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Accounts Receivable in the Russian Economy: Regional Trends

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ABSTRACT

Accounts receivable, being both a sales and financial category, is a key aspect of the development of modern market relations. At the same time, accounts receivable has become a complex object of only microeconomic research. Insufficient knowledge of accounts receivable at the macro level determined the **relevance** of the research. The **subject area** of the research is the total accounts receivable of Russian organizations. The **aim** of the study is to group Russian regions and types of economic activities depending on the conditions of conducting sales and payment activities. The **methodology** consists of a systematic approach, which allowed a comprehensive review of the object of research and macroeconomic analysis, which ensured the reliability and validity of the conclusions of the work. As a result, the author defines the total accounts receivable of organizations in the economy as an independent object of macroeconomic research. Based on the results of the analysis for 2000–2019, the author **concludes** that there is a high degree of correlation between sales revenue and accounts receivable of Russian organizations, as well as the presence of trends in the increasing importance of accounts receivable in sales and the reduction of its overdue part in the finances of organizations. The share of accounts receivable in the total sales revenue of organizations is taken as a generalized characteristic of the conditions for doing business in the sales activities of organizations, and in payment activities – the share of overdue total accounts receivable of organizations. The author's matrix for express assessment of the conditions for conducting sales and payment activities of organizations in the economy constitutes the **scientific novelty** of the study. It made it possible to group the types of activities, regions and districts of the Russian Federation, depending on the specified conditions. The **prospect** for future research of the total accounts receivable of organizations in the economy is the search for tools to determine its optimal volume and structure to timely identify the factors of the upcoming crises of non-payment and overproduction, both in the economy as a whole and in individual commodity markets.

Keywords: accounts receivable; current assets; trade credit; deferred payment; Russian regions; sales activities; payment activity; express assessment matrix; the bankruptcy factor

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INTRODUCTION

Currently, accounts receivables are an integral attribute of sales and payments in the economy. Saturation of commodity markets, growth and toughening of competition for the client lead to the active use of trade credit as one of the effective instruments of the sales policy of any modern enterprise. The formation of accounts receivable testifies, on the one hand, to the expansion of sales and, on the other hand, to a slowdown in the payment turnover both at an individual enterprise and in the economy of a country or region as a whole.

It should be noted that the illiterate management of accounts receivable at the

enterprise, expressed in its unreasonable and uncontrolled increase, is fraught with the formation of significant volumes of overdue and an unrecoverable part of it. This leads to a deterioration in the financial condition of the enterprise and its “rapid progress” to bankruptcy. On a macroeconomic scale, it can lead to a crisis of non-payments and the threat of bankruptcy of most enterprises with all the ensuing negative consequences for the economy.

The opposite extreme – unreasonable avoidance or, in general, a complete refusal to provide a trade loan – will inevitably entail a loss of the customer base (market share), revenue and profit, and, consequently, loss of

competition and exit from the market. These circumstances indicate the importance of accounts receivables as a tool for sales and payment activities in the economy.

In the study of accounts receivables, the macro- and microeconomic levels of study are most clearly manifested. The main emphasis of scientists in considering this issue is made at the micro level, the level of an individual economic entity. Accounts receivable as an object of management at the enterprise is considered from the standpoint of accounting, monitoring, analysis, control, collection and other management stages.

To understand accounts receivables, the key aspects are the identification of value, the basis of origin and the moment of recognition in accounting. Accounts receivable as an accounting object in a separate enterprise arises due to the time gap between the fact of shipment of goods (provision of services, performance of work) and the fact of payment for it. Accounts receivable is considered as an element of the working capital of the organization. According to International Financial Reporting Standards, receivables are treated as a financial instrument or financial asset [IAS 39]¹ and [IFRS 9]² and are measured at fair value [IFRS 13].³ From the point of view of an accounting approach, accounts receivable is a complex accounting object, covering calculations:

- with buyers and buyers of goods, works and services;

- on advances paid;
- with other debtors;
- with employees on corporate loans granted;
- with accountable persons, etc.

In the accounting practice of organizations, the emphasis of researchers is aimed at organizing an effective system of internal control of accounts receivable, in particular, in compliance with the principles of COSO [1]. At the same time, the problems of structuring and unifying the risks of granting a commercial loan [2], as well as tools for analyzing accounts receivable, emerge [3].

From the point of view of enterprise management, accounts receivables are the object of research attention of scientists in such areas as corporate finance, financial management, economic and financial analysis. At the same time, the key generalizing issue of the study is the relationship and mutual influence, on the one hand, of accounts receivable as an element of working capital, and on the other hand, the financial efficiency and liquidity of the organization in general. U. Rohini, K. Malarkodi, P. Vanitha [4], D. Prša [5] confirmed the positive impact of improving the efficiency of working capital management on the growth of the organization's profit. A more specific positive effect of accelerating accounts receivables turnover on profit growth was revealed by N.H.S. Farhan, M.I. Tabash, M. Yameen [6]. S.Y. Paul, C. Guermat, S. Devi identified the U-shaped effect of upfront capital in receivables on profit and sales growth [7].

Further detailing and deepening of research on debt management of debtors occurs in the following areas:

- a) the credit policy of the company, in particular the provision of trade credit, payment for supplies and other conditions;
- b) building effective supply chains;
- c) development of factoring;
- d) relationship with bankruptcy.

Accounts receivable, as an element of the organization's credit policy, is a powerful tool to stimulate sales. In this regard, the formed credit policy acts as a methodological basis

¹ International Financial Reporting Standard (IAS) 39 "Financial Instruments: Recognition and Measurement" (introduced in the Russian Federation by order of the Ministry of Finance of Russia No. 217n dated December 28, 2015) (as amended on February 17, 2021). URL: http://www.consultant.ru/document/cons_doc_LAW_193673/635380a79daf1985963e2aad52fb23a0549840a/.

² International Financial Reporting Standard (IFRS) 9 "Financial Instruments" (introduced in the Russian Federation as amended in 2010 by order of the Ministry of Finance of Russia dated June 27, 2016, No. 98n) (as amended and supplemented, entered into force on January 1, 2018). URL: http://www.consultant.ru/document/cons_doc_LAW_201982/.

