ECONOMICS

# FISCAL TECHNOLOGIES OF BUDGET LIQUIDITY MANAGEMENT AND THEIR ROLE TO ENSURE THE SUSTAINABLE GROWTH OF THE AGRARIAN SECTOR IN THE CONTEXT OF GLOBAL UNCERTAINTY

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**Abstract:** When the political and economic uncertainty rises, the sustainable functioning of strategically significant industries that first and foremost include the agriculture defines the national security. Comparison of the agricultural output in Russia and some global countries indicate on extensive pattern of the growth in industry. The government too poorly commits to support the agricultural sector. Where the budget revenue declines in the Russian Federation due to unfavorable conditions in the commodity markets, the risks of non compliance with expenditure commitments increase (in particular, program events focused on the agrarian sector support). The purpose of the study was to justify the feasibility to increase the share of government in the activity to ensure the growth of the industry at the brand-new level by using up-to-date fiscal technologies for budget liquidity management. The study was based on the dialectical approach that allows considering components (elements) of the agrarian sector in their flow and development along with systematic and institutional methodological approaches and statistical methods. Fiscal technologies for budget liquidity management are aimed at reducing budgetary risks that arise when implementing budget plans under conditions of global uncertainty. Concentration of financial assets with the Unified Bank Account of the Treasury of Russia and placement of temporarily free budget liquidity in derivative instruments forms conditions to create the innovative and investment-oriented budget deficit and increase of the governmental share in development of the industry at the truly new level.

**Keywords:** Agriculture, agrarian sector, sustained development, food security, targeting of budget funds remainders, liquidity of the single budget account, budgetary risks, budget data, innovation and investment-oriented budget deficit

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## INTRODUCTION

Sustainability of the agricultural sector is one of strategic priorities that specify the national food security. It is obvious that the food security development greatly relates to the matter of programs and policies integrated at the national level, oriented to creation of the environment convenient for business and growth of agricultural output.

For 26 years, quite a long period in history, when Russia was undergoing formation and development of market relations, a range of legislative and regulatory laws were adopted along with documents of state strategic planning system [1] (forecasts, concepts, strategies, programs, activity plans, etc.) to show the opinion and intentions of federal and regional authorities towards agricultural activity, the industry so significant to ensure the national security. Its significance for the national economy is evident from that the term "agriculture" is mentioned 7669 times in the text of the Russian legislation, and 1200 to 8000 and more times in the legislation of the constituent entities.

It is necessary to point out that in the Russian Federation institutional frameworks are mainly formed aimed to ensure the governmental support to agricultural sector.

The Concept of Long-Term Social and Economic Development of the Russian Federation for the period up to 2020 [1], as well as the Food Security Doctrine of the Russian Federation serve as the key instrument that

[1] The documentation system of state strategic planning is defined in the Art. 3 of the Federal Law 3 No. 172-FZ "On Strategic Planning in the Russian Federation" dd. June 28, 2014.

specify major objectives of the governmental agrarian policy for strategic outlook [2]. In December 2010, the Concept of Sustainable Development of Rural Territories of the Russian Federation for the period to 2020 was approved [3], and the Strategy for Agricultural Machinery Development in Russia for the period to 2020 [4] was approved in December 2011.

The Art. 6 of the Federal Law "On Agriculture Development" [5] specifies measures to implement the governmental agrarian policy, including the budgetary funds granted to agricultural producers, and the Art. 7 of the same specifies main areas of public support to this industry. In particular, this includes availability of credit resources for agricultural producers, provided that the share of sale revenue of agricultural products is at least 70% per calendar year of the total income of the entity; development of the risk insurance system in agriculture, of livestock breeding, elite seed production, and others. (sub-clause 1, cl. 1, Art. 7). The federal budget fund is the source of finding of such activities granted as budget subsidies to budgets of the RF constituent entities as prescribed by the Government of the Russian Federation.

In 2007, the State Program for Agriculture Development and Regulation of Agricultural Products, Raw Material and Foodstuff Market for 2008–2012 was adopted [6]. As the list of the RF state programs [7] is approved to integrate the program-targeted principles of budget planning, the program matter was updated, and the timeline was extended to 2020 [8].

Initially, in 2008-2012, the program was assumed to be implemented based on co-financing at the expense of assets as follow: 551.3 billion rubles (39.2%) – federal budget assets; 544.3 billion rubles (38.7%) – budget assets owned by RF entities; 311 billion rubles (22.1%) – extrabudgetary sources, and the total scope of finance under the program amounted to 1406.6 billion rubles. However, the program funding sources were revised. To implement the program within 2013–2020, the federal budget funds were assumed only in the amount of 2126.2 billion rubles (that is, 3.8 times higher compared to the amount scope of budget allocations under the federal budget for 2008–2012).

It should be noted that the RF constituent entities also adopted state programs aimed at support to the agrobusiness. The presence of regions in this process is obviously defined by budget capacity of thereof.

The overarching policy of the Russian Federation to take part in the international agriculture, fisheries and food security activity [9] specifies that the sustainable and predictable development of agriculture is becoming more urgent against the world crises, including food and financial sectors that managed to radically transform the condition related to ensure the food security in Russia in recent days.

The political events of 2014–2016 (the Ukrainian crisis followed by annexation of the Crimea to the Russian Federation, the presence of the National Guard troops in Syria, etc.) fatally resulted in the growth of global political and economic uncertainty. Economic sanctions against Russia by the United States and the European Union countries, the restriction or embargo on the supply of certain food and the similar triggered actions by the President of the Russian Federation and the Government of the Russian Federation to focus on sustainable development of agriculture for the purpose to introduce the policy of import substitution and ensure the national food security.

As the response to economic sanctions by the West, on January 1, 2015, the President of the Russian Federation caused the formation of the Eurasian Economic Union (EEU) with Belarus, Kazakhstan, Armenia as members and Kyrgyzstan that joined them six months later. The purpose of EEU is to ensure the free flow of goods, services, capital assets, labor and introduction of the well-coordinated, consistent or unified policy for economic sectors, including agriculture. The intentions of various countries (Egypt, Thailand, Iran, Mongolia, Serbia) to join the EEU prove their concern.

The purpose of this study is to provide evidence on feasibility to increase the governmental share to ensure the game0changing industrial development through the employment of recent fiscal technologies to manage the budget liquidity based on assessment results for the Russian agrarian sector condition and comparison data of industrial performance between some countries of the world, the development level of institutional environment oriented to the agriculture support, as well as based on the volume of budgetary resources available in the pre-crisis period and in the midst of increasing global uncertainty.

## OBJECTS AND METHODS OF STUDY

The target of research is the agrarian sector with reference to processes that characterize its capacity against the growing budget constraints related to fiscal technologies of public liquidity management and the share of such technologies in the sustainable development of the industry to the brand-new level. The research is based on the dialectic approach. In the course of the research, systematic, institutional methodological approaches and statistical methods were applied.

The dialectical approach allows to study agrarian components (elements) on the movement and in process. In turn, the system concept allows assessing the impact of the agrarian sector pattern, as a subsystem, on the supersystem stability that is the national economy as a whole, and considering the interaction between these different systems. The use of the system concept affords to analyze the interaction of the agrarian sector as a national economy subsystem with other subsystems, for instance, with the government sector. The institutional approach is focused on the study of the agrarian sector in terms of assessment of the health, level and directions of the institutional environment development, including such institution as the Federal Treasury and technologies used by thereof to manage budget liquidity.

The analysis of statistical time series makes it possible to track the industrial changes in correlation with a variety of macroeconomic parameters, for example, incomes and expenditures of the consolidated

budgets of the RF budget system, federal budget revenues, oil and gas revenues, oil prices, and so forth.

## RESULTS AND DISCUSSION

### The comparative analysis and the assessment of the agricultural sector capacity in relation to some macroeconomic parameters

Gross Regional Product (GRP) serves as the summarized performance measure of the state-of-the-art of regional economy and the significance of certain types of economic activity in formation thereof. The analysis of the GRP structure for Russian regions showed that only 21 out of 85 RF entities significantly contribute to ensure the national food security with over 10% share of such business activities as "Agriculture, hunting and fishing" (Fig. 1). If the share of the industry in the GRP structure is taken as 15% and over as the estimation criterion, there are only 11 regions in the Russian Federation with such parameters (Fig. 1). Among them, the Republic of Kalmykia (31.3%), Belgorod (20.3%), Kursk (18.1%), Orel (16.8%), Tambov (21.9%), Stavropol Territory (15.0%), Kabardino-Balkar Republic (16.2%), Karachay-Cherkess Republic (19.2%), and Mariy-El (18.0%), Altai (18.3%) and the Crimea (21.9%) [10].

Moreover, the comparison data on the performance of the most vital types of farm products and foodstuffs in Russia and some countries of the world show that the increasing adjustments are required to be made to lots of indicators to successfully implement the policy of import substitution (with the share rated at about 1.3 trillion rubles to be achieved by 2020) and to ensure the national food security (Table 1).

