Government Financial Asset and Debt Management: Identifying Effective Indicators

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Abstract
High risks, their multifactorial nature, multidirectional impact, and suddenness of occurrence due to the deep mutual integration of most national economies force looking for ways to modernize the government financial assets and liabilities management in special economic conditions, which would allow to increase its mobility and adaptability.

1. Introduction

The government financial assets and liabilities management is one of the most important tasks of the public finance management. High-quality government financial assets and liabilities management forms the basis for the intertemporal and intergenerational distribution of the government assets and liabilities flows, which allows to smooth out the negative impact of both medium-term economic fluctuations in the market and long-term demographic waves on the financial sustainability of the state. High-quality management of public financial assets helps identify additional sources of the government revenue, while high-quality management of government liabilities has significant impact on the formation and sustainability of the financial market.

2. Literature Review

The importance of efficient government financial assets and liabilities management for achieving the goals of the government policy predetermines the need for the correct formation and use of methodological approaches to their management based on the best international standards. At the same time, according to international public sector statistics standards, government financial assets are financial claims and monetary gold (Altunbas et al.: 2010) owned by public law entities and nonmarket nonprofit organizations controlled by them, while government liabilities are financial claims for which public law entities and nonmarket nonprofit organizations controlled by them are obligators (Lysandrou: 2011).

In accordance with GFSM 2014, based on the economic nature, the composition of government financial assets and liabilities can be represented as follows (Table 1).

Table 1 - Classification of Government Financial Assets and Liabilities

Financial assets	Liabilities
Special drawing rights	Special drawing rights
Monetary gold	
Cash and deposits	Cash and deposits
Debt securities	Debt securities
Loans and borrowings	Loans and borrowings
Equity securities (equity participation instruments and units (shares) of investment funds)	
Insurance, retirement, and standardized guarantee programs	Insurance, retirement, and standardized guarantee programs
Financial derivatives and employee stock options	
Other receivables	Other payables

Source: Compiled by the authors based on the GFSM research

Government financial assets management is a process that ensures that the government fulfills its obligations and maximizes the purchasing power of the government-owned financial assets in the long term, taking the acceptance of reasonable risk into account (Klomp, De Haan: 2012). At the same

time, according to researchers (Klomp, De Haan: 2012; Blot et al: 2020), the formation of government financial assets is determined by various reasons and depends on various factors, including the country development, specifics of foreign trade, population growth rate, and the need of the national economy for additional investment (Hryckiewicz, Kozlowski: 2017).

Government liabilities management is a process of developing and implementing a strategy for raising the required amount of government funding at the lowest possible cost in the medium and long term, taking the acceptance of reasonable risk into account (Beltratti, Stulz: 2012; Akhmadeev et al.: 2018). The central problem of government liabilities management is balancing the needs, costs, and risks of raising budget funding sources (Apergis: 2014). However, the optimization of the volume of the raised resources, the minimization of the costs associated with their servicing, and the risks undertaken involve taking into account the influence of changing macroeconomic and fiscal conditions, including financial shocks (Bahri, Hamza: 2020).

3. Materials and Methods

This study is based on the methodological provisions developed by Russian and foreign scholars specializing in the government financial assets and liabilities management. The principles of systems theory and systems analysis, policy and regulatory documents of international and national institutions that determine approaches and assessments of the sovereign assets and liabilities management can be considered as the starting point for research (Kirschenmann et al.: 2016).

The methodological basis of the study was dialectics, a systems approach, and general scientific and special methods of cognition, which allowed to consider financial management in the sector of government financial assets and liabilities management as a complex system, as well as to assess its efficiency (Passmore, Von Hafften: 2019).

The information basis of the study was the materials of the Government of the Russian Federation, the Bank of Russia, the Ministry of Finance of the Russian Federation, the International Monetary Fund (IMF), the World Bank, and some other international organizations, including financial statements, policy documents on national projects, strategic programs, etc. In addition, the authors used the results of their own estimations based on public statistical data, materials from reference systems, information and rating agencies, and the regulatory framework to detail the study and make conclusions (D'Erasmo et al.: 2020).