³ International Financial Reporting Standard (IFRS) 13 "Fair Value Measurement" (introduced in the Russian Federation by order of the Ministry of Finance of Russia dated December 28, 2015, No. 217n) (as amended on July 11, 2016). URL: http://www.consultant.ru/document/cons_doc_LAW_193740/.

for the financial management of accounts receivables at the enterprise. Conversely, the development of the company's credit policy uses proven effective instruments for managing accounts receivables. According to G.S. Klychova, A.R. Zakirova, Z.Z. Khamidullin, the main elements of the company's credit policy are: control over the formation and status of accounts receivable, analysis and ranking of customers, forecasting the needs of the distributor, determination of the credit limit [8].

When developing a credit policy for an enterprise, it is undoubtedly necessary to consider the findings of the following trade credit studies:

- M. C. Arcuri, R. Pisani determined the substitution effect between trade and bank loans and determined the predominance of trade credit over bank loans in the sustainable development of the debtor, especially for younger, less profitable and less liquid small and medium enterprises [9];
- D. Milosević, J. Popović, J. Avakumović, G. Kvrđić determined that trade credit, along with equity capital, increases the stability of the debtor firm in agribusiness [10];
- N. Bărbuță-Mișu argues that the proposed trade credit is directly correlated with current liquidity and long-term bank loans, as well as with the return on equity and the size of the firm, and inversely correlated with the return on assets [11];
- J.-J. Liao, W.-C. Lee, K.-N. Huang, Y.-F. Huang point out the existence of an optimal and individual period for repayment of accounts receivable by a debtor — a retailer [12];
- R. Li, H.-L. Yang, Y. Shi, et al. built a pricing model for a retail enterprise, considering the receipt of a trade credit [13];
- P. Joe, N. Malhotra studied the provision of trade credits in e-commerce [14];
- A. Asgaonkar, B. Krishnamachari examined the direct relationship between buyers and sellers of digital goods [15].

In modern conditions, building effective supply chains in almost any market is impossible without the use of trade credit. Accounts

receivables are investigated as part of the development of capital-constrained supply chain solutions. Researchers take a close look at various aspects of supply chain formation. The study of the specifics of the use of trade credit in the supply of products to retail was carried out by the following scientists. L. Zhao, L. Li, Y. Song, C. Li, Y. Wu noted that in the green supply chain, deferred payment can act as an additional incentive for a retailer to order large quantities of products. This bilateral revenue sharing agreement would allow the manufacturer to generate additional revenue through increased sales and the retailer through free financing [16].

N. Yan, X. He confirmed that trade credit can stimulate a retailer to increase the order size and therefore increase the overall profitability of the supply chain [17].

L. Liang, L. Futou found that the degree of risk aversion by the supplier and the retailer determines the optimal wholesale price in the supply chain with the supplier, not inclined to risk, and the use of trade credit [18].

Some papers are devoted to the development of a mechanism for mutual assistance between a supplier and a distributor. H. Peng, T. Pang investigated supply chains in which capital constraints are experienced by both the supplier during the production cycle and the distributor during the sales period. Scientists have proposed using a mechanism of mutual assistance, according to which the distributor provides the supplier with an advance payment during the production period, and the supplier offers the distributor a trade credit with a deferred payment during the sales period [19].

Q. Lin, B. Qiao found that when building a supply chain, market fluctuations, profit margins, status, and counterparty ownership had less impact on the “bank credit-accounts receivables” ratio than on the “bank credit-debt” ratio [20].

To benefit from the use of trade credit, Y. Zhong, J. Shu, W. Xie, Y.-W. Zhou emphasized the importance of strategically designing supply chains and optimizing warehouse locations [21].

When building supply chains in the electric power industry, G. Zhiyuan, Z. Meihua, P. Hongjun suggested using prepayment for coal supplies with compensation payments of interest, which is more efficient than bank financing of accounts receivables [22].

The conditions for the application of factoring in supply chains are investigated in the following research. B. Marchi, S. Zanoni, M. Y. Jaber proposed reverse factoring as an innovative method of supply chain finance. A creditworthy buyer confirms his payment obligations to the supplier at the bank. This, in turn, allows the supplier to attract financial resources (bank loans) at low interest rates due to receivables confirmed by the buyer [23].

The study of the role of factoring in bilateral supply chains led W. Jin, C. Wang to develop a hybrid supply finance strategy using trade credit and factoring; the key criteria here are the acceptable factoring price and the costs of the supplier's bankruptcy [24].

Also, the theory and practice of factoring is an independent topic of scientific research. The development of factoring is determined by the complexity of collecting large, overdue or doubtful accounts receivable from enterprises. Moreover, each organization forms its prerequisites for using the services of a factoring firm. The following templates are:

- J. M. Park, H. Y. Lee, S. H. Park, I. Han revealed a higher significance of accounts receivable factoring for firms with a high level than for firms with a low level of debt capital [25];
- Y. Li, C. Gu studied the factoring policy of firms with constant mass demand and limited capital [26];
- E. V. Konvisarova, A. A. Pustovarov, T. V. Bubnovskaya, T. V. Pashinina, N. S. Marchenko summarized the problems and outlined the prospects for the development of factoring in Russia [27].

Accounts receivable as an integral element of the company's current assets are property claims that are imposed on collection from the debtor. The collection procedure is

a rather complex and responsible stage in the management of accounts receivable at the enterprise. In a competitive market, fear of loss of reputation and the sales market "prevents" companies from promptly applying the procedure for collecting accounts receivable from their customers. According to E. Kozarević, A. Mustafagić, A. Softić, the problem of collecting receivables is especially acute for suppliers — small and medium-sized businesses [28]. R. Dankiewicz notes that in terms of maintaining the economic security of the enterprise, it is advisable to apply insurance of the provided trade credit [29].