It is worth pointing out that that despite the statement on accomplishment of the food sovereignty level in the Food Security Doctrine of the Russian Federation by such agricultural products as grain, potato, vegetable oil and sugar, many world countries show much higher performance in the industry with the farmland area much smaller as compared with those in Russia.

So, for example, the area of cultivated lands in such a small country as Belgium is 169.4 times less than in Russia, but the grain output per 1 person is 1.6 times higher. In terms of potato production, Denmark is 1.3 times ahead of Russia, despite the fact that the area of cultivated lands in this country is 84.7 times less. The similar results are reported in terms of production output for other types of agricultural products (Tables 1, 2).

**Table 1.** Production of most important types of farm products and foodstuffs in 2013 in Russia and in several world countries per capita, kg [11]

| Type of agricultural products | Russia | Australia | Austria | Belgium | Hungary | Germany | Denmark | Italy | Canada | Netherlands | Poland | United Kingdom | USA | Finland | France | Japan |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Corn** | 721 | 1672 | 577 | 1150 | 1381 | 585 | 1628 | 272 | 2061 | 108 | 748 | 326 | 1388 | 757 | 1071 | 93 |
| Including wheat | 409 | 998 | 188 | 700 | 515 | 305 | 738 | 121 | 1067 | 79 | 246 | 187 | 183 | 164 | 605 | 6 |
| Potato** | 216 | 56 | 71 | 23 | 45 | 118 | 284 | 22 | 131 | 405 | 164 | 87 | 63 | 115 | 109 | 20 |
| Fruits*, berries*, citrus fruits and grapes* | 24 | 156 | 113 | 76 | 130 | 29 | 12 | 276 | 23 | 42 | 109 | 6 | 94 | 4 | 129 | 24 |
| Vegetables* and melon and gourds | 116 | 88 | 70 | 79 | 146 | 42 | 51 | 217 | 63 | 287 | 135 | 40 | 108 | 50 | 82 | 89 |
| Saluter cattle and poultry (carcass weight basis)* | 62 | 196 | 106 | 29 | 82 | 99 | 337 | 67 | 123 | 159 | 99 | 57 | 134 | 72 | 87 | 26 |
| Milk* | 211 | 416 | 403 | 179 | 178 | 380 | 910 | 183 | 239 | 74 | 330 | 218 | 289 | 430 | 385 | 59 |
| Eggs, pcs | 287 | 175 | 200 | 165 | 253 | 167 | 250 | 229 | 225 | 637 | 260 | 39 | 301 | 203 | 246 | 330 |
| Sugar (of domestic raw materials) ** | 31.5 | 149 | 59 | 0 | 12 | 54 | 77 | 6 | 3 | 60 | 50 | 21 | 23 | 16 | 69 | 5 |
| Pasta | 6.8 | … | … | 2 | 8 | 3 | 0.4 | … | … | … | 5 | … | … | 3 | … | 7 |
| Vegetable oils** | 27.8 | 21 | 23 | 27 | 36 | 44 | 36 | 20 | 95 | 12 | 22 | 16 | 36 | 20 | 43 | 13 |
| Margaric products | 3.5 | … | … | 1.3 | … | 4.8 | 11 | … | … | 15 | 6 | 3 | … | 3 | … | 2 |
| Cooking salt | 3.4 | 477 | … | … | … | 232 | … | 48 | 311 | 389 | 110 | 96 | 128 | … | 96 | 7 |
| Animal oil | 1.7 | 5.3 | 4.2 | 0.2 | 0.4 | 5.5 | 6.9 | 2 | 2.5 | 8 | 5 | 2 | 3 | 10 | 7 | 1 |

*Notes.* *By 2020, the imported farm product supply is planned to be reduced as follow: meat of cattle and poultry - by 67.8%, milk - by 29.9%, vegetables - by 70.3%, fruit and berry products - by 20%, grapes - by 54.6%.

** With respect to grain, potatoes, vegetable oil and sugar, the desired level of food food sovereignty as specified by the Food Security Doctrine of the Russian Federation has been achieved.

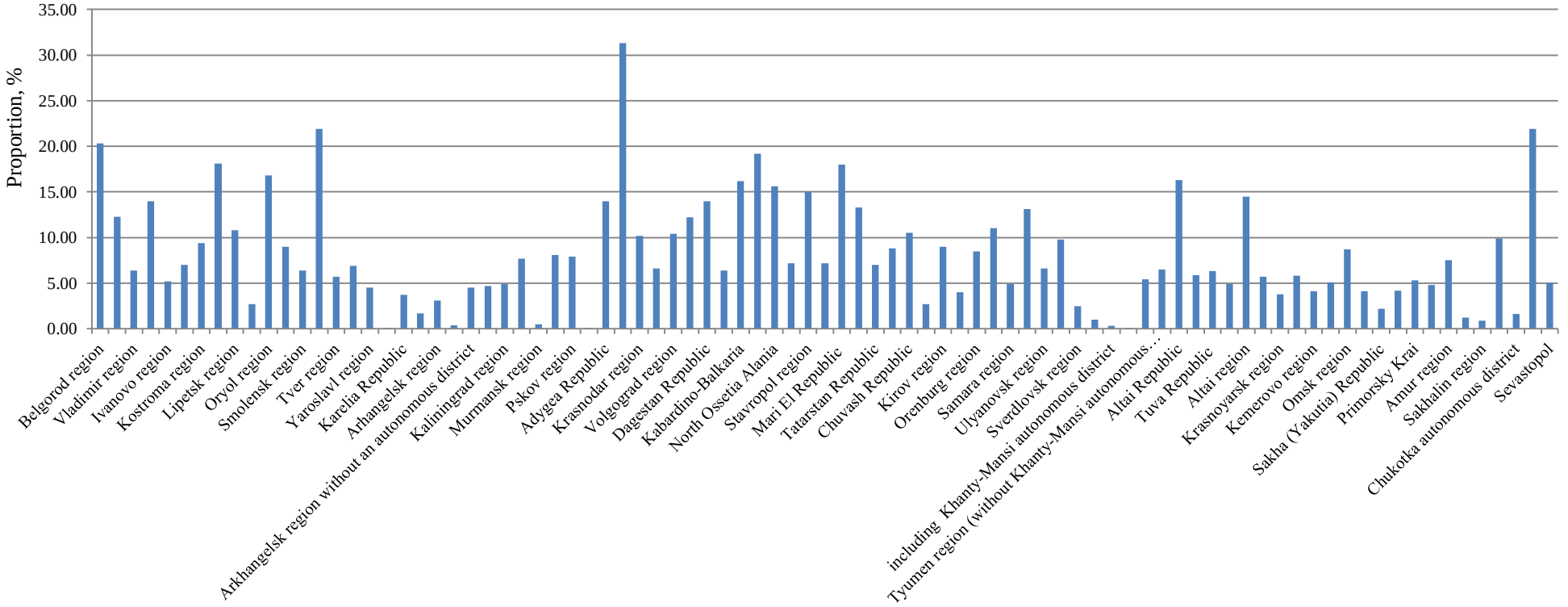




**Fig. 1.** Share of the "Agriculture, hunting and forestry" in the structure of regional GRP of the Russian Federation entities for 2014 (compiled by the authors to: [10]).

**Table 2.** The structure of cultivated land in 2013 in Russia and in some parts of the world [11]

| Criteria | Russia | Australia | Austria | Belgium | Hungary | Germany | Denmark | Italy | Canada | Netherlands | Poland | United Kingdom | USA | Finland | France | Japan |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total cultivated land, mln hectares | 220.2 | 396.6 | 3.2 | 1.3 | 5.3 | 16.7 | 2.6 | 13.6 | 65.3 | 1.8 | 14.4 | 17.3 | 405.4 | 2.3 | 28.8 | 4.5 |
| of them, in percentage | | | | | | | | | | | | | | | | |
| arable land | 55.2 | 12 | 43 | 61 | 82 | 71 | 92 | 50 | 70 | 56 | 75 | 36 | 37 | 98 | 64 | 93 |
| other agricultural land | 44.8 | 88 | 57 | 39 | 18 | 29 | 8 | 50 | 30 | 44 | 25 | 64 | 63 | 2 | 36 | 7 |

The figures above indicate a variety of systemic issues, including the use of morally obsolete equipment and technologies in farm production, high physical depreciation of fixed assets (37% in 2014 as per Rosstat, Federal Service of State Statistics), immaturity of rural area infrastructure, low level of human capital asset development that impedes the industrial re-equipment. Ultimately, the issues above serve as the reason for irrational use of cultivated lands and the extensive nature of the industrial progress.

