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NOVEL TRENDS IN GOVERNMENT DEBT RISK MANAGEMENT

Vytautas Snieska[1], Aura Draksaite[2]
Kaunas University of Technology, Lithuania, [1]Vytautas.Snieska@ktu.lt, [2]aura_draksaite@yahoo.com

Abstract

As government debt risk strategy plays an important part in the development of the domestic economy, it is important not only to understand how debt managers operate in nowadays, but to be able to identify opportunities given by continuously changing debt handling modes and ways to improve approach to the debt risk management.

The aim of the article is to reveal novel trends in government debt risk management in terms of intended increase of the country competitiveness.

Theoretical standpoints and practical approach of an issue have been employed. The article offers survey of recent changes in the strategies of government debt risk management and presentation of feasible trends to optimise the field in achieving the increase of country competitiveness as a subsequent outcome. Advanced novelties in government debt risk management have been revealed. Action trends for government debt risk managers have been suggested.

Keywords: government debt, debt risk, debt management, risk management, competitiveness.

Introduction

Rapid development in government debt markets has caused extended range of topics for discussions, such as government debt management instruments, the use of electronic systems, selling techniques, the organisation of primary and secondary markets in government securities, the organisation of debt offices etc. Government debt risk management is one of the most important integral parts of the issue.

Governments are considered to be the world's biggest borrowers. Usually borrowing takes place by issuing government securities on exchange markets and by raising loans. Governments also decide the guidelines for the government debt management. The favourable development of the main macroeconomic indicators often is the key line and priority of the policy on government debt management. Development and implementation of the government debt management policy whose fundamental essence would be targeted at ensuring unobstructed financing of the budget and refinancing of the debt at minimum possible cost in the medium and long term and optimum level of risk shall be reached. Adequate and timely actions to minimize and/or avoid the impact of the risks shall be undertaken. Governments exercises control over both the expected costs and risks primarily by their decisions on the composition and maturity of the debt.

The ability to manage the government debt risk is of a great importance, especially for emerging market economies.

Debt risk strategy plays an important part in the development of the domestic economy. Therefore understanding how debt managers operate and issues they are facing is crucial for anyone with a stake in the smooth functioning of development of the country economy. The more important is the ability to identify novelties of government debt risk management and take advantage implementing them in country's economy politics.

Object of the article is government debt risk management and the aim is to reveal novel trends in government debt risk management in terms of intended increase of the country competitiveness.

As the topic is under constant change and improvements, it is not widely explored in the literature.

Theoretical standpoints of an issue and practical approach to the management of government debt risk have been employed to promote the topic. Analysis, systematisation and generalisation of the scientific studies have been made. Comparative analysis of statistic data and expert estimations has been performed.

The article offers survey of recent changes in the strategies of government debt risk management and presentation of feasible trends to optimise the field in achieving the increase of country competitiveness as a subsequent outcome. Advanced novelties in government debt risk management have been revealed. Action trends for government debt risk managers willing to develop and improve their management strategy have been suggested.

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Changes in government debt risk management

As it is good known, governments are the world's biggest borrowers. Debt strategy plays an important part in the development of the domestic financial system. Issues of public debt are growing rapidly as budget deficits rise in America, the Eurozone, Japan, many other developed countries and in most emerging market economies (2).

The constant change in government debt strategy is caused by attempt to decrease the management costs and to keep the risk as low as possible. These changes were introduced in response to alterations in the working environment of debt managers, like the introduction of the euro in EU, declining government debt ratios, the introduction of electronic trading systems, and the changed institutional position of debt managers.

In addition, the working environment of government debt managers in Europe has changed considerably during the last decade. By far the most important factor was the introduction of the euro. After the start of monetary union, debt managers became small to medium-sized players in a European capital market, instead of the dominant party in national capital markets. Consequently, competition among debt managers increased, fostering transparency and stimulating a more efficient primary market and a deeper, more liquid secondary market.

There have been other changes as well. The fiscal consolidation in the run-up to the Economic and Monetary Union (EMU) implied that government debt-to-GDP ratios started to decline in most countries, although this trend has recently been reversed. Furthermore, the organization of the trade in securities has altered, notably due to the introduction of electronic trading systems. In many countries the institutional position of the government debt managers has also changed. Although there are still substantial differences across countries, there is a clear tendency to grant more independence to the organization responsible for the management of government debt.

