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## **Implications of Fiscal Irresponsibility on Financial Stability**

**Abstract:** The connection between fiscal policy and financial stability has a two-direction nature. Irresponsible fiscal policy will initiate the consequences on the financial system, while crisis situations in financial institutions will sometimes require government intervention. The goal of this paper is to research the nature of this relation in only one direction – from fiscal policy toward financial stability. The following channels of risk transmission are analyzed in theory: the exposure to government debt; the correlation between credit ratings of sovereign and financial institutions; the usage of government securities as collateral in numerous financial transactions between central banks and financial institutions and between financial institutions in private markets; the possibility of a government giving implicit and explicit guarantees which influence risk perception in the financial system; the macroeconomic environment as a reliable indicator of the way in which fiscal policy is conducted; atypical measures of fiscal policy that have direct effect on the financial balances of financial institutions. In addition, the problem is presented from another angle by analyzing this relation on the example of the EU countries. The importance of this topic is illustrated on Montenegro and Serbia case, as developing countries. It is concluded that the key risk to financial stability in these countries is situation in the macroeconomic environment, having in mind the most important consequences of fiscal irresponsibility.

**Key words:** fiscal irresponsibility, financial stability, systemic risk, government securities, macroeconomic environment

**JEL classification:** E44, E58, E62

## 1. Introduction

The global economic crisis has initiated the need for observing numerous macroeconomic problems from another angle. It is true that interest for these problems had existed before, but the focus in recent years has been put on researching the connections between the problems, which at first glance do not have mutual elements. Thus, instead of single macroeconomic paradigms, the focus moves to the nature of their relations and their place in the whole economic system.

The great number of research papers has aimed to show the consequences of fiscal irresponsibility, which have macroeconomic nature. The influence on inflation, interest rates, trade deficit and growth has commonly been a research topic. However, there are not many studies that have analyzed the interconnections between fiscal policy and financial stability. The minority of them are dedicated to only one aspect of this connection, i.e. the influence of fiscal irresponsibility on financial stability, and this is the subject of this paper. Considering the implications of financial instability, the motivation for analysis of one of its determinant has emerged. That determinant of financial instability is the risk that arises from discretionary decisions of fiscal policy creators. In addition, heterogeneity of levels of the financial systems development causes the need for researching the significance of some methods of risk spillover in different countries. Thus, it cannot be said that all transmission channels have the same importance in all countries. Conversely, the level of financial system development, the level of fiscal responsibility, the level of state and financial institutions credibility are some of the reasons for a further more detailed analysis of this financial stability determinant.

This study is structured in three parts. Firstly, the problem is analyzed from the theoretical aspect where, besides the most important macroeconomic consequences of fiscal irresponsibility, we present the channels of transmission of fiscal irresponsibility effects on financial stability. After that, we enquire the importance of these channels on the example of some EU countries with the aim to examine the relevance of the theoretical thesis. Finally, the last part of the paper briefly addresses the most important factor of financial stability in Montenegro and Serbia – the macroeconomic environment.

## 2. Theoretical approach to the problem

Before the analysis of macroeconomic consequences of fiscal irresponsibility and implications on financial stability, we should define fiscal irresponsibility and

financial stability in a comprehensive way since there is no consensus in literature about the scope of this terms.

It is very hard to precisely determine the factors that one policy asserts as inconvenient from the social standpoint because decisions made by fiscal policy makers are sometimes poorly transparent or clear for the majority of citizens of one country. Poor judgement of voters in one country about these fiscal policy actions has multiplicative negative effects, which can be observed on the trending of macroeconomic indicators. Thus, it is very important that experts in that field understand and timely signalize the movement of public finances in that direction. But, what are the best ways to make the diagnosis - irresponsible conducting of the fiscal policy? The answer to this question is not simple, having in mind the particularities in observed countries. Sometimes, the boundary is not clear-cut. In that case, some of the possible indicators of irresponsible fiscal policy can be:

**Systematic violation of the fiscal rules.** Fiscal rules represent the important obstacle to irresponsible conducting of fiscal policy. However, not all rules have the same power. The practice has shown that numerical rules are much more effective than procedural rules in developing countries. Nevertheless, the first relevant question is whether the fiscal rules have been enacted in one country. If not, what are the reasons for that and are the resulting macroeconomic consequences significant? Furthermore, even if these rules exist, do policy makers obey the rules? It is not rare that the rules have been enacted but not implemented. This is especially true when there is no adequate sanction for violating the rules or when the legislative – institutional framework is not strong enough to determine and implement the sanctions. This is a weakness not only in developing countries but in developed ones as well.

Fiscal rules should not be observed in a rigid way. Some situations certainly cannot be predicted at the moment of making the plans. Because of that, fiscal rules should be based on a compromise between flexibility and rigidity. Therefore, a systematic violation of fiscal rules every year, without retrospect of enacted boundaries of discretionary fiscal policy measures is one of the conditions for determining the fiscal policy as irresponsible.

Consequently, we cannot expect successful medium- or long- term stabilisations based on fiscal rules, if they are not respected. Besides the various non-economic solutions to this problem, fiscal rules should be developed through the introduction of measures which will automatically be undertaken in the case of meeting specific criteria, i.e. breaking the limits which were defined for fiscal indicators.

**Conducting fiscal policy based on the permanent budget deficits.** Permanent budget deficits can be a very significant obstacle in reaching a sustainable level of the government debt. The consequences are greater in developing countries that have problems with financing.

Irresponsible fiscal policy is often justified by the crisis phenomenon. One of the basic budget functions is to stabilize the economy. In crisis situations, governments usually follow the policy based on budget deficit because of the arguments which have been in focus since the beginnings of Keynesian's doctrine. The budget deficit should give an incentive to an economy to rapidly exit the recession period of business cycle and the primary orientation of deficit is on the labour market. Thus, the government shows the responsibility by conducting expansionary fiscal policy because it is the only rational actor in crisis time. However, there is no doubt that this is often a misused argument which serves for defending the way in which the policy has been conducted. It is not sustainable and the budget is not of an anti-crisis nature. In addition, policymakers overestimate the value of fiscal multipliers, which is used for the justification of fiscal intervention. Consequently, the appropriate indicators should be found in order to uncover the real intentions of policymakers. One of these indicators definitely is cyclically-adjusted budget balance. The usage of this indicator can make irresponsible behaviour of fiscal policy creators more visible.

If a country conducts the policy based on the permanent deficit, then it could be said that its public debt rises. The greater the initial level of the ratio of public debt to GDP, a rise in the primary deficit, the real interest rate and the smaller the GDP growth, the greater the change in the debt to GDP ratio. If the rate of GDP growth is higher than the real interest rate, it decreases the mentioned ratio. But, this is rare in practice and only temporary. In most cases, it is the other way round. Consequently, the only way to decrease the public debt which does not provoke the distortions is to have the primary budget surplus.

