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COORDINATION OF MONETARY AND FISCAL POLICIES IN REPUBLIC OF MACEDONIA

DOCTORAL DISSERTATION

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SUMMARY

Coordination and interactions between monetary and fiscal policies has been a recurring theme in macroeconomics as the achievement of the macroeconomic policy objectives is considered to be significantly determined by the appropriateness of the policy mix. Although there are different views on this issue in the theoretical literature, still the view arguing for close coordination between the policies prevails. It rests on the assumption that there is a close interaction between fiscal and monetary policies.

The doctoral dissertation investigates the level of coordination of monetary and fiscal policies in the Republic of Macedonia (hereinafter: RM) during 1992-2013. The aim is to explore the relationship between the policies, the forms of cooperation, and to determine which policy adjusted with an objective of preserving macroeconomic stability. The coordination is assessed on the basis of the consistency of the policy mix with the macroeconomic objectives. Given that primary objective of the central bank is the price stability and that the stable exchange rate is an intermediate objective, the consistency of the policy mix is primarily assessed against the price and exchange rate stability. Main hypotheses of the dissertation are the following: (i) monetary and fiscal policies in the RM were coordinated for most of the period under analysis, and (ii) the public finance reforms and the improvements in the institutional arrangements and operational procedures enhanced the coordination of the polices.

Assessment of the interactions between the policies and the level of their coordination is performed by applying a couple of approaches. First, a balance sheet analysis is applied focusing on the claims of the central bank on the government, as a proxy for the fiscal stance, and claims of the central bank on the banking system, as a proxy for the monetary policy stance. Second, interactions are analyzed by focusing on the impact of the fiscal and monetary operations on the liquidity of the banking system. Third, policy interactions are analyzed in the context of cyclicality to assess policy reactions to the real sector developments.

The balance sheet analysis points that for the most of the years under analysis the fiscal and monetary mix was adequate for preserving the macroeconomic stability. The strategy of targeting the exchange rate required disciplined fiscal policy to support the peg. The fiscal support was particularly important given that government spending in small and open economies, such as the Macedonian one, can significantly affect the balance of payments and foreign reserves developments. International Monetary Fund arrangements were an important instrument that helped disciplining the policies. For most of the period the fiscal policy adjusted providing support to the monetary policy. This combination of policies contributed towards maintaining the stability of the exchange rate, which has served as a nominal anchor of the monetary policy and as a key instrument in achieving

low and stable inflation, as a primary objective of the central bank. Weak coordination can be observed during the early transition (1992-1994), during the internal armed conflict in 2001, and in the initial phase of the global crisis that had spillover effects over domestic economy.

With a view of having a wider understanding of the relationship between the fiscal and monetary policies, the balance sheet analysis is supplemented with another approach that is more narrowly focused on the liquidity (in domestic currency) of the banking system and provides better indication for the liquidity impact of the policies. A comparison of the findings of the balance sheet analysis and liquidity analysis points to some differences regarding the policy stance. Both analyses point to a sterilizing cumulative effect of fiscal and monetary policies, although with different magnitude. The liquidity analysis, which appears to be a better indication of the liquidity impact of the policies, points to a bigger sterilizing impact of the fiscal policy. The observed discrepancies underline the importance of cautious interpretation of the indicators for the policy stance, the fiscal policy stance in particular, and consequently of the mix of policies.

Interactions between the fiscal and monetary policies are also investigated in the context of their cyclicality. The analysis, based on Fedelino, Ivanovna and Horton (2009) approach, indicates that fiscal policy was countercyclical in 9 years and monetary policy in 8 years (out of 19), when fiscal policy was mostly pro-cyclical. For most of the years under analysis, monetary and fiscal policies reacted in a different manner pointing to the fact that they dominantly acted as substitute policies. It appears that during the crisis periods, initial reaction of the monetary policy was largely pro-cyclical. The econometric analysis suggests that monetary policy reacts countercyclically, but does not provide strong evidence on the cyclicality of the fiscal policy. Although the impulses are not significant, they support the notion that policies act as substitutes, i.e., when fiscal position is tightened, monetary policy stance is loosened and vice versa.

The degree of independence of the central bank and practical mechanisms put in place for cooperation can affect the level of coordination between the decision-makers and consequently the macroeconomic outcomes. Thus, the institutional aspect of the coordination seems inevitable part of the analysis of the degree of coordination of the policies. The analyses based on the Cukierman index and modified Cukierman index indicate that throughout the years the legal independence of the National Bank of the Republic of Macedonia has increased. Yet, the most recent law reduced the independence of the central bank in two key segments - responsibilities for the foreign exchange regime and the process of appointment of the non-executive members of the council of the bank. Based on the criterion of a turnover rate of governors, the actual independence of the bank appears to be high. The turnover rate is 0.16 meaning roughly one governor every 6 years. The analysis of the relationship between the level of the independence and the inflationary outcome suggests inverse correlation. It appears that the strengthening of the independence

of the NBRM throughout the years has made a positive contribution towards preserving exchange rate and price stability.

The institutional design of the budgetary procedures can shape the fiscal discipline and fiscal outcomes and thus the adequacy of the overall macroeconomic policy mix. The Gleich index of quality of the budget institutions, which is focused on the centralization of the budget process, points to a relatively high quality of the budget institutions in the RM. High centralization of the decision making process has been a feature of all the stages of the budget process, even at the beginning of the transition. The value of the Dabla-Norris index, which is a wider index covering many characteristics of the budget process, points to a progress in quality of the budget institutions reflecting the reforms implemented in the area of public finance management system. Despite the reforms that helped in safeguarding fiscal sustainability, there are many remaining weakness in the public finance system that need to be addressed.

Key words: fiscal policy, monetary policy, coordination, central bank, cyclical reactions, independence of the central bank, public finance, budget, budget institutions, policy rate.

POVZETEK

O koordinacija in interakcija med denarno in fiskalno politiko so bolj ali manj stalno razprave na področju makroekonomije, kajti doseganje makroekonomskih ciljev naj bi bilo v veliki meri odvisno od ustreznosti kombinacije ali zmesi (»mix«) teh politik. Čeprav so različna mnenja o kombiniranju denarne in fiskalne politike, kot jih najdemo v literaturi, prevladuje mnenje, da mora biti med njima tesna koordinacija.

Doktorska disertacija raziskuje raven koordinacije med fiskalno in denarno politiko v Republiki Makedoniji (RM) v letih 1992 do 2013. Cilj je raziskati odnose med politikama, način koordinacije med njima in določiti katera politika se prilagaja z namenom, da se ohranjanja makroekonomska stabilnost. Koordinacijo ocenjujemo na osnovi konsistentnosti kombinacije (»mix«) politik za zagotavljanje makroekonomske stabilnosti. Upoštevaje dejstvo, da je centralne banke je stabilnost cen in stabilnosti deviznega tečaja. Glavna hipoteza disertacije so naslednje: (i) med monetarna in fiskalna politika je obstajala koordinacija v večjem delu obdobja, ki ga analiziramo in (ii) reforme javnih financ in izboljšave institucionalne ureditve ter v procedurah, ki so določale sprejemanje ciljev in uporabo instrumentov za doseganje teh ciljev.

Za oceno interakcije med politikama in ravni njihove koordinacije uporabljamo različne metode. Kot prvo, uporabljamo analizo s pomočjo premoženjskih bilanc, pri katerih nas zanimajo terjatve centralne banke do države, ki ga uporabljamo kot »proxy« za oceno naravnanosti denarne politike. Kot drugo, pri interakcijah politik analiziramo vpliv (»impact«) fiskalnih in monetarnih ukrepov na likvidnost bank. Kot tretje, interakcijo politik analiziramo v okviru cikličnosti , da bi ocenili reakcije na realni sektor.

Analiza s pomočjo premoženjske bilance nam pokaže, da je bila v večini letih, ki jih analiziramo, ustrezna zmes (»mix«) denarne in fiskalne politike za doseganje makroekonomske stabilnosti. Strategija centralne banke, da je bližnji cilj stabilnost deviznega tečaja, je terjala disciplinirano fiskalno politiko, da bi fiskus podpiral to stabilnost. Podpora fiskusa je bila še posebej pomembna, če upoštevamo, da je trošenje države v majhnih in odprtih gospodarstvih, kot je Makedonija, lahko pomembno vliva na plačilno bilanco in mednarodne denarne rezerve. Sporazumi z IMF so bili pomembni za discipliniranje politik. Za večin obdobja se je fiskalna politika prilagajala in pomagala denarni politiki. Kombinacija politik je pomagala vzdrževati stabilnost deviznega tečaja, ki se je uporabljala kot nominalno sidro denarne politike. Tako je bila pomemben instrument za nizko in stabilno inflacijo. Nizka inflacija je bil namreč najpomembnejši bližnji cilj denarne politike NBRM. Koordinacija je bila slaba v začetnih letih tranzicije, v letih 1992 do 1994, potem leta 2001 zaradi konflikta znotraj Makedonije, in ponovno v času velike globalne krize, ki je zajela tudi Makedonijo.

Da bi bolje razumeli odnose med fiskalno in denarno politiko, analizo s pomočjo premoženjskih bilanc dopolnimo še drugače in pri tem pogledu, je bolj ozko osredotočen na likvidnost (v domačem denarju) bank. Da nam boljše indikatorje vpliva (»impact«) politik na likvidnost. Primerjava obeh načinov analize nam pokaže na razlike v vplivu politik. Oba načina nam sicer govorita o stabilizacijskem učinku fiskalne in monetarne politike, vendar so razlike v velikosti tega učinka. Analiza prek likvidnosti naj bi bila boljši indikator vpliva politik. Kaže namreč, da je sterilizacijski učinek fiskalne politike večji. Te razlike opozarjajo na previdno razlago indikatorjev, ki nam kažejo na spremembe v naravnanosti politik. To še posebno velja za fiskalno politiko.

Interakcija med fiskalno in denarno politiko analiziramo tudi v kontekstu njune cikličnosti. Analiza temelji na idejah Fedelina, Ivanovna in Hortona (2009) in nam pokaze, da je bila fiskalna politika kotraciklična v devetih in denarna politika v osmih letih v razdobju 19 let. Denarna politika je bila največkrat prociklična. V večini od opazovanih leti denar na in fiskalna politika sta reagirali v nasprotnih smereh, kar nam pravi, da sta bili politiki substitut druga za drugo. Videti je, da v kriznih letih je bila reakcija denarna politika največkrat prociklična. Ekonomska analiza nam pravi, da deluje denarna politika praviloma proticiklično, medtem ko za fiskalno politiko ni trdnih dokazov. Čeprav impulzi niso značilni, vseeno podpirajo pojmovane, da sta si politiki substituta. To pomeni, ko je fiskalna politika ekspanzivna je monetarna restriktivna in narobe.

Stopnja neodvisnosti centralne banke lahko vpliva na raven koordinacije med odločitvami denarnih in finančnih oblasti in s tem na makroekonomske rezultate. Tako je videti, da je institucionalni vidik koordinacije nujen del analize koordinacije politik. Analiza na osnovi Cukiermanovega indeksa pokaže, da je vsa leta je zakonska neodvisnost Narodne banke Republike Makedonije naraščala. Vendar je nedavni zakon zmanjšal neodvisnost centralne banke na dveh pomembnih področjih, in sicer kar zadeva režim deviznega tečaja in procedura imenovanja zunanjih članov sveta NBRM. Če upoštevamo kriterij, kako hitro se menjajo guvernerji, je videti, da je dejanska neodvisnost centralne banke visoka. Povprečno grajanje mandata guvernerja je namreč šest let. Analiza zveze med neodvisnostjo centralne banke in višino inflacije je inverzna. Videti je, da večanje neodvisnosti NBRM ves čas od njenega nastanka pomeni pozitivne prispevek k stabilnosti deviznega tečaja in cen.

Institucionalna ureditev procedur pri proračunu lahko vpliva na fiskalno disciplino in s tem na ustreznost makro ekonomskih politik, kar zadeva njihove naravnanosti Gleiichov indeks kakovosti proračunskih institucij, ki je fokusiran na centralizacijo pri vseh dejavnostih v zvezi s proračunom, kaže na relativno visoko kvaliteto proračunskih institucij v Makedoniji. Visoka centralizacija procesa sprejemanja odločitev je značilna za vse ravni proračunske procedure. Tako je bilo celo v začetku tranzicije. Vrednost Dabla-Norris indeksa, ki je širši indeks in pokriva številne značilnost proračunske procedure, prav tako kaže na izboljševanje kvalitete proračunskih institucij, kar je odraz reform na področju upravljanja sistema javnih financ. Kljub reformam, ki so pripomogle varovanju fiskalne

vzdržljivosti, je še vedno precej slabosti v sitemu javnih financ, ki jih bo potrebno odpravljati.

Ključne besede: fiskalna politika, denarna politika, koordinacija, centralna banka, ciklične funkcije, neodvisnost centralne banke, javne finance, proračun, proračunske institucije, obrestna mera centralne banke.

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INTRODUCTION 1

The main purpose of the doctoral dissertation is to explore the coordination of the monetary and fiscal policies in the Republic of Macedonia (hereinafter: RM) during 1992-2013. The aim is to investigate the interactions of the policies with a view of determining whether the policies were coordinated and consistent and thus contributing to the achievement of macroeconomic objectives. Also, the institutional and operational arrangements that define the level of independence of the central bank, and the public finance system are investigated, as they are considered important preconditions for prudent fiscal policy.

The monetary and fiscal policies are conducted by different institutions, have different objectives and different instruments. While in most cases price stability is considered a primary objective of the central bank, fiscal policy is tasked with providing public goods that cannot be provided by the private sector, redistribution of the income in the society and a short-term macroeconomic stabilization. Monetary policy relies on a set of monetary policy instruments for achieving the price stability. Policy rate has been traditionally considered as the main monetary instrument, although the recent crisis underlined the need for adoption of new non-conventional instruments. Fiscal policy relies on the tax and expenditure polices as main instruments to achieve its objectives. Still, there are close interactions between the policies, so that activities in one area affect the activities in the other through a number of channels. In this vein, uncoordinated and inconsistent policies may result in a failure to achieve macroeconomic objectives and lead to sub-optimal economic outcomes.

The coordination between the monetary and fiscal policies has been subject to a wide theoretical and empirical research. Although there are different views on this issue in the literature, the view advocating for close coordination dominates. The close link between the policies has been the main argument of the proponents of a close coordination. On the other hand, the economists who do not support this view claim that links between the policies are weak and thereby there is no need for coordination. As inflation is considered a purely monetary phenomenon independent of the fiscal variables, it is deemed that fiscal policy does not affect monetary policy. The weak effect from the monetary policy to fiscal variables is explained on the ground of small share of seigniorage revenues in the government financing and the “Ricardian equivalence”, which implies that under rational expectations fiscal policy cannot affect aggregate demand and inflation.

Most of the empirical studies investigate the links between the policies through the intertemporal budget constraint. Fiscal position is deemed sustainable if the current real value of government liabilities equals the present discounted value of future primary surpluses. If fiscal authorities adjust the spending depending on the debt level, then the monetary policy will not be compelled to generate higher inflation in order to stabilize the

debt level. In many studies coordination is defined as having one policy dominating other (Sargent and Wallace, 1981, p.2). In this context, significant part of the research on the policy coordination has been focused on determining which policy is predominant. If fiscal policy dominates monetary policy, the fiscal variables are set independently of the debt level and the intertemporal budget constraint. In a monetary-dominant regime, the fiscal variables are set with a view of satisfying the intertemporal budget constraint. Also, the coordination can be defined as having one active and one passive policy because equilibrium can be achieved only when one policy is active and one passive (Leeper, 1991, pp.129-147). There is empirical support that different combinations of monetary and fiscal policies result in different macroeconomic outcomes. Coordinated polices based on consistent and synchronized measures tend to lead to superior economic outcomes.

Macroeconomic stabilization role of the polices has been also widely researched with a view of assessing the cyclical reactions of the polices and their effectiveness in the stabilization of the business cycles. While for the countercyclical role of the automatic stabilizers there has been no disagreement, there have been different views on the role of the discretionary fiscal policy. The Keynesian view of active discretionary policy, based on the short-sightedness of the economic agents and a significant portion of liquidity-constrained households, has again gained importance. The recent crisis has underlined the importance of the fiscal policy in mitigating the adverse real sector developments and safeguarding the financial stability.

In the literature it is well established that the central bank independence is a very important dimension for safeguarding the macroeconomic stability. Strong institutional arrangements protecting the independence of the central bank are believed to allow central banks to focus on long-term goals free from political pressures for expansionary policy. Thus, the independence is seen as a protection from the time-inconsistency problem, which arises as a result of the politicians' efforts to use the short-term trade-off between the inflation and unemployment (Kydland & Prescot, 1977). Empirical studies find evidence on the inverse correlation between the central bank independence and price stability.

Quality of the public finance management system, i.e., the quality of the budget preparation, adoption and implementation procedures has been investigated in the literature. The emphasis has been placed on the relationship between the quality of the budgetary procedures and fiscal outcomes, as it is deemed that higher quality of the budgetary procedures leads to greater fiscal stability. There are empirical studies providing evidence that the nature of the budgetary procedures affects the fiscal outcomes, as prudent procedures help in dealing with the spending biases and the so called "common pool problem" of the budget (von Hagen and Harden, 1996).

Coordination of the monetary and fiscal policies in the RM has not been widely investigated, although in the recent period, the interest in this field has increased. What

was the prevailing regime, monetary-dominant or fiscally-dominant and what were the related implications for the macroeconomic objectives, are aspects that have attracted particular interest. Given the monetary strategy of a stable exchange rate and the need of having a disciplined fiscal policy, cyclicality of the fiscal policy has also been subject to empirical research, including estimates of the effects of the discretionary fiscal policy through fiscal multipliers. Also, there are some studies on the level of the independence of the central bank of the RM, which mostly do not cover the latest legal framework, and a couple of multi-country studies on the quality of the public finance management system that include assessment of the quality of budgetary procedures in the RM. There is no study specifically focused on the RM.

The doctoral dissertation explores the coordination between the monetary and fiscal policies in the RM by investigating the interactions between the policies, in order to determine what kind of a mix of policies was conducted and what were the implications of the mix of the policies for the macroeconomic objectives. As price stability is primary objective of the central bank, and the stable exchange rate is a nominal anchor for achieving the primary objective, the coordination is assessed against the price and exchange rate stability. Given that monetary strategy of a stable exchange rate requires prudent policies to support the sustainability and credibility of the peg, the dissertation explores the extent to which policies acted countercyclically. An assessment of the independence of the central bank and the quality of the public finance system are an integral part of the analysis.

Main hypotheses of the dissertation are the following: (i) monetary and fiscal policies in the RM were coordinated for most of the period under analysis; and (ii) the public finance reforms and the improvements in the institutional arrangements and operational procedures enhanced the coordination of the polices.

The assessment of the interactions between the policies and the level and form of coordination is performed by applying a couple of approaches. First, a balance sheet analysis is applied, focusing on the claims of the central bank on the government, as a proxy for the fiscal stance, and claims of the central bank on the banking system, as a proxy for the monetary policy stance. Second, interactions are analyzed by focusing on the impact of the fiscal and monetary operations on the liquidity of the banking system. Third, policy interactions are analyzed in the context of cyclicality to assess policy reactions to the real sector developments. The dissertation covers the period 1992-2013, although for some of the analyses the available time series are shorter.

The balance sheet analysis explores the mix of the policies in the context of their effects on the reserve money and, subsequently, on the monetary and foreign exchange developments, which, in turn, affect the achievement of price and exchange rate stability. Thus, the analysis of the policies' stance focuses on the changes in the balance sheet items-

net claims on the government and net claims on the banking system, but also on the other indicators of the policy stance and developments in the monetary and external sectors. Despite the limitations of this approach in terms of drawing firm conclusions regarding the impact of the policy mix for the liquidity in the banking system, still it provides an indication of the policies' stance and accordingly of the mix of policies.

With a view of wider understanding of the impact of the policies' stance, the balance sheet analysis is supplemented with an analysis that focuses on the liquidity impact of the policies. In this light, the autonomous and non-autonomous factors that affect the changes in the balances of the commercial banks with the central bank are investigated, including the effect of the government transactions and the operations of the central bank. Government accounts are kept with the central bank and the central bank is a fiscal agent for domestic and external government payments. Thus, the government transactions are an autonomous factor that affects the liquidity in the banking system. Foreign exchange transactions between the central bank and commercial banks, as well as changes in the currency of circulation are other autonomous factors. The alignment of the supply of and the demand for liquidity is performed through the central bank instruments, which represent an autonomous factor being directly under the control of the central bank.

The cyclicality of the fiscal policy is explored by applying the approach of Fedelino, Ivanovna, & Horton (2009) and Horton (2005). The first approach comprises assessment of the cyclically adjusted primary balance, as an indicator for the underlying fiscal position, and the assessment of the fiscal impulse as a difference in the cyclically adjusted primary balance in two consecutive periods. The second approach is based on an estimation of a neutral fiscal stance in a base year and determination of a fiscal stance as a difference between the actual and the neutral fiscal stance. Fiscal impulse is estimated as difference of the fiscal stance in two consecutive years. In both approaches the relationship between the fiscal impulse and changes in the output gap provides an indication of the cyclicality of the fiscal policy. The cyclicality of the monetary policy is determined on the basis on the relationship between the changes of the main policy rate and the output gap. Then, a mix of policies in a cyclical context is analyzed to determine whether policies reacted dominantly in the same or in the opposite direction.

Econometric analysis of the cyclicality of the policies is made by applying vector autoregression approach which is widely used for estimating short-term interactions among variables, including policy variables. Main emphasis is placed on the impulse responses of the policies to the shocks in the deviations of the actual from potential output, as well as on the reactions of the fiscal policy to shocks in the monetary policy and vice-versa, thus assessing whether policies behave as substitutes or complements.

Institutional arrangements safeguarding the independence of the central banks are considered an important factor for preserving price stability. In this context, the analysis

includes assessment of the level of the independence of the National Bank of the Republic of Macedonia (hereinafter: NBRM). The assessment of the central bank independence is usually done by indices that cover different institutional characteristics, which define the institutional strength of the central bank. In this light, the index of Cukierman, Webb and Neyapti (1992), one of the most commonly used indices, and the modified Cukierman index of Jacome and Vazquez (2005), which is well suited for transition economies, are used.

The measurement is based on the legal provisions that regulate the objectives, policy formulation, appointment and terms of office of the top officials of the central bank, central bank financing of the government and accountability. While recognized that there may be a gap between legal and actual independence, the measurement of the actual independence is a challenging task. Most commonly it is measured by the actual turnover rate of governors and the questionnaires filled in by central bankers. The turnover rate of the governor is also used as an indication of the actual independence of the central bank of the RM.

Given that procedures for planning, adoption and implementation of the budget can affect the fiscal outcomes and thus the mix of policies, the doctoral dissertation investigates the public finance system in the RM, including the public finance reforms. The quality of the system, i.e., the quality of the budget process is commonly assessed by indices. The assessment of the quality of the budget process in the RM is performed by applying Gleich (2003) index and Dabla-Norris et al. (2010) index. The first index, which is aimed at investigating institutional structures in the transition economies, is a narrower index focused on the level of centralization of the budget process as a key mechanism for prudent fiscal finances. The second index, which is well suited for low and middle-income economies, is a multidimensional index that encompasses a wide number of indicators across different stages and characteristics of the budget process.

The doctoral dissertation is organized as follows. Objectives of the dissertation, research question and main hypotheses are elaborated in the Introduction. First chapter reviews the theoretical and empirical literature on the coordination of monetary and fiscal policies in developed and transition economies, including the literature on the RM. The literature review is concentrated on the interactions between the policies, institutional arrangements for the central banks, and the relationship between public finance system, fiscal outcomes and monetary policy. The literature review on the interactions between the policies is particularly focused on the following aspects: objectives, instruments and links between the policies; coordination schemes and macroeconomic implications; coordination under fixed exchange rate regime; and coordination in the context of rules versus discretion. Second chapter investigates and assess the coordination between monetary and fiscal policies in the RM during 1992-2013. It starts with an analysis of the macroeconomic developments starting from the beginning of the transition till 2013 and analysis of the monetary and fiscal systems and policies. Then, follows an assessment of the interactions

between the policies and the level of coordination that is based on the three approaches: balance sheet approach, approach focused on liquidity aspect and assessment of the coordination from a cyclicality point of view. The analysis of the coordination between the polices is followed by an assessment of the independence of the NBRM and an assessment of the quality of the public finance system in the RM. The summary of the findings on the coordination between monetary and fiscal policies in the RM is provided in the Conclusions.

1 LITERATURE REVIEW

In this chapter theoretical and empirical literature regarding the coordination of monetary and fiscal policies is reviewed. The focus is on the interactions between monetary and fiscal policies, institutional set up and operational coordination procedures, and the relationship between public finance and monetary policy.

1.1 Interactions Between Fiscal and Monetary Policies

The interactions between monetary and fiscal policies have been a recurring theme in macroeconomics, as the achievement of the macroeconomic policy objectives is determined by the appropriateness of the policy mix. This section reviews the literature on the: objectives and instruments of the fiscal, monetary and debt policy; links between the policies, coordination schemes and their effect on macroeconomic objectives; coordination of monetary and fiscal policies under different exchange rate regimes; coordination of monetary and fiscal policies in the context of the issue "rules versus discretion"; and coordination of fiscal and monetary policies in the RM (hereinafter: RM).

1.1.1 Monetary, Fiscal and Debt Policies: Objectives and Instruments

Monetary policy objectives have traditionally included price stability, economic growth, full employment, stabilizing business cycle, preventing financial crises, stabilizing long-term interest rates and the real exchange rate (Khan, 2003, p.3). Some of these objectives are not fully consistent and monetary authorities have placed different weights. Since the 1990s there has been a shift in favor of price stability as a primary objective. Double digit inflation in the 1970s was conducive to bigger separation of monetary and fiscal policies and assigning monetary policy to an independent institution with primary objective of price stability. This move was also influenced by the theoretical work of Kydland and Prescott (1977) and Barro and Gordon (1981) regarding the "inflation bias" of discretionary government. A low and stable inflation is the main goal of most of the central banks, as stable macroeconomic environment is considered a crucial precondition for sustainable long-term growth. High inflation and inflationary expectations cloud the horizon, rise

uncertainty, adversely affect the expectations of the economic agents and their investment and spending decisions thereby negatively affecting the overall economic activity.

In the theory and practice there is pretty much a consensus that price stability is the best contribution that the monetary policy can provide for the prosperity of the economy. Economists mostly agree that monetary policy can affect the real economic activity in the short run due to stickiness of the prices, while in the long run growth is determined by real variables. Krzak and Scubert (1997, p.30) state three important reasons for disillusionment with the monetary policy as a means to dampen business cycles: (i) monetary policy is able to affect the real economy only in the short run, not in the long run; (ii) there are long and variable gaps between the implementation of the monetary policy and the effects on the economy; and (iii) time-inconsistency problem will over time lead to lower credibility of the central bank and rising inflationary expectations, hence the prices will increase, without effect on output.

There are many empirical studies on the relation between inflation and long-run growth in developed and transition economies that point to a negative correlation (Iradian, 2007; Elder, 2008; de Gregorio, 1992; Barro, 1995). Yet, some of the studies find that the relation crucially depends on the initial level of inflation rate (Bulard & Keating in Espinosa-Vega & Yip, 1999). The negative relationship between inflation and growth at higher rate of inflation is empirically well supported. A positive relationship has been found at relatively low levels of inflation suggesting that higher level of inflation would have negative effects on the growth prospects.

Low inflation also contributes to poverty reduction. Despite the indirect effect on alleviating the poverty through supporting the economic growth, it also has a direct impact. Inflation hurts the poor households much more than others, as they normally tend to keep fewer assets that are hedged against inflation. Li and Zou (2002) find a negative impact of higher inflation on income distribution. Fisher and Esterly (2001) provide an evidence that poor are more likely than rich to report inflation as a personal problem.

The principle influence of the monetary policy over aggregate demand stems from its position of a monopolist over the supply of bank reserves. The supply of bank reserves affects banks' liquidity and results in readjustment of market interest rates to align the demand for and supply of reserves. Theory and empirical evidence suggest a number of channels through which monetary policy can affect the aggregate demand, i.e., output and inflation (Kuttner & Mosser, 2002; Friedman, 1999; Blinder, 2006; Laurens, 2005). These channels are not mutually exclusive, meaning that the response of the aggregate demand to the monetary policy will reflect a number of channels.

Major monetary policy transmission channels are the following: bank lending (narrow credit) channel, interest rate channel, broad credit channel, wealth channel and exchange

rate channel. Higher supply of reserves by central bank increases the availability of bank loans (loan supply irrespective of the price) and given that households and companies depend on bank financing, this stimulates aggregate spending. Policy induced changes to market interest rates are further transmitted to aggregate demand through a couple of channels. Interest rate channel, regarded as the main monetary channel, implies that lower central bank reference rate will lead to lower short-term and subsequently long-term market interest rates in the economy, thus stimulating aggregate demand and real economic activity. In case of rising interest rates, demand for loans declines, but also the supply may fall due to adverse selection problem. According to the broad credit channel, the changes in the asset prices (stemming from the changes in interest rates) affect the cost of capital and thus consumption and investment. A change in the asset prices can affect the aggregate spending also through the wealth channel. A decrease in prices of assets means lower wealth and lower spending. Exchange rate channel occurs when changes in the monetary policy affect the exchange rate (via uncovered interest rate parity) and subsequently the demand for domestic and foreign goods, and the balance sheet of the economic sector. Exchange rate changes can directly affect inflation through the price of the imported goods.

The empirical evidence for the effectiveness of the transmission channels is stronger for developed countries compared to developing countries. This is commonly explained by the specifics of the transition economies that are undergoing structural reforms and are characterized by underdeveloped financial market, lower level of financial intermediation and high dollarization (Creel & Levasseur, 2004; Mayes, 2003).

Monetary authorities cannot directly affect the ultimate objective - price stability, so they choose an intermediate target (nominal anchor) that is closely linked to the price stability and over which monetary authorities have bigger control. Monetary policy affects the final objective with long lags and intermediate targets help correcting any mistakes in the conduct of the monetary policy on time. Although there are more possible anchors, in practice, in recent years, many countries have chosen to target directly inflation or nominal exchange rate. Targeting money has lost its significance because of unstable or difficult to predict money demand, occurrence of new financial instruments and because money targets are not so easily understood by the public. This is particularly common for developing countries undergoing structural reforms and financial liberalization. In the recent years the inflation targeting strategy, where the central bank directly targets inflation, has attracted raising interest.

Central banks use their policy instruments to influence primarily the intermediate target and consequently their final objective. Monetary instruments are classified as either being direct instruments, where the central bank sets limits on the balance sheets of the banks or the price of loans and deposits, or indirect instruments, where central banks operate by influencing supply or demand conditions in the money market (Alexander, Balino, &

Enoch, 1995). Most common examples of direct instruments are: interest rate controls, credit ceilings and directed lending policy. Given that they can create many distortions in financial intermediation, indirect instruments (open market operations, reserve requirement and standing facilities) are considered main tools of the central banks. However, the global financial crisis showed that these traditional indirect instruments were not sufficiently powerful and many central banks had to modify these instruments or introduce new ones. Very good example of this is the Federal Reserve (Cecchetti, 2008) that significantly modified the features of the existing instruments and introduced a variety of new unconventional instruments.

Despite providing public goods that cannot be provided (or may be underprovided) by the private sector and redistribution of income in the society, most of the economists agree that fiscal policy plays an additional role of a short-term macroeconomic stabilization. Macroeconomic instability means less predictability that has negative effects on the resource allocation, investment and growth. The empirical study of Ramney and Ramney (1995) points to a negative relationship between the average and standard deviation of per capita GDP over a long-term horizon.

In the literature, macroeconomic stabilization is commonly defined as a situation when key macroeconomic variables are in balance, i.e., there is internal and external balance in the economy. While internal balance is usually defined as low and stable inflation and output close to its potential level, external balance is defined as a current account position that can be sustained by capital flows and that is compatible with growth prospects. In this vein, fiscal policy can be used for mitigating economic cycles, taming inflation and reducing external current account imbalances. Government's saving-investment balance affects the total saving-investment balance and thus the current account position.

The theory suggests that fiscal policy can mitigate economic cycles through automatic stabilizers and discretionary fiscal policy. In addition, there are other non-discretionary effects going beyond the normal impact of the cycle such as changes in the asset prices, financial sector profits and commodity prices (IMF, 2009b).

Fiscal policy has built-in fiscal stabilizers of the business cycles. Automatic changes in taxes and expenditures as a reflection of the cyclical changes in the economy without any policy reaction help in smoothing the cycles. In this way, there are no implementation lags typical for discretionary fiscal measures. Also, when the economy improves, measures are reversed automatically as fiscal loosening turns into fiscal tightening, which helps in preserving the fiscal sustainability.

In principle, the size of the automatic stabilizers depends on the size of the government - the bigger the size of the government, the bigger the stabilizers. While there is an evidence of a negative relationship between the size of government and volatility of output, there are

decreasing stabilization returns above certain size of the government (Gali, 1994; Fatas & Mihov, 1999; Buti, Martinez-Mongay, Sekkat, & van den Noord, 2003). Therefore, Baunsgaard and Symansky (2009) propose enhancement of automatic stabilizers without raising the government size through introducing permanent and temporary changes to the tax and expenditure rules triggered by economic developments. This can ensure faster decision-making and a timely fiscal response shielded from political considerations.

In the empirical literature focused on assessing the impact of fiscal policy on the volatility of the output gap, different measures of automatic stabilizers are used. For example, Fatas and Mihov (2001), taking the share of government expenditures in GDP as a proxy for the automatic stabilizers, find a strong negative relationship between the size of the government expenditures and the standard deviation of the GDP growth rate. The larger the size of government (measured through the expenditure side), the bigger the effect of the automatic stabilizer, i.e., there is less volatile business cycle. On the other hand, Fatas and Mihov (2003) find that discretionary fiscal policy generates more volatility of output. The output volatility caused by a discretionary fiscal policy lowers economic growth by more than 0.8 percentage points for every percentage point increase in volatility. The research of Debrun and Kapoor (2010) also provides a strong support for the view that the fiscal stabilization operates mainly through automatic stabilizers.

A recent study of Cottarelli and Fidelino (2010, p.3) questions the common approach used in the studies where a proxy for the automatic stabilizer is the size of the government measured by the share of expenditures in GDP. They propose using a share of revenues in GDP stating that "What is puzzling—and counterintuitive—is that the spending ratio is used as the relevant measure of the magnitude of the automatic stabilizers under the simplifying (but commonly applied) assumption of zero elasticity of spending and unit elasticity of revenues (both to the output gap), that is, under the assumption that the only variable that responds to cyclical movements is revenues, not spending."

The bigger the automatic stabilizers are, the lower is the need for other fiscal measures. Lower automatic stabilizers entail stronger discretionary measures, to the extent that the shape of the fiscal finances allows it. By introducing changes in the revenue and/or expenditure policy, the government affects disposable income or, directly, the consumption and investment.

Keynesian view of active discretionary fiscal policy, which was popular during the 1950s, has been challenged starting from the 1960s on the theoretical and empirical grounds. While Keynesian view is based on the assumptions of short-sightedness of the economic agents and significant portion of households facing liquidity constraint, the classical view is based on the long-sightedness of the economic agents and wealth being the main driver of the consumption of households rather than current income. Main criticism was that discretionary fiscal policy loses its effectiveness under flexible exchange rate regime and

that temporary changes in taxation would have only minor effects on the lifetime income and therefore aggregate demand. This was reinforced by a similar skepticism towards the discretionary monetary policy. Also some empirical studies showed that tax changes had limited effect on aggregate demand. In the 1980s the interest in policy activism reemerged, but was more pronounced for the monetary policy. For the fiscal policy it was argued that its stimulus should be "timely, targeted and temporary", which cannot be achieved easily (Gramlich, in Kumhof & Laxton, 2009, p.7). Implementation lags for the fiscal policy are longer compared to the monetary policy, the stimulus may not be targeted where it is most needed (distortions due to political constraints) and a reversal of the fiscal policy is much more difficult than a reversal of the monetary policy. In addition, effectiveness of the monetary policy has increased over time questioning the need to use some other instrument to maintain a low and stable inflation, which leads to low and stable output gap.

However, the global economic crisis brought up again the interest in the stabilization role of fiscal policy. "The fiscal activism is striking given a consensus a decade ago against the use of discretionary fiscal policy as a stabilization tool" (Aurbach, 2009, p.1). Fiscal policy again gained a prominence in light of the authorities' efforts to preserve the stability of the financial system, mitigate adverse effects on economic activity and protect the more vulnerable groups in the society.

The effectiveness of the discretionary fiscal policy in stabilizing output is usually measured through the fiscal multiplier (ratio of change in output to an exogenous change in fiscal deficit with respect to their baselines). A review of literature suggests a lot of heterogeneity in the estimates of the multiplier. In principle, the size of the multiplier depends on many country specific factors, including size and openness of the economy (marginal propensity to import), the level of development, sustainability of the fiscal position and debt levels, monetary-fiscal mix, the presence of a Ricardian equivalence (marginal propensity to consume), the business cycle of the economy. Spillimbergo, Symansky, & Schindler (2009) point out that the multiplier is larger if the monetary conditions are accommodative (fiscal expansion does not result in an increase of interest rates), if fiscal position remains sustainable after the stimulus, and if small part of stimulus is saved or spent on import. The empirical study of Ilzetzki, Mendoza, & Vegh (2013) finds that the effect of government spending on output is lower in developing countries compared to more advanced countries, it is negative in open while positive in closed economies, and it is negative in economies with flexible exchange rate regime and positive in economies with fixed exchange rate regime. Batini, Callegariand, & Melina (2012) and Caprioli and Momigliano (2013) find that multipliers are bigger in recessions as the probability of crowding out private spending is lower during downturns. The empirical studies of Auerbach and Gorodnichenko (2011), Ilzetzki et al. (2013), and Rusnak (2011) find that in economies with high debt levels multipliers tend to be lower, as positive demand effects are offset through the negative

expectations channel. Negative multipliers are possible in case the fiscal spending poses a risk to fiscal sustainability.

Empirical evidence suggests that spending multipliers are higher than tax multipliers, and that multipliers on capital spending are higher than multipliers on other spending. Spillimbergo, Symansky, & Schindler (2009) estimate a set of multipliers for revenues and expenditures concluding that spending multipliers are higher than tax multipliers, and that multipliers on capital spending are higher than multipliers on other spending. The low set of estimated multipliers is 0.3 on revenues, 0.5 on capital spending and 0.3 on other spending. An empirical study of Eggertsson (2010) also finds that temporary increase in government spending targeted at infrastructure will be most effective in a situation of zero lower bound and insufficient demand. Similar conclusions are drawn in the studies of Coenen et al. (2012) and Auerbach and Gorodnichenko (2012). On the contrary, Perotti (2004) finds that capital spending multipliers are not higher than current spending multipliers, neither the short-run, nor the long-run multipliers. Theoretical explanation in favor of higher investment multipliers lies in the supply side effects despite aggregate demand effects, lower crowding-out of private spending and lower impact to import and savings.

Although there are debates about the effectiveness of the discretionary fiscal policy in stabilizing the output, there is pretty much a consensus that it should not be procyclical. Despite this fact, in practice, many countries, in particular developing countries tend to follow a procyclical discretionary fiscal policy. Procyclicality entails higher spending or lower revenues during upturns and lower spending or higher taxes in recessions. Hence, rather than creating cushions to be used for more expansionary fiscal policy in bad times or lowering the stock of debt, the windfall revenues are spent without leaving room for countercyclical policy when needed. This may entail adverse effects on the debt level and fiscal sustainability. Many studies on this issue have come to the same conclusion.

The IMF study (2005) finds that discretionary fiscal policy tends to be procyclical in industrial and developing countries, and that discretionary policy is asymmetric, with procyclicality mainly occurring in good times. This implies that in upturns effects of the automatic stabilizers are offset by the increased discretionary spending. This asymmetry is even more emphasized for the developing countries. The study of Ilzetzki and Vegh (2008) for 49 countries, out of which 27 developing countries, covering the period 1960-2006, finds overwhelming evidence supporting the idea of procyclicality of the fiscal policy in developing countries (defined as positive response of government spending to an expansionary business cycle shock) and the expansionary effect of the fiscal policy (budget spending) on the output. The similar conclusions for developing countries were reached by Alesina and Tabellini (2005) and Mackiewich (2008). As for the high income countries, while the conclusion for the expansionary effect of the fiscal policy is the same, the econometric evidence for cyclicality appears to be mixed.

Given the evidence of procyclicality, many researchers have tried to provide an answer to the question: why would countries pursue suboptimal fiscal policy that will reinforce the destabilization of the economy? The IMF study (2005) points to a variety of economic, financial and political economy factors that may explain the procyclicality and asymmetry, including lags in formulation and implementation of the policy (which may be a result of difficulties in assessing the economic cycle), political pressures for competing electoral constituencies amidst rising revenues, quality of institutions, balanced budget rules, high debt level (which entails tightening in downturns), financial constraints and limited access to international markets. These factors are of a significant importance especially for developing countries, where due to different shocks it is more difficult to assess the cyclical stage, quality of institutions is lower and access to international capital markets tends to be more limited and uncertain. In particular, developing countries with high public debt are faced with financial constraints. In good times, the windfall revenues are not put aside to lower the debt level and during a crisis, due to loss of investor's confidence, fiscal authorities may be compelled to pursue a contractionary fiscal policy. Mackiewich (2008) finds a robust statistical evidence that the procyclical fiscal policies are typically run by countries with weak institutions (defined as quality of regulations), as well as some evidence of procyclicality for the countries with high debt-to-GDP ratio due to financial constraints. According to Adler (2008), monetary policy plays an import role for the cyclicality of the fiscal policy. Inability of the monetary policy to commit to price stability affects the level and currency structure of the public debt in favor of foreign currency debt, thus exposing budget to negative effects from currency depreciation and leaving less room for countercyclical policy. Alesina and Tabellini (2005) find an evidence of budget procyclicality (mainly due to procyclicality of government spending) that can be explained by a political corruption.

Within the framework of endogenous growth literature, there is an agreement that policies, including fiscal policy, can affect the long-term growth through the effect on labor, capital and total factor productivity. Many regressions focused on the correlations of the national growth rates and different growth factors, including fiscal policy, have been run. Usually strong correlations have been identified between growth and the following factors: availability of resources, policies (including fiscal policy), institutions, geography, demography and other factors such as industrial structure, inequality, initial income, regional effects, neighbors, scale effects, volatility of shocks and war (Iradian 2007; Durlauf, Jonhson, & Temple, 2004).

The fiscal policy effects are materialized by using tax policy, expenditure policy or budget balance. Tanzi and Zee (1997) explain the channels through which public finance instruments influence the long-run growth performance of countries. Tax policy affects the labor-leisure choice, i.e., labor market, consumption-saving-behavior, relative profit abilities of different industries. Size and composition of expenditures affect the capital

accumulation (physical and human capital) and total factor productivity. Spending on education, research and innovation tends to have positive impact on growth. Sustainable budget balance, from stability point of view, is considered to have positive effect on the growth. While pointing out that empirical evidence on the relation between public finance instruments and growth is not very conclusive, they conclude that fiscal policy can play a fundamental role in shaping the long-term prospects. One of the difficulties is the problem of direction of the causation. For example, even if there is a strong relation, it is difficult to determine whether the low expenditures affect high growth, or high growth entails low expenditures.

In addition to the three public finance instruments, some researches add additional channels of influence. According to Sala-i-Martin (2002, p. 11) the government is the single most powerful economic agent, so its actions are quite important. He states that government can affect economy in many ways, including by: setting up of legal system, preserving macroeconomic environment, imposing taxes and purchasing part of the country's output.

There are studies providing empirical evidence that low budget deficit and low public debt can promote long-term growth (Easterly & Rebelo, 1993; Patella, Poison, & Ricci, 2002; Gupta et al., 2005; Adam & Bevan, 2005; Rzonca & Cizkowicz, 2005; Ravnik & Žilić, 2011). Empirical evidence points out that the share of government consumption to GDP is negatively correlated with the long-term growth. The negative effect of high budget deficit and government consumption is usually explained through the crowding out effect of the private investments. Crowding out effect happens through the cost or availability of funds that can be used for financing the private investment projects. Higher borrowing by the government will result in less liquidity in the banking system and higher interest rates. This leads to lower demand for credits by the private sector, or to cash rationing by the banks because higher interest rates attract less creditworthy clients. Another channel of influence is the credibility of the fiscal policy. In fact, a fiscal contraction can have expansionary effect on the growth if the size of the government and the level of debt are already high through positive effect on the government credibility.

Traditionally, debt management was not treated as a separate macroeconomic policy, and it was to a great extent subordinated to the fiscal and monetary policies. However, there is a growing consensus among practitioners that debt management should be treated as a separate policy with its own objectives and instruments. And the rationale for the separation is that the objectives of the fiscal, monetary and debt management policies may involve trade-offs, at least in the short run, which may undermine the effectiveness and credibility of the policies (Togo, 2007, p.4).

The most common definition of the objective of debt management is to ensure that government financing needs are met at lowest possible costs over medium to long run,

with a prudent level of risk. The main instrument for achieving this goal is the level and structure of the debt. Although long-term objectives of fiscal and debt management policies should be consistent, often fiscal authorities make myopic decisions subject to political pressures with negative long-term effects. For example, the objective of the debt management may not be fully consistent with the short-term fiscal objective of making fiscal space through lower short-term debt costs. Pursuing a strategy of low short-term costs may lead to accumulation of fiscal debts to unsustainable levels and jeopardize the sustainability of public finances in a medium term. Down the road a need of significant and abrupt adjustment of the fiscal policy through tax or expenditure policy will emerge.

There is a high interdependence between these three policies. High debt and interest payments can heavily constrain fiscal policy by reducing its discretionary space and increase the uncertainty about its future course. Lax fiscal policy can undermine price and exchange rate stability, and erode the credibility of the macroeconomic policies. Large debts can be reduced through high economic growth, prudent fiscal policy, defaulting or rescheduling, or inflation. As inflation is one of the channels for debt stabilization, large debts are risk for implementing prudent monetary policy. Dornbusch (1996 p.16) claims that monetary policy can affect the debt in four separate ways. Tighter monetary policy increases real interest rate, entailing higher debt service and pressures for rapid growth of debt. Tightening of the monetary policy stance slows down the economic growth rate, raising the share of debt to GDP, reduces the primary surplus (because of the cyclical component) and reduces seigniorage, thus increasing the need for debt financing.

Public debt sustainability is a precondition for having a credible and prudent macroeconomic mix that contributes to long-term sustainable growth. Daseking (2002, p.1) defines debt sustainability as a situation in which a borrower is expected to continue servicing its debts without an unrealistically large future correction to its balance of income and expenditure. Unsustainable public debt levels can lead to crowding out of the private sector, as well as prevent fiscal policy from running countercyclical policies to stabilize economy and have a negative effect on the output. Unsustainability also increases the risk of debt crisis. Countries with high debt-repayment obligations are more vulnerable to any shifts in the investors' sentiment and credit flows, have limited scope of implementing their own policies, and if debt restructuring occurs it can be highly disruptive for the economic activity. IMF's Manual on Fiscal Transparency (2007) sets sustainability requirements: debt restructuring is not and will not be needed in the future; government is not running Ponzi schemes i.e., repaying interest by indefinitely increasing new debt; and government is not accumulating debt while knowing that its servicing will be a major burden for the next generations.

Evolution of the debt level as a share of GDP is determined by the macroeconomic developments and financial markets developments. Key factors stated in the literature are: relation between the real growth rate of the economy and real interest rate of the

outstanding debt, primary budget balance, exchange rate changes and seigniorage revenues. Exchange rate channel is very important for the countries where major part of the public debt is in foreign currency or indexed to foreign currency.

Practice shows that the sustainable debt level, i.e., the level that can be serviced without any future large corrections of the budget revenues and expenditures or rescheduling, varies for different countries at a different stage of economic development. In principle, the lower the level of development is, the lower is the level of debt sustainability. As pointed out in the report of the International Monetary Fund (hereinafter: IMF) (2003) countries with more variable tax revenues, less discretionary expenditures and large difference between the real interest rate and real growth rate are able to sustain lower debt level. Furthermore, it is suggested that a sustainable public debt level of emerging market economies may be only 25% of GDP.

Since the occurrence of the global economic crisis many countries have faced the zero lower bound problems that lead to a renewed interest in the countercyclical fiscal policy, even in the economies with flexible exchange rate. The global economic crisis has put the fiscal policy in the spotlight. On the back of collapse of the aggregate demand, monetary authorities in many countries have significantly reduced policy rates reaching a rate close to zero (in some countries even below zero), have lengthened the lending maturities and widened the range of collateral and the counterparties eligible for the open market operations. In parallel, they have also introduced many other unconventional measures aimed at directly injecting liquidity to strengthen the transmission mechanism and mitigate the effects of falling aggregate demand, as well as prevent financial sector collapse. Also, some regulatory measures have been adopted. Emphasis was placed on forward guidance as a tool to affect the expectations of the economic agents and strengthen the monetary transmission. The aggressiveness of the measures varied depending on many factors, including the exchange rate regime, current account balance, fiscal space and level of indebtedness. Yet, all these measures were not sufficient and fiscal policy proved to be an important tool for short-term macroeconomic stabilization. The countries that entered the crisis with lower level of debt had a greater room to use the fiscal policy more actively. On the other hand, the highly-indebted countries had a very limited fiscal space to conduct a countercyclical policy.

The active use of the fiscal policy has resulted in the largest worsening of the public finances since the Second World War. Due to the fiscal stimulus packages, almost in all countries fiscal balances substantially deteriorated, government debt increased (though in many countries from already high levels) and balance sheets expanded, increasing the risks of future losses. This is in particular the case in the advanced economies. Cottarelli and Vinals (2010, p.6) state that: “Thus, while the current crisis is rooted in the private sector, the next could be fiscal, and arguably, more severe as no entity would be available to bail out the private sector."

Against this background, a major challenge for the fiscal authorities has been consolidating public finance in a way that would not harm the weak growth prospects. Consolidation is apparently needed to keep the budget solvency and credibility of the fiscal policy. Some countries have already started defining and communicating with the public a fiscal exit strategy that spells out the policies to be implemented to bring the debt to GDP ratio to a sustainable level. The fiscal adjustment can be done through improving the primary balance and stronger economic growth, which suggests growth-rising structural reforms. Improving primary surplus can be done either by increasing some of the taxes or widening the base, and cutting the expenditures by eliminating low priority programs and increasing the efficiency of spending.

Fiscal consolidation has to be coordinated with the monetary policy actions. The main challenges for the monetary policy will be the need to tighten when inflation reemerges, dealing with the eventual losses stemming from the different assets that were acquired by the central banks during the crisis, as well as the timing of the unwinding of the unconventional measures.

What are the lessons learned from the crisis and implications for the design and coordination of the policies? It appears that basic principles and general framework for policies should stay the same, though the crisis made clear that "managing inflation is not an end in itself but a means to an end" (Stiglitz, 2012, p.43). Namely, the crisis was preceded by a period of protracted price stability and solid growth rates pointing to the fact that achievement of price stability is not a guarantee for stable economy and that policymakers have to watch many targets, including the behavior of assets, composition of output, and the leverage of different agents (Blanchard, Dell'Ariccia, & Mauro, 2009, p.16). It became apparent that financial frictions can have a devastating effect on the business cycle and that the developments in the financial sector should be closely monitored. Although the link between the financial sector and business cycle was generally recognized before the crisis, the macroeconomic models used for forecasting and policy analysis did not factor in the financial frictions. Consequently, one very important segment was not explicitly taken into account while making policy decisions, allowing a buildup of financial sector "bubbles". The so-called "Great Moderation" period (stable prices and stable business cycle) preceding the crisis did not prevent a rise of risks from financial disruptions that later on materialized and resulted in substantial loss of output.

Although there are no dilemmas about the importance of the financial system and credit channel in the decision-making process, there are different views on how to implement this. Micro-prudential policy is not sufficient for financial stability and it needs to be supported by other policies. Other policies, such as macro-prudential policy (aimed at stability of the system as a whole, not necessarily of the individual institutions), countercyclical fiscal policy, as well as monetary policy should play a role in this process

(Hannoun, 2010). Caruana (2010) advocates for monetary policy strategies that allow central banks to tighten even if near term inflation remains subdued. On the other hand, Svensson (2011) claims that using a monetary policy to achieve financial stability is an ineffective way to achieve and maintain financial stability and that the monetary policy should be the last line of defense, rather than the first.

The crisis also showed that policy makers have more instruments at their disposal than traditionally believed. After using the traditional set of instruments, policy makers reverted to non-standard instruments that proved effective in mitigating the adverse effects. Although the shock to the financial system resulting from the global crisis was in many ways more complicated than the shock that produced the Great Depression in the 1930s, the economic contraction turned out to be less severe (Mishkin, 2011, p.24). Monetary policy reacted very aggressively by providing enormous liquidity not only to banks, but also to non-banking financial institutions, and in some cases even to non-financial institutions. Central banks' balance sheets rapidly increased because of the quantitative easing encompassing purchases of government securities and private sector assets. Communication of the central bank was notably strengthened with an objective of more efficient management of expectations through communicating the longer-term pattern of the monetary policy stance. Fiscal policy, as well, reacted countercyclically through the automatic stabilizers and discretionary measures that resulted in sizable accumulation of public debt.

The crisis reconfirmed again that the costs of cleaning up after the financial crisis are high. Typically, when economies experience a deep recession, the recovery takes the "V" shaped pattern. However, as Reinhart and Reinhart (2010) point out this is not characteristic of recessions that follow financial crisis, as the deleveraging process takes a long time. Analyzing the data of the fifteen severe post-World War II financial crises, the Great Depression, the 1973 oil shock period and the recent crisis, they find that real GDP growth is significantly lower during the decade following financial crisis.