Untimely collection of receivables will inevitably lead to an excessive accumulation of overdue and doubtful receivables on the balance sheet of the enterprise. As a result, in the absence of additional funding sources, the supplier's bankruptcy is inevitable. According to the author, depending on its condition, receivables act as a marketing and sales component of both the economic viability and insolvency of the organization, becoming the root cause of its bankruptcy [30]. Confirming this thesis, Y. Zizi, M. Oudgou, A. El Moudden argue that the turnover of accounts receivable, along with the turnover of all assets and accounts payable, is a factor that increases the likelihood of financial collapse [31].

The legal approach to the interpretation of this concept is based on the current legislation. In particular, a receivable is recognized as an obligation⁴ and acts as an object of property rights.⁵ In the case of overdue receivables, it is assumed that it is collected from the debtor, which is already based on mandatory legal procedures and is the subject of legal research. At the same time, the procedure for writing off doubtful and bad accounts receivable is

⁴ Civil Code of the Russian Federation (part one) dated 30.11.1994 No. 51-FZ (as amended on 09.03.2021). Art. 307. URL: http://www.consultant.ru/document/cons_doc_LAW_5142/f8f542de1a8540a32701afd8495edb3873597ece/.

⁵ Ibid. Art. 128. URL: http://www.consultant.ru/document/cons_doc_LAW_5142/f7871578ce9b026c450f64790704bd48c7d94bcb/.

regulated by the norms of the accounting⁶ and tax⁷ legislation of the country.

With a sufficiently high level of microeconomic elaboration of the issue at the macroeconomic level, accounts receivable “fall” into the field of vision of theoretical scientists in terms of the post-crisis description of the macroeconomic situation in the country. However, the accumulated volumes, the share in the proceeds, and most importantly, the quality of the total accounts receivable of economic entities in the national economy are not only the result of non-payment crises (a serious deterioration in the repayment of accounts receivable) and overproduction (the impossibility of selling products without deferring payment) but also one of the main internal factors of the latent stage of the crisis (deterioration of the financial condition and strengthening of the dynamics of bankruptcies of organizations) in the economy. In this regard, it becomes necessary to study the dynamics and identify macroeconomic patterns in the formation of the total accounts receivables of organizations and its overdue part in the economy, its individual industries and regions. These circumstances predetermined the choice of the author.

In this regard, the aim of the study is to group Russian regions and types of economic activities depending on the conditions for conducting sales and payment activities. The solution of the following research tasks serves to achieve this goal: 1) consider the existing approaches to the study of receivables; 2) on the basis of an empirical analysis of indicators of accounts receivable of organizations in the Russian economy in the context of certain types of activities and regions for 2000–2019 to identify

the main trends in their dynamics; 3) to group the Russian regions and types of economic activities depending on the conditions for conducting sales and payment activities.

The research hypothesis assumes a direct relationship between the volume, dynamics, quality of the total accounts receivable of organizations in the region (type of economic activity) and the assessment of the conditions for conducting sales and payment activities in the region (within the framework of a separate type of economic activity). Differences in the assessments of the conditions for conducting sales and payment activities determine the possibility of grouping Russian regions and types of economic activities according to the specified parameters.

MATERIALS AND METHODS

The theoretical basis of the study was the works of domestic and foreign scientists on the problems of managing accounts receivable of business entities, as well as the regulatory provisions of the current legislation in this area.

The methodological basis of the work was a systematic approach that allows for a comprehensive assessment of the current state of receivables in the Russian economy. When studying the theoretical and methodological foundations of the formation and management of accounts receivable of organizations, we apply such general scientific methods as hypothetical-deductive, analysis, synthesis, abstraction, comparison, generalization, analogy, etc. which allowed us to comprehensively consider the object of research.

The analysis in the work required the use of such methods as observation, description, statistical and comparative analysis, classification, trend building, grouping, tabular and graphical methods of presenting information, etc., which ensured the reliability of analytical data results and validity of conclusions.

The information base for the analysis of empirical data carried out in the work was the publications and operational-statistical

⁶ Order of the Ministry of Finance of Russia dated July 29, 1998 No. 34n (as amended on April 11, 2018) “On approval of the Regulations on Accounting and Financial Reporting in the Russian Federation” (registered with the Ministry of Justice of Russia on August 27, 1998 No. 1598). URL: http://www.consultant.ru/document/cons_doc_LAW_20081/7890988_fa6ce c3201efba7e76593110a6cfe9973/.

⁷ Tax Code of the Russian Federation (part two) of 05.08.2000 No. 117-FZ (as revised on 17.02.2021). Art. 265, p. 2, p. 2, Art. 266. URL: http://www.consultant.ru/document/cons_doc_LAW_28165/.