As exchange rate risks within the euro area no longer exist, market conventions have been harmonized and efficient linkages between European settlement systems have been established. From the investor's perspective, the disappearance of exchange rates implies that the government bonds of various governments have become closer substitutes. Liquidity and credit risk have become the main differentiating features among government bonds, with the relative contribution of these factors subject to debate. The introduction of the euro and the implied tight spreads for government bonds also made portfolio managers diversify into a wider range of corporate bonds. Thus, government debt managers face increased competition, requiring them to cater to the desires of investors.

Besides, the recent weakening of budgetary discipline in some euro area countries has stopped the continuous decrease in the average debt ratio that had been observed since 1997 (Wolswijk, Haan, 2006).

In opinion of many economists, a framework should be developed to enable debt managers to identify and manage the trade-offs between expected cost and risk in the government debt portfolio. The cost of government debt includes two components: the financial cost, which typically is considered to be the cost of servicing the debt over the medium to long-run, and the potential cost of real economic losses that may result from a financial crisis if a government has a particular strategy for managing the portfolio. Market risk is then measured in terms of potential increases in debt servicing costs from changes in interest or exchange rates relative to the expected costs. The potential real economic losses that may result from such increases in costs or if the government cannot roll over its debt should also be considered. An important role of the debt manager is to identify these risks, assess to the extent possible their magnitude, and develop a preferred strategy for managing the trade-off between expected cost and risk. Following government approval, the debt manager also is normally responsible for the implementation of the portfolio management and risk management policies.

To assess risk, debt managers should regularly conduct stress tests of the debt portfolio on the basis of the economic and financial shocks to which the government, and the country more generally, are potentially exposed. This assessment is often conducted using financial models ranging from simple scenario-based models, to more complex models involving highly sophisticated statistical and simulation techniques. In general, models used should enable government debt managers to undertake the following types of risk analysis (5):

- project expected future debt servicing costs over a medium to long-term horizon based on assumptions regarding factors affecting debt-servicing capability, such as: new financing requirements; the maturity profile of the debt stock; interest rate and currency characteristics of new debt; assumptions for future interest rates and exchange rates etc.;

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- generate a debt profile, consisting of key risk indicators of the existing and projected debt portfolio over the projected horizon;
- calculate the risk of future debt servicing costs in both financial and real terms by summarizing the results of stress tests that are formulated on the basis of the economic and financial shocks to which the government and the country more generally are potentially exposed. Risks are typically measured as the potential increase in debt servicing costs under the risk scenarios relative to the expected cost;
- summarize the costs and risks of alternative strategies for managing the government's debt portfolio as a basis for making informed decisions on future financing alternatives.

The appropriate strategy depends on the government's tolerance for risk. The degree of risk a government is willing to take may evolve over time depending on the size of the government debt portfolio, and the government's vulnerability to economic and financial shocks. In general, the larger the debt portfolio and the vulnerability of the country to economic shocks, the larger the potential risk of loss from financial crisis or government default, and the greater the emphasis should be on reducing risks rather than costs.

Such strategies include selecting maturities, currencies and interest rate terms to lower risk, as well as fiscal authorities placing more stringent limits on debt issuance.

Debt managers in well-developed financial markets typically follow one of two courses: periodically determine a desired debt structure to guide new debt issuance for the subsequent period, or set strategic benchmarks to guide the day-to-day management of the government's debt portfolio. Such portfolio benchmarks typically are expressed as numerical targets for key portfolio risk indicators, such as the share of short-term to long-term debt, and the desired currency composition and interest rate duration of the debt.

Where markets are well developed, debt managers should try to ensure that their desired debt structures or strategic benchmarks are clear and consistent with the objectives for debt management, and publicly disclosed and explained (5).

The following is the closer look to the novelties in government debt risk management, which is the response to the above mentioned government debt management specialties and the recent changes in the field.

The novel approach to government debt risk management

New techniques and instruments are being more widely used to supplement traditional methods of selling public debt, as debt managers seek to widen their investor base, diversify portfolios, and reduce the exposure to risk.