1.1.2 Links Between Fiscal and Monetary Policies and Coordination Schemes

Given that monetary and fiscal policies are conducted by different institutions with different objectives and instruments, is there a need for coordination of these two policies? Monetary policy is assigned exclusive responsibility for price stability to be achieved by interest rate, as the main instrument. On the other hand, fiscal policy has fiscal objectives that are to be achieved through taxes and spending. A key issue is the interaction between these two policies. If activities in one area affect the activities in the other area and subsequently the achievement of the objectives, then a logical conclusion is that some form of coordination is needed. The lack of coordination will lead to sub-optimal outcomes for both policies. Although there are different views on this issue in the literature, still the

view arguing for close coordination between policies prevails. The views in favor of close coordination rest on the assumption that there is a close interaction between fiscal and monetary policies. In such case, each policy may create obstacles for the fulfillment of the goals of the other policy. In addition, uncoordinated policies may weaken the credibility of the overall macro mix. The economists who argue against close coordination explain this on the ground of weak links between monetary and fiscal policies: fiscal policy does not affect inflation, and monetary policy does not affect fiscal policy (Woodford, 2000, p.2). Inflation is considered as a purely monetary phenomenon independent of the fiscal variables. Another argument is the "Ricardian equivalence" which implies that under rational expectations fiscal policy cannot affect disposable income, aggregate demand and hence inflation. On the other hand, weak effects of the monetary policy on the fiscal policy are explained by the small share of seigniorage revenues in the government revenues.

Interaction of the fiscal and monetary policies has been subject to numerous studies. The traditional analysis focuses on the policy mix when both policy instruments are under the control of a single policy maker. With a separation of powers between fiscal and monetary policy, the question arises how the two policies interact when objectives are different (Semmler & Zhang, 2003, p.2). Monetary policy may be accommodative or counteractive to the fiscal policy. This problem seems particularly important for members of the European Monetary Union since individual countries have individual fiscal authorities, but single monetary authority.

Most of the studies investigate the links between the policies through the intertemporal budget constraint. “All governments face an intertemporal constraint: the current real value of its net liabilities equals the present discounted value of future primary surpluses (tax revenues minus non-interest expenditures). If this constraint can be satisfied without a change in either policy or the price level, current fiscal policy is said to be sustainable” (Tanner & Ramos, 2003, p.3). If the government currently adjusts the budget to keep the level of the debt under control (decreases primary deficit when debt increases), central bank does not need to be accommodative. In the case the fiscal stance is determined irrespective of the government debt level, the monetary authorities will have to pursue with looser monetary policy to keep the budget solvent. Therefore, instead of resolving fiscal problems by increasing taxes or reducing expenditures, they will be resolved through generating inflation. This way, the maintenance of price stability as a primary objective of the central banks is put at a risk.

According to Christiano and Fitzgerald (2000, p.3), the intertemporal budget equation is expressed as:

$$B/P = \textit{present value of future budget surpluses} \qquad (1)$$

where B is outstanding nominal government debt and P is price level.

The traditional theory that can be summarized in the Milton Friedman's dictum that "inflation is always and everywhere a monetary phenomenon" has been challenged by the Fiscal Theory of the Price Level (hereinafter: FTPL) mainly developed by Leeper (1991), Sims (1994, 1997 and 1998) and Woodford (1994, 1995, and 2000). The FTPL maintains that the price level can be determined by the budgetary policies of the fiscal authority. Unlike standard monetarist doctrine, the FTPL claims that having a tough and independent central bank committed to price stability is not sufficient for preserving price stability and that monetary policy has to play an active role in ensuring an appropriate fiscal policy. According to Christano and Fitzgerald (2000, p.3), the difference between the FTPL and monetarist doctrine lies in their views of the intertemporal budget equation. While monetarists view this equation as a constraint on the fiscal policy (when equation is disturbed government must alter tax or expenditure policy), the proponents of the FTPL view it as an equilibrium condition (when there is a shock to the equation, market clearing mechanism moves the price level to restore equality). In equilibrium, the price level must restore the balance between the ratio of outstanding nominal government liabilities and the present discounted value of real primary surpluses. While recognizing the need for properly selected fiscal and monetary policies, monetarist doctrine holds that if the monetary policy is tough, the fiscal policy is compelled to adjust. On the other hand, the FTPL holds that having a tough central bank is not enough.

The first version of the FTPL is based on the assumption that the fiscal authority decides on the budget expenditures and debt level irrespective of the intertemporal budget constraint (non-Ricardian fiscal policy) and that eventually the monetary policy will have to generate seigniorage to avoid budget default, thus affecting the money supply and consequently inflation. In this case, still, the fiscal policy affects the inflation, as it affects the monetary policy, i.e., inflation is still a "monetary phenomenon". This version of the theory assumes that fiscal policy moves first by setting a path for primary budget surpluses/deficits forcing the monetary policy to generate seigniorage. If the central bank is an independent institution, price stability appears to be an achievable objective.

The stronger version of the FTPL maintains that fiscal policy determines future inflation, but independently of the current or future money growth. The strong form FTPL assumes that both the fiscal and monetary policies are given exogenously and that prices adjust to ensure budget solvency. Fiscal policy commits to a primary surplus path and monetary policy to a seigniorage path and both policies refuse to move first. The fiscal stance affects the price level and due to price increases, money demand, and consequently money supply increase. An increase in the price level will reduce the real value of the net government liabilities and reduce the real value of the assets of the private sector. Hence, the causality here is not from the budget to the money supply and then to price level.

In this light, Woodford (2000, p.3) claims: " I shall argue that fiscal policy can affect the price level even when the central bank pursues an autonomous monetary policy, by which I mean a rule for setting its instrument (in practice, a nominal interest rate) that is independent of fiscal variables. Thus it will not be enough, to avoid price-level instability resulting from fiscal disturbances, to simply adopt an institutional arrangement under which the central bank receives no directives from the Treasury dictating changes in policy; nor will it be enough that the central bank commits to an interest-rate rule, like the Taylor rule that involves no direct feedback from variables such as government budget". He claims that main channel of influence is not the seigniorage, but the central bank's influence over market value of the government debt and that expectation regarding the government budget can be an important factor causing price instability. He explains the link between the fiscal and monetary policy through the wealth effect. The anticipation of lower primary surpluses makes households feel wealthier that leads to an increase in aggregate demand in excess of the aggregate supply, and subsequently to price increases. A sufficient price increases will reduce the real value of household assets (which are government liabilities). In his view, price stability requires a firm fiscal commitment alongside the monetary rule.

Despite its popularity, the FTPL has been subject to criticism on logical and empirical grounds. One of the crucial questions related to the FTPL is whether it is conceivable that the government implements a policy of not adjusting fiscal variables amidst intensive debt growth (so-called "non-Ricardian" fiscal policy) which is at the core of the theory? Normally, to prevent an explosion of debt, governments use their instruments (tax and/or expenditure policies). In line with this, there are different debt and deficit limitations introduced in many countries. In any case, the FTPL is a useful indication what may happen if the fiscal policy is non-Ricardian, reinforcing the need of having prudent fiscal commitments.

The fundamental problem of the FTPL, according to Niepelt (2004, p.279), is that the feasibility of non-Ricardian policy hinges on the assumption of nonzero initial nominal government liabilities. In addition, the FTPL implicitly postulates that the average return on these liabilities differs from the market clearing rate. He claims that "households would not have bought (as much) nominal debt in the first place if they could not expect it to yield the required (average) rate of return. I show that once the model encompasses a debt issuance stage, existence of equilibrium requires fiscal policy to be standard Ricardian..."

There are empirical studies testing the plausibility of the non-Ricardian assumption. Canzonieri, Cumby, & Diba (2001) test whether a Ricardian or non-Ricardian regime can be obtained in time series data for a particular country. With the use of the US data they find that US fiscal regime seems to have been Ricardian. On the other hand, Semmler and Zhang (2003) find an empirical support of a non-Ricardian policy for Germany and France for the period 1971-1998. Loyo (1999) provides empirical support that Brazilian policy in

the late 1970s and early 1980s was non-Ricardian and that the FTPL provides an explanation for the Brazil's high inflation.

The FTPL builds on the study of Sargent and Wallace (1981). As Wallace and Sargent (1981, p.1) claim, the purpose of their classical paper "Some Unpleasant Monetarist Arithmetic" is "to argue that even in an economy that satisfies monetarist assumptions, if monetary policy is interpreted as open market operations, then Friedman's list of the things that monetary policy cannot permanently control may have to be expanded to include inflation." They argue that monetary policy cannot control inflation if: there is a case of fiscal dominance and the real rate of interest exceeds the growth rate of the economy. In a situation of fiscal dominance, fiscal authority independently sets its budget, thus determining the amount to be financed through bond sales or seigniorage. In this way the fiscal authority moves first, making the monetary policy adjust in order to protect the government solvency. Given the assumption that there is a limit to the demand for government bonds, at some point fiscal deficit will have to be financed also through seigniorage (increase in base money and inflation) and the central bank will lose the ability to control inflation.

If the real interest rate is higher than real growth rate of the economy and this is not offset by the primary surpluses, the debt to GDP ratio will raise. It entails higher interest costs (because of higher stock of debt and risk premium), higher budget deficit and may lead to further accumulation of debt to even unsustainable level. To prevent a default, the monetary policy will have to accept higher seigniorage and consequently inflation. In this way the monetary authority will not be able to control monetary base and inflation forever. Sargent and Walace (1986, p.159) state the following: "With the budget persistently in deficit and real interest rates exceeding the economy's growth rate, the FED must choose between fighting present inflation with tight monetary policy now or fighting future inflation with easy monetary policy now. Put differently, without help from the fiscal authorities, fighting current inflation with tight monetary policy must eventually lead to higher future inflation." If economic agents expect higher inflation in future, the power of the tighter monetary policy to control even the current inflation is limited.

Sundararajan et al. (1994, pp. 3-5) analyze the interactions between monetary and fiscal policies (debt management) through the following relationship:

$$D_t=[B_t - B_{t-1}] + [M_t - M_{t-1}] \qquad (2)$$

where D_t is cash budget deficit in period t, $[B_t - B_{t-1}]$ is net placement of domestic and foreign government securities, and $[M_t - M_{t-1}]$ is change in the monetary base due to the central bank credit to government.

Budget deficit can be financed through bond sales or by expansion of the monetary base due to central bank credit to the government. They identify three possible scenarios: (i) central bank is dominant and determines the growth of the monetary base regardless of the budget financing needs, meaning that financial markets put constraint on the budget deficit; (ii) ministry of finance is dominant determining the budget deficit irrespective of the monetary policy in which case when debt limit at financial markets is reached, monetary policy will have to accommodate, creating risks for price stability; and (iii) central bank and ministry of finance initially behave as they were independent making inconsistent decisions, but eventually one policy will have to assume the subservient role as explained in the previous two scenarios. Further, they argue that in economies in transition, where usually fiscal policy dominates, besides the reconciliation of targets for fiscal balances and monetary growth, coordination should also encompass development of financial markets (particularly government securities market). Development of financial markets enlarges the room for non-inflationary financing of the government debt.

Laurens and Piedra (1998, pp. 11-15) analyze the interactions between the policies and argue that there is a close interdependence. Monetary policy affects the fiscal policy, i.e. the public debt, primarily through three channels: (i) interest rate channel (ii) liquidity channel and (iii) choice and design of the monetary instruments. A tighter monetary policy implies higher cost of the government debt and less liquidity in the banking system that can potentially be used for financing of the budget deficit. A lax monetary policy would initially help place a government debt at a low cost and in a desired volume. However, overtime, if the investors start re-pricing their investments (due to perceived increased risk stemming from inflation or the debt level), the interest rates would eventually start rising and the primary deficits would have to be reduced. On the contrary, a tight monetary policy will imply placing a government debt at a higher cost. Yet, this may increase the credibility of the macroeconomic policy mix and gradually result in lower interest rates. Choice and design of the monetary instruments is also an important factor. For example, if a central bank uses the government paper in open market operations, it increases the liquidity of the government securities market supporting its development with positive medium-term implications for the price of the government financing.

They explain the effects of the fiscal policy on the monetary policy through public debt management that affects monetary aggregates, interest rates, and money demand. Fiscal policy stance directly affects the liquidity in the system, monetary and credit aggregates, and consequently inflation, inflationary expectations and foreign exchange market. Financing needs of the government and, in particular, the structure of the financing sources significantly affect the monetary policy conduct. Expansionary fiscal policy, in general, means injecting liquidity in the banking system, thus giving an additional impulse to the financial intermediation (broad money, deposits and credit to the private sector growth). On the other hand, it may imply a buildup of risks, as stimulated aggregate demand may pose inflationary risks or undermine the sustainability of the current account balance.

Especially when the deficit is financed through drawdown of government deposits placed with the central bank or through external borrowing that is not sterilized by monetary operations. In countries with a fixed exchange rate regime, where the scope of maneuver of the monetary policy is limited, imprudent fiscal policies may even endanger the sustainability and credibility of the exchange rate regime. Declining credibility in the policies may lead to rising interest rates.

There are empirical studies finding that fiscal policy influences the monetary policy transmission, i.e., expansion of fiscal deficits leads to rising government bond yields and thus, in turn, leads to rise in borrowing and deposit interest rates of commercial banks. Lopez, Muñoz, & Riquelme (2011), using panel data of the long-term interest rates during 1990-2009 for 54 emerging and developed countries, find that 1% expansion of the fiscal deficit leads to an increase in long-term interest rates between 10 and 12 basis points. Dumičič and Ridzak (2011), using panel-data for eight Central and Eastern European countries, come to the conclusion that 5 percentage points increase in debt-to-GDP-ratio increase spreads by 19 basis points. Tomšik (2012) comes to a similar conclusion analyzing the pass-through of the government bond yields into client rates in the Czech Republic.

The coordination between monetary and fiscal policies can take different forms. In principle, coordination can be an active process where fiscal and monetary authorities closely interact discussing their objectives, strategies and activities or the process could be less active. The later refers to a less formalized process of coordination, where each policy maker pursues its activities, but taking into account the policies of the other policy maker. This implies that monetary policy reacts to developments in the economy, including the fiscal developments that have implications for aggregate demand and price stability. Also, while designing the fiscal strategy, fiscal authorities take into consideration the possible aggregate demand implications.

In many studies coordination is defined as having one policy dominating the other. According to Sargent and Wallace (1981, p.2), there are two polar forms of coordination: fiscal policy dominates over monetary policy or monetary policy dominates over fiscal policy. If fiscal policy dominates over monetary policy, fiscal policy variables are set independently of the government budget constraint. Under a monetary dominant regime, monetary authority independently sets the monetary targets, thus keeping the control over money supply and inflation, and fiscal policy sets the debt level to satisfy the intertemporal budget constraint. According to Leeper (1991, p.129-147), coordination implies having a mix of active and passive policies. Only when one of the policies is active and the other one passive, equilibrium can be achieved. A passive policy is subordinated to satisfy the government budget constraint. For example, a constant money growth monetary policy has to be accompanied with a passive fiscal policy to achieve equilibrium. On the other hand, a

constant interest rate policy implies passive monetary policy that has to be accompanied with an active fiscal policy.

According to Blinder (1982, pp. 19-27) at one end of the spectrum there is the case of a single, unified stabilization authority with control over all fiscal and monetary instruments. This can be interpreted as subordinating the central bank to the ministry of finance. At the other end of the spectrum comes the case of two independent institutions, one responsible for fiscal policy and one for monetary policy (so-called uncoordinated policies). The intermediate case between the two extremes is a leader-follower arrangement when one policymaker acts first and then the other policymaker decides how to react having in mind the action of the first policymaker. For example, fiscal policy sets the budget deficit and monetary policy decides how much of the deficit to monetize. The outcome will depend on who is the leader and who follower. The follower attitude will influence the leader's behavior because leader's decision has in mind the possible reaction by the follower. Other intermediate case is when one party follows a non-reactive rule. For example, if the central bank follows a specific rule of money growth then it will be free of pressures to monetize budget deficit. In this case policies are considered to be coordinated.

Having fiscal and monetary policies react in different direction, one policy loosening and one tightening, does not always mean that there is no good coordination. For example, having a tight fiscal will create a room for looser monetary policy and stimulate the private sector growth. Lower fiscal deficit will imply lower interest rates stimulating the private investments and consumption. On the other hand, a policy mix where fiscal policy is expansionary and monetary policy contractionary, may result in high budget deficit, high debt level and consequently high real interest rates with adverse effect on the aggregate demand and growth prospects.

It has been widely recognized that achievement of macroeconomic objectives will be affected by the interactions and the mix of the monetary and fiscal policy. Depending on the interactions of the policies, macroeconomic outcomes can be quite different compared to the expected outcomes by each policy. The macroeconomic outcomes will depend on the objectives, preferences and instruments of each policy, the extent to which they are consistent, as well as the level of cooperation. Another important factor will be whether the policies are based on discretion or a commitment. For example, if one policy is based on commitment and the other one is conducted discretionary, the latter may undermine the activities and objectives of the former.

The effect of the policy mix is supported by many empirical studies that investigate the effects of various combinations of monetary and fiscal policies on the economic growth and inflation, as well as the role of the policy mix in reconciling possibly competing objectives (growth and inflation). In some of the studies (Espinosa-Vega & Yip, 1999) financial intermediaries are introduced into the analysis as a factor that along with the

policy mix influences the inflation-growth analysis. Kim (2011) compares the active monetary - passive fiscal regime where monetary policy determines the price level as in conventional models and the passive monetary - active fiscal regime where fiscal policy determines the price level with a view of the inflation objective. In other words, he analyzes constant money growth rate and the constant interest rate policies in a model where a unique equilibrium is obtained concluding that which regime is better depends on the nature of disturbances (money demand shocks, aggregate demand shocks, endowment shocks, monetary policy shocks, and fiscal policy shocks).

A monetary-fiscal mix may be suboptimal for contributing to long-term actual and potential output. For example, policy mix that results in high budget deficit and high real interest rates will have adverse effects on the private investments and potential growth. Many empirical studies find that potential gains from cooperative policies are very high. According to the study of Nordhaus, Schultze, & Fisher (1994) cooperative policies are defined as synchronized actions by the fiscal and monetary authorities based on a compromise and assuming that the compromise will be closer to the fiscal policy preferences, the output loss will be lower. On the other hand, uncoordinated policies, defined as each authority deciding on its policy assuming that other's policy will not change (without much discussions of their policies and agreeing upon a joint strategy), will result in higher deficit and higher real interest rates than desired by either policy with negative effect on capital formation and consequently the potential and actual economic output. Fiscal policy is by definition more inclined to higher deficit to fight unemployment. However, expansionary fiscal policy that poses threats for inflation will be offset by raising central bank interest rate to fight inflationary pressures. In a situation of non-cooperative policies, the level of aggregate demand is likely to be determined by the monetary authority which is more restrictive. Nordhaus (1994) claims that if monetary and fiscal policies are non-cooperative, contractionary effect from deficit reduction will not be offset in the short-run by monetary policy and the result will be increase in unemployment and lower output for at least a decade and possibly much longer. The proper time-phasing of the policies is of a critical importance to have optimal economic performance as monetary policy operates with long lags and fiscal policy with short lags (Pindyck, 1976, p. 239).

Eckstein and Probyn (1981) provide empirical evidence that different mix of policies results in different capital formation. If fiscal policy has been more restrictive and monetary policy more loose, investment share of the GNP in US would have been about one-half percentage point higher in a year of a simulation. This would mean a cumulative increase in the capital stock over 15 years of 5.3%. The average annual inflation would have been lower of about 0.2 percentage points.

In the same vein, studies analyzing the government spending multipliers point to the conclusion that effects of the fiscal policy on the private consumption will significantly depend on the types of interactions of the monetary and fiscal policies. Usually, changes in

government spending are analyzed under active monetary and passive fiscal policy. In this case, studies typically find that government consumption crowds out private consumption due to the following factors: (i) higher future taxes have a negative wealth effect and (ii) active monetary policy reacts to fiscal spending by increasing the nominal interest rate and consequently real interest rate, thus discouraging private consumption and offsetting the effects of the public spending. Under assumption of passive monetary and active fiscal policy, higher government spending raises consumption and output. Passive monetary policy means that nominal interest rates are not increased in line with inflation, i.e., real rates decline thus stimulating consumption. The empirical study of Davig and Leeper (2009) finds that an increase in government spending of $1 translates into a decrease in consumption of $0.20 in present value under active monetary and passive fiscal policy, but an increase in consumption of about $0.80 in present value under passive monetary and active fiscal policy.

The effects of a tax cut on consumer spending will depend on the consumers' expectations about the future policy mix (Blinder, 1982, p.11). Given that the tax cut enlarges current and prospective future deficit, the decision to spend will be dependent on the expectation of how the fiscal deficit will be financed in future: increase in future taxes, decrease in future government expenditures, increase in future money creation or increases in future issues of interest-bearing national debt. However, one important aspect is whether the consumers are short-sighted or forward looking. Under the permanent income hypothesis, only the present value of life-time income matters. Under short-sightedness hypothesis, the current consumption may be more sensitive to current income.

Good coordination is particularly important for transition economies. Sundararajan et al. (1994, p.3) claim that the need for coordination in these countries mainly stems from the following objectives:

- to set consistent targets and objectives of monetary and debt management with a view to achieving stabilization goals;
- to contribute to the development and liberalization of financial markets;
- to facilitate efficient implementation of the objectives of the monetary and public debt management through mutually supportive information sharing and structural policies.

Kutan and Brada (1999) emphasize the coordination of the monetary, fiscal and exchange rate policies as an important factor for macroeconomic stabilization in many of the transition countries. The adequate policy mix has led to disinflation and macroeconomic stabilization. However, they claim that adequate policy mix (mix of demand policies) is not sufficient for achieving higher sustainable growth rates as policy mix has to be accompanied with supply side effects (structural reforms).

Given the obvious benefits of having coordinated policies, one may ask what are the reasons for a lack of coordination, which is often present in the practice. While monetary authorities have a longer-term horizon, fiscal authorities are rather short-sighted. The monetary authorities tend to be highly averse to inflation and pursue a more coherent approach. On the other hand, fiscal authorities are reluctant to policies that deteriorate short-term economic conditions and decrease their chances of being reelected (Nordhaus, 1994). Blinder (1982 p. 14) identifies the following three causes for a lack of coordination: (i) the fiscal and monetary authorities may have different objectives or views on what is best for the society; (ii) the two authorities might have different opinions on the effects of the fiscal and/or monetary policy actions to the economy; (iii) the two authorities might make different forecasts of the likely state of the economy in the absence of policy action due to different theories or different forecasts of exogenous variables.

1.1.3 Coordination of Fiscal and Monetary Policies Under Different Exchange Rate Regimes

The choice of the exchange rate regime has long been one of the fundamental questions in the international finance. There are different schools of thoughts about the appropriateness of the exchange rate regimes. Currency and financial crisis that took place in the 1990s in Latin America, East Asia and Eastern Europe lead to renewed interest in the exchange rate regimes. Analyzing the experiences with the crisis, one school of thought concluded that having a fixed exchange rate was a mistake and advocated for exchange rate flexibility. Another school of thought, on contrary, stated that looseness of the exchange rate regime led to crisis and advocated for firm fixing (currency boards). The so-called "corner hypothesis" advocates that countries should abandon intermediate regimes and choose firm fixing or floating.

Fisher (2001 p.2), one of the proponents of "corner hypothesis", analyzing the official classification of the exchange rate arrangements of the IMF member countries states that there is a disappearance of the intermediate regimes towards hard pegs or greater flexibility of exchange rates. He reports that the share of countries with intermediate regimes between 1991 and 1999 fell from 62 to 34 %, while of countries with hard pegs grew from 16 to 24 % and of countries with floating regimes grew from 23 to 42%.

Frankel (2003, pp.4-5), examining the advantages of fixed and floating exchange rate regimes concludes that "… all three categories of exchange rate regime - floating, firm fixing and intermediate regimes - are appropriate for some countries, and that the choice of appropriate regime cannot be made independently of knowledge of the circumstances facing the country in question. No single regime is right for all countries, and even for a given country, it may be that no single regime is right for all times." According to him, in the assessment of the appropriateness of the exchange rate regime for a particular country, it is needed to have in mind not only the traditional OCA criteria (openness, labor mobility,

fiscal cushions, symmetry and political willingness to accept neighbors' policies), but also additional criteria, such as: a need to import monetary stability (in the absence of credible public institutions), a desire for further close integration with a particular neighbor, the extent to which the foreign currency is already used, access to an adequate level of reserves, rule of law and a strong, well supervised and regulated financial system. Berg and Borensztein (2000) claim that for a developing country with high currency substitution it is better to have more fixed exchange rate regime as high currency substitution tends to increase the exchange rate volatility.

A flexible exchange rate regime does not mean that the central banks do not at all respond to movements in the exchange rate. For example, in inflation targeting regimes exchange rate movements will be incorporated in the monetary policy decisions through their impact on the price level. This will produce a pattern of tightening when exchange rate depreciates, as it will increase inflationary pressures and loosening when exchange rate appreciates, inducing deflationary pressures. Experience shows that also many floaters have intervened directly at the foreign exchange markets. Calvo and Reinhart (2002) emphasize that many countries (mostly developing) have used interest rate and intervention policy at the exchange rate market to prevent free float of the exchange rate. They justify this so-called phenomenon of "fear of floating" on the grounds that large depreciation can result in loss of access to international markets, a high pass-through from exchange rates to inflation, negative impact on trade and loss of policy credibility.

The choice of exchange rate regime and its influence on economic variables has been subject to empirical research. The relationship between the exchange rate regimes and inflation has received more attention in the research than the relationship with the economic growth. In the theory, a floating regime means monetary independence, while a fixed regime implies a need for more disciplined monetary and fiscal policies and higher obstacles for devaluation. Many empirical studies, including the study of Ghosh, Gulde, Ostry, & Wolf (1997) and the study of Bleaney and Fielding (2002), which is focused on developing countries, conclude that pegged exchange rates are associated with significantly better inflation performance. Jazbec (2001), focusing on transition economies, finds that exchange rate plays a role in explaining the inflation performance. Bleanye and Francisco (2005), focusing on developing countries, find that this conclusion is true only for hard pegs (a shared currency or currency board) on the grounds that obstacles for devaluations are much higher for hard pegs. The soft pegs have slightly less inflation than floats.

While theory suggests that fixed exchange rate regimes stimulate trade and investment, lead to lower real interest rates (due to higher price stability), and contribute to higher policy discipline thus leading to higher growth, empirical results are not so conclusive. Levy-Yeyati and Sturzenegger (2003), who use a de facto classification of exchange rate regimes for 183 countries over the period 1974-2000, find that for developing countries

growth rates are significantly higher for floaters than for less flexible regimes. An average growth rate of pegs is 1 percent below that of floats. For industrial countries, they find that the exchange rate regime is irrelevant. Reinhart and Rogoff (2004) employ data on market-determined parallel exchange rates, which are better barometers of the underlying monetary policy, going back to 1946 for 153 countries. They construct a new classification of countries with different exchange rate regimes that significantly differs from the IMF official classification. Using this classification, empirical results show that the average annual per capita real GDP growth is highest for the countries with limited flexibility (2,4%) and freely floating (2,3%), while countries with pegs have a lower GDP growth (1,9%). The free floats deliver lowest inflation that is on average less than 10%. Also, Bleany and Francisco (2007) find that peg slows growth in developing economies, but does not affect advanced economies. On the other hand, if the IMF official classification is used, the countries with free floats have worst performance in terms of economic growth and inflation. Petreski (2014), testing the exchange rate-growth nexus in 28 transition counties in Central and Eastern Europe and Commonwealth of Independent States during 1991-2007, finds that both pegs and intermediate regimes significantly outperform floats in terms of economic growth. Baxter and Stockman (1989) do not find strong evidence that there are significant differences in business cycles across exchange arrangements. Jazbec (2001) does not find direct linkage between exchange rate and output performance in transition economies, but claims that fixed exchange rate results in lower inflation and indirectly affects real output growth. Mayes (2003), analyzing the Baltic states, does not find any effect on the real GDP for Latvia, but finds a transitory effect in the case for Estonia and Lithuania.

The optimal policy mix should be analyzed against the background of different exchange rate regimes. Impossible trinity of having a fixed exchange rate, perfect capital mobility and central bank devoted to achieving price stability is extensively discussed in the literature. Conventional view is that in countries with a fixed exchange rate regime and perfect capital mobility, the room for independent monetary policy is limited or absent. Monetary policy is diverted towards the external balance, i.e., balance of payments developments. In this environment, fiscal policy is more effective than monetary policy in dealing with internal balance, i.e., in influencing aggregate demand. Under this regime and perfect capital mobility, monetary relaxation would initially result in higher monetary aggregates and lower interest rates. However, lower interest rates would lead to capital outflows (decline in official reserves) that would offset the initial effect of the monetary relaxation on the monetary aggregates. Hence, there will be no effect on the aggregate demand. In other words, monetary policy will eventually need to tighten to prevent loosing reserves. If the capital mobility is not perfect, monetary policy may have some room to implement output stabilizing policies.

On the other hand, the fiscal policy can stimulate the aggregate demand. The relaxation of the fiscal policy will not affect the interest rates (which are mainly driven by international

interest rates), so there will be no capital outflows to offset the initial relaxation and its effect on the monetary aggregates. Still, the effectiveness of the fiscal policy is constrained in light of the confidence of the exchange rate regime (Laurens & Piedra, 1998, p.16). Too loose policy may undermine the credibility of the exchange rate regime, as loose fiscal policy may imply widening of the current account imbalances and eventually negative impact on the official reserves. In a situation when tightening of the policies is needed, initial tightening of the monetary policy implies higher interest rate that will lead to higher capital inflows and offset the initial impact of tightening on money supply. Tightening of the fiscal policy will not affect the interest rates and capital inflows.

Under fixed exchange rate regime, interest rate parity condition is a constraint on the monetary policy when deciding on interest rate. Given that the interest rate policy will be driven by the foreign interest rate, the focus is shifted to the fiscal authority. This implies higher fiscal discipline and less autonomy in setting of national fiscal priorities. The results of the empirical study of Canzoneri, Cumby, & Diba (2001) show that fiscal policy has to have the discipline of a Ricardian regime for the peg to be credible. Namely, in a Ricardian regime, fiscal policy actively adjusts primary surpluses to satisfy intertemporal budget constraint, and in this case the price level and exchange rate are determined by the monetary policy. On the other hand, in a non-Ricardian regime, fiscal policy does not adjust to guarantee fiscal solvency, thus price level will be determined by the intertemporal budget constraint that will have to be achieved through change in the price level. This will also affect the exchange rate. They claim that the fiscal policy must participate in the process of deciding on fixing the exchange rate and be held accountable for it.

Under a flexible exchange rate regime, the traditional view is that monetary policy has a control over the monetary aggregates and can be more effective in influencing the aggregate demand. Loosening of the monetary policy will imply lower interest rates and higher liquidity in the economy that can stimulate aggregate demand. In addition to the possibility of having a discretionary monetary policy, flexible exchange rate serves as an automatic shock absorber of trade disturbances by allowing depreciation of the currency. This further stimulates aggregate demand and stabilization of output and unemployment may happen sooner than in the case of a fixed exchange rate regime (where an adjustment of prices or wages will be needed). Loosening of the fiscal policy may mean higher public debt (higher interest rates) and crowding out of the private sector. Therefore, one of the main advantages of having a flexible exchange rate is allowing central banks to conduct a stabilizing monetary policy that will mitigate the negative effects stemming from shocks that the economy faces with. As it is not easy to find other tools to be used for the stabilization purposes, refraining from using monetary policy for stabilization purposes in practice is difficult (Obstfeld & Rogoff, 1995, p.75).

On the other hand, commonly stated advantages in the literature in favor of hard pegs are: they increase the policy credibility, limit the maneuver for the monetary policy and make

fiscal policy behave more prudently (more disciplined monetary and fiscal policies), strengthen the need for implementation of the structural reforms, they are relatively easy to be operationally implemented, they are transparent and are a relatively easy target to be understood and verified by the public. By introducing a nominal anchor (exchange rate), monetary policy "ties its hands" and this can positively affect the credibility of the monetary authorities. Fisher (2001, p.15), analyzing countries with currency pegs, states: "For such a country, the emphasis then has to be on internal labor and capital mobility, and wage and price flexibility. Fiscal policy can play a counter-cyclical role provided the fiscal situation is strong enough in normal times…Such policies are of course desirable in any economy, but the need for them is greater if the exchange rate is not available as a tool of adjustment."

Giovanni and Shambaugh (2006) examine the impact of foreign interest rates on domestic economy and find strong empirical evidence that high large-country interest rates have a contractionary effect on the real GDP growth in the domestic economy with a fixed exchange rate. This is not valid for countries with floating exchange rates. Main channel through which the effect is felt is the interest rate channel, i.e., a pegged country will be forced to increase the domestic interest rate in line with the foreign interest rate or the peg will not be sustainable (due to capital outflows).

Even under flexible exchange rate regimes fiscal policy plays an important role. Kumhof, Nunes, & Yakadina (2007, p.4) investigate the role of the fiscal policy under inflation targeting regime claiming that "...under fiscal dominance, the monetary authority must be clearly aware that it is the only entity capable of ensuring not only price stability but also fiscal solvency. It is therefore natural to suppose that it would take fiscal variables such as government debt into account in formulating its policy and that this would increase its ability to react aggressively to inflation."

The appropriate mix of the monetary and fiscal policies depends on the exchange rate regime, but also the mix affects the success of the exchange rate policy. In this light, Helpman and Razin (1987) claim that the success in the exchange rate management depends on the consistency of the mix of the monetary and fiscal policies. In their empirical study they construct a model in which real consequences of exchange rate management depend on the precise time pattern of a policy mix. Disinflation by using the exchange rate is extremely difficult without support of other policies to affect consumption, debt and real exchange rate.

Exchange rate intervention can be sterilized (not having any effects on the monetary base) or non-sterilized. There is a wide consensus that non-sterilized intervention (the same way as open market operations) will influence monetary base and subsequently monetary aggregates, interest rates, expectations and exchange rate. Regarding the effectiveness of the sterilized official intervention in the foreign exchange market, there are three main

strands of the literature (Sarno & Taylor, 2001, pp.849-850). According to the first strand, if the exchange rate policy is incompatible with the underlying stance of the fiscal and monetary policies, the intervention is doomed to ultimate failure and exhaustion of official reserves is inevitable. According to the second strand, the focus is on the government's trade-off between the fixed exchange rate policy and other objectives (employment, inflation) and consciously abandoning the peg when costs are too high. A prolonged intervention may in certain circumstances actually increase the probability of a successful attack on the currency, which explains the cases of secret interventions on the foreign exchange market. The third strand, developed in the wake of the East Asian crisis, focuses on the capital flight (rather than on macroeconomic policies), stating that official intervention cannot prevent currency crisis following a collapse of domestic asset market bubbles.

Empirical studies during the 1970s and the 1980s generally did not find strong support for the effectiveness of the sterilized official interventions through portfolio balance channel (an increase in supply of local-currency denominated assets relative to foreign-currency denominated assets will result in a change in the relative price). This traditional wisdom of the ineffectiveness of the official intervention has been challenged by Domingues and Frankel (1993a), who find a strong empirical support in favor of the effectiveness. As for the effectiveness of the intervention through the signaling channel there are empirical studies in support of the effectiveness (Kaminsky & Lewis, 1996; Bonser-Neal, Roley, & Sellon, 1998; Dominguez & Frankel, 1993). If the central bank buys domestic currency it is a signal of tightening of the monetary policy in future which results in currency appreciation (even without currently changing the money supply). Given that the exchange rate is forward-looking, the expectations for future changes of the exchange rate will affect the current level of the exchange rate.

1.1.4 Coordination of Monetary and Fiscal Policies in the Context of Rules Versus Discretion

The question of the coordination of the policies is also analyzed in the context of the issue: rules versus discretion, i.e., policies based on rules or policies based on discretion. In the literature, one of the main arguments for rule-based policies, is more disciplined policies, as policymakers announce in advance how the policies will respond in various situations and commit to follow these rules. If there are no rules, policy makers may be tempted to subordinate the long-term objectives to short-term objectives destabilizing the economy in the long run. Political pressures may entail more relaxed policies aimed at boosting the short-term output at the cost of rising public debt, higher inflation and widened external imbalances. Hence, conducting a fiscal policy in a rule-based manner means establishing a depoliticized system guiding the fiscal actions or "tying the hands of the governments" in countries with a poor fiscal record. Kydland and Prescott (1977, p.487) claim that policies

based on rules are better because discretionary policies are time inconsistent in the sense that governments are inclined to make decisions which are best given the current situation. Even well-intended policymakers may not implement optimal policy because of day-to-day decision making rather than having a long-term policy commitment. Fiscal rules limit discretionary fiscal policy biased to higher deficits for the sake of reelection by the electorate that does not understand or is indifferent to intertemporal budget limitations (Buchanan & Wagner, 1977). Fiscal rules help dealing with the myopic voters.

Rules, if properly designed, help in providing a room for conducting countercyclical policies as they stimulate prudence in good times that provides a possibility for more expansionary policies to stabilize economy in downturns. If not properly designed, rules can lead to procyclical policies. For example, overall balanced budget rule can lead to procyclical policy because in upswing it leaves a room to spend cyclical revenues, and in downswing it implies a need to tighten the discretionary fiscal policy and offset automatic stabilizers.

The monetary policy rules help overcome the problem of "inflation bias", i.e., the willingness to accept higher inflation to increase output. "In a discretionary regime the monetary authority can print more money and create more inflation than people expect. But, although these inflation surprises can have some benefits, they cannot arise systematically in equilibrium when people understand the policymaker's incentives and form their expectations accordingly" (Barro & Gordon, 1983, p.1). Policy rules can lead to strengthening of the credibility of the policies and contribute to their more effective conduct, conducive to macroeconomic stability and growth.

In addition, the transparency of the policy decision-making is increased as it is clear to the public what the factors that affect the policy decisions are. For example, the monetary policy rule clearly shows whether the output gap is a variable that affects the monetary policy decisions or it is determined only by the inflation variable. For countries with fixed exchange rate regime (where there is still a room for independent monetary policy), it shows whether other factors, in addition to exchange rate, affect the policy stance.

On the other hand, advocates for discretionary policies argue that discretion gives more room to policies to cope with unforeseen situations. Analyzing the skepticism about the usefulness or effectiveness of the fiscal rules Kopits (2001, pp.6-7), states a couple of possible grounds for skepticism: (i) government can commit credibly and pursue a disciplined fiscal policy even without having any permanent rules; (ii) rules can impose unnecessary bureaucratic requirements and it is better to let market forces exert a discipline over misbehaving governments; (iii) by their virtue, rules, invite abuse and are doomed to be ineffective (induce nontransparent behavior through creative accounting). Analyzing pros and cons for the fiscal rules, he concludes that governments with a strong reputation

of fiscal prudence do not need to have rules, but for the countries where reputation is lacking, fiscal rules can provide a useful framework.

Present fiscal policy rules are quite diverse. There are rules related to budget deficit, such as limit on overall budget deficit, limit on current budget balance (usually balanced current balance) or limit on cyclically-adjusted balance. There are also rules related to borrowing, such as prohibition for the government to borrow from the central bank, limit on the stock of debt as a share of GDP (gross or net debt).

The study of Dixit and Lambertini (2003) explores different combinations of discretionary and rule-based policies and finds that different policy mixes have different effects on economic developments. The main findings are the following: (i) if neither of the policies has commitment or leadership, outcomes are suboptimal; (ii) discretionary fiscal policy negates the advantages of monetary commitment and it is not worth setting a monetary commitment unless there is a fiscal commitment; (iii) monetary discretion does not completely eliminate the advantages of fiscal commitment; and (iv) if commitment to a policy is not an option, the second best can be achieved by assigning goals to policies to avoid any conflict of objectives.

One of the solutions proposed to overcome the lack of policy commitment is inflation conservative central bank (Rogoff, 1985). Conservative central bank means a central bank that sets output and/or inflation targets lower than the socially optimal ones and that puts more weight on inflation stabilization and less on output stabilization (Dixit & Lambertini, 2003, p.1522). Conservative central bank eliminates inflation bias of the monetary policy stemming from the incentive to use a surprise inflation to positively affect the output in the short run. Adam and Billi (2006) find empirical evidence in support of the thesis that welfare losses associated with a lack of monetary and fiscal commitment can be recouped if the monetary authorities focus exclusively on stabilizing inflation, thus advocating for monetary conservatism.

Taylor Rule, as a simple monetary policy rule, has been widely used in explaining the behavior of the central banks. According to this rule, key factors that determine the monetary policy decisions (nominal interest rate) are output gap and deviation of the inflation from the targeted level (Taylor, 1993, pp.195-214). In case of positive output gap and inflation that exceeds the target rate, interest rate of the central bank should be increased.

Taylor (1999) examines the FED's interest rate path and concludes that this rule explains well the interest rate path during 1987-1997. From mid-sixties to end-seventies the monetary policy was expansionary, while during 1981-1985 it was restrictive. The drawbacks of the Taylor rule identified by Olsen, Qvigstad, & Røislan (2002) are the following: high uncertainty and difficulty in estimating the equilibrium real interest rate

and output gap, which are variables in the rule; coefficients for inflation and output gap are different for different countries; and lagged effect of the monetary policy requires introduction of forecasted variables for inflation and output gap. Woodford (2000 p.3) claims the Taylor rule for conducting the monetary policy is not a guarantee for achieving inflation targets, and it has to be accompanied with rules regarding the government budget deficits.

Unlike the monetary policy literature, there has been little work on systemic rule-based fiscal policy for systemic use during cycles. Taylor (2000) explores whether there is a need for discretionary fiscal policy in a situation when monetary policy strongly and systematically reacts to the output gap, as well as whether there is a need to have a formal rule-based countercyclical fiscal policy. He sets a fiscal-policy rule where budget surplus depends on the output gap: (i) if output is below its potential, fiscal policy should be relaxed to bring the output to its potential level; and (ii) if output is above its potential, fiscal policy should be tightened. However, investigating the monetary and fiscal developments in the US economy, he argues that such a rule is not needed and that fiscal policy should be limited to minimizing distortions and letting automatic stabilizers work, which are rule-like mechanisms. However, he makes some exceptions to his assessment, advocating for discretionary rule-based fiscal policy in some specific cases, such as fixed exchange rate regime coupled with capital mobility and a situation where nominal interest rates approach their zero lower band. In the first case the monetary policy deliberately gives up its stabilizing role, and in the second case discretionary monetary policy becomes more difficult.

Bi and Kumhof (2009) find that a preferred type of a simple fiscal rule targets a tax revenue gap rather than an output gap. In addition to the exceptions identified by Taylor, they identify a third exception that requires more activist fiscal policy, i.e., an economy where a large share of economic agents is unable to smooth consumption intertemporally. In this case, the government, by responding to the tax revenue gap, which is a proxy for the budget tightness of borrowing-constrained agents, can help relieve that tightness by substituting its access to capital markets for that of the constrained agents. They find that optimized fiscal rule is far more aggressive than automatic stabilizers. The preferred fiscal instruments are government spending and transfers targeted to borrowing-constrained agents, though their view is that only the latter may be a practical choice. As for the monetary policy, optimized monetary rule reflects super-inertia and a very low coefficient for inflation.

1.1.5 Coordination of Monetary and Fiscal Policies in the Republic of Macedonia

The coordination of the fiscal and monetary policies in the case of the RM has not been subject to wide theoretical and empirical research, although the interest and research have

grown in the recent period. Both standard and non-standard monetary policy measures and strong fiscal stimulus to mitigate the effects of the global crisis raised an interest in investigating the mix of the policies, their interactions, policy dominance, cyclicality of the policies, as well as the effectiveness of the policy mix.

Given the structural characteristics of the Macedonian economy and the monetary strategy of a stable exchange rate, the mix of the policies has been determined in large part by the developments of the external position of the economy. As pointed out by Ribnikar and Bole (2006) high current account deficits narrow the room for maneuver of fiscal and monetary policies, advocating for structural and institutional changes as the only viable solution. The privatization inflows have helped financing the current account deficit and keeping the debt dynamics under control. However, as the stock of public assets is not unlimited, they asses this form of financing of the current account deficits as unsustainable in the long run.

The form of coordination of the policies in the RM was explored in the empirical study of Kadievska Vojnovik (2007). The study investigates whether the fiscal policy is "Ricardian", which means that government adjusts the primary deficit to the accumulated debt level, or "non-Ricardian" implying that government deficit is set independently of the debt level. The study covering the period 1999-2006 and applying vector autoregressive model finds the evidence of a monetary-dominant regime for the most of the studied period, i.e., the fiscal authorities do respond to the debt variability and the primary deficits are set depending on the debt level. In this way, the fiscal policy ensures debt sustainability and creates an environment for independent conduct of the monetary policy. Damčevski (2013) also investigates the mix of policies pointing out that in some periods monetary policy was dominant while in other fiscal policy took the lead. The empirical study of Angelovska Bezovska, Bogoev, Mitreska and Kadievska Vojnovik (2010) of the behavior of the fiscal policy in the RM during the period 1991-2009 also finds that the stock of public debt affected the decisions of the fiscal authorities. Increase of the public debt has been associated with lower public spending and higher savings.

This study also explores the issue of cyclicality of the fiscal policy in the RM and finds that during the first years of transition it was pro-cyclical driven by the need to support the monetary policy in its efforts to tame hyperinflation. However, starting from 1999 to 2009, for the most of the analyzed period, it was counter-cyclical against the backdrop of political stabilization, low inflation and rising foreign reserves that provided buffers for the monetary policy. Kurtishi (2013), analyzing the cyclicality of the fiscal policy in RM during 1997-2011 by applying generalized method of moments, finds that fiscal policy was on average countercyclical - it played a stabilizing role reinforcing the effects of the automatic stabilizers. On the contrary, the empirical work of Bogoev, Petrevski, & Tevdovski (2013) who investigate macroeconomic effects of monetary and fiscal policies in South Eastern European economies, including Macedonia, find that fiscal policy in

Macedonia is procyclical. The procyclical behavior of the fiscal policy triggers a countercyclical reaction of monetary policy to preserve the exchange rate stability pointing to the fact that these two policies act as substitutes.

The effects of the policies over macroeconomic variables were explored by Fetai (2008). Investigating the effects of the monetary and fiscal policy mix in the RM on real GDP, he finds that the changes in the primary fiscal deficit and government expenditures do not show any significant conventional Keynesian effects on real GDP due to counteracting effect of monetary policy reactions. In case of fiscal expansion, monetary policy reacts immediately, and it continues its counteracting policy until the effects of fiscal policy disappear. For positive macroeconomic outcomes, he suggests fiscal strategy based on fiscal rules. As for the monetary policy effectiveness, he finds that changes in money supply affect the price level, but do not have significant effect on economic activity. Interlinkages between policies and macroeconomic variables were also investigated by Kurtishi (2013). Estimated expenditure multiplier points to a positive short-term and negative medium-term effect over economic activity explained by a medium-term "crowding out" effect of the expansionary fiscal policy. Namely, he finds that higher aggregate demand stimulated through higher government spending does not lead to higher aggregate supply, as monetary policy tightens resulting in crowding out of the private sector. A shock in primary expenditures (increase) results in rising central bank interest rate. Estimated revenue multiplier points to a neutral short-term and positive medium-term effect on the economic activity. Similar are the conclusions of Damčevski (2013), who investigates the effects of the money aggregates on real growth by applying impulse response function. He finds that economic activity responds very slowly to changes in M1. Gaber (2013) also finds that a fiscal shock in terms of increased primary budget deficit does not significantly affect real GDP due to tightening monetary policy that offsets the effect stemming from the fiscal stimulus.

Trenovski (2014) explores a couple of aspects of the interactions and effectiveness of the policies in the RM. The research focuses on determining the dominant policy, monetary and fiscal policy reaction functions, the form of coordination and fiscal multipliers. The study finds evidence on: fiscal dominance that may jeopardize the independent conduct of the monetary policy; negative expenditure multiplier and positive revenue multiplier thus questioning the effectiveness of the increased expenditures and budget deficits; importance of fiscal variables when determining the monetary policy stance, but insignificant importance of monetary variables when determining the fiscal policy stance; and procyclical behavior of the expansionary fiscal policy.

1.2 Institutional Set Up and Operational Coordination Procedures

1.2.1 Institutional Set Up

Institutional arrangements are important aspect for analyzing the coordination of fiscal and monetary policies. Current trends regarding the institutional arrangements point toward an institutional separation of monetary and fiscal policy responsibilities accompanied with high level of independence for the central banks that can be seen as a protection against imprudent fiscal policy. However, the separation of policies accompanied with independence of the institution responsible for monetary policy cannot be interpreted as lower need for coordination. On the contrary, it reinforces the need for coordination, as two different institutions have different, but closely interlinked, objectives and instruments. Given that fiscal operations affect the conduct of the monetary policy and vice versa, having efficient institutional arrangements and mechanisms for coordination appear to be important prerequisites for achieving macroeconomic goals.

Unlike fiscal policy, monetary policy is delegated to an independent institution whose top officials are with longer term of office than the political cycle. The great depression and the collapse of the gold standard resulted in a widespread government takeover of monetary policy where the determination of the official interest rate was a government exercise (Goodhart, 2010). Until mid 1980s most of the central banks were subordinated to the governments and functioned almost like divisions of the ministry of finance. They were in charge of different functions, including financing of the government deficit. This was a period marked by sustained periods of high inflation. The trend of delegation of monetary policy to an independent institution started in the 1980s and was especially pronounced during the 1990s based on three foundations: the success of the Bundesbank in controlling inflation without costs for the German economy, theoretical literature on the inflationary bias of the discretionary monetary policy, and empirical literature on the relationship between central bank independence and macroeconomic aggregates (Debelle & Fischer, 1994). There was an understanding that monetary authority can successfully implement and maintain society's desirable target path for price stability if it has a clear mandate and is independent in deciding how to implement monetary policy (Niemann & von Hagen, 2008, p.91).

Although the need for delegation of the monetary policy has not been generally questioned in the theory and practice, yet there are different theoretical views on the reasons for the delegation. A group of theories for central bank independence point to the time-inconsistency problem and inflation bias of the government as main reasons for the delegation. The time-inconsistency problem, as described by Kydland and Prescott (1977) and Barro and Gordon (1983), arises because the politicians try to use the short-run trade-off between inflation and unemployment to increase the employment in the short run. However, expansionary policies will make economic agents adjust wage and price

expectations leading to higher inflation and lower growth in the long run. Having in mind that monetary policy is "…not a game against nature, but, rather, a game against rational economic agents" (Kydland & Prescott, 1977, p.473), policy credibility has received a huge attention in the theory and practice. Barro and Gordon (1983) claim that optimal monetary policy (non-inflationary) cannot be credible as long as monetary shocks can be used by the policymakers to boost output above its equilibrium or reduce the real value of the government's nominal liabilities. Although surprise inflation will bring short-term benefits, there are long-term costs. If agents are faced with higher inflation than expected, then their expectations of future inflation will raise. The short-term benefits will be at the cost of lower credibility and rising inflationary expectations.

Cukierman (1992) classifies government's motives for higher monetary expansion in the short run as: employment, revenues, balance of payments and financial stability motives. First, employment can be increased by exploiting the short-run trade-off between the inflation and unemployment (expectations augmented Phillips-curve). Second, inflation depreciates the value of government non-indexed liabilities and allows seigniorage revenues. At the onset of the transition, governments were faced with high expenditure pressures due to inherited problems from the widely generous socialistic system. On the other hand, they faced with weak revenue performance due to falling economic activity and erosion of the tax base. In such circumstances, there were no other options but monetary financing of budget deficit (or accumulation of arrears). Third, inflation in presence of rigid nominal contracts will result in lower real wages and improve competitiveness with positive balance of payments effects. Fourth, central banks may avoid increasing interest rates if they care for the profit of the commercial banks since interest rate changes in the short run affect more quickly borrowing costs than lending revenues.

Some of the proposed solutions for overcoming the time-inconsistency problem are having formal commitments for the conduct of the policies or anti-inflationary reputation of the policymaker that can substitute for formal commitments. Barro and Gordon (1983) develop a reputational equilibrium where the optimal outcomes (inflation and monetary growth) turn out to be weighted averages of those from discretion and those from ideal rules. Rogoff (1985, p.1) considers an intuitional response to the time-inconsistency problem by proposing an appointment of a conservative central banker to conduct monetary policy, i.e., a central banker who does not share the social objective function. The society can be better off by having a central banker who places "too large" a weight on stabilization of inflation relative to employment stabilization. This would result in lower and less variable inflation than the government would produce. However, the society would not want the weight to be infinitive. Rogoff's approach can be interpreted as advocating for goal and instrument independence.

Mishkin (2000) finds two problems with the Rogoff's proposal. First, it is undemocratic to impose different preferences from those of the public. And second, in the long run a central bank cannot operate without a support of the public. He, instead, proposes having an institutional commitment to price stability set in the legislation for the central bank. Once politicians commit to price stability it will be more difficult for them to exert pressures over the central banks for more expansionary policies. In addition, it will mean that price stability is an overriding objective and fiscal policy will have to be better aligned with the monetary policy. Thus, Mishkin advocates for goal dependence, but instrument independence. On the similar ground Asser (2002) questions the model of an autonomous central bank supporting the thesis that monetary policy cannot be successful in achieving price stability if there is no firm political commitment and if the monetary policy is left in a vacuum aside from national macroeconomic policy strategy.

Another approach for solving the dynamic inconsistency problem is the principal-agent approach proposed by Walsh (1995) and Persson and Tabellini (1993). They advocate for structuring a contract for objectives of the monetary policy that imposes costs on the central bank when objectives deviate from the pre-defined level. According to this approach, central bank is assigned instrument independence, and not goal independence.

