

THE PECULIARITIES OF CONTEMPORARY MANAGEMENT OF FOREIGN DEBT IN A SMALL OPEN ECONOMY

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Abstract

Raising foreign funds by borrowing is one of the ways to get the necessary amount of money for the country's needs. As borrowing can be considered as getting indebted, countries with small open economies should be particularly cautious of ways to mitigate probable increase of the foreign debt in case of unfavourable changes in international financial markets. Considering high vulnerability towards sudden changes in international market and, therefore, high financial risk, sustainable management of foreign debt of small open economy is much more complex than in countries with large open economy.

The objective of the paper is to present the peculiarities of contemporary management of foreign debt in a small open economy.

The main finding of the paper is that countries with small open economy should use such compound of methods of management of their foreign debt that enhance prevention against sudden unfavourable changes of economy and increase flexibility to make necessary and timely adjustments of management of the foreign debt.

Keywords: foreign debt, small open economy, debt management, contemporary debt management.

JEL Classification: F41, H63, H68, H74.

Introduction

To meet their economic needs, countries often borrow either from domestic or the international financial markets. This leads to accumulation of country's debt. Small open economy countries highly depend on international markets and have much less means to recover in case of unfavourable changes in international economy, e.g. in case of economic shock. Nevertheless, borrowing abroad often is the only way for such countries to generate lump capital for maintenance and increase of the competitiveness of the country and in order to use it for its different needs. On the other hand, one of the most important priorities of most countries is to ensure the sustainability of its economy. Economic sustainability can be defined as ability to sustain the needed resources of the country and to maintain solvent. Therefore accumulation of foreign debt, being one of the primary concerns of the public economy in such countries, must be managed with eminent caution.

Contemporary management of foreign debt generally should be based on the knowledge that development of economy is stochastic evolutionary process. Therefore, analysis, measurement and management of those processes require such set of concepts and tools, which enable managers of foreign debt to estimate possible range of outcomes of economic changes and to take adequate means. The nature of changes of international economy implies that it cannot be treated as a common economy fluctuation and therefore alternative means to maintain the economy sustainable are needed. Lately it is also argued that management of country's foreign debt should be based on methods that consider stochastic nature of economy as a crucial factor, i.e. the probability to maintain net foreign debt sustainable is considered to be higher if foreign debt portfolio is formed using stochastic methods instead of any others. As the uncertainty plays one of the central roles in most of the problems addressed in the modern economic environment, recent studies in applied monetary economics and finance are exploring and employing more various models that approach the alterations of anticipated variables over the time as the key factor for increase of accuracy of the concluding findings (Eaton & Fernandez, 1995; Grybaite & Tvarovaviciene, 2008; Yusof & Aziz, 2008; Teresiene et al., 2008; Aniunas *et al.*, 2009; Ciegis et al., 2009a; Ginevicius et al., 2009; Strumickas et al., 2009). Thus these models have become an effective tool to measure the risk of different asset holdings and also provide the technique for volatility forecasting. Sustainability of national finances is usually defined by evaluation of the specific indicators and their variance over the time (Presbitero & Arnone, 2006; Relano, 2008; Izák, 2009; Ciegis et al., 2009b; Goldstein, 2010). Also lately it is acknowledged the significance of systematic approach to the sustainability issues (Wright, 2008; Dzemydiene, 2008; Burinskiene & Rudzkiene, 2009). Both the ability to sustain economy in desirable level of development and the ability to

respond to economic changes on time and with as little damage as possible are essential to most countries of the world.

Contemporary management of foreign debt in small open economy countries is even more complicated than in large economies because of their economic vulnerability and remote capability of prompt economic recovery in case of unfavourable changes of economy. Appliance of advanced tools of management of foreign debt in small open economy countries is not widely discussed in economic literature.

The objective of the paper is to present the peculiarities of contemporary management of foreign debt in a small open economy.

To achieve this aim, the advanced methods of management of foreign debt and the main characteristics of small open economy are described; methods and techniques, suitable for countries with small open economy are discussed and illustrated by statistical data of Lithuania. The main finding of the paper is that countries with small open economy should use such compound of methods of management of their foreign debt that enhance prevention against sudden excess expense and increase flexibility to make necessary and timely adjustments of the policy of foreign debt management or the foreign debt portfolio itself. The main research methods employed in the paper: systemization, generalization and logic analysis of scientific sources of information, quantitative and qualitative analysis as well as comparative analysis of the data.