4. Results

The modern standards for the government financial assets and liabilities management, which define the basic methodological approaches in this field, are formulated by the IMF and the World Bank, as well as some other international organizations, and are presented in documents such as the Revised Guidelines for Foreign Exchange Reserve Management (Philippon, Reshef: 2013), Sovereign Asset-Liability Management – Guidance for Resource-Rich Economies, Sovereign Wealth Funds – Generally Accepted Principles and Practices ("Santiago Principles"), Revised Guidelines for Public Debt Management, Medium-Term Debt Management Strategy Development Guide, Debt Management Performance Assessment method (DeMPA), etc.

The international standards assume the implementation of the following methodological requirements in the government financial assets and liabilities management regulation:
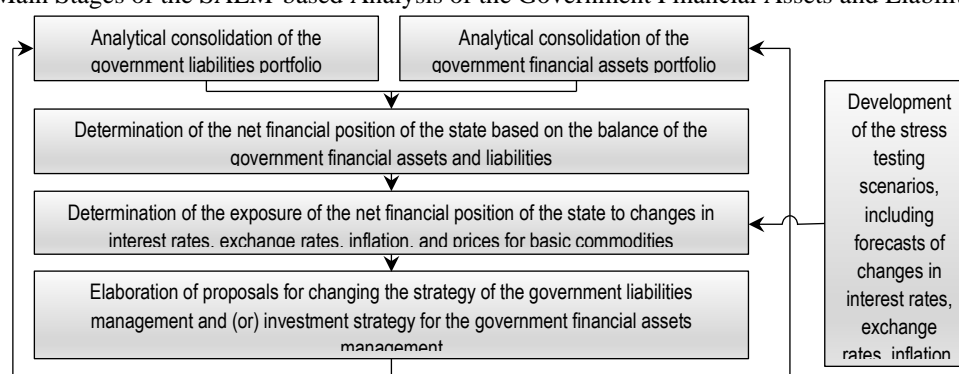
- Unambiguity in the goal setting;
- Correlation with the government monetary, fiscal and financial markets regulation policies (Sigarev et al.: 2018);
- Formation of the government investment strategy;
- Organizational targeting;
- Clear distribution of powers and accountability of the responsible authorities;
- transparency;
- Identification, assessment, and management of risks, determination of their threshold level; and
- Sustainable development of the government securities market.

A statutory regulation system, which includes documents of international law and national legal regulations aimed at improving the efficiency of the government financial assets and liabilities management, has been formed in this field in the Russian Federation. The profile strategic document is the State Program of the Russian Federation "Management of government finances and regulation of financial markets", specified within the subprogram "Government financial assets and liabilities management in the Russian Federation", which defines the main activities, timing of their implementation, expected results, directions of implementation, and target indicators. The priorities and instruments for managing the government liabilities of the Russian Federation are determined by the Ministry of Finance of the Russian Federation in the Main Directions of the Government Debt Policy of the Russian Federation for the current financial year and the planning period. The analysis of these policy documents governing the government financial assets and liabilities management revealed

the need for certain transformations in the Russian system of the government financial assets and liabilities management. This primarily concerns the adopted system for assessing achievements, which fails to always fulfill its functional purpose due to the incorrectness of the selected indicators. The indicator "Share of the government internal debt of the Russian Federation in the total volume of the government debt of the Russian Federation" (%), which is intended to assess the measure "Management of sovereign wealth funds", can serve as an example. It is clear that it does not actually reflect the expected result of the implementation.

The specifics of the modern economy necessitate a wider application of the flexible Sovereign Asset-Liability Management system (SALM) (Morozova et al.: 2020). The SALM Integrated Framework is a holistic approach designed to minimize the vulnerability of government finances to potential shocks. The main idea of the SALM approach is to select an adequate size and characteristics of sovereign assets and liabilities to achieve macroeconomic and development goals, as well as to maintain a positive sovereign financial condition with acceptable costs and risks (Vazquez, Federico: 2015). Fundamentally, SALM proceeds from the need to balance the risks of the government financial assets and liabilities, which allows achieving fiscal sustainability. In this regard, a condition for the implementation of the SALM approach is monitoring and quantifying the impact of fluctuations in exchange rates, interest rates, inflation, and commodity prices on the net financial position of the state (Fig. 1).

