensure the predictability of a possible bankruptcy leading representatives of the school – E. Altman, A. Vinakorm, Smith [1, p. 56–57].

Among the main areas of financial analysis and solvency analysis produce a credit analysis of business activity and profitability analysis. Consider the

methods and models of activity analysis, receivables management in these directions.

One of the stages of analysis of financial condition of the company is to analyze the creditworthiness and solvency of the companies. Solvency depends, as rightly remarked Savitskaya, the degree of liquidity balance [2, p. 476]. Liquidity balance is reflected in the coverage obligations of the company's assets, the term transformation in which the money corresponds to the period of repayment obligations. The main purpose of the analysis of the company's creditworthiness and liquidity of its balance sheet in the process of crisis management is to identify the signs of the current, critical or supercritical their insolvency. The Ukrainian legal sources of the concept of insolvency and bankruptcy are considered in one dimension [3, 4]. Thus, the analysis of liquidity is a priority for assessing the financial condition of the subjects when considering bankruptcy. The concept of liquidity more succinctly, as compared to ability to pay, because liquidity is characterized not only the current status of settlements, but also an opportunity, which is especially important in the process of crisis management company's financial condition.

The analysis of the liquidity of assets involves the calculation of a number of financial ratios. The study of foreign sources on the analysis of liquidity in the process of assessing the financial condition of the company highlighted the following as indicators of the authors' opinion, liquidity:

- net working capital,
- current ratio,
- critical evaluation factor (litmus).

It should be noted that in international theory, there are some differences in calculating the coefficient of critical evaluation. Thus, Body and Merton [5, p.129] for determining the value of critical evaluation are not included in Quick assets marketable securities. A leading international audit firm Ernst & Young in contrast, provides for the inclusion of this asset in the calculation of the critical level of liquidity [6, p. 179]. Thus, the foreign experience in this type of analysis to some extent meets the needs of domestic users. Therefore, depending on the purpose of the analysis must be guided by the requirements of Ukrainian normative documents [7–10].

As indicators of the liquidity and solvency of business entities, domestic theory and practice of considering:

- absolute liquidity ratio;
- general liquidity ratio (cover);
- solvency ratio.

An analysis of methodological and normative sources [11–22] showed that the basic quantities used in the calculation of the company's creditworthiness and liquidity of its balance sheet are as follows: current assets and current liabilities of the company.

Results of the study methodology literature on the analysis of balance sheet liquidity and asset holding companies indicated in the proposed method of evaluation and analysis of total assets and liabilities of the company without making a detailed analysis of the impact on the level of solvency of the type of assets as a receivable.

Meanwhile, further analysis of the liquidity of the debt will assess the company's ability to timely and fully pay off their debts by using the information

available to the receivables, describe the coverage obligations of its accounts receivable conversion period which corresponds to the money at maturity of obligations, provide a more accurate assessment of the level solvency, management quality level of debt, identifying the main directions of its credit and monetary policy.

The need to develop methods of such analysis is stated by U.S. experts [16]. However, the need for matching receivables and liabilities in the process of assessing the financial condition of the company in the literature is disputed. Kovalev notes the relevance of the issue, while stressing that «the position of analyst and an accountant may be diametrically opposed: the first allows for comparison (in particular, the whole analysis of liquidity and solvency ratios using a special based on this comparison), is second to none» [1, p. 366]. The argument for opponents of such a comparison suggests that the company is obliged to repay its obligations regardless of the return of receivables.

These arguments are very powerful, but not enough to completely eliminate this type of analysis. In contrast to this view are the Sheremet and Sayfulin: «State of the receivables and payables, their size and quality have a strong influence on the company's financial ... analysis of accounts receivable should be supplemented with an analysis of accounts payable,» [14, p. 146–148]. Kovalev points out that: «in the world of accounting and analytical practice matching receivables and payables – normal and very common analytical technique» [1, p. 366].

To further analyze the structure of the offer to review the company's debt by maturity, as proposed in Table 1, which is made pursuant to the rules set forth in NAS 2 «Balance»[8], NAS 10 «Accounts receivable» [9].

Table 1

The structure of the company's debt by maturity

Receivables		Liabilities	
form	maturity	form	maturity
Long-term receivables	More than one operating cycle or 12 months from the balance sheet date	Long-term liabilities	More than one operating cycle or 12 months from the balance sheet date
Current receivables	In one operating cycle, or 12 months from the date of the balance	Current liabilities	In one operating cycle, or 12 months from the date of the balance

Analysis of the data presented in Table signifies the onset of NAS single principle assignment of receivables and liabilities of the current debt: in case of repayment in the operating cycle or within 12 months from the balance sheet date; all debts, without regard to the current one is a long-term debt .