Laurens and Piedra (1998) claim that in a system where there is not an independent central bank with a clear objective of price stability, in case of a conflict between policies, the central bank may be subject to political pressures, and short-term considerations could take preeminence over long-term. Under such frameworks, clear legal arrangements (formal rules) should be in place to prevent or resolve conflicts, including limitation to direct central bank credit to the government, deficit and debt limitation clauses.

Formal constraint on the direct central bank credit to the government is considered as one of the crucial components of the central bank independence. Government has clear benefits from central bank financing through lower interest rates and ample liquidity, which is particularly the case when the financial markets are undeveloped. However, government financing by the central bank means less control of the central bank over the base money and may fuel inflation which is an argument for prohibiting or setting limits on government financing by central bank (Cottarelli, 1993). If allowed, there should be a legal ceiling on the credit to the government, it should be extended on market terms (market interest rate) and securitized. A purchase of government securities at the secondary market by the central banks for monetary policy purposes is not subject to limitations.

Governments or any public institutions of the EU member-states are not allowed to borrow from their national central banks or the European Central Bank. Article 101 (1) of the Maastricht treaty forbids extension of overdrafts or any other type of credit facility or direct purchases of government securities, as this may imply distortion of the market

principles. Indirect crediting through purchase of government securities at a secondary market is allowed.

According to McCallum (1996) the literature underestimates the benefits of an independent central bank in favor of formal commitments (rules). He states the following arguments: (i) it is inappropriate to presume that independent central banks will, in absence of any formal commitments, inevitably behave in a discretionary manner implying inflationary bias and (ii) if absence of a pre-commitment is nevertheless a problem, delegating a monetary policy may just mean reallocation of the problem. The competent central bank will realize that attempt to exploit existing expectations is fruitless (on average) and it will abandon it, behaving in a rule-like fashion. If the government provides its central bank with a contract or incentive arrangement that makes the latter's rewards negatively dependent upon inflation rate, the problem of inflation bias will not be solved, but the problem will be reallocated at different place (government).This implies that if absence of pre-commitment is a problem, then it must apply to central bank, as well as to government.

The theories centered on the time-inconsistency problem have been subject to a critique. One of the issues is why to delegate monetary policy and not fiscal policy when time-inconsistency problem may be more acute for fiscal policy? Also, Jensen (1997) argues that the reallocation of the monetary policy to a conservative institution may not solve the problem, if there is no credibility in the independence of this institution in conducting the monetary policy.

According to the political agency theory of central bank independence (Eggertsson & Borgne, 2003), the rationale for delegation is not the time inconsistency problem and inflation bias, but a long term job contract of the central banker that creates an incentive to put more effort in policy decision-making. As a consequence, there are better forecasts of the state of the economy and fewer mistakes in the conduct of the monetary policy, which increases social welfare. This theory focuses on the complexity of the task itself and on the level of rent the politicians derive from managing this policy. It argues that monetary policy is subject to considerable uncertainty compared to other policies and that rents that politicians can derive from monetary policy are most likely lower compared to the rents from fiscal policy. As for the types of independence, it argues that while instrument independence is desirable, goal independence is not. The reason for delegation stated by this theory is consistent with Alan Blinder's view (1998) that monetary policy, by its very nature requires a long time horizon.

In the literature, usually a few types of independence are identified, including goal, instrument and financial independence. The goal independence means that the central bank is free to set its final goals of monetary policy, i.e., the goals are not specified in the legislation or any other formal document. In this way, the central bank has more flexibility in deciding what weigh it puts on inflation and what on output in the conduct of the

monetary policy. Instrument independence means that the central bank is free to choose the means (method) to achieve its goals. In practical terms, instrument independence entails that the central bank is free in deciding on the interest rates and free from the requirement to finance directly or indirectly the budget deficit.

Financial independence is broadly defined in the literature as a financial strength of the central banks that is consistent with its objectives and the risks that it faces in accomplishing its objectives and strategies. The financial position of the central bank should not in any case jeopardize the achievement of its objectives. In other words, central banks should not be compelled for costs saving reasons to create money or resort to direct monetary instruments and financial repression. This may be particularly the case in an environment of sizable capital inflows when a need to sterilize liquidity provided to commercial banks occurs. Central banks should be free in pursuing their monetary strategy and using indirect monetary instruments with an aim of achieving their final objective. Having said that, the financial strength of the central banks is not a guarantee for successful implementation of the monetary policy, but just one of the preconditions.

The financial strength of the central banks is closely related to the policy credibility. Stella (2002) analyzes the issue of financial strength of the central banks in relation to the policy credibility suggesting a close link between the financial strength and credibility. Weak balance sheet may result in central bank losses and subsequently in money creation or financial repression. Even if the central bank is strong, the belief that it may change the policy for cost saving reasons will affect the expectations of the economic agents and lower its credibility. And the credibility is one of the key factors for achieving the monetary policy objectives. Stella (2002, p.352) argues that in order to determine the adequate financial strength (capital) of the central banks, a couple of steps are needed: (i) determining the bank objectives; (ii) determining the minimum strength of the balance sheet to achieve the objectives; (iii) determining the central banks' exposure to risks; (iv) and setting mechanisms to ensure that adequate reserves are available when needed.

Cukierman (2009) stresses the following criteria in determining the size of the central bank capital: size of the shock to which monetary policy is expected to react, width of the areas of responsibility of the central banks, political stability of the governments, institutional arrangements regarding the responsibility to protect the exchange rate, currency mismatch between central bank assets and liabilities, fiscal policy stance and related institutional arrangements.

One of the issues in the context of financial independence is the ex-ante adequate capitalization of the central banks or ex-post covering of the losses by the ministry of finance. Ex-ante capitalization increases policy credibility as a simple promise of the government to deal with this problem when a loss occurs may not be regarded as credible. The higher the capital is, the higher is the probability to cope with the shocks without

resorting to ministry of finance. On the other hand, excess capitalization may entail excess costs for governments that may borrow at high interest rates on the financial markets.

Central banks in developed economies usually make profits, which can be explained by the structure of their balance sheets. While their assets are interest bearing (credit to banks and foreign reserves), usually the main component of their liabilities is currency which is a non-interest-bearing liability. As for the transition economies, typically they face a weaker balance sheet due to structural excess of liquidity which is sterilized by central bank instruments that are interest-bearing liabilities. However, in light of the global economic crisis, the balance sheets of central banks in many advanced economies have significantly weakened. In their attempts to stabilize the financial system their balance sheets have increased with substantial increase of the risk profile of their assets.

A distinction should be made between legal and actual independence. While legal independence refers to legal provisions, actual independence refers to practical exercise of the independence and may differ from the legal one. In the theory, the actual independence comprises a set of aspects, including the turnover rate of governors, the personalities of the governors and the practice of overriding the central bank provisions by budget laws.

The level of central bank independence is usually measured through indices. The most commonly used are the indices of Grilli, Masciandaro, & Tabellini (1991), Cukierman (1992), and Cukierman, Webb, & Neyapti (1992). Grilli, Masciandaro, & Tabellini (1991) constructed the economic independence index (mainly referring to the possibility and types of direct crediting of the government by the central bank) and the political independence index (mainly referring to goal autonomy, terms of appointment of the governor and other top officials of the central bank). Cukierman et al. (1992) constructed a very detailed index on legal independence of industrial and developing economies applying 16 criteria grouped in 4 classes (goal independence, autonomy of the governor, independence in formulating monetary policy and central bank credit to the government). They ranked the central banks of Germany, Switzerland and Austria at the top of the list of the independent central banks and Poland, Morocco and Yugoslavia at the bottom of the list. These indices were often modified to reflect specifics of economies, in particular the specific features of the transition economies. The indices of Grill, Masciandaro, & Tabellini (1991) were modified by Maliszewski (2000) and Lybek (1999). The index of Cukierman et al. (1992) was modified by Neyapti (2001) and Jacome and Vazquez (2005).

Empirical studies suggest that central bank independence is linked to lower inflation in developing and industrialized countries. Central bank independence is believed to allow central banks focus on long-term goals free from political pressures to run expansionary policies before elections. In their analysis of the political and financial independence of 12 OECD countries, Bade and Parkin (1988) conclude that while the political independence is an important factor that affects inflation, the financial independence is not. Political

independence depends on the possibility that the government appoints the members of the governing council of the central bank, the participation of the members of the government at the meetings of the governing council and the authority to decide on the monetary policy. Financial independence is assessed taking into account the budget autonomy, distribution of income of the central bank and the autonomy in determining the salaries of the top central bank officials. Alesina (1988), applying the same approach as Bade and Parkin, but widening the sample of countries, comes to the same conclusion. The analysis of Grill, Masciandaro, & Tabellini (1991), which includes 18 OECD countries for the period 1950-1989, finds a negative relationship between economic and political independence and inflation. Still, the relationship between the political independence and inflation is not found to be statistically significant. Cukierman (1992) analyzing 70 developed and developing countries also finds an evidence of inverse relation between inflation and independence. Despite the legal independence of the central banks, he also tries to measure the actual independence through two approaches: calculating the turnover rate of governors and conducting a survey for the actual independence that is filled in by central bankers. Eggertsson and Borgne (2003) find that independent central banks produce, on average, lower inflation in terms of level and variability. Alesina and Summers (1993) and Cecchetti, Flores-Lagunes, & Krause (2006) also find that the higher the independence of the central bank, the lower the variability of the inflation.

Empirical findings on the negative correlation between monetary independence and average inflation have been criticized mainly on two grounds. First, there are difficulties in accounting for the other factors that may explain cross-country differences in inflation outcomes. Campillo and Miron (1997), after controlling for other factors affecting inflation, do not find significant relationship between central bank independence and inflation. Second, treatment of central bank independence as an exogenous variable may be a problem. Posen (1993) claims that central bank independence and inflation are jointly determined by the strength of the political constituency against inflation.

The empirical results on the relationship between independence and economic growth are not very conclusive. Hence, the answer to the question whether the central bank independence is a free lunch (bringing low inflation without foregone output) is not a clear cut. Rogoff (1985) and Debelle and Fischer (1994) find evidence that central bank independence leads to stronger recessions during disinflationary process advocating for instrument independence and not a goal independence. The studies of Grilli, Masciandaro, & Tabellini (1991) and Alesina and Summers (1993) do not reveal a systematic link between the independence and the economic growth. Cukierman, Kalaitzidamis, Summers, & Web (1993) find an evidence of a positive link between the independence and the economic growth by using the indicator - turnover rate of central bank governors. However, they point out that the link would not be observed if there is already a high degree of independence. Eggertsson and Borgne (2003) find that there is a negative

correlation between the independence and the output variability explained by better forecasts and less errors in conducting monetary policy.

Empirical studies find a negative relationship between the central bank independence and the fiscal deficits (Parkin, 1987; Masciandaro & Tabellini, 1988). Borrero (2001) finds that in the short run higher central bank independence increases fiscal discipline and results in lower inflation and growth. In the long-run, independence increases fiscal discipline and generates lower inflation, but also yields higher growth.

A considerable amount of theoretical and empirical literature has been published on the independence of the central banks in the transition economies. At the onset of the transition, most of the economies faced with hyperinflationary environment. In such an environment, increase of the independence of the central bank can increase the credibility in the macroeconomic policies and contribute to the stabilization process. The level of independence reflects the society's aversion to inflation. Wagner (1997), analyzing the preconditions for successful disinflation in the transition economies, stresses the importance of the institutional requirements including the central bank independence. Wagner (1999) also points to the distinction between the legal and actual independence, as legal independence without actual independence may even be counterproductive (the government may blame the central bank for an unsuccessful disinflation process).

Measurement of the legal independence of the central banks in the transition economies and the relationship between the independence and inflation have been subject to theoretical and empirical studies. The descriptive studies by Hinton-Braaten (1994), Hochreiter (1994), Hochreiter and Riesinger (1995) and Radzyner and Riesinger (1997) were some of the first studies dealing with this issue. Dvorsky (2000) explores the legal independence of the central banks of 5 transition economies - Czech Republic, Hungary, Poland, Slovakia and Slovenia by applying two widely used indices: the Cukierman (1992) and Grilli, Masciandaro, & Tabellini (1991). She concludes that overall degree of legal independence is comparatively high in all 5 countries, with Poland showing the best results according to the both indices.

Maliszewski (2000) investigates the legal independence for 20 transition countries in the Central and Southeastern Europe, including the RM. The main characteristics of the independence are coded in indices similar to the Grilli-Masciandaro-Tabellini indices divided into two components: political and economic independence. The author finds that the average level of independence for all countries is high pointing out that six countries in the group (including the RM) have higher independence than the Bundesbank. However, the independence is not a substitute for other elements of the stabilization programs and exerts a downward pressure on inflation only at the high level of price liberalization (after the initial price liberalization shock had been contained).

The study of Cukierman, Miller, & Neyapti (2002), covering 26 former socialist economies (including the RM) during 1991-1998, finds that the central bank reforms in these economies during the nineties were ambitious, which is visible through higher (on average) levels of independence of these economies than those of developed economies during the eighties. They find that legal independence becomes effective in controlling inflation, but only after the process of price liberalization takes momentum, as it can have a powerful inflationary impact. Negative correlation between the legal independence and inflation is also found by Loungani and Sheets (1997) and Eijffinger and Stadhouders (2003).

Dvorsky (2004 and 2007) examines the functional, institutional, personal and financial independence of 8 Southeastern European countries, including the RM, by applying the EU Treaty provisions as benchmarks. Countries joining the EU after the establishment of the European System of Central Banks (ESCB) have to adjust their central bank independence legislation by the date of the EU accession. The author finds that the level of independence in these countries largely corresponds to their level of EU integration. Main weaknesses are identified in the area of personal independence (mainly provisions on dismissal of the central bank top officials) and monetary financing area where adjustments are needed to be aligned with the EU requirements. Regarding the independence of the NBRM, major issues raised are in the areas of: (i) institutional independence (monetary program has to be sent on an ex ante basis to the parliament which may imply political influence; the parliament has a final say in case the Council of the bank cannot achieve the required majority for decision-making); and (ii) personal independence (the rules for dismissal of the central bank top officials).

Bogoev (2007) explores the level of the central bank independence in 9 Southeastern economies by applying three indices (Grilli, Masciandaro, & Tabellini (1991), Cukierman, Webb, & Neyapti (1992) and a modified version of Cukierman, Webb, & Neyapti index by Jacome and Vazquez (2005). Overall assessment is that all analyzed countries have a relatively high level of legal central bank independence and that the level of independence is higher compared to previous studies pointing out that legal framework has been improved to strengthen the institutional independence. According to the Cukierman, Webb, & Neyapti index (1992) the independence of the NBRM is ranked at fourth position behind Bosnia and Herzegovina, Bulgaria, Croatia and Romania (Bulgaria and Croatia share the second position). The modified version of this index places Macedonia at third position.

Jankoski (2010) investigates the legal and actual independence of the NBRM. Evaluation of the legal independence is done by applying indices of Bade and Parkin (1988), Eijffinger and Schaling (1993), Grilli, Masciandaro, & Tabellini (1991) and Cukierman, Webb, & Neyapti (1992). Eijffinger and Schaling indices focus on three criteria: independence of the central bank in formulating monetary policy, attendance of government officials at governing board meetings, and appointment of board members by

the government. According to the author, all indices point to high independence of the central bank. The same conclusion is valid for the actual independence that is measured through two approaches: turnover rate of governors and the survey of Cukierman (1992).

Historical perspective of the legislation pertaining to the institutional setting for the NBRM is provided by Nacevska (2012). The research points to an overall progress in the legal framework leading to higher alignment with the EU requirements regarding the functional, institutional, personal and financial independence of the central banks. Still, the author argues that the most recent changes of the Law on the NBRM dating from 2010 diminished the legal independence of the NBRM. This particularly refers to the institutional independence (the decision on the exchange rate regime became a shared responsibility between the NBRM and Ministry of Finance instead of being a full responsibility of the NBRM) and the personal independence (the government got the authority for proposing non-executive members of the council of the NBRM, instead of the president).

It is important to note that empirical results should be treated with a certain degree of caution. Most of the studies to assess the level of independence and the relation between the independence and the inflation and other macroeconomic indicators are based on the legal independence, assuming that it is a good proxy for the actual one. However, there might be a substantial difference between the legal and actual independence. "Actual, as opposed to formal, central bank independence depends not only on the law, but also on many other less-structured factors, such as informal arrangements between the bank and other parts of government, the quality of the bank's research department, and the personality of key individuals in the bank and the (rest of the) government (Cukierman, 1992, p.355)." Also, the assessment of the independence includes many subjective elements. Furthermore, there is a problem of causality. Namely, the societies that show higher degree of public aversion towards inflation create independent central banks, so in such cases the conclusion may be that low inflation is not a result of an independent central bank, but another factor explains it, i.e., the high degree of public aversion leads to independent central bank and low inflation.

There is a wide consensus in the theory and practice that independence of the central banks should be accompanied with accountability and transparency. Central banks should be subject to public scrutiny for the conduct of the monetary policy as this is a democratic principle. Also, higher accountability promotes higher efficiency in the sense that incompetent officials may be replaced with more competent ones creating incentives for officials to do their jobs better (Mishkin, 2000). Without accountability to elected representatives (parliament), there is a very good chance that central banks will become too conservative by excessively concentrating on inflation and too insensitive to the possibilities of stabilizing the output (Debelle & Fischer, 1994, p. 219). Further, if the central bank is held accountable, there are benefits from the coordination with the fiscal policy that may be foregone if the central bank is too independent (Fischer, 1995).

Higher transparency means communicating clearly the objectives, strategy and policy measures to achieve the objectives of the central bank. This can improve the transmission mechanism of the monetary policy, as economic agents will better understand the actions and intentions of the central banks. There are different tools for communication with the public, including regular statements when there are changes in the monetary policy stance or instruments, publication of the minutes of the governing board's meetings, publication of regular reports on the state of the economy and forecasts, and different outreach activities of the top central bank officials.

1.2.2 Operational Arrangements for Coordination

Good coordination requires adequate arrangements, i.e., adequate mechanisms to ensure coordination between policies from a macro and micro perspective (Laurens & Piedra, 1998). From a macro perspective there is a need to have a mutual understanding and agreement on the macroeconomic objectives and how the two main macroeconomic policies can be directed towards their achievement. To this end, the top officials in charge of monetary and fiscal policies should reach an agreement on a strategic level on the direction of the policies and the measures needed to achieve the objectives. Disagreement on the overall mix may result in a passive reaction of one of the policies and lead to inferior economic outcome. The top officials, on a regular basis, should exchange information on the most recent economic developments, any unexpected shocks and needed adjustment of the policies. In this way, the monetary authorities will have better understanding about the fiscal policy developments, and the fiscal authorities will have better understanding of the monetary developments. This may be particularly important in transition economies facing structural reforms, undeveloped financial markets and relatively weak institutional capacity. Yet, the coordination at the strategic level should not be interpreted as monetary policy having a subservient role to the fiscal policy. While macro perspective refers to having a mutual understanding and vision on the main macroeconomic objectives, micro perspective entails coordination on a day-to-day basis aimed at achieving those macroeconomic objectives. The officials in charge of implementing monetary and fiscal policies should communicate on a regular basis to obtain up-to-date information for the conduct of the monetary and fiscal operations. In the absence of timely information, even if there is an agreement at the strategic level, the achievement of objectives may be jeopardized.

One of the areas with high interconnectedness and interactions is financing of the budget deficit, i.e., debt management. While the main objective of debt management is providing government financing at the lowest risk - adjusted interest rate, the main objective of the monetary policy is price stability that is achieved by influencing market interest rates, their term structure and liquidity. Obviously, actions of the monetary policy affect financial market conditions (liquidity and interest rates) that, in turn, affect the capacity of the

ministry of finance to borrow on the domestic market. Higher interest rates increase debt service costs and complicate the process of consolidation of public finances. Volatility of interest rates makes consolidation path less predictable. Vice-versa, fiscal stance and structure of the financing sources may influence the liquidity in the banking system with implications for the aggregate demand, and subsequently for inflation and official reserves. In cases when the monetary policy has a loose stance, probability for disagreements appears to be lower. When macroeconomic conditions warrant tightening of the monetary stance, the different objectives will pose challenges for the macroeconomic mix. Financial markets' perceptions about the sustainability of the fiscal finances (threat of monetizing budget deficits) may act as a destabilizing factor affecting adversely the foreign exchange market, interest rates and other macroeconomic variables.

There are different institutional arrangements for debt management (Carracedo & Dattels, 1997): (i) ministry of finance is responsible for strategic and operational aspects of the debt management and the central bank is responsible only for technical aspects; (ii) central bank plays a key role in formulating debt strategy and debt management; and (iii) debt management is a responsivity of a special agency for debt management implying a higher separation of monetary and debt policy. Notwithstanding different institutional arrangements, developed central banks have some responsibilities regarding debt management, at minimum including advisory function, function of issuing agent (managing auctions of government securities) and fiscal agent or government treasurer (Blommestein & Thunholm, 1997).

The coordination mechanisms can take different forms. The coordination can be based on a set of regulations and rules, or have a more informal character. The level and the form of coordination mechanisms depend on the country specific factors, including institutional arrangements (normally laws contain certain provisions regarding the degree and form of cooperation between the institutions), actual central bank independence, institutional capacity, fiscal transparency, monetary strategy and the stage of development of financial markets. For example, the lower the level of development of financial markets, the bigger the need to have a stronger formal coordination as both authorities operate on the primary market for securities. When financial markets develop, market prices signal a need for policy adjustments lessening the need for formal channels of coordination. Hence, the coordination mechanisms will evolve over time along with the stages of development. Also, the degree and the forms of actual cooperation depend on factors such as personality of the central bank governor and the minister of finance, as well as political affiliations which typically prevail in the two institutions (Radzyner & Riesinger, 1997).

According to Sundararajan et al. (1994, p.23) there are three types of arrangements depending on the level of development of financial markets:

(i) same market - same instrument arrangement, typical for transition economies with undeveloped financial markets (government securities issued at the primary market are

used for monetary and fiscal purposes thus avoiding market segmentation and fostering the development of government securities market).

(ii) same market - different instruments arrangement, typical for transition economies (fiscal and monetary authorities use the same primary market, but different securities - treasury bills and central bank bills, which are with shorter maturity compared with treasury bills);

(iii) different markets - same instrument arrangement, typical for developed economies (fiscal policy relies on primary market for debt management purposes and monetary policy operates at a secondary market with outstanding government securities).

Different markets - same instrument arrangement requires a lower degree of coordination compared to the other arrangements, as the authorities operate on different markets. The need of coordination is strongest when the authorities use the same market and same instrument (treasury bills used for fiscal and monetary purposes).

Often committees or working groups for coordination of the policies are used as a mechanism for cooperation and exchange of information between the policymakers. Typically, there are two types of committees: committees at a strategic level comprised of high-level officials of the central bank and the ministry of finance and committees at operational level comprised of officials directly involved in the execution of the policies. While the strategic committee normally focuses on more general issues important for the monetary and fiscal policies, main focus of the committee at the operational level is: analysis of the high-frequency macroeconomics indicators, liquidity projections, government balances, deviations from the projections, cash management, budget deficit financing, and composition of the budget financing and issuance of government securities. The committees can help in preventing occurrence of potential conflicts between the policies or help in their resolution to avoid inferior economic outcomes as a result of unsynchronized policies. Besides inter-institutional committees, central banks usually establish a monetary management committee to make sure that all factors affecting the money supply are consistently projected and the day-to-day setting of monetary policy instruments is adequately placed (Sundararajan et al., 1994, p.23).

The financial programming has been also used as a framework for establishing a consistent macroeconomic mix (Laurens & Piedra, 1998). It entails preparing consistent medium-term projections for the real sector aggregates, balance of payments, fiscal aggregates, balance sheet of the central bank and monetary survey of the banking system. This is particularly the case when the authorities have financial arrangement with the International Monetary Fund (hereinafter: IMF).

1.3 Public Finance Issues and Monetary Policy

The coordination between the monetary and fiscal policies can be substantially improved if there is a solid public finance management (hereinafter: PFM) system in place. Good PFM procedures, practices and control mechanisms create an environment for prudent fiscal outcomes and better alignment of the fiscal outcomes with overall macroeconomic objectives. They help improving the alignment of the monetary and fiscal policy objectives, which is one of the key aspects in implementing consistent macroeconomic mix of policies. The PFM system, referred in the literature also as a "budget system" or " budget institutions", encompasses processes and procedures that pertain to all stages of the budget cycle: budget planning stage that culminates in the submission of a draft budget law to the parliament; parliamentary stage that ends with adoption of a formal budget act; budget execution stage; and budget monitoring and reporting, or ex post control stage (von Hagen & Harden, 1996, p.3). "The term "budget system" should be interpreted quite widely to encompass the institutional framework, as well as the administrative procedures that determine the means whereby resources are transferred to government; how their use is prioritized and directed to agreed policy objectives; and how their use is subsequently managed, controlled, monitored, and reported (Diamond, 2006, p.3)." The definition of public finance given by Pollitt and Bouckaert (1999, p.46) is that it "consists of deliberate changes in the structures and processes of public sector organizations, with the objective of getting them to run better."

Although there are some variations in the theory regarding the main objectives of the PFM system, in general, they can be defined as: microfiscal control, macrofiscal control and effective and efficient use of public resources (Campos & Pradhan, 1996; Schiavo-Campo & Tommassi, 1999; Tandberg, 2005; Diamond, 2006). The first objective means effective fiscal control of the budget appropriations adopted by the Parliament ensuring that actual budget spending is in line with the annual budget law. It usually includes control of expenditures at the level of budget agencies, programs and line items. The second objective is wider as it refers to aggregate fiscal discipline in terms of aggregate fiscal balance, debt level, and avoidance of accumulation of government arrears. The aim is keeping the main aggregate fiscal indicators at a sustainable level and adjusting them in line with the macroeconomic environment and shocks. The third objective implies channeling public resources towards strategic government priorities and their economical (quality inputs at lowest price), efficient (achieving outputs at lowest price) and effective (achieving outcomes, i.e., final objectives) use. This objective is usually associated with implementation of a budgeting system that is more focused on outputs, rather than on inputs and involves less centralized budget controls.

Although the three objectives of the PFM system are consistent in a medium term, there may be a trade-off in the short term. If the fiscal finances are weak and under pressure, then a need for strengthened centralized budgetary control emerges and less flexibility is

left for budget managers of the spending ministries. In this light, Tandberg (2005) claims that priority for developing and transition economies that are vulnerable to economic situation is macrofiscal and microfiscal control. If there are no good mechanisms for micro control, fiscal discipline of the budget agencies may erode resulting in overspending, misuse of public funds and corruption. Weak microfiscal control undermines the achievement of aggregate fiscal targets. This may be equally challenging task even for developed economies, as politicians are tempted to bigger spending financed through deficit for the sake of keeping the political power. Countries having stable economy and well established budgetary procedures may gradually shift their focus to improving allocative efficiency and cost-effective service delivery, i.e., moving to output-oriented budgeting and replace strong centralized ex-ante controls with ex-post accountability. Moving from input-oriented to output-oriented budgeting is a long and difficult process. Main issues are how to define and measure outputs, how to define the accountability framework for budget managers, how to provide needed information and reports to measure the performance, and how to establish a system with adequate incentives and sanctions.

In the literature there are also views that budgetary flexibility can increase the overall fiscal prudence. The empirical study of Strauch (2000) finds that greater managerial flexibility is associated with better fiscal outturns. The rationale is that managers of individual budget programs are best informed and placed to decide where to cut, which activities are unproductive and how best to rationalize to achieve overall fiscal targets. A decentralized decision-making environment creates incentives for budget managers to better manage and use budget allocations. Having said that, decentralized decision-making process goes hand in hand with a clearly defined accountability of the budget managers for expected outputs. Hence, on the one hand, budget managers are given greater flexibility in operational decisions while managing budget allocations, but, on the other, they are assigned greater responsibility for achieving outputs. Instead of being held accountable for correct use of inputs, they are held accountable for the achieved results.

Budgeting is a process of allocating public resources to specific needs of the society, i.e., to specific programs and projects and thus represents a very powerful political instrument. Von Harden (1992) points to two aspects of this process that generate problems for fiscal discipline and accentuate the importance of strong budget institutions. First, policy–makers tend to focus on short-term benefits of fiscal spending while discounting future implications for the taxation, thus overestimating the net benefits of fiscal spending. Second, given that spending ministers and parliamentarians are exposed to political pressures from specific interest groups (expenditures benefit particular groups) and that the tax burden falls to general public, there is an incentive of large spending and deficits. Although from the point of view of the spending ministries or parliamentarians these strategies seem rational, the aggregate effect is a collectively suboptimal outcome as

policymakers fail to internalize the overall fiscal costs of the government activities (Gleich, 2003).

In the last twenty-five years, developed countries have embarked on modernizing budget systems that has been largely supported at a high political level. Main pressures for reforms have stemmed from the need to cut budget deficits and to increase the efficiency, effectiveness and quality of public services. The modernization has covered areas such as budget consolidation and coverage, introduction of a treasury single account (hereinafter: TSA), cash management, financial management information system, medium-term budgeting, accrual accounting, performance budgeting, reporting and monitoring, etc. Special attention has been devoted to reorienting budget systems from traditional input-oriented to a modern output-oriented budget within a medium-term framework. However, these reforms remain as challenging tasks for the transition and other developing economies. Feasibility of having a multi-year perspective is greater when the macroeconomic environment is more stable, allowing a realistic assessment of the resources to be available to the government, which is not the case in many transition and other developing economies. Also, in many of these countries cash management is still not well developed. This often results in a so called "cash rationing", i.e., a process of authorizing payments with delay when cash is available. Storkey (2003, p.4) identifies the following limiting factors for cash management reforms: (i) institutional rigidities; (ii) lack of willingness for reform; (iii) lack of adequate technology for efficient banking, settlement and clearing systems; and (iv) undeveloped banking facilities and services.

There are continuous debates over the reform approach. Allen (2009) argues that, generally, a reform of the budget system is a very slow and challenging process. In the advanced economies it has taken two hundred years and the reform process has not been completed yet. The rationale, he claims, is that the budget is a key mechanism for determining the distribution of resources and economic rents, and it requires political willingness to make hard choices. Moreover, the global economic crisis has revealed many weaknesses in the budget systems of developed and developing economies suggesting that previous assessments about the reform progress might have been too optimistic. Schick (1998) argues that when improving the budget system in countries with low capacity the priority is "getting basics first". Namely, the government should ensure effective control of inputs before moving to control of outputs, develop good cash accounting before moving to accrual accounting, and have good financial audit before moving to performance audit. In the same vein, North (1990, p.89) proposes piecemeal reforms stating that "The single most important point about institutional change, which must be grasped if we are to begin to get a handle on the subject, is that institutional change is overwhelmingly incremental." Brooke (2003) argues for the so-called "platform approach" proposing that PFM reforms should be packed into group of activities that form a logical sequence. This approach will entail more structured way in sequencing of the reforms that will reflect the mutual interdependence of some of the reform activities. On the other hand, there are proposals for

comprehensive scope of reforms taking a "bing bang" approach (Werlin, 1992; Rodrik, 1996).

Implementation of PFM reforms commonly entails amendment of the legal framework. Lienert (2005), based on a review of country experiences, argues that laws would need to change to introduce most of the PFM reforms. This, in particular, refers to reforms related to improved government performance (budget nomenclature, performance budgeting, accrual accounting, contracting out government services) and greater transparency and accountability.

Fabrizio and Mody (2008), focusing on the conditions under which budget institutions are more likely to be strengthened, construct an index of the overall quality of budget institutions for 23 European countries. They assign values to budget preparation stage, budget authorization stage, and budget implementation stage guided by the principle that larger value implies more checks and balances. Their finding is that large fiscal deficits do not help in focusing policymakers on undertaking reforms as they entail large claims on budget and, therefore, generate unwillingness to strengthen procedures introducing self-discipline. On the contrary, the larger the deficit, the lower the likelihood for the reforms.

Tandberg and Pavesic-Skerlep (2009) investigate the PFM reforms in South East Europe (ex-Yugoslav countries, Albania, Kosovo, Moldova, Bulgaria and Romania) concluding that while there is a progress in implementing basic PFM reforms, there is a long way to go to implement advanced PFM reforms. Basic reforms are defined as: development of a complete budget classification, introduction of complete budget coverage, capital budget integration, introduction of a consolidated TSA and adequate budgetary controls. Advanced reforms include: medium-term budgeting, performance-oriented budgeting, integrated cash and debt management, unified accounting framework and fiscal transparency. According to the overall assessment of all components of the basic and advanced PFM reforms, the RM is ranked on the third position behind Slovenia and Bulgaria. Main challenges ahead identified for the RM are medium-term budgeting and performance-oriented budgeting. Similar are the conclusions of Olden, Last, Ylaoutinen, & Sateriale (2012) who asses the institutional preparedness for fiscal consolidation against the background of deteriorated public finance during the crisis period. The study claims that key institutional arrangements are generally in place, including top-down budgeting and medium-term budget frameworks, but significant room for improvement, for most of the countries, including the RM, exists in the areas of macro-fiscal forecasting, fiscal risk, fiscal objectives, independent fiscal agencies and parliamentary approval.

The PFM procedures that ensure fiscal discipline are an important element for having a good coordination between monetary and fiscal policies. "To state that control is to expenditure management what oxygen is to the human body is to understate its importance" (Premchand, 1993, p.28). They enhance the stabilization role of the fiscal

policy, i.e., help in achieving targets consistent with the monetary policy and the overall macroeconomic policy mix. Without adequate procedures in place, it will be difficult to keep fiscal policy under control thus shifting the burden to the monetary policy to deal with the economic shocks. Additionally, adequate procedures can improve the process of information sharing between the ministry of finance and the central bank, and increase the efficiency of the monetary policy operations.

There are many empirical studies showing that strengthened institutional framework for budgetary procedures can improve fiscal discipline (von Hagen, 1992; Alt & Lowry, 1994; Poterba, 1993; Hallerberg & von Hagen, 1997; von Hagen & Harden, 1996; Alesina, Hausman, Hommes, & Stein, 1999; Fabrizio & Mody, 2006,). They build on the so-called "common pool resource problem" which derives from the fact that government spending is targeted at specific parts of the population while revenues are paid by all population. The result of this is an overestimation of social benefits of the public spending by policymakers and lower fiscal discipline. The empirical studies have relied on the construction of numerical indices used to test the hypothesis that quality of budget institutions matters for fiscal outcomes.

Von Hagen (1992) and von Hagen and Harden (1996) provide the first empirical estimates of the relationship between the budget procedures and fiscal outcomes of the European Community countries during 1980s by constructing several indices. The indices encompass information on the budget preparation procedures, relationship between the executive branch and the parliament, budget implementation procedures, transparency of the budget, existence of numerical budget targets, and multi-year budgeting. Von Hagen (1992) tests the long-term constraint hypothesis, which implies that the more the budgetary decisions are tied to a multi-annual period, the greater the fiscal stability, and the structural hypothesis, which implies that centralized and tighter budgeting procedures enhance fiscal discipline. While for the second hypothesis he finds strong empirical evidence, the evidence for the long-term constraint hypothesis is weak pointing out that long-term constraint will be effective only if there are strong structural characteristics of the budget process. Von Hagen and Harden (1996) claim that common pool problem of the public budget, i.e., the spending bias can be reduced by introducing elements of centralization in all stages of the budget process (planning, parliamentary discussions, implementation and ex post control stage). They construct an index of centralization of the budget process for 12 European Community countries and find that countries ranking high on the index have run smaller deficits and accumulated smaller debts, suggesting that reforms of the budget system may markedly improve the fiscal discipline. The centralization of the budget process can take a form of: (i) establishing a dominant player in the budget process, usually the finance minister or (ii) setting limits for the aggregate budget at the beginning of the budget process that are negotiated collectively.

Similar conclusion can be drawn from the empirical study of Alesina et al. (1999) who analyze the relationship between the budget institutions and fiscal performance on a sample of 20 countries in Latin America. The analysis pertains to three types of budgetary institutions: laws which establish fiscal constraints, procedural rules and rules concerning the transparency of the budget. They find that the nature of the budget institutions - defined as rules and regulations, according to which budgets are drafted, approved and implemented - strongly influences fiscal outcomes. More specifically, legislative constraints, hierarchical procedural rules and higher transparency enhance the fiscal prudence. Hierarchical rules are defined as rules attributing a leading role to the minister of finance in the process within the executive branch, and attributing a leading role to the executive branch vis-à-vis the parliament in the budget approval process.

There are also studies on this issue specifically focused on the transition economies, some of them being single-country case studies (Caiden, 1993; Vanagunas, 1995; Martinez-Vazquez, 1997; Tuma, Polackova, & Ferreira, 1998) and some of them being multi-country comparisons (Branson, de Macedo, & von Hagen, 1998; Martinez-Vazquez & Boex, 2000; LeLoup, Ferfila, & Herzog, 2000; Gleich, 2003; Fabrizio & Mody, 2006; Mulas-Granados, Onrubia, & Salinas-Jemenez, 2009). During the transition process, governments have embarked on reforming the public sector in line with its new role in the market economy. One of the key aspects of the reform process has been the public finance system reform.

The empirical study of Gleich (2003) explores the linkage between the institutional design of budgetary procedures and fiscal performance in 10 Central and Eastern European countries. The objective is to determine whether the budget institutions have played a role in achieving and maintaining a control over public finances during the transition process. The empirical results suggest that the quality of the budget process had a strong impact on the average size of the budget deficit and average public debt levels for the period 1994-98. More specifically, it appears that budget preparation and authorization stages, during which most of the political bargaining takes place, are more important for the fiscal discipline compared to the budget implementation stage. Similar conclusions for the importance of the fiscal institutions in ensuring fiscal rigor in transition economies are drawn in the study of Ylaoutinen (2004), although the study shows that all stages of the budget process are important. The study compares the strength of the fiscal institutions of the Central and Eastern European countries and the Western European countries (EU-15) and finds a difference, especially in the field of multi-annual frameworks. The results confirm that all countries have undertaken steps to strengthen their fiscal institutions by using jointly agreed fiscal targets, rather than delegation of significant powers to the minister of finance.

Fabrizio and Mody (2006) find that besides the politics, also budget institutions - mechanisms and rules for the budget process - that create checks and balances have

significant value in determining primary fiscal balance. Their study investigates the fiscal developments over the period 1997-2003 for 10 Central and Eastern European economies in relation to a quantitative index of the overall quality of budget institutions. The index evaluates the quality of the budget preparation, budget authorization and budget implementation stages. Unlike Gleich (2003) they find that the checks and balances at the budget implementation stage appear to be the most relevant for fiscal discipline. While the control mechanisms at the first two stages restrain fiscal irresponsibility, greater danger arises from the budget implementation stage.

Dabla-Norris et al. (2010) focus on low and middle-income countries by constructing multi-dimensional indices that aggregate a wide number of indicators across different stages and aspects of the budget process. The study provides evidence that sound institutions, in particular budget planning and implementation procedures, promote higher fiscal discipline as measured by higher primary balances and lower public debt. Gupta and Ylaoutinen (2014) also investigate the quality of the budget institutions in low-income countries by assessing twelve budget institutions that are considered important for planning and delivery of credible fiscal strategies. The results point to a wide gap in budget institutions between developed and low income countries and positive relationship between the budget institution scores and economic development.

In recent years, the relationship between the countercyclicality of the fiscal policy and the quality of budget institutions has received a growing interest. Absence of adequate budgetary control mechanisms appears to be conducive to procyclical behavior as competition for public resources leads to overspending in good times (Tornell & Lane, 1999). Weak institutions also heighten concerns about the government creditworthiness and sustainability, and further emphasize the financing constraints during downturns and financial markets stress (Alberola & Montero, 2006). Beetsma et al. (2009) find that strong medium-term budgetary framework and numerical fiscal rules promote fiscal discipline and countercyclical policies by reducing implementation errors. The positive relationship between the quality of the budget institutions and the countercylicality of the fiscal policy is also found by Dabla-Norris et al. (2010) pointing out that fiscal policy has been on average less procyclical over the last decade and the fiscal accommodation in 2009 was higher in countries with stronger budget institutions.

The level of fiscal prudence can be affected by the transparency of all stages of the budget process. Politicians have incentives to produce complex and less transparent budgets that do not reveal total costs and benefits of the public revenues and expenditures. According to the theory of “fiscal illusion”, as illustrated by Buchanan and Wagner (1977), voters typically overestimate benefits of public spending and underestimate the current and future costs of taxation. Lack of transparency increases voters’ confusion and decreases understanding of the actual state of the public finance. In practice, a variety of tricks can serve the purpose of influencing the beliefs of the voters/taxpayers, such as overestimating

the projected economic growth, projecting overly optimistic effects of some policy measures on the budget, keeping part of the spending outside the budget in off-budget funds, presenting medium-term budgeting where all hard policies occur in the last two years thus buying time (Alesina & Perotti, 1996).

Despite the strengthened checks and balances in the budget process, important aspects for enhancing the coordination between the monetary and fiscal policies are also medium-term budgeting, cash management and liquidity forecasting.

Medium-term budgeting represents a medium-term vision for the public revenues and expenditures, i.e., the role and the size of the fiscal policy in the economy. It is also a clear indication of the government's strategic priorities and direction of the fiscal policy in the next couple of years. There are three types of medium-term budgeting: (i) medium-term fiscal framework provides a statement of fiscal policy objectives and sector strategies and a set of integrated medium-term projections for the main macroeconomic and fiscal indicators; (ii) medium-term budgetary framework incorporates all elements of the medium-term fiscal framework and additionally, budget estimates for individual spending agencies in line with the strategic priorities of the government; and (iii) medium-term expenditure framework that besides all elements of the medium-term budgetary framework includes elements of output-based budgeting (Oxford Policy Management, 2000).

Medium-term budgeting contributes in maintaining fiscal discipline, as the stabilization of high deficits can be realistically achieved only in a medium term (Schiavo-Campo & Tommasi, 1999). This will bring substantial benefits for the coordination of monetary and fiscal policies. One year appears to be a very short time to adjust the fiscal position. Rapid spending adjustments tend to be cuts across-the-board which may not be sustainable in a medium term implying short-term solutions to long-term structural problems (Premchand, 1993). Medium-term projections for revenues and expenditures, allow setting medium-term fiscal targets, checking the consistency of the targets with the other macroeconomic goals and policies, as well as undertaking timely measures needed to achieve these targets.
In this light, Allen and Tommasi (2001, p.175) state the following advantages of the medium-term budgeting: (i) setting overall fiscal policy targets and stating explicitly how the government will meet them in a medium term; (ii) providing better information on medium-term costs of the existing expenditure policies; (iii) giving greater scope to initiate changes in budget policy that will take more than one year to implement; and (iv) illuminating the budget implications of recent policy decisions on future years' budget expenditures, which may not be fully reflected in the existing budget.

In the literature, cash management is usually defined as a management of public money in a way that ensures timely payment of all government obligations while minimizing government borrowing costs and maximizing the return on temporary cash surpluses. The cash manager should provide cash in a manner that allows government to meet its

obligations at all times (smooth budget execution). Cash management is not about doing payments when cash is available, it is rather providing cash when obligation is due. The need to efficiently manage cash exists even when the annual budget is in balance or in surplus, as there are seasonal patterns in the collection of revenues and execution of expenditures. Timely provision of cash can also decrease the borrowing costs. On the other hand, placement of short-term cash excess can lower the opportunity costs of keeping idle balances on the government accounts. Storkey (2003, p.1) provides the following definition: "cash management is having the right amount of money in the right place and time to meet the government's obligations in the most cost-effective way." Williams (2004, p.2) defines cash management in a slightly broader way as "…the strategy and associated processes for managing cost-effectively the government's short-term cash flows and cash balances, both within the government, and between government and other sectors."

The benefits of an efficient cash management can be summarized as (Williams, 2004, p.3): (i) it increases certainty that payments are made properly by the due date and receipts are collected without delay; (ii) it increases savings in terms of borrowing costs as the volume of idle cash balances held by government bodies is minimized; (iii) it improves visibility of flows as they are channeled through a single account and opens up opportunities for active cash management through placement of short-term surpluses; (iv) it provides greater flexibility in how best to manage government financing needs through use of wide range of financing instruments; (v) it makes monetary policy interventions less problematic and reduces volatility of short-term interest rates and uncertainty in money markets; and (vi) it contributes to the development of an efficient short-term securities market.

The link between the cash management and monetary policy can be explained by the fact that any change of the balances on the government account with the central bank affects the liquidity in the banking system. For example, a drawdown of government deposits at the central bank means injecting liquidity in the banking system or increasing the reserve money, as bank reserves kept at the central bank increase. Government's operations, along with foreign exchange operations and changes in the currency in circulation, are main factors that affect the liquidity and hence market interest rates. Depending on the macroeconomic context and the money market developments, the central bank will have to adjust its open-market operations to mop up excess liquidity or to additionally inject liquidity.

In order to improve the coordination between monetary and fiscal policies, in the Eurozone countries and in some other advanced economies (UK, Sweden), the ministry of finance takes a responsibility for keeping pre-defined targeted balance at the central bank. By sticking to the agreed targeted balance, one autonomous factor that can affect the liquidity is eliminated which lessens the task of the monetary policy. To be able to meet the target, the ministry of finance has to have many borrowing and lending instruments at its disposal. At the end of the day any excess surplus needs to be placed with the banking system, and

any shortage to reach the target will have to be provided by the banking system. Thus, the potential impact of the government flows on the banking liquidity is offset and monetary policy does not need to take them into account.

Efficient cash management underscores the importance of information sharing between the cash managers and the central bank. This is especially the case in the absence of the practice of a "targeted balance" at the central bank. The central bank needs information on the forecasted outflows from and inflows on the government account at the central bank so that it can, in a timely and predictable way, factor in the expected changes of this autonomous factor in its monetary operations. It should also have information or be consulted on any new cash management instruments that have liquidity effects. The ministry of finance, on the other hand, needs real time information on all the flows into and out of the government account, as well as up to date information on money market developments, foreign exchange market developments and bank liquidity. The information sharing can be backed by legal provisions, exchange of letters or memorandum of understanding. The information sharing will help avoid conflicting and non-consistent policies and operations of the ministry of finance and the central bank. Both institutions would like to avoid having competing policies or giving confusing signals to the market (Williams, 2010).

Cash or liquidity forecasting is one of the key prerequisites for developing cash management. In this context, Lienert (2009, p.3) states that short-term projections of the government inflows and outflows, along with the establishment of a TSA; adequate transaction processing and accounting framework; timely information sharing among treasury, revenue-collecting agencies and spending ministries; and appropriate institutional arrangements and responsibilities, are key features of the modern cash management. Without cash flow forecasts across the TSA and daily monitoring and adjusting the forecasts, efficient cash management is practically impossible. The ministry of finance should be able to accurately project all government revenues and expenditures, as well as all financing transactions and share the projections with the central bank. The central bank will be able to compare these projections with its own projections and make better-informed decisions on the size and direction of the open-market operations. Liquidity forecasting should be comprehensive including all inflows and outflows of all government institutions and updated on a daily basis in line with the deviations of the actual from projected flows and new information.

Introduction of a TSA improves cash management, as it implies consolidation of all government balances at one account where all government revenues are collected and through which all government payments are executed. "Ideally, the government should have all its resources either in a single account - such as the Treasury Single Account as established in a number of transition economies - or in accounts that can be consolidated every night (Potter & Diamond, 1999, p.65)." In many transition economies introduction

of a TSA at the central bank has helped the monetary policy in terms of sterilizing the excess liquidity of the banking system.

2 COORDINATION OF THE FISCAL AND MONETARY POLICIES IN THE REPUBLIC OF MACEDONIA

In this chapter the coordination of the fiscal and monetary policies in the RM is explored. The coordination is analyzed from the following aspects: (i) interactions between the policies and implications for macroeconomic stability; (ii) institutional set up and operational procedures from the coordination point of view; and (iii) the role of public finance management reforms for the coordination process. The aim is to determine whether the policies have been coordinated and if so, what have been the forms of coordination, i.e., whether the fiscal or monetary policy was adjusted to preserve the stability of the exchange rate and prices. The assessment of the coordination in the context of the growth goes beyond the scope of this doctoral thesis. Hence, the thesis will be focused on the implications of the policy mix to the external sector developments, i.e., the stability of the exchange rate, as an intermediary goal, and price stability as the main goal of the central bank. Still, the thesis will explore the interactions between the policies in the context of the cyclicality to determine whether the policies have played a stabilizing role during the cycles, as well as whether they have acted as substitutes or complements.

2.1 Interactions between Fiscal and Monetary Policies in the Republic of Macedonia during 1992-2013

This section elaborates on the interactions between fiscal and monetary policies in the RM from the very beginning of the transition till 2013. It includes the following sections: (i) stabilization process at the early transition and macroeconomic developments during 1992-2013; (ii) monetary system and policy, and foreign exchange system and policy; (iii) fiscal system and policy; and (iv) assessment of the level of coordination of the fiscal and monetary policies and its implication on the macroeconomic developments.

2.1.1 Stabilization Process at the Early Transition and Macroeconomic Overview for the Period 1992-2013

After the political independence of the state from the Socialist Federal Republic of Yugoslavia (hereinafter: SFRY) in September 1991, the main challenges for the policymakers in the RM were achieving macroeconomic stability and embarking on structural reforms towards market economy, i.e., transformation of the socialistic system into a new system based on market principles. The political independence of the state was

established in an environment of hyperinflation, unfavorable external sector developments, continuous depreciations of the exchange rate of the dinar against the Deutsche mark, existence of the so called "black currency exchange market", and almost no foreign reserves. The policymakers faced with weak fiscal finances, i.e., rising deficit amidst falling economic activity. Despite internal factors, external shocks also played an important role for the macroeconomic instability. The dissolution of ex-Yugoslavia and ex-Soviet Union, and economic sanctions imposed by the United Nations on Serbia and Montenegro led to a loss of our most important traditional trading partners and reinforced the trend of declining economic activity. In addition, trade blockades by Greece, which started in August 1992, hampered the traditional transport routes and entailed significant increase of the transportation costs.

The monetary independence took place on 26th April 1992 when the Macedonian parliament adopted the Law on the Currency of the Republic of Macedonia, alongside the Law on the Use of the Currency of the Republic of Macedonia and the Law on the National Bank of the Republic of Macedonia. The monetary independence meant a possibility to use own economic policies to stabilize the macroeconomic environment. Hyperinflation was a key challenge for the policymakers on their way to create a stable macroeconomic environment. In April 1992, before the introduction of the national currency, the annual inflation rate reached 1198.7%. In light of this, the monetary independence was accompanied with an Anti-Inflationary Program adopted by the parliament with its main anchors being: (i) restrictive monetary, credit and exchange rate policies; (ii) tight fiscal policy; (iii) control of wages; and (iv) freeze of the prices of some strategic products.

In May, 1992 a fixed exchange rate of the denar (Macedonian currency) against the Deutsche mark was introduced with a parity of 1 deutschmark = 360 denars. Given that the level of foreign reserves was extremely low, the use of the exchange rate as an anchor for taming inflation was not possible without tight demand policies. Positive real interest rates and control over monetary aggregates were considered to be essential to curb hyperinflation. Special focus was put on the credits that banks extended to the enterprises. Tight monetary conditions were also expected to contribute to the increase in the foreign reserves. In ex-Yugoslavia, the Macedonian banks used to provide foreign exchange for financing the continuous high trade deficit and for repayment of external loans from the federal foreign exchange market. The Republics did not have their own foreign reserves and the National Bank of the SFRY used to intervene heavily in the federal foreign exchange market.

The stabilization process was supposed to be supported by fiscal policy through real reduction of public expenditures, control of the wages in the enterprises sector, and administrative control of prices of some essential products such as sugar, milk, bread etc.

After a couple of months of implementation, the stabilization efforts were undermined as it was politically difficult to stick to the main pillars of the Stabilization Program. The first step in this direction was the parliament's rejection of the government's proposal to freeze

pensions (allowing increase of 41%). Then, in August 1992, the parliament amended the Wage Law allowing 50% increase of the wages in the enterprise sector and 141% in the public administration. In addition, it turned out to be very difficult to resist to producers' pressures for increasing the regulated prices, which became particularly obvious after the resignation of the expert's government in July 1992. Fiscal policy remained loose with the fiscal deficit reaching 12.6% of GDP in 1992. The legal limitation on government borrowing from the central bank was circumvented by direct borrowing of the budget users from the banks. The central bank had a weak control over monetary aggregates as it was required to refinance loans extended by banks for specific economic sectors determined by the government (so called "selective loans"). All these developments were reflected in the prices and the inflation spiral started reviving again. As a consequence, the spread between the official and "black" exchange rate widened again. Another factor that might have contributed in this direction is the unrealistic parity between the denar and the Deutsche mark given the higher (compared to anticipated) monetary expansion during the conversion of dinars into denars. Devaluations were inevitable.

Measures were undertaken to discontinue this trend, with readjustment of the Stabilization Program, but they were not successful. At the end of 1992 annual inflation was 1925% (average inflation for 1992 was 1670%) and the difference between the official and "black" exchange rate markedly widened. Overall, the macroeconomic policy mix implemented during 1992 did not bring in the desired stabilization due to a lack of disciplined and coordinated macroeconomic policies, as well as external political and economic shocks.

Focal points of the new Stabilization Program, adopted by the government and supported by the IMF and the World Bank, at the end of 1993, were control of inflationary pressures through tight demand policies and implementation of structural reforms. The control of the wages was reestablished by adoption of a law that limited the indexation of the wages and other benefits of the employees in the socially-owned enterprises (who amounted to about 83% of the total employees) and of the public administration. To reestablish a control over the monetary aggregates, the NBRM stopped its practice of financing specific economic sectors and focused on the introduction of market-based monetary policy instruments. Starting from May 1993 to end 1995, monetary policy was conducted within a framework of a flexible exchange rate.