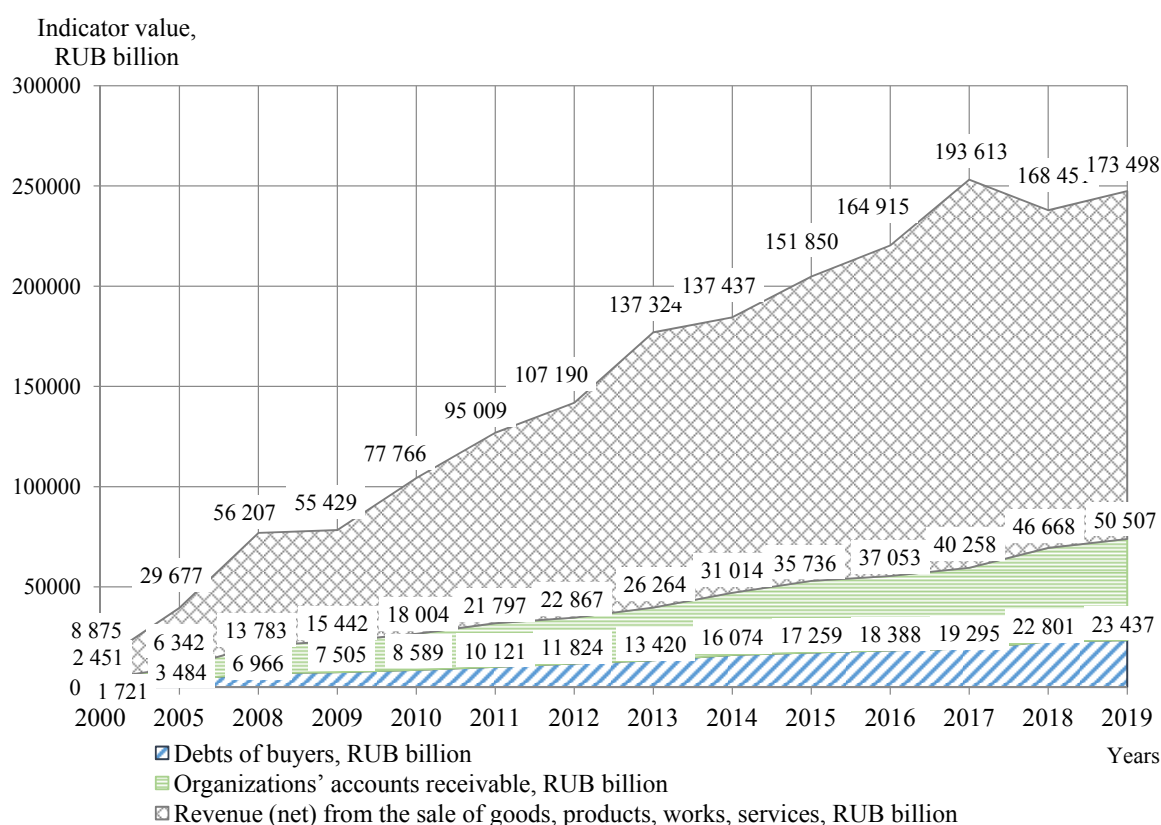


Fig. 1. Dynamics of revenue and accounts receivable of Russian organizations, billion rubles

Source: compiled by the author based on the data from Rosstat of the Russian Federation. URL: <https://rosstat.gov.ru/> (accessed on 25.02.2020).

information of the Federal State Statistics Service of the Russian Federation (Rosstat) for 2000–2019.

RESULTS AND DISCUSSIONS

The total accounts receivable of economic organizations is one of the main characteristics of macroeconomic dynamics. This indicator, firstly, gives generalized ideas, firstly, about the conditions for the sale of products (provision of services, performance of work) of organizations in the economy and the degree of market competition in product markets, and secondly, about the conditions for the sale of products (provision of services, performance of work) in the economy. the state and level of payment discipline of counterparties in the economy. In other words, the state and dynamics of total accounts receivable and its constituent elements give a generalized description of the conditions for doing business in terms of the implementation of marketing and financial

settlement activities of organizations in the economy of the industry, region of the country as a whole. By the level (to sales proceeds) and dynamics of the total accounts receivable of organizations and its elements (customer debt, overdue accounts receivable), one can judge the emerging factors of overproduction crises and non-payments in the economy (Fig. 1).

Fig. 1 data allow us to highlight the following trends in the dynamics of receivables in the Russian economy. First, the growth in accounts receivable prevails over the growth in revenue from sales of organizations. In 2010–2019 the growth of accounts receivable amounted to 280.5% with an increase in sales proceeds by 223.1%; the values of these indicators in 2000–2019 were 20.61 times and 19.55 times, respectively. Moreover, the growth of accounts receivable increased significantly over the years of declining sales growth: in 2018, the growth rate of accounts receivable amounted to 115.9% with a relative growth rate of revenue of 87%;

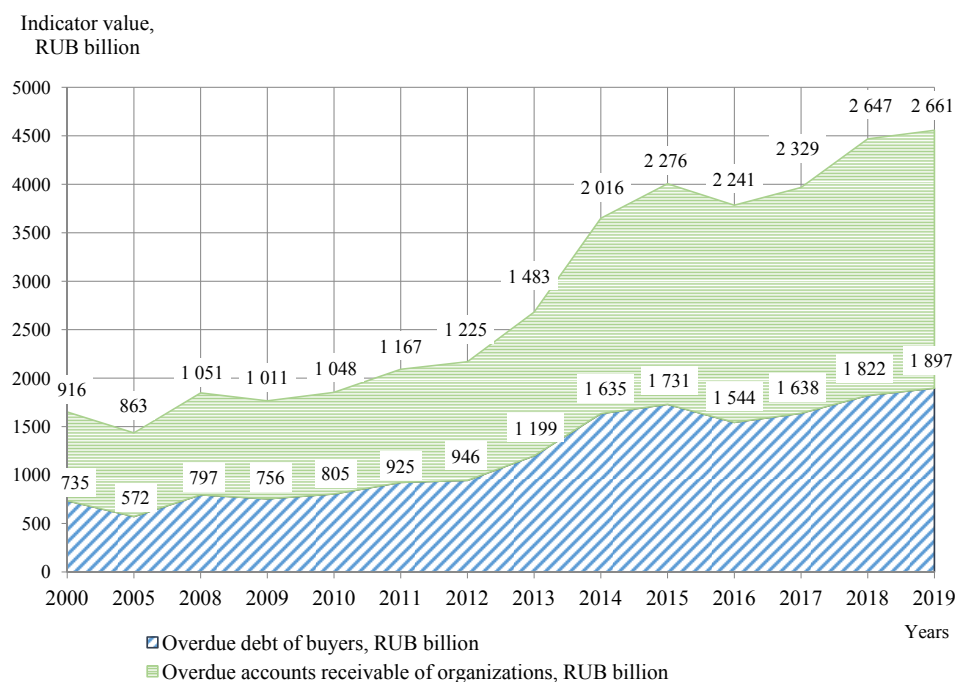


Fig. 2. Dynamics of overdue accounts receivable of Russian organizations, billion rubles

Source: compiled by the author based on the data from Rosstat of the Russian Federation. URL: <https://rosstat.gov.ru/> (accessed on 25.02.2020).

in 2009 the growth of accounts receivable amounted to 112% with a decrease in revenue by 98.6%. In 2019, the share of receivables in sales revenue increased to 29.1% (+ 6% by 2010 and + 1.5% by 2000).