Contemporary management of foreign debt of a country

Recent downturn in global economy has clearly demonstrated the vulnerability of public finances in case of sudden unfavourable changes of economy. Sovereign credit crisis in many countries is one of the outstanding risks that threaten the recovery of economy after the economic setback. Therefore ability to manage the foreign debt of the country effectively is of great significance. Governments have to find feasible and reliable solutions as soon as possible to reinforce their capabilities in controlling escalating public debts. In period of economic downturn, this task is much more complicated for managers of foreign debt, which is usually issued in foreign currency and therefore exposed to more risks, than to managers of the debt issued in country's national currency. Therefore, foreign debt of the country is both more vulnerable to the changes in economy and thus more challenging task for managers of the debt in terms of keeping it of a sustainable level.

The recent setback of the global economy also simultaneously emphasized the necessity to take appropriate measures to mitigate outcomes of unexpected economy changes and avoid the destructive results of it. In the context of management of foreign debt of a country, generally this means that usual management tools must be revised and upgraded to meet the challenges of stochastic economy. Also the lack of preventive measures against sudden increase of the volatility in economy has been exposed. As economy is of stochastic nature, unpredictability and sudden changes of economy are important factors that should be taken in consideration when creating the tool set for effective management of foreign debt of the country. This also implies that unpredictable changes of economy, such as economic shocks, cannot be treated as a common economy fluctuation and therefore advanced means to maintain the foreign debt sustainable are needed.

Thus it is evident that sustainable management of foreign debt should be based more on stochastic methods than deterministic ones. First of all, it is important to determine whether foreign debt of the country is sustainable or not. Although there is no explicit and unified way to do this, so called debt indicators are often used. Two sets of debt indicators can be used: those based on flow variables, e.g. related to exports or GDP; and those based on stock variables (International Monetary Fund, 2003). For example, according to statistics of Lithuania, during period of 2006-2010 Lithuania's debt-to-GDP ratio was constantly growing, with the average annual grow of 16,6 %, with the significant increase of debt in year 2008 due to the economic downturn (Figure 1) (21). The debt-to-exports ratio is defined as the ratio of outstanding foreign debt at the end of the year to the economy's exports of goods and services for the year. This ratio can be used as a measure of sustainability because an increasing debt-to-exports ratio over time, for a given interest rate, implies that debt is growing faster than the economy's basic source of external income, which indicates that the country may have problems meeting its debt obligations in the future. Other way is to monitor and analyze the average interest rate on debt or to calculate the present value of debt by discounting the projected future payments. For example, in analyzing debt sustainability for heavily indebted poor countries, the International monetary fund and World Bank use such present value of debt measure, notably present value of debt to exports, and to fiscal revenue (Dodd, 2002). A high and rising present value of the debt-to-exports

ratio is considered to be a sign that the country is on an unsustainable debt path. In general, any method that indicates if country is solvent or not can be used for the evaluation of sustainability level of management of foreign debt of the country.

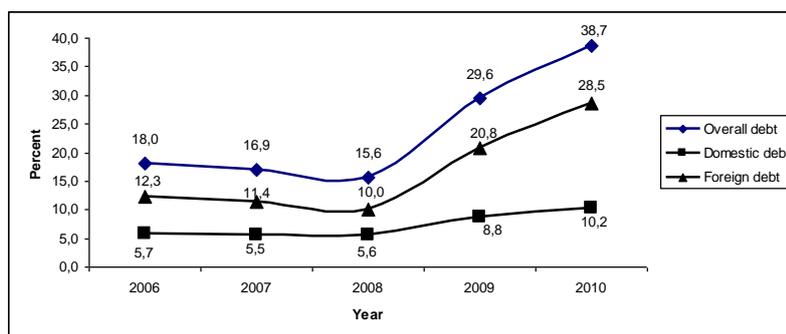


Figure 1. Variation of Lithuania's debt-to-GDP ratio over the period of 2006-2010, percents

Assessment of the sustainability level of management of foreign debt of the country can be used as a starting point and guideline for the improvement of management of foreign debt. However, basic trend for the advanced management of foreign debt should be forecasting and evaluation of as many possible scenarios of the change of economy, and subsequently the foreign debt level, as possible. The uncertainty is one of the most important factors in most of the problems addressed in the modern financial theory. Combined with the time series it can be used for debt management methods based on prevention against future fluctuations of economy or on setting limits on it at least to some extent. One of the examples is cash flow at risk method. It allows quantifying the risk and shows that debt risk can be controlled by reducing the proportion of short-term debt and variable rate debt even as the debt stock increases. Also it enables to quantify the risk associated with each debt risk factor, and therefore take the adequate actions as a response to the changed economical environment. One of the benefits of this method is that the focus on costs allows for the quantification and assessment of the possible impact on the budget if there is a shock (Smith, 2006).