One of the building blocks of the Stabilization Program was the fiscal reform aimed at putting public finances on a sustainable path. At the onset of the transition, the new state had to cope with rising expenditure needs due to introduction of the new state functions and restructuring of the economy. On the other hand, revenue base was eroded due to the declining economic activity, widespread gray economy, tax evasion and weak tax enforcement. Budget deficits were predominantly financed by accumulation of arrears towards foreign and domestic creditors. The fiscal reform entailed reforms of the tax system and establishment of a tighter control over public expenditures, including real reduction of public wages and pension benefits.

Given that the macroeconomic balance cannot be achieved and sustained in a long run without structural reforms, the Stabilization Program envisaged privatization and restructuring of the enterprises and banks, as well as institutional, legal, labor-market and pension-system reforms.

On the back of contraction of the economic activity and quasi-fiscal operations performed by the banks, quality of the banks' credit portfolio was very low, seriously jeopardizing liquidity and solvency of the banking system. As socially-owned enterprises were at the same time owners and debtors to the banks, obviously this had its negative reflection on the non-performing loans. Furthermore, the high ratio of non-performing loans hampered the process of repayment of the banks' debt to foreign creditors.

Another issue burdening the banking system's balance sheet was the problem of the so-called "frozen foreign currency deposits". Namely, with the dissolution of the SFRY, foreign currency deposits of the Macedonian households, which accounted for about 1.6 billion Deutsche marks as of end 1991, remained captured at the National Bank of Serbia where the Macedonian commercial banks kept the household foreign currency deposits. Starting from 1960 the commercial banks were obliged to accept foreign currency deposits, but, on the other hand, were not allowed to extend foreign currency loans or have other assets to hedge against foreign exchange risk. Devaluations of the currency coupled with a policy of high deposit interest rates and relatively low lending rates negatively affected the banks' balance sheets. With a view of encouraging households' savings and avoiding negative foreign exchange effects over the banking system, starting from 1977 the banks were allowed to place foreign currency deposits with the National Bank of Yugoslavia, which, in turn, was obliged to provide interest-free loans to banks to be channeled to the real economy. The National Bank of Yugoslavia tried to solve this problem of foreign exchange risk through a system of actual and fictitious foreign currency deposits of banks and interest-free loans to the banks (Ribnikar, 2004).

To solve the enduring problems of the banking system, the government had to step in with a clean-up and rehabilitation. Thus, in 1995 with the passage of a law, the government cleaned up the banks' balance sheets from the liabilities related to households' foreign currency deposits (1.4 billion Deutsche marks as of 31.12.1994), as well as from part of the liabilities towards external creditors. Liabilities to external creditors, as well as corresponding claims, were taken out of the banks' balance sheets and transferred to the government body in charge of rehabilitation of the banking system. In parallel, additional clean-up of the balance sheet of the biggest Macedonian bank (Stopanska Banka) was undertaken, along with its restructuring, reorganization and preparation for privatization. For this purpose, the government issued a 15-year government bond to Stopanska Banka, 5-year bonds to other banks that had claims on the government for the payments related to the withdrawal of foreign currency deposits by households (before 1995), and an interest-free bond to the NBRM that matures in 2020 for the selective loans extended through banks to specific economic sectors.

The fall of the economic activity deteriorated the balance sheet of the enterprise sector. The economic activity was concentrated in a couple of traditional sectors such as steel, agriculture and textiles. The only way forward in increasing efficiency and competitiveness was privatization, that in some form started in ex-Yugoslavia (in 1989), and letting private owners restructure the enterprises. Still, some of the enterprises, usually very large capacities, were restructured even before the privatization. The Law on Transformation of the Socially-Owned Capital was adopted in 1993, but the privatization effectively started at the beginning of 1995 and it was a rather slow process. About 60% of the privatizations were to insiders resulting in low accountability, low capital injections and absence of new trade links that could boost investments, restructuring and production. Strategic investors accounted for only about 20% of the privatized equity. Privatization and restructuring were accompanied with reforms of the labor market that meant higher flexibility of the labor market through strengthened rights of the employers and reduced benefits for the unemployed.

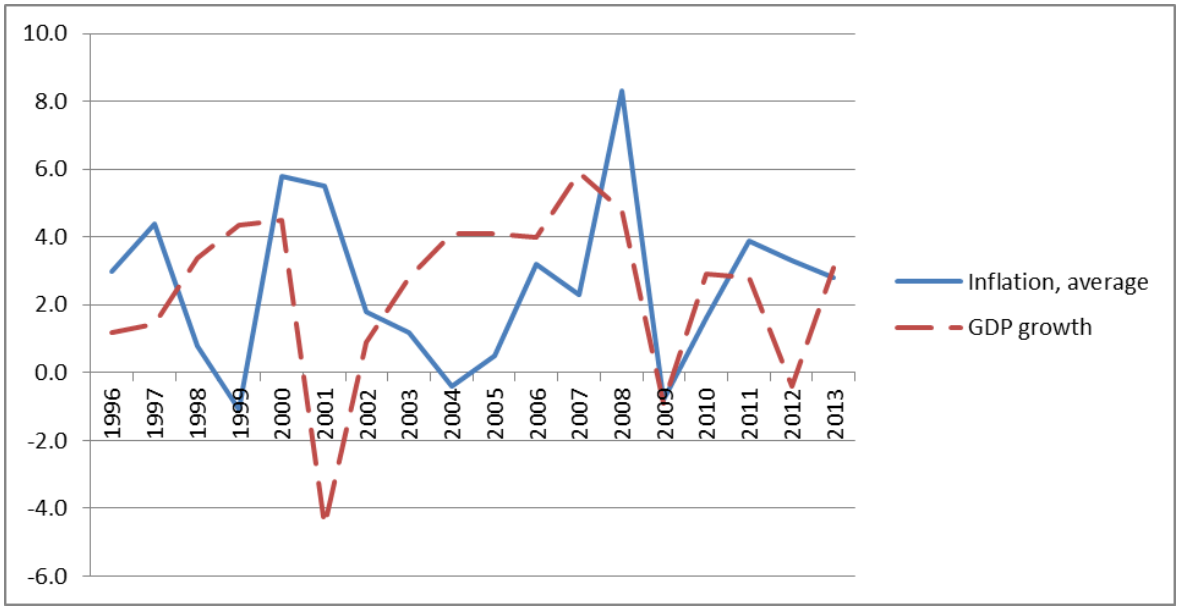
The Stabilization Program that was financially supported by the IMF and the World Bank eventually led to macroeconomic stabilization. The improvement became visible in 1995. Inflation was brought down to a single-digit level (9.2% end of year), foreign reserves started rising and reached 1.9 months of coverage of the prospective imports, fiscal finances were put under control (budget deficit of 1.2% of GDP), the exchange rate of the denar was kept stable and the difference between the official exchange rate and the so-called “black exchange rate” was eliminated. Although the decline of the economic activity continued, the intensity of the decline was lower (-1.1% compared to -1.8% in the previous year). In 1996, for the first time after the independence, a positive real growth rate of 1.2% was registered.

A combination of tight fiscal, monetary, exchange rate and income policies proved to be a successful mix in bringing and keeping inflation down thus creating a stabile macroeconomic environment as a precondition for long-term sustainable economic growth. A low single digit inflation rate that was achieved in 1996 was maintained almost throughout the whole transition period, being one of the main characteristics of the transition process of the Macedonian economy. Average inflation for the period 1996-2013 amounted to 2.6%, which is close to the average level of inflation in the EU countries and is a great advantage compared to other transition countries. Higher inflation was registered during 2000-2001 stemming from the introduction of the VAT and psychological factors related to the domestic security crisis. Also a pick-up in prices occurred in 2008 when there was a global price shock reflecting the rising demand for commodities by emerging market economies, as well as supply constraints, including the use of some agricultural products for bio fuel. Thus, in 2008 average inflation reached 8.3% driven by the global rise of food and energy prices, and to some extent by the domestic demand. Some inflationary pressures again became evident in the second half of 2010, emanating mainly from the tight global supply due to unfavorable weather conditions and geopolitical tensions in the Middle East and South Africa.

Overall, inflation dynamics in the RM was determined chiefly by supply side factors, such as price liberalization process, tax changes, administrative measures aimed at restraining inflation, movements in the world prices, liabilities related to the World Trade Organization membership and the Stabilization and Association Agreement with the EU. Given the high openness of the Macedonian economy, movements in the world prices of food and energy have been a very important factor influencing the price dynamics. Global shocks in the commodity prices have been highly transmitted in the domestic price level, especially the food prices as food accounted for about 40% of the inflation index. The level of the transmission of the global price shocks varied depending on the stage of the business cycle and whether government undertook administrative measures to restrain the price growth.

Despite the stable macroeconomic environment starting from 1995, the growth of the Macedonian economy was lagging behind the other transition economies. After the sharp output contraction during 1990-1995, starting from 1996, Macedonia's real GDP was increasing, though at a modest pace (2.6% on average for the 1996-2013 period). The modest recovery can be explained by a slow process of privatization, predominantly privatizations to insiders, lack of foreign direct investments and other capital inflows, slow process of structural reforms, as well as external and internal shocks. Besides the shocks at the early transition (dissolution of ex-Yugoslavia and Soviet Union, the UN embargo on Serbia and Montenegro, and the Greek trade blockades), also the Kosovo crisis in 1999 and internal armed conflict between ethnic Albanians and ethnic Macedonians in 2001 contributed to unfavorable real sector developments.

Figure 1. Inflation and GDP Growth Rates in RM



Source: State Statistical Office.

Higher rates of growth were registered during the period 2004-2008 (average growth rate of 5%) driven mostly by domestic demand, and in particular consumption, which was supported by rising disposable income and credit to the households. Exports also made a positive contribution to the growth due to a strong foreign demand and favorable world prices of the main export products. However, as imports grew, being a reflection of the increased domestic absorption and increased exports, net export during this period contributed negatively to the growth. Historically, the highest GDP growth rate of 5.9% was registered in 2008. Global economic and financial crisis disrupted the growth path, resulting in a decline of economic activity of 0.9% in 2009, which still on a comparative basis is a rather mild contraction. As export demand and export prices declined, export significantly adjusted. This first channel of transmission combined with limited credit flows, deteriorated expectations of the corporate and household sectors and lower capital inflows negatively affected the domestic consumption and investments. As the banking system was not significantly exposed to international financial markets, it remained sound and stable. In 2010, economic activity started to recover in line with the declining global uncertainty, descending concerns over sovereign debt crisis in the euro area and improving foreign demand. This trend of recovery was temporarily discontinued in 2012 when the second wave of the crisis was felt and GDP contracted by 0.4%. In 2013 the growth pattern resumed.

Slow economic recovery resulted in high unemployment throughout the whole transition period. At the onset of transition the unemployment rate was already high, amounting to about 27% (above 20% since 1980s) and continued to rise reaching the historically highest level of 37.3% in 2005. Since then, there has been a gradual declining trend supported by solid rates of economic growth that started in 2004 and lasted till the beginning of the crisis. Unlike in many other countries, the unemployment rate in Macedonia continued to decline even during the crisis period. Yet, the decline was a slow process and started from a very high level. Overall, high unemployment rate, low employment rate and low activity rate have been a characteristic of the whole transition period and the RM has been standing out in this respect among comparable countries in transition. On average, in the last 15 years, the unemployment rate amounted to 34% and it has been unevenly distributed i.e., concentrated among specific segments of the population (especially youth).

Besides the limited impact of the global crisis on the Macedonian economy, active labor market policies of the government and foreign direct investments in the tradable sector have also been important factors for the continuous positive labor market developments. Contraction of the economic activity was less than 1% in 2009 and already in 2010 a process of gradual recovery of the real sector started. The recovery has been supported by foreign direct investments channeled into the industry sector, which also increased demand for labor force. Given that the high unemployment has been one of the biggest structural issues for the Macedonian economy, the government, through the Employment Agency, has undertaken a number of active labor market measures. The measures were focused on better aligning the demand and supply of labor force through training for known employer

and more active intermediation of the Employment Agency; stimulating self-employment through provision of grants and favorable loans, help in establishing business and training; public employment programs; subsidies for companies that open new positions and hire, etc. Many of the measures were targeted to tackle the issue of youth unemployment and long-term unemployment.

Figure 2. Unemployment Rate in RM

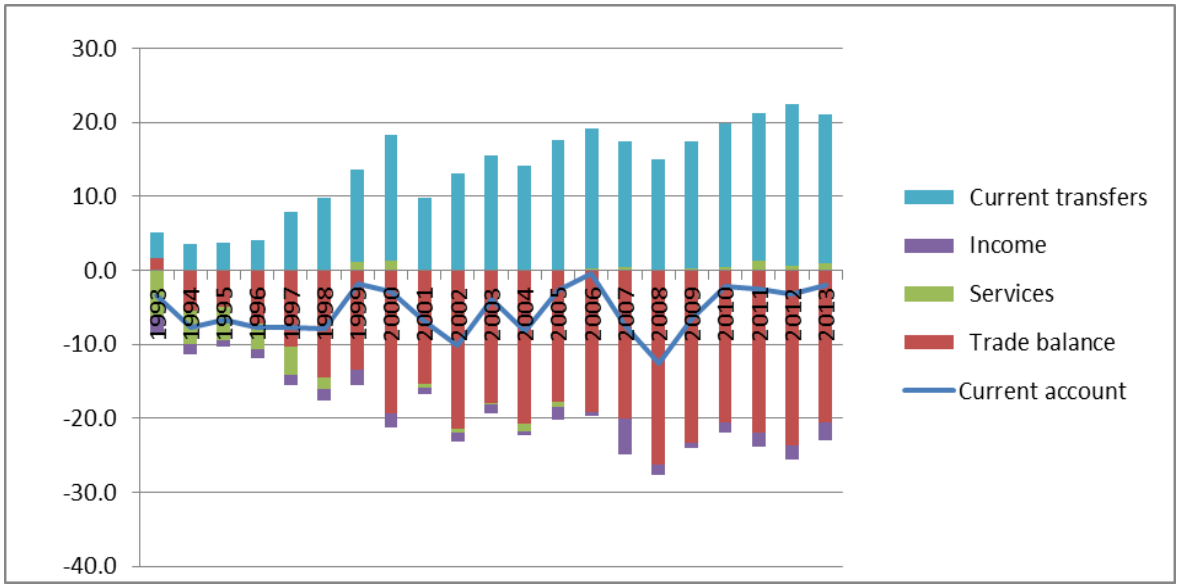
Source: State Statistical Office.

External sector has been characterized by negative current account balances, most of the time being above the conventional wisdom of 5% of GDP. The average current account deficit (hereinafter: CAD) for the period 1993-2013 equaled 5.4% of GDP. The biggest deterioration of the CAD was observed in 2008 when the negative gap reached the historically highest level of 12.6% of GDP. Imports significantly rose amidst acceleration of domestic absorption. On the other hand, private transfers, the most important source for financing the trade deficit, declined. Amidst heightened global and domestic uncertainty, demand for cash in foreign currency increased and savings preferences tilted towards foreign currency, thus exerting pressures on the foreign exchange market. In the subsequent period the negative balance markedly declined (hovering around 2.5% of GDP), mirroring the lower trade deficit, improving private transfers and restoring confidence in the domestic currency. Narrowing of the trade deficit initially reflected lower imports in line with the contraction of the economic activity and then pick-up in exports, partly driven by the new foreign direct investment capacities.

A driving factor for the negative CAD was the trade imbalance reflecting the structural problems of the real sector against the background of slow process of privatization, slow

implementation of structural reforms, low inflow of foreign capital and investments in the tradable sector. Price competitiveness indicators do not point to price competitiveness as a key factor driving the structural trade imbalance. During 1993-2013, trade deficit averaged 16.3% of GDP. Key vulnerabilities of Macedonian exports have been: high import dependence (raw materials, and energy), undiversified product structure with low value-added and high susceptibility to global commodity price movements. Exports have been dominated by agricultural, textile and metal products, thus being highly concentrated and sensitive to foreign demand and commodity price developments. Metal and textile industry products have a significant import component. Energy dependence (oil, electricity, gas) creates significant pressures on the imports and energy trade deficit has accounted for roughly one third of the total trade deficit. Imports of energy and raw materials for industrial production have accounted for about two thirds of the total imports. Since 2012, some positive trends in trade have been observed in terms of higher diversification of export products, rising share of export products with higher value-added and higher diversification of export destinations.

Figure 3. Current Account and its Components in RM, in % of GDP



Source: NBRM.

The historically highest level of trade deficit of 26.3% of GDP was observed in 2008, driven by strong economic activity in 2008 that led to a significant rise of imports. In the last quarter of the year, when the Macedonian economy felt the effects of the global crisis, exports markedly adjusted, but the imports continued to rise, i.e., they adjusted with some delay, negatively affecting the trade balance and foreign reserves. In line with the decline of the economic activity during 2009, trade deficit adjusted downward and in the subsequent period it was about 22% of GDP.

Current transfers have been important source of financing the trade deficit, amounting, on average, to 13.4% of GDP during 1992-2013. This has been especially the case since 2000. Despite the official transfers and private transfers through official banking channels, this balance of payments position also reflects a net purchase of foreign exchange in cash by the exchange offices and banks that has accounted for more than two thirds of the private transfers. This is based on the assumption that the net purchase of foreign exchange to a great deal reflects remittances transferred through unofficial channels. However, it should be noted that net purchase most probably also reflects the grey economy, the receipts from export of services that cannot be fully captured from the existing statistical sources and the conversion of household savings from domestic to foreign currency and vice versa. Current transfers have proved to be very sensitive to macroeconomic and political instability, i.e., whenever there were unfavorable macroeconomic and political developments, households' preferences for saving in foreign currency rose thus lowering the net purchase by the foreign exchange offices and banks.

The financing of the CAD during most of the years was through capital and financial inflows (6.8% of GDP, on average, during 1993-2013). At the very beginning of the transition, the accumulation of foreign reserves was possible mainly because of accumulation of arrears to external creditors and increase in trade credits, while latter the FDI inflows (including privatization inflows) were a dominant source of the financial inflows (on average 3.6% of GDP). The highest FDIs were observed during the years when big state-owned capacities were privatized. Excluding privatization inflows, the FDIs reached momentum in 2008 accounting for 8.6% of GDP. In the subsequent period, global uncertainty and lingering problems with the euro zone sovereign debt crisis negatively affected the perceptions of foreign investors and financial inflows in the Macedonian economy. Unlike other transition economies, other capital flows did not play an important role in the RM. For example, net trade credits, net borrowing and net portfolio investments, on average, accounted for 1.2% of GDP, 1.1% of GDP, and 0.3% of GDP, respectively. Portfolio inflows started increasing in the run up to the global crisis, but this development was discontinued in 2009 due to the high uncertainty and unpredictability present at the international financial markets.

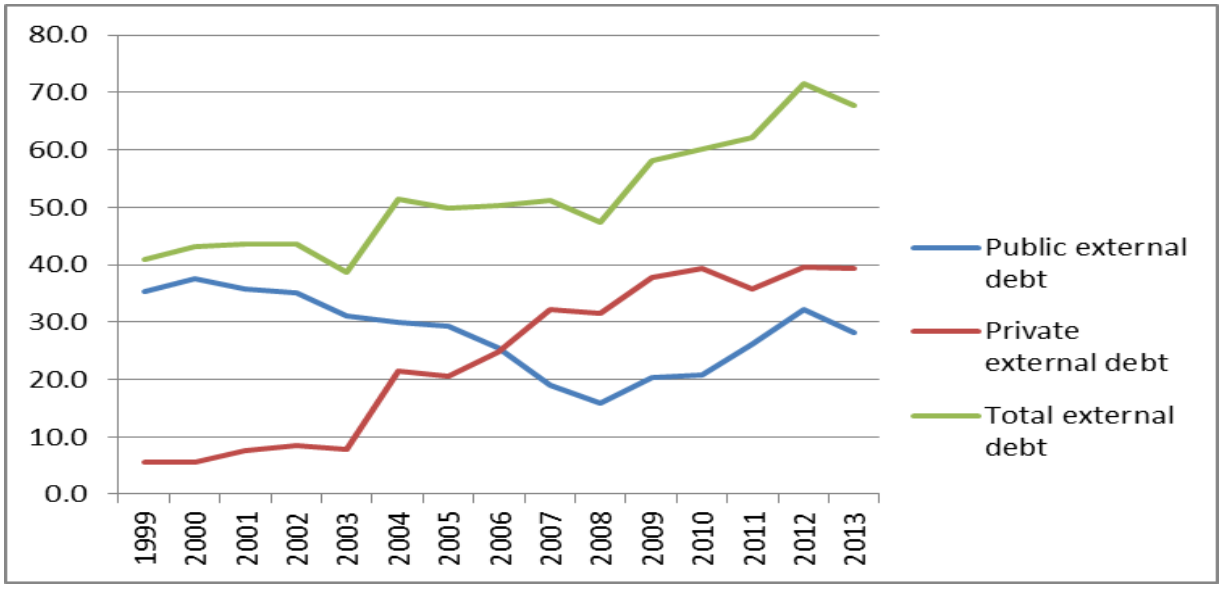
Despite the persistent current account deficits, capital and financial inflows allowed a gradual increase in the foreign reserves (by 1.9% of GDP, on average, during 1993-2013)[1]. Financial inflows and especially FDIs related to privatization of the state-owned companies provided financing for the current account deficits, repayment of the external debt and build-up of reserves. Thus, external privatization inflows helped building up the international reserves and keeping public debt at prudent level.

Concerning the external debt, first years of transition were marked by an accumulation of external arrears to foreign official and private creditors, including to the WB, Paris Club of

[1] At the onset of transition foreign reserves were built by implementation of administrative measures.

creditors, London Club of creditors, European Investment Bank (hereinafter: EIB). The government initiated the process of negotiations to regulate the debt obligations inherited from the former system and in 1994 the repayment of external arrears effectively started with a clearance of arrears towards the WB. This was a precondition the RM to gain an access to new external financing sources. From 1996 to 2002 external debt was on an ascending pattern, reaching 43.5% of GDP. From 2003 till 2008, the external debt as a share of GDP declined, with two earlier public debt repayments in 2006 and 2007. However, during the economic and financial crises, external debt rose, reflecting mostly countercyclical budget policy to mitigate the adverse effects on the real sector. At end 2013, it reached 67.6% of GDP increasing by 20.3 percentage points as a share of GDP in the last five years.

Figure 4. External Debt in RM, in % of GDP



Source: NBRM.

At the beginning of the transition, the public sector had a dominant share in the external debt, but throughout years the dominant role was overtaken by the private sector. Initially a key source of external financing was the government borrowing from international financial institutions, but over time, external borrowing of the private sector started to grow especially in the form of trade credits reflecting the rising foreign trade. Thus, while public debt declined as a share of GDP, private debt rose. This trend of a gradual decline of the public external debt was stopped during the crisis, rising by 12.3 percentage points as a share of GDP for the last five years. On the other hand, private external debt continued to rise, although at a slower pace - increase of 8 percentage points of GDP. At end 2013, private debt was the dominant component of the external debt, accounting for about 58% of the total debt. Financial loans and trade credits of non-financial corporations were the dominant component of the private external debt.

Although faced with tremendous challenges stemming from the global economic crisis, the most severe crisis since the Great Depression, macroeconomic stability in the RM has been preserved. The US originated crisis was quickly transmitted to the European continent through various channels including financial flows, trade linkages, fire sales, expectations, etc. The crisis particularly hit the economies with high vulnerabilities and accumulated imbalances, leading to the first sovereign debt crisis of advanced economies after the World War II. It started with the Greek debt problems at the beginning of 2010 when investors abandoned the practice of undifferentiated risk premium for all euro area countries regardless of the their fundamentals and policies. Then, Ireland and Portugal faced tremendous problems related to rising debt and yields and a need to require official financial assistance emerged. At the beginning of 2011, the crisis further spread to Spain and Italy and then in 2012 to Cyprus, by significantly driving up risk premium and costs for financing the sovereign debt.

As a highly open economy, Macedonian economy is to a large extent susceptible to the influence of the global economic developments. Main channels of transmission are trade, foreign direct investments, foreign borrowing and private transfers. The enterprise sector felt the effects through the declining external demand and falling prices of our main export products that resulted in a significant decline in exports. High global uncertainty and reprising of risk by investors led to a reduction in capital inflows. Also, households' preferences for savings in foreign currencies increased, affecting negatively the net-purchase by the foreign exchange offices. All these factors created pressures on the foreign reserves and the NBRM, given the monetary strategy of a de facto fixed exchange rate regime, was compelled to heavily intervene on the foreign exchange market. The pressures were successfully contained and confidence in domestic currency was restored through interventions on the foreign exchange market, increase of the reference rate, increase of the reserve requirement ratio and adoption of a couple of macro prudential measures.

Due to the lower financial integration, Macedonian financial system was not directly affected by the global crisis. Despite the fact that substantial part of our financial system is in foreign ownership, exposure to non-residents, including to mother banks, has been kept low. Main focus of the banking system has been the traditional banking: bank assets have been primarily loans to residents, rather than any riskier structured products, while bank liabilities have been primarily liabilities to residents. Credit activity has been largely financed by deposits of the residents, without any significant dependence on loans from non-residents or wholesale markets. Also, claims of domestic banks on non-residents have been low due to prudential regulations. The banking system felt the negative effects through rising non-performing loans of the corporate sector and the households (especially the corporate sector) and declining profitability.

Unlike in many advanced and developing economies, where monetary and fiscal policies undertook bold measures to stabilize output, in the RM initially only the fiscal policy was able to react countercyclically. Faced with pressures from the real sector, fiscal policy provided stimulus to aggregate demand through revenue and expenditure policies. Namely,

fiscal position switched from surplus of 0.6% of GDP before the global crisis (2007) to rising deficits that in 2013 reached 4.1% of GDP. Despite the stimulus, fiscal position, in broad terms, stayed under control. In light of the declining revenues, the government kept spending under control to prevent excessive rise of deficit. Given the relatively low initial level of the public debt, fiscal stimulus has not undermined the sustainability of the public finances.

The macroeconomic mix of policies helped in weathering the crisis relatively well. On a comparative basis, Macedonian economy was one of the European economies with lowest negative effects as regards economic activity. This process was supported by past prudent policies that did not create big imbalances in the economy. Also, relatively strong banking sector balance sheet allowed support to the enterprise sector through credit flows.

2.1.2 Monetary and Foreign-Exchange System, and Monetary and Foreign Exchange Policies in the Republic of Macedonia

The foundations of the new monetary system of the independent state were laid down with a set of laws adopted by the parliament on 26 April 1992. The NBRM, which was established in 1976 as one of the eight national banks in the SFRY, in 1992 became an independent bank responsible for the stability of the Macedonian currency, the monetary policy and the stability of domestic and external payments. In this vein, the NBRM was required to prepare an annual projection of monetary and credit aggregates upon which the parliament passed a Decision on the monetary, credit and foreign exchange policies for the forthcoming year. The Law on the NBRM defined the monetary policy instruments that the NBRM was allowed to use in fulfilling its functions, including reserve requirement, credits to banks and other financial institutions, issuance of central bank bills, definitive or repo transactions with domestic and foreign securities, and interventions at the foreign exchange market. The Law on Currency established the denar as a national currency and the total amount of dinars in circulation was substituted with denars with parity 1:1. As of 30 April 1992 denar became a legal tender for all domestic payments. Initially, the dinars were substituted with coupons given that printing of money required some time. First denar coins and banknotes were introduced on 10 May 1993.

On a couple of occasions, the Law on the NBRM was amended in line with the international developments and experiences in the area of central banking. Currently, the main objective of the NBRM is maintenance of price stability, and it is assigned a full independence in achieving the goal. The NBRM also contributes to maintaining a stable, competitive and market-oriented financial system and supports the economic policy without jeopardizing its primary objective. To achieve the goal the NBRM is assigned sole responsibility for monetary policy, foreign exchange policy and foreign reserves management, while the exchange rate regime is shared responsibility with the Government.

At the beginning of transition, the NBRM adopted a strategy of monetary targeting, and then switched to targeting of the nominal exchange rate of the denar. During 1992-1995 the NBRM pursued a strategy of monetary targeting, i.e., targeting M1 aggregate (currency in circulation and demand deposits). This monetary strategy was considered to be adequate, having in mind the low level of foreign reserves, empirical findings on the relationship between money and inflation, undeveloped financial institutions and instruments that hamper efficient monetary policy transmission mechanism (Stavreski, Z., 1997). Reserve money (currency in circulation and commercial banks' accounts with the NBRM), which can be closely controlled by the monetary policy instruments, was determined as an operational target to achieve M1. Refinancing of the so-called "selective loans" was the main instrument to control reserve money. Undeveloped financial markets and market instruments were obstacles for using interest rates as an operational tool to achieve the monetary target.

The main challenge for the NBRM at that period was stabilizing macroeconomic environment through reigning in inflation. High inflation was not completely a new transition phenomenon for the RM. Even before the dissolution of the SFRY, the Republics were faced with high inflationary pressures stemming from the politically-driven credit policy of the banks and monetization of fiscal deficits. Still, at the beginning of 1992 inflation reached a 4 digit level, which was one of the highest in the history, and continued to accelerate reaching 1925.2% at end-December 1992.

The macroeconomic stabilization had to be done within a constraining environment of falling economic activity and almost insolvent banks that significantly relied on central bank financing. Weak capital base of the enterprise sector, delayed privatization, as well as undeveloped money and capital markets entailed heavy reliance of enterprises on the bank financing. Also, fiscal and quasi-fiscal deficits were financed by the banking system. Weak balance sheet of the banking system emphasized the dependence of the banks on the central bank financing.

During the period May 1992 - May 1993, monetary targeting was combined with fixed exchange rate regime (one of the main pillars of the first Anti-inflationary Program). In a highly open economy, such as Macedonian economy, stabilizing the exchange rate is a precondition for reining in high inflation. Given the importance of the stability of the exchange rate on the one hand, and the fact that there were almost no foreign reserves, on the other, it appears that the idea was to use the exchange rate as an indicator of the adequacy of the monetary policy stance. In such a situation, the stability of the exchange rate could be achieved only with very tight and coordinated demand policies, which was not the case in the first two years of the transition. As a result, in the second half of 1992 three devaluations occurred. In light of the strengthening Deutsche mark, the NBRM started targeting a basket of 7 currencies. Devaluations lead to further acceleration of inflationary trends.

On the day of the monetary independence, the NBRM almost did not have foreign reserves and the government adopted a set of administrative measures to accumulate foreign

reserves, including a requirement obliging the exporters to sell to the NBRM 30% of the export receipts and a requirement obliging the foreign exchange offices to sell part of the net purchase of foreign currencies from the households to the NBRM. Also, the accumulation of arrears to foreign creditors helped the process of gradual build-up of reserves. Although the foreign reserves increased to the level of 63.7 mill.$ at end 1992 (2.7% of GDP), this was below the expectations of the policymakers. One of the main reasons was the unfavorable exchange rate. The level of exchange rate was not conducive to higher exports as real effective exchange rate was appreciating (73% in 1992). Additionally, there was a substantial difference between the official exchange rate to be used by the NBRM for the purchase from the exporters and the unofficial exchange rate on the unofficial market where the export receipts could be sold. This situation resulted in development of a parallel unofficial foreign exchange market. Exporters tended to keep foreign exchange abroad, especially exporters that were also importers. Also, negative effects were felt through the lower purchase of foreign exchange by the NBRM from the foreign exchange offices. A couple of devaluations of the exchange rate that occurred at the end of 1992 could not help exporters and lower the difference between the official and unofficial exchange rate.

In order to stop these developments, in May 1993, the fixed exchange rate against a basket of currencies was replaced by a flexible exchange rate regime. The NBRM continued to target M1 through the reserve money relying on refinancing of selective loans as a main instrument. Although initially there was a sharp depreciation of the exchange rate, afterwards volatility was lower. In order to prevent high volatility of the exchange rate, the NBRM intervened at the foreign exchange market and appropriately adjusted the monetary policy. The exchange rate movements were used as a basic indicator for the monetary policy stance implying that pronounced pressures on the exchange rate were signaling a need for tightening demand policies and vice versa. The foreign exchange rate developments were considered as indicators whether monetary policy was too loose or too tight, signaling a need for its adjustment. Real effective exchange rate was closely monitored to prevent a loss of price competitiveness.

A switch to a flexible exchange rate was done hand in hand with the introduction of an institutionalized and organized foreign exchange market. Foreign exchange market was organized within the banks licensed for foreign payments. Purchase and sale of foreign currency was allowed between enterprises, between enterprises and banks, and between banks. It meant that companies were allowed to freely sell the foreign exchange receipts to other companies or banks at the market rate, without being obliged to sell a part of the foreign receipts to the NBRM. Accordingly, the administrative measures for accumulation of foreign reserves were abolished. Exchange operations were further liberalized allowing other legal entities or natural persons, despite banks, to perform exchange operations. These changes stimulated more transactions through the banking system and had a positive effect for reserve accumulation.

Tight monetary policy, focused on targeting monetary aggregate M1, supported by tight fiscal and income policies, as well as by institutional reforms, including development of

market-oriented monetary instruments, proved successful in controlling inflation. At the initial stage monetary policy played a key role, while since 1994 it has been accompanied also by prudent fiscal and income polices. Substantial reduction of the fiscal deficit and placing deposits of the Ministry of Finance (hereinafter: MOF) with the NBRM helped establishing control over monetary aggregates. In 1995, the MOF opened a special account with the NBRM where budget resources were deposited to support the sterilization efforts of the NBRM. In this vein, also the regular account of the Budget, as well as the accounts of the budget institutions were transferred from the commercial banks to the NBRM.

Introduction of market-oriented monetary instruments strengthened the institutional capacity and supported the process of stabilization. Namely, the practice of refinancing credits that were extended by banks for pre-defined economic sectors was abandoned in March 1994. This instrument had a quasi-fiscal function as it was used to financially support specific economic sectors. The NBRM could hardly maintain a control over reserve money as it had to accommodate the demand for credits. On the other hand, new indirect flexible instruments were introduced such as deposit auctions, used for sterilizing or injecting liquidity in the banking system (at the end of 1993), and central bank bills, used for sterilizing liquidity (at the beginning of 1994). These activities initiated the process of establishing central bank interest rates based on market principles. The regular and marginal reserve requirements, as well as liquidity ratio were also part of the monetary instruments used for achieving monetary objectives.

Tight and coordinated macroeconomic policies led to a deceleration of money growth. Thus, reserve money growth slowed down to 240% at end 1993, to 68.8% at end 1994 and to 14% at end 1995. M1 decelerated to 236.6% at end 1993, to 87.9% at end 1994 and to 19.3% at end 1995. All other monetary aggregates followed a similar pattern.

Reining in money growth proved to be a key factor in taming inflation. The first signs of stabilization became visible in 1993. At end 1993 inflation came down to 229.6% from 1925.2% at end 1992. This trend continued during the next two years and at end 1995 inflation was brought to a single digit level (9.2%).

Since October 1995, the NBRM has been implementing a strategy of a de facto targeting the nominal exchange rate of the denar, first against the Deutsche mark and latter against the euro[2]. Given the very low fluctuations of the exchange rate of the denar since 1994, it appears that the monetary strategy of stable exchange rate had been implicitly pursued even earlier. The shift to this strategy can be explained by the following features of the Macedonian economy: small and open; high level of euroization; and unstable money demand due to high euroization and economic restructuring. The process of gradual accumulation of foreign reserves was a precondition for change of the monetary strategy, as in this way mechanisms for short-term stabilization of the fixed exchange rate were

[2] The Law on the National Bank of the Republic of Macedonia stipulates that the exchange rate is determined freely on the foreign exchange market and that the NBRM participates in the foreign exchange market to accomplish its objectives defined in the monetary and foreign exchange policies.

provided. Also, nominal exchange rate has been perceived as very transparent, easy and frequent indicator for monitoring and undertaking timely measures by the policy makers and public in general.

Macedonian economy is a small and open economy of about 2 million citizens, where trade of goods has accounted for a big fraction of GDP. The share of trade during 1997-2013 averaged 93.5%, ranging from 77% to 113.2% of GDP. Exports and imports of goods, on average, accounted for 36% and 57.5% of GDP, respectively. Main trading partner has been the EU, accounting for about 60% of the total exports and about half of the total imports. A dominant foreign currency for external payments has been the euro (the Deutsche mark before) with more than two thirds of the exports and imports related payments being in euro.

High level of openness and euroization establish more direct links between movements in exchange rate and import prices, consumer prices, producer prices and export prices. Because of the high openness, Macedonian economy has been substantially exposed to external commodity price or demand shocks that can quickly transmit into the domestic economy. Changes in the exchange rate can additionally amplify the level of transmission of the external shocks. Even if the external price or demand shocks are not present, volatility of the exchange rate in open economies may significantly affect the inflation through the increase of the import prices. In economies where tradable goods dominate the inflation index, as is the case in the RM, exchange rate pass-through on prices is rather strong, i.e., domestic prices react quickly and strongly to the exchange rate changes (Velickovski and Pugh, 2011; Krstevska, Bojceva-Terzijan, Davidovska-Stojanova, Besimi, 2004). This is especially the case as the Macedonian economy is highly euroized, i.e., significant part of the contracts are denominated in or linked to foreign currency and exchange rate movements automatically affect the prices. High euroization gives an important role to the exchange rate in setting domestic prices. Volatility of the exchange rate may also adversely affect the expectations about the future exchange rate movements, which may be factored in the contracts and prices.

High level of euroization in the RM, driven by past episodes of high volatility of the exchange rate and hyperinflation, also emphasizes the link between the nominal exchange rate and possible balance sheet effects. Volatility of exchange rate implies volatility in the balance sheets of all sectors in the economy. Depreciation of the currency will negatively affect the balance sheets of all the sectors that are short in their net foreign-exchange position, as well as the whole economy if the economy is a net debtor in the relations with non-residents, as is the case with the Macedonian economy. Data on net international investment position point to the fact that the Macedonian economy has been a net debtor to the rest of the world. There was a trend of rising net liabilities and at end 2013 net international investment position accounted for about 59.5% of GDP. A rise in the foreign assets (mainly foreign reserves) could not fully offset the effect of the rising liabilities (mainly foreign direct investments and external borrowing). In this light, depreciation will result in lower disposable income for the economy as a whole. Depending on the size of the claims and liabilities in foreign currency (or indexed to foreign currency) to non-

residents and residents, the effects of volatility of the exchange rate will vary across institutional sectors. Government sector would be faced with a possibility of higher debt burden as the share of foreign debt and domestic debt expressed in foreign currency is high, as well as with higher expenditures for imported goods and services and for contracts with foreign exchange clause. While traditionally the corporate sector has had a short net foreign exchange position, households have had a long net foreign exchange position. In fact, the net position of the households and companies would be more accurate if an assessment of foreign currency in circulation could be taken into account.

Despite the macroeconomic stability since 1996, the euroization was on a continuously rising path up till end 2005 when the share of foreign currency deposits in total M4 aggregate reached 47%, pointing to the fact that euroization is not an easily reversible process. For the first time in 2006 the level of euroization started to decline and this positive development lasted till the occurrence of the crisis. After the disruption of this process during the peak of the global crisis, with the start of the economic recovery in 2010, the process of de-euroization resumed as preferences for savings in domestic currency increased. Highest pick-up in the euroization was registered in December 2001 (half of the M4 were foreign currency deposits) due to the introduction of the euro. Namely, a significant part of the households' savings in Deutsche mark that were kept "under mattresses" were channeled into the banking system, leading to a significant rise of the foreign currency deposits.

It should be noted that these numbers do not include domestic currency deposits with foreign exchange clause that effectively increase the level of euroization. Also, the measurement of the total level of euroization is hampered by a lack of data on foreign currency in circulation. Although denar is a legal tender, cash in foreign currency (predominantly euros) has circulated and been used as a store of value, and to some extent as a means of payment (in particular during the first years of transition). Some surveys of foreign currency cash in circulation indicate that it is not a negligible amount. The analysis of Naumovska, Davidovska and Gockov based on a survey conducted in 2001, before the introduction of the euro, estimated the euro cash holdings in the range of 1 to 1.5 billion Deutsche marks. The analysis points to a low confidence in the banking system and political instability as the most important factors for cash holdings. The surveys conducted by the Austrian Central Bank for the period 2007-2013 estimated cash holdings in Macedonia within the range of 310-160 euro per capita (about 620-320 million euro in total) noting that this estimate should be regarded as constituting a lower limit of the actual amount. As regards to the motives for holding euro cash, the survey points to a store-of-value function as a key motive indicating that households forego interest because of reputation of euro as a stable and trustworthy currency.

High level of euroization can be also observed through the significant share of bank loans in foreign currency or indexed to foreign currency. Foreign currency loans accounted, on average, for 23% of the total loans during 1996-2013. Indexed domestic loans also had a significant share. In the last 9 years the loans with foreign currency component accounted for roughly half of the total loans. Besides the adverse implications for the monetary policy

transmission, high share of loans in foreign currency also underlines the importance of exchange rate stability as exchange rate risk may translate into credit risk and endanger the financial stability.

High euro cash holdings and, in general, high level of euroization complicate the conduct of the monetary policy, as the central bank loses effective control over total monetary aggregates. Absence of data on cash holdings prevents having information on the full monetary potential that has macroeconomic implications and results in higher volatility and lower predictability of money demand. Also, transitional shocks, restructuring of the economy and establishment of new institutions affected the money demand in the same direction. Hyperinflationary environment and subsequent stabilization of the prices, as well as the process of establishing institutions, including financial market institutions and financial instruments contributed to an unstable money demand. The unstable demand is in principle an obstacle for efficient implementation of monetary targeting, i.e., in such circumstances the money supply cannot be used as an anchor for predicting and controlling inflation. Velocity of the money has been gradually declining to the level of 1.7 in December 2013 (from 7.2 in January 1998) which may reflect the increasing trust in the financial system and higher propensity to save in the banking system.

With the switch to the new monetary strategy, money became endogenous variable subordinated to preserving the stability of the exchange rate. This strategy limits the flexibility of the monetary policy as shocks to the economy cannot be absorbed by the nominal exchange rate, resulting in changes in the gross reserves of the central bank and accordingly in the level of money. Although money lost the function of targeted variable, monetary and credit aggregates were projected and closely monitored given the possible pressures to foreign reserves stemming from high money and credit growth. In this vein, even some administrative measures were implemented, such as credit growth control. Overall, monetary and credit aggregates continued to be closely monitored to provide money growth path consistent with a stable exchange rate and low inflation. Initially, deposit auctions (during 1995-1998) and later on central bank bills were core monetary instruments for influencing liquidity and interest rates.

Despite the de facto fixed exchange rate strategy, the room for independent monetary policy was preserved, to a certain extent. The reason for this was the absence of high capital mobility. Namely, the RM did not experience substantial capital and financial inflows sensitive to the interest rates changes. Main types of inflows were foreign direct investments and borrowing, which mainly stemmed from international financial institutions. This provided a room for active monetary policy as changes in the interest rates did not affect capital inflows and outflows, thus offsetting the initial effects of the monetary policy reaction.

The strategy of targeting the nominal exchange rate has been preserved in the subsequent years. The exchange rate of the denar has been kept stable throughout the years, with an exception of one devaluation of 16% in July 1997. The devaluation was aimed to correct the misalignment of the real effective exchange rate from its trend value that negatively

affected the trade balance. Although starting from 1995 the real effective exchange rate (hereinafter: REER) showed a depreciation trend, it appears that it was a relatively slow process that could not offset the previous appreciation trend. Thus, the trade deficit continued to widen and the NBRM had to intervene significantly on the foreign exchange market in 1996 and in the first half of 1997 in order to stabilize the foreign exchange pressures. This indicates that probably the parity between the denar and the euro set in October 1995 was not in line with the fundamentals of the economy.

To prevent full transmission of the higher import prices into higher domestic inflation, a law on freezing of the salaries of all enterprises that were not fully privatized was enacted. It helped contain the price increases and inflation was lower than the depreciation. Consumer price index (hereinafter: CPI) showed an increase of 2.7% at end 1997 (-0.7 at end 1996), producer price index (hereinafter: PPI) rose by 8.6% (-0.6% at end 1996) and retail price index (hereinafter: RPI) rose by 4.4% (0.2% at end 1996).

Despite the nominal devaluation and measures to prevent spillover effects to prices, trade deficit did not show any improvement during 1997 and 1998. Imports continued to rise faster than the exports, further widening the trade deficit (by 30% in 1998). Obviously, the real effective exchange rate depreciation that occurred during this period did not bring in benefits. Still, assessing the effects of the nominal devaluation is not straightforward. It appears that import and export price elasticity was not big, which can be explained by the structural characteristics of the Macedonian economy such as: high import component of the export products, undiversified export structure dominated by products highly sensitive to global price and demand movements, and low level of substitution of the imports. In addition, other external factors were at a play during that period, including a fall of the metal prices, political tensions in Kosovo, and administrative measures introduced by SR Yugoslavia.

Since 1997, the stability of the denar has been preserved through direct interventions of the NBRM in the foreign exchange market and indirect interventions through the other monetary policy instruments. Given that under such monetary strategy the possibility for accommodative monetary policy is limited, the NBRM used to face trade-offs. Such an example is 2009, when the Macedonian economy felt the effects of the global economic crisis. Despite the receding inflation and deteriorating global and domestic outlook, monetary policy had to be tightened to preserve the exchange rate stability. Adverse external sector developments combined with deteriorated expectations of the domestic economic agents (resulting in conversion of domestic currency into foreign currencies) put a significant pressure on the foreign exchange market. However, interventions on the market combined with other measures of the NBRM resulted in a substantial correction of the imports and downward adjustment of the trade deficit, as well as stabilized expectations that calmed the foreign exchange market. This, subsequently, paved a way for loosening of the monetary policy, which started in the second half of 2009.

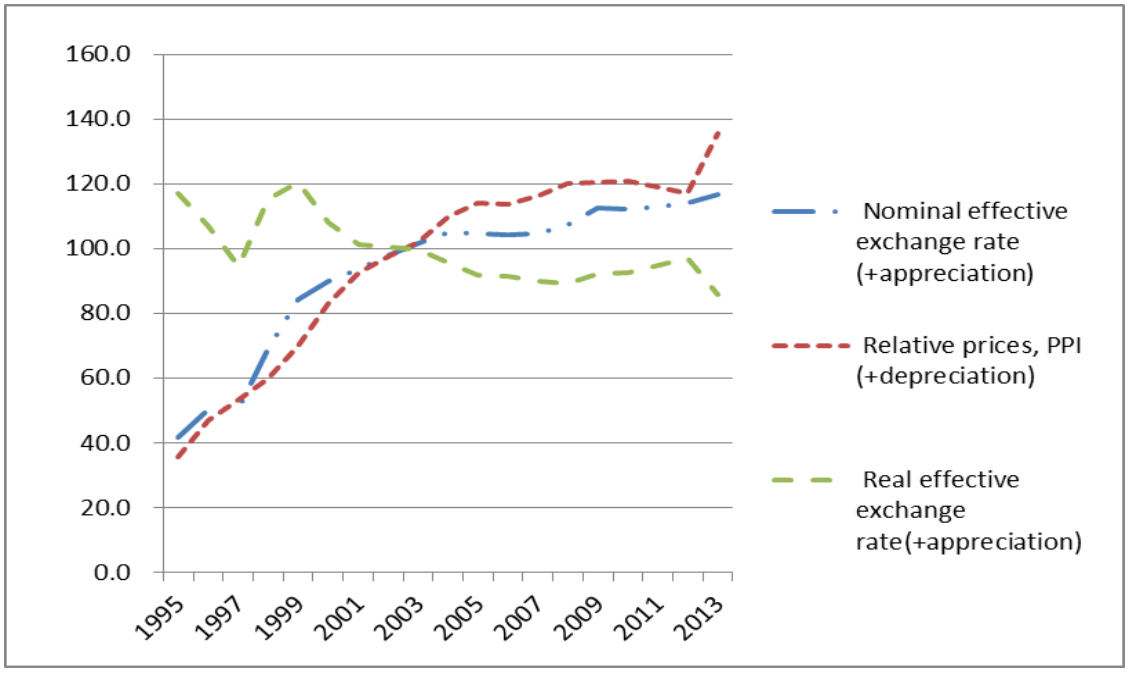
It appears that the strategy of a de facto fixed exchange rate regime did not have negative implications for the price competitiveness of the Macedonian exports. The analyses

(Bogoev, Bojceva Terzijan, Ègert and Petrovska, 2007; Bojceva-Terzijan, 2007; Petrevski, 2007; IMF Article IV Reports) show that the level of misalignment of the real effective exchange rate from its fundamental value varies depending on the data and methodology applied. However, the magnitude of the misalignment in most of the analyses was not significant and the emphasis is put on the structural problems of the economy as the main factor explaining the trade imbalances.

Unlike most of the transition economies that after the initial depreciation faced a real appreciation of the effective exchange rate, the RM has witnessed a trend of real depreciation. Real appreciation in the transition economies has been commonly explained by the phenomenon of correction of the initial undervaluation of the exchange rates, higher rise in productivity in the tradable sector that leads to higher overall inflation (Balassa-Samuelson effect), liberalization of prices, capital inflows, structural changes of the economy etc. Bojceva-Terzijan (2007) and Petrevski (2007) do not find an evidence of Balassa-Samuelsson effect in the RM as lower inflation compared with the main trading partners is due to lower prices of tradable goods that, in turn, reflects lower growth of productivity in the tradable sector in the RM.

Real effective exchange rate based on PPI, as an indicator for price competitiveness changes, points to some volatility in both directions. During 2000-2008, almost a continuous depreciation trajectory was observed. This was underpinned by favorable relative prices, i.e., lower domestic compared to foreign inflation, while nominal effective exchange rate registered a trend of appreciation. Starting from 2008, a slight appreciation has been registered when higher domestic compared to foreign inflation exerted also appreciation pressures. Yet, on a cumulative basis, from end 1995 till end 2013 the real effective exchange rate changes point to improved price competitiveness by about 26.5%. Real effective exchange rate based on CPI also indicates an overall depreciation trend, pointing to a depreciation of about 32.5% on a cumulative basis during 1995-2013. Starting from 2009, some appreciation pressures have also been registered through this indicator driven by nominal effective exchange rates, while domestic prices measured through the CPI index continued to rise at a slower pace compared to foreign prices.

Figure 5. Price Competitiveness, Producer Price Index



Note.* 2003 is a base year for price competitiveness index. An increase means appreciation and a decrease depreciation.

Source: NBRM.

Given the monetary strategy of a stable exchange rate implemented since 1995, monetary policy decisions have been guided by developments in external sector and inflation dynamics. The sustainability of the peg critically depends on the current level and prospects for the foreign reserves i.e., developments in the balance of payments. The assessment of the future current and capital account flows and the risks surrounding them has been of a key importance. Having in mind the openness of the Macedonian economy, important element has also been the spread between the interest rates in the euro area and domestic interest rates, as it can affect the capital flows and preferences of the domestic agents for saving in domestic or foreign currency. A shift in the savings preferences towards foreign currencies puts pressures on the foreign reserves, as higher euroization on the banks' liabilities entails higher euroization on their assets side, thus complicating the conduct of the monetary policy. Inflation dynamics and factors behind it, as well as inflation expectations have been closely monitored, in order to be able to undertake timely measures to preserve price stability. Rising inflation and inflationary expectations have proved to be factors that increase the demand for foreign currency and negatively affect the foreign exchange market. Analyses of the credit flows and monetary aggregates have been an integral part of the decision-making process, highlighting the possible risks stemming from these variables for the aggregate demand and consequently the stability of the exchange rate and prices.

To preserve the stability of the exchange rate (intermediate target) the NBRM has relied on the interventions on the foreign exchange market and the use of a set of monetary and

macro-prudential instruments. In the short-term the NBRM stabilizes the exchange rate of the denar vis-à-vis the euro through interventions in foreign currency on the market. In line with the development of the market-based instruments, gradually the NBRM started placing more weight on the interest rates (less on the supply of money) as its main tool to preserve the exchange rate stability. By setting the interest rates of the monetary policy instruments, it aims to guide the short-term interest rates on the money market, as well as deposit and lending interest rates of the banks. By changes in the interest rates it aims to affect aggregate demand and through this channel to stabilize trade imbalance, foreign currency market and inflation. Additionally, changes in the interest rates affect the expectations of the economic agents and preferences for saving in domestic currency. Historical experience does not point to any significant correlation between changes in the domestic interest rates and capital flows, i.e., Macedonia has not experienced significant capital flows sensitive to interest rates. Given that interest rate changes of the NBRM affect the real sector with some delay, in a situation when faster adjustment has been required, other measures such as reserve requirement or some macro-prudential measures were used.

Monetary policy operational framework has been determined by the structural liquidity position of the banking system. During the first years of transition, the banking system in the RM faced a structural shortage of liquidity and the NBRM had to inject liquidity mainly through credit auctions. Later on, as in many transition economies, the Macedonian banking system faced structural liquidity surplus created by autonomous factors. Against this background, operational framework of the NBRM has been designed so as to mop up excess liquidity that cannot be channeled to the real economy without creating imbalances and jeopardizing monetary stability. Throughout time it has been adjusted in line with the economic developments and related challenges that the monetary policy faced with, but generally, open market operations and reserve requirement have been the main sterilization instruments.

Open market operations have been mostly conducted through issuance of central bank bills, and the interest rate on the bills has been considered as the key rate that signals the monetary policy stance. In the most recent period, a significant change of the operational framework was introduced in 2012, in order to establish a more flexible set of instruments conducive to further development of money market and higher credit growth. The changes referred to the main instrument, but also meant introduction of new instruments. The overhaul included: (i) extending the maturity of the central bank bills to 28/35 days, lowering the frequency of auctions from weekly to monthly, and aligning the auction period with the period of maintenance of the reserve requirement; (ii) introducing regular weekly repo operations for providing liquidity to the banking system given the extended maturity of central bank bills; (iii) introducing central bank bills tender with fixed amount after four years of implementing a tender with unlimited amount; (iv) introducing a new instrument – a 7-day deposit (unlimited amount) for short-term liquidity management given the shift to a tender with fixed amount; and (v) introducing overnight deposits to establish a corridor of interest rate and lower money market interest rate volatility.