Secondly, the importance of purchase debt as a key element of organizations' accounts receivable has slightly decreased. The basic growth rate of customer debt in 2010–2019 was 272.9%, in 2000–2019–13.6 times. In the period under review, the growth rates of buyers' debt lagged behind the growth of accounts receivable (except for 2012, 2014, 2016, and 2018). As a result, the share of consumer debt in the structure of accounts receivable decreased to 46.4% (insignificantly — 1.3% by 2010 and significantly — 23.8% by 2000).

Moreover, in 2000–2019, a very high power of influence (Pearson's correlation coefficient) was indicated for both accounts receivable on sales revenue (0.9749) and customer debt on accounts receivable (0.9984).

These circumstances indicate an increase in the importance of receivables as a tool to increase sales. At the same time, the volume,

level and dynamics of total accounts receivable fully allow forming an assessment of the conditions for conducting sales activities of organizations in the region and within the framework of economic activities.

The conditions for conducting settlement and financial activities in the economy are directly determined by the state of the settlement and payment discipline of counterparties, the characteristics of which are fully determined by the volume, level and dynamics of overdue receivables and overdue debts of buyers (Fig. 2).

Fig. 2 allows us to assert that the growth of buyers' overdue debt was inferior to the growth rate of overdue receivables: in 2000–2019–258% and 290.4%, and in 2010–2019–235.6% and 253.9%, respectively. At the same time, the annual growth rates of overdue and receivables of buyers were inferior to the growth rates of the indicators under consideration as a whole. This led to a decrease in the share of delinquencies in the structure of both receivables to 5.3% (–0.6% by 2010 and –32.1% by 2000) and buyers' debt to 8.1% (–1.3% by 2010 and –34.6% by 2000). Consequently, the settlement and payment

Table 1

Matrix for express assessment of the conditions for conducting sales and payment activities

Share of overdue accounts receivable, %		Share of accounts receivable in revenue, %			
		A acceptable	B moderate	C high	D very high
		<	20.01–30	30.01–50	>
I moderate	<	A I	B I	C I	D I
II essential	5.01–10	A II	B II	C II	D II
III significant	10.01–20	A III	B III	C III	D III
IV critical	20.01–30	A IV	B IV	C IV	D IV
V catastrophic	30.01–40	A V	B V	C V	D V
VI absolutely disastrous	>	A VI	B VI	C VI	D VI

Note: AI – the best business conditions; BI – better business conditions; AII, BII, CI – good business conditions; AIII, AIV, AV, BIII, BIV, CII, CIII, DI, DII – acceptable conditions; AVI, BV, CIV, CV, DIII, DIV – unacceptable conditions; BVI, CVI, DV, DVI – disastrous business conditions.

Source: compiled by the author.

discipline of counterparties has improved significantly.

When studying doing business in the Russian economy, with other things being equal, it is necessary to take the share of accounts receivable in the total proceeds from sales of organizations as the main characteristics of the conditions for the implementation of sales activities of organizations; settlement and financial activities – the share of overdue total accounts receivable of organizations.

To obtain a qualitative assessment, the author has developed an interval matrix for express assessment of the conditions for conducting sales and payment activities of organizations in the Russian economy (Table 1).

Analysis of the dynamics of total accounts receivable allowed us to identify intervals of quantitative values of the indicators used, depending on the degree of influence on the resulting financial indicators of the organization's activities. Quadrants of the

Express assessment matrix are formed on the basis of a set of quantitative values of the accepted assessment indicators.

Formation of the Matrix for express assessment of the conditions for conducting sales and payment activities is possible in the context of both the economies of regions and federal districts and types of economic activity. Information about the place of the region (district), the type of economic activity in the Matrix acts as a macroeconomic characteristic of the economy of the region, district, type of economic activity. The specified information can be used by various subjects.

According to the data on the places occupied in the Matrix, business entities can monitor the situation in terms of the level of competition development and the state of payment discipline in the region (district), and the industry of presence. The data obtained will make it possible to adjust the assessments and indicators of the developed strategies (diversification of

production, selection of new sales markets, etc.) and tactics (criteria for assessing potential counterparties, the formation of conditions for trade credit, etc.) of business decisions in terms of improving their compliance with the external economic environment.

Potential investors can use the information specified in the Matrix as one of the key characteristics of the macroeconomic situation in the region and industry, both the proposed investment and product sales. In investment design, the characteristics of the conditions for conducting sales and payment activities will increase or decrease the optimism of the forecast estimate of revenue, the synchronicity of its receipt (with the shipment of products, the cost of production) and other indicators of profitability of investment projects.

Also, indirectly, the indicator of the place of the region in the Matrix indicates the efforts being made by the regional authorities to create a favorable investment climate in such areas as the commercial and financial conditions for doing business in the region. This indicator of a region's place in the Matrix can be used both by regional authorities and administrations when developing measures to support and stimulate business, and by organizations that form regional investment ratings.

In the context of types of economic activity, the following grouping is possible, depending on the results of assessing the conditions for conducting sales and payment activities of organizations (*Table 2*).

Table 2 indicates that the conditions for conducting sales and payment activities differ significantly by type of economic activity. The types of activities that produce products have good (C I) and acceptable (B III, B IV, C II, D I) conditions for conducting sales and payment activities. These industries have a higher level of receivables (excluding category A) with a wide range of arrears. Activities that provide non-financial services are in a much better position and have the best (A I), better (B I), good (B II, C I), and acceptable (D I) conditions for conducting sales and payment activities. With a wide range

of the specific weight of accounts receivable, the lowest level of overdue part of it is observed. The financial sector of the economy has acceptable conditions (D I), which fully meets the specifics of the activity.

When examining the business situation in the Russian federal districts, it is necessary, to note its heterogeneity (*Fig. 3*).

The indicators shown in *Fig. 3*, allow us to state the following. The scale of sales activity in the federal districts of the Russian Federation differs significantly but is already established during 2010–2019. This made it possible to single out 3 groups of federal districts in terms of revenue from sales of organizations:

- Group I includes districts with the volume of revenue of organizations from 20,000 billion rubles and more;
- Group II — districts with revenues from 10,000 to 19,999 billion rubles;
- Group III — district revenue up to 10,000 billion rubles.

