



**Monitoring, fact-finding
and accounting aspects
of cash flow management
in agribusiness**

MONITORING, FACT-FINDING AND ACCOUNTING ASPECTS OF CASH FLOW MANAGEMENT IN AGRIBUSINESS

MONITOREO, INVESTIGACIÓN Y ASPECTOS CONTABLES DE LA GESTIÓN DEL FLUJO DE EFECTIVO EN AGRONEGOCIOS

ABSTRACT

In the current economic situation, accounting, analysis and control of cash and cash equivalents play a particularly important role, since this type of assets is the most liquid. The article reveals the main groups of problems associated with a reliable reflection of cash in the financial statements of agricultural enterprises. Errors and violations are grouped according to the main criteria for the audit of financial statements. The article analyzes the dynamics of current liquidity of Russian enterprises over the past 22 years. The program of internal cash flow audit aimed at preventive controls has been proposed to agricultural enterprises. The main factors affecting the occurrence of cash gaps in agriculture have been identified. The disadvantages of main methods to reduce cash gaps are considered. The analysis of the volume of loans issued to economic entities, as well as the dynamics of receivables of economic subjects of the Russian Federation, including overdue ones, has been carried out. To eliminate the arising cash shortfalls, it was proposed to use a modified method of forecasting cash flows, adapted to the peculiarities of agricultural enterprises and organizations. The article has a practical orientation and will be useful not only for students, but also for practicing accountants and auditors.

KEYWORDS: cash, cash audit, cash flow forecasting, receivables and payables, cash gaps.

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RESUMEN

En la situación económica actual, la contabilidad, el análisis y el control del efectivo y los equivalentes de efectivo desempeñan un papel particularmente importante, ya que este tipo de activos es el más líquido. El artículo revela los principales grupos de problemas asociados con un reflejo confiable de efectivo en los estados financieros de las empresas agrícolas. Los errores y las violaciones se agrupan de acuerdo con los criterios principales para la auditoría de los estados financieros. El artículo analiza la dinámica de la liquidez actual de las empresas rusas en los últimos 22 años. El programa de auditoría interna de flujo de efectivo dirigido a los controles preventivos ha sido propuesto a las empresas agrícolas. Se han identificado los principales factores que afectan la ocurrencia de brechas de efectivo en la agricultura. Se consideran las desventajas de los métodos principales para reducir las brechas de efectivo. Se ha llevado a cabo el análisis del volumen de préstamos emitidos a entidades económicas, así como la dinámica de las cuentas por cobrar de los sujetos económicos de la Federación de Rusia, incluidos los vencidos. Para eliminar el déficit de efectivo que se generó, se propuso utilizar un método modificado para pronosticar los flujos de efectivo, adaptado a las peculiaridades de las empresas y organizaciones agrícolas. El artículo tiene una orientación práctica y será útil no solo para los estudiantes, sino también para los contadores y auditores en ejercicio.

PALABRAS CLAVE: efectivo, auditoría de efectivo, previsión de flujo de efectivo, cuentas por cobrar y por pagar, brechas de efectivo.

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INTRODUCTION

Transactions with cash and cash equivalents have the greatest exposure to risks of various abuses and theft, since this type of assets is the most liquid. Therefore, properly organized accounting and control of cash and cash equivalents can help to take preventive measures to save them. The cash flow management, in turn, requires a set of methodologically rigorous tools of analysis and forecasting, allowing not only to evaluate the liquidity of enterprise, but also to reduce cash gaps.

METHODS

Our study is based on the works of Russian and foreign scientists on the theory, methodology of accounting, analysis, control and management; legislation and laws regulating cash and cash equivalents accounting in the Russian Federation. We have analyzed official statistics, planning and background information on agricultural enterprises and organizations.

The following methods were used: modeling, analysis, synthesis, abstract-logical, monographic, constructive and economic-statistical methods, as well as methods of systematization and generalization of the research results.

ANALYSIS OF CURRENT LIQUIDITY OF RUSSIAN ENTERPRISES

Liquidity is a basic concept in accounting, finance and investment. It refers to the ability of assets to transform from one form to another. Liquidity of funds characterizes the availability of cash and cash equivalents to convert the assets of an enterprise.

Let us carry out the analysis of the current liquidity ratio of Russian companies and enterprises according to their accounting statements during the period 1995 to 2017.