The reference rate is within the corridor of the overnight deposit and credit interest rates set to guide minimum and maximum interest rates and to lower their volatility at the money market. Yet, the corridor of the interest rates is designed so as not to hamper the development of the money market. For fine tuning purposes, banks, on their initiative, can place overnight deposits with the NBRM each working day. The interest rate on the overnight deposits sets the minimum interest rate on the money market. The maximum overnight interest rate is guided by the interest rate on the overnight credits extended by the NBRM to banks that face liquidity problems and cannot provide liquidity at the money market. Since 2005, when repo transactions were introduced for the first time, overnight credits have been extended as repo transactions.

For short-term liquidity management, the NBRM provides short-term loans as repo transactions. Repo auctions aimed at injecting liquidity are conducted on a regular weekly basis and the interest rate is linked to the reference interest rate. Repo transactions for sterilizing liquidity are used when decided by the NBRM, depending on the changes of the autonomous factors that affect the liquidity in the banking system.

The reserve requirement has played a particular role as a sterilization instrument during the beginning of the transition till new market-based instruments were introduced. With the introduction of the central bank bills, they gradually overtook the dominant position and in the last ten years the reserve requirement accounted for about 40% of the total sterilization amount. The features of this instrument have undergone many changes depending on the macroeconomic and institutional developments. During the economic crisis period, it was used actively to stimulate credit growth and denarization in the financial system. The reserve requirement base was reduced by the amount of the loans extended to the exporters and companies that invest in the energy sector, thus specifically targeting certain sectors of the economy. To stimulate an increase of long-term sources of bank funding, the reserve requirement on household deposits with maturity of more than 2 years, on banks' securities in domestic currency with maturity of at least two years, and on foreign long-term sources of bank funding were abolished. Differentiation of the reserve requirement rates based on the currency structure of the liabilities was further reinforced by increasing the rate for liabilities in foreign currency and reducing the rate for liabilities in domestic currency. As of 2013, reserve requirement for denar liabilities amounted to 8%, for denar liabilities indexed to foreign currency 20%, for foreign currency liabilities 15% (except for foreign currency liabilities to non-residents with maturity up to one year, which was 13%). However, part of the reserve requirement on foreign liabilities is held in domestic currency. The system of average fulfillment of the reserve requirement provides bigger flexibility in liquidity management and helps avoiding excessive volatility on the money market.

2.1.3 Fiscal System and Fiscal Policy in the Republic of Macedonia

At the onset of the transition the Macedonian tax system was a mix of inherited taxes introduced at the federal, republican and local level. It was composed of 17 types of taxes and many tax exemptions on a sectoral basis that were introduced in an ad hoc manner. There were frequent changes of the tax regulations which negatively affected the stability of the tax system. Weak capacity of tax administration, absence of clear legislation, accounting standards and adequate IT technology resulted in low tax compliance. The tax system in the first years of transition can be characterized as a very complex system difficult to implement and conducive to tax evasion; inelastic to economic developments; inefficient as many different taxes and tax rates implied economic distortions; unequal as similar economic agents were subject to different tax treatment; and unfair as the tax administration had a selective approach favoring certain "powerful" economic agents (Pendovska, 2001, p.160).

The taxation of the income of households and other economic agents was a cedular system composed of 8 income taxes depending on the types of the economic activity and sources of income (salary tax, tax on income from agriculture, tax on income from economic activity, tax on income from professional activity, tax on income from royalties and patents, tax on income from property, tax on income from games, and progressive tax on total income).[3] Hence, the focus was on particular types of income, rather than the overall economic strength of the economic agents. There were many different proportional tax rates within the certain types of taxes. For example, standard tax rate on salary was 14.7% and it could vary across economic sectors and branches within the range of 9.5% -15.9% resulting in 13 different tax rates on salary. This implied high level of economic distortions. Many exemptions of social or economic nature complicated the tax procedure for the tax administration and for the tax payers.

Taxation of property was mainly focused on taxation of households and the tax rates were relatively high (20% tax on sales of property) amidst a lot of tax deductions. Property was taxed with tax on immovable property and rights, tax on inheritance and gift, and tax on sales of property. High tax rates were not conducive to savings and property investment, and discouraged sales transactions.

The taxation of enterprises, as well, was a complex system with 11 tax rates on the income depending on the economic sector. Tax payers subject to this tax were all economic agents registered as legal entities regardless of the legal form and ownership. Tax rates ranged from 1.456% to 13.586%, while the standard rate was 8.386%. This system meant that there was a double taxation as only part of the salaries was deducted from the income. At the beginning of 1993 this tax was replaced by profit tax which, although meant

[3] The system of progressive taxation of the total income was abolished in 1991. Tax rates ranged from 1% to 50%.

improvement of the taxation of enterprises (without double taxation), still remained complex with 4 tax rates for different economic sectors (30%, 20%, 17% and 4.5%) and many tax deductions.

Consumption was taxed with sales tax, with the standard rate being 42%. There were 21 tax rates depending on the types of products and services with high margin between the lowest and the highest tax rate. It ranged from 3% to 72%, thus significantly hindering the principle of neutrality of the tax system. The excise was not present and the taxation of specific products such as alcohol, tobacco and other specific luxury products was taxed within the system of the sales tax.

With a view of aligning the Macedonian tax system with the modern tax systems, characterized by efficiency, equality, elasticity, transparency and simplicity, at the beginning of 1994 a tax reform was launched. The changes of the tax system meant laying down the foundations of a new tax structure similar to the tax structures in advanced economies. The tax reform to a great extent reflected the global trends at the beginning of the 1990's that were underpinned by the supply side economics. As this theory advocates for allocative efficiency of the tax system and stimulating supply side, the global tax trends were: lowering tax rates, especially limiting the progressive taxation, widening the tax base and shifting the focus towards taxation of consumption. Taxation of consumption, compared to taxation of income, has been considered to be less economically distortive as it promotes savings, investments and higher employment. Taxation of income can have negative effect on factors of production and aggregate supply.

Main pillars of the tax reform were the following[4]:

- with a view of having a simple tax system the number of taxes was significantly reduced (from 16 to 8);
-the cedular system of income taxation was replaced by personal income tax thus providing equal treatment of all types of income and focusing on the total economic capacity of the economic agents. In line with the principle of vertical neutrality of the tax system, 3 progressive rates were introduced (23%, 27% and 35%) while tranches were defined in terms of average salary. Tax deductions were significantly reduced and tax base widened;
-a modern system of profit tax was introduced and in line with the principle of allocative neutrality four tax rates were substituted by one tax rate of 30%. All enterprises were subject to this tax regardless of their legal and organizational form. Tax deductions were significantly lowered;
- many changes to sales tax were introduced as preparatory steps towards the introduction of the value added tax (hereinafter: VAT), including lowering the number of tax rates to 2, lowering the standard tax rate from 42% to 25%, broadening of the coverage of the

[4] For more details see Bogoev and Atanasovski, 1994

services subject to sales tax. For specific products that used to be taxed with very high rates of sales tax, excise was introduced;
- tax base for taxation of property was extended to legal entities, though property used for business activities was not subject to tax, and tax rates were lowered (tax on sales of property was reduced from 20% to 3%).

Since the radical tax reform in 1994, one of the most important further steps in reshaping of the tax system was the introduction of the VAT in April, 2000. This entailed a new system where tax was paid on the value added in all stages, starting from production to sale. Lowering the tax deductions and widening the tax base meant higher economic neutrality of the tax system. The standard tax rate was 18% and the tax rate for some products that are important for the living standard of the households was 5%. Other more significant changes of the tax system were implemented in 2001 and 2007. The changes in 2001 included reduction of progressive personal income tax rates to 15%, 18% and 24%, alignment of excise with the EU legislation and introduction of a tax on financial transactions on a temporary basis. The armed conflict in 2001 led to a decline in the economic activity and consequently in budget revenues. To temporary close the gap in the budget revenues, the financial transaction tax was introduced and was in effect by the end 2002.

At the beginning of 2007, in order to create a business environment conducive to foreign and domestic investments, the government launched a medium-term tax reform. The tax reform comprised of: introduction of a flat personal income and profit tax rate of 12% in 2007 and reduction of the rates to 10% in 2008; reduction of VAT rates for some goods from 18% to 5%; introduction of zero corporate income tax for reinvested earnings; and gradual decrease of the pension, unemployment and health contribution rates. As for the social contributions, the initial plan was to lower the total social contributions rate from 32% to 22% in the course of 3 years, starting from 2009. However, the adverse economic developments and low collection of social contributions complicated the realization of the initial plan resulting in its revision. Thus, the plan for reduction of the total contributions rate was changed in terms of lower and more gradual reduction (from 32% to 17.5% during 2009 -2015).

During the first decade of transition, budget revenues in the transition economies declined, driven by the major component - tax revenues. With the transition to a market economy, the focus in collecting revenues shifted from the public to the private sector implying a loss of captive sources of revenues. Also, creating an efficient tax system, broadly based and with less tax exemptions, as well as establishing a strong tax administration, were not easy tasks for the governments. The declining path was particularly evident for the direct taxes (profit and payroll tax revenues). The decline of the direct taxes was partly offset by the increase of the indirect taxes.

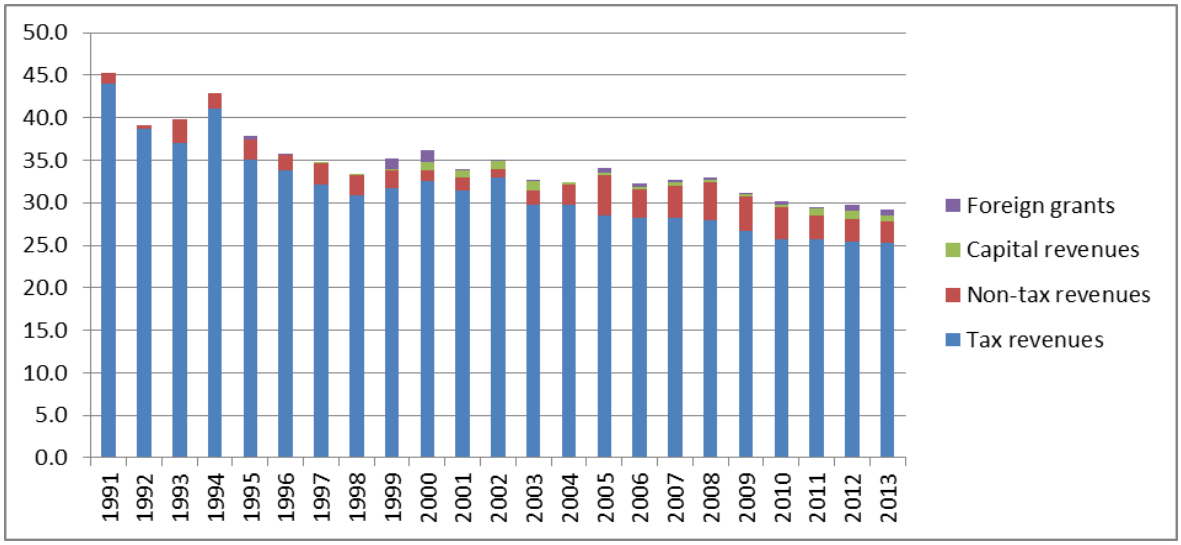
A similar trend can be observed for Macedonia. Throughout the period 1991-2013, total central government budget[5] revenues as a share of GDP declined, driven by a fall of the tax revenues. This trend was more pronounced during the first decade of transition. Thus, in the first decade, the budget revenues declined by 9 percentage points of GDP, in the second by 5 percentage points of GDP and this trend continued in the most recent period. The share of the total budget revenues to GDP declined from 45.2% in 1991 to 29.6% in 2013, and the share of tax revenues declined from 44% in 1991 to 25.3% in 2013. The decline was driven by the direct taxes, while the share of indirect taxes in GDP remained roughly unchanged. Social contributions declined by 13.8 percentage points of GDP, mainly during the first decade of transition, followed by a decline in the personal income tax of 4.7 percentage points of GDP. Non-tax revenues increased by 1.3 percentage points of GDP.

During 1991-2013, central government revenues and tax revenues averaged 34.7% and 31.4% of GDP, respectively. Variation in the size of the revenues over years was a reflection of the reforms of the tax system, reforms of the tax administration, fiscal measures aimed at stabilizing the economy and economic cycles. The tax system reform implemented in 1994 led to a marked increase in the tax revenues that in 1994 reached 43% of GDP. However, due to the weak economic activity and quite weak capacities for collection of revenues, the budget revenues were on a declining path as a share of GDP till 1999, when the economy started picking up. Additional factors that contributed to budget revenues' fall during this period were reductions of the profit tax rate[6] and concluded free trade agreements. In 2001, when the internal conflict took place, the budget revenues markedly decreased. To partially offset the shortage of revenues, a temporary tax on financial transactions was introduced and it was effective by the end of 2002. In 2001, the Stabilization and Association Agreement was concluded between the RM and the European Union, stipulating gradual reduction of customs duties.

[5] Central budget includes Pension Fund, Employment Fund, Health Fund and Road Fund.

[6] In 1997 the profit tax rate was reduced from 30% to 15%.

Figure 6. Central Government Budget Revenues in RM, in % of GDP



Source: MOF; NBRM; author's calculations.

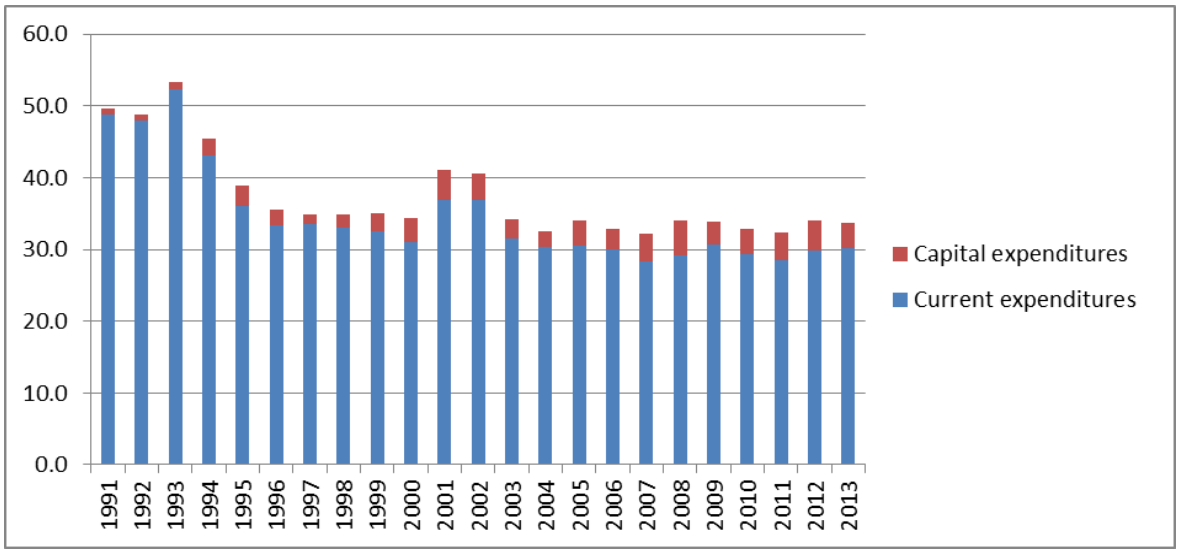
The medium-term tax reform implemented at the beginning of 2007 that meant lower tax rates did not result in lower budget revenues. Despite the reduction of the tax rates, the tax revenues to GDP ratio stayed relatively stable (about 28% of GDP), because of the favorable economic developments, stepped-up measures for increasing tax administration's efficiency and lower incentives for tax evasion.

In 2009, the global economic crisis was transmitted in the Macedonian economy and affected budget revenues. Main channel of transmission was the foreign demand as one of the crucial factors affecting the economic activity in small and open economies. Also, private transfers and capital inflows declined. These factors affected the economic activity, corporate profits and successively profit tax revenues. The personal consumption contraction led to lower VAT and import taxes. Lower revenues were a reaction not only to the economic activity, but also to the government's discretionary revenue measures aimed at stabilizing negative economic developments. Namely, in a couple of stages, the Government adopted anti-crisis measures, including introduction of profit tax incentives, reduction of customs duties, reduction of social contributions, reduction of taxation of some agricultural produces, private sector debt cancellation, postponement of the date for VAT and personal income tax collection, and increased threshold for VAT registration.

While during the first 10 years of transition direct taxes were dominant (average share in the total revenues of 55.5%), later on indirect taxes became a dominant budget revenue source. In the last year under analysis, indirect taxes accounted for 44.8% of the total revenues. VAT, which was introduced in 2000 substituting the sales tax, was the dominant tax accounting for about one third of the total budget revenues. Direct taxes that accounted for about 40.7% of the total revenues were dominated by social contributions (30.3% of total revenues). Non-tax revenues' share in the total revenues was 8.5%.

During 1991-2013, central government expenditures accounted for 37.4% of GDP, on average. Starting from a high level in 1991 (about 50% of GDP) they gradually declined and in the last year under analysis they accounted for 33.6 % of GDP. Almost whole decline of about 16 percentage points of GDP occurred during the first decade of transition. The current expenditures declined by 18.7 percentage points, while capital expenditures increased their share by 2.7 percentage points of GDP. The size of the budget expenditures reflected the government's efforts to put fiscal position under control (especially at the beginning of the independence), use of the fiscal policy to stabilize the business cycle, public expenditure management reforms and internal and external shocks of political and economic nature. The highest level of expenditures can be observed during the first three years of transition (about 50% of GDP), and then in the period 2001-2002 (about 41% of GDP) when the internal armed conflict took place.

Figure 7. Central Government Budget Expenditures in RM, in % of GDP



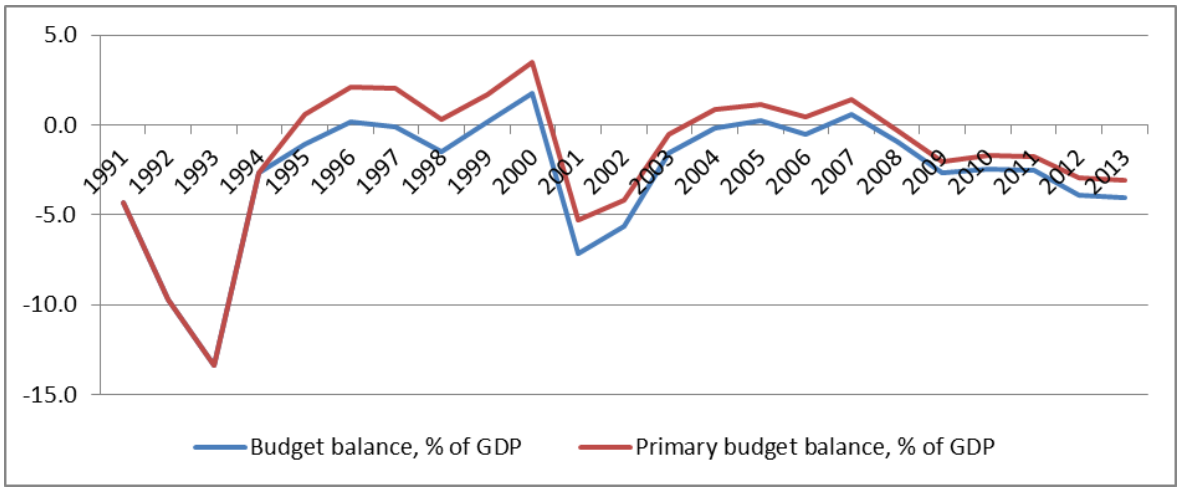
Source: MOF; NBRM; author's calculations.

During the global economic crisis, despite the countercyclical measures, the level of expenditures remained under control. To stabilize the business cycle and mitigate the negative developments, a set of fiscal policy measures was adopted with a focus on reducing current expenditures. More specifically, the government froze the new government employment, postponed the previously announced salary increase for public employees, postponed the announced increase of the pensions, etc.

Although the level of government spending appears not to be too high, the structure of the spending has been unfavorable. Central government expenditures were dominated by current expenditures, on average amounting to 34.5% of GDP or 92% of the total expenditures during 1991-2013. The main component of current expenditures were the transfers (mostly social transfers) that constituted about half of the total expenditures. On average, the share of the capital expenditures was quite low - about 2.8% of GDP or 8% of

the total expenditures. Still, a trend of rising share throughout years can be observed. The unavailability of the data on local governments is an obstacle in doing a more detailed analysis of the economic structure of the expenditures.

Figure 8. Central Government Budget Balance in RM, in % of GDP



Source: MOF; NBRM; author's calculations.

For most of the analyzed period fiscal finances were kept under control. For the last 23 years average central government budget balance and primary balance amounted to 2.7% and 1.6% of GDP, respectively. The most challenging periods for the fiscal authorities were the initial years of transition, the period of internal conflict and the economic crisis period. The tax reform and reform of the expenditure management, as one of the main components of the Stabilization Program, led to a considerable consolidation of the fiscal position. Central government budget deficit was reduced from 13.4% in 1993 to 1.2% in 1995 and further throughout the years up till the internal conflict, the fiscal prudence was preserved. During the internal crisis period, a significant increase in budget deficit was observed. Namely, the budget imbalance reached a level of 7.2% and 5.7% of GDP in 2001 and 2002, respectively. Automatic stabilizers and discretionary fiscal measures during the global crisis led to a trend of rising budget deficits. The government adopted a number of anti-crisis revenue and expenditures measures. Revenue measures included: reduction of customs duties, social contributions rate, VAT rate for specific products, increase of the threshold for VAT registration, reduced taxation of agricultural products and profit tax incentives. Expenditures measures included: savings on goods and services, freeze on new government employment, postponement of the previously announced salary increase for public employees, increased spending on capital projects envisaged in the eight-year government program on infrastructure products (energy sector, railway infrastructure, health, environment, sports infrastructure) and increase in subsidies and transfers.

Arrangements with the IMF contributed to establishing and preserving fiscal prudence. During the years when the government had a program with the IMF, budget deficit was lower, on average. Starting from 1994, when the RM concluded its first arrangement with the IMF, during most of the analyzed period, the macroeconomic mix of policies was set within the framework of the IMF arrangements. Given the monetary strategy, the IMF program targets implied low level of budget deficit or even balanced budget and controlled growth of monetary and credit aggregates that would allow gradual increase in the foreign reserves. The last arrangement was the two-year Precautionary Credit Line, approved in January 2011, aimed at countries with strong economic fundamentals and policy framework without financing needs. The RM was the first country to use this arrangement.

Traditional sources of financing the budget deficit have been external sources in a form of loans and privatization receipts. Major foreign creditors have been the International Development Agency (hereinafter: IDA), the International Bank for Reconstruction and Development (hereinafter: IBRD), the European Bank for Reconstruction and Development (hereinafter: EBRD), the EIB and other multilateral creditors. In 1994, the process of regulating external arrears started thus reestablishing an access to foreign financing, which remained the dominant source of budget financing throughout the years. On the one hand, external sources of financing the budget needs made the economy more susceptible to external shocks, but on the other, this helped the process of build-up of international reserves.

Concessional credits from international institutions have played an important role for the public finances i.e., for financing development needs in the RM. This being particularly true for the very beginning of the process of transition when for example IDA funds were almost the only available external source of financing. Macedonia was not creditworthy to borrow on market terms and credits from international financial institutions were used to facilitate the necessary structural reforms and at the same time to achieve and sustain the macroeconomic stability through a balance of payments support.

The IDA graduation in 2002 emphasized a need to gradually diversify the financing structure and tap private international and domestic capital markets. In 2004, the first credit rating for the RM was issued, which was followed by an issuance of the first 10-year Eurobond at international capital markets in 2005. The purpose of the issuance at that time was to improve the debt portfolio and the proceeds of the Eurobond were used for earlier repayment of the outstanding debt to the Paris Club of Creditors. The second 3.5-year Eurobond was issued in 2009 in the midst of the global crisis when the government faced serious challenges in closing the financing gap. Later on, the government continued to access the private international markets through borrowing from commercial banks. In most cases the borrowing was covered by the Policy Based Guarantees of the WB, accessible to countries with strong track record of performance. This instrument proved to be a very useful mechanism for keeping access to private markets with reasonable costs during uncertain times.

Domestic sources of financing budget deficit have played less important role and domestic securities market was not developed till 2004. The main idea was a gradual development of the government securities market that would gradually diversify the budget financing structure and give an impulse to the development of financial markets through establishing a benchmark yield curve. It should be noted that a policy of a low budget deficit in an environment of quite sizeable privatization inflows and loans under favorable conditions from international financial institutions were not conducive to an earlier development of a domestic securities market and tapping private creditors at international markets. With the introduction of the government securities, the need for coordination between the monetary policy and debt management gained in importance as both policies were using similar instruments for different objectives that may imply some trade-off at certain point of time. In this light, the NBRM abolished the right of the household and corporate sectors to subscribe to central bank bills (allowing only banks).

In 2004, treasury bills were issued for the first time, though in a very small amount and with a maturity of 3-months and 6-months. Highest interest for government securities was shown by non-financial companies and banks with a share in total securities as of end 2004 of 37.3% and 32% respectively. In the following year, 12-month treasury bills and the first government bond with maturity of 2 years were issued. In fact, there were other government bonds issued before, however they were not used for government financing, but for resolving old debts. In 2006, the maturity of government securities was further extended by issuing a 3-year bond.

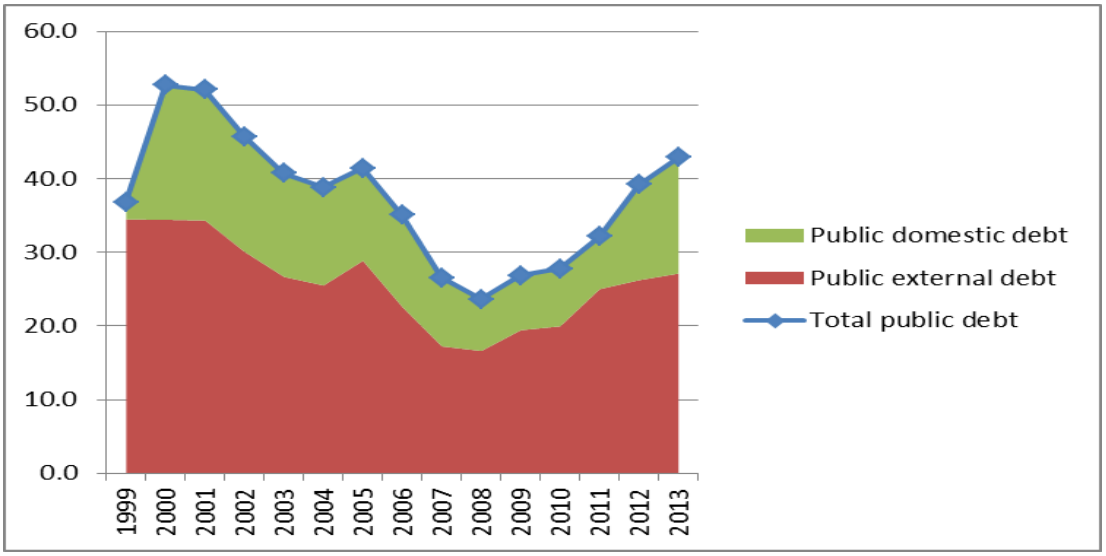
With a view of developing financial markets and improving coordination between monetary and fiscal policies, in 2006 a project for treasury bills for monetary policy purposes was launched. Given that secondary securities market was undeveloped, monetary and fiscal policies were active at the same market (primary market) with similar instruments to achieve different objectives. The central bank implemented its operations by issuing central bank bills and the MOF financed the budget deficit by issuing treasury bills. It was thought that the introduction of a mutual instrument will help in: increasing the liquidity of government securities, sterilizing structural excess liquidity at a longer-term (initially at 3 months and later at longer maturities) and avoiding potential conflicts stemming from operations at the same market. The plan was that overtime the treasury bills for monetary policy purposes will be extended to longer-maturity and that eventually the central bank will stop issuing securities at the primary market and intervene at the secondary market. The treasury bills for monetary policy purposes had the same characteristics as the treasury bills except that they could not be used by the MOF for budget financing and the interest was paid by the central bank. The issuance of these securities lasted only for two years amidst difficulties in the process of coordination, in particular regarding the interest rate. The reduction of the interest rate on these bills by the MOF increased banks' interest in central bank bills.

To finance the budget deficit in 2009, which more than doubled compared to the previous year, the government stepped up its efforts to provide liquidity from the domestic market. Increased interest rate on government auctions to 9%, coupled with high uncertainty,

increased banks' interest in government securities. Hence, the stock of the government securities increased by 70.8% during that year. Still, this source was not sufficient for deficit financing and the government extensively borrowed abroad so that the share of domestic debt in total public debt declined. The highest increase was registered in the six-month treasury bills. In the following period the stock of government securities continued to increase with the most notable increase being registered in 2012 (127%). This development was a reflection of the continuous deficits and efforts in developing the government securities market by increasing the volume of auctions and extending the maturity. This resulted in rising share of domestic financing, i.e., the structure of the government debt became more diversified and less susceptible to external shocks. Extension of the debt maturity to 5 and 10 years helped in mitigating the refinancing risk. At end 2013 domestic debt accounted for 36.7% of the total debt, out of which 36.1% was long-term debt (bonds with maturity of 2.5 and 10 years).

The investor base of the government securities has been quite concentrated. Banks have been the largest investor participating with more than half in the stock of government securities. Yet, over the last years their share has declined, while the share of private pension funds has increased in line with the growth of the assets of the pension funds. As of end 2013, banks accounted for 56.1%, private pension funds for 24.6%, Deposit Insurance Fund for 15.1% and non-residents for 0.9% of the stock of the government securities. Presence of other domestic legal entities and natural persons at the government securities market was notable only during the first two years, as since 2006 it has been declining and playing a marginal role. Portfolio inflows in government securities were witnessed during 2006-2008, the period marked by global abundance of liquidity and solid growth rates of the Macedonian economy. However, the share of non-residents was very small and during the crisis this kind of flows was almost non-existent.

Figure 9. Public Debt in RM, in % of GDP



Source: MOF; NBRM; author's calculations.

Given the prudent fiscal policy for the most of the analyzed period, public debt has not been an issue of a great concern. Still, the pace of increase during the economic crisis clearly emphasizes a need for a medium-term fiscal consolidation. On average, for the last fifteen years, total public debt has accounted for 37.5% of GDP. The peak was reached in 2000 when the public debt soared to 52.7% of GDP due to an issuance of two structural government bonds. One bond was issued to deal with the problem of the so called "foreign currency deposits" of the households, and one for the cleanup of the balance sheet of the biggest Macedonian commercial bank for privatization purposes. The bonds amounted to 16.4% of GDP. From 2001 till 2009 the share of the public debt in GDP registered a declining trend that was stopped during the global financial crisis. To finance the budget deficit, in 2009, the government issued a Eurobond and got an SDR disbursement of the IMF quota that led to an increase in the share of the public debt in GDP. This trend of rising public debt continued in the following years and during 2009-2013 it almost doubled reaching 42.7% of GDP. External public debt kept its dominant position throughout the whole period amounting to roughly two thirds of the total debt.

2.1.4 Assessment of the Level of Coordination between Monetary and Fiscal Policies in the Republic of Macedonia

In this section the level of coordination of monetary and fiscal policy in the RM during 1992-2013 is investigated. The aim is to explore the relationship between the policies, the forms of cooperation, and to determine which policy adjusted with an objective of preserving macroeconomic stability. The coordination is assessed based on the consistency of the policy mix with the macroeconomic objectives. Given that primary objective of the central bank is the price stability and that the stable exchange rate is an intermediate objective, the consistency of the policy mix is primarily assessed against the price and exchange rate stability. Assessment of the level of coordination from the point of view of the economic growth i.e., whether the policy mix was adequate and contributing to economic growth consistent with its potential level, goes beyond the scope of the dissertation. Yet, the interactions between the policies are investigated from a cyclicality point of view to determine whether the policies played a stabilizing or amplifying role for the cycles.

Assessment of the interactions between the policies and the level of their coordination is performed by applying a couple of approaches. First, a balance sheet analysis is applied focusing on the claims of the central bank on the government, as a proxy for the fiscal stance, and claims of the central bank on the banking system, as a proxy for the monetary policy stance. Second, the interactions are analyzed by focusing on the impact of the fiscal and monetary operations on the liquidity of the banking system. Third, policy interactions are analyzed in the context of cyclicality to assess policy reactions to the real sector developments.

2.1.4.1 Analysis of the coordination between monetary and fiscal policies through the balance sheet approach

In this section interactions between the monetary and fiscal policies are examined and assessed through the analysis of the balance sheet of the central bank. From the balance sheet data a simplified survey of the central bank is created, based on the following relationships:

$$NFA+NDA=RM \qquad (3)$$

$$NFA=FA-FL \qquad (4)$$

$$NDA=NCB+NCG+OIN \qquad (5)$$

where NFA denotes net foreign assets of the NBRM, FA denotes foreign assets of the NBRM, FL denotes foreign liabilities of the NBRM, NDA denotes net domestic assets of the NBRM, NCB denotes net claims of NBRM on banks, NCG denotes net claims of NBRM on government, OIN denotes other items net and RM denotes reserve money.

Changes in reserve money are driven by changes in the central bank's net foreign assets (hereinafter: NFA) and net domestic assets (hereinafter: NDA). Key components of the NDA are net claims on banks (hereinafter: NCB), which represent net position of the central bank vis-à-vis commercial banks, and net claims on government (hereinafter: NCG), which represent net position of the central bank vis-à-vis the central government. For the purposes of this analysis, balance sheet items NCB and NCG of the NBRM are used as a proxy for the monetary and fiscal policy stance, respectively. Have the actions of both policies been in the same direction, or in the opposite direction i.e., one policy tightening and the other loosening; to what extent have fiscal and monetary policies contributed to the reserve money creation; and what have been the macroeconomic implications of this mix of policies, are the key investigated aspects.

Foreign exchange interventions of the central bank and changes in government deposits with the central bank, if not offset by other monetary policy actions, can have substantial implications for the reserve money and the overall liquidity in the banking system. Subsequently, through the liquidity channel, they can affect aggregate demand, stability of the exchange rate, inflation expectations and inflationary developments. Given the monetary policy strategy of the NBRM of maintaining a stable exchange rate, changes in NFA are considered as an autonomous factor that cannot be controlled by the central bank. NCG reflect central bank financing of the government (central bank loans to government) and government deposits placed with the central bank. While drawdown of government deposits implies injection of liquidity, buildup of government deposits implies mopping-up liquidity from the banking system. Still, the extent to which these factors affect the reserve

money depends on the monetary policy actions to offset the liquidity effects stemming from foreign exchange interventions and government spending. In this light, NCB, which reflects net sterilized or injected liquidity by the NBRM, is used as a proxy for assessing the monetary policy stance.

However, it must be noted that the balance sheet approach has some limitations that prevent drawing firm conclusions about the fiscal and monetary policy stance and the mix of policies. For example, a decline in NCG (due to a decline of government credit or an increase of government deposits with the central bank) indicates negative contribution to reserve money growth, i.e., tightening of the fiscal policy. Still, effectively this change may be a result of the buildup of foreign currency deposits of the government with the central bank, which is reflected in NFA (increase in the foreign assets of the central bank) and NCG (increase in the liabilities of the central bank to the government) and does not affect reserve money.

In order to get better understanding and assessment of the interactions of the policies, the analysis of the developments of the NCB and NCG is supplemented with an analysis of other indicators of the monetary and fiscal policy stance, including main policy rate and other instruments of the central bank, budget balance and sources of budget financing. Then, the interactions are assessed against the monetary aggregates, credit growth, and external sector developments, as well as their implications for the macroeconomic stability, i.e., whether the interactions of the policies have resulted in a stable foreign exchange market, adequate level of foreign reserves and low and stable inflation. An assessment of the optimal mix of monetary and fiscal policies in the context of economic growth is beyond the scope of this doctoral work.

Reserve money is defined as currency in circulation (including cash in vault), banks reserves (reserve requirement for liabilities in domestic and foreign currency, and excess reserves), other deposits of banks and deposits of local governments and non-depositary institutions at the central bank. Changes in the reserve money are driven by changes in the NFA of the NBRM (foreign assets net of foreign liabilities) and changes in the NDA of the NBRM, which comprise of NCG, NCB and other items, net (hereinafter: OIN). Foreign assets of the NBRM are defined as foreign reserves and other foreign claims of the NBRM on non-residents and foreign liabilities as liabilities of the NBRM to non-residents. NCG are defined as central bank loans extended to the central government net of government deposits with the central bank. Negative NCG imply that government sterilizes liquidity as deposits placed with the central bank are higher than the credit obtained from the central bank, while positive imply that government injects liquidity in the banking system. NCB are defined as central bank loans extended to commercial banks and savings houses less the amount sterilized through monetary instruments. Therefore, negative NCB point to a structural excess liquidity of the banking system that is sterilized by the central bank and positive NCB point to a structural shortage of liquidity entailing a need for injection of liquidity by the central bank. OIN is a residual item that includes all balance sheet positions that are not reflected in the NFA, NDA and reserve money.

The NBRM balance sheet data have been available since 1995 and for the previous period the Annual Reports of the NBRM are used for compiling a simplified Survey of the NBRM. The balance sheet data series is not fully consistent, as data for the period 2003-2013 are according to the Monetary and Financial Statistics Compilation Guide (2007), and earlier data (for 1995-2002) are according to the old national methodology.

Table 1. Survey of NBRM, in millions of denars

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Net foreign assets	**399**	**2226**	**6316**	**8841**	**8508**	**11012**	**13724**	**23999**	**41704**	**50206**	**41974**	**42096**	**41374**	**65725**	**84853**	**94424**	**90953**	**93246**	**100610**	**122504**	**128912**	**118150**
Foreign assets	399	2226	7248	10732	11452	15894	19032	30136	48015	55103	45923	46078	44831	69588	88102	94979	91908	97807	105495	141624	143323	122656
Foreign liabilities			932	1891	2944	4882	5308	6137	6311	4897	3949	3982	3457	3863	3249	555	955	4561	4886	19121	14411	4506
Net domestic assets	**658**	**1268**	**-709**	**-2217**	**-871**	**-2421**	**-4945**	**-14094**	**-27696**	**-31986**	**-23799**	**-19752**	**-18691**	**-37350**	**-50836**	**-52956**	**-42918**	**-41354**	**-46693**	**-63625**	**-67602**	**-59216**
Net claims on banks	371	1174	1415	3055	5322	1982	1648	**-1063**	-4360	-2923	-2784	-4317	-3575	-8916	-14031	-25586	-17437	-16660	-26851	-32214	-24920	-25450
deposits	-71	-3	0	-510	-38	-738	-909	-2047	-4822	-3157	-2998	-4388	-4566	-8945	-14053	-25600	-17451	-16676	-26867	-32230	-27637	-25466
central bank bills	-71	-3	0	-510	-38	-738	-909	-2047	-4822	-3157	-2998	-4388	-4566	-8945	-14053	-25600	-17451	-15862	-25944	-32230	-25976	-25466
auctions of foreign currency deposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-814	-923	0	-1661	0
claims	442	1177	1415	3565	5360	2720	2557	984	462	234	214	71	991	29	22	14	14	16	16	16	2717	16
selective loans	373	562	659	23	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
repurchase of state bond	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
auctions of deposits	0	156	0	3047	4349	1993	1892	534	0	0	0	0	0	0	0	0	0	0	0	0	0	0
long-term loans, advances etc.	44	459	576	207	194	294	293	450	462	234	214	0	0	0	0	0	0	0	0	0	0	0
liquidity loans	25	0	180	288	314	430	369	0	0	0	0	60	44	29	22	14	14	16	16	16	2716	16
other claims	0	0	0	0	0	0	0	0	0	0	0	11	947	0	0	0	0	0	0	0	1	0
Net claims on central government	0	64	1727	-29	-1280	3629	2524	-1618	-11025	-16717	-9570	-8455	-9370	-20475	-27555	-15002	-11030	-11365	-3516	-13443	-24889	-24104
deposits	0	0	-63	-2084	-3829	-5077	-6151	-9734	-16894	-25513	-17845	-12345	-12865	-24025	-30075	-16273	-12334	-12692	-9008	-33540	-44616	-43005
deposits	0	0	0	-673	-1218	-1864	-1738	-4321	-8334	-16953	-11265	-12345	-12865	-24025	-30075	-16273	-12334	-12692	-9008	-33540	-44616	-43005
fund for monetary policy support	0	0	-63	-1411	-2611	-3213	-4413	-5413	-8560	-8560	-6580	0	0	0	0	0	0	0	0	0	0	0
claims	0	64	1790	2055	2549	8706	8675	8116	5869	8796	8275	3890	3495	3549	2519	1271	1304	1327	5493	20098	19727	18901
loans for repayment of external debt	0	0	0	-340	210	2205	2559	2373	898	3798	3805	0	0	0	0	0	0	0	0	0	0	0
securities in denars	0	0	0	1039	1039	5030	4723	4416	3802	3802	3495	3200	2891	2929	1918	712	734	758	781	806	831	857
loans in denars	0	64	1790	57	53	53	39	33	26	19	12	4	18	0	0	0	0	0	0	0	0	0
loans in foreign currency	0	0	0	764	756	927	830	770	619	449	247	75	0	0	0	0	0	0	0	0	0	0
claims for allocation of SDR	0	0	0	535	491	491	524	524	524	728	716	611	586	621	587	552	562	560	4698	4841	4715	4502
claims in foreign currency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	7	8	9	13	14451	14181	13542
Other items, net	287	30	-3743	-4227	-4379	-7456	-8411	-10347	-11338	-12319	-11430	-6981	-5746	-7959	-9249	-12368	-14451	-13329	-16326	-17968	-17793	-9662
Reserve money	**1056**	**3493**	**5607**	**6625**	**7638**	**8595**	**8780**	**9904**	**14007**	**18218**	**18175**	**22345**	**22683**	**28374**	**34018**	**41468**	**48035**	**51892**	**53917**	**58879**	**61310**	**58934**
Currency in circulation	911	2952	4075	6061	6771	7203	7264	8264	9857	15671	14815	15010	15071	15813	17732	19894	20799	19482	20173	22767	23979	25045
Total reserves	145	541	1532	564	867	1392	1516	1640	4150	2547	3360	7335	7612	12561	16286	21574	27236	32410	33744	36112	37331	33889
gyro accounts	18	415	774	199	344	353	394	251	2232	741	3360	3248	2677	4984	7396	10689	11816	14414	15659	16746	20082	18996
required reserve on denar liabilities	127	126	758	365	523	1039	1122	1389	1918	1806	0	0	0	0	0	0	0	0	0	0	0	0
required reserve on foreign currency liabilities	0	0	0	0	0	0	0	0	0	0	0	2770	3366	5323	6373	7277	9803	12225	13170	14131	13033	12232
accounts of non-depositary institutions	0	0	0	0	0	0	0	0	0	0	0	1317	1569	2254	2517	3608	5617	5771	4914	5235	4216	2661

Source: NBRM; E. Nacevska, Ulogata na Narodnata Banka na Republika Makedonija vo evrointegracioniot process na zemjata [Role of the National Bank of the Republic of Macedonia in the European integration process of the country], 2012, p.72; author's calculations.

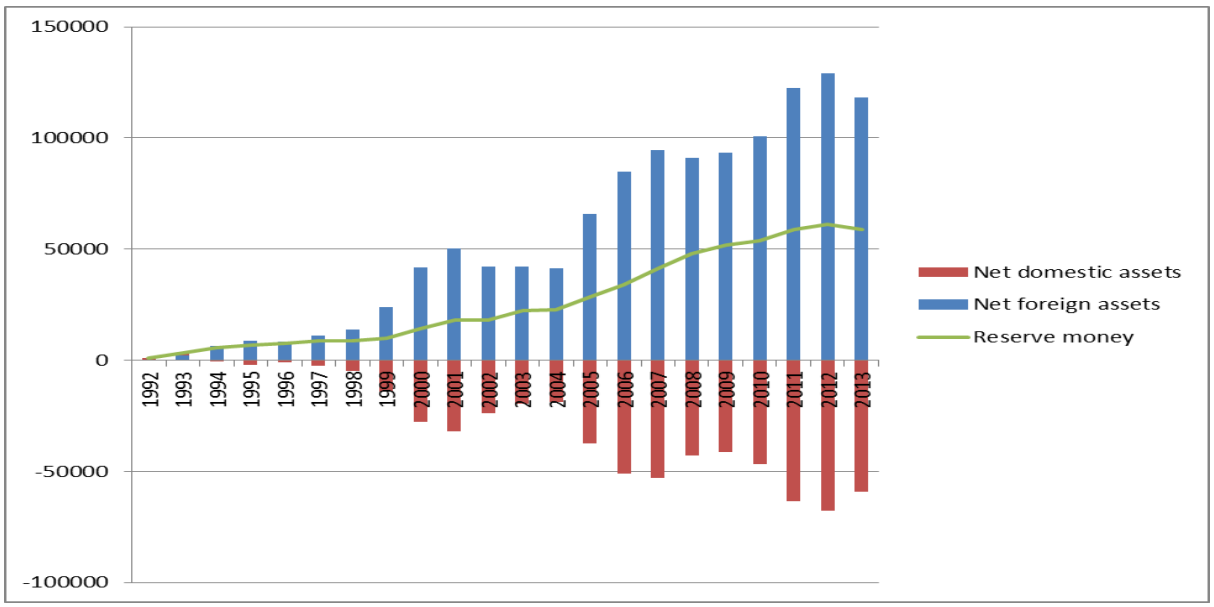
Table 2. Contribution to Reserve Money Growth, in %

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Net foreign assets	**173.0**	**117.1**	**45.0**	**-5.0**	**32.8**	**31.6**	**117.0**	**178.8**	**60.7**	**-45.2**	**0.7**	**-3.2**	**107.4**	**67.4**	**28.1**	**-8.4**	**4.8**	**14.2**	**40.6**	**10.9**	**-17.6**
Foreign assets	173.0	143.8	62.1	10.9	58.2	36.5	126.5	180.5	50.6	-50.4	0.9	-5.6	109.1	65.3	20.2	-7.4	12.3	14.8	67.0	2.9	-33.7
Foreign liabilities	0.0	26.7	17.1	15.9	25.4	5.0	9.4	1.8	-10.1	-5.2	0.2	-2.3	1.8	-2.2	-7.9	1.0	7.5	0.6	26.4	-8.0	-16.2
Net domestic assets	**57.8**	**-56.6**	**-26.9**	**20.3**	**-20.3**	**-29.4**	**-104.2**	**-137.3**	**-30.6**	**44.9**	**22.3**	**4.7**	**-82.3**	**-47.5**	**-6.2**	**24.2**	**3.3**	**-10.3**	**-31.4**	**-6.8**	**13.7**
Net claims on banks	**76.0**	**6.9**	**29.2**	**34.2**	**-43.7**	**-3.9**	**-30.9**	**-33.3**	**10.3**	**0.8**	**-8.4**	**3.3**	**-23.5**	**-18.0**	**-34.0**	**19.7**	**1.6**	**-19.6**	**-9.9**	**12.4**	**-0.9**
deposits	6.4	0.1	-9.1	7.1	-9.2	-2.0	-13.0	-28.0	11.9	0.9	-7.6	-0.8	-19.3	-18.0	-33.9	16.0	4.4	-19.3	-9.9	7.8	3.5
claims	69.6	6.8	38.3	27.1	-34.6	-1.9	-17.9	-5.3	-1.6	-0.1	-0.8	4.1	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	4.6	-4.4
Net claims on central government	**6.1**	**47.6**	**-31.3**	**-18.9**	**64.3**	**-12.9**	**-47.2**	**-95.0**	**-40.6**	**39.2**	**6.1**	**-4.1**	**-49.0**	**-25.0**	**36.9**	**9.6**	**-0.7**	**15.1**	**-18.4**	**-19.4**	**1.3**
deposits	0.0	-1.8	-36.0	-26.3	-16.3	-12.5	-40.8	-72.3	-61.5	42.1	30.3	-2.3	-49.2	-21.3	40.6	9.5	-0.7	7.1	-45.5	-18.8	2.6
claims	6.1	49.4	4.7	7.5	80.6	-0.4	-6.4	-22.7	20.9	-2.9	-24.1	-1.8	0.2	-3.6	-3.7	0.1	0.0	8.0	27.1	-0.6	-1.3
Other items net	**-24.3**	**-108.0**	**-8.6**	**-2.3**	**-40.3**	**-11.1**	**-22.1**	**-10.0**	**-7.0**	**4.9**	**24.5**	**5.5**	**-9.8**	**-4.5**	**-9.2**	**-5.0**	**2.3**	**-5.8**	**-3.0**	**0.3**	**13.3**
Reserve money	**230.8**	**60.5**	**18.2**	**15.3**	**12.5**	**2.2**	**12.8**	**41.4**	**30.1**	**-0.2**	**22.9**	**1.5**	**25.1**	**19.9**	**21.9**	**15.8**	**8.0**	**3.9**	**9.2**	**4.1**	**-3.9**
Currency in circulation	193.3	32.2	35.4	10.7	5.7	0.7	11.4	16.1	41.5	-4.7	1.1	0.3	3.3	6.8	6.4	2.2	-2.7	1.3	4.8	2.1	1.7
Total reserves	37.5	28.4	-17.3	4.6	6.9	1.4	1.4	25.3	-11.4	4.5	21.9	1.2	21.8	13.1	15.5	13.7	10.8	2.6	4.4	2.1	-5.6
gyro accounts	37.6	10.3	-10.3	2.2	0.1	0.5	-1.6	20.0	-10.6	14.4	-0.6	-2.6	10.2	8.5	9.7	2.7	5.4	2.4	2.0	5.7	-1.8
required reserve on denar liabilities	-0.1	18.1	-7.0	2.4	6.8	1.0	3.0	5.3	-0.8	-9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
required reserve on foreign currency liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	2.7	8.6	3.7	2.7	6.1	5.0	1.8	1.8	-1.9	-1.3
accounts of non-depositary institutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	1.1	3.0	0.9	3.2	4.8	0.3	-1.7	0.6	-1.7	-2.5

Source: NBRM; E. Nacevska, Ulogata na Narodnata Banka na Republika Makedonija vo evrointegracioniot process na zemjata [Role of the National Bank of the Republic of Macedonia in the European integration process of the country], 2012, p.40; author's calculations.

The analysis shows that foreign inflows were the main source for base money creation as NFA of the NBRM registered almost continuous increase throughout the analyzed period. The NFA dynamics was mostly driven by BOP developments. Other factors such as price and exchange rate volatility also affected the changes in the foreign assets and liabilities. The overall balance of payment position was mostly positive as current account imbalance was financed by capital inflows. The structural trade deficit was financed by private transfers and capital inflows in a form of debt creating and non-debt creating inflows, the latter being the dominant financing source.

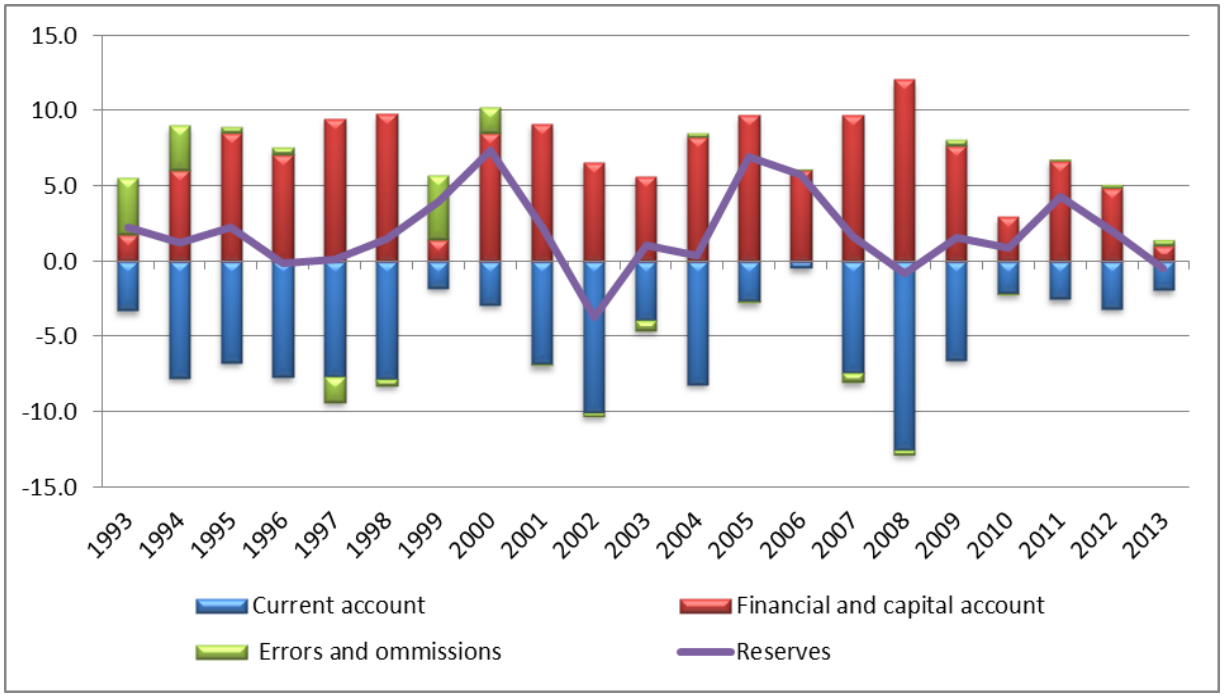
Figure 10. Stock of Reserve Money, Net Domestic Assets and Net Foreign Assets of NBRM, in millions of denars



Source: NBRM.