Figure 1 - Main Stages of the SALM-based Analysis of the Government Financial Assets and Liabilities Portfolios

Source: compiled by the authors

As a result, the analysis of the government financial assets and liabilities portfolios under unfavorable changes in macroeconomic conditions allows to determine the degree of fiscal sustainability of the state and to develop proposals for adjusting the medium-term strategy for the

government liabilities management and (or) investment strategy for the government financial assets management.

At the same time, since the change in the government debt portfolio is associated with significant costs and cannot be made in the short term due to the long duration of government securities, the results of analysis based on the SALM approach are used in practice mainly for changing the investment strategy for the government financial assets management (Philippon, Reshef: 2013). At the same time, the use of the SALM approach when preparing an investment strategy for the government financial assets management allows to take into account the mutual influence of the allocation of the government financial assets and liabilities and thereby to reduce risks (Ahmed, Zlate: 2014) arising from the government financial assets management (Kosov et al.: 2020).

The Bank of Russia successfully adheres to the SALM principles in managing its assets in foreign currencies and in gold, taking into account that the SALM approach is of particular importance for resource-rich and exporting economies. The foreign currency assets of the Bank of Russia include various instruments denominated in foreign currencies. These include debt securities, deposits, net position of the Russian Federation in the IMF, and external loan bonds of the Russian Federation. The assets of the Bank of Russia in gold consist of this precious metal stored on the territory of the state (Ahmed, Zlate: (2014)

Figure 2 - Instruments for Investing Assets of the Bank of Russia (as of December 31, 2019), %.

Source: compiled by the authors based on the data from the Bank of Russia (Ahmed, Zlate: 2014)

The main part of the financial assets of the Bank of Russia (36.3 %) is invested in government securities of foreign issuers; about a third is invested in deposits with foreign counterparties and accounts balances with foreign correspondents; a fifth of the assets is presented in gold; nongovernment securities of foreign issuers and securities of international organizations account for 10.1 %; and reverse repo transactions with foreign counterparties, net position in the IMF, and claims of foreign agents to Russian counterparties or issuers account for 2.7 % (Fig. 2).

In the formation of the portfolio of gold and foreign exchange assets, the Bank of Russia proceeds from its own foreign exchange liabilities, which represent balances on clients' foreign currency accounts, consisting mainly of the funds from the National Welfare Fund (NWF) of the Russian Federation and those from the Federal Treasury intended for crediting to the NWF. The objectives of managing these assets, admissible investment instruments, a list of potential counterparties, and target indicators of the financial risk associated with them are determined by the investment strategy of the megaregulator (Ahmed, Zlate: 2014).

Risk management takes a special place in the government financial assets and liabilities management. Risks in the government financial assets and liabilities management in the Russian Federation can be divided into two groups: general and specific. General risks include liquidity risks; currency risks associated with transactions with the government financial assets and liabilities denominated in foreign currency; market risks associated with changes in the value of bonds and promissory notes due to changes in the market interest rates, as well as changes in the liabilities portfolio; uncertainty risks; and risks of price fluctuations (Fernández Fernández: 2020). Specific risks include risks arising in the process of managing the government financial assets (price risk as a risk of mismatching conditions and prices; risks of residence of counterparties for financial instruments; risks of a possible insufficient expected increase in assets; risks of insufficient increase in insurance reserves; sector risks associated with transactions with financial assets and liabilities by sector; risks of mismatching the government financial assets with the properties of financial assets; and inflation risk); risks arising in the process of managing the government liabilities (interest rate risk as a risk of an increase in the cost of borrowing and the cost of debt service due to changes in interest rates on the government securities market; the risk of significant fluctuations in the federal loan bond market in the event of sanctions on the Russian government debt; and the refinancing risk as the risk of the need to refinance at unusually high costs or impossibility to refinance at all).