If  $b_t$  and  $b_{t-1}$  are the shares of debt in GDP in periods  $t$  and  $t-1$ , the share of primary deficit in GDP is  $d$ , the interest rate is denoted as  $i$  and GDP growth rate is  $n$ , then the level of debt is:

$$b_t = d + \frac{1+i}{1+n} b_{t-1} \quad (1)$$

If a government wants to stabilize the relative level of public debt ( $\bar{b}$ ) in two consecutive years (by equalling  $b_t$  and  $b_{t-1}$ ), then it must realize the share of primary budget balance in GDP in the amount of  $d$  (formula 2). If the GDP growth rate is higher than the interest rate, the primary deficit can be realized. Conversely, the budget surplus has to be realized.

$$d = \bar{b} \frac{n - i}{1 + n} \quad (2)$$

It is clear that developing countries has need for fiscal policy as one of the most important instruments of development, but permanent realization of budget deficit will induce numerous macroeconomic consequences. Because of that, fiscal adjustments are necessary, especially because of other factors of expenditure growth, which are consequences of the aging population resulting in higher expenditures on pensions and health care services.

**Not respecting the numerous goals of public debt management.** Public debt management has become a very complex area, which requires knowledge about various economic and non-economic disciplines. It has multiple goals that are not the same for different countries, not even for one country over different time periods.

Public debt management can be used as a signal which makes the analysis of the nature of fiscal policy easier. If the policymakers conduct an irresponsible policy, they often have only one aim – to find new sources to finance ever higher and higher deficits. Public debt rises rapidly, but this is not the only problem. Loan conditions become more unfavourable. Interest rates rise, the maturity of loans and bonds is lower; the tendency of the currency structure worsens etc. These movements have great implications not only on current generations, but on future generations as well because this policy *de facto* reallocates the resources at the future generations' expense.

**The budget structure is favourable toward consumption and at the investments' expense.** One of the most important tasks of a government in order to increase a country's development chances, besides ensuring conditions for normal functioning of the private sector, is investing money in the form of public investments. This is particularly significant in developing countries. This kind of investment is a precondition for the improvement of private initiatives. Public expenditures are complement to private because the government, through its expenditures, influences the upgrading of business environment through the development of economic, transport and social infrastructure and decreasing the cost burden to the private enterprises.

However, developing countries do not have enough cash resources to support the capital projects from the current revenues, or at least not to a sufficient level. Because of that, many countries decide to finance these projects by getting loans. Having in mind positive externalities, which are the consequence of projects implementation in an efficient and productive way, taking the loans is reasonable action of the government and it can not be said that this is fiscally irresponsible.

In contrast, taking the loans in order to finance consumption cannot be considered as positive direction.

**Political budget cycles are inherent to the economy.** If the theory of political business cycles is valid in one country with a high degree of confidence, then an irresponsible fiscal policy is immanent to that country. It should also be noted that this type of business cycles is inherent to underdeveloped or developing countries, but developed countries are not isolated from this, too. The persistence of fiscal policy based on the budget deficits has initiated the research on political determinants of budget process.

All the aforementioned characteristics of fiscal irresponsibility strive toward the same conclusion – permanent conducting of fiscal policy in this manner will have momentous consequences on macroeconomic stability of one country. If we accept the thesis that individuals are rational, then this policy will be punished in many ways either in short- or long-term.

Voters should understand that they are victims of fraud and that short-term benefits will be paid in the future. Rating agencies should revise credit rating of the country. Investors should signalize that they are not ready to invest their capital under the existing conditions and the credit premium should rise. All this consequences should be incentives to conduct a fiscally responsible policy.

The problem arises when one of these fine instruments fails. Although the practice has shown that it has happened many times before in many countries irrespective of the development level, some differences can be observed. In developing countries, where the level of democracy and transparency is lower, it is common that individuals do not have enough instruments to animate the critical mass of voters in order to demonstrate the catastrophic consequences of conducting the fiscal policy in that direction. This makes the political leaders stronger because they understand that there are no proper sanctions. The sanction is usually impotence in internal sphere. Conversely, in developed countries the rating agencies and financial markets can be in some sort of implicit cooperation with the government, because the credibility of the government is not changed although negative fiscal tendencies have been manifested. It is particularly dangerous if the government continues to conduct the policy in the same way regardless of sanctions because it can cause the domino effect.

When it comes to financial stability, there are also numerous definitions of this term. The one accepted by the European Central Bank is that it is a condition in which the financial system – which comprises financial intermediaries, markets

and market infrastructures – is capable of withstanding shocks and the unraveling of financial imbalances (European Central bank 2013, p. 5). Although these shocks can have different nature, the focus in this paper will be on fiscal shocks. The importance of financial stability has especially been perceived because of the global financial crisis, which has been incentive for some central banks to affirm it as the main or an additional goal.

## 2.1. Macroeconomic consequences of fiscal irresponsibility

Analyzing the theoretical postulates about the relation between fiscal policy and financial stability would be incomplete without attention at the most important macroeconomic consequences of budget deficit. It is especially true because the absence or reduced intensity of these consequences was seen as a sufficient condition of financial stability.

The key task in researching the implications of fiscal irresponsibility is to recognize, analyse and predict its effects. Economic policymakers should be aware of the fact that some consequences of fiscal policy have postponed effects and that the initial success can disappear after some time as individuals adapt their behaviour to new conditions. The process of economic policy is finalised by a new equilibrium. However, how much time is necessary for these effects to occur? The macroeconomic implications that have been commonly analyzed in literature are: inflation and credibility of policymakers, the crowding-out effect and the twin deficits.

When it comes to inflation, it is a repercussion of printing the money above the level necessary for optimal functioning of the economy. In economic literature one can find a few theories of inflation, which are to some extent related to the budget deficit and fiscal policy.

One of the most important theories of inflation is the Monetarist theory, which is based on the Quantitative theory of money. Fiscal policy has the task to meet the budget constraints and inflation is only related to the level of money supply. If we accept this separation between monetary and fiscal policy, then the coordination between these policies is disregarded (Ješić 2013, p. 88.). Monetary policy is a necessary and sufficient condition for price stability because it is strong enough to discipline the fiscal policy creators.

Fiscal theory of inflation has been developing since the famous paper written in 1981 by Sargent and Wallace – “Some Unpleasant Monetarist Arithmetic”. They started from two possible cases: domination of either monetary or fiscal policy.

In the first case, the monetary authorities determine the targeted value of inflation, and fiscal authorities adapt to this in order to meet the budget constraint. Thus, monetary policy creators have an absolute control over the price level. The second case, which has initiated many discussions about the source of inflation, is the fiscal policy domination. The fiscal authorities determine desirable values of the budget deficit and public debt and the necessary value of money supply is determined accordingly in order to satisfy the budget constraint with higher prices.

