Improving Economic Efficiency of an Entity through Comprehensive Analysis of Receivables

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Abstract

The economic activity of any entity generates a complex, diverse and fluctuating system of economic and legal relations with services beneficiaries, product buyers, staff, the state budget, other legal entities and individuals. The relationships established in order to achieve the object of activity lead, due to the time gap in the fulfillment of financial obligations, to the appearance of receivables. This paper highlights the concept of receivables through the synthesis of literature, but also the bibliometric analysis, which allows for a clear picture of the extent and quality of scientific research in the direction of the analyzed issue, that is, accounting and receivables analysis. Likewise, the paper sheds light on the importance of the analysis of receivables, having as "raw material" financial-accounting information, or, the adequate management of the size, structure and maturity terms of the entity's receivables will lead to its prosperity.

Key words: receivables, receivables analysis, receivables rotation, economic relations, performance

J.E.L. classification: M40, M41

1. Introduction

The evolution of accounting science is closely related to economic evolution, over time, accounting representing a tool for presenting and modeling the economic life of an entity.

Each entity is established and develops within an economic and social environment. Starting from the fundamental concepts in microeconomics, the entity stands out as a participant in the economic circuit, characterized by flows of money and economic goods, falling into at least one of the three large groups: producers, suppliers, buyers.

In the process of carrying out the economic activity of the entity, a complex system of economic and legal relations of rights and obligations is formed, depending on the position of each participant, these are materialized in receivables, but also debts. In the context of the market economy, the results of the economic activity of the entity are conditioned by the efficiency of commercial settlements, or, this quality constitutes the premise of an adequate management of commercial transactions under conditions of minimizing the risks of insolvency and solvency.

All these are patrimonial reports, which reflect the changes in the forms of existence of the patrimony, involve rights and liabilities, involve responsibilities and therefore they are part of the study object of accounting (Sajin, 2010, p.8), contribute to the value reflection and of the movement of the entity's patrimony following economic facts. In the context of what has been stated, it is found that the totality of economic agents' relations with third parties are formed and extinguished in an endless chain, each of which has clear terms of maturity, and these relations in most cases are reciprocal (Grigori, 2021, p. 269), as a result, two large categories of relationships with third parties are distinguished: the nature of debts and the nature of receivables (Munteanu, 2009, p.242).
The aim of the scientific paper is the multilateral examination of the theoretical and practical aspects of accounting and receivables analysis. At the same time, the qualitative and quantitative research of the concept of receivables through the prism of bibliographic study and scientometric methods in order to create a broad picture regarding the extent of the research of the chosen theme at national and international level.

The importance and actuality of the research theme derives from the omnipresence of receivables within any entity, the purpose of each economic agent being the achievement of the object of activity, i.e. the sale of products, the provision of services and the execution of works, economic operations that generate profit. As a result, the effective management of the size and maturities of receivables, as well as maintaining the balance between receivables and liabilities to avoid the growth of the latter, which could lead to difficulties regarding payments when due, due to the alienation of assets but not receiving the equivalent value. In the same way, the importance of research is demonstrated by its practical appeal, numerous entities facing difficulties in economic activity in order to recover debts.

Arising from the need to know and manage the heritage, in order to preserve and develop it, accounting is organized and kept in any entity, in this case, the accounting of receivables is an important aspect in the proper conduct of commercial transactions and in the adoption of operational and strategic decisions. In the same way, accounting information represents the "raw material" necessary for economic and financial analysis and has a special role in the management of entities as it must satisfy multiple requirements, in order to ensure a correct perception of the processes to which it refers (Vâlceanu, 2004, p. 39).

2. Literature review

From an etymological perspective, the Romanian term creanță (en. receivables) is borrowed from the French language créance, which in turn was borrowed from the Latin language credentia. According to the Etymological Dictionary of the French language, the origin and formal and semantic evolution of the term créance can be found in medieval Latin, namely, in the word credere (in French croire), called etymon from a linguistic point of view, that is, the word of origin. Thus, the author of the Etymological Dictionary of the French language, Clédat, L., mentions that "the primitive meaning of the verb "croire" is "to trust", which came into French with the meaning of confession of faith, at the same time, the nouns were formed: crédit, créditer, discréditer, accréder, and the Latin derivative "credentia" gave a triple form: crédence, créance, croyance" (Clédat, 1914, p.155). As a result, merging the semantic and economic study of the term debt, it can be found that in the course of carrying out the economic activity, the entity shows an act of faith in relation to the debtor regarding the collection of the consideration under the conditions and terms established in the case of sale with deferred payment.