In the districts, the leaders in sales (Group I), there is a fairly high level of accounts receivable (about 28–33%), but the lowest indicators of its overdue part (4–5%). This testifies to significant sales volumes with a fairly high level of competition for the client against the background of a high degree of compliance with payment discipline by counterparties in the commodity markets of these federal districts. That is, a high level of economic development in the leading regions is observed.

The federal districts included in Group II are characterized by a significant level of trade credit (21–30%) and an increased level of non-compliance with payment discipline by counterparties (5.5–9%). At the same time, in the Southern Federal District, the best conditions were formed for the specified group of districts — the lowest levels of accounts receivables and their delinquencies. In this group, we can talk about the presence and development of crisis factors of non-payments.

Group III includes areas with the worst conditions for conducting sales and payment activities. At the same time, the North Caucasian

Table 2

Assessment of the conditions for conducting sales and payment activities by type of economic activity

Group	Types of economic activity*
A I	Wholesale and retail trade; repair of motor vehicles and motorcycles [19.41; 3.53]; transportation and storage [19.09; 2.95]; activities in the field of health and social services [13.21; 4.50]; activities in the field of culture, sports, organization of leisure and entertainment [10.89; 2.05]
B I	Provision of other types of services [29.81; 2.05]; education [29.0; 2.63]; activities in the field of information and communication [21.82; 2.63]; activities of hotels and catering [20.72; 1.75]
B II	Administrative activities and related additional services [21.63; 6.35]
C I	Real estate transactions [45.47; 4.24]; processing industries [33.08; 4.31]; agriculture, forestry, hunting, fishing and fish farming [32.54; 1.64]
B III	Supply of electricity, gas and steam; air conditioning [24.66; 17.46]
B IV	Water supply; water disposal, organization of waste collection and disposal, activities to eliminate pollution [22.49; 24.55]
C II	Extraction of minerals [35.25; 8.52]
D I	Public administration and military security; social security [70.4; 3.14]; professional, scientific and technical activities [58.65; 3.85]; construction [57.53; 6.08]; financial and insurance activities [51.1; 2.79]

Note: * the values in 2019 are indicated: the share of receivables in the revenue of organizations,%; share of overdue accounts receivable, %.

Source: compiled by the author on the basis of Finance of Russia 2020. Stat. dig. Rosstat. Moscow; 2020. URL: <https://rosstat.gov.ru/folder/210/document/13237/> (accessed on 25.02.2020).

Federal District is the anti-leader in all districts of the Russian Federation — with the lowest revenue (1130.5 billion rubles), the largest share of accounts receivable in revenue (38.29%) and its overdue part (15.09%). The regional economy is in a state of crisis processes of overproduction and non-payment.

Assessment of the regions of Russia using the Matrix for express assessment of the conditions for conducting sales and payment activities (see: Table 1) allowed us to group the regions (Table 3).

Table 3 data allow us to draw the following conclusions. The best business conditions (A I) are observed only in three regions, better conditions (B I) — in 15 regions. The most significant group of Russian regions (38) has the whole range of good (A II, B II, C I) conditions for conducting sales and payment activities. Also, in a significant group of regions (23), there is a wide range of categories of acceptable (A III, B III, B IV, C II, C III, D I) conditions. In the best possible

categories, unacceptable conditions (A VI, C IV, D III) are presented in 4 regions; in 3 regions of the North Caucasian Federal District — disastrous (C VI, D V) conditions for conducting sales and payment activities are observed.

Consequently, the overwhelming majority of regions (78) have acceptable and better conditions for conducting sales and payment activities, which can only be assessed positively.

At the same time, according to the set of conditions for conducting sales and payment activities and the breadth of regional representation, the federal districts differ significantly from each other (Table 4).

Table 4 data fully confirm the conclusions of Fig. 3. The best conditions (A I) for conducting sales and payment activities (in conjunction with other acceptable conditions) are presented only in the Central and Siberian federal districts. Unacceptable conditions are observed in the Northwestern and Ural federal