The fiscal theory of price level assumes that the key factor of inflation is fiscal policy. The main thesis in this theory is that the budget constraint and fiscal policy are dominant factors in accounting for inflation. It can be concluded that the Ricardian equivalence is not valid and that individuals hold the government securities as wealth. That implies an increase in aggregate demand and inflation, irrelevant of monetary policy.

Besides the various interpretations of inflation by macroeconomic schools of thought, a great number of economists nowadays accept the necessity of coordination between monetary and fiscal policy and the thesis that fiscal variables play important role in the explanation of inflation (Ješić 2013, p. 89.). Based on the majority of theoretical postulates, it can be concluded that financing the deficit by money issues leads to numerous negative consequences. Ultimately, the biggest consequence is hyperinflation.

Important consequence of budget deficit is its influence on credibility. It is a widespread belief that there is a strong connection between credibility of monetary policy and credibility of fiscal policy. Conducting the fiscal policy based on the permanent budget deficit, which threatens the credibility of government and expectations that the future fiscal policy will be conducted in a sound manner, signals danger to credibility of monetary policymakers. In the absence of other methods for deficit financing, the government is faced with the money issue, the only available mechanism after many years of the fiscal irresponsibility. The transformed model of Sargent and Wallace from 1981 is a good base for perceiving the relation between fiscal and monetary policy. Namely, the key hypothesis in Sargent – Wallace analysis is that there is a constraint of possible volume of government securities which is acceptable by the public (Jakšić, Dimitrijević, Fabris & Praščević 2001, p. 154.). The only question is the level of that limit and the moment when the government decides to finance the budget deficit by printing money. It is commonly overlooked that the significance and efficiency of monetary authorities' decisions are under the influence of fiscal policy. Siklos (2002) argues that there are good reasons to believe that there is a connection between credibility of monetary policy and the way of conduct-

ing the fiscal policy, even if no significant relation between fiscal variables and inflation is found in empirical studies.

With the development of Monetarist school of thought, the more comprehensive research of budget deficit consequences on interest rates and investment on next iteration has been realised. Monetarists, like Classical school, propagate the balanced budgets in conducting of the fiscal policy. According to them budget deficit will cause many negative repercussions, regardless of the method of financing the deficit. However, the development of financial markets causes a higher reliance on the issue of government bonds. According to the theory of this macro-economic school, this influences an increase in interest rates.

What is crucial for the crowding-out effect is the movement of interest rates and the crucial for intensity of the effect is the investment sensibility to interest rates changes. If there is no change in interest rates, the crowding-out effect does not exist. In contrast, if those changes occur, then the effect will be stronger with an increase in sensibility of investment to interest rates. Accepted opinion is that the crowding-out effect is significantly lower in short-term than in long-term, but even in long-term there is a substantial effect of fiscal policy. According to the Keynesian theory, even in the case of rising interest rates, it does not mean that the crowding-out effect exists. Budget deficit stimulates an increase in aggregate demand which has the influence on profitability growth of private investments. This is stimulative to investors and the gross level of private investment rises. Investors have optimistic expectations and that initiate crowding-in effect. It can be concluded that the crowding-out effect is stronger in countries with the following characteristics:

1. weak initial fiscal conditions;
2. weak or inadequate institutions;
3. structural factors (e.g. low domestic savings)
4. the restricted access to global capital markets (Gray & Woo 2000, p. 10).

We can often read in economic literature that budget deficit and trade deficit are twin deficits. An increase in budget deficit sometimes means an increase in trade deficit and this is the main reason for this term. This effect arises when government gets loans on financial markets in order to finance the budget deficit. The rise in interest rates, as a result of decrease in supply of loanable funds, have influence because investments denominated in domestic currency will be more profitable to domestic and foreign investors. That causes appreciation of the exchange rate, which ultimately leads to rising of trade deficit. This is evident in open economies with prolonged fiscal expansion, where capital is mobile and where changes in in-

terest rates are significant which allows capital movement. This means that transaction costs are negligible in comparison with possible gross benefits.

Having in mind what are the necessary conditions for diagnosing macroeconomic repercussions of fiscal irresponsibility, it is essential to research further what are the methods for preventing that government behaviour. Some of desirable instruments, economic or non-economic, internal or internationally significant, are: development and automation of fiscal rules, increasing of central bank independence, improving transparency in conducting economic policy by establishing independent agencies (e.g. Fiscal Council), rising transparency of ratings agencies, repression of corruption, improvement of legislative framework and law system, development of quality and objectivity of media coverage, etc.

## **2.2. The mechanism of the leash between fiscal irresponsibility and financial stability**

In recent times, there is a thought that fiscal irresponsibility has another very important consequence. It can directly or indirectly influence financial stability. But, before the analysis of influence channels of that government behaviour, the responsibility of central bank for financial stability and the relation between price stability and financial stability should be analysed.

A few different regimes have been developed in literature, depending on the jurisdiction for financial stability. One of these regimes puts accent on central bank responsibility. For a long period, the main goal of majority central banks has been price stability. It was a widespread opinion that price stability is the main requirement for financial stability. Price stability contributes to financial stability by eliminating inflation-related distortions in financial markets, by containing the propagation of shocks via well-anchored inflation expectations and by mitigating pro-cyclicality in the economy (European Central Bank 2013, p.107.). However, it has been shown that the relation between price stability and financial stability is not simple. Everything is more complicated if we introduce the government and fiscal policy. Shirakawa (2012) points out that under special conditions a central bank has to choose between financial and price stability. In inflationary conditions, the real and financial sector can function with smaller or bigger obstacles, but financial instability can lead to a complete crash of both real and financial sectors (Žugić & Fabris 2010, p. 17). Thus, price stability is a necessary yet not sufficient precondition for financial stability.

In this relationship constellation, central bank cannot wait for the beginning of crisis situation. It has to pay attention on the preventive measures. Therefore,

with a view to ensuring the earliest possible identification of a crisis symptoms, the central bank should analyze the macroeconomic environment on an ongoing basis; analyze and assess the systemic risk factors; analyze and assess financial condition in all banks in the system; conduct stress testing of banks; on the basis of collected information, timely identify problem banks and request the banks to submit their contingency plans and recovery and resolution plans (Kozarić & Fabris 2012, p. 19).

Finally, there is a need for deeper analysis of the relation between fiscal responsibility and financial stability. This connection is of a reversible nature, so activating any of direction of this relation can initiate a spiral effect, which can be hardly stopped.

Many studies have been researching risk spillover from banks to sovereigns. By then, the crisis has already begun in the financial sector and it threatens the real sector, demolishing the stability of public finances. What is the fundamental cause of that scenario? Kozarić & Fabris (2012) claim that developed countries in recent period support liberalism, but it is well known that financial markets do not incline to equilibrium by itself. Thus, the financial instability cannot be solved without the government intervention. There is a need for improved macroprudential supervision and necessary financial support to system stabilisation. Consequently, fiscal responsibility is necessary in order to make the manoeuvre space for government to adequately react in the crisis situation.