Exhibit 1.(See Annexes) The dynamics of current liquidity ratio according to the financial statements of enterprises and organizations of the Russian Federation (excluding small businesses) in% (the chart was compiled by the authors on the basis of data on solvency ratios and financial stability indexes of Russian enterprises (excluding small businesses) // Federal State Statistics Service. – URL:http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/finance/#) [12]

The analysis of data from the Federal State Statistics Service shows that in 2017 the current liquidity ratio increased by 52.8% compared to 2016, indicating the ability of economic agents to repay their debts and obligations using only their own assets. In general, the dynamics of this ratio demonstrates an increase in liquidity of economic entities of the Russian Federation over the past 22 years.

Being the basis for various statistics and analytical reports, the accounting data must meet the special requirements: they should be reliable in order to avoid misleading the end users of financial statements. Therefore, the role of internal control should increase in order to prevent possible errors and irregularities in the organization of accounting of an economic agent.

PROBLEMS OF FAIR PRESENTATION OF CASH AND CASH EQUIVALENTS IN THE FINANCIAL STATEMENTS OF ENTERPRISES

Summarizing the experience of audit, we can distinguish several groups of problems related to the reliable reflection of cash flows in accounting and financial reporting [4].

The first group of problems is associated with the lack of an effective system of internal control in cash management [2], which reflects in inadequate system of management and custody of funds or its total absence:

- the absence of an order from the head of the company regarding the performance of the cashier's duties by another person;
- the absence of an agreement of full material liability with the cashier;
- violation of the established procedure for cash register inventory or purely formal cash register inventories [6].

The second group of problems is related to the audit of company's funds. Among the possible errors and violations are the following:

- identified cash surpluses or shortages;
- mismatch between the data on opened bank accounts provided to tax authorities and the number of agreements on opening of bank accounts.

The next group of problems is related to the absence of grounds for recognizing this cash as an asset in accounting, i.e. legal belonging of cash assets to an economic agent:

- the use of non-standardized documents in reporting cash transactions;
- the lack of primary documents, or erasures in cash orders;
- exceeding the limits of cash balances;
- discrepancies in invoice details when authorizing cash transactions;
- excess of cash settlements when dealing with legal entities over the amount of established limit;
- receiving payments in cash without using check-out machines or using inoperable check-out machines;
- missed deadlines for the submission of reports on cash received for settlements;
- unreasonable withdrawal of cash for cash desk services.

The fourth group includes problems associated with incomplete recording of cash and cash equivalents in accounting reports:

- the disbursement and receipt vouchers inconsistent to the cash book data;
- inconsistency of cash book totals to ledgers data;
- inconsistency of ledgers for accounts #1 and #2 and their statements to turnover balance sheets;

- the turnover balance sheets data inconsistent to the general ledger and financial statements.

The next group of problems is associated with the assessment or revaluation of funds:

- wrong methodology for accounting of purchase/sale operations in foreign currencies;
- the lack of revaluation of foreign currency held both on hand and on the foreign currency accounts at the balance sheet date.

The sixth group includes problems associated with defining the reporting period, i.e. with timeliness of money assets write-off:

- time difference between cash issuance and acceptance from accountable persons;
- non-compliance with the expiry date of credit.

Finally, the last group of problems is related to the disclosure of information on cash flows in the financial statements. Information on the cash is set forth in the section 2 "Current assets" of the balance sheet in the line "Cash and cash equivalents" [7].

We should remind that IAS 7 gives the following definition for cash and cash equivalents: banknotes and coins on hand, as well as deposits in banks or other institutions that are available to companies upon request.

Cash equivalents are short-term highly liquid investments that are easily converted into a fixed known income amount and are subject to an insignificant risk of changes in value. Cash equivalents are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes [11].

According to paragraph 5 of Russian Accounting Standards (RAS) 23/2011, this indicator includes only assets that meet certain criteria [1]. In particular, in balance analysis the following cash equivalents are considered:

- easily marketable assets equal to a specific amount of cash;

- investments whose value is not subject to significant fluctuations.

For example, demand deposits and promissory notes of the central bank of a country can be cash equivalents. The issued loans also fit the above criteria, which should be reflected in the accounting policy [2].