One of the tools to provide more stability in the debt management is hedging. The main advantage of the hedging is that the financial wealth can be hedgeable in the market of the derivatives in such way that it is possible to reduce the effects of the stock market fluctuations on the cash flow. For example, inflation-indexed debt instruments can be used as a hedge in case of demand shocks (Merret et al. 2009). Theoretically, it is even possible to fully hedge against the market fluctuations and set the wealth to a fixed level. On the other hand, hedging is rather expensive tool.

The main characteristics of a small open economy

A small economy is usually considered economy that can not make significant influence to international markets and, in many cases, has comparatively small population, e.g. V. Pukeliene and A. Linkeviciene (2008) in their work suggest considering economy to be small if its population does not exceeds 6 million people. For example, Lithuania, where population slightly exceeds 3 million people (data of year 2012) can be considered as a small economy. Also economy can be described as small to compare it to major traders in the global market. Open economy is usually described as market economy where exports and imports form a large percentage of the GDP. A closed economy neither borrows from nor lends to foreign countries. A small open economy participates in international trade to a comparatively great extent and is open to international investment. Usually a large and rising share of national output in such countries is also linked directly to international trade in goods and services, which makes small open countries highly vulnerable to changes in international economy. Debt managers in small open economies are generally facing greater and more complex risks, particularly in managing their net foreign debt portfolio and executing their funding strategies than their counter-parts managing foreign debt in countries of large open economy.

Small open economy, being "price-taker" in the global market, can not affect global interest rates (Mankiw, 1997). The ability to influence the interest rate is greatly circumscribed by foreign capital flows. A small open economy is one whose total saving is too small to affect the world real interest rate. These economies do not alter world prices or incomes. For both large and small open economies, the domestic real

interest rate equals to the world real interest rate. The difference is that large economies can change the interest rate whereas small economies can only take the interest rate as default. Principle scheme of this is shown in Figure 2.

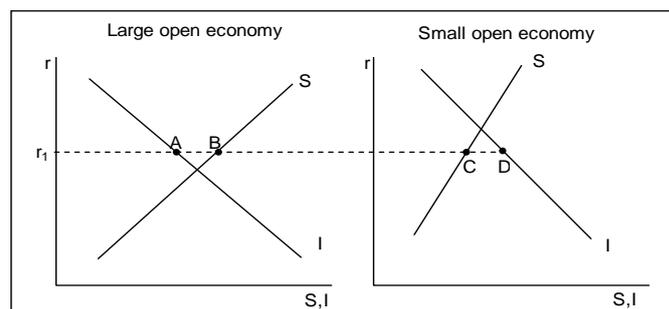


Figure 2. Principle of international lending and borrowing

As shown in Figure 2, if real interest rate in large economy is r_1 , large economy can lend amount of AB, and small economy can borrow amount CD. Equilibrium occurs if AB equals to CD.

Many small open economies are not in the position to benefit from efficient international risk-sharing arrangements (Garcia & Rigobon, 2004).

Also small open economy has little of prevention measures against the unfavourable changes in global finance market. Therefore, in case of such changes of economy, recovery processes in small open economy are much more slowly than in countries with large open economy.

Fundraising from abroad is also often difficult for small countries, because such economies are often considered to be of high risk. This complicates generation of financial inflows from international markets. Structure of the debt obligations in small open economies should be considered more carefully than in large economies, because it is argued that the higher the share of short-term credit is in overall debt, the larger and more vulnerable is the annual flow of debt-service obligations. For example, in Lithuania in years 2006-2010 averagely 95,86 % of overall debt was long-term credit, and only averagely 4,14 % of overall debt was short-term credit. 100 % of Lithuania's foreign debt is long-term credit.

Currently, management of foreign debt in small open economy got even more complicated by the burden of ongoing changes in economy. In addition, many countries with small open economy have slender financial capabilities and limited resources. Therefore one of the most important sources of innovations in those countries is implementation and exploitation of the advanced knowledge. Thus, it is vital for governments of small open economies to manage the foreign debt with eminent caution, employing the most advanced knowledge in this field.

Moreover, small open countries often are borrowing in foreign currencies, which is not the case for large or more closed economies, e.g. the United States is considered to have the deepest and most liquid debt markets, and Japan largely finances its debt domestically (Roubini & Bykera, 2010).