In response to the rapid development in government debt markets, the OECD Working Party has been extending the range of topics for discussion: factual condition of government debt instruments, the use of electronic systems, selling techniques, the organization of primary and secondary markets in government securities, the organization of debt offices as well as other policy issues and techniques of government debt management.

To do this, and considering the fact that quality of government activities performance is one of the criteria in deciding of country competitiveness ability (Kochetkov, 2005), many countries have recently reorganized the debt function, recognizing the need for a professional team with some operational autonomy and the ability to respond rapidly to market developments.

In EU the autonomy of debt management agencies was already increasing before the start of EMU. However, it received an additional boost from the introduction of a more competitive environment, as reflected in greater autonomy for the larger debt management offices in recent years, either as part of the national ministry of finance or as a separate unit outside the government sector. Increased independence has gone hand-in-hand with more detailed strategic goals and practical guidelines for the agencies, often setting targets or limits for key elements such as maturity and refinancing risk.

More widely implemented becomes establishment of separate management unit under supervision of finance ministry or suchlike governmental institution. One of the examples is The Government Debt Management Unit, an office of the Ministry of Finance, in charge of managing Israel's domestic and external debt and the development and implementation of an overall debt management strategy.

To improve the management of government debt, the Ministry of Finance has established a risk-management department within the Government Debt Management Unit. The Risk Management Department is expected to assist policymakers in making decisions in regard to several types of risk (www.mof.gov.il):

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- market risk – risk resulting from changes in prices, exchange rates, interest rates, and interest spreads;
- refinancing risk – risk related to the government's ability to roll over its debt once it matures;
- liquidity risk – risk related to the government's ability to raise funds unexpectedly and in a short time;
- credit risks – the risk that a debtor will fail to pay back its debt; this is especially relevant in swaps and derivatives transactions;
- other risks, such us technical errors and legal risks.

The Department's goals are: to identify the optimal currency mix of the government's debt portfolio; to identify possible scenarios related to government debt, including cash flows in each scenario, and their probability; to identify the most efficient frontier (cost vs. risk) of different currency and fixed/floating weightings (benchmarking); to improve the government debt databases; to price the government's foreign currency transactions, private placements, and derivatives transactions; to examine principal and interest rate sensitivity to market changes for budgeting purposes.

In many countries government decides guidelines for central government debt management. For example in Sweden these guidelines are taken under the consideration after receiving proposals from the Debt Office. The Debt Office is responsible for the operational management of the central government debt within the framework of these guidelines (3).

Likewise, starting from year 2007, Iceland's National Debt Management Agency shall, on behalf of the Minister of Finance, handle domestic and international borrowing by the Treasury and State institutions, the issue and sale of Treasury bonds in the domestic market and other debt management for the Treasury as well as relending and State guarantees (1).

The purpose of this establishment of the Agency was to contribute to cost-effective and quality debt management for the Treasury on the basis of the Ministry of Finance's debt strategy. This entails minimizing the central government's foreign and domestic interest and financial expense by seeking cost-effective sources of finance in Iceland and other countries for the Treasury. Exchange rate risk, interest rate risk and price risk on account of Treasury debt shall be spread as effectively as possible and the Treasury's risk reduced on account of guarantees and relending kept to a minimum.

Finally, during the last decade the general institutional position of the various debt managers has changed. Even though important differences among countries still exist, there is a clear tendency to grant more independence to government debt managers. In Germany and France, debt management offices were given a larger degree of independence in 2001. Such reflects the increasing awareness that higher product complexity and competition among debt managers requires a high degree of operational independence and professionalism. Cost considerations also played a role: in Germany, the centralization of debt management was expected to save interest payments of up to EUR 3/4 bln., or some 2% of central government interest payments per year (5).

At the same time, governments issue more specific guidelines for debt management. These often take the form of a target (range) for the residual maturity or the (modified) duration, subject to certain restrictions such as limits on the use of derivatives. The modified duration measures the change in the current value of the debt portfolio if the yield curve changes by 1 basis point. The French debt agency, for instance, had a 2003 target for the average maturity (after swaps) of 5,3 years, implying a decline by nearly half a year compared to 2002. The Belgian debt agency operates within limits for the shares of maturity-ranges in total debt, such as a 25% cap for total euro-denominated debt for which the interest rate needs to be reset within a year (Wolswijk, Haan, 2006).