The analysis of specialized literature in the area of accounting and receivables analysis at the national and international level allowed the synthesis of the main definitions of receivables. Thus, in the opinion of the author Mihaila, S., receivables represent "a component of the assets that represent the right of the entity towards other natural and legal persons, which appear as a debt towards the given entity" (Grigore, 2021, p.269), a similar approach is shared by the researchers Țurcanu, V. and Bajerean, E., who claim that receivables represent "the debts of other legal and natural persons towards the given entity, they appear, as a rule, on commercial invoices unpaid by buyers, advances granted due to additional payments of funds in the budget, insurance bodies, employees, etc." (Țurcanu, 2004, p.37), both definitions advocating the fact that receivable constitutes a debt of a natural or legal person towards the entity, the latter, coming with concrete examples of occurrence.

In the same vein, the researchers Mehedinți, I. L. and Negoeşcu, G. highlight the aspect of the temporary advancement of economic values and the value concordance in the definition, noting that receivables reflect "the economic values temporarily ascertained by the owner of the patrimony against other natural and legal persons of to which a value equivalent is to be received" (Mehedinți, 2000, p.169), an opinion also shared by Professor Bojian, O. in his work, which characterizes receivables as "economic values temporarily advanced by the owner of patrimony to other legal entities or physical and for which they will receive the value equivalent" (Bojian, 1997, p.212).
At the same time, in the definition of receivables, emphasis is placed on the participants, called debtors and creditors, thus, the authors Ristea, M., Dumitru, C. G. and others, claim that "all natural or legal persons who have benefited from the advanced value, are referred to generically by the notion of debtors, i.e., the persons who, within an economic relationship, have received a value and are going to give a value equivalent or consideration, equally, the natural and legal persons to whom the unit has monetary obligations, are generically called creditors, therefore, the persons who within an economic relationship, they have advanced an economic value and will receive a value equivalent or a consideration" (Ristea, 2009, p.371). Starting from the definition proposed by the Romanian authors, it was found that this approach is shared by several authors in their works, such as Bojian, O. (Bojian, 1999, p.145), Nederita, A. (Nederita, 2003, p.234), Deju, M. (Deju, 2011, p.318) and Balteș, N. (Balteș, 2014, p.141).

According to researchers Darie, V., Drehuță, E. and others, receivables are known as "current settlements, operating settlements or settlements with third parties" (Darie, 1995, p.102), likewise, drawing a parallel between accounts receivable at the national and international level, in contrast to the national definition and classification, at the international level this is known as the accounting of relations with third parties, reflecting both the receivables and the debts arising from the patrimonial operations. Based on the above, figure no. 1 shows the main approaches to the notion of receivables in countries that apply the Anglo-Saxon accounting system and the continental accounting system:

**Figure no 1. Comparative aspects regarding the notion of receivables in different countries**

<table>
<thead>
<tr>
<th>US and Canada</th>
<th>Holland</th>
<th>Japan</th>
<th>Great Britain</th>
</tr>
</thead>
<tbody>
<tr>
<td>receivables include the obligations of buyers or other business partners to the company and are divided into two main groups: invoices or bills of exchange receivable, also receivables that are not related to the company's business, include advances granted to employees, deposit in as security for payment, dividends and percentages receivable</td>
<td>long-term financial investments are valued at cost with the possibility of revaluation according to market sales prices, short-term investments are valued at cost with disclosure of market sales value in the explanatory notes</td>
<td>financial investments on long-term investments are valued at cost, taking into account revaluation, investments short-term financial investments, are recorded at cost without revaluation</td>
<td>receivables appear in current assets, in the debtors class, which refers to the receivables generated by the operating cycle, part of the loans granted, whose maturity is less than one year, they are divided into trade debtors, debts of group companies, debts of companies in which the company has a certain percentage of participation, other debtors and issued but unpaid shares</td>
</tr>
</tbody>
</table>