The risks in the government financial assets management are associated with possible changes in the value of these assets. The value of a financial asset at any given point in time is its current market

value defined as the amount that would have to be paid to acquire it at the date of its valuation, taking into account its maturity, condition, and other factors (Alvaredo et al.: 2013). In other words, the value of an asset depends on the potential receipt or nonreceipt of economic benefits. For example, such risks include the risks associated with transactions denominated in foreign currencies, because the value of government assets is converted into the national currency using the average value of the currency buy and sell exchange rates at the time of the transaction (if the transaction denominated in foreign currency is associated with the creation of a financial asset or liability, such as a payable/receivable, and this transaction is followed by another transaction in the same foreign currency that cancels the financial asset or liability, then the value of both transactions is estimated based on the exchange rates set at the time of each transaction). At the same time, the use of currency that is not the global one, such as the USD, in mutual settlements between the two countries may lead to a shortfall in the increase in the government asset.

The risk in the government debt management is manifested as the difference between the state of the debt indicator under the baseline scenario and when this risk materializes. The debt service cost indicator can be used for this, for example. As such, when choosing a source of financing the budget deficit, the debt manager must take into account not only the cost of the deficit financing (the amount of interest payments on government securities), but also the risks associated with financing the budget deficit in a certain way in the medium and long term. To achieve this compromise, the situation should be assessed proceeding from the basis of the risk level acceptable for the state, taking into account the set of risks and the characteristics of the socioeconomic development of each country. The composition of indicators for assessing the exposure of the government liabilities to risk may vary, depending on the goals and objectives of debt management.

The main risks for the government debt portfolios are associated with the market risks, which include interest rate and foreign exchange risks, refinancing risk, liquidity risk, credit risk, and settlement risk (Akhmadeev et al.: 2018). For example, developed countries with large and liquid domestic markets for government securities focus mainly on the market risks and use complex portfolio models to quantify these risks, along with stress tests[1]. Developing countries tend to pay more attention to the refinancing risk.

The World Bank, IMF, UNCTAD, and other international organizations provide countries with extensive technical assistance and aid in solving problems related to debt management, from improving institutional and debt management mechanisms (DeMPA) to preparing medium-term debt management

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[1] World Bank; IMF. 2009. Guidance note for country authorities. Medium-term debt management strategy (MTDS); Debt management performance assessment (DeMPA). Washington, DC: World Bank Group

strategies (MTDS) and debt sustainability analysis (DSA), thus helping to reduce associated risks. To this end, the reasons for the failure of reforms are diagnosed, and the institutional and legal framework is strengthened. Based on the DeMPA, a key element for using these analytical approaches is assessed: the completeness and timeliness of central government records of debts, loan guarantees and debt-related transactions, as well as the completeness and reliability of the state loan registration system and the availability of documented debt registration and monitoring procedures. The debt management reform plans (DeMRPs) are developed with this in mind, including the expected results, results of specific actions, sequence and stages, budgeting, and resource allocation (Dascher: 2020). In addition, the MTDS and the DSA are being developed. The MTDS is focused on developing a borrowing strategy with cost/risk in the medium term (3/5 years), while the DSA assesses the long-term sustainability of the government debt in various macroeconomic and market scenarios (Slepov et al.: 2017).

Let us consider the practice of risk management in the government financial assets management by the example of the Bank of Russia. The formation of currency portfolios of assets sets for the Bank of Russia the task of managing the arising financial risks: credit risk, currency risk, interest rate risk, and liquidity risk, which are both economic and noneconomic (Kosov et al.: 2018). For example, in order to eliminate, avoid or reduce credit risk, the Bank of Russia has established certain requirements for the credit quality of counterparties and issuers, which require them to have at least a moderately high ability to fulfill their financial obligations, despite their high sensitivity to the impact of unfavorable economic conditions and other negative changes in the external environment, i.e., correspond to the level of credit score "A", according to the classification of Fitch Ratings and S&P Global Ratings, or to "A2", according to the classification of Moody's Investors Service. In fact, as of the beginning of 2020, 91.0 % of the Bank of Russia foreign exchange assets satisfy this requirement: 17.9 % of the Bank of Russia financial assets have the AAA credit score, 27.8 % have the AA credit score, and 45.3 % have the A credit score. The claims to Russian counterparties or issuers, as well as the position of the Russian Federation in the IMF mainly have not reached the target value of the credit score (Ahmed, Zlate: 2014).