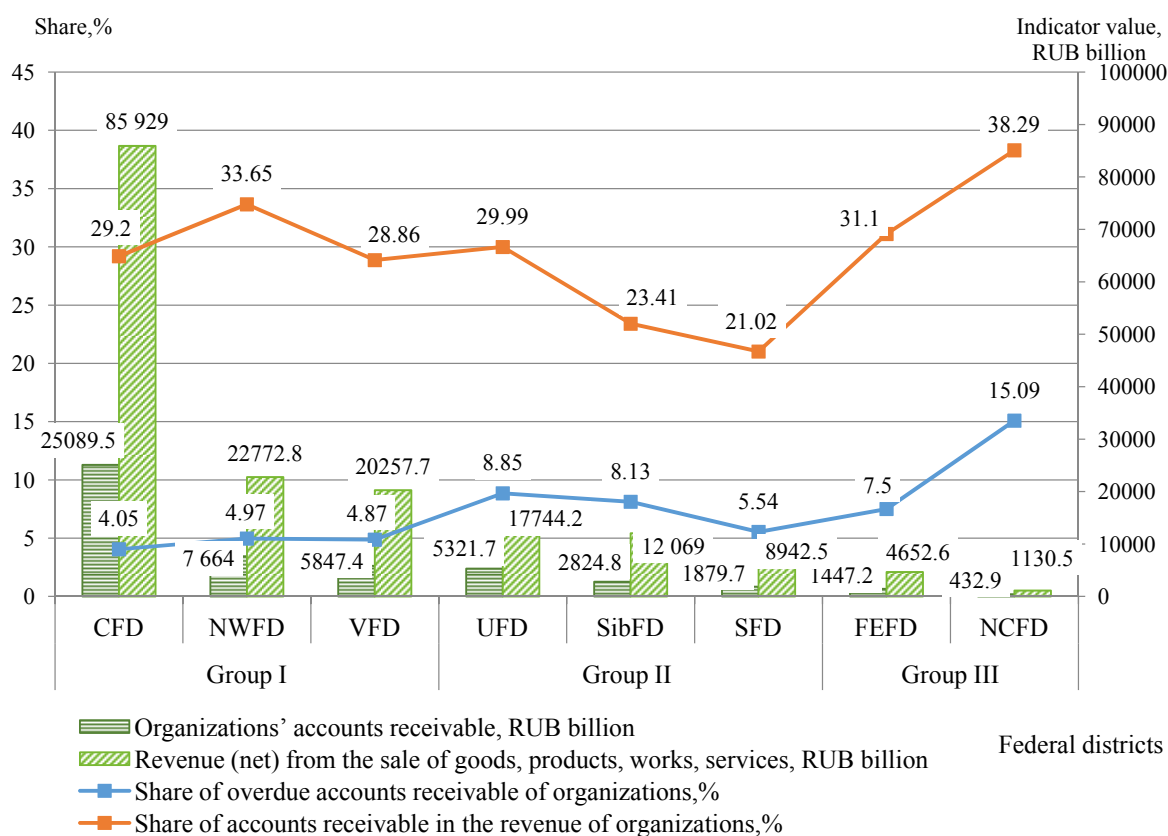


Fig. 3. Dynamics of sales indicators by federal districts of the Russian Federation in 2019

Note: CFD – Central Federal District; NWFD – Northwestern Federal District; VFD – Volga Federal District; UFD – Ural Federal District; SibFD – Siberian Federal District; SFD – Southern Federal District; FEFD – Far Eastern Federal District; NCFD – North Caucasian Federal District.

Source: compiled by the author based on the data from Rosstat of the Russian Federation. URL: <https://rosstat.gov.ru/> (accessed on 25.02.2020).

districts. And in the North Caucasian District, in the overwhelming majority of regions, only unacceptable and disastrous conditions for conducting sales and payment activities are presented. At the same time, the best and better conditions are completely absent in the Urals, Far Eastern, and North Caucasian districts.

CONCLUSIONS

Summing up, it should be emphasized that the total accounts receivables of organizations in the economy are designated as an independent object of macroeconomic and regional research.

The analysis carried out in the work revealed a high degree of correlation between sales proceeds and accounts receivable of organizations, as well as a tendency to increase

the significance of accounts receivable against the background of a slight decrease in the share of trade credit in sales of organizations. In this regard, it becomes necessary to deepen the analysis of accounts receivable for all its constituent elements, however, only accounts receivable of buyers are subject to statistical observation. In the settlement and financial activities of Russian enterprises, there is a tendency towards a decrease in the share of overdue debts of both buyers and in general.

The levels of the aggregate receivables of organizations and their overdue part are determined as generalizing characteristics of the conditions for conducting sales and payment activities in the economy and are used to construct the Matrix for express assessment

Table 3

Assessment of the conditions for conducting sales and payment activities in Russian regions