In addition to the degree of liquidity, the financial conditions of companies characterize the level of business activity. Assessment of business activity of companies on receivables is to investigate the effectiveness of the scheme of conversion of receivables into cash. Company's business activities on a receivable in the current international theory and practice, is characterized primarily by turnover in the account receivable. Accounts receivable can be represented by the number of revolutions (average collection period), and

can be represented by the average duration of recovery of debts (receivables turnover period). The significance of these figures confirms the fact that the vast majority of national regulations governing the procedure for conducting financial analysis of business entities [7–9], provide for their calculation in the process of assessing the financial condition.

Consider the economic meaning of these indicators. Form considers the number of revolutions of receivables as the «velocity of circulation of the abstract in its operating capital over a certain period» [17, p. 279]. International theory treats the turnover of accounts receivable as «value indicating the number of times per year shall be collected on debts receivable» [6 p.183; 18, p. 253]. This divergence in interpretation is due, in our view, the purpose of calculating the difference in the test target. Patriotic theory of financial analysis and management in its infancy, and often uses in assessing the financial condition of the approach inherent in the socialist system of analysis provided for the purpose of the planned management of the economy. International theory of financial analysis and management comes from the fact that the main purpose of the company is to maximize profits. In the process of crisis management in this respect acts as an effective development of collection and credit policies to ensure the existence of an optimal level of receivables. Therefore, we consider it justified to use the definition proposed in international theory.

In addition to differences in interpretation are fundamentally different approaches to the calculation of turnover rate.

Thus, the domestic regulatory documents [7–9] and methodological sources [17, p. 279; 1, p. 179, 14] proposed turnover ratio is calculated as revenue from sales of products and services (P) in the analyzed period, the average balance receivables of the company (L) in the period under review:

$$K_o = \frac{P}{L}. \quad (1)$$

A similar method of calculation used in foreign practice [5, 18]. In this case Aftermarket Business notes, that the low level indicator indicative of a strong credit management [19]. Meanwhile, some foreign sources [12] considered a slightly different approach to receivables turnover. Thus, Shim and Stel suggest that the turnover ratio by dividing net sales (S) in the average balance on credit receivables (L):

$$K_o = \frac{S}{L}. \quad (2)$$

In our opinion, use as a measure to compare exclusive sales on credit line with the market conditions under which a significant portion of accounts receivable is the so-called «commercial debt», in particular by the treaty advances to customers and provided commercial loans, and thus estimate the turnover settlements with debtors is more reliable, eliminating the influence of random factors. Such an approach allows a more detailed evaluation of the business activity of collection and on credit policy. The calculation of the turnover of accounts receivable with the total proceeds from sales to evaluate the business activity in the aspect of the marketing policies of the company. Thus, for efficiency analysis of the level of business activity, we consider it necessary to use two approaches outlined above in the aggregate.

Under the average duration of debt recovery (average collection period of receivables) means the duration of one revolution of the receivables, «the period required for recovery of debts» [12, p. 66]. This figure, according to the Blank, characterizes the role of a receivable in the actual duration of the financial and operating cycle of the company [17, p. 279]. The calculation of the average duration of debt recovery (Tl) is performed using the following formula:

$$Tl = \frac{\bar{L}}{P} \times n, \quad (3)$$

where L – average balance of accounts receivable of the company (in whole or individual species) in the reporting period;

P – total turnover of the products, goods and services in the reporting period;

n – number of days in the period under review.

In addition to the proposed formula, the economic literature uses different formulas to calculate the average duration of recovery of debts that are essentially modified versions of the formula 3. Thus, Leonov and Bocharnikov determine the average length of time receivables turnover ratio as the amount receivable by the average daily implementation [20, p.93]. In Methodological Recommendations [96, 99] account receivable maturity (days) is to compare the duration of the period of receivables turnover ratio. This formula is used Shim and Sigel [12, p.66], the International Audit Company Ernst & Young [6, p.183]. At the same time, foreign sources in determining the turnover rate of accounts receivable is taken into account revenue from sales on credit. The high value of the indicator «may indicate that the company is unable to consistently carry out its lending policies. It may also mean that the company is so weak competitor that has to offer longer payment terms, in order to ensure the sale of its products» [6, p. 183].