However, there are not many research studies, which have analyzed the inverse relation – spillover of risk from sovereign to banks and other financial institutions, i.e. the influence of systematic on systemic risk, although in recent times there have been improvements in this area, especially since the of the global crisis outbreak. The proof of this link can be found in Russian and Argentine crisis. A small fund of studies, especially for developing countries, was the motivation for investigation of that one part of the relation between fiscal policy and financial stability. Thus, we will observe fiscal policy as a cause and effect on financial stability as a consequence. In addition, considering the fact that in developing countries and generally in continental Europe financial systems are bank centric, we will put more emphasis on consequences on banks' balance sheets instead of other financial institutions or financial market.

One of the most important and comprehensive studies about transmission channels of risk from the government to the banking sector was published by the research group in the Committee on the Global Financial System, which is overseen by the Bank for International Settlements. The four basic mechanisms of transferring the influence of crisis in public finances on the banking system stability

are presented in the report. First, there are direct effects on bank balance sheets through their exposure to sovereign debt. Second, there is a reduction in the value of collateral which banks use and which is usually based on government securities. Third, sovereign downgrades have influence (positive correlation) on ratings of domestic banks. Fourth, there is a low possibility for implicit and explicit government guarantees. These effects can be triggered or reinforced by the international transmission of tensions (Committee on the Global Financial System 2011, p.13.).

Besides the mentioned channels, which affect the possibilities of banks to find the necessary capital for financing, we think that two more channels have to be analyzed. First, banks sometimes have enormous losses because of the macroeconomic environment, which is a direct consequence of irresponsible fiscal policy. Second, the financial system stability can be threatened by panic which occurs when some atypical measures of fiscal policy, not immanent to good business practice and market principles, are enacted or even only announced.

**Exposure to the government debt.** One of the basic transmission channels of negative effects from fiscal policy to financial stability become stronger with increase in share of loans to government in total portfolio of loans in some financial institution. Financial institutions by investing in government securities de facto connect their financial stability to fiscal stability.

What are the incentives for these institutions to purchase the government securities or to give loans to the government, even if they operate in financial markets where there are many possibilities for diversification. Shirakawa (2012) points to the main reasons of that sympathy toward government debt: risk aversion, regulative and supervision and central bank policy of monetary easing.

Banks pay special attention to credit risk of debtor in loan acceptance process. It is commonly agreed that the lowest level of credit risk have states, and then the private sector. But, it has become obvious that government debt is not risk-free anymore (Breton, Pinto & Weber, 2012). Regardless of the recent events, banks tend to have a high share of claims on the public sector because of risk aversion. The greater the volume of loans given to the government, the larger the manoeuvre space for banks in other investment alternatives. Namely, in that situation, banks have a possibility to give loans to the private sector under higher interest rates, but with worse credit capability.

The regulation of the financial area makes the government debt more favourable to financial institutions. Namely, the international and home standards favour purchasing the government securities. In that case, there is no burden for banks

in the sense of providing a certain amount of required capital or that burden is low. However, this sort of risky assets requires the lower amount of capital than any other. Thus, the government makes its securities more desirable to financial institutions by regulation as compared to the situation where these regulation standards do not exist.

Policy of monetary easing by central banks of developed countries brings cheaper methods for financing the needs of governments and private sector. But, this has challenged the financial institutions. In these circumstances, they are forced to invest in riskier undertakings, which de facto have influence on systemic risk. Nevertheless, the government securities are still necessary for optimisation of portfolio structure in order to satisfy a desired level of the risk-return ratio.

Finally, it can be noted that there is one more important reason for the exposure to government debt which is obvious in underdeveloped and developing countries. Sometimes the government bonds are only investment alternative for institutional investors. Financial market is not developed yet and does not have depth and volume. In addition, financial institutions have to provide equality between duration of claims and liabilities. Banks need highly liquid short maturity securities but pension funds and insurance companies need long maturity securities. It is common that only government bonds meet these requirements in underdeveloped financial markets.

Now when the motives for exposure to government debt are presented, the losses of banks because of fiscal irresponsibility can be analysed. Firstly, under the hypothesis of market punishment of fiscal irresponsibility by rise in interest rates, the value of bonds which were bought by banks decreases<sup>1</sup> (if the securities are booked at fair value, the losses are presented in balances immediately), i.e. there is a possibility of haircuts on government bonds. The second type of loss, which can threaten financial stability, is a fall in stock prices of banks as a consequence of increase in interest rates on government and other bonds in one financial market. Of course, this is not the rule, but the significant relation between a rise in interest rates and a fall in stock prices has been observed. Finally, a bank could be exposed to one more loss, which happens when there is a real possibility of the country going bankrupt and an increase in non-performing claims which implies worse conditions for financing own needs by creditors. Activation of these losses can seriously endanger the financial stability of one institution, which can lead to financial instability of the entire system.

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<sup>1</sup> This is specially immanent to underdeveloped and developing countries which do not have credibility to issue long maturity bonds, which implies the greater volatility of interest rates.

**Using the government securities as collateral.** Government securities are used as collateral in REPO transactions and other transactions between central bank and banks and between private transactors. Because of that, the reduced value of collateral has negative influence on volume and number of financial transactions and on possibilities of financial institutions to get loans under favourable conditions. If the asset was already posted in specific transactions, mark to market valuation of collateral could trigger a margin call (Committee on the Global Financial System 2011, p.17).

**The correlation between ratings of the sovereign and banks.** Some of the factors that determine the credit rating of one country are a rise in GDP, inflation, budget deficit, trade deficit etc. Considering the theoretical postulates about the budget deficit influence on inflation, GDP and trade deficit, it is obvious how important is to sustain fiscal discipline. Credit rating of a bank depends on specific idiosyncratic conditions immanent to the bank, but also on sovereign rating, i.e. rating of the sovereign and banks are highly positively correlated.

**Reducing the issuing of the guarantees.** Deterioration of fiscal position of the country can significantly affect the risk perception of some banks because of the reduced possibility of implicit or explicit government guarantees. Namely, some banks are highly important because their bankruptcy would destabilise financial system. They are too big to fail and the government should support them in crisis situations. This is the reason why it is claimed that they are users of implicit government guarantees. On the other side, many countries are forced to give explicit guarantees in crisis situations. These interventions are very expensive, and worsened fiscal position can lead to the situation where the government does not have enough possibilities to support these financial institutions.