The line “Cash and cash equivalents” is composed of the sum of debit balances in the following accounts:

Account 50 “Cash” (with the exception of sub-account 3 (postage stamps, fuel cards, etc.)); Account 51 “Current Account”; Account 52 “Foreign Currencies”; Account 55 “Special Bank Accounts”; Account 57 “Transfers in transit.”

These accounts form the cash assets of an economic entity, and the cash equivalents in the balance sheet are recorded in the Accounts 58 “Short-term financial investments”, and 55 “Special bank accounts”. The criteria for distinguishing cash equivalents from other investments should be reflected in the accounting policies of company.

“The Report of Cash Flows” serves as the explanation of the line 1250 of the balance sheet [4].

In order to ensure an effective internal control, we suggest the following program of internal audit (Table 1).

Table 1 (See Annexes)- The program of internal cash management audit drawn up in accordance with the main criteria for auditing financial statements

All audit procedures described in this program are grouped by the main criteria for auditing the accounting statements of an economic entity.

Summary Factors affecting the appearance of cash gaps in agricultural enterprises

One of the most important aspects of cash management is the planning and forecasting of cash flows in order to prevent cash gaps. The cash management should be organized so that at any moment the enterprise has at its disposal a sufficient amount of cash [9].

Cash gaps are temporary shortages of funds necessary to finance the regular expenses. Commonly, cash gaps arise in connection with the discrepancy between the timing of cash receipt and payment [10].

The appearance of cash gaps is associated with the following factors:

- internal and external environment: the inconsistency of operational financial and strategic planning with actual business environment of the enterprise; the effects of macro and micro factors;

- the turnover of current assets is manifested in an effective system of management of accounts receivable;

- seasonality, consisting in an excessive accumulation of raw materials and goods in the warehouses of agricultural enterprises; the seasonal nature of crop production;

- risks associated with the specific character of the branch of industry. For agriculture, there are many factors: a drop in demand, a market decline in prices, a rise in prices for fuels and lubricants, a disparity in prices compared to industrial products, dependence of production on climatic conditions etc.,
- that can lead to appearance of cash gaps.

WAYS OF PREVENTING CASH GAPS

Analysis of the economic literature [8,9,10] allows to distinguish the following well-known ways to prevent cash gaps (Exhibit 2).

Exhibit 2 (See Annexes). Ways of preventing cash gaps

DISCUSSION

In practice, the above ways to prevent cash gaps are fraught with considerable difficulties, therefore their importance is quite disputable.

For example, a trade credit from suppliers would have a relatively high cost for the borrowing company, and in most cases, the suppliers refuse to provide such a loan due to the long delay in payment. In a large bank, a loan approval procedure can take a considerable period of time. Let us analyze the amount of loans issued to Russian enterprises over the past 4 years (Exhibit 3).

Exhibit 3 (See Annexes). Credits provided to enterprises and organizations (at the beginning of the year; million rubles) (the chart was drawn up by the authors based on the data on loans, deposits and other funds allocated to enterprises, individuals and credit organizations // Federal State Statistics Service. – url: http://www.gks.ru/bgd/regl/b16_13/main.htm)

Thus, according to the Federal State Statistics Service, the volume of loans granted to organizations and enterprises (including overdue) in 2016 amounted to 54263040 million rubles, which is 67.13% higher than in 2013, and 13.35% higher than in 2015. This gives evidence of an increase in borrowed funds allocated to ensuring business continuity

As for agricultural enterprises and organizations, the share of their debt in the total volume of loans provided by banks to Russian enterprises amounted to 3.2% at the end of 2016, the share of overdue debt was 4.7% (Table 2).

Table 2 (See Annexes)- The debt of agricultural enterprises and organizations (including hunting and forestry sectors) to banks and other creditors in the period between 2012 and 2016.

The reduction of accounts receivable turnover in days is due to the implementation of an effective credit policy in an economic entity.

Exhibit 4 (See Annexes). Dynamics of trade receivables of enterprises (without small businesses) of the Russian Federation (at the end of the year, since 1998 - trillion rubles, billion rubles) http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/finance/#

Analysis of statistical data shows a significant annual growth in accounts receivable of large and medium-sized enterprises of the Russian Federation since 2006. Hence, the volume of accounts receivable of organizations amounted to 40258 billion rubles in 2017, which is 8.64% more than in 2016. The value of overdue accounts receivable also tended to grow and grew in 2017 by 3.92% compared to 2016 (Exhibit 4).