The financial component is one of key factors of sustainable development in any sector of national economy. In this term, the agriculture is no exception. The financial status of farms remains unstable, as evidenced by parameters of a variety of financial ratios (Table 3). So, the value of working capital financed by equity to total assets ratio remains negative, despite the upward trends that means that entities do not have own resources available to finance their current activities (purchase of raw stock, materials, etc.), and, consequently, it indicates the demand in credit assets. Dependence on external sources of funding is also proved by the value of equity to total assets ratio (Table 3).

Yet, institutional bases are formed, the governmental share in the industrial development remains too low, in our opinion, and the applicable measures are often non-effective. The structure of investments in fixed assets allocated for agricultural sector development was analyzed to prove on inadequate involvement of government in this process (Table 4, Fig. 2). The major sources of financing are own and attracted assets of agricultural producers.

Amendments to the applicable legislation in terms of granting subsidies at the expense of the federal budget to reimburse expenses for the purchase of mineral fertilizers and chemical protection equipment, reimbursement of partial cost for insurance payments, as well as of part of the investment loan interest rate, stimulated attraction of credit resources by agricultural commodity producers. The share of borrowed funds in the investment structure in 2005–2008 increased, reaching its peak value, in 2007, that makes 61.6%. The scope of investments, on whole, showed upward trends, either. As for 1999 to 2015, three critical points may be highlighted where its decrease was required as follow: in 2004 – by 65.1%, in 2009 – by 16.4%, in 2015 – by 5.58%. However, if the negative trend of investments in 2014 to the agriculture development was due to the fall in grain prices and crop failure (production output decreased by more than 25% due to unfavorable agroclimatic conditions), in 2009 and 2015, the negative trend by this parameter related solely to the crisis processes in the economy and the decline in financial capacities of both economic entities and in the budget of the Russian budget system.

When it comes to the governmental involvement in the growth of industry on whole, then, despite the upward trend of budget allocations of the consolidated budget of the Russian Federation (Fig. 3), the share of investments in the capital stock at the expense of the federal budget, starting from 2005, did not exceed 5%, and in 2010–2013 it was a little bit greater than 2%. The involvement of RF entity budgets in the support to the industrial growth was even more inferior (Table 4).

Comparison of the volume of RF consolidated budget subsidies with the federal budget for 2006–2015 by the sub-section of the budget classification of expenditures "Agriculture and Fishery" that enables to report on the sensitivity of the federal budget to crisis processes in the economics. It was in 2009 and 2014, in the course of decline in demands and prices for hydrocarbon raw materials in foreign markets, where financing of the industry was abruptly reduced (Fig. 3–4).

**Table 3**. Some parameters characterizing the financial standing and financial performance of agricultural entities for 2013–2015 [12]

| Criteria | 2013 | 2014 | 2015 |
|---|---|---|---|
| Current liquidity ratio*, % | 155 | 160.9 | 181.7 |
| Working capital financed by equity to total assets ratio**, % | -41.2 | -38.1 | -14.2 |
| Equity to total assets ratio***, % | 37.8 | 39.3 | 44.8 |
| Number of profitable entities, thous. | 4.3 | 4.1 | 3.7 |
| Balanced financial result, bln rubles | 60.9 | 181.1 | 280.1 |

*Notes.* *Current liquidity ratio – the recommended value is 200%; **Working capital financed by equity to total assets ratio – the recommended value is 10%; ***Equity to total assets ratio – 50 %.

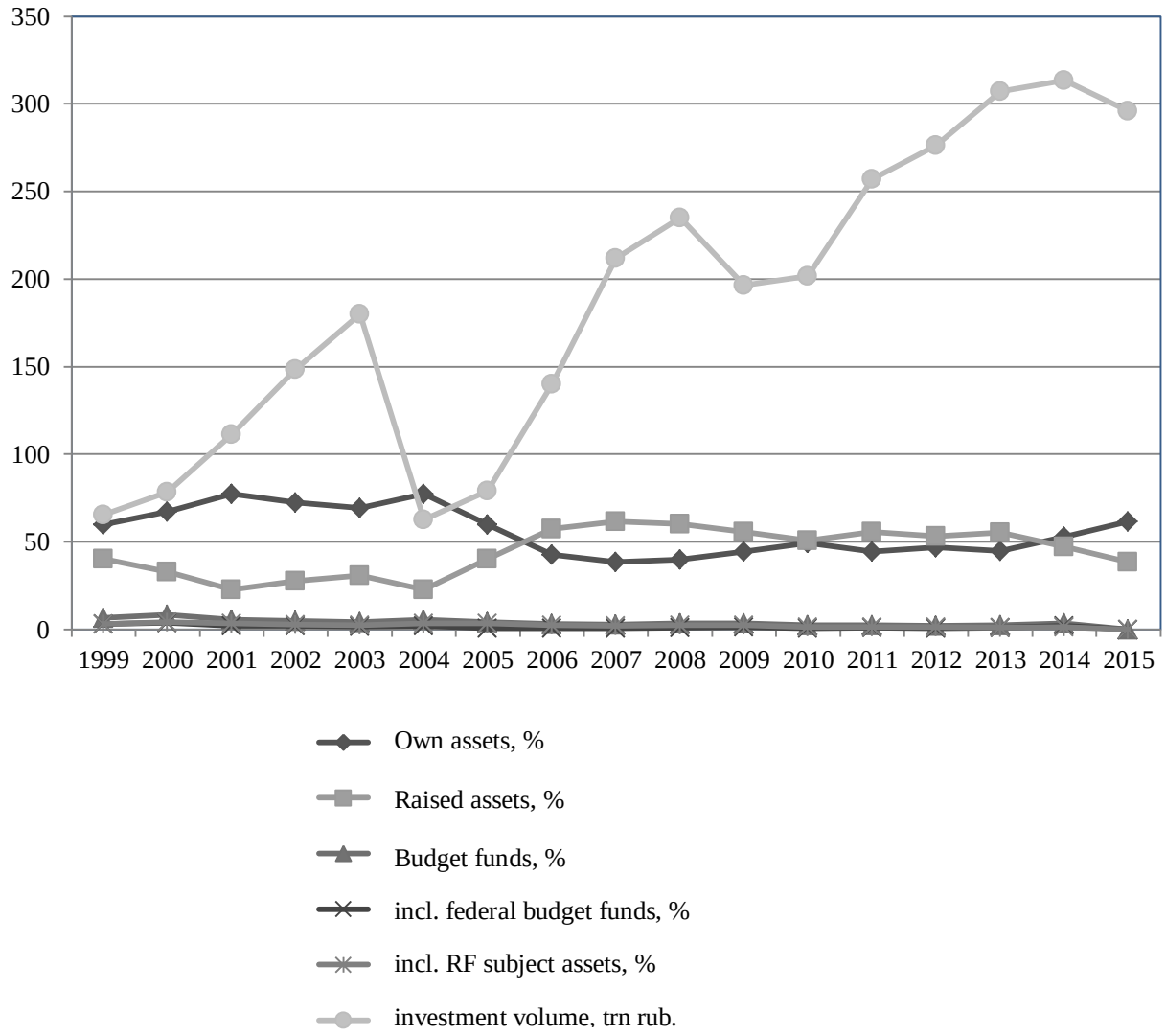


**Fig. 2.** Graphical view of trends in volume and structure of investments in capital assets to be allotted to agricultural development by sources of funding for 1999–2015 (compiled by authors to: [13]).

**Table 4.** The structure of investments to the capital stock for agricultural development as per sources of funding for 1999 – 2015, % [13]

| Criteria | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Investments to fixed assets, total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| of them: | | | | | | | | | | | | | | | | | |
| own funds | 59.8 | 67.1 | 77.4 | 72.5 | 69.2 | 77.4 | 59.8 | 42.5 | 38.4 | 39.8 | 44.5 | 49.3 | 44.3 | 46.8 | 44.8 | 52.8 | 61.5 |
| raised funds | 40.2 | 32.9 | 22.6 | 27.5 | 30.8 | 22.6 | 40.2 | 57.5 | 61.6 | 60.2 | 55.5 | 50.7 | 55.7 | 53.2 | 55.2 | 47.2 | 38.5 |
| of which: budgetary funds | 6.6 | 8.5 | 5.6 | 5.0 | 4.1 | 5.6 | 4.3 | 3.1 | 2.7 | 3.5 | 3.6 | 2.3 | 2.4 | 2.0 | 2.3 | 3.3 | … |
| including | | | | | | | | | | | | | | | | | |
| the federal budget | 3.0 | 3.9 | 2.0 | 2.1 | 1.7 | 2.0 | 0.7 | 0.5 | 0.6 | 0.9 | 1.2 | 0.7 | 1.0 | 0.7 | 1.1 | 1.9 | … |
| budgets of RF subjects | 3.2 | 4.3 | 3.4 | 2.8 | 2.3 | 3.4 | 3.3 | 2.5 | 1.9 | 2.4 | 2.3 | 1.4 | 1.3 | 1.2 | 1.0 | 1.3 | … |
| local budgets | … | … | … | … | … | … | … | | | | … | … | … | … | 0.2 | 0.1 | … |