Noteworthy is excellent, from the above, the method of calculation of the test index, which suggested Bocharnikov and Leonov and [20, p.93]. The essence of this method is used to calculate the sheet outstanding balances. Diagram of the statement has the following algorithm. At the end of each period of total receivables allocated debt relating to the implementation of each month of the period. Then, the share of monthly outstanding accounts receivable in total sales this month calculated. The authors are according, this method «to avoid the influence of seasonal (cyclical) fluctuations in sales volumes and an instrument that can accurately determine the change in payment behavior of consumers» [20, p. 94]. On the classification of settlements with debtors on payment terms finds calculation of the average collection period of receivables Maslov [21, p.25], which uses the formula:

$$Tl = X\% (10 \text{ days}) + Y\% (30 \text{ days}) + \dots + Z\% (\text{over } 60 \text{ days}), \quad (4)$$

where X , Y ..., Z – the percentage of consumers of goods / services provided on credit.

Using the proposed method of calculation allows obtaining monitoring data that allow better control of the situation with the receivables of the company not only m having problems with the calculations, but also other companies m. However, for a comprehensive assessment of the receivable is deemed advisable to use the formula 3, as This approach is characterized by low

labor settlements, the availability of the necessary information for calculations, because it is presented in the financial statements. Methods, as well as the need for additional sources of information makes it difficult to use for pre-operative evaluation of financial and economic state of companies. Despite these difficulties, the use of this approach, we believe it is appropriate to conduct a deeper analysis of accounts receivable in order to identify the causes of the current crisis situation with payments in predicting the value of accounts receivable, monitor the timeliness of payments from debtors, which is especially important during the crisis management of the company.

In assessing business activity on accounts receivable Kovalev also uses the ratio of payment of accounts receivable [1, p. 364]. This index is the inverse of average collection period and is calculated as the ratio of the average trade receivables activity to sales. The value of this parameter depends on the conditions of submission of commercial loans in the implementation of existing in the studied companies. If the estimated value of the parameter exceeds a critical value of the coefficient, it is concluded to the presence of problems with debtors. The application rate of payment of accounts receivable during the appropriate integrated assessment of the receivables, as it provides additional control timeliness debt debtors.

One of the areas of financial analysis is an analysis of companies' profitability. Return on receivables may be treated as income derived from each of the monetary unit of funds invested in receivables. The high level of accounts receivable in the assets of Ukrainian companies, imperfect domestic institutions of crisis management, which is at the stage of formation, necessitated a careful analysis of the effectiveness of the use of funds invested in receivables. Meanwhile, Ukraine's regulatory sources governing the procedure for evaluating the financial condition of companies of the crisis [96, 97, 99], does not provide such an analysis. In the literature the effectiveness of investment in receivables is measured using various indicators. Consider the indicators that are most widely used and scientifically sound.

Economic effect by accelerating the turnover Savitskaya [2, p. 459] and Polyak [13 p. 295] propose to express the relative value of the release of funds from circulation, as well as value amount of profit, the following formula:

$$E = \frac{P}{n} \times \Delta Tl. \quad (5)$$

Blank [17, p. 281-282] proposes to determine the amount of the effect obtained by diverting capital in accounts receivable (El). For this amount of additional profit from increased sales at the expense of the loan, adjust the amount of the costs of processing the loan and collection of debt, as well as direct financial losses due to default on debt buyers (uncollectible debt). Calculation of the effect by using the following formula:

$$El = Pl - Cl - Ll, \quad (6)$$

where Pl – additional profits derived from increased sales of products through the provision of credit;

Cl – current expenses of the company related to the organization of buyers and lending collection of debts;

Ll – amount of direct financial loss from non-repayment customers.

In addition to the absolute amount of the effect, Blank proposed to use a relative measure – the coefficient of efficiency of diversion of working capital in accounts receivable, which is calculated by the formula:

$$EI = PI - CI - LI, \quad (7)$$

where LI – average balance of receivables from buyers in the period under review.

