

# Determinants of Fiscal Sustainability and their Manifestation's Features in Ukraine

Roman TSYTSYK\*

## Abstract

The article deals with the fiscal sustainability problems as well as the author's modern concept of fiscal sustainability for Ukraine. The author analyzes studies about fiscal sustainability determinants by various scholars. He also presents proved and arranged impacts on state fiscal sustainability in a short-term, medium-term and long-term periods. The article investigates features and effects of some determinants on fiscal sustainability in Ukraine, identifies prime and special ones. They include high exposure on revenues from non-renewable natural resources and remittances by individuals abroad that have great impact on fiscal sustainability of Ukraine.

**Keywords:** determinants of fiscal sustainability, fiscal sustainability, financial crisis, public debt, sustainability of public finances

## Introduction

The study of ways to ensure and increase fiscal sustainability of the state has gained exceptional importance on modern stage of economic development of Ukraine. The problems, which appeared at the beginning of the world financial crisis and still arise in our economy, indicate the existence of problems with fiscal sustainability of Ukraine, low ability to react on the circumstances and trends of modern globalised world. There are several approaches to interpret the fiscal sustainability, which differ greatly. However, it is the status of the state financial system, allowing the government to follow the foreseeable and consistent social and economic growth policy under the influence of external and internal shocks during long time period. The main constituents (criteria) of this notion are: government solvency, ability to maintain economic growth, fairness towards future generations, ability to maintain the stable level of taxation, transparency of the budget process and valid fiscal risk management. One of the most important stages in terms of studying fiscal sustainability in Ukraine is the determination of factors, affecting the balance of the state financial system and permission to follow the predictable social and economic policy.

## Discussion

Analyzing the attitudes of different scientists made it possible to systematize the factors, which influence the state financial system:

**Table 1: Systematization of fiscal sustainability factors in short-term, mid-term and long-term perspective:**

Factors	Short-term fiscal sustainability	Mid-term fiscal sustainability	Long-term fiscal sustainability
The volume of national debt and interest payments	Excessive debt load for consolidated budget causes withdrawal of a substantial sum of money for interest payments		
Receipts and expenditures balance	Balanced financial policy enables to react on external and internal shocks		
Monetary regime	The sustainability of the national currency allows to expect the stable volume of state responsibilities when settling payments in Hryvnya (UAH) equivalent		
Economic cycles	-	An important factor when planning long-term fiscal sustainability	
Overseas resident activity	Active economic activity of individuals and legal entities allows to expect stable positive cash flow in every single year of the analyzed period		

\* Ph.D. student at the Academy of Financial Management of the Ministry of Finance of Ukraine, Public Finance Department, Kyiv, Ukraine.  
E-mail: tsytsyk\_rv@i.ua

Reserves and intensity of natural resources utilization	-	Intensive utilization of natural resources has a negative impact on net cash flow from their mining and sale
Financial activity of the state, particularly state corporations	Efficient expenditures, profitable activity of state corporations decreases the financial resources needed	
Demographic factors	-	Ageing of population increases pressure on state budget in the absence of efficient pension system
Political and social factors	Such factors can have both positive and negative influence on the sustainability of state financial system	
Climatic factors	Can have unexpected effect on fiscal sustainability	

Source: arranged by author.

As may be seen from Table 1, there is a number of factors which influence the fiscal sustainability of state financial system – volume of the state debt and amount of interest payments, balance of receipts and expenditures, monetary regime, economic cycles, overseas resident activity, reserves and intensity of natural resources utilization, financial activity of the state (particularly state corporations), demographic, political and social, as well as climatic factors. Some determinants can influence the state financial system greatly in short-term perspective, e.g., balance of receipts and expenditures of consolidated budget, the volume of state debt and payments for borrowed funds application, whereas the influence of other factors is stable and can change only in mid-term or long-term perspective: e.g. structural changes in demographic situation, changes in intensity of natural resources utilization because of depletion of available reserves etc.

### Financial Determinants

The main group of factors, affecting the sustainability of financial system most of all, are financial determinants. Below is their detailed description.