**Adverse macroeconomic conditions.** The pursuit of a fiscally irresponsible policy generates numerous macroeconomic consequences and unemployment is one of them. In expansion of the economy, the financial sector is one of the biggest winners. But when recession begins, a rise in unemployment influences the financial sector in at least two ways. The current bank clients have difficulties in debt servicing because of a decrease in earnings or layoffs, which can be seen through the trending of non-performing loans. On the other side, increasing the client base in the period of unemployment growth is almost an impossible mission because of risk aversion of individuals in that country. Psychology is of great importance here because acting as a rational person on the micro level, an individual makes damage on the macro level. The whole process is amplified by money withdrawal from the accounts, escaping from domestic currency, withdrawal of the foreign

capital etc. Of course, in adverse macroeconomic conditions, the companies also have difficulties in servicing their debts and having no access to new loans.

**Atypical fiscal policy measures.** Finally, particular non-standard measures of fiscal policy significantly worsen financial stability. These are measures that have a direct influence on bank balances. What is characteristic for these channels of influence is that they are not expected because they are not immanent to modern market economies and they have never been implemented before. They are usually one-off. The consequence can be banking panic, which can lead to instability of banking system.

### **3. The applicability of theoretical postulates to the EU countries**

Having in mind possible implications of fiscal irresponsibility from the macroeconomic aspect and aspect of financial stability, it is useful to see how the global economic crisis affects the relation between sovereign risk and risk of financial system. Statistical data will help in the verification of the connection between fiscal irresponsibility and financial stability.

#### **3.1. Debt crisis in the EU countries**

In recent years, numerous countries have been struggling with the public debt crisis. The crisis has hit the countries with different economic and institutional level of development. All EU countries have been affected by the prolonged crisis, with a higher or a lower intensity, which supports the analysis of this process.

One of possible causes of the public debt crisis is the absence of coordination of fiscal policy on the EU level. In addition, an important factor is the systematic absence of commitment to fiscal rules. Namely, the history of fiscal rules is relatively short, but very interesting because of the way they function. The country can enter the euro area by fulfilling the Maastricht criteria. The criterion for entrance, when it comes to fiscal indicators, is defined as numerical rules for budget deficit and public debt in relative value and more detailed specification was presented in the Stability and Growth Pact (SGP) enacted in Amsterdam in 1997. The main incentives for this document were the connection between monetary and fiscal policy and a need for constraining of nationality of fiscal policy. Time has shown that the initial version of SGP did not have political power, as was seen at first, resulting in the revision in 2005 as the answer to all disadvantages of the previous regulation. The key novelty was monitoring the medium-term goal on cyclically adjusted

base. The main cons of the revised regulation were loss in transparency, simplicity, precision, implementation power, while the main advantage was flexibility.

In order to help the SGP survival and enforcement by the member countries, a new Euro - Plus Pact was enacted in 2011. It has four goals, and one of them is the contribution to sustainability of public finances. The member countries have been obliged to implement fiscal rules on the national level that could be more rigorous than supranational rules. In addition, the “Sixpack“ legislation was enacted in 2011 and it applies to all EU countries with more rigid rules toward members of the euro area. Finally, in March 2012, the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union was signed, except by Great Britain and the Czech Republic. It has been in force as of the beginning of 2013.

It is questionable whether future new constraints to fiscal policy will give results because the previous ones proved ineffective due to the global crisis, but mostly because of discretionary actions of the fiscal policy creators in business expansion periods. One of the most important tasks for the economic policymakers is to revive the credibility of sovereigns, i.e. that government securities have the risk-free status (Caruana & Avdjiev, 2012). The review of key fiscal indicators for particular EU countries is presented in Table 1.

**Table 1: General government gross debt and government deficit/surplus for some EU countries (in %)**

geo/time	2008		2009		2010		2011		2012	
	public debt	fiscal deficit								
Bulgaria	13.7	1.7	14.6	-4.3	16.2	-3.1	16.3	-2.0	18.5	-0.8
Czech Republic	28.7	-2.2	34.2	-5.8	37.8	-4.8	40.8	-3.3	45.8	-4.4
Germany	66.8	-0.1	74.5	-3.1	82.4	-4.1	80.4	-0.8	81.9	0.2
Greece	112.9	-9.8	129.7	-15.6	148.3	-10.7	170.3	-9.5	156.9	-10.0
Spain	40.2	-4.5	53.9	-11.2	61.5	-9.7	69.3	-9.4	84.2	-10.6
France	68.2	-3.3	79.2	-7.5	82.4	-7.1	85.8	-5.3	90.2	-4.8
Italy	106.1	-2.7	116.4	-5.5	119.3	-4.5	120.8	-3.8	127	-3.0
Hungary	73	-3.7	79.8	-4.6	81.8	-4.3	81.4	4.3	79.2	-1.9
Austria	63.8	-0.9	69.2	-4.1	72	-4.5	72.5	-2.5	73.4	-2.5
Poland	47.1	-3.7	50.9	-7.4	54.8	-7.9	56.2	-5.0	55.6	-3.9
Romania	13.4	-5.7	23.6	-9.0	30.5	-6.8	34.7	-5.6	37.8	-2.9
Slovenia	22	-1.9	35	-6.2	38.6	-5.9	46.9	-6.4	54.1	-4.0
Slovakia	27.9	-2.1	35.6	-8.0	41	-7.7	43.3	-5.1	52.1	-4.3

Source: EUROSTAT, statistics from the web site

### 3.2. Financial (in)stability in debt crisis conditions

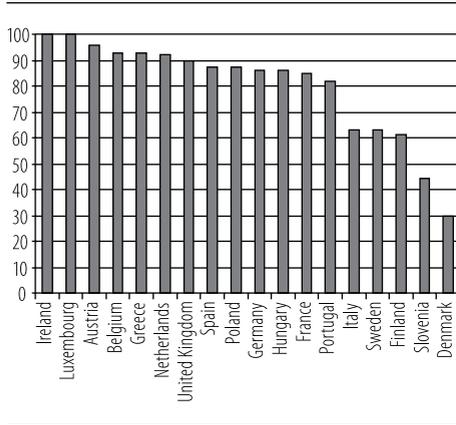
Fiscal results of observed countries have influenced financial stability. In situation of violation of the fiscal rules and record levels of fiscal indicators in recent decades, it could be expected that the relation between fiscal policy and financial stability will be activated. Caruana & Avdjiev (2012) state that three main reasons have caused the crisis starting from 2008: inadequate capital of banking system, inadequate fiscal positions of governments and interconnectedness in the global financial system.