Similarly to the aforesaid changes in EU, the U.S. Department of Treasury's Office of Technical Assistance (OTA) has advisors, under personal service contracts, in the Government Debt Issuance and Management Program. The Treasury program provides technical assistance and policy advice on sovereign debt matters in an emerging market environment to senior ministerial and central bank officials, as well as to market participants in host countries. Advisors are expected to provide sound but realistic technical assistance in the debt management area that will enable emerging countries to strengthen and develop their economies.

The other important section to be considered in terms of continuous improvement of government debt risk management is best practice spreading policy. Information about best (or good) practices for government debt management and primary and secondary market operations has also been shared with debt managers from emerging market economies. To that end, the OECD Working Party initiated in 1990 a policy dialogue

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with transition countries and, later on, with emerging markets in several regional and global policy forums, including the Annual OECD/World Bank Global Bond Market Forum, the OECD's Annual Baltic-Nordic Forum on Public Debt Management, and the Annual OECD Global Forum on Public Debt Management in Emerging Government Securities Markets.

The OECD Working Party on Debt Management was already set up in 1979 as a special working group of the OECD's Committee on Financial Markets. Since its creation, the Working Party has been a unique policy forum for the 30 senior government debt managers from OECD Member countries to exchange their views and experiences in the field of government debt management and government securities markets.

Recently The Working Party's unique and up-to-date pool of knowledge in this special field of government activity and policy has become of great importance for the debt managers from emerging market economies as they design and implement their policies in this area. The best or good practices identified by the Working Party serve therefore de facto as a global standard. The more it is supported by the fact that effective management of knowledge is one of the essential features of EU innovation strategies (Snieska, Vasauskaite, 2005).

In many emerging market economies the efforts in the recent years aimed at achieving progress in the fiscal area have set as priority the effective management of the government debt. The favorable development of the main macroeconomic indicators and the pursued prudent fiscal policy, and the outlined long-term objectives in the economic processes area, are the factors that have the largest contribution to the strengthening of the key lines and priorities of the policy on government debt management pursued by the finance departments of the countries. Usually taking into consideration the best practices in the area of debt management, the debt policy is implemented in compliance with the existing local legislation.

An important recent feature of debt management strategies in the euro area is the convergence of practices. There is a clear tendency to issue "plain vanilla" bonds, while there is less emphasis on issuing foreign currency debt. Debt managers increasingly use interest rate swaps and introduce innovative instruments, such as inflation-indexed bonds.

Usually, the size of these bond issues is rather large compared to the pre-EMU years, with the aim of achieving a high degree of liquidity. While issues of about EUR 2 bln were standard in smaller countries before EMU, the minimum nowadays is EUR 5 bln., reflecting the lower limit for government securities to be eligible for trading on the Euro MTS electronic platform. The larger countries in the euro area nowadays issue bonds of over EUR 20 bln. (Wolswijk, Haan, 2006)

With government deficits generally lower than some years ago, the possibilities of issuing one or larger 10-year benchmark bonds decreased, especially for the countries with smaller government deficits. Issuing securities only along other parts of the yield curve was restricted to the countries with large deficits and/or debts. With a view to increase borrowing possibilities at benchmark maturities, governments have introduced or extended buy-back operations and bond switching operations. These allow bondholders to switch to new and therefore more liquid government debt. Similarly, governments have cut down on non-tradable debt instruments such as retail debt, allowing a higher portion of the funding requirement to be in benchmark bonds. Easier access of individuals to the primary and secondary market for government bonds via financial intermediaries and the Internet also plays a role in decreasing the volume of retail-debt.

The change to electronic trade systems implies more efficiency and higher liquidity. MTS markets are interdealer markets, where some traders are obliged to give quotes for benchmarks and other highly liquid loans so that there are always possibilities to trade. Apart from the obligation to provide quotes, there are maximum bid-ask spreads, which reduce transaction costs.

One more measure taken for debt risk management is control system and a new method of calculating the composition of the central government debt. To control the debt's composition, target for the debt percentage for each type of debt and a control interval around the foreign currency percentage is set. The new method of measuring percentages provides a better picture of the central government debt's total risk exposure. With the new measure the composition of the debt changes. The inflation-linked percentage is likely to rise and the foreign currency percentage is likely to fall. In the practice, this type of control system is applicable only for not foreign currency debt, which is controlled by the traditional amortization amount (4).