According to the specialists of Office for Budget Responsibility (who are engaged in the process of budget adoption in the United Kingdom by means of predicting of fiscal sustainability in long-term perspective), long-term sustainability of state finances is the sum of fiscal outcomes of some or all activities of the government in the past and future (Office for Budget Responsibility, 2011). According to such definition, factors of fiscal sustainability are:

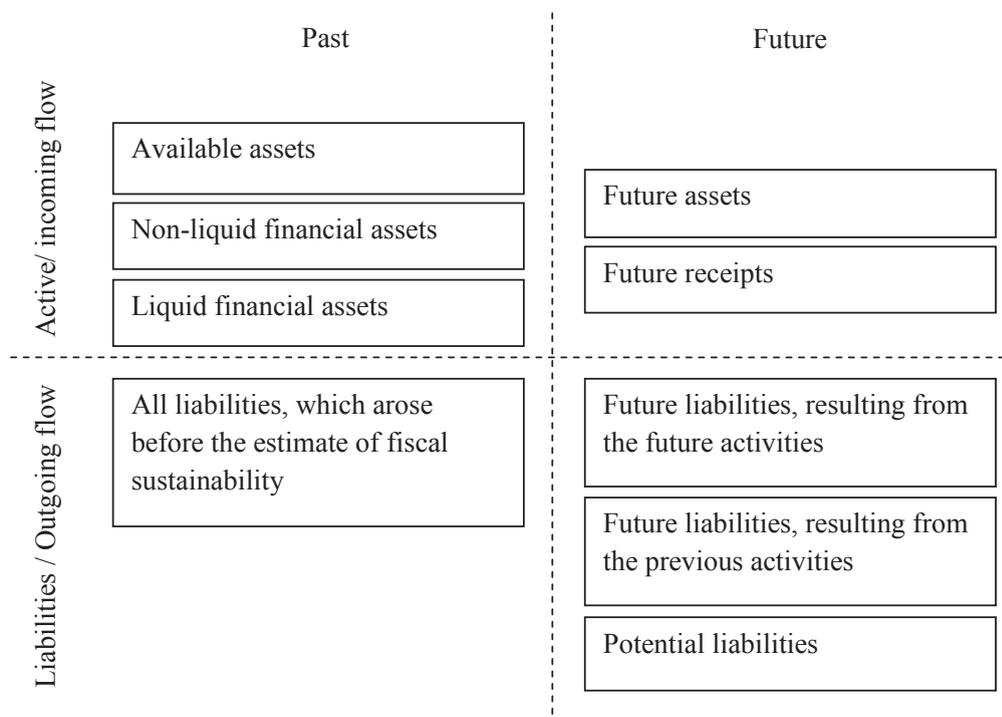


Figure 1. Influence of governmental activity on the fiscal sustainability of the country.

(Source: Office for Budget Responsibility, 2012)

As we may see from Figure 1, fiscal sustainability in the country is a balance between the results of previous actions and inactivity of the government. These factors affected formation of assets and liabilities, receipts and expenditures of budgets at all levels on one hand and expected trends on the other. If there is no such balance, e.g. events of the past caused excessive growth of liabilities, which cannot be made up with the future receipts, the result is fiscal vulnerability. This term is opposite to fiscal sustainability and designates the situation, when the government is likely to be unable to achieve its goals in fiscal sphere.” (Боярчук Д., et al., 2008).

Flows exercise an important influence on the status of state financial system – these are money terms for economic activities, in which institutional units take part, as well as other events, which affect the economic situation of institutional units and take place during a particular period of time. Stock has the available assets and liabilities of an institutional unit at a definite period of time, as well as corresponding net value of this unit, which is the difference between the total sum of assets and total sum of liabilities (Статистическое управление, 2001). The flows can create, change or communicate the economic value. They can be systematic and non-systematic. E.g., money coming from the privatization of the enterprise is a one-time incoming cash flow into the budget, whereas a tax payment from the same entity is systematic positive cash flow. Flows are divided into operations and other economic flows. Operation means interaction between different institutional units based on mutual agreement. At the same time, other economic flows mean the change in volume or value of assets or liabilities, not stemming from the operation. Volume changes are called other changes in volume of assets and changes in value are called holding profits or loss (Статистическое управление, 2001). E.g., the price increase for gold with other equal conditions results into growth of state gold currency value, i.e. holding profit is received.