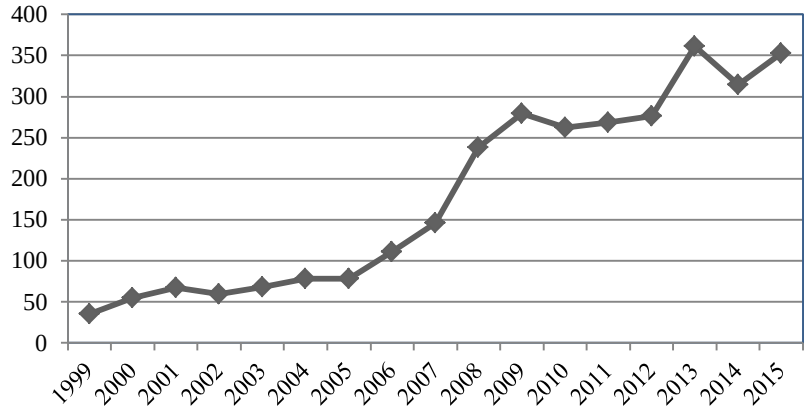


**Fig. 3.** Volume of the RF consolidated budget subsidies as per the item of budget classification of expenditures "Agriculture and Fishery" for 1999–2015, in bln rubles. compiled by authors to: [14]).

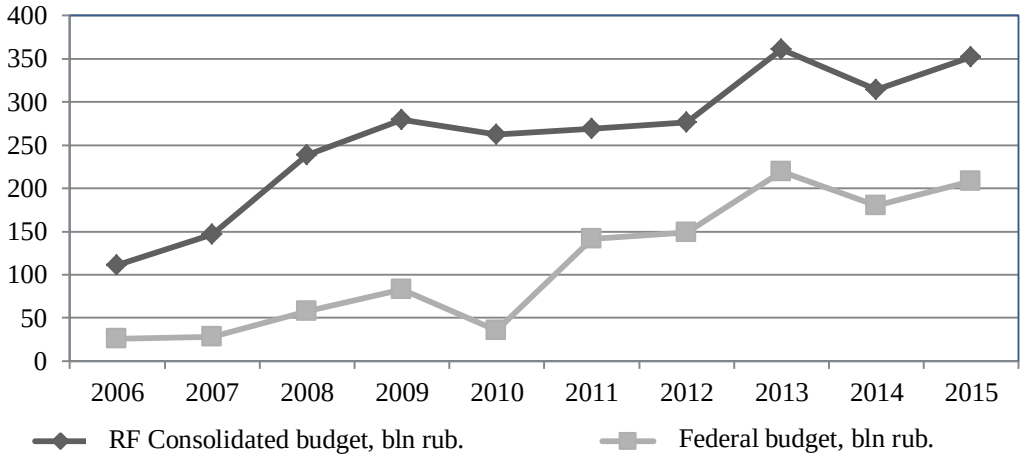


**Fig. 4.** Comparison of the RF consolidated budget subsidies with the federal budget for 2006–2015 in terms of the sub-section of the budget classification of expenditures "Agriculture and Fishery" in bln rubles (compiled by authors to: [15]).



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Due to the growing global political and economic uncertainty and budgetary constraints, there is an urgent need to search for fundamentally new approaches to manage budget resources available at all levels of the RF budget system to ensure the governmental support to strategically important sectors (including agriculture), but also to raise the required sources of resource support (primarily financial) that will help to overcome the extensive development of the industry and ensure its functioning at a radically new level. Up-to-date treasury technologies offer chances to minimize budgetary risks when reducing budget revenues and are focused to address issues on the shortage of financial resources available by effective management of budget liquidity.

## Treasury technologies for budget liquidity management and their role to achieve the budgetary risks reduction under global uncertainty

The financial and economic crisis of 2008–2009 of the subsequently chronic nature that lasts up to date, has boosted the likelihood of budget risks caused by high dependence of the Russian economy on the demand and prices for raw stock.

The budget risk is the potential failure to comply (in full or in part) with certain budget parameters, inefficient liquidity management of the budget account, as well as the inefficient use of budget funds[2]. This is why the liquidity management was accentuated as one of the most urgent issues for discussion at the workshop "Treasury System Upgrading of the Asia-Pacific Economic Cooperation (APEC) Economies" held in March 2012 in Kazan.

The deviation from the cash budget is one of problems that arise when meeting budgets and that results in the liquidity shortage. Irregularity of cash payments that appear as "peak" payments at the end of each quarter and at the end of any financial year, generates risks of cash deficiency on unified budget accounts that synergize in a climate of global political and economic uncertainty.

A distinctive feature of distribution of public financial flows in the RF budget system is the significant concentration thereof in the federal budget. Thus, as per the reports on implementation of the consolidated budget of the Russian Federation and budgets of governmental extra-budgetary funds for 2015, the share of federal budget revenues in total revenue made 50.74%, budgets of governmental extra-budgetary funds – 34.33%, consolidated budgets of RF constituent entities – 34.57%, budgets of territorial state extra-budgetary funds – 5.9% [15]. Utilization of this model of distributive relations is one of reasons for budget imbalance of public and legal entities of sub-federal and municipal level that requires intergovernmental alignment through providing inter-budgetary transfers, attraction of budgetary credits to cover transient cash shortage that arise when executing budgets and utilizing state borrowings. Under the existing model of distributive relations, the fiscal capacity of regions and municipalities largely depends on the utilization of the federal budget capacity. This means that a decrease in its financial capacities involves destabilization in the development of regional and municipal social and economic systems and creates a threat of reducing the national competitiveness of Russia as a whole.

The consolidated [3] budget balance of the RF subjects was analyzed to reveal that consolidated budgets of only 9 regions out of 85 subjects of the Russian Federation were in surplus in 2015. They include the Vladimir Region, Leningrad Region, Sakhalin Region, Tyumen Region, cities of federal significance recognized as RF subjects, namely Moscow, St. Petersburg, Sevastopol, as well as the Khanty-Mansi Autonomous Area and the Chukot Autonomous Area. It should be noted that consolidated budget surplus in Moscow for 2015 was 12.2 times higher than the surplus of the Tyumen Region, one of the most prosperous regional budget in terms of balance (+144,399.3 and +11,788.4 mln rubles, respectively). The remaining 76 consolidated budgets of the RF subjects were short in financial resources. The highest deficit in the consolidated budget in 2015 was reported in the Krasnoyarsk Territory (-37,029.9 mln rubles), followed by Sverdlovsk Region (-17,545.3 mln rubles), Krasnodar Territory (-17,136.5 mln rubles.) [16]). The results of study of consolidated budget balance for the RF constituent entities for 2015 are shown in Fig. 5.

The consolidated budget of the Russian Federation is also in scarcity. As per the data of the budgetary reporting published on the official website of the Federal Treasury, the deficit of the consolidated budget of the Russian Federation as of 01.01.2016 amounted to – 2,819,493.3 mln rubles. [15].

It should be noted that today the world meets pro-active institutions focused to ensure the governmental budget balance since the need to cover budget expenditures at the cost of revenue increasingly assumes not only the political and economic but also the social significance. Thus, the "Fiscal Compact" of the European Union adopted in 2011 specifies introduction of constitutional norms or framework laws known as "debt brakes" in the Eurozone states [17, cl.1]. The substance of these standards is the use of the "golden rule", namely, the requirements to ensure the budget balance. In March 2012, in Brussels, 25 of 27 states, as members to the Economic and Monetary Union (EMU), agreed to sign the Treaty on the Stability, Coordination, and Governance (TSCG). Initially, to ensure sustainability of public finance of the Eurozone states in 1997, the Stability and Growth Pact (SGP) was adopted.

[2] The budget risk in relation to the federal budget is defined in the Order No. 383 of the Ministry of Finance of Russia dd. 10/19/2011 (as amended on January 20, 2014) "On the procedure for strategic monitoring of the quality financial management by the Ministry of Finance of the Russian Federation".

[3] As per the Article 6 of the Budget Code of the Russian Federation No. 145-FZ dd. July 31, 1998 (as amended on November 30, 2013), the consolidated budget is the collection of budgets of the RF budgetary system in the relevant territory (excluding budgets of state non-budgetary funds) regardless of inter-budgetary transfers between these budgets.

