DOI: 10.33278/SAE-2018.eng.236-239

JEL H60

FINANCIAL RISKS OF THE STATE: MANAGEMENT BASED ON SYSTEM APPROACH

TSVIRKO SVETLANA (ORCID 0000-0002-0580-7247)[1]

[1]Financial University under the Government of the Russian Federation

Abstract. To identify and manage the financial risks of the state, system approach must be applied. It is advisable to conduct joint analysis and management of sovereign assets and liabilities, which in international practice was called the ALM (asset-liability management) approach. This approach involves quantifying and monitoring the impact of changes in parameters such as exchange rates, interest rates, inflation, commodity prices on sovereign assets and government liabilities. Based on the study of foreign experience, in particular, New Zealand, Denmark, Turkey, it was concluded that the introduction of the ALM approach involves a number of difficulties, but it has undeniable opportunities to improve the efficiency of decisions in public finances.

Keywords: financial risk, decision making, management of assets and liabilities, system approach.

DEFINITON OF FINANCIAL RISKS AND THE NECESSITY TO APPLY SYSTEM APPROACH TO MANAGEMENT OF FINANCIAL RISKS

The financial risks of the state are a new and poorly studied class of financial risks. This is a category inherent to all sovereign subjects of international financial, monetary and credit relations. Within a narrow approach, financial risks include: central government budget risks; risks of the budgets of municipal governments (in Russia these are the risks of the budgets of sub-federal and local authorities); risks of social funds' budgets; sovereign debt risks. When taking a broad approach, financial risks also include financial risks initiated by state or joint organizations within the government sector. Sovereign risks in a broad sense cover all financial and economic activities of organizations in the general government sector that operate in the market and non-market fields through the use of state financial resources [1, p.51].

At present, each state combines market and non-market forms of activities, and is active player in the domestic and foreign financial markets. In the course of its performance, the state borrows in the domestic and foreign debt markets; finances investment programs and projects at home and abroad; invests in the capital of enterprises and financial institutions; acts as a co-investor of large international commercial projects; forms and allocates state reserves; manages and administers state-owned objects; creates and finances (in whole or in part) state-owned enterprises and structures. Thus, the state is a large-scale investor, entrepreneur, the largest holder of capital that needs effective financial management, aimed at minimizing risks, saving property, increasing revenues [1, p.48].

With the deepening of financial globalization processes, increasing geopolitical instability and market volatility, the financial risks of states have increased. Therefore, the study of financial risks of the state is a relevant topic.

ASSET-LIABILITY MANAGEMENT APPROACH AS A METHOD TO DEAL WITH FINANCIAL RISKS

Now we must consider the conceptual issues. Basic approaches to this problem are presented in the work of U. Das et al.[2]. An important, breakthrough work on the management of public assets and liabilities is the publication of F. Kos, who analyzed the experience of New Zealand, Denmark and Turkey, countries that to some extent used this approach[3]. Management of assets and liabilities (abbreviated ALM) is an approach widely used by financial sector enterprises, especially banks and insurance companies. More actively ALM approach began to be used approximately since the 1970s. This was a time when financial institutions faced an increased interest rate risk. With the development and active use of financial innovations such as forwards, futures, options and swaps the ALM approach made it possible to manage the currency risk, interest rate risk, credit risk and liquidity risk.

To a certain extent the state is similar to a financial company. The state budget receives income from taxation and other sources, which are then sent to pay for expenditures. However, the implementation of the ALM approach is much more difficult in the case of a sovereign state. As noted by World Bank and IMF experts in the Guidelines for Public Debt Management, “the public balance sheet is far more complex and diversified than that of a private company” [4, p. 33]. Joint management of assets and liabilities is based on the balance approach. The conceptual balance of the public sector is presented in the work of Traa, B., Carare, A. [5], where it is clearly demonstrated that the difference between financial and non-financial assets, on the one hand, and debt and other liabilities, on the other hand, is the net asset value of the public sector.