Based on figure no. 1, it can be concluded that the general opinion regarding the notion of receivables hovers over the existence of customer obligations towards entities. From the perspective of American accounting, when recording the large quantities of goods and services sold on credit, emphasis is placed on the methods of calculating bad debts, such as: the method of percentages from the net realization and the method of recording invoices according to payment terms. In British accounting, the provision for doubtful debts is calculated but not recognized by the tax rules, while in the Japanese tax rules allow the formation of reserves for doubtful debts in the amount of 0.3-
1.35% of the amount of the debt, and in accounting Spanish and Japanese, in the amount of 0.5% of
the amount owed.

Another relevant aspect that emerges from figure no. 1 is the balance sheet position of receivables,
thus, in the American, Canadian and British balance sheet, receivables are presented in the
composition of current (circulating) assets, in the category of debtors: commercial debtors, debts of
group companies, debts of enterprises in which the company has a certain percentage of
participation, other debtors, shares issued but unpaid. Analogously, in French, German, Spanish and
Italian accounting, similar positions of receivables are observed in the balance sheet, in the
receivables category, such as: trade receivables, amounts expected from affiliated enterprises,
amounts expected from enterprises in which participate by share, other receivables, shares issued but
unpaid.

3. Research methodology

The methodological approach of the research is dimensioned by the theoretical and practical
approach. As a result, the methodological tools characteristic of the social sciences were used in the
scientific approach, applying several research methods, including: the analytical method, the
comparison method, the systemic method, the synthesis method, the induction method and the
deduction method. At the same time, statistical-mathematical tools through bibliometric and
scientometric methods, for measuring and analyzing specialized literature in the direction of research
performance regarding receivables accounting. The combined and consistent application of the listed
research methods contributed to the foundation of scientific arguments related to accounting and
receivables analysis in general and within the analyzed entity.

In this sense, an overview of the scientific works that are based on the study of accounting and
receivables analysis is presented through the Web of Science platform, a platform that provides
access to the largest database with scientific references and allows following the evolution of
scientific works in the world scientific circuit. In order to identify relevant studies, the following
research parameters were set: identification of the phrase "receivables" in the title of the publication
in the period 1956-2023, the results obtained being interpreted with the help of the Bibliometrix R
tool package.

Following the database research, 537 scientific works published in 391 sources (journals, books,
collections) were found. Based on figure no. 2, we deduce that the annual scientific productivity and
citation trend shows that the most scientific works were published in 2019 – 49 publications, 2021 –
47 publications, 2016, 2018 – 3 publications, 2020 – 42 publications and so on. In the same vein, we
mention that the most productive authors in the period 1956-2023 are: Zimon, G. – 11 publications,
Smrcka, L. – 9 publications, Kubickova, D. – 6 publications, etc., and as for demographic distribution
of publications, we highlight that the most productive countries in terms of publication rate in the
analyzed period are: the United States of America – 131 publications, China – 103 publications, the
Czech Republic – 63 publications, Poland – 57 publications, etc.

Likewise, the multiple correspondence analysis of high frequency keywords presented in figure
no. 3 concentrates multivariate data within a low-dimensional space in the process of delineating an
intuitive two-dimensional graph under the conditions of using planar distance to project the similarity
between keywords, thus words closer to the center point (red dot) indicate the frequency of use in
scientific works in the period 1956-2023.
Synthesizing the results of the bibliometric analysis, we deduce that the topic of receivables is timeless, or, since 1956 and until now there has been at least one scientific work in this research direction. Therefore, the analysis carried out allowed the formulation of a general opinion regarding the level of international research on receivables, a topic that has been on the rise since 2013.