The flows, which are created by the operations of institutional units and are systemic, influence short-term, mid-term and long-term sustainability. Here belong receipts from taxation, charges and payments to social funds, received grants, other receipts from operational activity, expenditures gained from the payments to workers, goods and services purchasing, interest payments, giving grants. Some other factors, which influence the fiscal sustainability, are sales made by the governments and purchase of non-fiscal assets, operations on financing etc.

W. Buitter pointed out the influence of state assets sale (including privatization) on fiscal sustainability. Despite temporary improvement of current balance of government and increase in solvency, such process can have a negative impact on long-term sustainability of state finances. State assets will make profit to the budget during long time. Accordingly, while estimating influence of their privatization on fiscal sustainability it is important to consider current discounted value of future cash flows, generated by ownership. If the selling price of asset is equal to or higher than this index, such action will make a positive impact on fiscal sustainability, and vice versa (Buitter, 2003). We agree with author's view, that it is more reasonable to privatize state property to optimize the efficacy of state financial system, making infrastructural investments etc, rather than for financing of liabilities or paying debts. In general, selling real and financial assets has great influence, first of all, on fiscal sustainability in current year.

## Special for Ukraine Economy

S.A. Vlasov indicates that active research of the main aspects to ensure fiscal sustainability is performed in foreign scientific environment. However, not enough attention is given to study financial sustainability of the countries, for which the receipts from limited and nonrenewable resources are essential. The author reckons that budget policy of Russian government today might be stable, if the government manages to maintain the value of net position of the state finances. It should be within 30 % of GNP (gross national product) without changes in current budget policy at the end of this period, as well as any moment within this period. It is important to mention that economics of The Russian Federation and Ukraine are similar. Gas and oil export is important to ensure the growth of the first one, while metallurgical products are essential for the other. So, they are both characterized by their “colonialism”. That means that share of exported valuable products is small, while its main part is made of raw materials and natural resources. The periods of relatively high prices on raw material products may lead to pressure towards increase in budget expenditures. It will appear unacceptable, when prices for these raw material products get back to the previous level (Велиев, 2011). Besides, while considering the tax issues and budget policy sustainability for such countries, we had better take into account the exhaustibility of resources (IMF, 2007).

When studying fiscal sustainability of resource-dependent countries and regions, it is necessary to consider the research «How Alberta can reach fiscal sustainability owing to receipts from natural resources» (Shiell, Busby, 2008). The authors of the research suggest using value  $Gr$  – budget expenditures, which are performed owing to receipts from natural resources. It is stated, that all people living on this territory, including the unborn, have the right for equal share in such income. So, fiscal sustainability is determined as stable  $Gr$  value per person during maximum long time (Shiell, Busby, 2008). Accordingly, in some year the volume of receipts from natural resources will be bigger or smaller, than  $Gr$  value. In case it is smaller, the difference will be covered by selling assets, providing such measure is effective to maintain fiscal sustainability, or by increasing debt load. In the opposite case, the surplus of income from natural resources turns into saving. In this case all generations can get equal profit from resources owing, despite of price and demand fluctuations and constant depletion of natural resources. It is also important to gradually substitute cash flow from resource mining for cash flow from government investment incomes to maintain stable amount of expenditures in every single fiscal period.

Tersman suggests a slightly different approach and determines fiscal sustainability from the point of proportion sustainability of  $Gr$  to the share of GNP, received from sources, other than natural resources mining and utilization (Tersman, 1991). However, when taking into account that level of GNP, received from the sources, other than natural resources mining and utilization will grow with the time, it leads to necessity to increase the volume of  $Gr$ . If this type of GNP grows faster than the level of population, then the level of expenditures, occurring owing to receipts from resources, will also grow faster per person. This, in its turn, leads to giving profits to future generations at the cost of previous ones. So such concept is considered imperfect.

Engel and Valdes note that even stable level of  $Gr$  per per-

son is too liberal value towards future generations. It comes out of the statement that future generations will get benefits from higher level of GNP, received from the sources, different from natural resources mining and utilization. So, the authors suggested compensating on the initial stage of development the lower income level from sources, different from natural resources mining and utilization, at the cost of income from the natural resources (Engel, Valdes, 2000). In this case sustainability of fiscal policy will be maximal and unchanged during long-term period, and all citizens will get benefits from natural resources during certain time span.