The presented balance can be further detailed if it is required. Various authors dealing with this approach indicate the following types of assets: gold and foreign currency reserves, sovereign wealth funds, loans granted to other states; other assets can include derivatives, REPO instruments, other accounts receivable. Among non-financial assets, investments in infrastructure are singled out separately [6]. In addition, it is proposed to include in the composition of future assets various revenues to the budget, for example, tax receipts. As for the liabilities, they are additionally detailed in the following way: accounts payable, deposits of local authorities and commercial banks, as well as future budget expenditures, including contingent liabilities.

A joint analysis of sovereign assets and liabilities is designed to identify and effectively manage the key financial risks of the public sector as a whole. This approach involves monitoring and quantifying the impact of changes in parameters such as: exchange rates, interest rates, inflation and commodity prices, both on sovereign assets and government liabilities.

Study of the nature of sovereign assets and liabilities as a whole can be a guide for the risk management of the public sector balance sheet. Conducting tests of the impact of various types of macroeconomic risks provides valuable information that can significantly improve the effectiveness of decisions taken.

State budgets are subject to various risks and uncertainties related to their assets and liabilities, which is predetermined by the specifics of the country’s economy and the level of economic development.

It is possible to give the following examples, when the analysis of sovereign assets and liabilities leads to an understanding of the need to improve economic policy.

1. Exposure to external shocks and the likelihood of upheaval, up to a default, associated with a simultaneous decrease in the value of assets and an increase in the value of liabilities. For example, as a result of a sharp outflow of investment, prices for financial assets fall, and this coincides with the currency crisis. As a result, the burden of external debt grows.

2. Budget instability, identified on the basis of intertemporal accounting. Contingent obligations are quite diverse. A classic example of contingent liabilities are future commitments associated with an unfavorable demographic situation, which in the future will increase the costs of health care and social security. Contingent liabilities also include expenses related to state support for private and public companies and banks, which are necessary due to their excessive debt burden, primarily external debt.

3. Depletion of natural resources can be better revealed based on ALM approach. At certain times, the country’s export earnings do not cause any concern, despite the fact

that stocks are being exhausted and the net worth of assets is decreasing.

The study of sovereign assets and liabilities involves an analysis of financial characteristics associated with assets and liabilities, identification of risks and costs. If the characteristics of assets and liabilities coincide only partially (not covering each other), then in the process of risk management it is necessary to focus on unclosed (net) positions.

To reduce the currency risk, interest rate risk and refinancing risk, hedging strategies should be applied. In this case, both active hedging (derivatives) and natural hedging can be used, for example, by matching revenues to expenditures without using complex financial instruments. The use of such strategies depends on several factors, including the ability to analyze the risk and the degree of development of the relevant financial markets. In any case, derivatives are much less acceptable for use in order to reduce the risks of the state balance than in case of the private company's balance. Recommendations for the choice of risk reduction instruments depend on the type of country. To use active hedging of risks (which is often used in developed countries), some legal and technical problems must be solved.

The strategy of natural hedging is considered more suitable for countries with emerging markets, such as Russia. The issuance of indexed inflation bonds, the natural hedging of currency risk and the creation of liquidity reserves for the event of the refinancing risk are relatively easy to implement in most countries. At the same time, domestic financial markets in such countries are generally not developed enough to use active hedging instruments to achieve the desired and optimal portfolio of assets and liabilities. The natural methods of hedging are fairly simple. An example is the approach to reducing foreign exchange risk is the accumulation of international reserves, the currency structure of which corresponds to the structure of government obligations. This approach can be very effective in solving the problem of currency risk, while active hedging instruments, such as interest and currency swaps, are much more difficult to apply. Another example of a natural hedging strategy is the use of a "liquidity buffer" that helps reduce the risk of short-term market volatility. The accumulated liquid reserves provide the freedom of maneuver for the debt manager when holding auctions for placing debt securities. The question of the adequacy of the level of reserves and approaches to solving this problem requires special attention. There are no common generally accepted criteria for the adequacy of reserves.