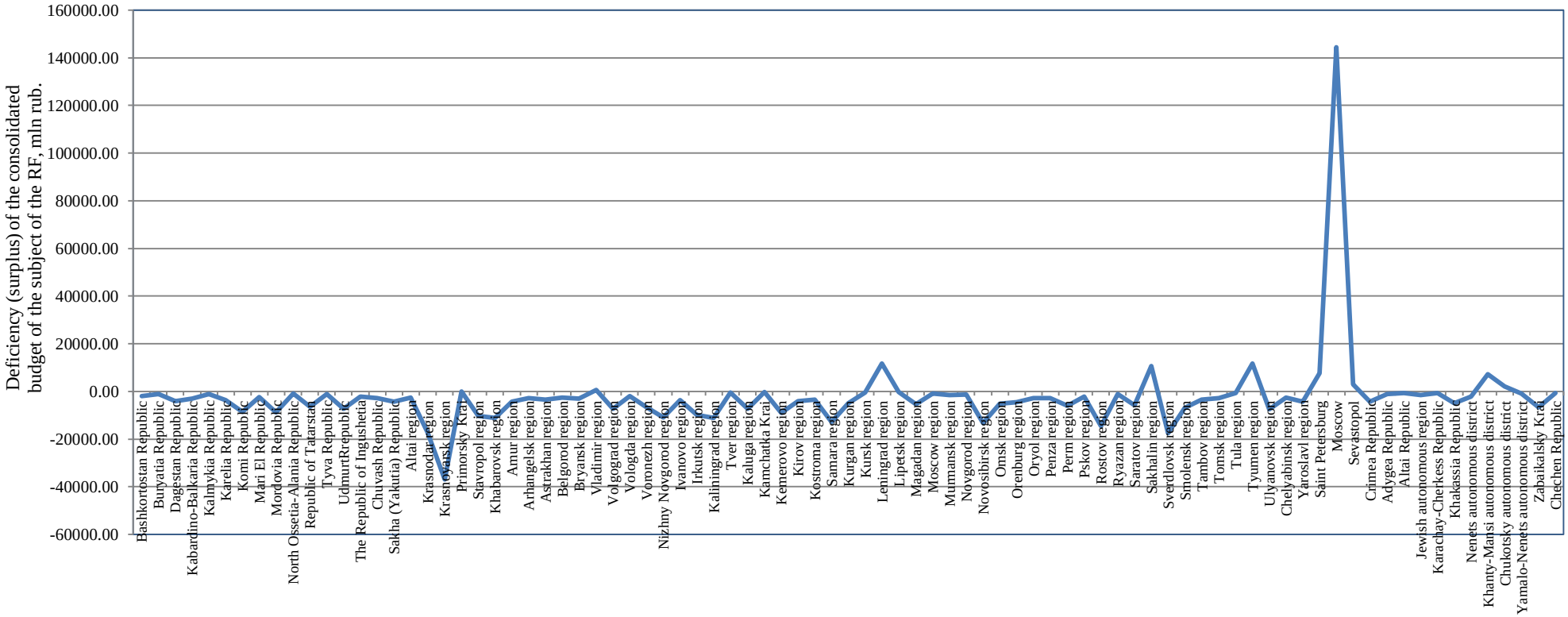


**Fig. 5.** The results of study of consolidated budget balance of the RF constituent entities for 2015 in mln rubles. compiled by authors to: [16]).

*ISSN 2310-9599. Foods and Raw Materials, 2017, vol. 5, no. 1*

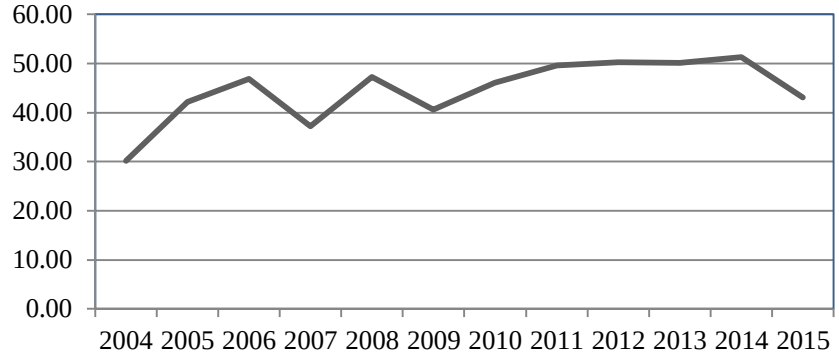


**Fig. 6.** The share of oil and gas return in the total volume of federal budget revenues for 2004–2015, in % (compiled by the authors to: [20]).

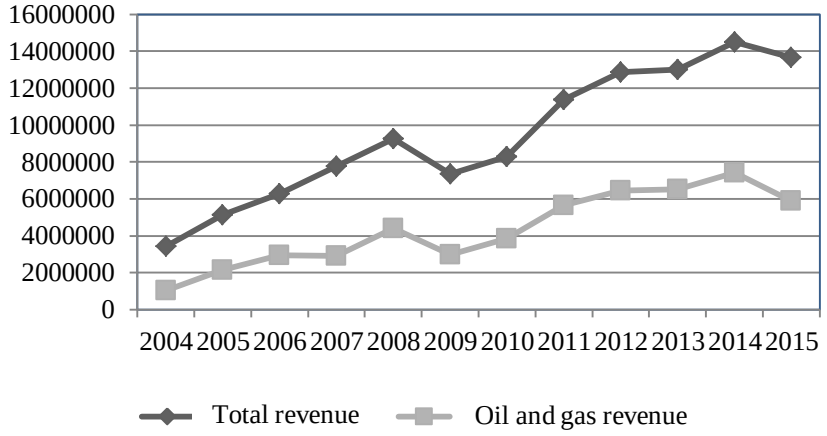


**Fig. 7.** The trend of federal budget revenues and oil and gas return for 2004-2015, in mln rubles. (compiled by authors to: [20]).

Currently, the protocol annexed to the Treaty of the Functioning of the EU contains requirements to the limit size of the national deficit (not more than 3% GDP) and the upper limit of the government debt (not more than 60% GDP) (See TFEU art 126(2); Protocol No. 12, supra note 14, Art. 1) [18, cl. 2].

In the US, despite the statement by the Ministry of Finance on the need to increase the upper limit of the official debt, the Republican Party urged to make amendments to the constitution to ensure the budget balance whereunder the state budget expenditures should not exceed 18% of the national annual output [19, cl. 195].

In Russia, the requirements to balance budgets are regulated by the Section IV of the RF Budget Code[4]. It sets forth requirements to the volume of expenditures to serve the public debt of a constituent entity of the Russian Federation (municipal entity) that should not exceed 15% of the relevant budget expenditure volume.

The federal budget revenues significantly depend on oil and gas revenues, that, pursuant to provisions of the Article 96.6 of the RF Budget Code, include the federal budget return on tax payment for mineral production of hydrocarbon raw stock and export customs duties on crude oil, natural gas and petroleum products. The trend data for the share of oil and gas returns in the total volume of actual revenues of the federal budget is shown in Fig. 6. The lowest share of oil and gas return was reported in 2004 (30.19%), the peak value of this parameter was reported in 2014 when the share of oil and gas returns in the total revenue of the federal budget made 51.28%[5] .

The close correlation of the total volume of federal budget revenues with the volume of oil and gas return (Fig. 7) raises risks of failure to fulfill expenditure commitments funded with the federal budget against the unfavorable situation at the hydrocarbon market. While the federal budget, since 2014, is designed in view of program-based principles, the failure to fulfill the expenditure obligations primarily concerns governmental programs of the Russian Federation, including program costs associated with the support to agricultural producers. In this situation, destabilization risks arise of the industry potential growth as a whole.

[4] The requirements to the budget deficit limit are set forth for budgets only of the RF constituent entities and local budgets. As for the federal budget deficit, the standard specifying its upper limit is excluded from the Article 92 of the RF Budget Code. Pursuant to provisions of the Article 95 (as amended by the Federal law № 63-FZ dd. 26.04.2007), the federal budget deficit as approved by the Federal Law On the Federal Budget for the next fiscal year and the schedule date, may not be greater than the volume of non-oil and gas deficit of the federal budget.

[5] Calculated by the author based on Laws "On Execution of the Federal Budget" for 2004–2015.

The study of trends in the Urals crude oil prices offers to conclude that from January 2002 to July 2008 sustainable upward trends were reported for this figure to define parameters of the federal budget of those time. Having reached its peak in July 2008, namely, $129.45/barrel, crude oil prices declined for the next five months of 2008. In general, three critical points may be highlighted for the studied period where the crude oil prices were the lowest, that is, the Q1 2002 ($19.82/bbl), December 2008 ($38.50/barrel), January 2016 ($28.53/barrel) (Fig. 8) [21].