Table 3 (See Annexes)–Payables and receivables of agricultural organizations (including hunting and forestry sectors), at the end of the year.

As table 3 shows, in 2006 the share of overdue receivables of agricultural enterprises amounted to 2.4%.

Exhibit 5 (See Annexes). Dynamics of debt of buyers and customers (excluding small businesses) of Russian enterprises (at the end of the year, since 1998 - trillion rubles, billion rubles) http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/finance/#

The amount of debt of buyers and customers increased by 4.93% in 2017 compared to 2016 and amounted to 19,295 million rubles, although the growth rates of overdue receivables of this type did not grow so significantly (Exhibit 5).

Table 4 (See Annexes)- Agricultural enterprises and organizations (including hunting and forestry) having overdue trade debts (at the end of the year)

Table 4 shows that in 2016 the number of agricultural enterprises with trade receivables amounted to 771 or 17.8% of total. The analysis of data given above leaves open the question of organizing an effective credit policy at the agrarian enterprises of the Russian Federation and in the national economy as a whole.

The generally accepted method of reducing cash gaps, consisting in additional discounts to counterparties for advance payment, it can also be too costly for an economic entity. At the same time, buyers are not ready to pre-payments due to a lack of working capital, which makes this method inefficient.

As for the sale of receivables to a company-factor, this method appears to be challenging due to a significant duration of operations preceding factoring services.

Withdrawal of funds from turnover is a very desperate measure that can lead, at best, to a reduction in production volumes, to a shortfall in profits, and, at worst, to the loss of market share and a part of customers.

Cash-flow forecasting takes into account the current business dynamics, which gives a more accurate picture of the net cash flow and allows for the operational modeling of cash flow decisions.

RESULTS

It should be noted that cash-flow forecasting is quite undeveloped in Russian agro-based enterprises. The well-known methods of cash-flow forecasting mentioned in the economic literature do not take into account the peculiarities of agricultural production, therefore they are difficult to implement in specific conditions. Therefore, there is an urgent need to modify the methods of cash-flow forecasting with the purpose of adapting them to the specifics of the agricultural sector.

In order to eliminate cash gaps, it is necessary to change the schedule of cash receipts from crops buyers, switching over to partial prepayment or payment by installments. Obviously, there will be a change in the amount of VAT received from buyers and customers, which will lead to a change in the amount of payments for this period. We suggest the optimization of payment system with the use of the objective function developed by A.A. Koneva and Microsoft Excel spreadsheet to automate calculations and save working time:

$$DP1 = (\Delta_{+df1} + X1) - (\Delta_{-df1} + ((NG1 + X1 * 10 / 110) - NU1)), \text{ where}$$

X1- required value, January revenues from the sale of crops for January;

Δ_{+df1} - all the income planned for January except the revenue from sales of crops;

Δ_{-df1} - all the expenses planned for January net of VAT;

NG1- the amount of VAT related to sales of goods in January;

NU1- the amount of VAT paid for raw materials in January [5].

The similar cash flow formulas can be used for other months of the planning year.

The main goal of the objective function is to find among all its acceptable values those that will maximize it. These indicators include cash receipts from buyers of crops by each


month. To achieve the desired goal, certain restrictions must be set:

1. The amount of receipt of cash from counterparties should be a positive number for every month;
2. Total income for the year should not exceed the maximum amount of planned annual revenue from sales of crops;
3. Net cash flow for the month should be positive.

The described methodology allows to calculate the necessary monthly amount of cash receipts from crops buyers and to create a new payment system with regard to of grown products. This methodology will help agricultural enterprises to generate a positive net cash flow every month, or at least minimize loans for providing the continuity of production.

CONCLUSIONS

Being the most liquid asset of any economic entity, cash and cash equivalents require reasonable accounting and effective control, because they are most frequent target of thieves. All the problems related to a reliable reflection of cash flow in the financial statements of an economic entity can be classified into seven groups by the nature of errors and violations committed. The developed program of internal cash flow audit is based on the main criteria for evaluating the accounting reports and has a preventive character.

Unique features of agricultural production: seasonality, dependence on climatic conditions and others, - often cause the imbalances in cash flow. The absence of well-organized cash flow management in most agricultural enterprises leads to an increase in cash gaps. The analysis of economic literature has revealed the inconsistency of proposed methods for eliminating cash gaps. To improve the cash-flow forecasting in agricultural enterprises, we recommend to follow the modified methodology, fully adapted to the specifics of the agricultural industry. This methodology would enable Russian agricultural producers to minimize their dependence on borrowed funds. 