In order to evaluate the stability of banking sector in the EU countries, the EU-wide stress test exercise of some banks was conducted. The aim of this test was the research of possible influences of the current economic crisis on the financial system. It was conducted by the European Banking Authority, one of the main responsibilities of which is to ensure the functioning and integrity of financial markets and the stability of the financial system in the EU. The results show that at the end of 2010, under the adverse scenario, 20 banks would fall short of the 5% capital threshold. Taking into account the substantial capital raising in 2011 for the full sample of banks participating in the EU-wide stress test exercise, the CT1R (Core Tier 1 ratio) would decline, on average, from 8.9% in 2010 to 7.7 % under the adverse scenario (European Banking Authority 2011, p.8.). The number of banks with this ratio below 5% would be 8, but many of them would be above but close to the lower limit. How the fiscal policy has been contributing to the undermining of financial stability in EU? The answer is in the already mentioned transmission channels.

**Exposure to the government debt.** This is one of the most important transmission channels of risk from a sovereign to financial institutions. For the analysis of bank exposures to government debt, the data relevant for the analysis can be obtained from the stress test results. Something, which was in the scope of this test and that could partially illuminate the relation between fiscal policy and financial stability, are bank exposure to sovereign debt and haircuts for sovereign debt held in trading book of banks. Why we emphasize partially? Because this stress test does not encompass haircut for sovereign debt in banking book of banks, regardless of the case of the most European banks in which the biggest percentage of this kind-of assets is ranked in this category (Figure 1). Namely, banks can treat sovereign debt securities in two ways. The first one is to record in the trading book where the securities for trading are held. Thus, a buyer of these securities does not have intention to hold them to the maturity, but to make profit by selling and buying them at particular moments. Because of that they are recorded in bank books at fair value and contingent losses in case of insolvency of the issuer must

be marked immediately. Thus, assets in the trading book are marked-to-market daily. On the other side, if the goal of bank management is to hold the securities

**Figure 1: Percentage of government securities in the banking book of banks**



Source: Adapted according to Committee on the Global Financial System 2011, p. 14.

to maturity, then these bonds are noted in the banking book of the bank. Consequently, they are held in books at cost (historical value) and contingent losses because of sovereign default is recorded when these losses become certain. The hypothesis on which the stress test was conducted was that securities in the banking book are not potential initiator of systemic risk because of the mechanisms enacted at the euro area level which purpose is to absorb potential shocks in the member states. This is one of the main complaints to the way of conducting stress test because this method underestimates the level of exposure to government debt.

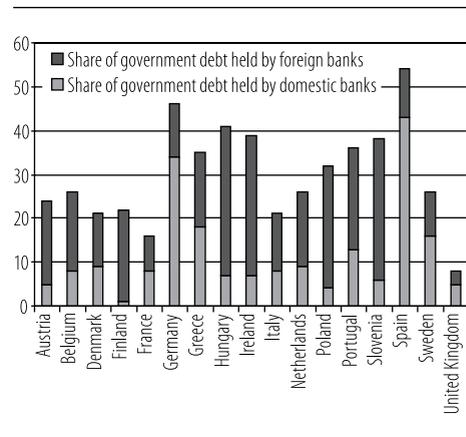
While analyzing bank exposures to government debt, Blundell-Wignall and Slovik (2010) point out that debt held in banking book cannot be neglected forever. In addition, it is important to notice that:

1. Banks tend to be heavily exposed to the sovereign debt of their own country. The exposure of Greek banks to Greek sovereign debt represents 226% of their Tier 1 capital. In Italy, Hungary, Spain, Portugal, and Ireland these numbers are 157%, 133%, 113%, 69% and 26%, respectively.
2. Large cross-border exposures (defined as an exposure above 5% of Tier 1 capital) to Greece are present for Germany, France, Belgium (all with systemically important banks), Cyprus and Portugal. Large exposures to Portugal are present in Germany and Belgium; to Spain in Germany and Belgium; to Italy in Germany, France, The Netherlands, Belgium, Luxembourg, Austria and Portugal; and to Ireland in Germany and Cyprus.
3. Some banking systems are also exposed to non-euro area sovereign debt not subject to the EFSF<sup>2</sup>: for example, Austrian, Belgian and German exposures to Hungary are above the notional 5% threshold (Blundell-Wignall & Slovik 2010, p. 7).

<sup>2</sup> EFSF – European Financial Stability Facility

Thus, in accordance with theoretical postulates, exposure of banks to the public sector is high and significantly higher in home banks. Holdings of domestic government bonds as a percentage of bank capital tend to be larger in countries with high public debt (Committee on the Global Financial System 2011, p. 14.). Coherent to the second state, it can be concluded that a high percentage of public debt has been financed by banks' financial resources (Figure 2).

**Figure 2: Government debt financed by banks**



Source: Bolton & Jeanne 2011, p. 14.

Based on the data about exposures to government debt, it is interesting to analyse whether theoretical postulates about the incentives for banks to hold these securities in their portfolios are valid. The answer is positive. One of the key reasons is regulation. Namely, according to Basel II, banks can implement two different approaches in the calculation of capital requirements: standardised approach and internal ratings-based approach (IRB). In the first approach, risk weights for public debt denominated in foreign currency are determined considering the credit rating of the security issuer and the best quality securities have 0% weight. This weight is also applied to securities denominated in domestic currency. The second approach has been implemented by large international banks<sup>3</sup> and it also allows 0% weight, but they are calculated on the basis of some parameters in the bank and they are not given *a priori*. In addition, banks may be authorized, under some conditions and to a various extent across countries, to implement the standardized approach for sovereign exposures – applying then a zero risk weight – and the IRB approach for other exposures (Nouy 2012, p. 97). According to Basel III, the treatment of a public debt denominated in domestic currency stays unchanged, i.e. it will have a 0% weight. Thus, the structure of bank portfolio cannot be based only on management goals, but also on regulatory incentives, which can be rigid and cause the shrinking of the manoeuvre space in investment alternatives decisions.

Losses of the banks, which are consequence of the exposures to public debt, were different from country to country. The stock prices of banks in Greece and Italy

<sup>3</sup> In EU stress test panel which comprised 90 banks, 59 banks were using this approach.

in one period were dropping because of announcement of the stress test results, but the stock prices of banks in other countries cannot be explained with that significance by this factor (Angeloni & Wolff, 2012). Of course, the losses of banks which have had great exposures to public debt of Greece, Portugal, Ireland and other highly indebted countries were significant, especially when these securities were recorded at fair value. This has affected financial stability, which necessitated government intervention in these countries.

**Using the government bonds as collateral.** The practice of using the government bonds as collateral in operations with a central bank differs by the country, but it is more common in the USA and Japan than in Europe. The government securities are commonly used as collateral in private REPO transactions in Europe. Deteriorated fiscal conditions have negatively influenced the possibilities of capital collecting for banks through the reduced value of government bonds. For example, in November 2010, LCH.Clearnet, a leading clearing house, increased the haircuts on the Irish government bonds to 45%, and in April 2011 it raised haircuts on the Portuguese sovereign bonds. These haircuts have subsequently been increased further, and were 75% and 65% respectively in June (Committee on the Global Financial System 2011, p. 19.). This directly affected the banks, which held these securities in their portfolios.