The years 2000–2008 should be considered favorable for the development of the Russian economics when the hydrocarbon prices showed steady upward trends, and the federal budget was adopted and implemented with the surplus (Fig. 9). At that particular time a range of measures were taken aimed to develop the human capital capacity, ensure the global competitiveness and financial stability in Russia. First of all, as initiated by the RF President, it refers to implementation of national projects of high priority since 2005, including the top national project "Development of Agrobusiness" to be subsequently transformed to the State Program for the Agriculture Development and Regulation of Agricultural, Raw Materials and Food Markets. During the sustained growth of economics, the Stabilization Fund was formed as part of the federal budget that was subsequently split for two funds – the Reserve Fund and the National Wealth Fund [22]. Pursuant to provisions of the Article 96.9 of the RF Budget Code, the major objective to form the Reserve Fund is to ensure the balance (deficiency payments) of the federal budget. The sources of the Reserve Fund (clause 3, Art. 96.9 of the RF Budget Code) include the extra oil and gas returns, provided that the accumulated assets of the Reserve Fund do not reach its rated volume (7% of GDP predicted) and revenues from the Reserve Fund management. However, due to abrupt decline of hydrocarbon prices, the effect of the cl. 3, Art. 96.9 of the RF Budget Code was suspended [23]. Until February 1, 2020, the returns on the Reserve Fund management are allotted to finance the federal budget expenditures.

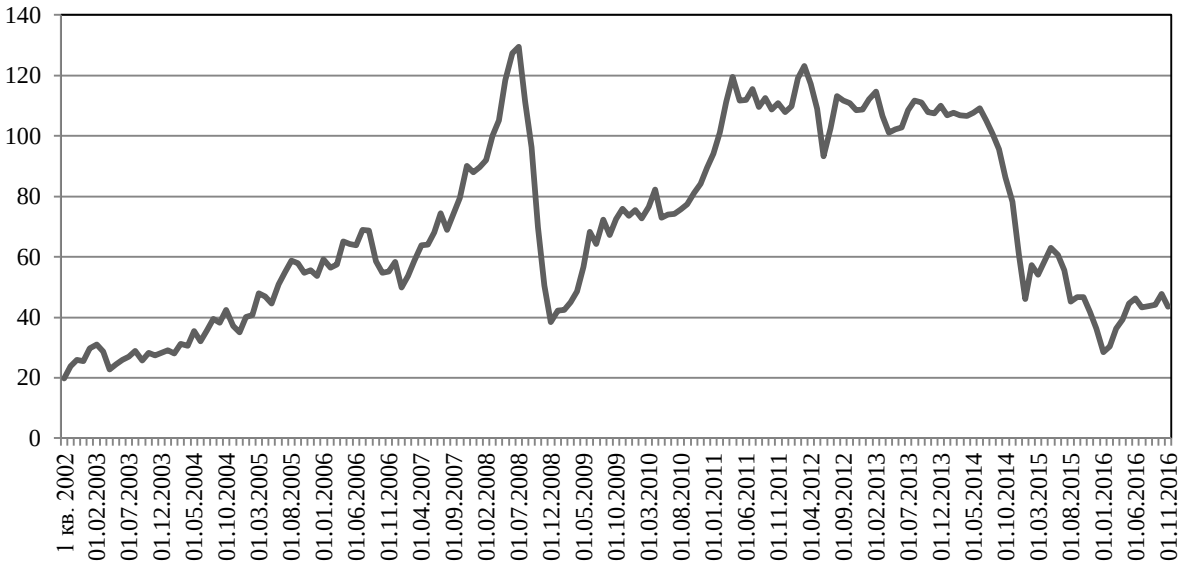


**Fig. 8.** Price dynamics for the Urals crude oil for 2002–2016, $/per barrel (compiled by authors to: [21]).

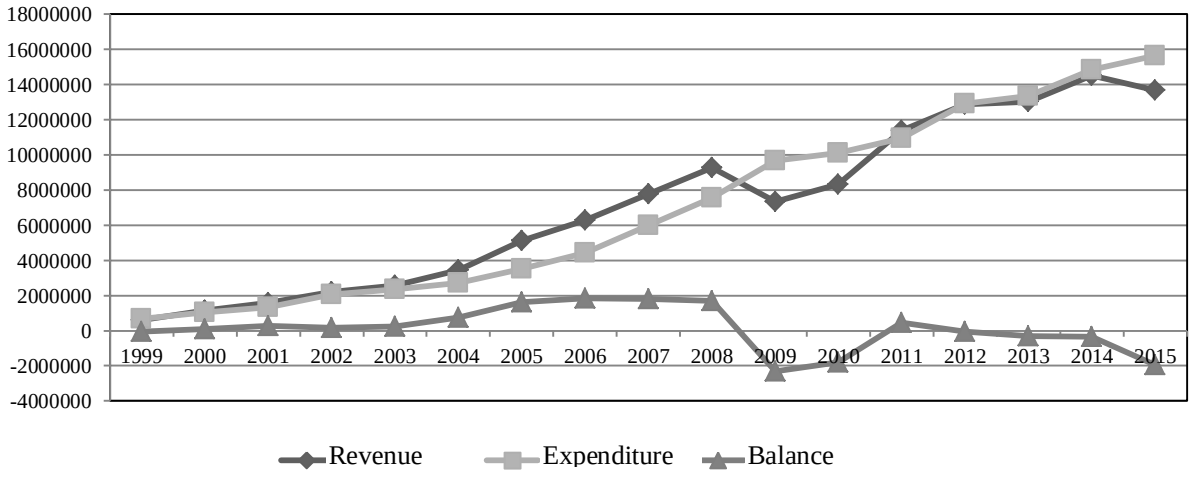


**Fig. 9.** The federal budget balance for 1999–2015, in mln rubles. (compiled by authors to: [24]).

During the financial and economic crisis of 2009, the Reserve Fund assets were assigned to support the bank liquidity, to finance the federal budget deficit and to take anti-crisis measures in the territory of RF constituent entities. At that particular period, the volume of subsidies to support the regional budget balance increased by 4.2 times [20], since the revenue collection in the RF constituent entities (especially of raw stock) declined drastically (Fig. 10). For example, in January 2009, the regional budget of the Kemerovo Region had the shortfall of profit in the amount of 2 bln rubles. Facing the threat of cash deficiency on the unified account of the regional budget, the priority was given to the costs for remuneration, purchase of medicines, food, payment of utility fees, payment of scholarships, where the costs of construction, reconstruction, upgrading of facilities, including socially significant structures, were provisionally suspended.

By the late 2008, the balance of the Reserve Fund amounted to 9.8% GDP, and resulting from measures to ensure macroeconomic stability by spending about 3 trillion rubles, it made 4.7% GDP (by the late 2009). In late 2010, the Reserve Fund assets amounted to 1.7% GDP (Fig. 11). Nevertheless, against the price advance for hydrocarbon in 2010–2011 thanks to implementation of the policy on saving extra oil and gas returns by the Ministry of Finance, the scope of the Reserve Fund was increased to 3.2% GDP.

The experts of the Ministry of Finance of the Russian Federation hold a view that Russia will not be able to proceed to the Reserve Fund replenishment in view of predicted crude oil prices in the hydrocarbon market and the growth of the federal budget deficit up to 2020.

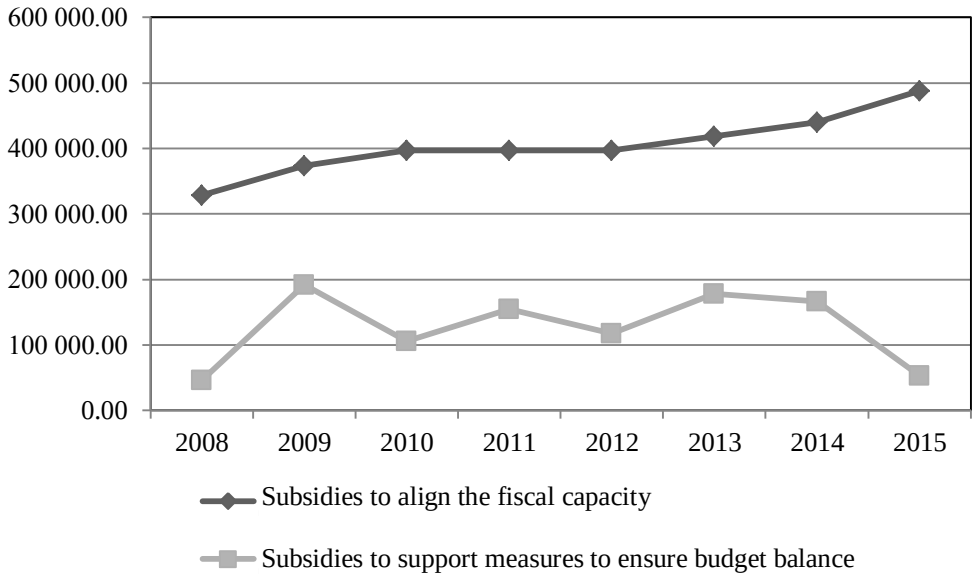


**Fig. 10.** The trend of the subsidy volume to align the fiscal capacity and to support measures to ensure the budget balance for 2008–2015, in mln rubles (compiled by authors to: [20]).