The peculiarities of management of foreign debt in a small open economy

Considering their characteristics, small open economies lack the natural stabilizing factors that allow the use of effective policies against the unfavourable changes in international finance market. Also the risk of economic crisis or even bankruptcy of the country in case of inefficient borrowing is higher for small open economy countries than for large economy countries. For example, Lithuania is highly dependant on international borrowing markets, because its foreign debt is much bigger than domestic debt. In period of year 2006-2010, ratio of Lithuania's government foreign debt to its total debt was averagely 72,84 %, and was averagely 2,7 times bigger than domestic debt (Figure 3). Therefore small open economies should be much more cautious about those tools of management of foreign debt that enable decision makers to avoid or at least mitigate the possible economic loss in case of unexpected changes of international economy.

As already discussed, generally the perception of uncertainty factor as the concurrent component in development of contemporary strategies of foreign debt management is becoming common sense. Especially this is applicable for small open economy countries which are exposed to higher level of uncertainty in international financial market. Their ability to prevent against economic changes or shocks is essential.

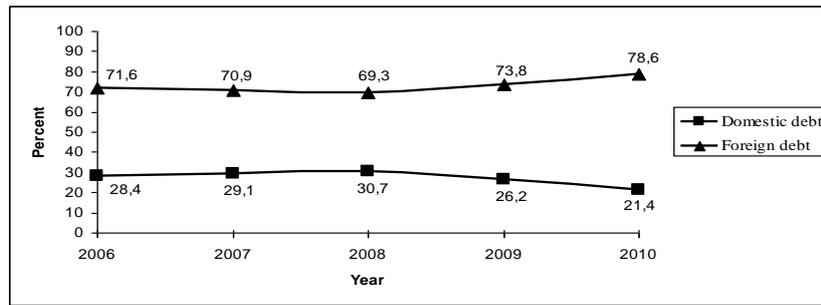


Figure 3. Variation of Lithuania's government debt structure over the period of 2006-2010, percents

In general, sovereign debt is described as a debt instrument guaranteed by a government. Respectively, a sovereign bond is a bond issued by a national government. The term usually refers to bonds issued in foreign currencies. Nations with very high or unpredictable inflation or with unstable exchange rates often find it uneconomic to issue bonds in their own currencies and so are forced to issue bonds denominated in more stable foreign currencies. In Lithuania, using derivative financial means, at the end of year 2008 99,99 % of the debt was denominated in Euros and Litas, from year 2009 100% of sovereign debt was denominated in Euros and Litas (Figure 4). This raises the issue of sovereign default if the nation cannot afford to repurchase the necessary foreign currency at bond repayment time. Due to the risk of default, investors require the bonds to be issued with a higher yield. This makes the debt more expensive to service. In the event of default, unlike a corporation or even a municipal subdivision, a nation cannot file for bankruptcy. But sometimes and in recent practice, the defaulting borrower presents an exchange offer to its bondholders in an effort to restructure the sovereign debt. However, during the period of the current economic downturn, getting the bondholders to accept an exchange offer has become very difficult.

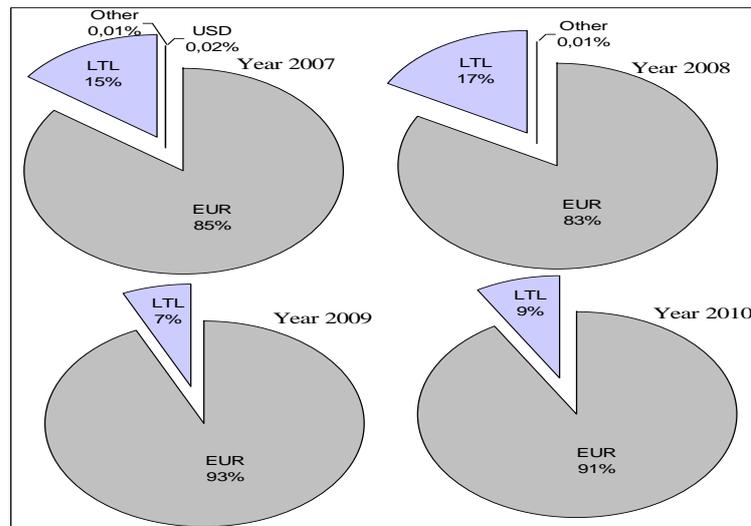


Figure 4. Structure of sovereign debt by currency at the end of the year, percents

In some countries, where exchange rate is not fixed, it can be used as an economic shock absorber. Obviously this is not the case in countries with the fixed exchange rates.