A decline of NFA was registered only in a couple of years. In 2002, widening current account deficit on the back of rising imports and declining exports was financed partly by capital inflows and partly by foreign reserves that registered a decline of 3.7% of GDP. In 2008, a decline of foreign reserves of 0.8% of GDP was a reflection of the spillover effects from the global crisis felt mainly through the trade channel, remittances and capital inflows. The decline of NFA by 8.3% in 2013 reflected mainly the price and exchange rate valuation effects.

Figure 11. Balance of Payments Components in RM, in % of GDP



Source: NBRM.

From an operational point of view, the increase in the NFA was mostly a result of the interventions of the central bank on the forex market. Against the background of a *de facto* fixed exchange rate regime, the NBRM continuously intervened on the market by purchasing foreign currency thus building up foreign reserves. External borrowings of the central bank (IMF balance of payment support and SDR allocations) and the government, as well as privatization inflows were also important factors affecting the reserve assets, as all foreign exchange government receipts were deposited with the central bank. Fulfillment of the reserve requirement for foreign liabilities in foreign currency, as well as exchange rate and price volatility also affected the size and dynamics of the foreign reserves.

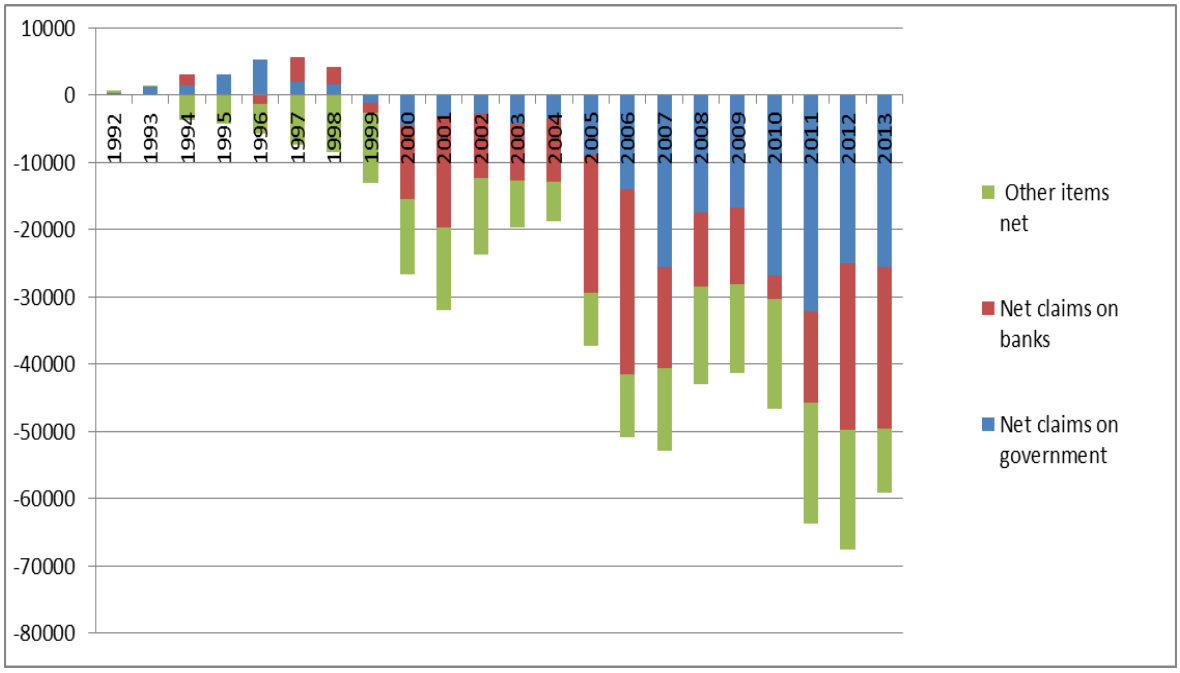
Table 3. Official Reserves of NBRM , in millions of EUR

	Stock of official reserves	Changes in official reserves	Factors affecting the official reserves							
			Foreign exchange interventions	Governmnet transactions	Banks' forex deposits with NBRM	SDR allocation	Reqired reserves in foreign currency	Exchange rate and price effects	Revenues from investment of reserves	Other transactions
2005	1122.9	406.0	156.8	154.7	-2.4	2.2	32.1	46.7	16.6	-0.8
2006	1416.7	293.7	241.1	18.9	0.0	-9.7	17.2	-7.3	32.4	1.1
2007	1524.4	107.7	354.0	-274.6	0.0	-43.1	14.7	6.0	53.1	-2.5
2008	1494.9	-36.5	-55.9	-122.1	0.0	-0.3	40.7	15.2	72.6	13.3
2009	1597.5	102.6	-151.3	94.2	13.3	62.7	40.2	32.1	20.0	-8.7
2010	1714.5	117.0	94.7	-15.6	1.7	-65.8	14.3	76.0	11.6	0.1
2011	2068.9	354.4	50.4	248.6	-15.0	0.0	15.6	42.8	16.1	-4.1
2012	2193.3	124.4	137.9	-70.0	27.0	0.0	-17.8	9.1	16.3	22.0
2013	1993.0	-200.4	10.5	-39.1	-27.0	0.0	-13.1	-118.9	8.9	-21.6

Source: NBRM.

The most pronounced build-up of foreign reserves as a share of GDP, stemming from BOP transactions, was registered during 1999-2000 amidst narrowing of the current account deficit and during the period preceding the global crisis. Although in general foreign inflows in the RM were lower compared to other transition economies in the South-Eastern Europe, still foreign direct and portfolio investments, as well as private transfers markedly accelerated in the run up to the crisis. Both pull and push factors contributed to these developments. Global abundance of liquidity and low interest rates tilted investors toward a search for higher yields in emerging markets. This was combined with domestic factors such as stable macroeconomic environment, sound monetary and fiscal policies, intensified structural reforms with emphasis on attracting FDIs and stable and sound financial system. The status of an EU candidate country received in 2005 was an additional impulse for foreign inflows. Pressures for appreciation of the domestic currency made the central bank actively intervene on the foreign exchange market and the excess liquidity that could not be absorbed by the financial system was sterilized through central bank instruments. The inflows related to the privatization process were deposited on the government account with the central bank.

Figure 12. Structure of Stock of Net Domestic Assets of NBRM, in millions of denars

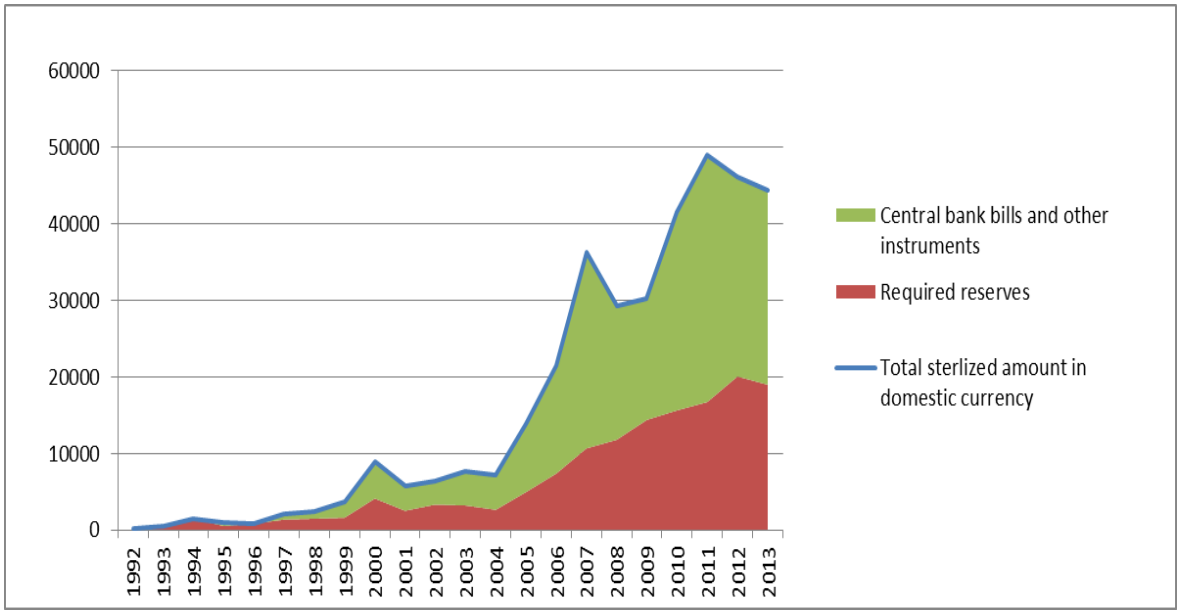


Source: NBRM.

Sterilization of the excess liquidity generated through foreign exchange interventions was done through central bank instruments, as well as through the accumulation of government deposits with the NBRM. At the beginning of the transition process, the reserve requirement was the dominant instrument used for sterilization purposes, but gradually central bank bills overtook the dominant position. Compulsory deposits at the central bank in effect during 2008-2009 and 7-day deposits introduced in 2012 are other sterilization instruments used by the NBRM. Throughout the analyzed period, NDA of the NBRM were negative (with the exception of the first two years of transition) and during most of the years under analysis they contributed negatively to the reserve money growth.

During 1992-1998, NCB and NCG were mostly positive, but since 1999 they have been negative on a continuous basis, implying a sterilization of excess liquidity from the banking system. NCG contributed negatively to reserve money growth in 12 years and NCB in 11 years (out of 21 years under analysis). During 9 years they affected the reserve money in the same direction.

Figure 13. Sterilization of the NBRM by Instruments, in millions of denars

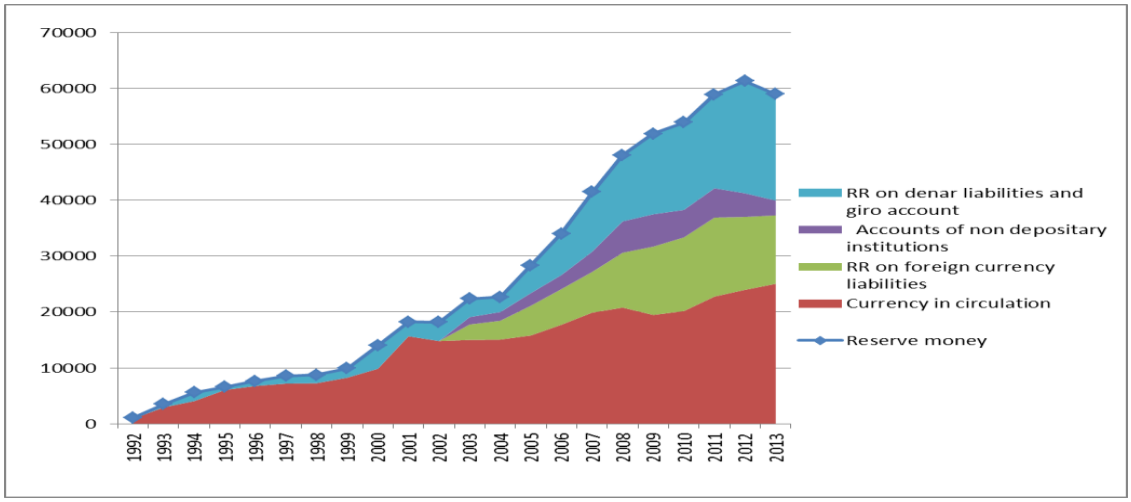


Source: NBRM.

While on a cumulative basis during 1992-2013 the stock of NFA of the NBRM increased by 117.8 billion denars, the NDA declined by 59.9 billion denars resulting in an increase of 57.9 billion denars in reserve money. The stock of the central bank instruments used for sterilizing excess liquidity significantly increased, accounting for 43.1% of the sterilized amount at the end of 2013. Also, government deposits with the central bank increased and NCG position accounted for 40.3% of the sterilized amount at end 2013.

During the first couple of years of the transition (1992-1994), high growth rates of reserve money were registered. In 1992, the annual growth rate was 514%, gradually decelerating to 60.5% at end 1994. The same trend is observed for the reserve money without reserve requirement (the reserve money growth of 530.3% at end 1992 gradually decelerating to 44% at end 1994). The growth was driven by gradual accumulation of foreign reserves (mostly by administrative measures), and expansionary fiscal and monetary policies (positive contribution of NCB and NCG). Looking at the composition of reserve money, highest growth during this period was observed in the currency in circulation and its share in total reserve money was on average about 80%. Unfavorable official exchange rate was conducive to development of an unofficial foreign exchange market where proceeds from exports were sold and foreign currency for import purposes was purchased, which increased the demand for currency in circulation. Also, weak trust in the banking system, high euroization, tendency to avoid taxation and high banking fees influenced the level of currency in circulation.

Figure 14. Composition of Reserve Money of NBRM, in millions of denars



Source: NBRM.

During this period, NCG contributed positively to the reserve money growth. High budget deficit was financed mainly by loans from the central bank and accumulation of domestic and external arrears. According to the Law on the NBRM, the central bank financing of the government was allowed, but limited to 5% of the annual budget.

The NBRM was also injecting liquidity in the banking system, which is evidenced through the positive contribution of the NCB to the reserve money growth. The impact from the foreign exchange interventions was not sterilized and on top of this additional liquidity was provided to the banks. So called "selective loans" were the main liquidity providing instruments. The corporate loans extended by the banks for specific economic sectors and specific purposes defined by the Parliament had to be refinanced by the NBRM, which implied weak control over reserve money and difficulties in achieving the money target. Deposit auctions were introduced at the end of 1993 to be used as liquidity providing and liquidity withdrawing instrument amidst nonexistence of money market and securities to be used for open market operations. Yet, in practice they turned out to be a source for providing funds to the banking system. With a view of improving the liquidity buffers of the banking system, banks were required to keep certain portion of liquid assets at their account with the NBRM (5% of the short-term liabilities), as well as to purchase certain amount of central bank bills considered as liquid assets (compulsory central bank bills). Although the bills were supposed to serve as a liquidity withdrawal instrument, soon after the introduction they were abandoned given the tight liquidity conditions in the banking system.

Despite the government's commitment to implement the Anti-inflationary Program of 1992 based on restrictive fiscal, monetary and wage policies, as well as the freeze of prices of some strategic products, it appears that both policies were not well coordinated and were too loose to establish control over monetary and credit aggregates, and to tame inflation

and inflationary expectations. Reserve money growth reached a three digit level in 1992, gradually coming down to 18.2% in 1995. Money and credit growth reached four-digit level in 1992 and gradually came down to a single-digit level in 1995. These developments were not conducive to faster stabilization of the macroeconomic environment. Therefore, inflation declined to a single-digit level for the first time at end 1995 and the instability of the exchange rate continued until the beginning of 1994 (devaluations during 1992-1993 and then high volatility of the flexible exchange rate). Unstable macroeconomic environment, coupled with structural issues, prevented earlier recovery of the real sector and only in 1996 positive movements in this regard were observed. Efforts to implement restrictive policies in order to tame inflation and stabilize the exchange rate movements were undermined by the weak policies amidst falling economic activity and high financial dependence of enterprises on banks that, in turn, relied on central bank financing.

Still, 1994 was a year when the Stabilization Program, agreed and financially supported by the IMF, was adopted leading to certain improvement in the policy mix. Efforts to start consolidating public finances were visible through the launch of a tax reform aimed at improving the tax structure and strengthening the tax collection, as well as through the rationalization of budget expenditures and reduction of accumulated arrears. Declining budget deficit (from 13.4% of GDP in 1993 to 2.9 % of GDP in 1994) provided a support to the monetary policy for stabilizing macroeconomic environment. That year, also a fund for support of the monetary policy was created. Namely, the MOF started placing budgetary funds on an account opened with the NBRM to support the sterilization efforts of the monetary policy. In parallel, the ongoing reform of the monetary instruments was aimed at establishing market-based and flexible instruments to obtain a permanent control over money creation. In line with the commitments under the IMF arrangement, the selective loans were abandoned and central bank bills with maturities up to 180 days, as an instrument for sterilizing liquidity, were introduced. Also, a direct control over denar loans was implemented.

Table 4. Selected Economic Indicators in RM

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Main policy rate, end of period, %			23	12	8.8	8.2	10.0	10.0	6.8	15.0	15.2	6.2	9.0	8.5	5.7	4.8	7.0	8.5	4.1	4.0	3.7	3.3
Reserve money growth, %	514.3	230.8	60.5	18.2	15.3	12.5	2.2	12.8	41.4	30.1	-0.2	22.9	1.5	25.1	19.9	21.9	15.8	8.0	3.9	9.2	4.1	-3.9
Money growth (M4), %	2,589.5	587.0	42.3	5.2	-0.6	19.0	13.4	29.6	21.8	61.7	-9.8	18.6	16.5	15.0	25.0	29.3	11.2	6.0	12.2	9.7	4.4	5.3
Money multiplier	2.3	4.6	3.9	3.6	3.2	3.5	4.0	4.6	4.0	4.7	3.8	3.9	4.5	4.2	4.3	4.6	4.8	4.5	4.7	4.8	4.8	5.2
Credit growth, %	2,071.0	364.2	93.3	7,3	29.0	7.6	21.6	2.3	17.6	-0.2	6.2	19.7	25.0	21.0	30.5	39.2	34.4	3.5	7.1	8.5	5.4	6.4
CPI, average, %	1,690.7	349.8	121.8	15.9	3.0	4.4	0.8	-1.1	5.8	5.5	1.8	1.2	-0.4	0.5	3.2	2.3	8.3	-0.8	1.6	3.9	3.3	2.8
CPI, end of period, %	1,925.2	229.6	55.4	9.2	0.2	4.5	-1.0	2.3	6.1	3.7	1.1	2.6	-1.9	1.2	2.9	6.1	4.1	-1.6	3.0	2.8	4.7	1.4
Real GDP growth, %	-6.6	-7.5	-1.8	-1.1	1.2	1.4	3.4	4.3	4.5	-4.5	0.9	2.8	4.6	4.4	5.0	6.1	5.0	-0.9	2.9	2.8	-0.4	3.1
Central governmnet budget deficit, %	n.a.	-13.4	-2.9	-1.2	-0.5	-0.4	-1.7	0.0	2.5	-6.3	-5.6	-1.0	0.0	0.2	-0.5	0.6	-0.9	-2.7	-2.4	-2.5	-3.9	-4.1
Average exchange rate of MKD/DM	335.6	14.2	26.6	26.5	26.6	28.7	31.0	31.0	31.0	31.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average exchange rate of MKD/EUR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.6	60.7	60.9	61.0	61.3	61.3	61.3	61.2	61.2	61.3	61.3	61.5	61.5	61.5	61.6
Reserve coverage in months of imports (current year)	2.2	1.2	1.3	1.9	1.9	1.6	1.9	2.8	3.7	4.7	4.0	4.1	3.5	4.3	5.3	4.6	3.3	4.8	4.5	4.1	4.7	4.4
Reserve coverage in months of imports (following year)	0.6	0.9	1.1	1.9	1.8	1.5	2.0	2.4	4.3	4.1	3.3	3.2	3.2	3.7	3.9	3.5	4.4	4.5	3.5	4.4	4.7	3.9
Gross foreign reserves, % GDP	2.7	4.9	5.1	6.3	6.3	6.9	9.0	12.2	19.5	22.0	19.2	18.8	17.7	22.1	28.4	27.4	21.4	24.6	24.4	25.8	30.2	26.9
Gross foreign reserves, stock at end of year in mill US$	63.7	123.2	172.4	282.9	277.5	258.7	323.9	449.9	699.5	755.6	725.2	893.4	975.3	1,324.7	1,865.8	2,239.6	2,107.6	2,290.5	2,276.9	2,676.9	2,891.5	2,746.9

Source: NBRM; MOF; State Statistical Office.

Coordination was further strengthened in 1995 and this was the first year when NCG contributed negatively to money growth, supporting the central bank's efforts to establish control over reserve money. Hence, reserve money growth decelerated to 18.2% from 60.5% in the previous year. The government deposits with the NBRM increased in line with the further reduction of government deficit to 1.2% of GDP and the significant transfer of government deposits to the fund for support of the monetary policy. Furthermore, the central bank started providing banking services to the government agencies and the transfer of the main budget account, accounts of the budget institutions and accounts of the social funds from commercial banks to the NBRM took place that year. Accordingly, NCG made a negative contribution to reserve money growth, relieving pressures on the central bank for sterilizing excess liquidity injected through purchase of foreign assets. However, given the concentration of government deposits in a couple of banks, the transfer was performed gradually and auctions of deposits were used to provide liquidity and smooth the process of liquidity transfer. In this vein, NCB made a positive contribution to the reserve money growth. Transfer of government deposits allowed the central bank to have tighter control over money creation, i.e., over its intermediary target. The money and credit growth decelerated to 5.2% and 7.3%, respectively. Given the introduction of the strategy of a stable exchange rate, the exchange rate remained stable without pressures on the forex market and official reserves continued to grow, increasing to 1.9 months of the import of the following year (from 1.1 months in the previous year). The benefits of better coordination became visible as inflation reached a single-digit level for the first time since the independence (9.2% in December, 1995). The economic activity continued to decline, but the decline was lower (-1.1% compared to -1.8% in the previous year).

Similar developments were registered in 1996 as NCG continued to make negative contribution to reserve money growth leading to further deceleration to 15.3% (as of end 1996). Total money growth was close to zero and credit growth amounted to 13.8%[7]. As NFA declined (due to unfavorable developments in the balance of payments), the NBRM provided liquidity through deposit auctions and NCB made a positive contribution to the reserve money growth. The average interest rate at the deposit auctions was 13.7%. This year a shift from fixed to flexible reserve requirement system for banks was made allowing higher flexibility with liquidity management. The mix of these policies, supported by control of salaries introduced in 1993, the strategy of a de facto fixed exchange rate introduced in 1995, as well as the supply side factors contributed to further slowing down of inflation to 0.2% (end of year) and first positive GDP growth rate. Budget deficit was reduced to 0.5% of GDP despite the pressures stemming from the costly structural reforms.

[7] The credit growth amounted to 29%, but there were some accounting transactions that effectively overestimated the credit growth.

During the period 1997-2007, base money growth remained under control, averaging 17.3% annually, with higher growth being observed in 2000 and 2001 (41.4% and 30.1%, respectively). In 2000, a major increase in reserve money occurred only in the last quarter (particularly in the last month) when, in line with the adopted supplementary budget, there was higher budget spending that remained largely unsterilized by the NBRM. High reserve money growth in 2001 was fully driven by the growth in currency in circulation, while balances on bank accounts declined despite the significant increase in the budget spending (budget deficit amounted to 6.3% of GDP). This can be explained by specific factors such as the armed conflict, finalization of the payment system reform, as well as conversion of Deutsche marks into domestic currency before the introduction of the euro. High uncertainty amidst the internal ethnic conflict led to withdrawal of deposits from the banking system at the beginning of the year. In the second half of the year, in light of the expected transfer of the payment function to the commercial banks and related uncertainty, banks and other economic agents increased the cash in vaults. Also, the conversion of Deutsche marks into denars before the introduction of the euro in 2002 probably affected the changes in the currency in circulation.

Foreign inflows continued to be the main source of monetization, being partially offset by the sterilization policy of the NBRM and MOF, i.e., NDA of the NBRM most of the period contributed negatively to the base money growth. As the banking system faced structural liquidity surplus that could not be fully mopped up by the reserve requirement, central bank bills were extensively used for this purpose. Hence, NCB made a negative contribution to the reserve money growth with exception of the period of internal conflict. The policy rate was rather volatile, reaching on average 15% during 2001-2002, and since then it followed a declining pattern coming down to 4.8% in 2007.

Apart from the period of internal conflict, fiscal policy remained prudent - budget balance was in a range of 2.5% of GDP surplus to 1.7% of GDP deficit. Against this background, NCG for the most of the analyzed period continued to contribute negatively to the base money growth. Positive contribution was observed only in 1997, 2002, 2003 and 2007. However, in certain years there was a discrepancy between the NCG changes and the changes in the fiscal balances, which can be explained by the structure of the sources of financing the budget deficit and debt repayment. The government kept placing deposits on the account for monetary policy support up till 2002, but also central bank loans extended to the MOF kept rising up till 2002, although for most of the time NCG were negative, i.e., government was net creditor to the central bank. The loans extended to the MOF were mostly for repayment of the external debt, i.e., the NBRM was servicing the external debt instead of the government. In 2003, the fund for monetary policy support was closed and part of the government deposits was used for repayment of the loans to the NBRM. Since 2003 NBRM has not extended new loans to the government and claims on government have been declining in line with the repayment of the previously accumulated debt.

Money and credit growth developments during this period were consistent with preserving macroeconomic stability. Average money and credit growth were 21% and 14.8%,

respectively. Exceptionally high money growth was registered only in 2001 when M4 grew by 61.7% explained by the specific factors such as the armed conflict, the euro conversion and the payment system reform. The observed trends in monetary and credit aggregates were generally consistent with stable inflation, inflationary expectations and foreign exchange market. Namely, apart from 2000 (introduction of VAT) and 2001, inflation remained low and stable, and foreign reserves continued to increase, reaching 3.9 months of the following year's imports at end 2006 (compared to the coverage of 1.9 months at end 1996). The stable macroeconomic environment stimulated further recovery of the real sector. Growth of the economic activity was accelerating and reached 4.5% in 2000. After the decline of the GDP in 2001 on the back of internal conflict, the recovery continued and gained a momentum in 2007, when historically highest growth rate of 6.1% was recorded.

During the internal conflict, current account deficit widened as a result of the reduction of private transfers, but sizeable capital inflows led to an increase in foreign reserves. The sizable inflows that stemmed mainly from the privatization of the Telecommunications Company were deposited in the government account with the central bank and did not affect the foreign exchange market. That year foreign direct investments reached a historically highest figure (13% of GDP). Balance sheet data point to substantial increase of government deposits, which imply negative contribution of NCG to the reserve money growth. However, it should be noted that the government pursued an expansionary fiscal policy and the buildup of deposits was only due to the increase of the privatization receipts. Budget revenues declined by 7.1% and budget expenditures increased by 18.2% driven by the increase in goods and services spending of 186%, which to a great extent reflected the procurement of army equipment and related expenses. Significant part of these expenditures was external payments negatively affecting the foreign reserves. However, given the sizable privatization receipts at the beginning of the year, foreign reserves for the year as a whole increased. Faced with high uncertainty, pressures on the foreign exchange market and withdrawal of deposits from the banking system, the central bank undertook a number of tightening measures including an increase of the reference rate to historically highest level of 20%, increase of lombard rate and reserve requirement rate. Despite these measures the stock of the central bank bills declined and thus NCB contributed positively to the money growth. Obviously, fiscal behavior made the central bank undertake bold measures that resulted in historically highest policy rate and negative credit growth of 0.2%. Still, given the causes for such behavior, most probably better coordination between the policymakers was not possible.

From the beginning of the global crisis, the reserve money growth decelerated. Initial spillover effects of the global crisis were felt in the last quarter of 2008. Widening current account deficit, declining capital inflows and private transfers, as well as rising inflation led to intensified pressures on the foreign exchange market and interventions of the central bank to stabilize the market. Therefore, net foreign assets of the NBRM significantly declined. The drawdown of liquidity through foreign exchange operations was offset through an increase in the NDA of the NBRM with positive contribution from both items, NCB (as stock of central bank bills declined) and NCG. Fiscal surplus in 2007 turned into

deficit in 2008. To stabilize the foreign exchange market and the expectations, the NBRM raised the policy rate from 4.7% at end 2007 to 7% in May 2008 and introduced measures aimed at curbing high credit growth of households. Given the continued depreciation pressures in the first half of 2009, the central bank intervened on the foreign exchange market, but also continued with the rate hike to 9% and increased the reserve requirement ratios. Also, as of the beginning of 2009, liquidity coefficients in domestic and foreign currency were introduced. As foreign exchange market stabilized in the second half of 2009, net foreign assets started to rise, implying injection of liquidity. The central bank operations were in the same direction as the stock of central bank bills further declined. In November 2009, for the first time since the inception of the crisis, the policy rate was reduced to 8.5%. Despite the provided fiscal stimulus, NCG remained roughly at the level of the previous year, which may be explained by the increased external borrowing that affected the government deposits with the central bank.

It appears that the significant rate hike in 2009 to some extent reflected a weak coordination between fiscal and monetary policy makers. More than doubled budget deficit and increased debt repayments required increased sources of financing. The government deposits with the central bank were not sufficient to provide smooth financing of the budget given the sharp decline of the budget revenues. In this light, the government stepped up its efforts to raise funds on the domestic market by increasing the interest rates on the government securities. The interest rate on three-month and six-month government securities reached almost 9 percent, which was above the interest rate on the one-month central bank bills. Given the pressures on the foreign exchange market and loss of about one third of the gross reserves during the last quarter of 2008 and the first quarter of 2009, the central bank was compelled to intervene by providing foreign exchange in the market, reducing domestic liquidity that created foreign exchange demand and increasing its policy rate.

In an environment of high uncertainty related to the global economic and financial turmoil and spillover effects to the domestic real sector, growth of monetary and credit aggregates notably decelerated. It also reflected the central bank's intention to curb the excessive credit growth and prevent too fast raise of households' indebtedness, as well as to stabilize inflation and foreign exchange market. Credit growth decelerated from 34.4% in 2008 to 3.5% in 2009 and M4 from 11.2% to 6.0%. External shocks combined with subdued credit growth contributed towards contraction of economic activity of 0.9%. Supply-side driven inflation in 2008 turned into deflation in 2009.

During the next two years (2010-2011), in line with the gradual recovery of the external and domestic sectors and stabilized expectations of domestic agents, net foreign assets continued to increase, while net domestic assets declined partly offsetting the liquidity impact of the foreign exchange interventions. High growth of the reserves was observed particularly in 2011, when the European sovereign debt crisis intensified, questioning the existence of the euro, which increased the preferences of the domestic households for holding domestic currency instead of euro. This change in the currency composition of the

household savings resulted in a change of the currency composition of the assets side of the banking system with positive impact on foreign exchange market developments. Hence, the reserve coverage reached 4.4 months of the following year's imports, or 25.8% of GDP. Favorable foreign exchange market conditions allowed further loosening of the monetary policy - the main interest rate was reduced 7 times in 2010 declining to 4% at the end of the year. During 2011, the key interest rate was kept on hold, but other measures were undertaken to stimulate credit growth, including an easing of the requirements for liquidity coefficients. Still, despite the reduction of the key interest rate, the stock of the central bank bills, the main sterilization instrument, increased and NCB made a negative contribution to the reserve money growth. After making positive contribution to the reserve money growth in 2010, the NCG contributed negatively in 2011. Given that budget deficit for both years was about 2.5% of GDP, different directions of NCG changes can be explained by intensified external borrowing in 2011 outpacing the needs for deficit financing that resulted in accumulation of government deposits. The mix of measures led to somewhat accelerated broad money and credit growth, which provided a stimulus for recovery of the real sector (average real GDP growth during 2010-2011 of 2.9%). The pick-up in inflation to 2.9% from deflation in 2009 was driven by supply side factors (increase of global commodity prices).

The second wave of the global crisis was felt during 2012, when domestic economic activity declined by 0.4%. Unlike the first wave, there were no pronounced pressures on the foreign exchange market and NFA continued to increase. NDA declined driven by NCG, while NCB contributed positively to the reserve money growth as the stock of central bank bills declined. This year the NBRM did an overhaul of the operational framework to create a more flexible framework conducive to further development of the money market and higher credit growth by limiting the amount and frequency of central bank bills auctions. In this light, also the main policy rate was reduced from 4% to 3.75%. To stimulate a credit growth through long-term savings, reserve requirement rate for liabilities of households with maturity of more than 2 years was abolished. Despite the widening budget deficit to close to 4% of GDP, the fiscal position made a negative contribution to the reserve money growth (government deposits increased), which can be explained by the significant reliance on domestic securities markets as a source for financing the budget deficit.

In 2013, the overall BOP position was negative resulting in a decline in the official reserves of 0.6% of GDP. Amidst narrowing of the trade imbalance, the fall in reserves was due to lower capital inflows. Still, a reduction of NFA was about 2.3% of GDP, indicating that the main reason for this development was neither the unfavorable balance of payments nor the significant imbalance on the foreign exchange market. The volatility in exchange rates and prices of the securities and gold held in the reserves portfolio of the central bank had a sizable effect on the foreign assets. The losses in the reserves due to the exchange rate and price changes were adequately reflected in the OIN, which registered growth. Given these developments, NFA contributed negatively to the reserve money growth.

Budget deficit slightly widened from 3.9% of GDP in 2012 to 4.1% of GDP in 2013 and NCG made a slight positive contribution to the reserve money growth. On the other hand, NCB was almost neutral to the reserve money growth. The central bank continued to loosen the monetary policy by two reductions of its key interest rate, as well as by adoption of other micro and macro prudential measures, including changes in the reserve requirement. Given that some of these measures implied a reduction of the reserve requirement (zero rates were introduced for long-term savings of households, foreign long-term funding sources, as well as loans extended to specific economic sectors were deductible from the reserve requirement base) reserve money registered a decline of 3.9%. Although the reserve money declined, M4 and credit growth accelerated, reaching 5.3% and 6.4%, respectively. Gradual stabilization of the external environment coupled with structural changes of the Macedonian economy contributed towards gradual recovery of the real sector (GDP growth of 3.1%). Output gap remained negative and average inflation, driven mostly by the food component, amounted to 2.8%.

Overall, since the last quarter of 2009 policy makers' efforts were tilted towards loosening of the policies and mitigating the negative spillover effects felt by the real sector. Despite the more expansionary fiscal policy and loosening of the monetary policy through standard and non-standard measures, the reserve money and other monetary and credit aggregates' growth decelerated on the back of high uncertainty and weaker monetary policy transmission. Still, these policies combined with structural policies and intensified foreign direct investments, were conducive to solid gradual recovery of the real sector. Despite the recovery, the output gap remained negative and inflation dynamics was mostly influenced by supply side factors.

Notwithstanding the limitations of the balance sheet analysis, in general, for most of the years under analysis it points to a mix of policies consistent with the macroeconomic stability of the Macedonian economy. The strategy of targeting the exchange rate required disciplined fiscal policy to support the peg. The fiscal support was particularly important given that government spending in small and open economies, such as the Macedonian one, can significantly affect the balance of payments and foreign reserves developments. IMF arrangements were an important instrument that helped disciplining the policies. For most of the period the fiscal policy adjusted providing support to the monetary policy. This combination of policies contributed towards maintaining the stability of the exchange rate, which has served as a nominal anchor of the monetary policy and as a key instrument in achieving low and stable inflation as a primary objective of the central bank. Favorable foreign exchange market conditions resulted in gradual and almost continuous buildup of foreign reserves. The stable macroeconomic environment has contributed to the process of gradual recovery of the real economy from the initial transition shocks, although the catching up process has been rather slow. This, to a great extent, can be explained by slow implementation of the structural reforms entailing modest foreign direct investments.

Aside from the year of the internal conflict, weak coordination can be observed only during 1992-1994 and in 2009 (during the global crisis). The first years of transition were marked by high macroeconomic instability, i.e., declining economic activity with skyrocketing inflation and unstable foreign exchange market with many devaluations of the domestic currency. The mix of the policies implemented during this initial period was not adequate for stabilizing the economy. The fiscal authorities, faced with the pressures stemming from the real sector, were not able to tame the fiscal spending and provide an adequate support to the monetary policy. On the other hand, the power of the monetary policy was limited given the poor liquidity of the banking system and imposed extension of credits to banks for specific economic sectors, which implied weak control over monetary aggregates. This mix of policies points to a fiscal dominance. External shocks combined with expansionary fiscal policy in 2009, resulted in enormous depreciation pressures requiring intense interventions of the central bank on the foreign exchange market that resulted in a loss of almost one third of the foreign reserves. In order to provide liquidity for financing the budget deficit, the government increased the interest rate on the three-month and six- month treasury bills above the interest rate of the one-month central bank bills. To keep the liquidity in the economy under control and thus lower the pressures on the foreign exchange market, the central bank was forced to tighten. Weak coordination resulted in high policy rate that was transmitted in the banking system with negative implications for the real sector.

2.1.4.2 Analysis of the coordination between monetary and fiscal policies from a liquidity point of view

Central bank's balance sheet analysis is one of the platforms for assessing the interactions between monetary and fiscal policies, where NCG and NCB positions can be used as proxies for the changes in the policies' stance and related effects of these policies on the reserve money growth. However, as previously emphasized, the balance sheet approach is subject to some limitations in terms of drawing firm conclusions on the policies' stance, interactions of the policies, implications for reserve money growth and subsequently for the credit and money aggregates and, in general, for macroeconomic stability. With a view of having a wider understanding of the relationship between the fiscal and monetary policies, the balance sheet analysis is supplemented with another approach that is more narrowly focused on the liquidity (in domestic currency) of the banking system and gives better indication for the liquidity impact of the policies. The data is available for 2002-2013. Thus, the analysis focuses on the factors that affect changes in the banks' accounts with the NBRM and is performed along the following framework:

$$\Delta BA=\Delta AF+\Delta CBI \qquad (6)$$

$$\Delta AF=\Delta GT+\Delta CC+\Delta FT+\Delta OT \qquad (7)$$

where BA denotes banks' accounts in domestic currency with the NBRM, AF denotes autonomous factors, CBI denotes central bank instruments, GT denotes government transactions, CC denotes currency in circulation, FT denotes foreign exchange transactions and OT denotes other transactions that affect banks' accounts.

Changes in the banks' balances on their accounts with the central bank depend on the autonomous factors, which are not directly under a control of the central bank, and on central bank interventions through its set of instruments. Changes of the currency in circulation and government balances at the central bank are considered as autonomous factors. In the context of the monetary strategy of a de facto fixed exchange rate regime, also the foreign exchange interventions of the central bank are considered as an autonomous factor. The NBRM has used a set of instruments for absorbing and supplying liquidity. Given the structural liquidity position of the banking system, the NBRM has mainly relied on central bank bills as a tool for absorbing the excess liquidity.

Changes in the balances of the government accounts in domestic currency with the central bank directly impact the liquidity of the banking system. While drawdown of deposits means injection of liquidity, build-up of deposits means sterilization of liquidity. Yet, to have more precise assessment of the liquidity effects of the fiscal policy, changes in the government's balances have to be analyzed together with the foreign exchange transactions between the central bank and the government, as the central bank acts as a banker for the government. For example, drawdown of deposits may be due to a purchase of foreign currency by the government from the central bank for external payments. In this case, the drawdown of deposits does not affect banking system liquidity. Also, a build-up of government deposits may be related to external borrowing of the government, which does not have an immediate liquidity impact. The impact will be felt when the spending of these proceeds will occur.

The NBRM has traditionally played a role of a fiscal agent being responsible for providing banking services for the government, such as keeping government bank accounts in domestic and foreign currency, performing payment transactions and providing services related to external debt. The central bank has served as a banker for all government agencies that have been authorized to open accounts with the central bank, and only in rare cases with commercial banks (upon prior approval of the MOF). Also, the central government agencies have not been authorized to sell or purchase foreign currency from commercial banks. Therefore, all transactions in foreign currency have been performed through the central bank, including repayment of debt. Through the payment system infrastructure provided by the NBRM, the government agencies have done all domestic and external payment transactions. An important step forward in the centralization of the government bank accounts was achieved in 2001 with the establishment of the treasury single account at the central bank, which has served as a centralized government account for collection of budget revenues and execution of budget expenditures.

This framework provides a possibility for assessing the policies' stance from the point of view of their direct liquidity impact on the banking system. The fiscal policy stance will be

assessed on the basis of the changes in the government accounts and the foreign exchange transactions with the central bank. The monetary stance will be assessed on the basis of the changes in the monetary instruments that impact the banks' accounts in domestic currency with the central bank.

Table 5. Factors that Affect Changes in Balances of Banks' Accounts, in millions of denars

	Autonomous factors							Total autonomous factors	Total central bank instruments	Banks' accounts
	Government accounts	Currency in circulation	Forex transactions with banks	Forex transactions with government	Total forex transactions	Other autonomous factors	Total government transactions			
	1	2	3	4	5=3+4	6	7=1+4	8=1+2+3+4+6	9	10=8+9
2002	2,767	708	-3,066	1,196	-1,870	-243	3,963	1,362	150	1,512
2003	6,342	-197	-210	0	-210	-4,706	6,342	1,229	-1,368	-139
2004	-2,611	-60	2,641	0	2,641	-310	-2,611	-340	-181	-521
2005	-2,488	-742	9,036	-253	8,783	802	-2,741	6,355	-4,397	1,958
2006	-3,931	-1,918	14,797	-1,181	13,616	-69	-5,113	7,698	-5,166	2,532
2007	708	-2,165	21,625	-6,080	15,545	713	-5,372	14,801	-11,549	3,252
2008	277	-903	-3,483	-6,235	-9,719	3,205	-5,959	-7,140	6,649	-491
2009	6,858	1,317	-9,445	-252	-9,698	2,587	6,605	1,064	2,944	4,008
2010	-3,291	-691	5,804	6,264	12,068	3,180	2,973	11,267	-9,886	1,381
2011	-658	-2,595	3,076	6,744	9,820	945	6,086	7,513	-6,301	1,212
2012	-12,153	-1,212	8,463	-2,874	5,589	2,033	-15,027	-5,742	7,827	2,085
2013	3,378	-1,066	620	-4,612	-3,992	2,745	-1,234	1,065	-3,837	-2,772
Total	-4,802	-9,524	49,858	-7,284	42,574	10,882	-12,087	39,131	-25,113	14,017

Note.* Positive change means increase of liquidity and negative change means decrease of liquidity.

Source: NBRM.

During the analyzed period, the autonomous factors created liquidity in the amount of 39.1 billion denars, on a cumulative basis. Foreign exchange transactions with the banks were the main factor for the increase of the structural liquidity position of the banks (49.9 billion denars). With exception of a couple of years, on a net basis, the NBRM purchased foreign exchange currency on the forex market and supplied liquidity in the banking system. The NBRM acted as a net seller during 2002 amidst rising trade deficit, and during the initial stage of the global crisis, on the back of diminishing current and capital account inflows. In addition, liquidity was provided through other channels, including remuneration to banks for the central bank bills, reserve requirement and other monetary policy instruments used for absorbing excess liquidity.

The supply of liquidity that mainly stemmed from foreign exchange transactions was partially withdrawn by other autonomous factors. In line with the gradual increase of the

economic activity the currency in circulation rose and contributed towards lowering the liquidity of the banking system (9.5 billion denars). It registered a decline only in 2002 (after the extraordinarily high increase in 2001) and in 2009. The government accounts' changes point to an absorption of liquidity in the amount of 4.8 billion denars. To properly asses the liquidity impact of the fiscal policy, a combined effect of changes in the government accounts and foreign exchange transactions between the government and NBRM (total government transactions) has to be taken into account. The total government transactions on a cumulative basis mopped up liquidity in the amount of 12.1 billion denars. For most of the years analyzed, the government transactions were a factor contributing to sterilization of the liquidity (7 out of 12 years).

Table 6. Monetary Policy Instruments, Flows in millions of denars

	Monetary Policy Instruments								
	Central bank bills	Treasury bills for monetary policy	Compulsary deposit	Overnight deposit	Overnight credit	7-days deposit	Repo operations	Required reserves in denars	**Total change in monetary policy instruments**
2002	149.9	0.0	0.0	0.0	0.0	0.0	0.0	-772.4	-622.5
2003	-1367.9	0.0	0.0	0.0	0.0	0.0	0.0	108.8	-1259.1
2004	-180.5	0.0	0.0	0.0	0.0	0.0	0.0	-367.3	-547.8
2005	-4397.0	0.0	0.0	0.0	0.0	0.0	0.0	-1387.0	-5784.0
2006	-521.0	-4645.0	0.0	0.0	0.0	0.0	0.0	-1376.5	-6542.5
2007	-11575.2	26.3	0.0	0.0	0.0	0.0	0.0	-2818.0	-14366.9
2008	3559.2	4618.7	-1528.5	0.0	0.0	0.0	0.0	-1689.5	4959.9
2009	1585.0	0.0	1359.4	0.0	0.0	0.0	0.0	-3748.5	-804.1
2010	-10055.0	0.0	169.1	0.0	0.0	0.0	0.0	-1410.0	-11295.9
2011	-6301.0	0.0	0.0	0.0	0.0	0.0	0.0	-1290.9	-7591.9
2012	6285.0	0.0	0.0	-58.0	0.0	-1100.0	2700.0	-910.2	6916.8
2013	500.0	0.0	0.0	-1172.0	0.0	-465.0	-2700.0	1065.5	-2771.5
Total	-22318.5	0.0	0.1	-1230.0	0.0	-1565.0	0.0	-14596.0	-39709.4

Note. * Positive change means an increase of liquidity and negative change means a decrease of liquidity.

Source: NBRM.

Overall, the autonomous factors led to a supply of liquidity that was partially mopped up by central bank instruments. Given that the supply of liquidity through autonomous factors was assessed to be higher than the demand, the NBRM used its set of instruments to mop up the excess liquidity. In this way, the NBRM tried to maintain a level of liquidity that

would not create pressures on the foreign exchange market and endanger the credibility of the peg or stimulate inflationary pressures. Part of the liquidity was sterilized through the reserve requirement on domestic liabilities. The remaining part of the structural excess was largely sterilized through the central bank bills.

In addition to the central bank bills, the central bank used also other instruments. During 2006-2008, treasury bills for monetary policy purposes were used as a sterilization instrument. This instrument was introduced with a view of enhancing the coordination of the monetary and fiscal policies. The idea was to divert structural excess liquidity from the central bank bills towards government securities with longer maturities and stimulate widening and deepening of the government securities markets that would also reinforce monetary policy transmission. However, the diverging views between the monetary and fiscal authorities on the use of this instrument resulted in its abandonment in 2008. Compulsory deposit was used during 2008-2010. High credit growth of the households in a run-up to the global crisis entailing rising risks for the external sector, made the central bank undertake a measure to rein in the credit growth. Limits for the household's credit growth per bank were established and in case these limits were exceeded banks had to place deposits with the central bank (compulsory deposits). In 2012, two new instruments were introduced: 7-day deposit aimed at sterilizing the liquidity that will not be absorbed through the central bank bills given the fixed amount of the tender and overnight deposits aimed at establishing a corridor of short-term interest rates and better fine-tuning of liquidity needs.

The analysis points that out of 12 years under analysis, in 5 years the reactions of both policies were in different directions, i.e., one policy injecting liquidity and the other sterilizing liquidity. The government sterilized liquidity in 7 years, and central bank in 8 years.

Table 7. Comparison Between Balance Sheet Analysis and Liquidity Analysis, in millions of denars

	NCG	NCB	Central bank instruments	Government transactions	Difference government position	Difference NBRM position
	1	2	3	4	5=1-4	6=2-3
2002	7,147.0	139.0	150	3,963	3,184	-10.9
2003	1,115.4	-1,532.6	-1,368	6,342	-5,226	-164.7
2004	-915.4	741.2	-181	-2,611	1,696	921.7
2005	-11,105.4	-5,341.1	-4,397	-2,741	-8,364	-944.1
2006	-7,079.9	-5,114.7	-5,166	-5,113	-1,967	51.3
2007	12,552.8	-11,554.9	-11,549	-5,372	17,925	-6.0
2008	3,972.4	8,149.0	6,649	-5,959	9,931	1,499.6
2009	-334.7	777.0	2,944	6,605	-6,940	-2,167.4
2010	7,849.0	-10,190.8	-9,886	2,973	4,876	-304.9
2011	-9,926.7	-5,363.2	-6,301	6,086	-16,012	937.8
2012	-11,446.4	7,294.0	7,827	-15,027	3,580	-533.0
2013	785.0	-530.0	-3,837	-1,234	2,019	3,307.0
Total	-7,387	-22,527	-25,113	-12,087	4,700	2,586.4

Source: NBRM.

A comparison of the balance sheet analysis, i.e., positions NCG and NCB as proxies for fiscal and monetary policy stance, respectively, with the liquidity analysis points to some differences regarding the policy stance. Both sources of data point to a sterilizing cumulative effect of fiscal policy, although with different magnitude. Balance sheet analysis points to sterilization effect of 7.4 billion denars and liquidity analysis to 12.1 billion denars. Both sources of data also point to a sterilizing cumulative effect of the monetary policy, though the size differs by about 2.6 billion denars. Although on a cumulative basis both analyses point to same directions of the monetary and fiscal policies, annual data point to notable differences in some of the years under analysis.

The differences are due to a couple of factors. NCG position reflects claims on and liabilities to the central government on accrual basis. Claims on the government during 2002-2013 mainly include claims based on: a government security issued for the so-called "selective loans" which is due in 2020; a government security related to the process of rehabilitation of the banking system which was due in 2010, but was repaid earlier in 2007; and IMF SDR allocation that was booked as a claim on the government and a liability of the NBRM to non-resident (foreign liability). Liabilities to government include foreign and local currency deposits of the central government. The liquidity data on government transactions reflect changes in general government deposits in local currency and foreign exchange transaction of the government that have liquidity impact on banks' accounts.

NCB position reflects claims on and liabilities to commercial banks. Given the structural excess liquidity, the NBRM sterilizes liquidity, on net basis. Credits to banks are minor item stemming from claims related to rehabilitation of the banking system and are due in 2020. Liabilities to banks include liabilities related to central bank bills, as well as foreign exchange deposits. The possibility of placing foreign exchange deposits with the NBRM was introduced in 2009 together with the introduction of the foreign currency liquidity coefficient with a view of avoiding pressures on the forex market and potential decline of official reserves. Other monetary policy instruments that may affect the liquidity are considered as part of the reserve money in line with the standard definition of this monetary aggregate, and are not part of the NCB. According to the liquidity data, the impact of the monetary policy is assessed not only by the size of the central bank bills, but also by other instruments such as compulsory deposits, 7-day deposit and overnight deposits as they also affect the banks accounts. The effect of the foreign currency deposits is not considered in the liquidity analysis as it is focused on domestic liquidity.

Against the background of the internal armed conflict of 2001, in the subsequent two years the government pursued a looser fiscal policy leading to injection of liquidity that was partially offset by the interventions of the central bank. This finding is generally consistent with the balance sheet analysis, although there is a difference in the magnitude of the effect. This may be partly explained by a build-up of foreign currency deposits as a result of the privatization of the Telecommunications Company in 2001. The privatization receipts significantly increased the government deposits, but did not affect the reserve money and banks' accounts. However, the build-up of foreign currency deposits allowed these proceeds to be used for debt repayment and other external payments in the subsequent period. The use of the foreign currency proceeds was reflected as a drawdown of government deposits in NCG position, but it did not have a domestic liquidity effect. Given the both approaches, in 2002 the central bank position was roughly neutral, and in 2003 it was tightening.

In the pre-crisis period (2004-2008) economic growth was picking up as a result of intensified capital inflows, which created appreciation pressures and made central bank intervene. The liquidity issued through the foreign exchange interventions was sterilized through actions of the policies (only in 2008 the NBRM issued liquidity). This period was characterized by prudent fiscal policy - central government budget balance was close to 0, on average, though a shift from surplus to deficit was registered in 2008. Compared with the balance sheet data, the findings for the fiscal position for the first three years are generally consistent, though with notable difference in the intensity in 2005, which can be explained by the significant buildup of foreign currency deposits due to the issuance of the first 10-year Eurobond. The balance sheet data for the subsequent two years differ in terms of the direction of the fiscal policy, especially in 2007, which is due to the earlier repayment of the government external debt from foreign currency accounts. This was reflected as drawdown of government deposits in the NCG, but effectively it did not affect the domestic liquidity. As for the monetary policy stance, both analyses point to similar conclusions.

The countercyclical fiscal policy during 2009-2011 resulted in creation of liquidity that was partially mopped up by the monetary instruments. A notable difference in relation to balance sheet data is observed in 2011, when NCG position points to a draining of liquidity. This difference can be explained by the build-up of foreign currency deposits due to the increased external government borrowing. Both analyses point to generally consistent indications about the monetary policy stance and the difference in the size is due to the different treatment of the compulsory deposit in the two analyses.

Despite the continued expansionary fiscal policy in 2012 and 2013, government transactions were not a source of liquidity, which can be explained by the significantly increased reliance on domestic government securities as a source of financing budget deficit. Changes introduced to the operational framework for the conduct of the monetary policy, especially the shift to a tender with fixed amount and gradual reduction of the stock of the central bank bills, resulted in lower possibility for subscription and increased the banks' interest in government securities. At that juncture the government was very active at the government securities market, increasing the borrowing above the financing needs and extending the maturity profile of the debt. Therefore, the liquidity that was injected through the central bank operations was channeled, to a great extent, to the government accounts with the central bank. NCG data also point to an absorption of liquidity for 2012. The different direction of the fiscal policy from a balance sheet aspect for 2013 can be explained by the changes in the government foreign currency deposits due to external borrowing, which is not incorporated in the liquidity analysis. The balance sheet analysis points to consistent conclusions about the monetary policy, i.e., loosening in 2012 and tightening in 2013.

Table 8. Financing of the Central Government Budget of RM, in millions denars

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Budget deficit/surplus, % of GDP	**0.2**	**-0.5**	**0.6**	**-0.9**	**-2.7**	**-2.4**	**-2.5**	**-3.9**	**-3.9**
Budget deficit/surplus	658	-1,700	2,153	-3,811	-10,895	-10,543	-11,483	-17,767	-19,253
Financing	**-658**	**1,700**	**-2,153**	**3,811**	**10,895**	**10,543**	**11,483**	**17,767**	**19,253**
Inflow	**7,040**	**21,031**	**19,303**	**10,788**	**18,939**	**18,024**	**19,584**	**23,169**	**34,570**
Privatization receipts	1,433	20,697	661	1,652	0	0	0	0	297
Foreign borrowing	13,913	1,732	3,643	2,672	13,040	7,177	23,718	7,813	19,072
Deposits	-9,872	-5,877	15,401	3,328	-274	4,012	-7,315	-12,236	-327
Government securities	1,538	2,019	-464	3,038	6,098	6,796	2,906	27,472	15,238
Sale of shares and other inflows	28	2,459	62	97	75	40	276	120	290
Outflow	**7,697**	**19,331**	**21,456**	**6,977**	**8,044**	**7,482**	**8,101**	**5,402**	**15,317**
Debt repayment	7,697	19,331	21,456	6,977	8,044	7,482	8,101	5,402	15,317
External debt	3,295	13,944	14,188	1,879	2,356	2,590	3,098	3,482	13,458
Internal debt	4,402	5,387	7,268	5,098	5,688	4,892	5,003	1,920	1,859

Source: MOF; NBRM.