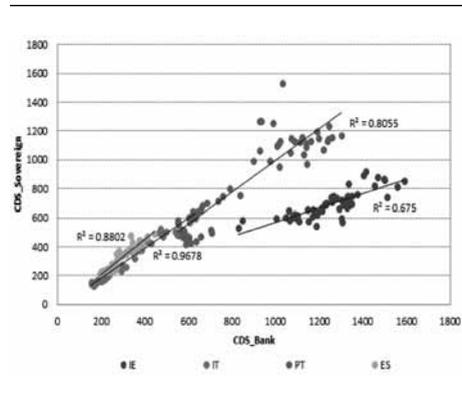
**The correlation between ratings of sovereign and banks.** When it comes to the EU members, there are significant proofs of importance of this risk transmission channel. Since August 2007, 64% of domestic banks have had their credit ratings lowered within the six months following a sovereign downgrade (Committee on the Global Financial System 2011, p. 21.). Besides the financial institution credit rating downgrading in case of sovereign rating downgrading, the rating of a financial institution will usually be the same or lower than the sovereign rating. There are a few cases of banks having higher rating than the country (the percentage of these banks in the EU countries which do not have the highest rating is about 2%).

Moreover, it is very important to observe one more indicator that has market nature – credit default swap (CDS). Angeloni and Wolff (2012) argue that the strong correlation exists between CDS premiums on sovereign and bank bonds – in Ireland the coefficient of correlation is 0.675, 0.9678 in Italy, 0.8802 in Spain, and 0.8055 in Portugal (Figure 3). Although CDS premium is not the best indicator of credit default risk, it can be used as approximation. For example, it is common that the most profitable banks in Spain are pressured by inferior borrowing conditions and higher CDS premia than German banks, only because of the different perception of credit risk of the two countries.

CDS premia and spreads on bonds are generally strongly correlated, but sometimes there are significant deviations. However, after the initialisation of the Securities Markets Programme by the European Central bank, these deviations have become more usual, which means that the market has not restored confidence in the countries whose securities have been involved in this process.

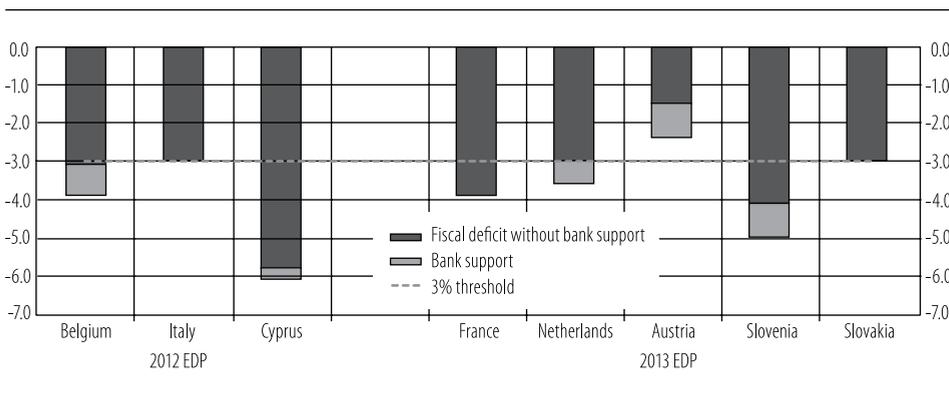
**Reducing the issuing of the guarantees.** During the global financial crisis, in almost all developed countries, direct capital injections into systemic banks resulted in *de jure* or *de facto* nationalization of large portions of the financial intermediation system (Kozarić & Fabris 2012, p. 14.). These measures were extorted in order to solve the short-term problems in financial sector and the decisions were made based on the coordination between central banks and governments. The short-term gains were noticed. There are strong evidences that guarantees of this type have lowered CDS premia of banks below the level they would be without government intervention (International Monetary Fund, 2013).

**Figure 3: The correlation between sovereign and bank CDS premium**



Source: Angeloni & Wolff 2012, p. 2.

**Figure 4: Government support to the banks in countries with EDP deadlines in 2012 and 2013 (% GDP)**



Source: European Central Bank 2013, p. 20.

However, considering high indebtedness of the EU countries, the possibilities for explicit and implicit guarantees will decline, which can put pressure on banks when collecting capital in the financing process. Several countries have abandoned the support practice not only for small but for large bank systems as well because many studies in recent times have defied the postulate that some banks are too big to fail.

**Adverse macroeconomic conditions.** This is the transmission channel which occurs as a consequence of a prolonged period of pursuing an irresponsible fiscal policy, which initiates numerous negative macroeconomic effects. The growth of the inflation rate, the unemployment rate and a decline of real income are some of the macroeconomic problems that influence the quality of bank assets. Banks that are more exposed to economies with poor growth prospects are more vulnerable to a further deterioration in asset quality (International Monetary Fund 2013, p. 18.). Credit activity of banks stagnates or declines and current loans are hardly serviced.

Table 2 shows the trending of non-performing loans in some EU countries. It is evident that macroeconomic conditions in recent years have been significantly contributing to the growth of this indicator.

**Table 2: Bank non-performing loans to total gross loans (%)**

country name/year	2008	2009	2010	2011	2012
Bulgaria	2.5	6.4	11.9	14.9	16.9
Czech Republic	2.8	4.6	5.4	5.2	5.1
Greece	5	7.7	10.4	14.4	17.2
Hungary	3	6.7	9.8	13.4	15.8
Ireland	2.6	9	8.6	16.1	18.7
Poland	4.4	7.9	8.8	8.2	8.4
Romania	2.8	7.9	11.9	14.3	16.8
Slovenia	4.2	5.8	8.2	11.8	13.2

Source: World Bank, statistics from the website

**Atypical measures of fiscal policy.** Finally, some non-standard measures of fiscal policy can have a sizeable effect on stability of financial system. More generally, even announcement of these measures can cause the panic in public that directly or indirectly is connected to the financial institution hit by this decision. The recent example is Cyprus crisis in the beginning of 2013. The precondition for the international bailout was atypical, for countries like Cyprus, measure of fiscal

policy – the one-off tax on deposits. The announcement of this measure caused the panic among the bank deponents, which provoked the authorities to put in force other measures like day limitations of deposit withdrawals and banks were closed for a few days. Later, the government abandoned the original decision, but the measure has remained in effect in a revised form.

From all the above it is obvious that financial stability has one more important determinant – fiscal responsibility. Against the backdrop of a strong connection between the real and the financial sector in one country, the interconnections between financial systems of many countries and the absence of consensus about the way in which fiscal policy should be conducted, the policymakers should work in the future on removing the main cause of numerous macroeconomic conditions – fiscal irresponsibility.