One of the ways for small open economies to prevent against accumulation of big budget deficit and systemic risk is to limit bailout of the financial sector. This can be achieved, for example, by launching the financial reform in the country.

In addition to methods of management of foreign debt, based on prevention against possible losses caused by unforeseen changes of the economy, foreign debt managers in small open economies can prepare a range of various alternative scenarios of the outcomes of chosen strategy of foreign debt management. Also, stress tests ("what if" scenarios) that assume a major change in one or more variable, can be helpful in analyzing the major risks stemming from fluctuations of these variables or from changes in other assumptions including, for example, changes in prices of imports or exports of oil. Stress tests are useful for liquidity analysis and provide the basis for developing strategies to mitigate the identified risks, such as

enhancing the liquidity buffer by increasing international reserves, by establishing contingent credit lines with foreign lenders, or both (14). Such methods should be widely used by managers of foreign debt in small open economy countries.

Considering the particular means for the prevention against unfavourable changes of economy, hedging strategy can be used simultaneously with the borrowing abroad. Although, being quite effective it is rather costly. Foreign debt managers also have to optimize the structure of the public debt portfolio. Ideally, they should be able to assess how a portfolio should be structured on the basis of cost-risk criteria so as to hedge the government's fiscal position from various shocks. The optimal debt composition can be derived by taking the relative impact of the risk and costs of the various debt instruments into account and defining the probability of missing a well-defined stabilization target. For example, in Lithuania, significantly larger part of foreign capital is obtained by issuing government securities and only small part is received by taking loans. In period of years 2006-2010 averagely 91,02 % of government debt instruments were government securities and 8,98 % - loans. Since 2009 year part of loans increased by approximately 3 times. Also swaps can be used. Swaps introduce more flexibility in foreign debt management by separating the issue of liquidity from the risk profile. Generally, any instrument that allows both prevention against possible loss in case of unfavourable changes in economy and generates the necessary capital inflow, which does not violates solvency of the country, should be prioritized in creation the strategy for management of foreign debt of small open economy.

Furthermore, it is important to used different methods of discussed tools simultaneously, i.e. systematic approach should be applied to the management of foreign debt in small open economies. This is essential because it ensures the integrity of different aspects of the management of foreign debt. This should also include means of the economic policy. Moreover, the synchronized set of the tools and techniques for management of foreign debt is considered as able to generate the most accurate predictions of coming economic shocks and thus enables debt managers to mitigate the outcomes of after-effect of unfavourable changes of economy or economic shocks significantly.

Conclusions

Foreign debt is one of the main capital inflow sources for the countries. But it is exposed to higher risk to compare with the domestic debt of the country. Moreover, recent setback of economy demonstrated that management of foreign debt, based on deterministic methods, is not effective and therefore more advanced methods should be used to address the stochastic nature of the economy. Methods that indicate if country is solvent or not and prevent or mitigates the possible economic loss in case of unfavourable change of the economy should be used for creation of the strategy of management of the foreign debt.

Management of foreign debt is even more complicated for small open economies. Such countries have no significant influence on international financial markets and they can not alter interest rates. Generally, small open economies are the "price-takers". Therefore they are more vulnerable to the changes of global economy and have more challenging task to keep their foreign debt of a sustainable level. Both the ability of the government to sustain economy in desirable level of development and the ability to respond to economic shocks in time and with least costly means are essential for small open economies.

One of the main preconditions for the effective management of foreign debt in small open economies is the ability to be ready for sudden unfavourable changes of economy. Constant monitoring of debt indicators and their variance over the time should be performed and timely prevention measures should be employed. Stress tests and simulations of possible outcomes of economic changes should be done on the constant basis. Also more stabile instruments should be used, such as long-term credits instead of the short-term ones, fixed rates instead of floating rates etc. Generally, any instrument that allows both prevention against possible loss in case of unfavourable changes in economy and generates the necessary capital inflow, which does not violates solvency of the country, should be prioritized in creation the strategy for management of foreign debt of small open economy.

Also to ensure the integrity of different aspects of the management of foreign debt and enhance the effectiveness of the management as well as the accuracy of the economic forecasts, systematic approach should be applied to the management of foreign debt in a small open economy. Synchronized set of the tools and techniques for management of foreign debt is considered as able to generate the most accurate predictions of coming economic changes and thus enables debt managers to mitigate the outcomes of after-effects of unfavourable changes of economy or economic shocks significantly.

By using such methods for management of their foreign debt, small open economies create more stable economic environment, might be considered as more reliable debtors and thus get more beneficial borrowing terms.

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