From the standpoint of the ALM approach to joint management of sovereign assets and government obligations, the structure of international reserves should be determined by the type of external shocks that are possible. As a rule, the share of highly liquid assets is calculated on the basis of an assessment of potential liquidity needs, based on the balance of payments' stress tests and past interventions. In addition, countries with limited access to the capital market can structure the reserves in such a way that they correspond to the structure of the currencies in which the import settlements will be effected. If international reserves cover the external debt, then their structure must correspond to the currency structure of this debt.

DISCUSSION OF THE DIFFICULTIES IN THE IMPLEMENTATION OF ALM APPROACH INTO PRACTICE

Until now the full integration of management of sovereign assets and public debt is not a common practice. Despite the potential benefits, the implementation of joint management of sovereign assets and public debt is fraught with a number of problems, that were revealed in [7]. These problems include difficulties in collecting statistical data for compiling a public sector balance, measuring non-financial assets, and analyzing the risks of a portfolio of sovereign assets and liabilities.

Many governments do not know what assets they have acquired over the years or who own property rights (for example, in case of conditional or some future obligations).

There is the problem of determining the value at which assets or liabilities in the state balance sheet should be reflected (market or book value). In addition, the issue of the applied exchange rate of the national currency in relation to foreign currencies should be resolved when preparing the public balance sheet. Another challenge is the choice of a discount rate to determine the net present value of future expenses and revenues.

So, the implementation of ALM approach poses a number of difficulties, but has undeniable opportunities. A study of the discrepancies between the accumulated assets and liabilities of the state can be an additional tool to identify and start to solve economic problems. Centralization of management of all financial risks and the creation of institutional foundations are important elements in building an efficient system for joint management of public debt and sovereign assets.

REFERENCES

1. *Hominich I.* O suverennyh subektah mirovyh finansovyh otnoshenij i soderzhanii gosudarstvennogo risk-menedzhmenta // Aktual'nye problemy razvitija mezhdunarodnyh valjutnyh, kreditnyh, finansovyh otnoshenij v uslovijah globalizacii i regionalizacii: sbornik nauchnyh statej / pod red. E.A. Zvonovoj. - M.: Finansovyj universitet, 2016. - 264 s. = Hominich I. The sovereign actors of the world financial relations and maintenance of state risk management //Actual problems of the development of international foreign exchange, credit, financial relations in the context of globalization and regionalization: collection of scientific articles / ed. by Elena A. Zvonova. – M.: Financial University, 2016. 264 p. (In Russ.)

2. *Das U. S., Lu Y., Papaioannou M. G., Petrova I.* Sovereign Risk and Asset and Liability Management – Conceptual Issues. IMF Working Paper WP/12/241. https://www.imf.org/external/pubs/ft/wp/2012/wp12241.pdf.

3. *Koc F.* Sovereign Asset and Liability Management Framework for DMOs: What Do Country Experience Suggest ? http://blog-pfm.imf.org/files/fatos-salm_final-edited.pdf.

4. Revised Guidelines for Public Debt Management prepared by the staffs of the World Bank and the International Monetary Fund approved by Jeffrey D. Lewis (World Bank) and José Viñals (IMF) April 1, 2014. https://www.imf.org/external/np/pp/eng/2014/040114.pdf.

5. *Traa B., Carare A.* A Government's Net Worth, *Finance and Development*. 2007; 44;(2): 46-49.

6. *Wheeler G.* Sound Practice in Government Debt Management. World Bank. 2004. http://documents.worldbank.org/curated/en/650491468780582418/pdf/289880PAPER0So1government0debt0mgmt.pdf.

7. *Tsvirko S.* ALM approach and its implementation in Russia's public debt management // World financial system: past, present, future. Proceedings of the IV International Congress of Financial University, sections of the International Financial Faculty (Financial University under the Government of the Russian Federation, November 30, 2017) / Ed. by M.I. Sidorova - M. Publishing House «Science Technologies», 2018. – 150 p.