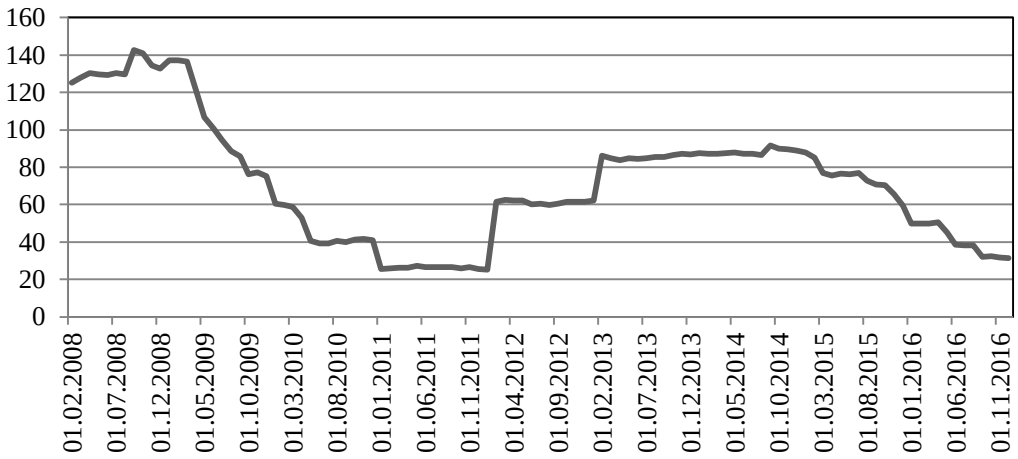


**Fig. 11.** The trends of volume of the Reserve Fund assets in 2008–2016, in bln USD (compiled by authors to: [25]).

It is obvious that under the growing global uncertainty and budget constraints, the risks arise of cash deficiency and non-fulfillment of expenditure obligations of budgets that conditions the need to seek for brand-new approaches to manage the budget liquidity at all levels of the RF budget system.

One of the key principles of the budgetary system is the principle of cash unity and in compliance with provisions of Art. 38.2 of the RF Budget Code, it means the enrollment of all cash receipts and implementation of all cash payments from the single budget account. It was possible to implement this principle due to the technology of the unified budget account, that, as per the Art. 6 of the RF Budget Code, means an account (totality of accounts for the federal budget, budgets of state extra-budgetary funds of the Russian Federation) opened for purposes of the Federal Treasury with the Central Bank of Russia, separately for each budget of the budgetary system of the Russian Federation to register the budget assets and execute operations on cash receipts to the budget and cash payments from the budget.

The first step to address the issue of budget liquidity management was the Single Account Concept developed by the Ministry of Finance in conjunction with the Russian Treasury and approved by the Decree No.107-r of the Government of the Russian Federation dd. January 23, 2000.

Prior to implement provisions of the Concept, the federal budget assets were dispersed to income and expenditure accounts opened for the Federal Treasury Authorities (FTA) with the Bank of Russia (60% of accounts), in Sberbank facilities (38% of accounts) and in crediting institutions (2% of accounts).

In addition to the expenditure account of the federal budget, 4 accounts were used for revenue recognition and distribution only of the FTA to account returns on payment of:

(1) taxes received from taxpayers and subject to distribution by the FTA in line with statutory regulations specified between budgets of different levels;

(2) revenues of the federal budget;

(3) revenues of the federal budget allotted to finance expenditures;

(4) revenues of the federal budget transferred to the transit account to facilities of the Bank of Russia.

The Concept introduced the term - Single Treasury Account (STA) that is opened with any institution of the Bank of Russia and where assets are accumulated and transactions are registered carried out by federal government authorities to meet the federal budget.

One of fundamental features of STA technology was the account opening to distribute returns between budgets of the budgetary system of the Russian Federation managed by the Federal Treasury Departments (FTD) with institutions of the Bank of Russia that made it possible to combine functions of four profitable personal accounts previously opened with Federal Treasury Branches (FTB). Subsequently, when implementing provisions of the Art. 215.1 of the RF Budget Code that came into force in 2005, the unified budget accounts were opened for RF constituent entities and municipal entities.

In general, the application of STA technology allowed:

– to ensure concentration of federal budget revenues and assets for STA 40105 "Federal Budget Assets";

– to concentrate transactions for revenue recognition of different level budgets on the account 40101 "Revenue distributed by the FTA between the budgets of the budgetary system", opened at the level of the FTD and expense accounting of federal budget at the level of the FTD[6];

– to ensure daily accounting of transactions on revenues and expenditures of the federal budget in the General Ledger of the Federal Treasury conducted at the level of the FTD.

The Federal Law No. 63-FZ dd. April 26, 2007 added an Art. 226.1 to the Budget Code of the Russian Federation on the Limited funding volume where the financial authority specifies the maximum amount of liability payment for the relevant period of the current fiscal year. In addition, the financial authority specifies events, approval and communication thereof to senior custodians, custodians and recipients. Limited funding volumes allow the liquidity management under conditions of strict budget constraints, especially in case of revenue shortfall to the unified budget account in view of crisis in economics and mitigation of the likelihood of cash deficiency on the unified budget account. The financial authority approves the limit budget for senior custodian by using the expert judgment and extrapolation methods, and the decisions may be informed on a quarterly basis with the detailed specification by months within each quarter, in addition. In other words, acceptance of budget commitment by spending unit through conclusion of contracts or agreements with legal entities and individuals takes place within the limits of levels proved, and the assets are granted as part of funding of the budget level proved [7] that may be paid in parts until the limit amount is reached.

Limited funding volume is paid to recipients of budget funds of the RF constituent entities and local budgets, and to the recipients of federal budget funds [26, 27].

The possibility to allocate the federal funds to deposits and their transfer to trust management (Art. 256 of the RF Budget Code) allowed initiation of the budget liquidity management system in RF in 2008 of the Single Treasury Account. However, the system of restrictions under provisions of the article above does not allow the placement of free cash assets of RF subjects with the estimated share of inter-budget transfers from the federal budget (excluding subventions and subsidies from the RF Investment

[6] At the level of FTD, accounts were opened in each RF constituent entity with the Bank of Russia facilities flagged 40101 to distribute revenues received between budgets of the budgetary system of the Russian Federation, as well as accounts flagged 40105 used to account expenditures of territorial federal executive bodies that were recipients of federal assets.

[7] The limit funding cannot exceed the amount of the limits of budget obligations proved for the spending unit (note by O.V.).

Fund) within two of the last three fiscal years did not exceed 20 percent of the consolidated budget own revenues.

The innovative approach to budget liquidity management by the FTA includes the provision, since 2013, of subventions, inter-budget subsidies and other inter-budget transfers for special purpose under the actual need. The implementation of this procedure is set forth in cl. 7 of the Decree No. 1272 of the RF Government dd. December 10, 2012 (as amended on 04.09.2013) on measures to implement the Federal Law *On Federal Budget for 2013 and Scheduled Period 2014-2015*" and allows to exclude unused balance of inter-budget transfers at the end of any fiscal year on unified accounts 40201 "RF Subject Budget Funds". At the same time, expenditures of budget fund recipients for actual needs does not commit to prolong the execution time of payment document and shortens the period of target fund receipt to the regional budget income.

This mechanism is focused on execution of powers of senior custodians of federal budget funds by the territorial bodies of the Federal Treasury and wit this purpose, a personal account flagged 14 is opened to pay liabilities for expenditures of recipients of the RF subject budget sourced by inter-budget transfers from the federal budget to ensure financial security. At the same time, each subsidy, subvention, each other inter-budget transfer of target purpose is assigned with the appropriate target codes which are at all times specified in the expenditure schedule, based on which the personal account flagged 14 accounts for budgetary data (budget allocations, limits of budget obligations and the limit budget level) and in the application for cash expenditures to ensure the adequate accounting for transactions on the personal account and the unified budget account and to form the budgetary reporting on transferred and used inter-budget transfers for targeted purpose.

In 2014, the procedure of transfer provision under the actual need was implemented at the municipal level with the institutional basis as the Order No. 5n of the Treasury of Russia dd. March 26, 2014. Similar orders of the Treasury of Russia were adopted in 2015 and 2016 [28].

However, despite the implementation of this mechanism, on unified accounts flagged 40201 "Funds of the RF Subject Budgets" totaling 85 currently opened with the Bank of Russia, and unified accounts flagged 40204 "Local budget Assets" amounting to over 22000, significant balances of inter-budget transfers accumulate at the beginning and the end of any fiscal year.

It should be noted that the balance of inter-budget transfers is formed due to subsidies, either, to agricultural producers from the federal budget. The information on the movement of inter-budget transfers funded by the federal budget in 2015 is shown in Table 5 [15].