In the context of Ukrainian fiscal sustainability studies it is necessary to pay attention to the influence of money transfer of individuals from abroad on state financial system. The issues of fiscal sustainability of economical systems, which are dependent on such remittances, were subject of research of such scientists as J. Abdig, R. Chami, M. Gapen and A. Mati. In general "individual-to-individual" money transfer influence the sustainability of state debt in some channels (Abdih, Chami, Gapen, Mati, 2009):

- Higher tax base. In case when direct taxation of individual remittances is absent, the cash flow from residents, working abroad, influence the receipts to state budget. It occurs owing to taxes for consumption and sales, as incomes encourage household consumption. The intensity of this channel depends on the structure of state tax system. Generally, the increase in tax receipts leads to low risk of losing the paying capacity of the country and reduction in value of borrowed resources;

- Seniorage. If remittances increase demand for home banks liabilities, then the demand for money values grows. As a result, the inflation rate being stable, the emission profit of government grows;

- Higher level of individual savings. Remittances of residents, working abroad, may lead to increase in amount of bank deposits, on condition that boundary consumption trend in economy is less than 1. Higher level of bank deposits encourages banks to increase the volume of public bonds, stimulating support of higher level of state debt.

The consideration of this aspect is essential for Ukraine when planning the optimal level of fiscal sustainability, as only in 2011 individuals transferred 7.02 billion dollars from abroad (National Bank of Ukraine, 2012). In fact, such level is equal to amount of direct foreign investments into national economy.

It is important to mention that individual remittances from abroad may also have negative impact on fiscal sustainability. It occurs because of "Dutch disease" effect (Makhlouf, Mughal, 2011). The point of this phenomenon is that receipts from certain resources (in our case - foreign remittances) increase the value of national currency, reducing the competitive ability of national manufacturer on world and home markets.

### More Financial Determinants

Significant number of modern research studies of fiscal sustainability is focused on influence of world financial crisis. P.Padoan underlines that majority of countries had to accumulate the volume of state debt to finance activities for economy stimulation. It negatively influences fiscal sustainability, while increase in debt load leads to increase in interest rate; it slows down the pace of economics (Padoan, 2009). Thus, the increase of governmental liabilities results in low confidence of

economic agents, which raise charges for funds application. It generates significant problems for restoration of fiscal sustainability.

It is also important to mention that during the crisis in Ukraine bank system turned out its weak point. The interconnection of public finances and financial sector leads to influence of fiscal sustainability change on financial market and vice versa. National banks and financial institutions own a certain number of state debt securities. Accordingly, doubts for ability of the government to pay its liabilities and follow stable policy lead to decrease of financial sustainability of credit institutions. Hesitations about the growth of state financial sector appear and availability of cash resources of real sector decreases. It exercises pressure on state finances – decrease in business activity leads to decrease of amount of tax receipts, necessity to additionally engage borrowed resources for financing of stimulating measures etc.

In general economic cycles significantly influence fiscal sustainability of the state exactly in mid-term and long-term perspective. Thus, during the periods of economic growth a state can use bigger amount of financial resources – both at the cost of receipts increase, particularly from taxation, and availability of short-term and long-term sources market.

One of the functions of state finances is evening-out fluctuations during business cycle. Utilization of counter-cycle measures presupposes increase of budget deficits in periods of recession and their curtailment (or even achieving surplus or increasing current surplus level) in periods of economic upturn. Possible protective mechanism against external and internal shocks could be creation of counter-cyclic fund. It means that insignificant part (2-3 %) of receipts of the State budget of Ukraine is directed annually during the period of economic growth, and used for stimulation of economic growth during the period of recession.

Debt load is one of the most important factors, affecting fiscal sustainability. Accumulation of excessive amount of state debt leads to increase in current liabilities for interest payments. Experience of Greece demonstrates external shocks, with absence of effective protective mechanisms. It may lead to necessity to change current tax, social and economic policies to be able to pay current liabilities.

Big debt not only makes it complicated to follow monetary and credit policy, but it makes state finances extremely vulnerable to increase in international interest rates. Due to these efforts for fiscal consolidation, if they enjoy full credibility, the risk charges and real interest rates can be decreased. It can be arranged so that it would be possible to limit (or fully compensate) direct decrease of business activity, which lead to decrease in net non-interest expenditures.