4. Findings. Leveraging receivables analysis to enhance entity performance

The complex activity of any entity, the in-depth knowledge of the performance evolution, the objectives and goals pursued by the management make it indispensable to carry out the post-factum and predictive analysis of the results following the development of the economic activity.
In the socio-economic space in which they operate, entities must prove their viability, ability to compete and adapt the efficiency of activities that are based on quantitative and qualitative determinations of production factors, maximum returns of their use, etc. (Vâlceanu, 2004, p.14).

In this case, the economic-financial analysis serves as a basic tool that allows the diagnosis of the financial situation within the entity to support managerial decisions and ensure the efficiency of economic and financial management.

In the process of the economic-financial activity of any entity, there is a need to make settlements with buyers, suppliers, budget, staff, etc. Since the moment of payment does not usually coincide with the moment of their appearance, the entity generates both receivables, the funds extracted from the entity's circuit and reflected in the balance sheet in the composition of assets, and liabilities, which represent the funds attracted and reflected in the balance sheet in the composition of liabilities (Țiriulnicova, 2011, p.225).

The analysis and management of receivables is necessary to prevent their excessive growth, which leads to the reduction of receipts and the appearance of bad debts, which can completely counterbalance the profit of the entity. The share of bad debts differs even among entities in the same branch. This depends on the analysis and control systems applied to the entities, as well as the length of the period in which the debtors undertake restitution commitments and repay their debts (Țiriulnicova, 2011, p.226).

The analysis of receivables becomes essential because it affects the performance, competitiveness and economic-financial stability of the entity. Thus, we can state that their analysis is one of the most important elements of the entity's financial management system (Paladi, 2018, p.121). In this sense, in figure no. 4 the main situations/motives and the economic context favoring the appearance of receivables within the entities are presented:

Figure no 4. Situations that generate the appearance and increase of receivables within the entity

Source: (Paladi, 2018, p.121-122)

Any entity tends to maximize the volume of sales by applying different sales methods, respectively, the sale of goods with deferred payment means a risk and can lead to non-payment of accounts. As can be seen in figure no. 4, payment discipline, low payment culture and low payment capacity of customers are the main factors that contribute to the appearance and increase of the amount of receivables, including bad debts.

In the current conditions of the market economy, economic agents are able to choose their market but also their business partners, thus, receivables play an important role and speak about the economic and financial situation of both parties. As a result, a large share of receivables in the total amount of the entity's assets speaks of the reduction of liquidity and financial stability of the entity, as well as the increase of the risk of financial losses. However, receivables must be viewed in parallel with the volume of sales, the reasonable offering of commercial credit contributing to their increase and the growth of the entity's market share, which positively influences the entity's performance.
The sudden increase in receivables and their share in the entity's current assets can also speak about the entity's imprudent credit policy in relation to customers, the increase in sales or the insolvency and bankruptcy of some of the buyers. The reduction in receivables is the result of either accelerating payments or decreasing sales (Paladi, 2018, p.122).

Since commercial receivables are permanently subject to non-payment risks, in the case of sales with deferred payment, the appearance of bad debts causes financial difficulties that materialize through the lack of financial resources necessary for the normal performance of the activity. Moreover, the consolidation of receivables generates a slowdown in the turnover of assets, and the appearance of bad debts increases the risk of non-payment of debtor debts and, finally, the decrease of profit.

Due to the fact that receivables have a major influence on the size and structure of assets, in particular, current assets, including liquidity, solvency, asset turnover and financial position of the entity, the most important task of any entity is to increase the efficiency of receivables management based on an in-depth analysis of them (Paladi, 2018).

In this case, the in-depth analysis of receivables at the entity level involves the analysis of the situations and reasons for the appearance of receivables, the change in their size and structure, the analysis of the quality of receivables, the analysis of the variation of the share of receivables in the total amount of assets, respectively, of current assets, the analysis of receivables after maturity, the analysis the share of bad debts in their total amount, the analysis of the rotation of receivables and the correlation between receivables and debts of the entity.

In the general sense, turnover rates measure the speed of transformation of receivables into liquidities. The speed of receivables turnover in different branches of the economy is different, in some branches receivables register a faster rotation, in others slower. Thus, in the process of analyzing the receivables rotation, the entities have the mission to select the method of calculating the receivables turnover rates suitable for the type of activity carried out, to perform the factorial analysis of the duration of the receivables rotation and to highlight the possible ways to accelerate the speed of rotation of receivables.