The allowable deviations from the share or absolute value in net foreign exchange assets established for each currency were determined in order to limit the foreign exchange risk for each of the currencies. The successful management strategy allowed to ensure a sufficiently diversified currency structure of the Bank of Russia's financial assets, where 38.3 % were funds in EUR, 30.4 % - in USD, 15.2 % - in CNY, 8.1 % - in GBP, 4.3 % - in JPY, 1.0 % - in AUD, and 2.7 % - in CAD (Ahmed, Zlate: 2014). The interest rate risk is regulated by a specified range between the maximum and the minimum of the duration of assets in each foreign currency, the maturity of securities, deposits,

and repo transactions. The liquidity risk management consists in maintaining such a ratio between foreign exchange assets and liabilities, in which the former is always higher (Fig. 3) (Ahmed, Zlate: 2014).

Figure 3 - Methods of Managing Financial Risks Associated with Financial Assets and Liabilities of the Bank of Russia

Source: compiled by the authors based on the data from the Bank of Russia (Ahmed, Zlate: 2014).

The gold and foreign exchange assets of the Bank of Russia circulate mainly due to the operations of buying and selling foreign currency and gold in the domestic market, as well as their price dynamics. The value of the financial assets of the Bank of Russia changed by 4/5 under the influence of these factors in 2019. The Bank of Russia constantly monitors the performance of management activities in this field by comparing the actual return on portfolios with foreign currency assets, calculated using the chain index method based on the return on assets for each day of the relevant period for which the return of the regulatory portfolio is also calculated. The regulatory portfolio is a set of instruments in each of the foreign currencies taken with specific weights. They reflect the target allocation of the Bank of Russia assets across each of the foreign currencies. The daily return of a single-currency portfolio is calculated as the ratio of the total (realized and unrealized) income from the portfolio to its market value by the end of the previous day (Ahmed, Zlate: 2014).

The algorithm for assessing the results of this management process can be presented as follows:

Stage 1: grouping and forming the portfolios with assets, claims, and liabilities in foreign currency and precious metals, as well as their formation in accordance with the nominal currency;

Stage 2: calculating the regulatory portfolio with foreign exchange assets;

Stage 3: calculating the daily return on the corresponding portfolios with foreign exchange assets:

$$\frac{\text{Total portfolio return in currency X (realized income+unrealized income)}}{\text{Market value of the portfolio in currency X (by the end of the previous day)}} * 100\%; \quad (1)$$
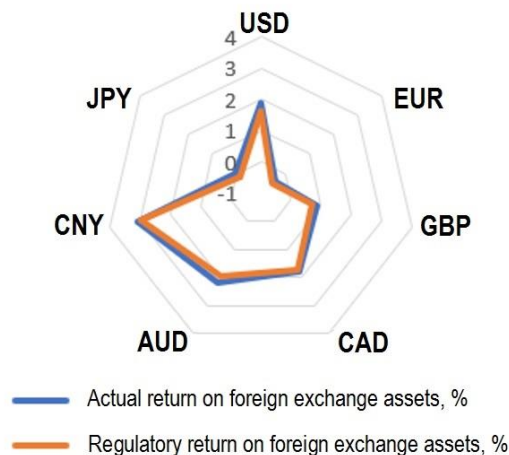
Stage 4: calculating the actual profitability of the respective portfolios with foreign exchange assets for the required period and their annual return; and

Stage 5: assessing the performance of managing the specified portfolios:

$$\frac{\text{Portfolio return in currency X}}{\text{Return on regulatory portfolio in currency X}} \quad (2)$$

As can be seen in Figure 4, the return on all portfolios with foreign exchange assets exceeds the return on the regulatory portfolios. Assets in CNY have the highest return (annualized) (3.05 %), followed by assets in AUD (2.11 %), USD (1.88 %), CAD (1.8 %), GBP (0.83 %), and JPY (0.04 %), while EUR is described by a negative return of 0.40 %.

Figure 4 - Return on the Foreign Exchange Assets of the Bank of Russia (as of December 31, 2019).

Source: compiled by the authors based on the data from the Bank of Russia (Ahmed, Zlate: 2014).

There is a range of indicators developed at the international and national levels intended to assess the efficiency of the government financial assets and liabilities management. For example, the efficiency of managing monetary funds in foreign currency, special drawing rights, and the reserve position in the IMF and monetary gold is assessed by the dynamics of their value over a few years. The positive dynamics testify to efficient management, since it creates reserves for the government to cover additional costs caused by external shocks (Bordo, Meissner: 2012).