**Table 5.** Provision of inter-budget transfers to budgets of RF subjects in 2015 by the federal budget, in mln rubles

| Balance as of 01.01.2015 | | Received from FB | Cash flow | Inter-budget transfers for past years restored | Unused balances for past years is returned to FB | Returned to FB within the volume of needs in consumption | Balance as of 01.01.2016 |
|---|---|---|---|---|---|---|---|
| Total | Including those the need for which is proved | | | | | | |
| 125 980, 13 | 109 343, 39 | 952 738, 35 | 988 424, 21 | 3 657, 85 | 132 953, 60 | 111 278, 22 | 72 276, 73 |

This means that methods to assess the need in inter-budget transfers require to be adjusted, on the one hand, and on the other hand, the concentration of resources above on the same account would allow their placement to financial instruments and, thereby, receipt of additional return on free cash management. In our opinion, the use of this methodology, namely, payment of the limit budget to recipients for purposes of expenditure would be rational not only as part of the regulation of the fund transfer from one level of budgetary system to another, but also in terms of the specific budget, since, as proved by more than a decade of practice of one of this article authors in the system of the Federal Treasury, budget data, including limit budget amounts paid to recipients are often of demand in full. Definitely, provisions of Art. 242 of the RF Budget Code do not oblige recipients of budget funds to "zero" accounts thereof based on which the budget subsidies, budget obligation limits and funding limits for the current fiscal year cease to be effective on December 31. Hereat, when forming the consolidated quarterly budget breakdown [8], the budget data are distributed by the financial authority between the senior custodian of budget funds, resulting in "pulling" portions of the budget data by the particular senior custodian (and further by its accountable institutions) which may stay non-demanded in future. Thus, unsatisfactory quality of financial management by budget fund custodians generates, among the others, the problem of ineffective management of budget liquidity on unified budget accounts.

[8] The consolidated quarterly profile is the document compiled and maintained by the financial authority (management authority for the state extra-budgetary fund) to arrange the budget execution by budget expenditures and sources of financing of budget deficit (Art. 6 of the RF Budget Code No. 145-FZ dd. July 31, 1998 (revised on 11/30/2016).

The analysis of the budgetary reporting on the federal budget implementation by expenditures indicates that when clarifying the consolidated quarterly profile and allocating extra budgetary assets to federal budget custodians, they are often used in part. There may be several reasons for this. One of them, already mentioned above, is the low quality of financial management. So, as per the results of monitoring the quality of financial management by the federal budget custodians as of July 1, 2016, the Ministry of Agriculture of the Russian Federation ranked 88th in the rating of 102 liable [29]. The assessment of financial management quality as per the method by the Ministry of Finance of the Russian Federation is conducted in several orientations as part of the approved system of parameters for each of them. So, the budget execution in terms of expenditure is assessed by such indicators as completeness, timeliness of acceptance and execution of budgetary obligations, deviation from the cash budget for federal budget expenditures, quality of management of federal budget funds in terms of inter-budget subsidies and subventions, subsidies and investments to legal entities and other.

Another reason is the time scarcity to hold competitive procedures and conclude government contracts in line with Federal Law 44-FZ [30], since budget recipients are often informed on the budget data by the financial authority at the very end of the fiscal year where there is short of time to execute competitive procedures.

The compliance with the cash budget is impeded by the delay in execution terms by contractors for concluded state (municipal) contracts that negatively affects the uniformity of cash payments from the unified budget account, and, therefore, forms the liquidity deficit.

Irregularity of cash payments from the unified treasury account is one of the urgent challenges announced in budget statements by the President of the Russian Federation in early 2000s, and, despite the improvement of treasury technologies, it remains urgent.

However, for the sake of justice, it should be noted that the irregular budget execution is specific not only for Russia but for other states either since, at the end of the fiscal year, most liabilities are fulfilled under most contracts. Therefore, for example, in Denmark and the Netherlands, it is allowed to transfer the portion of unused budget subsidies for the next year. In France and Sweden, the transfer limit for the next financial year is specified but not more than 3% of the total amount of subsidies allotted [31, p. 49].

In Hungary, to ensure the uniformity of budgetary expenditures, no more than 1/12 of fund allocation as provided for in the budget law is allowed per month, and the need to exceed the amount fixed is approved by the government [32].

In 2015, the document was adopted that, in our view, is of high significance to improve the efficiency of budget liquidity management under conditions of global uncertainty. It is referred to the Concept of budget payment system reforming [33]. The need in development and adoption of this Concept are largely due to a range of problems related to budget liquidity management, including:

– dispersal of budgetary funds to numerous accounts totaling over 50 000 in number[9];
– concurrent duplication of operations on income distribution between budgets of the RF budget system on accounts opened for the Federal Treasury with the Bank of Russia and personal accounts opened with territorial FTAs;
– the limited list of instruments to allocate the free budget liquidity on unified accounts of budgets of the budget system to financial instruments;
– inadequate level of income distribution efficiency from the account flagged 40101 "Incomes distributed among budgets of RF budget system" (more than three days in some cases)[10].
– lack of budgets with revenue administrators, as well as with entities that deliver governmental and municipal services, urgent information on the arrival of funds to accounts, including the information on personal accounts opened with financial institutions;
– significant volume of transactions with cash assets resulting in difficulty to monitor the proper use of budget liquidity.

The main objective of the Concept is to improve the management efficiency of free cash balances of budgets.

As part of the Concept implementation, accounts are planned to close stage by stage that are previously opened by territorial FTA with territorial offices of the Bank of Russia with subsequent opening thereof with the Bank of Russia to ensure accumulation of budget liquidity on the Unified Bank Account of the Treasury of Russia.

Pursuant to provisions of the Concept of the Budget Payment System Reforming, the transition to the Unified Bank Account of the Treasury of Russia will ensure the possibility to target cash balances[11] and will

[9] The status of the current system of budget payments is described by multiple accounts opened with territorial offices of the Bank of Russia by the territorial FTA, namely, accounts to account assets arriving for transient disposal of federal state and budgetary institutions; funds of budgetary, autonomous and other organizations owned by the government; budget funds of RF subjects; funds arriving for transient disposal of state and budgetary institutions of the RF subjects; local budget funds, etc., which finally result in dispersion of the budget liquidity.

[10] It should be noted that, in line with provisions of the Art. 40 of the RF Budget Code, cash assets are deemed to arrive to income of the relevant budget since the date of asset crediting to the single account of this budget. Thus, the delay in schedule to distribute return that arrive to the account 40101, or the delay in asset arrival clarification where, for example, the income code, name of the budget revenue administrator, etc. is wrongly specified, it contributes to the growth of budget liquidity deficit on the unified accounts of budgets, and, consequently, it forms risks of non-fulfillment of budgetary obligations.

[11] The targeting of cash balances on the Unified bank account of the Treasury of Russia as per the Concept is the management of the daily balance amount on the unified bank account by monitoring monetary liabilities of an entity whose personal accounts are opened with territorial FTAs and liquidity provision. The calculation of daily balance and prediction of cash balances on the unified bank account of the Treasury of Russia will be carried out by execution of payment schedule. The data for payment schedule will be contained in cash budgets to meet budgets of the budgeting system of the Russian Federation sent to the Treasury of Russia.

also enable usage of excess liquidity to generate additional return on operations to place free cash in financial instruments.

It is obvious that targeting of cash balances on the Unified Bank Account of the Treasury of Russia predetermines the need to forecast the demand for such funds not only in relation to the unified federal budget account, but also at the level of unified accounts of the budgets of RF subjects and municipalities. Financial authorities, chief administrators (administrators) of budgetary funds of sub-federal and municipal levels and recipients should be involved in this process.

For purposes to target the liquidity on the Unified Bank Account of the Treasury of Russia, the concept and the prototype of the "Cash Management" subsystem are planned to develop along with main functional requirements to the "Cash Planning" module of the prototype of "Cash Management" subsystem under the state integrated information system "Electronic Budget".

## CONCLUSIONS

In general, the use of treasury technologies studied above is focused to address issues related to budget constraints and liquidity deficit under conditions of growing global political and economic uncertainty. Moreover, the transition to the new technology of the Unified Bank Account of the Treasury of Russia will allow to target cash balances and use the excessive budget liquidity to obtain additional budget revenues through placement thereof to financial instruments. In this situation, it is possible to transit to the policy of creating an innovation and investment-oriented budget deficit by channeling budgetary allocations for re-industrialization of strategically important industries, including agriculture, to ensure their compliance with the best industrial practices of the world's leading countries. The similar approach was proposed by Keynes in his work The General Theory of Employment, Interest and Money [34], that proved that active governmental participation in the development of economics, especially under the crisis, based on creation of the investment-oriented budget deficit and direct public investments in the economics (in our case, in agriculture), will not only increase the confidence of private investors to governmental authority performance, but will finally ensure the formation of multiplicative economic and social effects.

Ultimately, the development of tools to manage budget liquidity and, thereby, the reduction of budgetary risks (primarily, the risks of non-fulfillment of expenditure obligations of budgets of the RF budgetary system due to the decline in revenue receipts) will contribute not only to its retention but also to an increase in the share of governmental participation in the development of strategically important sectors, including agriculture, under conditions of global political and economic uncertainty, and the growth of Russia's national competitiveness as a whole.

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