The comparison of the balance sheet and liquidity data on the mix of the policies points to discrepancies. The balance sheet analysis indicates that during 7 years, the actions of both policies were in a different direction and during 5 years, they were in the same direction (2 years loosening and 3 years tightening). The liquidity analysis finds that the policies acted in different directions during 5 years and in the same direction during 7 years (out of which 5 years tightening). The discrepancies are observed starting from 2007. While balances sheet data for 2007 point to a mix of loosening fiscal policy and tightening monetary policy, from a liquidity point of view fiscal policy tightened. Balance sheet data for 2008 suggest loosening of both policies, but the liquidity data point to a fiscal tightening. In 2009, fiscal policy made a small negative contribution to reserve money growth coupled with a small positive impulse from the monetary policy, but liquidity data point to loosening of both policies. Balance sheet data for 2011 point to a mix of tightening policies, while liquidity data point to a fiscal stimulus. A difference in the stance of the fiscal policy was also observed in 2013.

Table 9. Policy Mix in RM

	Fiscal policy		Monetary policy	
	Balance sheet analysis	Liquidity analysis	Balance sheet analysis	Liquidity analysis
2002	+	+	+	+
2003	+	+	—	—
2004	—	—	+	—
2005	—	—	—	—
2006	—	—	—	—
2007	+	—	—	—
2008	+	—	+	+
2009	—	+	+	+
2010	+	+	—	—
2011	—	+	—	—
2012	—	—	+	+
2013	+	—	—	—

Note. * "+" means loosening, and "-" means tightening.

Source: Author's calculations.

Generally, the findings about the monetary policy stance from a liquidity point of view do not significantly differ from the balance sheet analysis and the conclusions derived from the later remain valid. The balance sheet analysis indicates that monetary policy made mostly negative contribution to the reserve money growth, and the liquidity analysis implies that it was mostly sterilizing liquidity. The direction of the monetary policy almost

for the whole analyzed period is consistent in both approaches and the difference in the intensity between the two approaches is not very sizable. Bigger difference is observed in 2008 and 2009, stemming from the introduction of the compulsory deposit to rein in high credit growth and foreign currency deposits to prevent pressures on official reserves. As previously emphasized, the NCB position does not incorporate all instruments of the NBRM that are factored in when analyzed from a liquidity point of view. Also, a difference is noticed in 2013, which stems from the treatment of the foreign currency deposits of the banks, as well as from the introduction of the new monetary policy instruments (overnight deposits and 7- day deposits), which are not consistently reflected in both analysis.

Although for most of the years both analyses point to the same direction of the fiscal policy (mostly sterilizing), in some of the years there are notable differences regarding the size of its effect. Overall, the liquidity analysis, which appears to be a better indication of the liquidity impact of the policies, points to a bigger sterilizing impact of the fiscal policy. Major part of the discrepancy can be explained by the fact that changes in the foreign currency deposits of the government are taken into account when assessing government position in the balance sheet analysis, and not in the liquidity analysis, which is focused on banks' accounts in domestic currency and factors that affect them. Another factor that may explain the differences is the structure of the sources of government financing. Balance sheet analyzes, supplemented with analysis of other indicators, pinpointed to three periods of weak coordination, one of them being 2009. The liquidity data point that fiscal position in 2009 was expansionary, which negatively affected the foreign exchange market. To stabilize the enormous pressures on the foreign exchange market, the NBRM heavily intervened thus mopping up more liquidity than was injected by the government. Because of shortage of liquidity the stock of the central bank bills was reduced.

The observed discrepancies underline the importance of cautious interpretation of indicators for the policy stance, in particular for the fiscal policy stance, and consequently of the mix of policies. Budget balance is a standard indicator used for assessing the fiscal policy stance and pattern of the public debt dynamics. Rising budget deficit results in rising public debt unless it is financed by other non-debt creating flows such as privatization receipts or drawdown of government deposits accumulated in the past. Still, the liquidity impact of the government spending may significantly differ depending on the sources of budget financing and composition of the spending. While external borrowing in general results in injection of liquidity in the banking system, domestic borrowing by issuance of government securities does not affect the liquidity. Use of previously accumulated government deposits can also notably define the liquidity impact in a particular period. Payments for expenditures to non-residents do not affect domestic liquidity, but affect the level of official reserves that is very important factor affecting the monetary policy stance. External payments are done by a use of government foreign currency deposits or by a purchase of foreign exchange from the central bank. In both cases the result is a fall of the official reserves. Central bank balance sheet data can be used as indication of the policies' stance, but they also have drawbacks and warrant cautious

approach in interpretation. In this context, an assessment of the interactions and coordination of the policies requires a use of multiple indicators of the policies' stance, as well as indicators for the monetary and external sector developments that closely affect the achievement of the macroeconomic objectives.

2.1.4.3 Analysis of the coordination of fiscal and monetary policies in the context of cyclicality

In this section the coordination of fiscal and monetary policies is investigated in the context of their cyclicality. Fiscal policy can contribute in reducing economic fluctuations through automatic stabilizers, which are built-in stabilizing mechanisms that react to business cycles, and discretionary fiscal measures, which pertain to revenue and/or expenditure changes.

Given that automatic stabilizers are triggered automatically through endogenous changes in certain revenues and expenditures with the business cycle, structural fiscal position represents a better proxy for the fiscal policy stance. Therefore, fiscal efforts are usually measured by stripping out cyclical component of the budget revenues and expenditures, i.e., by calculating a cyclically adjusted budget balance (hereinafter: CAB). There are a number of approaches for calculating this fiscal indicator, but very common approach is the one that relies on estimate of the output gap and revenue and expenditure elasticity to output gap. In this way an indicator of underlying fiscal position is derived, as it estimates fiscal position when economy operates at potential output. Still, calculation of cyclically adjusted balance is not a straight- forward exercise. For example, there are other automatic effects that go beyond the changes in the output gap and cannot be evaluated taking into account only the output gap. Budget may be automatically affected by changes in housing prices, commodity prices or financial sector profits and to the extent these changes are not fully correlated with the cycle, these effects will not be fully captured while cyclically adjusting.

The change in the CAB in two consecutive years is used as a measure of fiscal impulse indicating whether the fiscal policy is adding to or subtracting from the aggregate demand. Yet, this measure shows only the first-round effects from fiscal policy and cannot be treated as a precise measure for the impact of the fiscal policy over economic growth. The growth effect will depend on a number of factors. Hence, changes in the CAB should be interpreted more as non-cyclical strengthening or loosening of the fiscal stance. An increase in the budget surplus (or reduction in deficit) represents strengthening of the fiscal stance, while a decrease in the surplus (or increase in deficit) represents loosening of the fiscal stance. The relationship between the fiscal impulse and output gap developments can serve as an indication of the cyclicality of the fiscal policy.

Calculation of underlying fiscal policy is to a great extent dependent on the ability to accurately measure the potential output, which as an unobservable variable is subject to

high degree of uncertainty. As found by Tereanu, Tuladhar and Simone (2014), revisions in potential GDP significantly contribute to revisions in the cyclically adjusted fiscal position, especially during the crisis years. Having in mind the limitation related to the estimate of the output gap, as well as to the revenue and expenditure elasticity assumptions, the findings on the fiscal impulse and the cyclicality of the fiscal policy should be interpreted carefully.

The analysis is done by using annual fiscal data of the central government, including extrabudgetary funds (Pension Fund, Employment Fund, Health Fund and Road Fund). The data cover also the so-called "special revenues"-the revenues that are collected and spent directly by the budget institutions. Common advice is to have as comprehensive fiscal data as possible so that all fiscal operations are comprehensively captured. In this way, the fiscal data will be more meaningful, especially in cases when there is non-negligible spending at the level of local governments. However, there is no consistent and long-term time-series on the general government fiscal data in the RM - they are available only from 2009. Therefore, the analysis covers central government. To make the data roughly consistent with the Government Financial Statistics Manual (2001) I have done some adjustments to the data provided by the MOF.

The time span of the analyzed data is from 1994 to 2013. Given the weak quality of the data for the first years of transition and counterintuitive assessments derived for the output gap, the period before 1994 is exempt from this analysis.

Methods applied to explore the cyclicality of the fiscal policy in the RM are mainly based on Fedelino, Ivanova, & Horton (2009). The assessment of the fiscal position with respect to the economic cycle is performed through the analysis of the cyclically adjusted primary balance that excludes interest payments (hereinafter: CAPB). Standard argument for excluding interest payment is that it is an exogenous category that cannot be influenced by the fiscal authorities, as it was determined by the past fiscal decisions. CAPB is expressed as:

$$CAPB = R^{ca} - G^{ca} \quad (8)$$

$$R^{ca} = R(Y^p/Y)^{er} \quad (9)$$

$$G^{ca} = G(Y^p/Y)^{eg} \quad (10)$$

where R denotes nominal revenues, R^{ca} denotes cyclically adjusted revenues, G denotes nominal government spending, G^{ca} denotes cyclically adjusted government spending, Y^p denotes potential output, Y denotes actual real output, er denotes elasticity of revenues with respect to output gap, and eg denotes expenditure elasticity with respect to output gap.

The direction and size of the discretionary fiscal reaction in a given year is measured through the fiscal impulse, which is calculated as a difference in the cyclically adjusted

primary balance (expressed as a percent of GDP) between two consecutive periods. Fiscal impulse is expressed as:

$$FI = \Delta\ CAPB \qquad (11)$$

where FI denotes fiscal impulse and Δ CAPB denotes a change in cyclically adjusted primary balance expressed as % of GDP.

Pro-cyclicality or counter-cyclicality of the discretionary fiscal stance is determined on the basis of the relationship between the fiscal impulse and the output gap. For example, if the outputs gap increases (economy is above the potential) and the fiscal impulse increases (whether through reducing revenues or increasing expenditures), fiscal policy is pro-cyclical thus amplifying economic fluctuations. If output gap declines and fiscal impulse increases, then fiscal policy acts counter-cyclically thus stabilizing the economy. Hence, same signs of fiscal impulse and change in the output gap mean pro-cyclical policy, and different signs mean countercyclical policy.

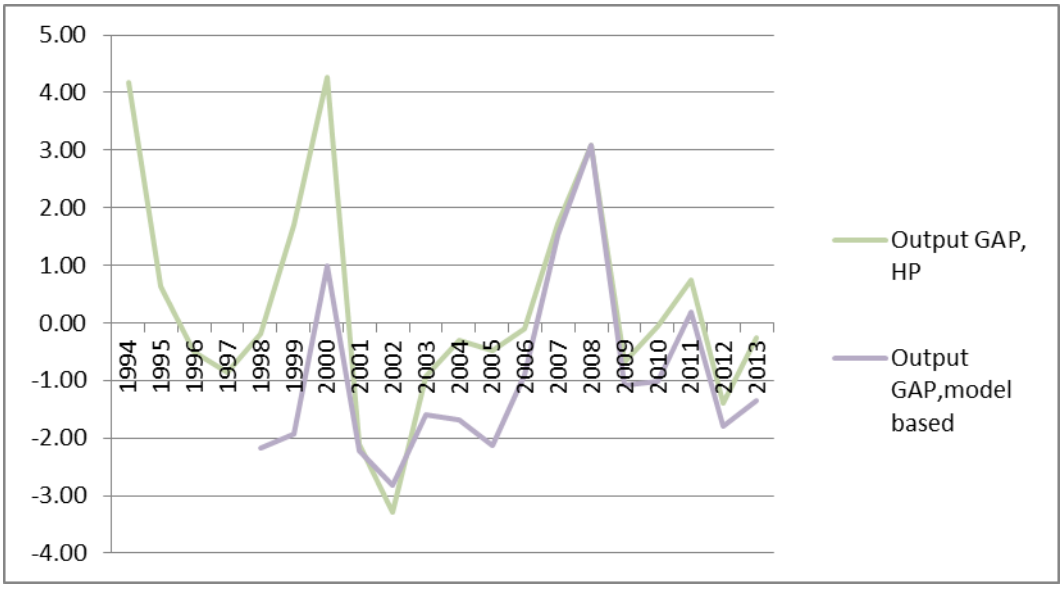
In order to identify the cyclical and cyclically adjusted component of the revenues, expenditures and budget balance, I assume aggregate elasticity to output gap of 1 for revenues and 0 for expenditures. Perfect correlation of revenues with cycles and non-existent correlation between expenditures and cycles suggest that the cyclical component is determined only by the revenue side. Under such assumption, changes in expenditures reflect only discretionary fiscal policy. Elasticity of revenues is assumed to be equal for all types of revenues and constant, which may introduce biased estimates in the years of bigger changes of the tax structure. This is in line with the work of Fedelino, Ivanova and Horton (2009), as well as with the work of Girouard and Andrè (2005) focused on estimating revenue elasticity for OECD countries. Zero elasticity for expenditures is commonly explained by the relatively small share of expenditures that are correlated with the output gap in the total spending. In the RM, the unemployment benefits, expenditures typically correlated with business cycles, accounted for about 2% of the total spending, on average, or less than 1% of GDP.

Output gap is derived as a difference between the actual output and potential output, and is expressed as:

$$Gap=(Y-Y^p)/Y^p \qquad (12)$$

Estimates of the potential output of the Research Department of the NBRM, which are used in this analysis, are done by employing Hodrick-Prescott (hereinafter: HP) filter. To check the robustness of the results, a model-based estimate of output gap is also applied. For this purpose, I employ the output gap estimates derived from the structural macro-forecasting model of the NBRM that are available since 1998.

Figure 15. Output Gap, Model Based and Based on Hodrick Prescott Filter, in %



Source: NBRM.

The comparison of the HP based output gap series, derived by statistical approach, and the model-based output gap series points to certain differences, in particular during the first years under analysis. Hence, during 1998-2000 the deviation in the output gap was about 3 percentage points, on average. Still, except in 1999, both approaches point to the same direction of the deviation of the actual from the potential output. Overall, Macedonian economy operated mostly below its potential. Starting from 1996 up till 2007, the output gap was predominantly negative, though gradually narrowing. During the boom years (2007-2008) economy was performing above the potential (according to both methods about 2.4% on average). Since the beginning of the economic crisis, economic growth has been below the potential (according to the HP method about 1%, on average, and according to the model approach about 0.3%).

Table 10. Cyclicality of Fiscal Policy in RM (Fedelino, Ivanova, and Horton Approach)

	Cyclically adjusted revenues, in mill. denars	Cyclically adjusted revenues, % of GDP	Cyclically adjusted expenditures, in mill. denars	Cyclically adjusted expenditures, % of GDP	Cyclically adjusted primary balance, in mill. denars	Cyclically adjusted primary balance, % of GDP	Fiscal impulse, % of GDP	Change in output gap, % of GDP	Cyclicality of fiscal policy, HP filter
1994	60189.3	41.1	66608.0	45.5	-6418.7	-4.4			
1995	63846.2	37.7	63250.0	37.3	596.2	0.4	-4.7	-3.5	p
1996	63335.6	35.9	59246.0	33.6	4089.6	2.3	-2.0	-1.1	p
1997	65213.5	35.1	60849.0	32.7	4364.5	2.3	0.0	-0.4	n
1998	65039.2	33.4	64266.0	33.0	773.2	0.4	1.9	0.7	p
1999	72305.6	34.6	69997.0	33.5	2308.6	1.1	-0.7	1.9	c
2000	82025.5	34.7	77216.0	32.7	4809.5	2.0	-0.9	2.6	c
2001	81160.8	34.7	91827.0	39.3	-10666.2	-4.6	6.6	-6.4	c
2002	88107.0	36.1	95334.0	39.1	-7227.0	-3.0	-1.6	-1.2	p
2003	84870.0	32.8	85444.0	33.1	-574.0	-0.2	-2.7	2.4	c
2004	88434.2	32.5	85857.3	31.5	2576.9	0.9	-1.2	0.6	c
2005	101407.8	34.4	97607.8	33.1	3800.0	1.3	-0.3	-0.2	p
2006	104150.2	32.5	102607.4	32.1	1542.9	0.5	0.8	0.4	p
2007	117573.8	32.2	114540.0	31.4	3033.8	0.8	-0.3	1.8	c
2008	132339.5	32.1	137576.0	33.4	-5236.5	-1.3	2.1	1.3	p
2009	129368.0	31.5	136948.1	33.3	-7580.0	-1.8	0.6	-3.7	c
2010	132239.7	30.5	139518.0	32.1	-7278.3	-1.7	-0.2	0.6	c
2011	136161.2	29.6	145178.0	31.6	-9016.8	-2.0	0.3	0.8	p
2012	140014.5	30.5	151624.0	33.1	-11609.5	-2.5	0.6	-2.1	c
2013	140616.3	29.7	154914.0	32.8	-14297.7	-3.0	0.5	1.1	p

Note. * "p" denotes pro-cyclical policy, "c" denotes countercyclical policy and "n" denotes neutral policy.

Source: Author's calculations.

The analysis points that during most of the years under analysis fiscal policy behaved prudently thereby supporting the monetary policy in maintaining the stability of the exchange rate and prices. From 1995 till the internal conflict year, CAPB was in surplus reflecting fiscal consolidation efforts to support the monetary policy. Internal armed conflict entailed raising expenditures and falling revenues that resulted in significant deterioration of the fiscal position with CAPB reaching -4.6% of GDP. Starting from 2004, a trend of positive CAPB was registered that was stopped with the occurrence of the global crisis, when the fiscal authorities adopted a number of revenue and expenditure measures to mitigate the adverse shocks in the real sector.

The analysis indicates that fiscal policy was countercyclical in 9 years out of 19. During 1995-1997, a period marked by consolidation of public finance, fiscal impulse was negative. Consolidation of the public finances was key for stabilization of the economy and for maintaining the monetary strategy of stable exchange rate, which was implemented starting from the end of 2015. Given that output gap moved from positive to negative territory, fiscal policy acted pro-cyclically. During 1998-2000, when the growth started picking-up, fiscal policy was countercyclical, with exception of 1998. The strongest fiscal

impulse of 6.6 percentage points of GDP was provided in 2001, year of the internal conflict, when the economy was performing below the potential. During 2004-2008, when growth again resumed and accelerated markedly (negative output gap narrowed and turned into positive), fiscal policy behavior was mixed (3 years pro-cyclical and 2 years countercyclical). Since the beginning of the global crisis (2009) fiscal policy has provided discretionary stimulus through a number of measures and the fiscal impulse has been positive, almost on a continuous basis. Output gap became negative and remained in negative territory almost throughout the whole crisis period. Given the relationship between the fiscal stimulus and the output gap changes over these years, fiscal policy acted mostly counter-cyclically.

Given the limitations of the statistical approach in estimating the output gap, model-based estimates were also used to check the sensitivity of the findings on the different output gap estimates. When applying the model-based approach, conclusions about the cyclicality of the fiscal policy do not change notably. The two analyses point to a different discretionary fiscal policy only in 2004, which is due to the different directions of output gap changes. Direction of the fiscal stimulus in both analyses is the same and the magnitudes are similar. The biggest difference in magnitudes is observed in 2001 (1.1 p.p. of GDP).

Table 11. Cyclicality of Fiscal Policy, Comparison Between Statistical and Model-Based Approach in Estimating Output Gap, in % of GDP

	Fiscal impulse, HP filter	Output gap, change, HP filter	Cyclicality of fiscal policy, HP filter	Fiscal impulse, model approach	Output gap, change, model approach	Cyclicality of fiscal policy, model approach
1995	-4.7	-3.5	p			
1996	-2.0	-1.1	p			
1997	0.0	-0.4	n			
1998	1.9	0.7	p			
1999	-0.7	1.9	c	-1.3	0.3	c
2000	-0.9	2.6	c	-0.8	2.9	c
2001	6.6	-6.4	c	7.7	-3.2	c
2002	-1.6	-1.2	p	-1.4	-0.6	p
2003	-2.7	2.4	c	-3.2	1.2	c
2004	-1.2	0.6	c	-1.4	-0.1	p
2005	-0.3	-0.2	p	-0.5	-0.4	p
2006	0.8	0.4	p	1.1	1.2	p
2007	-0.3	1.8	c	-0.1	2.4	c
2008	2.1	1.3	p	2.2	1.6	p
2009	0.6	-3.7	c	0.4	-4.2	c
2010	-0.2	0.6	c	-0.3	0.0	c
2011	0.3	0.8	p	0.4	1.2	p
2012	0.6	-2.1	c	0.6	-2.0	c
2013	0.5	1.1	p	0.3	0.4	p

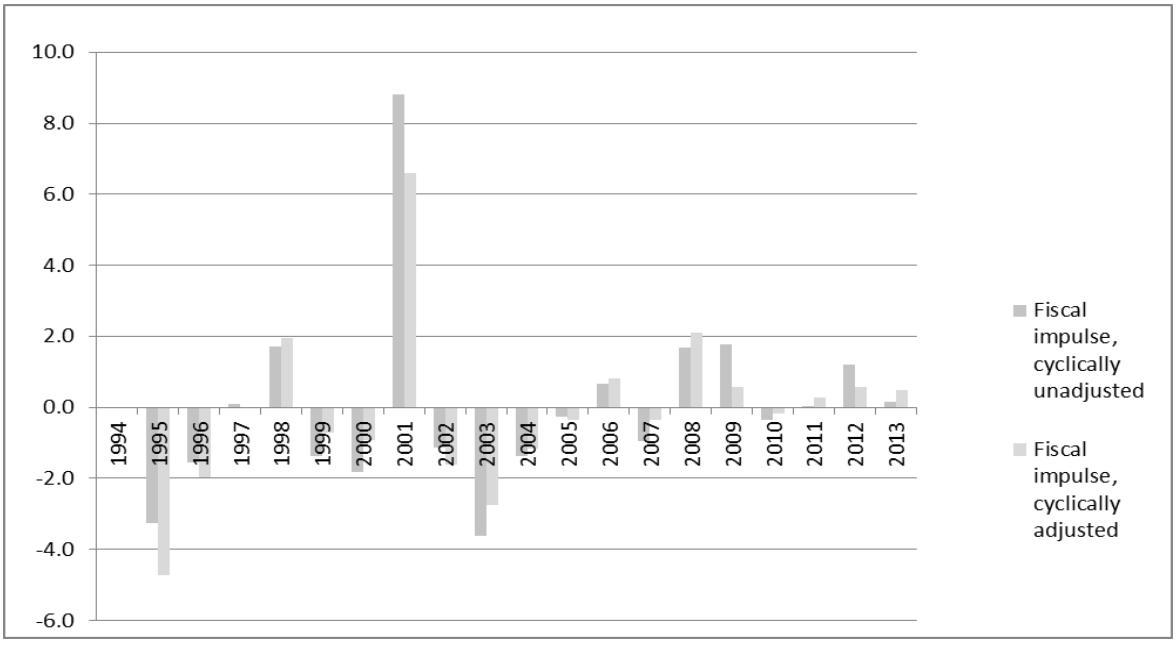
Note. * "p" denotes pro-cyclical policy, and "c" denotes countercyclical policy and “n” denotes neutral policy.

Source: Author’s calculations.

Fiscal impulse was also estimated by using different scaling variable, i.e., potential GDP instead of actual. The conclusions about the fiscal impulse and cyclicality of the fiscal policy remain the same. The biggest difference in the magnitude of the fiscal impulse of 1.5 p.p. of GDP is observed in 1994.

To assess the overall fiscal impact, regardless of whether it is a result of automatic stabilizers or discretionary measures, an overall fiscal impulse is also calculated. In general, there are no big differences in the conclusions as regards overall and cyclically adjusted fiscal policy stance. The directions of the overall fiscal impulse and the cyclically adjusted fiscal impulse are the same, although there is a difference in the magnitudes. The biggest difference of 2.2 p.p. of GDP is observed in 2001 pointing to a combined fiscal effect of automatic mechanisms and discretionary measures of 8.8 percent of GDP.

Figure 16. Fiscal Impulse, in % of GDP



Source: Author's calculations.

To check the robustness of the results I employ an alternative approach in determining the cyclicality of the policies, based on estimation of a neutral fiscal stance in a base year. The approach, mainly based on Horton (2005), includes estimation of neutral revenues, neutral expenditures and neutral primary balance. Then, fiscal stance in a given year is derived as a difference between the actual primary balance and the neutral primary balance. Accordingly, fiscal stance provides an indication of the state of the fiscal finances in relation to the year when the economy operates at potential output, i.e., when by definition the fiscal policy is neutral. When the actual primary balance is bigger than the neutral, the

fiscal stance is negative, pointing to a tightening which may be ascribed to revenues or expenditures. When actual primary balance is smaller than neutral, the fiscal stance is positive, pointing to a loosening of the fiscal policy. A change in a policy stance between two consequtive periods is measured by a fiscal impulse. A positive value of the fiscal impulse means that the fiscal policy is more expansionary relative to the previous year. The approach is based on the following framework:

$$PB^n = R^n - PE^n \quad (13)$$

$$FS = PB - PB^n \quad (14)$$

$$FI = FS_t - FS_{t-1} \quad (15)$$

where PB^n denotes neutral primary balance as percent of real GDP, R^n denotes neutral revenues as percent of real GDP, PE^n denotes neutral primary expenditures as percent of real GDP, FS denotes fiscal stance and FI denotes fiscal impulse.

Real variables are used in the analysis, which entailed deflating nominal revenues, expenditures and primary balance by GDP deflator. Neutral revenues and expenditures are calculated by assuming that their share in potential GDP will remain as in the base year. Neutral revenues are assumed to grow at the same rate of growth of actual GDP and neutral expenditures at the rate of growth of trend output. Hence, revenues are neutral to the cycle if they grow proportionaly with the actual GDP and expenditures are neutral if they grow proportionaly with the potential GDP.

The base year should be a year when there is no output gap, as well as no major changes in tax and expenditure structure. In this light, 2006 is assumed as a base year because the deviation of output from the trend value was minor -0.10%. Also, during this year there were no major changes as regards tax or expenditure structure.

Table 12. Cyclicality of Fiscal Policy (Horton Approach)

	Actual primary balance, % of real GDP	Neutral primary balance, % of real GDP	Fiscal stance, in % of real GDP	Fiscal impulse, in % of real GDP	Change in output gap	Cyclicality of fiscal policy
1994	-2.7	1.7	4.4			
1995	0.6	0.7	0.1	-4.3	-3.5	p
1996	2.1	0.3	-1.9	-1.9	-1.1	p
1997	2.0	0.2	-1.9	0.0	-0.4	n
1998	0.3	0.4	0.1	1.9	0.7	p
1999	1.7	1.0	-0.7	-0.8	1.9	c
2000	3.5	1.8	-1.8	-1.0	2.6	c
2001	-5.3	-0.2	5.1	6.8	-6.4	c
2002	-4.2	-0.6	3.5	-1.5	-1.2	p
2003	-0.5	0.2	0.7	-2.8	2.4	c
2004	0.9	0.4	-0.5	-1.2	0.6	c
2005	1.1	0.3	-0.8	-0.3	-0.2	p
2006	0.4	0.4	0.0	0.8	0.4	p
2007	1.4	1.0	-0.4	-0.4	1.8	c
2008	-0.3	1.4	1.7	2.1	1.3	p
2009	-2.1	0.2	2.3	0.6	-3.7	c
2010	-1.7	0.4	2.1	-0.2	0.6	c
2011	-1.7	0.7	2.4	0.3	0.8	p
2012	-3.0	0.0	3.0	0.5	-2.1	c
2013	-3.1	0.4	3.5	0.5	1.1	p

Note.* "p" denotes pro-cyclical policy, "c" denotes countercyclical policy and “n” denotes neutral policy.

Source: Author’s calculations.

The analysis indicates that for the most of the years under analysis (12 out of 20) fiscal stance was positive, pointing to looser policy compared to the base year when economy operated at potential output. This was particularly the case during the internal conflict and economic crisis period. Fiscal impulse, the change in fiscal stance, was positive in 8 years, the period that mostly coincides with the period of positive fiscal stance. The comparison of fiscal impulse and output gap serves as an indication of the cyclicality of the fiscal policy. The findings about the cyclicality of the fiscal policy are almost the same as the findings derived by the approach based on estimating cyclically adjusted budget balance. Fiscal policy acted countercyclically in 10 out of 19 years. There is a difference only in 1997, when one approach points to a neutral policy, and the other one to a countercyclical policy.

Cyclicality of the monetary policy is analyzed through the central bank interest rate developments. Taking into consideration that for the most of the analyzed period central bank bills were key policy instrument, nominal interest rate on the bills is used as a proxy for the monetary policy stance. Central bank bills were introduced in February 1994 with a view of introducing a market-based instrument for the conduct of the monetary policy. Still, its use was rather limited up till 1999. During the first years of transition, the NBRM was injecting liquidity in the banking system mostly through selective loans and auctions

of deposits. In 1999, for the first time, the NBRM sterilized liquidity from the banking system, on a net basis, and central bank bills became the main monetary policy instrument. Having in mind this, as well as the fact that there is no reliable and consistent data on the interest rates on selective loans and auctions of deposits, the findings pertaining to the cyclicality of the monetary policy during 1994-1998 should be interpreted with caution. Another aspect that needs to be highlighted is the time lag of the monetary policy transmission, which complicates the assesment of the policy stance in specific period.

Table 13. Cyclicality of Monetary Policy and Mix of Policies

	Policy rate, end of period	Policy rate changes, percentage points	Output gap changes, percentage points	Cyclicality of monetary policy	Cyclicality of fiscal policy	Different direction of fiscal and monetary policy
1994	23.0		0.0			
1995	12.0	-11.0	-3.5	c	p	*
1996	8.8	-3.2	-1.1	c	p	*
1997	8.2	-0.6	-0.4	c	n	*
1998	10.0	1.8	0.7	c	p	*
1999	10.0	0.0	1.9	n	c	*
2000	6.8	-3.2	2.6	p	c	*
2001	15.0	8.2	-6.4	p	c	*
2002	15.2	0.2	-1.2	p	p	
2003	6.2	-9.1	2.4	p	c	*
2004	9.0	2.8	0.6	c	c	
2005	8.5	-0.4	-0.2	c	p	*
2006	5.7	-2.8	0.4	p	p	
2007	4.8	-1.0	1.8	p	c	*
2008	7.0	2.2	1.3	c	p	*
2009	8.5	1.5	-3.7	p	c	*
2010	4.1	-4.4	0.6	p	c	*
2011	4.0	-0.1	0.8	p	p	
2012	3.7	-0.3	-2.1	c	c	
2013	3.3	-0.5	1.1	p	p	

Note. * "p" denotes procyclical policy, "c" denotes countercyclical policy, "n" denotes neutral policy, and "*" denotes different direction of policies.

Source: Author's calculations.

Policy rate changes reflected inflationary and foreign reserves developments. Putting aside the first turbulent years of transition, the highest policy rate was observed during the period of internal conflict. On the back of pressures on the official reserves and withdrawal of

deposits from the banking system, the NBRM markedly increased the policy rate and undertook other tightening measures. Subsequent political and economic stabilization of the economy paved a way for reduction of the policy rate. Thus, starting from 2003 and up to 2007, a trend of declining interest rate was present, being a reflection of high liquidity in the banking system, stable exchange market, as well as prudent fiscal policy (average fiscal balance of -0.7). Exception was the last quarter of 2004 when the policy rate was significantly increased due to exchange rate pressures stemming from a concentrated budget spending in the last quarter. The trend of declining policy rate was disrupted at end 2007 when, amidst rising inflation, the NBRM switched to tightening of the monetary policy. Heavy interventions on the foreign exchange market during 2008, compelled the NBRM to continue with the same course of the monetary policy in 2008 and the first half of 2009. In the second half of 2009 the economy stabilized and pressures on the exchange marked receded, allowing accommodative monetary policy. Since the second half of 2009, the policy rate was adjusted downward on a couple of occasions reaching the historically lowest level of 3.25% in July 2013.

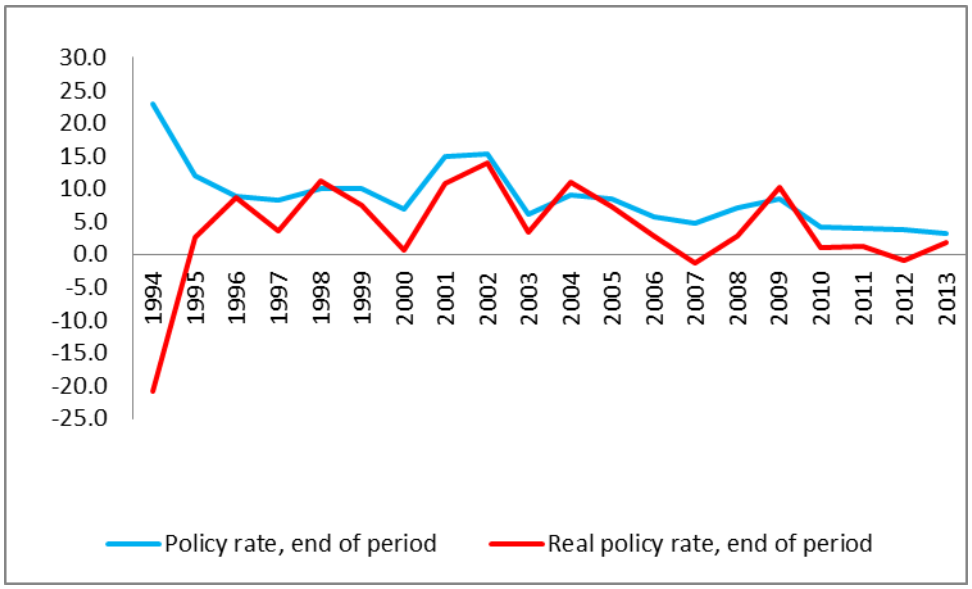
Cyclicality of the monetary policy is determined on the basis of the relationship between the changes in the policy rate and the output gap. If the changes are in the same direction, then the monetary policy is considered to be pro-cyclical. Changes in different directions point to a countercyclical policy. The analysis indicates that monetary policy played a stabilizing role during 8 years (out of 19), when fiscal policy was mostly pro-cyclical.

It appears that during the crisis periods, initial reaction of the monetary policy was largely pro-cyclical. The first wave of the global crisis, felt in the last quarter of 2008, resulted in significant foreign exchange pressures that made central bank tighten. However, since the second half of 2009, the policy rate was on a declining path amidst gradual recovery of the economy and narrowing of the output gap. Monetary policy behavior was similar during the period of the internal conflict (2001). Faced with the foreign exchange pressures and withdrawal of deposits from the banking system, the central bank had to raise the interest rate despite the falling economic activity. On the other hand, during the crisis years, fiscal authorities largely pursued a loosening policy aimed at stabilizing the economy. This indicates that when the economy was hit by shocks that resulted in pronounced pressures on the foreign exchange market, the central bank had to tighten its stance to preserve the stability of the exchange rate regardless of the real sector developments. However, maintaining the exchange rate stability proved to be a key instrument in stabilizing the expectations of the economic agents and the overall macroeconomic stability that played an important role for the subsequent real sector recovery. The history has shown that preferences of economic agents for saving in domestic or foreign currency have been very sensitive to economic or political shocks. The shocks have implied abrupt shift of preferences towards foreign currency entailing high pressures on the foreign exchange market. Thus, the expectations have been an important channel affecting the stability of the economy.

Overall, for most of the years under analysis, monetary and fiscal policy reacted in a different manner. Namely, during 13 years there was a mix of one policy being pro-cyclical and one being countercyclical pointing that they acted as substitute policies.

To check the robustness of the findings, the cyclicality of the monetary policy is also assessed by applying real instead of nominal interest rate on the central bank bills. For this purpose, nominal interest rates are deflated by CPI, end of period. Real policy rate was predominantly positive, except in the initial period marked by double-digit inflation, as well as in 2007 and 2012. The findings on the cyclicality of the policy are similar. The monetary policy mitigated shocks during 8 years. For most of the years under analysis the stance of the policy was the same. Difference can be observed for the periods 1995-1999 and 2011-2013. The previous findings about the mix of the policies remain the same, i.e., during 13 years there was a mix of one policy being pro-cyclical and one countercyclical.

Figure 17. Nominal and Real Policy Rate of NBRM



Source: NBRM.

When applying average instead of end of period nominal policy rate, the conclusions about the cyclicality of monetary policy are rather similar. The time span of the available data on average policy rate is 1996-2013. Monetary policy played a stabilizing role in 6 years. In comparison with the analysis based on end of period policy rate, the findings about the cyclicality of the monetary policy are predominantly different during 1996-2005. For the subsequent period there is no difference. For the most of the years analyzed (11 out of 17) the policies reacted in a different way, i.e., one was expansionary and the other one contractionary.

2.1.4.4 Econometric analysis of the mix of policies in the context of cyclicality

In this section I proceed with analyzing the interactions between the policies from the cyclicality point of view by applying a Vector Autoregression (hereinafter: VAR) approach. VAR is a widely used device for analyzing short-term interactions among macroeconomic variables and policy interlinkages. Despite being a simple method, it is considered as one of the main econometric tools for investigating dynamic interactions among a set of endogenous variables, including reactions of the monetary and fiscal policies to shocks in some macroeconomic indicators. "The forecasts obtained through this method are better than the ones obtained from the most complex simultaneous equation models" (Fialho and Portugal, p. 664, 2005).

Unlike simultaneous-equation models that entail a priori knowledge about the interactions among variables resting on the economic theory, VAR requires less prior information because all variables are treated as endogenous. Sims (1980) advocated for equal footing of all the variables in the model without a priori distinction between endogenous and exogenous variables. Accordingly, VAR is very appropriate tool for models in which the variables are endogenous with a possibility of two-way causation. In the reduced form of VAR, which is applied in this analysis, each variable is expressed as a function of its own lagged values, lagged values of the other variables in the model and error terms, which in principle reflect omitted factors in the model. Very important assumption is that the error terms are not correlated across equations.

Given the difficulties in interpreting the coefficients of the variables in the VAR, a common approach in the VAR analysis is to focus on the results of the Impulse Response Function (hereinafter: IRF), Granger Causality Test and Forecast Error Variance Decomposition. Stock and Watson (2001) claim that because of the complicated dynamics in the VAR, these three tools of VAR are more informative than regression coefficients and R-squared statistics. IRF shows a reaction of the variables in the model to the shock in an error term assuming that in the following period the error term goes back to zero and that all other error terms are zero. It traces out the transmission of the shocks in one variable to the rest of the variables in the system for certain period of time. Granger causality test examines which variables in the VAR system help in explaining the behavior of the other variables in the system. Forecast Error Variance Decomposition provides an explanation on the contributions of individual shocks in explaining the variation of an endogenous variable in the VAR system. It tells us to what extent movements in one variable are explained by its own shocks and to what extent by shocks to other variables in the system.

With a view of investigating the cyclical reaction of the monetary and fiscal policies a three-variable reduced form (unrestricted) VAR is estimated. The idea is to empirically test the reactions of the policies to the shocks in the deviations of the actual from potential output, as well as to investigate whether fiscal and monetary policies react as complements or substitutes. Interest rate on the central bank bills is used as an indicator of the monetary policy and cyclically adjusted primary balance as an indicator of the fiscal policy.

VAR is estimated with the data used in the Section X. where cyclicality is assessed on the basis of the methods applied by Fedelino, Ivanova and Horton (2009). CAPB is expressed as percent of nominal GDP estimated with an assumption of 0 elasticity of expenditures and unit elasticity of revenues. Output gap (% of deviation of actual from potential output) is derived by HP filter. Data for the average interest rate on central bank bills are available since 1996. The data for the end of period interest rates are available since 1994, but there may be an issue with the quality of these data. Due to this, VAR estimates are done by using annual data for the period 1996 -2013.

The VAR analysis includes the following steps: (i) check of the stationarity of the time series to define the optimal form of the variables; (ii) estimation of the appropriate lag length; (iii) estimate of unrestricted VAR; and (iv) implementation of residual-based diagnostics to examine whether the VAR specification is appropriate.

The stationarity of the time series is checked through the unit root test. I apply the Augmented Dickey-Fuller test by including in the test equation only intercept, intercept and trend, and neither intercept nor trend. Interest rate series is found to be non-stationary at levels and stationary at first difference. CAPB time series is also non-stationary at levels (stationary only when intercept and trend are excluded) and stationary when differenced. Time series on output gap is stationary with inclusion of intercept and with exclusion of intercept and trend, but non-stationary with intercept and trend (with 5% significance). To avoid the problem of the non-stationary time series, differenced data are used for VAR estimate.

The choice of an appropriate lag length is very important to get meaningful results. Adding more lags will improve the fit of the model, but it decreases the degrees of freedom and may lead to the issue of over-fitting. Since the VAR is based on annual data, to avoid losing many degrees of freedom one lag is chosen. When deciding on the maximum lag length, residuals tests, which are explained later in the text, were taken into account.

Having in mind the results of the stationary tests and the lag-length selection process, unrestricted VAR is estimated with data series in difference and with one lag. Also, a dummy variable for 2001 is included to account for the shocks of the variables stemming from the internal armed conflict. During this year, significant and abrupt changes of all the variables were registered: interest rate sharply rose (by 5.4 percentage points), output gap turned from positive to negative (swing of 6.4 percentage points of GDP) and cyclically adjusted fiscal position turned negative with a fiscal swing of 6.6 percentage points of GDP. The VAR system estimate is the following:

$$GAPD = - 0.255672970823*GAPD(-1) - 0.0879921523736*KSD(-1) + 0.445684002034*CAPBD(-1) + 0.557095754693 - 6.79984549113*D1 \quad (16)$$

$$KSD = 0.743495444483*GAPD(-1) - 0.0181095557718*KSD(-1) - 0.610092536642*CAPBD(-1) - 0.755005858668 + 4.78458668567*D1 \quad (17)$$

$$CAPBD = - 0.258474072452*GAPD(-1) - 0.0759582637565*KSD(-1) + 0.0868837506427*CAPBD(-1) + 0.036475853026 - 6.1381777005*D1 \quad (18)$$

where GAPD denotes the output gap, KSD denotes the central bank bills interest rate, CAPBD denotes cyclically adjusted primary balance, and D1 denotes dummy variable.

To check whether the VAR estimate has the appropriate properties, the following standard tests were applied: stability test (AR Roots table) indicates that VAR satisfies the stability condition as no root lies outside the circle; LM residual serial correlation and Portmateau autocorrelation tests indicate that there is no serial correlation between error terms (all p-values in both tests are higher than 0.05); Jarque-Bera normality test points that error terms are normally distributed; and White heteroscedasticity test indicates that the VAR satisfies the homoscedasticity requirement.

Table 14. VAR Tests

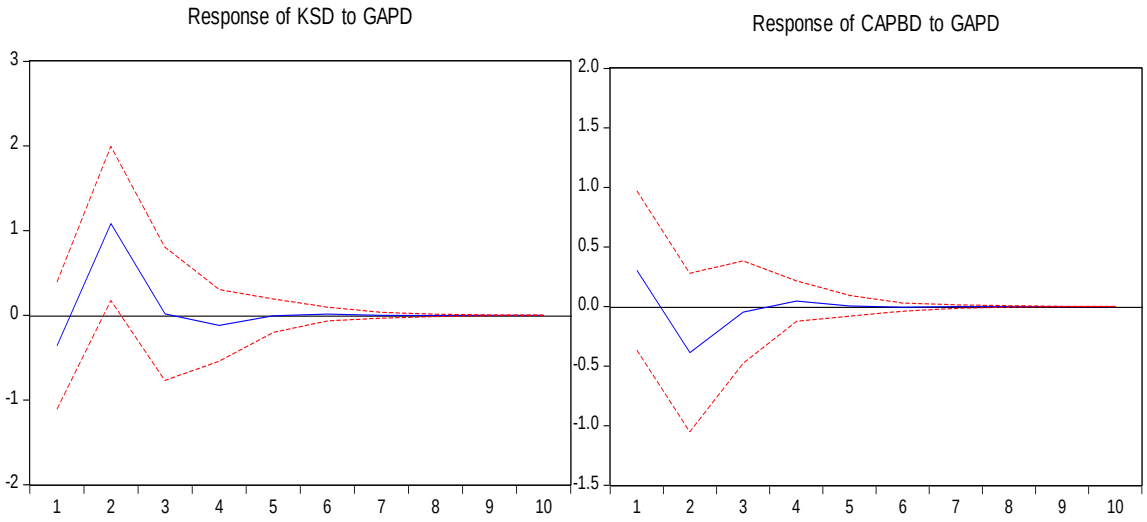
Residual serial correlation LM test	p-values range 0.1431-0.9457
Portmateau autocorrelation test	p-values range 0.1916-0.6059
Jarque-Bera normality test	0.9627 p-value
Heteroscedasticity test	0.4969 p-value
Stability test (AR Roots table)	Stable

Source: Author's calculations.

Given that all tests point to correct specification and stability of the VAR system, the IRFs are explored. The analysis is focused on the impulse responses of the fiscal and monetary policy variables to the shock of one standard deviation in the output gap. IRFs are obtained by Cholesky dof. adjusted decomposition. Standard error bands of ± 2 are also included. Ordering of the variables in VAR is a very important aspect as the variable ordered last does not have contemporaneous impact on other variables in the system. The ordering should start with a variable that is most exogenous to the system i.e., the variable that generates impulses. The underlying assumption is that output gap shock in period t affects interest rates and CAPB in period t (immediately), but the shock in interest rates and CAPB in period t does not affect output gap in period t (immediately). A shock in interest

rate affects immediately only the CAPB and a shock in CAPB does not affect output gap nor interest rate immediately. Accordingly, the ordering is as follows: output gap, interest rate and CAPB.

Figure 18. Impulse Responses of Monetary and Fiscal Policies to One Standard Deviation Shock in Output Gap

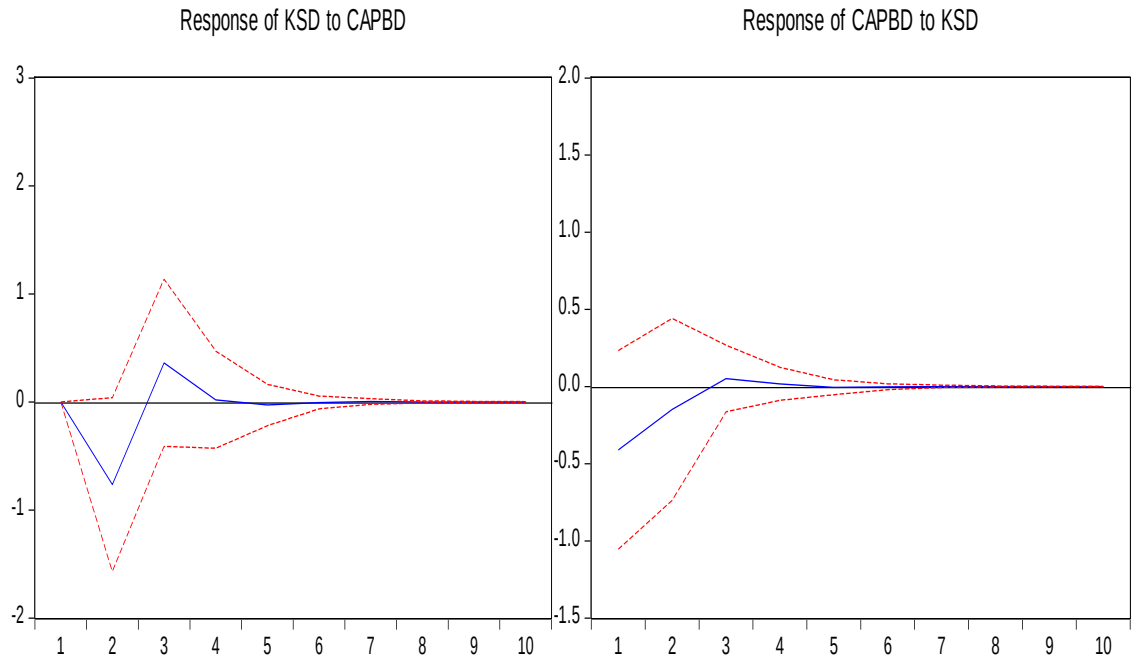


Source: Author's calculations.

IRFs point that for a positive shock of one standard deviation in output gap (2.3 percentage points), interest rate of the central bank initially slightly declines (0.4 percentage points), but in the subsequent period it increases by 1 percentage point, which is not persistent. This impulse response indicates that when there is a positive shock of the output gap, monetary policy reacts mostly countercyclically by increasing its main interest rate to prevent overheating of the economy that may result in falling official reserves and lowering the credibility of the central bank for pursuing a strategy of a stable exchange rate.

Positive shock in output gap in a magnitude of one standard deviation leads to reaction, although not significant, of the fiscal policy. CAPB initially increases (by 0.3 percentage points) and in the subsequent period decreases (by 0.39 percentage points). Thus, the IRF of the fiscal policy to shock in output gap does not provide strong evidence of the cyclicality of the fiscal policy.

Figure 19. Impulse Responses to One Standard Deviation Shock in Cyclically Adjusted Primary Balance and Interest Rate



Source: Author's calculations.

Additionally, impulse responses of the monetary policy to a shock in the fiscal policy and impulse responses of the fiscal policy to a shock in the monetary policy are considered. Although the impulses are not significant, they support the notion that policies act as substitutes, i.e., when fiscal position is tightened, monetary policy stance is loosened and vice versa. A shock of one standard deviation in CAPB (2.0 % of GDP) results in a decline of the central bank interest rate of 0.8 percentage points. This takes place in the second period, as the applied ordering means zero contemporaneous effect of fiscal shock to monetary policy. Also, a positive shock of one standard deviation in interest rate (increase in the interest rate of 2.3 percentage points) results in worsening of the fiscal position i.e., decline in CAPB by -0.4% of GDP).

If ordering is changed so that output gap contemporaneously affects CAPB and interest rate, but changes in the interest rate do not affect instantaneously other variables, there is not much change in the results of the IRFs.

To check what variables help predicating other variables in the system, a Granger causality test is performed. The test indicates that output gap and CAPB Granger cause interest rate, but this is unidirectional Granger causality as interest rate does neither Granger cause CAPB nor output gap. Output gap does not Granger cause CAPB and CAPB does not Granger cause output gap.

Table 15. Granger-Causality Test Results (p-values)

	Dependent variables in the VAR system		
Regressor	GAPD	KSD	CAPBD
GAPD		0.0026	0.2396
KSD	0.7554		0.7356
CAPBD	0.1858	0.0433	

Source: Author's calculations.

Variance Decomposition Error indicates that "own" shocks of the variables explain most of the standard errors of the forecasts. Still, in the case of interest rate the contribution of its own shock and of the other shocks is almost balanced. About 88% of the standard error of the forecast of the output gap is explained by its own shock and 12% by the shocks in the other two variables (during 2-10 period). About 52% of the standard error of the forecast of the interest rate is explained by its own shock and about 48% by the shocks in the other two variables (during 2-10 period). And the variance decomposition of the CAPB points that its own shock explains about 78% (during 2-10 period).

It should be noted that the number of observations in the VAR analysis is limited because annual data are used and the consistent time series for annual fiscal data and data on the central bank interest rate are available only from 1996. Due to this, the interpretation of the impulse responses of fiscal and monetary policies to an unexpected shock in output gap should be interpreted with caution.

To check the sensitivity of the findings of the analysis on the longer time series, a VAR analysis with quarterly data is performed, although the quality of the quarterly fiscal data may be lower compared to the annual data. Quarterly fiscal data on central government are available since 1998. Output gap data are derived from the structural macro-forecasting model of the NBRM. Quarterly data on the average interest rate of the central bank bills are used.

The Augmented Dickey-Fuller test indicates that the time series of CAPB and gap is stationary and time series of interest rate is non-stationary. Thus, the interest rate data are transformed into stationery data by differencing and the VAR estimate is done by using two series in levels and one in difference. By applying a standard lag-length selection process the maximum lag length is determined to five. Also, dummy variables are used to account for the internal armed conflict in 2001, for the economic crisis that hit the Macedonian economy in the last quarter of 2008, and for the substantially increased fiscal spending in the first quarter of 2013 driven by the repayment of accumulated budget arrears. Standard residuals-based tests (autocorrelation, normality and heteroscedasticity) show that the VAR specification is correct.

Overall, IRFs point to weaker responses compared to the analysis based on the annual data. For a positive shock of one standard deviation in output gap (2.4 percentage points), the central bank contemporaneously reduces its key interest rate (by 0.4 percentage points), but in the subsequent two periods it increases it (in the third period by 0.45 percentage points). The IRF of the fiscal policy to a shock in output gap does not provide strong evidence of the cyclicality of the fiscal policy as the reaction to an unexpected shock is an increase of CAPB by only 0.2 percentage points. Impulse responses of the monetary policy to a shock in the fiscal policy and impulse responses of fiscal policy to a shock in monetary policy, although not very significant, point to substitute policies, which coincides with the previous findings based on the annual data.

2.2 Institutional Set Up and Operational Coordination Procedures in the Republic of Macedonia

The degree of independence of the central bank and practical mechanisms put in place for cooperation can affect the level of coordination between the decision-makers and consequently the macroeconomic outcomes. Thus, the institutional aspect of the coordination seems inevitable part of the analysis of the degree of coordination of the policies. This part elaborates on the institutional settings that outline the framework under which the NBRM operates with a view of assessing the level of its independence from the executive branch in pursuing its objectives. It focuses on the legal framework defining the objectives of the NBRM, the authority to determine and implement monetary and foreign exchange policies, appointment and dismissal of the top personnel, relations with the government and the parliament, and other legal dimensions that determine the strength of the mandate and the independence of the NBRM. Furthermore, it analyzes the practical mechanisms for cooperation on strategic and operational issues relevant for pursuing a synchronized mix of policies.