## 4. The overview of Montenegro and Serbia

Although all transmission channels of risk from fiscal policy to financial stability are significant in developing countries like Montenegro and Serbia, possibly the most important factor is macroeconomic environment. The long period of transition, inadequate development of institutional infrastructure and numerous social problems have had repercussions on fiscal policy and, according to theoretical postulates, on financial stability.

### 4.1. Fiscal indicators and financial stability in Montenegro

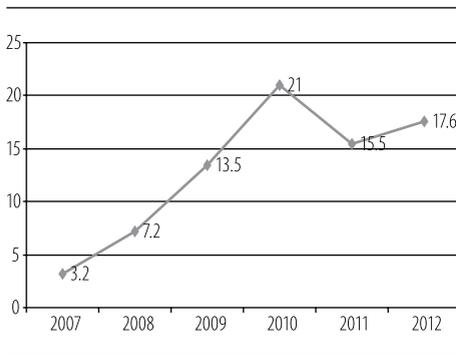
The global economic crisis has negatively influenced Montenegro's economy, which resulted in the government intervention in order to decrease the intensity of deterioration of macroeconomic trends. This leads to visible deterioration of key fiscal variables, which can be seen from table 3.

**Table 3: Fiscal variables trend for Montenegro from 2008 to 2012**

	2008	2009	2010	2011	2012
Consolidated fiscal balance in % of GDP	0.5	-4.4	-3.6	-5.9	-4.9
Public debt in % of GDP	29	38.2	40.9	45.3	51.1

Source: Central Bank of Montenegro, Chief Economist Annual Report (2012)

**Figure 5: Non-performing loans to total loans (in %)**



Source: Central Bank of Montenegro, Chief Economist Annual Report (2012)

Other potentially important factors of financial stability, besides the macroeconomic environment, are the possibility of the government to react in crisis situations and the correlation of the credit rating between the sovereign and financial institutions. From these reasons, in the future, the policymakers should conduct the fiscal policy in the way that consequences of discretionary fiscal policy measures on financial stability have to be *a priori* worked out. For the purpose of fulfilling the Central Bank of Montenegro's objective, it is necessary to work on further improvement of coordination mechanisms between the policy creators in fiscal and monetary sphere.

#### 4.2. Fiscal indicators and financial stability in Serbia

The trending of fiscal variables in Serbia has not been encouraging over the past decade. The fiscal policy in certain years was procyclical. The justification of fiscal stimulus in Serbia is questionable considering the assumed value of fiscal multipliers, the exchange rate regime, inadequate structure and targeting of fiscal stimulus, and so on. (Ješić 2013, p. 96.)

Negative movements have been observed in the labour market and the real economy as well, which had the direct impact on financial stability. One indicator of the crisis effect on the financial sector is the share of non-performing loans in total loans because the rise in non-performing loans has put constraints on the balance sheets of banks. The movement of this indicator has been unfavourable in recent years (Figure 5).

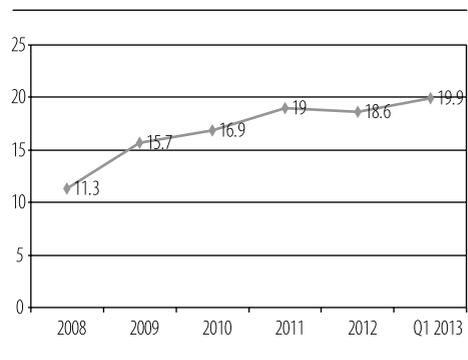
The public debt structure is not but it can potentially be the instigator of financial instability in Montenegro. Other

**Table 4: Fiscal variables trend for Serbia from 2002 to 2013**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	June-13
Consolidated fiscal balance in % of GDP	-1.8	-2.4	0.8	0.9	-1.9	-2.0	-2.6	-4.5	-4.7	-4.9	-6.4	-4.8
Public debt in % of GDP	72.9	66.9	55.3	52.2	37.7	31.5	29.2	34.7	44.5	48.2	59.3	60.6

Source: National Bank of Serbia, statistics from the website

It is clear that adverse macroeconomic conditions have been leaving deep scars as of 2008. However, the big part of the responsibility is on the policymakers because of their discretionary decisions, which have influence on financial stability. Here, same as in Montenegro, deteriorating macroeconomic variables have influenced financial stability. The consequences are numerous and one of them is a rise in non-performing loans (Figure 6).

**Figure 6: Non – performing loans to total loans (in %)**

Source: National Bank of Serbia, statistics from the website

It can be noticed that in the Serbia case, all mechanisms of risk transmission from the sovereign to the financial sector are valid. Banks' exposures to the government debt have been rising over recent years. In addition, fiscal trends are the key determinants of the Serbia's credit rating. Because of that and for the sake of sustainability of financial stability, it is important that policymakers in the future conduct a policy motivated by long-term goals of the country.

## 5. Conclusion

Irresponsible fiscal policy leaves short-term and long-term consequences on macroeconomic environment. The influence on inflation, interest rates, trade deficit and GDP growth is confirmed to a certain level of significance. However, there are many supporters of the postulate that conducting the fiscal policy in that manner has broader consequences. The reason for that effect is based on the fact that the financial sector and a government are not economically independent, so their results are connected in numerous ways. These relations between

two transactors in one economy cause the relations between the risks immanent to them. Thus, there are possible risk spillovers from the sovereign to the financial sector and *vice versa*.

The subject of analysis in this paper is only one direction in this relation, i.e. researching the implications of fiscal policy on financial stability. The incentive for studying this mechanism has arisen from the hypothesis that financial stability is not determined only by intrinsic factors and price stability, but with other factors like the manner of fiscal policy pursuit. The policymakers' decisions have consequences on the financial result of banks, insurance companies, pension funds, investment funds and the financial market. The general conditions and risk immanent to every country play important roles in risk identification of financial institutions because the spillovers arise from these transmission channels: financial institutions are one of the biggest lenders to governments; government securities are the basis for numerous financial transactions; the ratings of sovereigns and financial institutions are strongly connected; the possibilities of government to support the financial sector influence the confidence of bank creditors and depositors; macroeconomic environment affects the quality and quantity of the financial sector assets; certain fiscal policy measures directly and immediately hit the financial system.

All the aforesaid channels have been seen in the EU countries in the recent period. They have been particularly obvious in financial institutions with high exposures to the public debt of countries like Greece, Portugal, Ireland, Italy, and the like. The crisis has hit developing countries like Montenegro and Serbia. Deteriorated macroeconomic environment leads to a declining in the financial stability indicators and the focus is on the banking system and a rise in non-performing loans.

Because of all consequences of fiscal irresponsibility, the future accent should be put on preventing these unfavourable processes, especially in countries where the financial system is underdeveloped and where small shocks can lead to significant consequences to financial stability. It is necessary to further illuminate both directions of this relation, to precisely define the responsibility for financial stability, and to prepare the necessary steps in the case of crisis situations.

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