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Prerequisite and suggestions for government debt risk management

As discussed above, following government approval, the debt manager also is normally responsible for the implementation of the portfolio management and risk management policies. To carry out these responsibilities, debt managers should have access to a range of financial and macroeconomic projections. Where available, debt managers should also have access to an accounting of official assets and liabilities. They also require complete information on the schedule of future coupon and principal payments and other characteristics of the government's debt obligations, together with budget projections of future borrowing requirements.

Considering that cost of funding is affected by fluctuations in inflation, real interest rates and the risk premium, governments may have differing risk preferences. For instance, one may prefer long-dated securities indexed to inflation, in order to fix the long-term real cost of borrowing, while another may prefer short-dated or floating rate securities to avoid the risk of locking into what may turn out to be excessively high interest rates. Governments may also take a broader perspective, seeking to match assets, or more probably expected income, against liabilities.

This could be a long-term policy. Alternatively, financing strategy could attempt to balance shorter-term fluctuations in income and expenditure, for instance by trying to take account of how different possible shocks to the economy – exchange rate, energy prices, recession, bad harvest – might affect the government's overall financial position (Gray, 1996). In the short to medium term at least, there should be some trade-off between risk and cost minimization.

Looking forward, euro area debt managers will face some additional challenges in future. With low deficits and competitive auction data setting, the issue of coordination of debt management practices in the euro area has arisen, including ideas about European sovereigns issuing common bonds. Current high government deficits have increased opportunities for regular issuances of benchmark bonds, relegating discussions on this type of coordination to the background, but it may revive once public finances have been put on a sounder footing (Wolswijk, Haan, 2005).

Population ageing will have a noticeable effect on government debt management. Higher pension and health care spending will increase deficits if no compensatory action is taken. Indeed, countries have agreed on additional efforts to reduce debt burdens to free up resources that would otherwise be spent on interest payments. At the same time, demand for government debt, and for (very) long-term index-linked debt in particular, is bound to rise because of the building up of pension funds, which will be keen to invest part of the entrusted money in safe government assets.

Conclusions

Being world's biggest borrowers, governments shall carefully plan their debt management and debt risk in particular. The main objective of debt managers is to finance the public debt at low costs with acceptable risks level. In recent years debt management strategies have changed considerably due to more strict fiscal policy and demand to maintain or improve debt risk leveling, considering trade offs between relatively acceptable risk and debt financing cost. This is followed by need to widen investor base, diversify their portfolios, and thus reduce exposure to risk.

In the beginning of current decade in EU the introduction of the euro caused disappearance of exchange rate risks within the euro area. As international competitiveness in macro level is explained by the advantages of national economy (Snieska, 2008), debt managers have become direct competitors in the European capital market. Furthermore, increased financial stability increases the credibility of financial market and the use of those markets in channeling financial capital in a more efficient way (Maneschiold, 2006).

Reduction in supply of government debt instruments, and the rapid expansion of electronic trading systems are developments which have considerably affected the environment in which debt managers operate.

In order to obtain better response to market development, many countries recently have reorganized their debt function, recognizing the need for a professional team with operational autonomy. More widely implemented becomes establishment of separate debt/debt risk management unit under supervision of finance ministry or suchlike governmental institution.

Other important section, considered in terms of continuous improvement of government debt risk management, is best practice spreading policy. Unique and up-to-date pool of knowledge in the field of

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government activity and policy has become of great importance for the debt managers from emerging market economies.

As to the types of government debt instruments, index-linked debt is growing in importance with more countries issuing this type of debt than before and others considering it. Portfolio diversification rather than cost saving appears to be the prime reason for issuing this type of debt, with pension funds being major investors.

Innovative products such as swaps and inflation-indexed bonds have gained in importance. Swaps introduce more flexibility in debt management, by separating the issue of liquidity from the risk profile. Portfolio diversification lately is emerging as the main motivation for investing in indexed bonds.

To take advantage of the effective means to decrease the government debts risk and consequently widen base for country competitiveness, managers shall have access to an accounting of official assets and liabilities, be familiar with the country's policy influenced by different risk preferences and capable to indicate the main factors affecting level of government debt risk.

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