In national and international economic theory and practice, there are three ways of assessing the rates (generalizing rates are the most frequently used in the practice of entities) of receivables rotation, by determining the number of receivables rotations, the rate of endowment of sales revenue with receivables and the duration (speed) of rotation of receivables.

The research of the literature in the field of economic and financial analysis shows the existence of different approaches regarding the calculation of receivables turnover rates. However, we identify several authors who share the same opinion regarding the calculation of receivables turnover rates based on sales income, as: Țirulnicova, N. (Țirulnicova, 2011, p.167-168), Vâlceanu, Gh. (Vâlceanu, 2004, p.378), Niculescu, M. (Niculescu, 2003, p.267), Spătaru, L. (Spătaru, 2010, p. 474).

The calculation of receivables turnover rates based on sales income is the most widespread way in economic practice, because it is characterized by simple mathematical calculations and accessibility to information sources, that is, the Statement of financial position (Balance Sheet) and the Statement of profit and loss and other elements of the overall result.

Therefore, figure no. 5 shows the calculation formulas (3.3.-3.5.) of the turnover rates of current receivables, in this case, the number of turnover of current receivables, the rate of endowment of income from sales with current receivables and the duration (speed) of rotation of current receivables, determined on the basis of sales revenue and their economic essence:
According to figure no. 5, we emphasize that normally, the number of rotations must increase, the acceleration of the receivables rotation being interpreted as a positive trend and the duration (speed) of rotation should decrease.

The examination of the literature from the perspective of the analysis of the rotation of receivables shows that factorial systems for their analysis are not built and recommended. As a result, in the opinion of researchers Chirilov, N. and Tolmășchi, S. (Chirilov, 2015, p.79), the analysis of current receivables rotation from a causal point of view requires a deeper examination in the economic practice of entities. In this context, the authors propose a system of causal analysis of the rotation period of current receivables from three factors: the share of sales revenue with deferred payment in the total sales revenue, the share of trade receivables in the total current receivables and the rotation period of trade receivables.

In order to implement the recommended factorial system, figure no. 6 shows the calculation of each influencing factor on the change in the rotation period of current receivables:

Consequently, starting from the information presented in figure no. 6, we deduce that the first factor offers users of economic and financial information the opportunity to perceive to what extent the structure of sales revenues influences the rotation of current receivables. The second factor is a good opportunity to know the extent to which the structure of current receivables by nature has accelerated or slowed down the speed of rotation. The third factor highlights the extent to which the efficiency of the use of commercial receivables influences the rotation period of current receivables.

In order to determine the influence of the turnover period of trade receivables on the change in the turnover of current receivables, the authors recommend that the indicator be calculated based on sales revenues with deferred payment.
As a result, table no. 1 presents the initial data of the entity "Beta" SRL for the factor analysis of the rotation period of current receivables and table no. 2 shows the method of calculating the influence of factors on the rotation period of current receivables by the method of substitutions in the chain.

Table no. 1. Initial data for the factor analysis of the rotation period of current receivables

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year 2021</th>
<th>Year 2022</th>
<th>Absolute deviation (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Average value of current receivables, lei</td>
<td>66 467 863</td>
<td>63 498 014</td>
<td>- 2 969 849</td>
</tr>
<tr>
<td>2. Average value of trade receivables, lei</td>
<td>62 804 946,50</td>
<td>57 142 334,50</td>
<td>- 5 662 612</td>
</tr>
<tr>
<td>3. Deferred sales revenue, lei</td>
<td>624 643 499</td>
<td>656 137 658</td>
<td>+ 31 494 159</td>
</tr>
<tr>
<td>4. Sales revenue, lei</td>
<td>657 519 473</td>
<td>771 926 656</td>
<td>+ 114 407 183</td>
</tr>
<tr>
<td>5. Turnover period of current receivables, days [{(360 zile x rd.1)/rd.4}]</td>
<td>36</td>
<td>29</td>
<td>-7</td>
</tr>
<tr>
<td>6. Turnover of trade receivables, days [{(360 zile x rd.2)/rd.3}]</td>
<td>36</td>
<td>31</td>
<td>-5</td>
</tr>
<tr>
<td>7. Share of sales revenue on credit in total sales revenue, % (rd.3/rd.4x100)</td>
<td>95</td>
<td>85</td>
<td>-10</td>
</tr>
<tr>
<td>8. Share of trade receivables in total current receivables, % (rd.2/rd.4x100)</td>
<td>94,49</td>
<td>89,99</td>
<td>-4,5</td>
</tr>
</tbody>
</table>