Group	Region*. **
A I	<i>CFD</i> : Kaluga Reg. [(19.8; 4.58), 0.97]; <i>SibFD</i> : Novosibirsk Reg. [(18.98; 1.94), 0.95]; Altai Territory [(12.29; 2.98), 0.73]
B I	<i>CFD</i> : Lipetsk reg. [(24.90; 1.36), 0.90]; Oryol reg. [(22.53; 3.06), 0.96]; Moscow reg. [(20.35; 4.32), 0.99]; Belgorod reg. [(28.61; 1.82), 0.97]; Tambov reg. [(26.97; 2.09), 0.97]; <i>NWFD</i> : Pskov reg. [(27.99; 4.85), 0.86]; Kaliningrad reg. [(21.04; 2.27), 0.79]; <i>VFD</i> : Rep. Tatarstan [(27.38; 3.3), 0.99]; Penza reg. [(23.87; 4.1), 0.97]; <i>SibFD</i> : Krasnoyarsk Territory [(28.32; 4.7), 0.98]; Tomsk reg. [(23.56; 2.74), 0.94]; Omsk reg. [(21.97; 2.67), 0.81]; Irkutsk reg. [(20.17; 4.67), 0.64]; <i>SFD</i> : Rep. Adygea [(21.65; 3.39), 0.89]; Krasnodar Territory [(20.99; 4.58), 0.94]
A II	<i>CFD</i> : Smolensk reg. [(18.81; 6.04), 0.87]; <i>NWFD</i> : Vologda reg. [(14.07; 8.91), 0.93]; Rep. Karelia [(17.87; 8.69), 0.81]; <i>VFD</i> : Perm Territory [(19.39; 7.4), 0.53]; <i>SibFD</i> : Rep. Khakassia [(18.25; 8.54), 0.60]; Rep. Altai [(14.77; 5.15), 0.35]; <i>SFD</i> : Volgograd reg. [(17.82; 7.83), 0.80]
B II	<i>CFD</i> : Kostroma reg. [(24.89; 8.54), 0.91]; Yaroslavl reg. [(27.21; 8.21), 0.96]; Kursk reg. [(24.08; 7.82), 0.94]; Bryansk reg. [(27.47; 6.71), 0.91]; Vladimir reg. [(20.55; 9.22), 0.97]; <i>NWFD</i> : Rep. Komi [(22.77; 5.5), 0.86]; Novgorod reg. [(20.57; 8.76), 0.90]; <i>VFD</i> : Ulyanovsk region. [(29.56; 8.21), 0.84]; Rep. Bashkortostan [(23.07; 5.63), 0.94]; Rep. Mari El [(22.24; 7.0), 0.84]; Saratov reg. [(25.38; 5.38), 0.93]; Chuvash Rep. [(21.32; 9.6), -0.35]; Samara region [(20.85; 5.53), 0.93]; <i>UFD</i> : Sverdlovsk reg. [(24.77; 8.23), 0.96]; Khanty-Mansi AD – Ugra [(28.00; 6.58), 0.18]; Chelyabinsk reg. [(21.60; 8.41), 0.97]; <i>SFD</i> : Rostov reg. [(22.14; 5.43), 0.94]; Astrakhan reg. [(21.50; 6.03), 0.56]; <i>FEFD</i> : Chukotka AD [(28.34; 7.23), 0.80]; Khabarovsk Territory [(27.77; 8.57), 0.11]; Rep. Sakha (Yakutia) [(21.91; 8.71), 0.86]
C I	<i>CFD</i> : Moscow [(31.34; 3.67), 0.64]; Voronezh reg. [(31.17; 2.06), 0.97]; Ryazan reg. [(30.12; 2.45), 0.95]; <i>NWFD</i> : St. Petersburg [(36.71; 4.52), 0.95]; Leningrad reg. [(31.75; 2.31), 0.95]; <i>VFD</i> : Udmurt Rep. [(33.39; 2.64), 0.90]; Rep. Mordovia [(30.11; 3.25), 0.98]; <i>UFD</i> : Yamalo-Nenets AD [(39.77; 1.95), 0.97]; <i>FEFD</i> : Sakhalin reg. [(45.02; 2.46), 0.92]; <i>NCFD</i> : Stavropol Territory [(34.71; 4.89), 0.76]
A III	<i>VFD</i> : Kirov reg. [(18.86; 10.53), 0.67];
B III	<i>CFD</i> : Ivanovo reg. [(25.74; 13.94), 0.51]; Tver reg. [(24.04; 12.86), 0.87]; <i>NWFD</i> : Nenets AD [(20.65; 16.62), -0.16]; <i>UFD</i> : Kurgan reg. [(29.65; 14.83), 0.89]; <i>SFD</i> : Rep. Crimea [(23.21; 10.21), 0.68]; <i>FEFD</i> : Jewish AD [(29.44; 14.97), 0.31]
B IV	<i>SibFD</i> : Kemerovo reg. [(25.75; 22.31), 0.94]; <i>FEFD</i> : Rep. Buryatia [(25.08; 20.04), 0.48]
C II	<i>NWFD</i> : Murmansk reg. [(36.51; 9.45), 0.80]; <i>VFD</i> : Nizhny Novgorod reg. [(36.78; 6.43), 0.96]; <i>UFD</i> : Tyumen reg. [(33.46; 8.98), 0.39]; <i>SibFD</i> : Rep. Tyva [(30.36; 6.22), 0.86]; <i>SFD</i> : Rep. Kalmykia [(46.30; 7.54), 0.79]; Sevastopol c. [(33.69; 9.42), 0.68]; <i>FEFD</i> : Trans-Baikal Territory [(37.31; 8.81), 0.96]; Magadan reg. [(34.1; 6.3), 0.98]; Primorsky Territory [(30.75; 7.1), 0.94]; <i>NCFD</i> : Rep. North Ossetia-Alania [(35.93; 8.95), -0.04]
C III	<i>CFD</i> : Tula reg. [(37.38; 18.06), 0.97]; <i>FEFD</i> : Kamchatka Territory [(31.59; 11.23), 0.99]
D I	<i>VFD</i> : Orenburg reg. [(70.92; 1.82), 0.86]; <i>FEFD</i> : Amur reg. [(50.79; 4.32), 0.78]
A VI	<i>NCFD</i> : Rep. Ingushetia [(14.26; 81.75), -0.51];
C IV	<i>UFD</i> : Tyumen reg. without AD [(37.63; 26.82), 0.58]
D III	<i>NWFD</i> : Arkhangelsk reg. [(58.82; 14.13), 0.93]; <i>NCFD</i> : Karachay-Cherkess Rep. [(55.21; 12.84), 0.87]
C VI	<i>NCFD</i> : Chechen Rep. [(47.32; 45.91), 0.56]; Kabardino-Balkarian Rep. [(41.55; 48.84), 0.52]
D V	<i>NCFD</i> : Rep. Dagestan [(51.71; 38.82), 0.77]

Note: * the values in 2019 are indicated: the share of receivables in the revenue of organizations,%; share of overdue receivables,%; Pearson's correlation coefficient of revenue from sales of organizations and accounts receivable for 2010–2019.

** abbreviated: reg. – region, AD – autonomous district, Rep. – Republic, c. – city.

Source: compiled by the author.

Table 4

Assessment of the conditions for conducting sales and payment activities in the federal districts

Federal districts*							
CFD	NWFD	VFD	UFD	SibFD	SFD	FEFD	NCFD
A I (1)				A I (2)			
B I (5)	B I (2)	B I (2)		B I (4)	B I (2)		
A II (1)	A II (2)	A II (1)		A II (2)	A II (1)		
B II (5)	B II (2)	B II (6)	B II (3)		B II (2)	B II (3)	
C I (3)	C I (2)	C I (2)	C I (1)			C I (1)	C I (1)
		A III (1)					
B III (2)	B III (1)		B III (1)		B III (1)	B III (1)	
				B IV (1)		B IV (1)	
	C II (1)	C II (1)	C II (1)	C II (1)	C II (2)	C II (3)	C II (1)
C III (1)						C III (1)	
		D I (1)				D I (1)	
							A VI (1)
			C IV (1)				
	D III (1)						D III (1)
							C VI (2)
							D V (1)

Note: * regions in the district that have the appropriate conditions.

of these conditions. The use of the Express assessment matrix allowed us to group the types of activities, regions, and districts of the Russian Federation, depending on the conditions for conducting sales and payment activities.

Thus, the presented research has a complex character. The results contribute to the systematization and expansion of the theoretical foundations of the study of the total accounts receivable of organizations in the

regional and sectoral context of the country's economy. In practical terms, the author has developed the Matrix of express assessment of the conditions for conducting sales and payment activities, which is applicable both in the management of a separate organization when making decisions of a strategic nature (diversification of production, choice of sales markets, formation of trade credit conditions, etc.), and to the authorities and administrations

in the development of measures to support and stimulate business, as well as rating agencies.

Further deepening of research on the total accounts receivable of organizations in the economy is seen in the search for tools to

determine its optimal volume and structure for the timely identifications of the factors of upcoming crises of non-payments and overproduction both in the economy as a whole and in individual commodity markets.

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