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ANNEXES

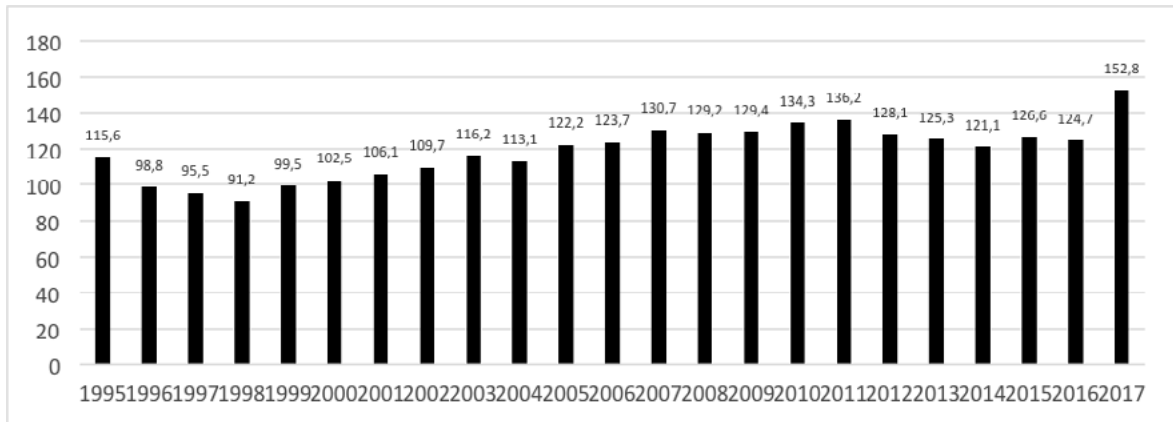


Exhibit 1. The dynamics of current liquidity ratio according to the financial statements of enterprises and organizations of the Russian Federation (excluding small businesses) in% (the chart was compiled by the authors on the basis of data on solvency ratios and financial stability indexes of Russian enterprises (excluding small businesses) // Federal State Statistics Service... – URL:http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/finance/#) [12]

Completeness	Verification of cash and cash equivalents accounting	Mutual control
Rights and obligations	Review of primary cash accounting documents for compliance with standard documents authorizing transactions Validation of cash write-offs	Inspection, analysis, analysis regulatory documentary
Assessment	Verifying of foreign currency valuation at the date of the transaction	Inspection, analysis, analysis, verification regulatory documentary arithmetic
Reporting period definition	Checking the timeliness of cash recognition Checking the timeliness of cash write-offs	Inspection, analysis, analysis regulatory documentary Inspection, analysis, analysis regulatory documentary
Accuracy	Validation of foreign currency revaluation at the reporting date	Inspection, analysis, verification regulatory arithmetic
Disclosure	Verification of the identity of data from accounting registers with indicators of financial accounting reports	Inspection, analysis, analysis regulatory documentary

Table 1 - The program of internal cash management audit drawn up in accordance with the main criteria for auditing financial statements.