The ability of a sovereign borrower to manage government debt can be assessed according to the World Bank's Government DeMPA, revised in 2015, which is carried out in five fields and includes 14 qualitative indicators in 33 dimensions. The most significant indicators include the marginal value

of the government debt in relation to GDP, which estimates the potential solvency of the state, the level of expenditures on debt servicing to GDP, and the ratio of the government debt to GDP.

However, the attention must be paid to the fact that most current indicators of the efficiency of the government financial assets and liabilities management are too closely related only to these categories, thereby narrowing the horizons for assessing management results. A controversial situation is, for example, when a satisfactory assessment of the government financial assets and liabilities management develops amid the fall in the living standards of the population, which may arise if the indicators of debt sustainability of the state grow while real incomes of the population fall.

5. Discussion

In the opinion of the authors, the results of management activities in this sector should be interpreted broader and should concern not only changes in specific absolute and relative indicators of the government financial assets, but also the consolidated characteristics of the qualitative development of the economy.

For this purpose, it is advisable to compare the efficiency indicators of the government management in this sector that have developed in practice with such important indicators as GDP growth rates, inflation indices, purchasing power of the national currency, real incomes of the population, etc., when assessing the management efficiency (Morozova et al.: 2020). It is obvious that changes in the government financial assets and liabilities should not be an end in itself but should rather improve living standards. This approach in assessing the efficiency of the government financial assets and liabilities management is consistent with the functional role of public finance (Salas, Saurina: 2003).

As such, a model for optimizing the government financial assets and liabilities management, expressing the relationship between the change in the proposed macroeconomic indicators $(y_1, y_2 \dots y_m)$ and the multiple estimates of the government financial assets and liabilities management $(x_1, x_2 \dots x_n)$ that have developed in practice can be generally represented as follows:

$$Y_T = f(x_1, x_2 \dots x_n). \quad (3)$$

The detailed elaboration of this model, i.e., the determination of the relationship between the x and y dynamics, should be carried out in accordance with specific circumstances: approaching or distancing from the normative values of indicators for assessing the government financial assets and liabilities management, and the dynamics of their change (Van Ewijk, Arnold: 2014).

The economic concept of the model is quite consistent: with positive shifts in the government assets management system, the generalizing indicators of the living standards at least should not decrease. However, the authors agree with the opinion of Berger (2009) and Soedarmono (2013), since the assessment of the efficiency of the government financial assets management in terms of investments in authorized capital also requires development. In the opinion of the authors, the following indicators can be used for this: creation of added value and achievement of certain financial indicators (subject to the purchase of shares of commercial organizations); achievement of quantitative indicators determined by the programs of socioeconomic development of public law entities, and priority programs for the development of types of economic development (for nonprofit organizations). Other results of the organization's activities can also be taken into account: creation of additional jobs and increase in budget revenues (Kosov et al.: 2017). Moreover, the financial performance of a commercial organization (ROA, ROE, EBITDA, etc.) must be at least on the average level in the commercial sector.

6. Conclusion

It would seem that the policy of the government financial assets and liabilities management in the Russian Federation can be recognized as generally balanced and successful. However, this did not allow Russia, like many other countries, to avoid the negative consequences of the pandemic crisis. The Russian Federation was in a unique position in emerging markets with no net debt prior to this crisis. However, the Russian Federation again had a net debt of 1.55 bln rub. by July 2020, which was associated with global changes in the situation on the world commodity markets of Russian exports and additional budgetary expenditures under COVID-19, while the economy slowed down. This does not yet pose a threat for the fiscal stability of Russia, but requires increased attention to the existing approaches in the government financial assets and liabilities management and its systemic transformation.

The considered situation in the Russian Federation clearly reflects the turbulence and asymmetry of the modern finance, the negative consequences of which are currently being experienced in many countries. According to the authors, it is fundamentally important in the postpandemic recovery period to strengthen clarity in determining the relationship between targets and areas of implementation of the main measures, to make wider use of practice of multivariance, and to improve financial discipline in the development of strategic documents aimed at improving the efficiency of the government financial assets and liabilities management and the implementation of the relevant government programs.

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