Note: the average value of current receivables (rd.1) and the average value of trade receivables was calculated by simple arithmetic average based on the Balance Sheet data

Source: prepared by the author based on data from the Financial Statements of "Beta" Ltd. for the year 2022

As a result, based on the calculations from table no. 1, table no. 2 illustrates the methodology of the influence of factors on the rotation period of current receivables through the method of substitution in the chain:

Table no. 2. Calculation of the influence of factors on the rotation period of current receivables by the method of substitutions in the chain

<table>
<thead>
<tr>
<th>Cal. no.</th>
<th>Subst. no.</th>
<th>Interrelated factors</th>
<th>Duration of rotation of current receivables total, days</th>
<th>Influence calculation, %</th>
<th>The size of the influence, p.p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>Share of sales revenue on credit in total sales revenue</td>
<td>36</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Share of trade receivables in total receivables</td>
<td>36</td>
<td>32</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Share of trade receivables in total receivables</td>
<td>36</td>
<td>34</td>
<td>32 - 36</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>Share of trade receivables in total receivables</td>
<td>31</td>
<td>29</td>
<td>29 – 34</td>
</tr>
</tbody>
</table>

Source: prepared by the author based on data presented in Table no. 1

Verification: 29 – 36 = (-4) + 2 + (-5) → (-7) = (-7)

Based on the data from table no. 1, we note that the turnover period of current receivables at the end of the year was 29 days, 7 days less than at the beginning of the management year, which indicates the acceleration of the turnover of assets. This positive trend was influenced by the decrease in the share of credit sales revenue in the total sales revenue by 10 p.p., which conditioned the acceleration of the rotation period of current receivables by 4 days, at the same time, positively influenced the decrease of the rotation period of trade receivables by 5 days, which contributed to the acceleration of the turnover period of current receivables by the same amount, i.e. by 5 days. The decrease in the share of trade receivables in total current receivables by 4.5 p.p. had a negative influence, which led to a slowdown in the rotation period of current receivables by 2 days. We can mention that the situation as a whole is a favorable one for the entity because the purpose of any entity is to accelerate the rotation of assets, in this case, of receivables, or, accelerating the rotation of receivables leads to the withdrawal of assets from the economic circuit, and the slowdown to their...
additional attraction in the circuit. Consequently, the acceleration of the rotation period of the current receivables of the entity "Beta" SRL indicates good organizational strategies and cultures of settlements by establishing clear maturity conditions and bank insurance of the alienated equivalent, which allowed the development of the economic and financial activity of the entity, substantiating optimal economic decisions, increasing sales revenue and profitability.

5. Conclusions

In this paper, the emphasis was placed on the theoretical aspects regarding the concept of receivables and its presence in the specialized literature and in scientific works at the international level, by means of the bibliometric analysis. Likewise, the general opinion on receivables from the perspective of the Anglo-Saxon and continental accounting systems was presented.

For the entity's economic-financial activity, it is also important to know the results of the receivables analysis because it influences the entity's ability to pay, it allows the prevention of the excessive increase in receivables that leads to a decrease in receipts and the appearance of bad debts, which can completely counterbalance the entity's profit, at the same time, it provides the possibility of preventing the risk of bankruptcy of the entity, in case of excessive increase in debts.

In conclusion, due to the overwhelming influence of receivables on the size, structure and turnover of assets, liquidity, solvency, financial position and more, the most important task of any entity is to increase the efficiency of receivables management based on an in-depth analysis of them (Codrean, 2023, p.232).

6. References