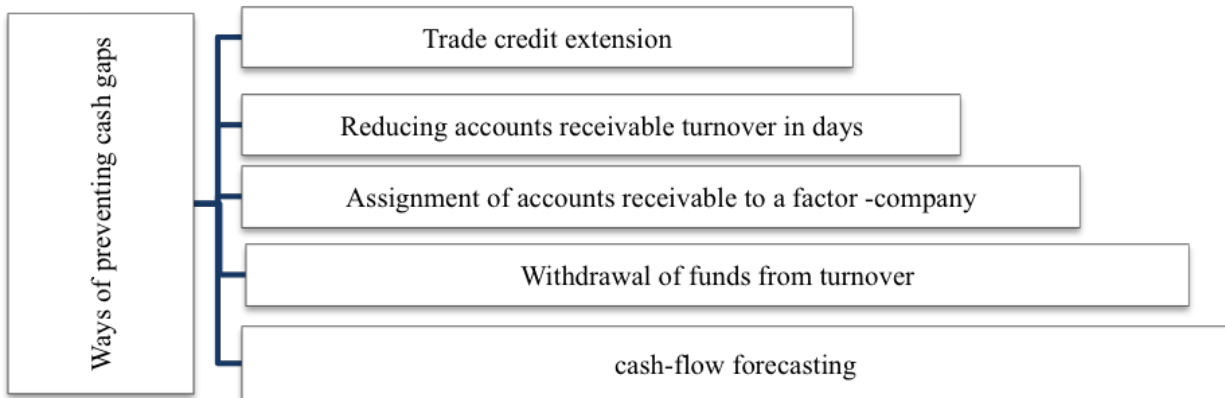


Exhibit 2. Ways of preventing cash gaps



Exhibit 3. Credits provided to enterprises and organizations (at the beginning of the year; million rubles) (the chart was drawn up by the authors based on the data on loans, deposits and other funds allocated to enterprises, individuals and credit organizations // Federal State Statistics Service. – url: http://www.gks.ru/bgd/regl/b16_13/main.htm)

	2012	2013	2014	2015	2016
1. Total, million rubles	1162576	1304304	1351021	1541890	1578459
Including overdue debt, million rubles.	18129	20111	20674	18428	19197
2. In % to the total,	4,5	4,2	3,2	3,1	3,2
Overdue debt	11,7	10,5	8,1	4,7	4,7
3. The proportion of overdue debt in total debt on bank loans, borrowings and interests of loans.	1,6	1,5	1,5	1,2	1,2

Table 2 - The debt of agricultural enterprises and organizations (including hunting and forestry sectors) to banks and other creditors in the period between 2012 and 2016.

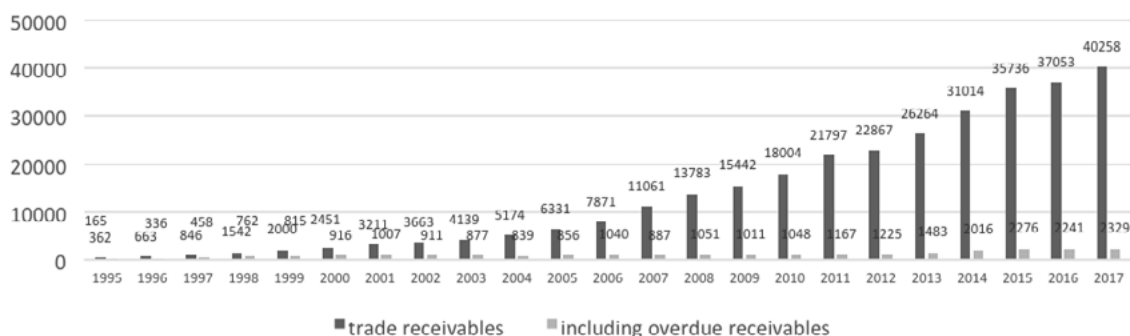


Exhibit 4. Dynamics of trade receivables of enterprises (without small businesses) of the Russian Federation (at the end of the year, since 1998 - trillion rubles, billion rubles) http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/finance/#

Indicators	2012	2013	2014	2015	2016
1. Accounts payable, million rubles.	377511	422265	460678	572585	572054
Including overdue debt, million rubles.	26589	27815	25593	24674	25915
in % of payables	7,0	6,6	5,6	4,3	4,5
2. Accounts receivable, million rubles.	393058	413247	484427	609284	632115
Including overdue debt, million rubles.	14388	14051	14570	13856	15352
in % of receivables	3,7	3,4	3,0	2,3	2,4

Table 3 –Payables and receivables of agricultural organizations (including hunting and forestry sectors), at the end of the year.

ANNEXES



Exhibit 5. Dynamics of debt of buyers and customers (excluding small businesses) of Russian enterprises (at the end of the year, since 1998 - trillion rubles, billion rubles) http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/finance/#

Indicators	2012r.	2013r.	2014r.	2015r.	2016r.
1. Number of enterprises having:					
Trade receivables	1493	1312	1096	942	771
Trade payables	1291	1071	870	698	516
2. Share of enterprises having overdue debts in total amount of enterprises, in %, including:					
Trade receivables	23,8	22,4	20,8	19,4	17,8
Trade payables	20,6	18,3	16,5	14,3	11,9

Table 4 - Agricultural enterprises and organizations (including hunting and forestry) having overdue trade debts (at the end of the year)