In this case, the efficiency ratio can be regarded as an indicator of the profitability of accounts receivable for products, goods, works and services. It should be noted that the rate of similar performance indicators proposed by Blank, Van Horn used to make decisions on credit and of collection policy of the company [11, p. 273–283]. In this are analyzing of individual influence on the magnitude of the effect of several factors, as well, namely: 1) quality accept accounts (an analysis of financial loss from non-debt), 2) loan term, and 3) a discount, and 4) the level of expenditure on collection. Thus, Van Horn examines the overall effect of diverting capital as accounts receivable and accelerate the turnover of funds. Assessing the impact of individual factors on the magnitude of the effect obtained by diverting working capital Accounts receivable from customers, to maximize profits by optimizing standards creditworthiness, loan terms, and the strategy of discounts, special conditions and the level of expenditure on collection. On the basis of the total profits earned by optimizing the credit policy and collection, determined the overall profitability of receivables:

$$RI = \frac{E}{L}. \quad (8)$$

Thus, all the proposed indicators in the economic literature (see equations 6, 7, 8) characterize the efficiency of receivables in its various aspects are mutually complementary and can be used in the assessment of the receivables.

Overall, the results of a study of existing modern models and methods for analyzing the activity of accounts receivable management in assessing the financial condition suggests the following: applications in domestic conditions, conventional methods of analysis abroad is not always possible due to lack of sufficient and reliable and accessible information about the calculation with debtors. Total payments crisis inherent in the modern Ukrainian economy, calls into question the objectivity, timeliness and usefulness of the results of analysis. The use of national procedures do not allow one to assess the state of accounts receivable, and the extent of its impact on the financial and economic situation of companies. In this regard, we think necessary to consider the intuitive and informal assessment techniques to develop into a single integrated approach to analysis of accounts receivable.

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Сформирован инструментарий количественных финансов для управления дебиторской задолженностью компаний. Выделены методы и модели оценки эффективности использования капитала, который привлечен в дебиторскую задолженность для разработки предупредительных мер по предотвращению банкротства и оценки близости к банкротству компаний.

Ключевые слова: количественные финансы, оценка дебиторской задолженности, кредиторская задолженность, финансовое состояние компании, ликвидность, платежеспособность, банкротство, оборотный капитал, инкассационная политика, кредитная политика.

Сформовано інструментарій кількісних фінансів для управління дебіторською заборгованістю компаній. Виокремлено методи і моделі оцінки ефективності використання капіталу, який залучено у дебіторську заборгованість, для розробки запобіжних заходів щодо відвернення банкрутства та оцінки близькості до банкрутства компаній.

Ключові слова: кількісні фінанси, оцінка дебіторської заборгованості, кредиторська заборгованість, фінансовий стан компанії, ліквідність, платоспроможність, банкрутство, оборотний капітал, інкасаційна політика, кредитна політика.

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МОЖЛИВОСТІ ВДОСКОНАЛЕННЯ МОДЕЛІ REMM

У статті розглядаються головні концепції людини в економічній теорії та соціології. Автор пропонує замінити в моделі REMM ідею про абсолютні оцінки корисності ідеєю про компаративний характер процесу оцінювання.

Ключові слова: модель економічної людини, процес оцінювання, компаративні оцінки.

Світова економічна криза поставила серйозні питання не тільки до практиків у сфері управління економічними процесами (урядовців, керівництва виробничих компаній, фінансових установ), але і до фахівців у галузі економіко-теоретичних досліджень. Соціальні конфлікти як у країнах, що розвиваються, так і у розвинутих країнах, сигналізують про нагальну потребу змінити існуючий порядок речей у світовій економіці. Але світова спільнота відчуває брак готових моделей нової будови економіки. Криза економічної науки, про яку так багато говорили вже з початку 1990-х рр., обернулася на дефіцит дієздатних рецептів. У зв'язку з цим дослідження можливостей трансформації сучасної економічної теорії і зокрема її бачення людини в економіці стало актуальним завданням.

В основі будь-якої економіко-теоретичної концепції лежить триєдність взаємозалежних і взаємопроникних складових: онтології, методології та апології. Стосовно необхідності і ролі перших двох складових у сучасних дослідників не виникає сумнівів. Вважається, що дослідник обов'язково формує певне бачення об'єкта дослідження (онтологію), для дослідження якого він обирає відповідну методологію [1]. Що ж стосується апології інтересів якої-небудь особи чи групи осіб, то це в сучасному мейнстрімі, який підкреслює свою деідеологізованість, вважається поганим тоном. Більш того, як зазначає М. Блауг [2], окремі західні дослідники намагаються навіть позбавитися нормативної складової економічної науки, зробивши її абсолютно об'єктивною. Сам М. Блауг скептично ставиться до можливості створення безнормативної економічної науки і наводить численні приклади того, що навіть найбільш загальні висновки і теореми економічної теорії не вільні від нормативної складової, нехай і в завуальованому вигляді.