In general, when projecting cash flows of state finances in Ukraine, it is necessary to take into account the following peculiarities: high dependence on mining and selling of natural resources, significant receipts from residents, working abroad and negative consequences of crisis processes.

Another factor, which influences fiscal sustainability, is the state monetary regime. Thus, change of value of the national rate may have negative impact on debt load on consolidated budget. The volume of current and long-term liabilities automatically grows, whereas the receipts in Hryvnya equivalent with other equal conditions remain at the previous level. Therefore, monetary sphere can also create risks for fiscal sustainability. This may result in necessity to support stable rate

of national currency or, if necessary, its gradual depreciation.

### Not Only Financial Determinants

Besides finances, demographic factors are another important group of determinants, which affect fiscal sustainability of the country. They include age and gender structures of the population, natural growth etc. In the context of fiscal sustainability analysis some authors point out the influence of the population ageing process (Engel, Valdes, 2000) (Moraga, Vidal, 2004) (Asghar, 2010). This problem is quite challenging for the majority of European countries, including Ukraine. The thing is that major part of social expenditures of the government depends on creation of qualitative and quantitative population. Rise in proportion of retiree number to the number of working individuals leads to decrease of fiscal sustainability. On one hand, increase of pensioner payments causes necessity to cut other expenditures. On its part this also reveals the necessity to change current social and economic policy. On the other hand, decrease in a number of working population, which is observed in Ukraine, leads to decrease in receipts from taxation, charges to social funds, including pension fund. That is why it is necessary to consider this factor when planning stable fiscal policy for the next period.

In our opinion, the demographic factor such as population ageing is a long-term determinant of fiscal sustainability. It does not have an important influence on the ability of the government to maintain economic growth in the country during the current year in comparison with the previous one. So we refer all structural changes in demographic situation to the factors of mid-term and long-term fiscal sustainability.

As for groups of political and social factors, fiscal sustainability means unchanged home policy during the analyzed period. Worsening of social standards or necessity to review political decisions (e.g., in international relations) because of inability to finance certain spheres indicates problems in the sphere of state finances. Pre-election increase of social expenditures ends up with accumulation of the state debt volume, which has a negative impact on the sustainability of state financial system in mid-term perspective.

Climatic changes can also lead to new state expenditures and investments for adaptation to extreme weather conditions, which will produce impact on the national level. Accordingly, this factor must also be taken into account when justifying the optimal state of fiscal sustainability in Ukraine. A good example of the negative impacts of climate on fiscal sustainability in Ukraine was the drought in summer 2012. It almost deprived the Ukrainian state and private agrarian harvest of grain and other crops. Ukraine, being one of the largest grain exporters, failed not only to provide a sufficient supply of grain to foreign markets, but to form a sufficient domestic stock of grain in Ukraine. As a result, private and state farmers had significant losses that year. They failed to fulfill their obligations to contractors and creditors. They faced significant financial difficulties, which negatively influenced on employment in the agricultural sector. Besides, Ukraine received less revenues in the budget taxes and fees from the grain sale. This situation has shaken the fiscal sustainability of Ukraine's economy in the short term.

### Conclusions and Propositions

Therefore, we have conducted analysis and systematization of approaches of different scientists, which made it possible to study carefully the main factors (determinants) affecting the fiscal sustainability of the state financial system in a short-term, medium-term and long-term periods. In this article we also refer to the volume of the state debt and amount of the interest payments, balance of receipts and expenditures, monetary regime, economic cycles, overseas resident activity, reserves and intensity of natural resources utilization, financial activity of the state, demographic factors, political and social factors, and climate factors. Separate factors may exercise its influence in mid-term or long-term perspective only, whereas the majority affects short-term fiscal sustainability as well. When justifying the optimal policy in the sphere of state finances, Ukraine, as a specific economic system, needs a further study of the influence of the following factors: money transfer of individual residents from abroad, calculation of the available reserves and possibilities for natural resources utilization, particularly raw material for metallurgical products, process of population ageing, economic cycles etc. The influence of the mentioned determinants and ability to manage them must be the basis for further study of fiscal sustainability in Ukraine in the context of the development of modern concept of fiscal sustainability for Ukraine.

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