The level of independence of central banks is usually measured by indices. In the literature, most of the indices focus on the legal aspects of the independence, including the indices of political and financial independence of Bade and Parkin (1988), index of Eijjfinger and Schaling (1993), indices of political and economic independence of Grilli, Masciandaro and Tabellini (1991), index of Cukierman (1992), index of Cukierman, Webb and Neyapti (1992). Some of the indices are adjusted to reflect specific aspects typical for transition economies (quasi-fiscal operations of the central bank, recapitalization of non-solvent banks, financial independence etc.) such as the index of Maliszewski (2000) and the index of Jacome and Vazquez (2005).

The analysis of the independence of the NBRM is be based on the index of Cukierman, Webb and Neyapti (1992) (hereinafter: Cukierman index), as one of the most commonly used indices. The index assesses the legal aspect of independence as one of the main components of actual independence, though the latter depends on many other additional factors. It is based on the legal provisions of the charter of the bank and does not reflect the

aspect of practical implementation of the legal provisions. It uses 16 legal variables in the following 4 clusters:

- chief executive officer (appointment, dismissal, term of office, holding offices in government);

- monetary policy formulation (the authority to make decisions on monetary policy, resolution of conflicts regarding the monetary policy and involvement of the central bank in the budgetary process);

- objectives of the central bank; and

- limitations on the central bank lending to the government (advances, securitized lending, terms of lending, potential borrowers, limits on lending, maturity of loans, interest rate, and buying securities in the primary market).

The scale of coding is from 0 (lowest level of independence) to 1 (highest level of independence). A higher number points to stronger mandate and independence of the central bank in pursuing price stability. Coding for the first group of variables depends on the government's involvement in the process of appointment and dismissal of the governor, and his/her term of office. A lower involvement of the government and a longer term of office mean a higher isolation of the monetary policy from short-term political considerations. Similarly, a lower involvement of the government in monetary policy formulation indicates higher central bank independence. Rating of the objectives depends on the prominence assigned to price stability in relation to other objectives that might conflict with price stability. A higher rating for limitations on lending is assigned when the lending to government is not allowed or is allowed under tight limits. Also, the stricter the terms of lending (interest rate, maturity, collateral), the higher the value of that dimension. Legal limitation on the central bank financing of the government is considered instrumental in safeguarding the control of the central bank over monetary aggregates and inflation. The importance is even more emphasized for transition economies with undeveloped financial markets calling for central bank financing.

The aggregate index of independence is calculated as a weighted average of the values assigned to the individual variables. The highest weight is assigned to the group of criteria concerning limitations on lending to the government (50 percent), chief executive officer group of criteria has a weight of 20 percent, and policy formulation and objectives group have 15 percent, each. For the chief executive officer, the coding at the level of group is derived as a simple average of the coding of the four variables in the group (terms of office, appointment, dismissal, and holding offices in government). The coding for the policy formulation group is derived as a weighted average of the codes of each individual variable in the group (formulation of the monetary policy, resolution of conflicts and role in the budgetary process). Each of the 8 variables in the group on lending to government (advances, securitized lending, terms of lending, potential borrowers, limits on lending, maturity of loans, interest rate, and buying securities in the primary market) are assigned an individual weight, which is highest for the non-securitized lending.

The measurement of the legal independence of the NBRM is based on the legal provisions that regulate its mandate, authority, tasks and operations. The measurement is not a static exercise as it provides a historical perspective through measurement of the level of independence granted by the Law on the NBRM adopted in 1992, the law adopted in 2002 and the law adopted in 2010.

Overall, the analysis indicates that throughout the years the legal independence of the NBRM has increased. The first law on the NBRM adopted in 1992 provided only a moderate level of independence with the value of the aggregate index of 0.60. The second law strengthened the mandate and its autonomy as evidenced through the increased value of the index (0.70), and the most recent law dated from 2010 provided very high level of independence with a value of the index rising to 0.92.

Table 16. Measurement of Independence of NBRM - Cukierman index

Variable number	Description of variable	Weight	Numerical coding	2011	2002-2010	1992-2001
1	**Chief executive officer (CEO)**	**0.20**		**0.77**	**0.77**	**0.44**
	a. Term of office			**0.75**	**0.75**	**0.75**
	Over 8 years		1.00			
	6 to 8 years		0.75	0.75	0.75	0.75
	5 years		0.50			
	4 years		0.25			
	Under 4 years or at the discretion of appointer		0.00			
	b. Who appoints CEO?			**0.50**	**0.50**	**0.50**
	Board of central bank		1.00			
	A council of the central bank board, executive branch, and legislative branch		0.75			
	Legislature		0.50	0.50	0.50	0.50
	Executive collectively (e.g., council of ministers)		0.25			
	One or two members of the executive branch		0.00			
	c. Dismissal			**0.83**	**0.83**	**0.50**
	No provision for dismissal		1.0			
	Only for reasons not related to policy		0.83	0.83	0.83	
	At the discretion of central bank board		0.67			
	At legislature's discretion		0.50			0.50
	Unconditional dismissal possible by legislature		0.33			
	At executive's discretion		0.17			
	Unconditional dismissal possible by executive		0.00			
	d. May CEO hold other offices in government?			**1.00**	**1.00**	**0.00**
	No		1.00	1.00	1.00	
	Only with permission of the executive branch		0.50			
	No rule against CEO holding another office		0.00			0.00
2	**Policy formulation**	**0.15**		**0.75**	**0.45**	**0.37**
	a. Who formulates monetary policy	**0.25**		**1.00**	**1.00**	**0.67**
	Bank alone		1.00	1.00	1.00	
	Bank participates, but has little influence		0.67			0.67
	Bank only advises government		0.33			
	Bank has no say		0.00			
	b. Who has final word in resolution of conflict?	**0.5**		**1.00**	**0.40**	**0.40**
	The bank, on issues clearly defined in the law as its objectives		1.00	1.00		
	Government, on policy issues not clearly defined as the bank's goals or in case of conflict within the bank		0.80			
	A council of the central bank, executive branch and legislative branch		0.60			
	The legislature, on policy issues		0.40		0.40	0.40
	The executive branch on policy issues, subject to due process and possible protest by the bank		0.20			
	The executive branch has unconditional priority		0.00			
	c. Role in the government's budgetary process	0.25		0.00	0.00	0.00
	Central bank active		1.00			
	Central bank has no influence		0.00	0.00	0.00	0.00
3	**Objectives**	**0.15**		**1.00**	**1.00**	**0.60**
	Price stability is the major or only objective in the charter, and the central bank has the final word in case of conflict with other government objectives		1.00	1.00	1.00	
	Price stability is the only objective		0.80			
	Price stability is one goal, with other compatible objectives, such as a stable banking system		0.60			0.60
	Price stability is one goal, with potentially conflicting objectives, such as full employment		0.40			
	No objectives stated in the bank charter		0.20			
	Stated objectives do not include price stability		0.00			

(table continues)

Table 16. Measurement of independence of NBRM - Cukierman index

(continued)

Variable number	Description of variable	Weight	Numerical coding	2011	2002-2010	1992-2001
4	**Limitations on lending to the government**	**0.50**		**0.50**	**0.33**	**0.37**
	a.Advances (limitation on nonsecuritized lending)	**0.15**		**1.00**	**0.67**	**0.67**
	No advance permitted		1.00	1.00		
	Advances permitted, but with strict limits (e.g., up to 15 percent of government revenue)		0.67		0.67	0.67
	Advances permitted, and the limits are loose (e.g., over 15 percent of government revenue)		0.33			
	No legal limits on lending		0.00			
	b.Securitized lending	**0.10**		**1.00**	**0.67**	**0.67**
	Not permitted		1.00	1.00		
	Permitted, but with strict limits(e.g., up to 15 percent of government revenue)		0.67		0.67	0.67
	Permitted, and the limits are loose (e.g., over 15 percent of governments revenue)		0.33			
	No legal limits on lending		0.00			
	c.Terms of lending (maturity, interest, amount)	**0.10**		**1.00**	**0.33**	**1.00**
	Controlled by the bank		1.00	1.00		1.00
	Specified by the bank charter		0.67			
	Agreed between the central bank and executive		0.33		0.33	
	Decided by the executive branch alone		0.00			
	d. Potential borrowers from the bank	**0.05**		**1.00**	**1.00**	**1.00**
	Only the central government		1.00	1.00	1.00	1.00
	All levels of government (state as well as central)		0.67			
	Those mentioned above and public enterprises		0.33			
	Public and private sector		0.00			
	e. Limits on central bank lending defined in	**0.025**		**1.00**	**1.00**	**0.00**
	Currency amounts		1.00	1.00	1.00	
	Shares of central bank demand liabilities or capital		0.67			
	Shares of government revenue		0.33			
	Shares of government expenditures		0.00			0.00
	f. Maturity of loans	**0.025**		**1.00**	**1.00**	**0.67**
	Within 6 months		1.00	1.00	1.00	
	Within 1 year		0.67			0.67
	More than 1 year		0.33			
	No mention of maturity in the law		0.00			
	g. Interest rates on loans must be	**0.025**		**1.00**	**0.25**	**0.25**
	Above minimum rates		1.00	1.00		
	At market rates		0.75			
	Below maximum rates		0.50			
	Interest rate is not mentioned		0.25		0.25	0.25
	No interest on government borrowing from the central bank		0.00			
	h. Central bank prohibited from buying or selling government securities in the primary market?	**0.025**		**1.00**	**1.00**	**1.00**
	Yes		1.00	1.00	1.00	1.00
	No		0.00			
	Total index value			**0.92**	**0.70**	**0.60**

Source: Author's calculations.

The first Law on the NBRM was adopted in 1992 as a part of the legislative package (Law on the Currency of the Republic of Macedonia, Law on the Use of the Currency of the Republic of Macedonia and the Law on the National Bank of the Republic of Macedonia) that established a new monetary system, independent of the monetary system of Ex-Yugoslavia[8]. The NBRM was established as a central bank of the new independent state in charge of the stability of the Macedonian currency, monetary policy and stability of domestic and external payments. These three objectives of the central bank were also enshrined in the Constitution. Accordingly, price stability was not stated as an objective of the central bank nether in the law, or in the Constitution. In spite of this fact, the parliament used to adopt an annual Decision on the objectives and tasks of the monetary policy where price stability was stated as central bank objective. This pinpoints some ambiguity and inconsistency regarding the objectives of the bank. According to the index, if price stability is not stated as an objective, the value assigned to this criterion should be zero. Still, having in mind the above-mentioned Decision, the value of 0.60 was assigned.

The formulation of the monetary policy was not solely a responsibility of the central bank. The NBRM was required to prepare an annual projection of monetary and credit aggregates upon which the parliament passed the Decision on the objectives and tasks of the monetary and credit policies for the forthcoming year. The Decision defined numerical targets on inflation and money aggregates consistent with the inflation target. Foreign exchange regime and policy were decided by the parliament, through the Decision on the foreign exchange policy and projection of the balance of payments. The law defined the instruments at disposal of the NBRM to pursue its legal mandate, including reserve requirement, credits to banks and other financial institutions, issuance of central bank bills, definitive or repo transactions with domestic and foreign securities, and interventions in the foreign exchange market. The decisions on the implementation of the monetary and foreign exchange policies were adopted by two thirds of the members of the council within the framework determined by the parliament. In case of a dispute over monetary and foreign exchange policies, the parliament had a final word.

There was not a legal requirement for involvement of the central bank in some of the stages of the budget cycle. Preparation, adoption, execution, and oversight of the budget were responsibilities of the executive and legislative branch. No involvement of the central bank in the budgetary process, as well as absences of full authority in formulation of the monetary policy and in resolution of conflicts, result in lower scoring for the policy formulation group (0.37).

The value for the group chief executive officer is also rather low amounting to 0.44. The governor was appointed by the parliament, on proposal of the president of the state, with a term of office of 7 years with a possibility of being reelected only once. Reelection was not allowed for the other members of the council. Similarly to the appointment process, the dismissal process was to be initiated by the president of the state and decided by the

[8] The subsequent amendments to the law of 1992 implied a higher independence of the central bank, but for the purpose of this analysis I take into account only the original law.

parliament. There were no provisions on the dismissal criteria implying that the parliament had a wide discretion on the dismissal decisions. Also, the law did not have any provisions prohibiting the governor from holding other positions in the government.

Lending to the government was allowed, but limited up to 5% of the budget for the current year. It was not clearly stated whether it refers to the revenue or the expenditure side of the budget, but one may assume that it referred to the expenditures because during this period financing items were treated as revenues, and thus revenue and expenditure side of the budget equaled. Lending had to be within the projection of the monetary and credit policies and it was not stated whether the lending can be securitized or non-securitized. There were not much details on the provisions on the terms of lending (interest rate and collateral were not mentioned), but the council of the bank was authorized to decide on the borrowing, including the terms and conditions. The law did not forbid the participation of the central bank in the government primary securities market, but it may be due to the fact that the government's securities market did not exist up till 2004. In light of this, the highest score is assigned for this criterion. Score of 1 is also assigned to potential borrower criterion as the lending was limited to the central government and to the terms of lending criterion as the council was authorized to decide on the terms and conditions of the loans. The lowest value is given to the criterion on the limits on lending as they are not defined in currency amounts, but as a share of budget expenditures.

The law passed in 2002 granted a higher independence to the NBRM. The value of the aggregate index increased from 0.60 to 0.70 reflecting improvements in all 4 clusters. The law stipulated price stability as a primary objective of the central bank. In addition, the NBRM also supports economic policies and financial stability without jeopardizing its primary objective. This meant that the law was not fully consistent with the Constitution that defined stability of the currency, monetary policy and stability of domestic and external payments as objectives of the NBRM. Still, a highest value of 1 is assigned to this criterion as it mostly focuses on the provisions of the law.

The value for the group of criteria on policy formulation increased from 0.37 to 0.45 driven by the strengthened responsibility of the council for policy formulation. The law granted a full authority to the NBRM for formulating monetary and foreign exchange policy by authorizing the council of the NBRM to pass the Decision on the objectives of the monetary policy, instead of the parliament. The decision defined price stability as primary objective (although it was already stated in the law) and stability of the currency as intermediary objective in support of the primary objective. The decision initially included numerical targets for inflation and monetary aggregate, but since 2004 it did not include targets on money aggregate and since 2009 on the rate of inflation. The council was in charge of passing decisions on the conduct of the monetary and foreign exchange policies. Still, in case of disagreement regarding the monetary policy the parliament had its final word. If the council did not reach an agreement, the governor had a right to adopt a decision that he deemed inevitable to prevent endangering of the primary objective, but had to inform the parliament on the adoption of final decision.

Overall, the lending limitations to the government were tightened. The law limited the lending to the government only for the purpose of repaying loans to the IMF, as well as for overnight budgetary needs. It explicitly prevented buying government securities in the primary market. The provision that council decides on the lending to the government, including the terms and conditions of the lending was abolished. Therefore, terms and conditions were largely unstipulated and subject to agreement between the NBRM and the MOF resulting in lower value for this criterion.

The law strengthened the provisions on the chief executive officer resulting in higher value of the index for this dimension (from 0.44 to 0.77). The law stipulated the dismissal criteria for the governor. The dismissal could take place under conditions not related to the monetary policy or if the policy was implemented in a non- professional, dishonest, non-accountable and untimely manner. The governor was not allowed to hold any positions with the government.

The assessment of the provisions of the most recent law, which was passed in 2010 and amended in 2012 and 2013, points to a higher level of independence. The index rose from 0.70 to 0.92. Currently, the main objective of the NBRM is achieving and maintaining price stability. The law also sets the maintenance of a stable, competitive and market-oriented financial system and support of the economic policy, as additional objectives that are subordinated to the primary objective. Practically, there are no major changes regarding the objectives apart from more explicit emphasis on the financial stability as other objective subordinated to the primary one. Thereby, the value assigned to this criterion remained the same (1).

To achieve the goals, the NBRM is assigned a full responsibility for the monetary policy and the foreign exchange policy, while the decision on the exchange rate regime became a shared responsibility with the government. Namely, the law stipulates that the government and the NBRM decide upon the exchange rate regime without endangering the price stability objective. However, the responsibility for the exchange rate regime is not one of the criteria in the index and does not result in lower scoring, though it implies lower independence. The requirement to prepare a formal document on the monetary policy objectives that used to be adopted by the council and then submitted to the parliament was abolished. The law does not contain a specific provision on the resolution of conflict, but overall impression from the Law is that the final decision rests with the council of the NBRM. Also, it empowers the governor to make decisions in case the votes of the members of the council are divided equally. Strengthened provisions regarding the resolution of conflict led to increased value of the index for the policy formulation group (from 0.45 to 0.75). The new law did not introduce any specific provisions providing for involvement of the NBRM in the budgetary process.

The value of the chief executive criteria group remained unchanged (0.77) as there were not many changes in the legal provisions pertaining to this area. The governor is appointed by the parliament on proposal of the president of the state for a term of office of 7 years, implying longer term of office than the executive branch. The dismissal of the governor

remained in the hands of the parliament on proposal of the president of the state, but upon consultations with the NBRM council. Novelty was that the proposal for dismissal could be also submitted directly by the council and that the governor and other members of the council could be reelected without any restrictions on the number of reelections (previously governor and vice-governors could be reelected only once, and the other members could not be reelected).

The law further strengthened the limitations on lending by prohibiting lending to the government, with an exception of the intraday lending. The NBRM can approve intraday loans to the government for smooth execution of the payment transactions backed by government securities. The NBRM can purchase government securities only in the secondary market for the purposes of conducting monetary policy. The law does not specify the limits of intraday lending and the detailed terms and conditions, but the highest value for all the criteria in the lending group is assigned having in mind that the purpose of the lending is smooth execution of payment transactions and payment system rather than financing of the budgetary needs. Also, in practice the government has not resorted to intraday borrowing from the central bank.

The law brought improvements in other segments that are not directly captured by the index. The independence regarding the conduct of the monetary policy was reinforced by prescribing that members of the council and employees of the bank should not seek or receive any instructions from the government or any other natural persons or legal entities. The number of executive members of the council was increased from 3 to 4 by all vice-governors becoming members of the council. The law adopted in 1992 defined that the council is composed of the governor and 8 external members, and the law adopted in 2002 stipulated 3 executive members (governor and 2 vice-governors) and 6 non-executive members. The former provision granting right to the minister of finance to participate in the sessions of the council was replaced by a new provision stating that attendance of other members is only by an invitation of the bank. Furthermore, the government is obliged to consult with the NBRM when drafting laws and regulations that may have implications for the objectives and functions of the bank, and the bank is allowed to express its view on the draft laws discussed in the parliament.

Yet, it should be emphasized that the most recent law reduced the independence of the central bank in two key segments - responsibilities for the foreign exchange regime and the process of appointment of the non-executive members of the council of the NBRM. As previously stated, the decision on the foreign exchange regime became a shared responsibility between the MOF and the NBRM. In practice, there is no formal document (available to the public) on the agreement between the two institutions about the foreign exchange regime. Since 2012, the NBRM started preparing and publishing a medium-term strategic plan, adopted by the Council, which clearly determines the stable exchange rate as a chosen monetary strategy for achieving price stability. Previously, the NBRM was in charge of the foreign exchange regime and policy. Namely, the Law on the NBRM did not contain explicit provisions on the foreign exchange regime, it only authorized the NBRM for formulating and implementing the foreign exchange policy. The Foreign Exchange

Law stipulated that the foreign exchange rate was determined freely at the market and the NBRM had a right to participate in the market in line with the objectives of the monetary policy. The Decision on the objectives of the monetary policy, adopted by the council of the NBRM, specified that the price stability is to be achieved by implementing a strategy of stable exchange rate.

The most recent law stipulates that executive members of the council of the NBRM (vice-governors) are appointed by the parliament on proposal of the governor and the non-executive members by the parliament on proposal of the government. According to the law of 2002, the non-executive members were appointed by the parliament on a proposal of the president of the state. Given that the council is composed of 9 members - 4 executive (governor and three vice-governors) and 5 non-executive members, this procedure of appointment implies lower independence from the government in formulating and implementing monetary policy. This change is not reflected in the index because the index does not cover the process of the appointment of the entire council of the bank (it focuses only on the governor).

The comparison of these results for measurement of the independence of the NBRM with findings of the previous research work on this topic, points to some differences. The value of the index of Bogoev (2007) and Jankoski (2008), who asses the independence according to the law on the central bank in force during 2002-2010, is 0.87 and 0.60, respectively. The major part of the difference among the three indices can be attributed to the scoring for the lending limitations group, with Bogoev assigning highest score of 1 for all the dimensions of the lending limitations, which is not the case for the other two indices. Despite the fact that overnight lending is allowed, in the author's view this cannot result in monetary financing of the government and cannot endanger the economic independence of the NBRM. On the other hand, Jankoski (2008) assigns a value of 0 to non-securitized lending limitation explained by the absence of precise limits on the amount of lending. As regards the evaluation of the other groups of criteria it is almost the same, with the exception of the policy formulation criteria having a lower value in the research of Jankoski (2008). The author considers that the executive branch has an unconditional priority in resolving the monetary policy disputes because of absence of explicit provisions on dispute resolution in the law.

Different values of the indices indicate that although the legal index should provide pretty straightforward assessment of the legal aspect of the independence, this is not always the case. A measurement is dependent on the subjective interpretation of the legal provisions, especially when the law is not very specific, providing a room for different understandings.

Table 17. Comparison of Indices on Independence of NBRM

Variable number	Description of variable	Weight	Numerical coding	2011	2002-2010	Research of Jankoski	Research of Bogoev	1992-2001
1	**Chief executive officer (CEO)**	**0.20**		**0.77**	**0.77**	**0.77**	**0.77**	**0.44**
2	**Policy formulation**	**0.15**		**0.75**	**0.45**	**0.25**	**0.45**	**0.37**
3	**Objectives**	**0.15**		**1.00**	**1.00**	**1.00**	**1.00**	**0.60**
4	**Limitations on lending to the government**	**0.50**		**0.50**	**0.33**	**0.26**	**0.50**	**0.37**
	a.Advances (limitation on nonsecuritized lending)	**0.15**		**1.00**	**0.67**	**0.00**	**1.00**	**0.67**
	No advance permitted		1.00	1.00			1.00	
	Advances permitted, but with strict limits (e.g., up to 15 percent of government revenue)		0.67		0.67			0.67
	Advances permitted, and the limits are loose (e.g., over 15 percent of government revenue)		0.33					
	No legal limits on lending		0.00			0.00		
	b.Securitized lending	**0.10**		**1.00**	**0.67**	**1.00**	**1.00**	**0.67**
	Not permitted		1.00	1.00		1.00	1.00	
	Permitted, but with strict limits(e.g., up to 15 percent of government revenue)		0.67		0.67			0.67
	Permitted, and the limits are loose (e.g., over 15 percent of governments revenue)		0.33					
	No legal limits on lending		0.00					
	c.Terms of lending (maturity, interest, amount)	**0.10**		**1.00**	**0.33**	**0.33**	**1.00**	**1.00**
	Controlled by the bank		1.00	1.00			1.00	1.00
	Specified by the bank charter		0.67					
	Agreed between the central bank and executive		0.33		0.33	0.33		
	Decided by the executive branch alone		0.00					
	d. Potential borrowers from the bank	**0.05**		**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
	Only the central government		1.00	1.00	1.00	1.00	1.00	1.00
	All levels of government (state as well as central)		0.67					
	Those mentioned above and public enterprises		0.33					
	Public and private sector		0.00					
	e. Limits on central bank lending defined in	**0.025**		**1.00**	**1.00**	**1.00**	**1.00**	**0.00**
	Currency amounts		1.00	1.00	1.00	1.00	1.00	
	Shares of central bank demand liabilities or capital		0.67					
	Shares of government revenue		0.33					
	Shares of government expenditures		0.00					0.00
	f. Maturity of loans	**0.025**		**1.00**	**1.00**	**1.00**	**1.00**	**0.67**
	Within 6 months		1.00	1.00	1.00	1.00	1.00	
	Within 1 year		0.67					0.67
	More than 1 year		0.33					
	No mention of maturity in the law		0.00					
	g. Interest rates on loans must be	**0.025**		**1.00**	**0.25**	**0.25**	**1.00**	**0.25**
	Above minimum rates		1.00	1.00			1.00	
	At market rates		0.75					
	Below maximum rates		0.50					
	Interest rate is not mentioned		0.25		0.25	0.25		0.25
	No interest on government borrowing from the central bank		0.00					
	h. Central bank prohibited from buying or selling government securities in the primary market?	**0.025**		**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
	Yes		1.00	1.00	1.00	1.00	1.00	1.00
	No		0.00					
	Total index value			**0.92**	**0.70**	**0.61**	**0.87**	**0.60**

Source: Author's calculations; Bogoev (2007); Jankoski (2008).

The measurement of the independence of the NBRM is also performed on the basis of the modified Cukierman index (hereinafter: MCI) of Jacome and Vazquez (2005). This index, which is also founded exclusively on the legal or de jure aspect, maintains the four main groups of criteria of the Cukierman index, but modifies some of the individual criteria trying to capture some specific aspects relevant for transition economies. It also adds a new group of criteria to measure accountability of the central bank since it enhances bank's credibility and the effectiveness of the monetary policy.

In the area of political and economic autonomy, there are a couple of innovations to the basic index, including the following: (i) appointment and dismissal of the entire bank council, rather than focusing exclusively on the governor, as the legal power of the governor represents only a fraction of the power within the council, and the procedures for governor and for the rest of the council may differ; (ii) inclusion of the criterion on formulation of the exchange rate policy, which is a very important aspect for small and open economies; (iii) a shift from involvement of the central bank in the budgetary process to its involvement in public debt policy; (iv) inclusion of the criterion on central bank facilities to deal with banking crisis, as bigger involvement in banking crisis can be treated as quasi-fiscal operation endangering the monetary autonomy; (v) inclusion of the criterion on financial autonomy, as it strengthens the conduct of the monetary policy and systemic liquidity management; and (vi) addition of a group of criteria for accountability, which represents an integral component of the central bank autonomy.

As the Cukierman index, the MCI assigns the highest weight to the lending limitations group of criteria, as lending is considered to be the main source of inflation. Still, the weight is lower compared to the basic index (40 against 50 percent) because the MCI includes a new group of criteria on accountability. Within the lending group, the highest weight is assigned to the securitized lending, while the basic index assigns highest value to the non-securitized lending. The weight of 20 percent is assigned to the modality of appointment and dismissal of the bank's council. The dismissal has the highest weight within the group since this dimension is considered to be instrumental for political autonomy (this is not the case in the basic index). A weight of 15 percent is assigned to objectives and to policy formulation groups, and 10 percent to accountability group.

The MCI points to similar conclusions as the basic index. The independence of the NBRM has increased over time with a value of the index rising from 0.70 to 0.95, which represents a high level of central bank independence. The independence has increased along all five dimensions captured by the index. The value of the MCI is somewhat higher compared to the basic index.

Table 18. Measurement of Independence of NBRM-Modified Cukierman Index

Description of variable	Weight	Numerical coding	2011-	2002-2010	1992-2001
Central Bank Board	**0.20**		**1.00**	**1.00**	**0.90**
1. Term of office of governor	0.20		1.00	1.00	1.00
More than presidential period		1.00	1.00	1.00	1.00
The period does not coincide		0.67			
Same period as the executive brunch		0.33			
Less than executive branch or not specified in the law		0			
2. Who appoints the Governor?	0.20		1.00	1.00	1.00
Double process (Executive/ Legislative), or through the Central Bank Board if also appointed in a double process, or for longer or overlapped periods with respect to the executive brunch		1.00	1.00	1.00	1.00
The executive brunch directly or through the Central Bank Board, when this is directly appointed by the executive brunch		0			
3. Appointment and term of office rest of the Board	0.20		1.00	1.00	1.00
More than presidential period or for a non-defined period		1.00	1.00	1.00	1.00
For the same period as the President of the Republic with overlap		0.75			
Double process for the same period		0.50			
Executive and private sector appoint the majority of directors for same period or less		0.25			
Executive brunch appoints the majority for the same period or less		0			
4. Dismissal of Board members	0.30		1.00	1.00	1.00
Double process approved by the Senate or a qualified majority and for violations codified in legislation		1.00	1.00	1.00	1.00
By an independent Central Bank Board		0.75			
Double process with simple majority, based on policy decisions or due to subjective reasons		0.50			
By executive brunch or subordinated Central Bank Board due to legal reasons		0.25			
By executive brunch or subordinated Central Bank Board due to policy or subjective reasons, or no legal provision		0			
5. CEO allowed to hold another office in government	0.10		1.00	1.00	0.00
Prohibited by law		1.00	1.00	1.00	
Not allowed unless authorized by executive brunch		0.50			
No prohibition for holding another office		0.00			0.00
Central Bank objectives	**0.15**		**1.00**	**1.00**	**0.75**
6. Fundamental objective	1		1.00	1.00	0.75
Price stability is the single or primary objective		1.00	1.00	1.00	
Price stability together with non-conflicting objectives but without priority		0.75			0.75
Price stability plus other goals including stability of financial system that may conflict with the former, without priority		0.50			
Price stability together with objective of economic growth/economic development with no priority		0.25			
Objectives do not include price stability		0			

(table continues)

Table 18. Measurement of Independence of NBRM-Modified Cukierman Index *(continued)*

Description of variable	Weight	Numerical coding	2011-	2002-2010	1992-2001
Policy formulation	**0.15**		**0.64**	**0.62**	**0.46**
7. Who formulates monetary policy	0.50		0.67	1.00	0.67
Central bank has the legal authority		1.00	1.00	1.00	
Executive brunch holds the final decision on exchange rate policy		0.67	0.67		0.67
Central bank participates on monetary policy formulation in an advisory capacity or faces legal limitations on monetary instruments or interest rates		0.33			
Government formulates monetary policy alone		0.00			
8. Government directives and resolution of conflicts	0.30		1.00	0.40	0.40
Central bank given final authority over issues defined in the law as objectives		1.00	1.00		
Government has final authority over issues not clearly defined as Central Bank goals		0.80			
Final decision up to a council whose members are from the Central Bank, executive brunch, and legislative brunch		0.60			
Legislative brunch has final authority		0.40		0.40	0.40
Executive branch has final authority, but subject to due process and possible protest by Central Bank		0.20			
Executive branch has unconditional authority over policy		0.00			
9. Central Bank involvement in debt approval	0.20		0.00	0.00	0.00
Approves government debt		1.00			
Legally required to provide opinion on technical aspects		0.5			
No involvement at all		0	0.00	0.00	0.00
Central Bank lending	**0.40**		**1.00**	**0.72**	**0.65**
10. Limitations on advances	0.15		1.00	0.67	0.67
Advances to government prohibited		1.00	1.00		
Limited by small percentage of government revenues or by monetary program		0.67		0.67	0.67
Allowed under lax limits (more than 15 percent of government revenues)		0.33			
Allowed without limits		0.00			
11. Lending to Government	0.30		1.00	0.75	0.75
Not allowed		1.00	1.00		
In the secondary market with restricted limits		0.75		0.75	0.75
In the secondary market with lax or without limits		0.50			
In the primary market with limits or approved by Central bank Board with a qualified majority		0.25			
In the primary market without limits		0			
12. Who decides financing conditions to government	0.10		1.00	0.33	1.00
Central bank defines terms and conditions		1.00	1.00		1.00
Defined by law		0.67			
The law allows negotiations between government and Central Bank		0.33		0.33	
Executive decides independently		0.00			
13. Beneficiaries of Central bank financing	0.10		1.00	1.00	1.00
Only the government		1.00	1.00	1.00	1.00
Government plus local governments		0.67			
All of the above plus public enterprises		0.33			
All of the above and to the private sector		0.00			

(table continues)

Table 18. Measurement of Independence of NBRM-Modified Cukierman Index *(continued)*

Description of variable	Weight	Numerical coding	2011-	2002-2010	1992-2001
14. Interest rates in advances or lending	0.10		1.00	0.50	0.50
At market rates		1.00	1.00		
Interest rates not specified in the law		0.5		0.50	0.50
At below market rates		0			
15. LOLR	0.15		1.00	0.75	0.50
For liquidity purposes with limitations (up to 180 days or up to bank's equity), or no legal provision for emergency lending		1.00	1.00		
For liquidity at conditions defined by the central bank		0.75		0.75	
Provisions for constructive ambiguity or rediscount of commercial bank loans		0.50			0.50
Open assistance to cope with solvency problems		0.25			
To finance bank restructuring and/or paying deposit insurance		0			
16. Financial autonomy	0.10		1.00	1.00	0
Government should maintain central capital integrity		1.00	1.00	1.00	
Government is legally allowed to capitalize the central bank		0.67			
The law does not allow the government to capitalize the central bank		0.33			
The Central Bank conducts quasi-fiscal operations		0			0
Accountability	**0.10**		**1.00**	**1.00**	**0.75**
17. Accountability of Central Banks	0.75		1.00	1.00	1.00
Reports to executive branch and informs at least annually to Congress		1.00	1.00	1.00	1.00
Reports to executive once a year and submits an annual report to Congress		0.75			
Annual reports to executive. Informs to the executive branch whenever fundamental disequilibria emerge, or reports through the media without specific periodicity		0.50			
Issues annual report at specific time		0.25			
Distributes an annual report without establishing particular period of time for it		0			
18. Central Bank transparency	0.25		1.00	1.00	0
Discloses detailed financial statements at least once a year with an certification of an independent auditor		1.00	1.00	1.00	
Disclose consolidated financial statements at least once a year with seal of Banking Superintendent or other public sector authority		0.75			
Discloses financial statements at least once a year, certified by an internal auditor		0.50			
Publishes partial financial statements		0.25			
Does not publish financial statements or the law authorizes central bank to deviate from international accounting standards		0			0
Total index value			0.95	0.83	0.70

Source: Author's calculations.

In comparison with the basic index, the modified index points to higher independence in the area of appointment and dismissal of the governor and other members of the council.

The higher score is due to the fact that MCI gives the highest score if the mandate is longer than the presidential term, unlike the basic index where highest score is given if the mandate is at least 8 years. The value for the dismissal is also higher because in the MCI the focus is on the entire council (not exclusively the governor) and the wording of the criteria is somewhat different. This is particularly the case for the period 1992-2001. Namely, according to the law of 1992 the dismissal of the governor was a double process (president and legislature), but without clear criteria on dismissal. However, for the other members of the council there were no provisions regarding the dismissal, which can be interpreted as an absence of possibility for their dismissal. Given that the council, the highest decision-making body, was composed of the governor and 8 other members, highest value is assigned to this criterion. Similarly, according to the MCI, the highest value is assigned if the governor is appointed through a double process with involvement of the parliament or council of the bank and not directly by the executive branch. The basic index gives highest value if the governor is appointed by the council of the bank.

Regarding the objectives there are no significant changes in the scoring between the basic and modified index. Differences in the scoring for the policy formulation are due to the addition of a new dimension (exchange rate policy) and different weighting structure of the modified index with highest weight given to the manner of policy formulation (as opposed to the basic index that assigns the highest weight to the resolution of conflict). In the initial period under analysis, the exchange rate policy, same as the monetary policy, was determined by the parliament. While objectives of the monetary policy were determined on the basis of the proposal of the NBRM, the foreign exchange regime and policy were determined on the basis of the proposal of the government. The parliament used to adopt an annual Decision on the foreign exchange policy and projection of the balance of payments that determined the foreign exchange regime and policy, including the measures aimed at supporting the export and limiting the import. It is important to note that the Decisions were not always fully consistent with the Constitution where a stable exchange rate was determined as one of the objectives of the NBRM. The exchange rate regime was changed on a couple of occasions without any amendments to the Constitution. The legal provisions valid throughout 2002-2010 shifted the responsibility for the monetary and foreign exchange policies to the central bank. The council of the NBRM used to adopt the Decision on the goals of the monetary policy that clearly stated the price stability as a primary objective and stable exchange rate as an intermediate objective subordinated to the price stability. Since 2010 the independence of the NBRM as regards the foreign exchange regime was decreased because it became a shared responsibility between the NBRM and the MOF. This was reflected in a lower value for the criterion on formulating monetary policy and subsequently for the entire group on policy formulation.

The scoring for the lending group is not much different, except that this group now includes two new dimensions - lender of last resort and financial autonomy. The provisions on financial support of the banking system over years have become tighter. Currently, the commercial banks have an access to the lender of last resort facility, approved only to solvent financial institutions, for liquidity purposes, up to 180 days. Financial autonomy

has also been strengthened. Initially, the central bank was involved in quasi-fiscal operations by being obliged to rediscount loans extended to the enterprises for specific purposes defined in the Decision on foreign exchange policy and projection of balance of payments. In 1994, this practice was abolished and financial autonomy was strengthened. Currently, the law sets the amount of the capital of the central bank that can be further increased by decision of the parliament upon proposal of the central bank. The capital cannot be reduced. In case of losses, they are covered, first by the general reserves of the bank, and then by the capital which, subsequently, has to be recovered by the government in cash or by issuing government securities with market interest rate. The general reserves are used only for covering losses and are created from the profit of the central bank. Seventy percent of the profit can be distributed in general reserves until reserves reach the capital of the bank, and then only 15%.

Accountability of the NBRM, evaluated on the basis of reporting to the parliament and executive branch on the monetary policy and the disclosure of financial statements, is at a high level. Namely, throughout the entire analyzed period, the NBRM has been required to provide at least annual and semiannual reports to the parliament. The most recent law further enhanced the accountability by stipulating that the annual report has to be submitted to the parliament and the minister of finance, and that NBRM is required to publish monthly balance sheet, regular quarterly reports on the monetary policy and annual report on financial stability. The parliament is also authorized to ask the governor to participate in the parliamentary session on the monetary policy and financial system. A detailed financial statement prepared in accordance with international standards and approved by an authorized auditor has to be published and submitted to the parliament, president of the state, president of the government and minister of finance. The exception was the law passed in 1992 that did not have detailed requirements regarding the financial statements.

The modified Cukierman index was also calculated by Bogoev (2007) based on the legal provisions of the law passed in 2002. His index points to somewhat higher independence due to the author's interpretation of the legal provisions on the lending limitations. For the rest of the criteria there are no differences in the scoring.

The legal index can serve only as an indication of the actual independence of the central bank. Thus, the results on measurement of the legal independence should be interpreted with caution. First, indices reflect different perceptions about the importance of the dimensions that should be included in the index leading to different structure and weights of individual dimensions that produce different assessments. Second, central bank laws can have general provisions subject to wide interpretations and conclusions by the evaluators. Third, even if the laws are clear and specific, the practice may differ on the back of different political cultures, resulting in a gap between the de jure and de facto independence. This is more likely to be the case in developing economies commonly faced with lower de facto independence. In some cases the actual independence may be higher compared to the legal, which, to a great extent, depends on the personality and the professional background of the governor, but also on the personality and professional

background of the top officials in the government (in particular of the minister of finance). Still, the legal indices are valuable indicator that at least points to the intention of the executive and legislative branch as regards the level of independence meant to be provided to the central bank.

Measurement of the actual independence is not an easy task. Most commonly it is measured through the rate of turnover of governors and questionnaires filled in by central bankers. Higher turnover of governors is interpreted as lower independence because the shorter term of office of the governor pinpoints higher probability of exerting political pressures on the governor and subjecting the monetary policy to short-term economic policies. Having said this, the longer term of office is not a guarantee for independence as subservient governors may be prone to longer mandates.

The turnover rate of the governor, as introduced by Cukierman, Webb and Neyapti (1992), represents an average term of office of central bank governors and is calculated as the number of governors in a certain period of time divided by the length of the period. Accordingly, the rate is expressed in years or fractions of years. A maximum threshold for the turnover rate is set at 0.2 to 0.25, i.e., one governor for every 4 to 5 years and the rate exceeding this threshold is considered a large turnover. On the other hand, a very long term of office may point to a subservient role of governor. While a lower threshold of the turnover rate has not been identified in the literature, the provision of the Maastricht Treaty that the duration of the office of the members of the ECB Executive Board is 8 years, without a possibility for reappointment, can be interpreted as a minimum threshold rate of 0.125 (Dvorsky, 2000).

Based on the criterion of a turnover rate of governors, the actual independence of the NBRM appears to be high. The turnover rate is 0.16 meaning roughly one governor every 6 years. All governors, except one, have served a full mandate of 7 years. The first governor of the NBRM served 5 years. The term of office of all governors was longer than the electoral cycle and the term of office of the president of the state, which is 5 years. Still, this is only one angle through which the actual independence can be proxied and therefore cannot be used as a strong evidence of the de facto independence. Also, the observation period is rather short for deriving firm conclusions.

The level of the actual independence can be affected by the legal and practical mechanisms for cooperation and exchange of information between the central bank and the executive branch (specifically the ministry of finance). In principle, the relations between the institutions can be regulated by legal acts or they can be left unregulated and subject to tradition and individual views on the need and a form of coordination. Legal provisions can provide a general framework for cooperation, but practical mechanisms are crucial for effective implementation of the policies.

The first law on the NBRM did not contain any specific provisions regarding the arrangements for cooperation and sharing of information between the NBRM and the government. Thus, there were no formally regulated coordination mechanisms. The parliament had a final word on the monetary and foreign exchange policies and the NBRM

was responsible for monitoring and regularly reporting to the parliament on the monetary and foreign exchange developments. Despite the absence of legal framework governing the relations between the institutions, in practice, certain level of collaboration was present, though mostly on an ad hock basis. The involvement of the central bank was particularly needed for the balance of payments projections, which were prepared by the Government and submitted to the parliament as a basis for adoption of the Decision on the foreign exchange policy and balance of payments projections. The NBRM was a source of data on the balance of payments transactions and it managed the register of external debt (including the external public debt) and public debt service. Furthermore, the NBRM was involved in the process of drafting laws and regulations concerning the banking system, foreign exchange system or other areas with implications for the monetary policy. Often, representatives of the NBRM were present at the government commissions when the draft-laws and regulations were discussed.

In 1999, the MOF started participating in the weekly liquidity meetings of the central bank with an objective of increasing the coordination between the institutions in charge of monetary and fiscal policies. Gradually, the MOF started preparing weekly liquidity forecasts, although in a very rudimentary and aggregate form, and sharing it with the bank. Budget was one of the main autonomous factors affecting the liquidity in the system and thus in-year forecasts of the budgetary revenues and expenditures were useful information for the central bank. On the other hand, the MOF started acquiring information on liquidity in the banking system on a regular basis.

Yet, this form of cooperation and exchange of information was rather limited to short-term liquidity management, without encompassing a systematic coordination on broader issues relevant for the conduct of the monetary and fiscal policies. The coordination on the strategic questions was more on an ad hock basis. Undeveloped primary market for government securities can partially explain the relatively weak cooperation. Financing through the primary market of government securities reinforces the need for cooperation, as the two institutions are present at the same market and weak coordination can result in competition and can undermine the achievement of the objectives of the both institutions. At that period external borrowing from international financial institutions was the main source of financing of the budget needs. The weak coordination became apparent especially in 2000. Significant spending and injection of liquidity by the budget remained largely unsterilized by the central bank, creating significant pressures on the foreign exchange market and official reserves.

The law of 2002 also did not stipulate any specific provisions regarding the relations between the government and the central bank, with exception of the right of the minister of finance to participate at the sessions of the council of the bank without right to vote. The establishment of the Treasury in 2000 provided a positive stimulus for improved cooperation. The introduction of the treasury single account resulted in consolidation of all government funds at one centralized account with the NBRM creating a basis for strengthened liquidity forecasts and cash management of the MOF. Improved forecasts

paved a way for better anticipation of the autonomous liquidity flows by the NBRM and more efficient monetary policy.

Two formal mechanisms of coordination within the MOF were established: coordination committee at a strategic level and coordination committee at the operational level. The committee at the strategic level was composed of the top officials of the MOF and the Central bank with a task of increasing the cooperation as regards strategic issues relevant for the conduct of the monetary and fiscal policies. In line with the Protocol on the establishment of the committee, signed by the minister of finance and the governor, a wide range of questions were discussed at the monthly meetings, including the projections of the monetary aggregates, inflation, balance of payments and official reserves, as well as projections and execution of the budget aggregates and budget financing structure. Still, this committee functioned effectively for a short period of time.

On operational level, the committee was composed of representatives of the treasury department, budget department, tax department, customs office and other government institutions, as well as representatives of the central bank dealing with the open market operations. It took place on a weekly basis. It focused on the exchange of information regarding the liquidity in the banking system and the effect of the fiscal policy on the liquidity flows (especially the projected fiscal impact for the forthcoming week). The representatives of the MOF continued to participate in the weekly liquidity meetings of the central bank as it was considered that, among other objectives, this would increase the understanding and knowledge of the staff of the MOF about the monetary policy conduct and would contribute to a better policy mix.

In 2004, the MOF initiated development of the government securities market and the NBRM was appointed as a fiscal agent in charge of conducting auctions of government securities and providing a platform for clearing of the transactions. The development of the government securities market reflected efforts to diversify the sources of budget financing to non-inflationary instruments and support the establishment of a benchmark yield curve for the development of the financial markets. Developed financial markets in general enhance operational independence and effectiveness of the operations of the central bank. It required strengthened coordination, specifically regarding the amount, interest rate, maturity and calendar of issuance of the securities. In this light, the NBRM limited the access to central bank bills only to banks (abolishing the right of natural persons and legal entities to subscribe to central bank bills).

During that year also a working group was created, consisting of representatives of the MOF and the central bank to improve the cooperation in the area of the macroeconomic projections. It was expected that this practice would yield in more consistent monetary and fiscal policies, as well as help increasing the macroeconomic capacity of the staff of the MOF. Despite the benefits, this practice was shortly abandoned.

The following year, the liquidity commission with the central bank was substituted with a Committee on operational monetary policy chaired by the governor and composed of top officials of the bank. The representative of the MOF attended the sessions providing short-

term budget forecasts. The committee became a key body for designing the monetary policy. Although formally the council was authorized to decide on the monetary policy stance, it delegated this responsibility to the governor. In this context, the committee was established as an advisory body to the governor without a system of formal voting. It was responsible for monitoring the macroeconomic and monetary indicators, financial market trends, liquidity and banking system developments, and the design of the monetary policy measures aimed at achieving the price stability.

In 2006, the MOF and the NBRM reached an agreement for introducing government securities for monetary policy purposes. The structural excess liquidity of the banking system hampered the monetary policy transmission. The introduction of this new instrument was perceived as a possibility to sterilize structural excess liquidity with longer-term securities and support the development of the government securities market, which would provide impulse for development of the financial markets, in general. Furthermore, a more developed financial market was expected to increase the effectiveness of the monetary policy transmission. The new instrument had a maturity of 3 months, interest was paid by the central bank and the sterilized liquidity was placed at a special account of the NBRM. The MOF and the central bank were present at the same market – the primary market for government securities and used the same instrument. It required a high level of strategic and operational coordination. At the beginning, the NBRM reduced the frequency of central bank bills, started gradually lowering the amount of regular 28-day central bank bills, and increasing the amount of the treasury bills for monetary purposes.

Two years later, this instrument was abandoned amidst the different views of the NBRM and the MOF on the adequate level of the interest rate of the securities. In 2007, the MOF introduced a couple of measures that resulted in lower interest rate and declining subscription interest by the banks. The differences between policy makers became in particular apparent at the beginning of 2008, in light of the widening imbalances in the economy. On the one hand, rising current account deficit and pressures at the foreign exchange market, accompanied with rising inflationary pressures spurred by high credit growth asked for tightening of the monetary policy. On the other hand, rising deficit and turbulences in international financial markets asked for increased financing of the budget from the domestic securities market.

The law of 2010 introduced provisions regarding the cooperation between the MOF and the central bank. The provision providing for minster of finance's presence at the sessions of the council was abolished, but it was stipulated that the governor and the minister of finance hold regular meetings to inform each other on the monetary and fiscal policy, as well as other issues of common interest. It was specified that the central bank can act as a financial advisor to the government, upon its request. Furthermore, it was envisaged that the government consults with the bank when preparing regulation that is related to the objectives and functions of the bank and that the bank can provide its opinion to the government or to the parliament on the issues concerning its mandate. The law envisages exchange of information between the institutions.

Despite the introduction of these legal provisions that set the legal framework for cooperation, it appears that there were no significant upgrades of the cooperation in practice. The NBRM did not always effectively participate or provide opinion on the regulations affecting its mandate or functions. The exchange of information was not enhanced. The operational committee of the MOF stopped to convene, although regular exchange of information on liquidity forecast of the budget continued and the representative of the MOF continued to participate in the weekly meetings of the Committee for operational monetary policy at the central bank.

Positive development was the establishment of the Economic Council - an advisory body to the government for the economic issues. It is chaired by the prime minister and composed of ministers in charge of economic sectors, other top-level government officials, representatives of the academia, and the governor. It represents a platform for discussing strategic economic issues, draft laws and regulations and envisaged reforms. As such, it provides an opportunity for the central bank to be regularly informed on the government initiatives that may have an impact on the macroeconomic developments, banking system and monetary policy. Also, it is used as a tool for informing the government of the NBRM's view on the topics discussed and about the NBRM's macroeconomic projections and developments, as well as monetary policy measures.

The analysis of the relationship between the level of the independence and the inflationary outcome suggests inverse correlation, although drawing firm conclusions does not seem feasible. Looking at the macroeconomic developments, and especially at the inflationary developments in the RM, it can be observed that, as in most of the transition economies, the peak inflation was registered right at the beginning of the transition. The initial stage of transition in the RM was marked by high and volatile inflation stemming from non-disciplined polices, as well as political factors. High budget deficits, on the back of contraction of economic activity and eroded tax base, in combination with loose monetary policy, high inflationary expectations and weakening of the domestic currency led to hyperinflationary trends. The central bank had difficulties in controlling money growth as it was required to provide loans to banks to be channeled to specific economic sectors determined by the parliamentary decision. Thus, the control over the monetary base was weak. Legal provisions on the objectives and functions of the central bank valid during this turbulent period did not provide adequate protection of the bank from the executive branch. The objectives of the monetary policy, as well as foreign exchange regime and policy were decided by the parliament. Price stability was not even stated in the law as one of the objectives of the central bank. The law allowed central bank financing of the government up to 5% of the Budget. However, it should be noted that in practice the central bank financing was mostly limited to financing of the external debt repayments.

Control over prices was effectively established at the end of 1995 when inflation was brought down to 9.5% amidst implementation of a consistent policy mix, including the adoption of a strategy of a de facto fixed exchange rate regime. This policy mix was designed under the IMF program. In light of this program, in 1996 amendments to the Law on the NBRM were passed that meant steps towards strengthening the independence of the

central bank (tightening the criteria on lending, abolishing the practice of rediscounting loans extended to the private sector, increasing the number of executive members in the Council of the bank). It appears that all these factors made a positive contribution towards establishing a control over prices. Since then, the price stability has been maintained in light of the prudent mix of macroeconomic policies which to a certain extent reflects the IMF involvement through different arrangements. The independence of the NBRM throughout the years has been reinforced and has made a positive contribution towards preserving price stability. Temporary pick up in prices observed in a couple of periods was driven mainly by supply side factors.

2.3 Public Finance Issues and Monetary Policy in the Republic of Macedonia

2.3.1 Public Finance Management Reforms in the Republic of Macedonia

The institutional design of the budgetary procedures can shape the fiscal discipline and fiscal outcomes and thus the adequacy of the overall macroeconomic policy mix. Prudent procedures during the budget preparation, budget adoption and budget implementation stage can, to a significant degree, prevent expansionary fiscal policy and rising level of public debt safeguarding the sustainability of public finances. Prudency and predictability of the fiscal policy are very important dimensions that affect the monetary policy and contribute to a policy mix consistent with the achievement of the objectives of both policies.

Sound budgetary procedures, such as medium-term budgeting, top-down budgeting and comprehensiveness of the budget document, are conducive to strengthening of the consistency of fiscal and monetary policies through a number of channels. Medium-term budget perspective is an important input in designing the monetary policy, as it provides information on budget policies during a longer horizon. Reliable medium-term projections on the budget aggregates improve the macroeconomic forecasts of the central bank that are crucial in determining the appropriate monetary policy stance. Information on the overall budget spending, composition of the spending, liquidity implications and public debt pattern affect the room for the accommodative monetary policy. Composition of the spending is important as different types of expenditures have different effects on the aggregate demand and external accounts. Still, to be useful, the medium-term framework has to be founded on realistic assumptions on macroeconomic variables and it has to have strong links with the annual budget process. Streamlined top-down procedure of budget preparation based on clearly established ceilings for line ministries enforces the link between the medium-term and annual budget aggregates. Comprehensiveness of the budget is also an important aspect. Information on the budget aggregates need to be as comprehensive as possible to provide a complete picture of the public spending and debt

trajectory. If substantial public spending is left outside of the budget, the information on the fiscal policy and its macroeconomic effects will not be complete.

The quality of the budget spending controls, monitoring and reporting, as well as cash management also affect monetary policy. Mechanisms that prevent overspending (such as limits on budget reallocations during execution, commitment control, and payments control) increase the credibility and predictability of the fiscal policy and facilitate the conduct of the monetary policy by avoiding fiscal surprises and a need for abrupt changes in the monetary stance. Strengthened oversight through establishment of internal and external audit systems is conducive to higher fiscal discipline and higher predictability of the fiscal policy. Timely and comprehensive budget reporting system is a precondition for regular monitoring of the fiscal developments and undertaking timely measures to prevent deviations from the fiscal targets. This refers not only to the central government sector, but also to the local governments and public enterprises. Of course, having a comprehensive system of reporting does not always mean a good flow of information between the MOF and central bank. Establishing arrangements for regular exchange of information on strategic and operational issues seems necessary for having consistent macroeconomic policies. Adequate cash forecasting and cash management procedures in the MOF, which to a great extent are dependent on the consolidation of the public resources within a TSA, and exchange of information on liquidity forecasts with the central bank, facilitate the central bank cash projections and operations for managing the liquidity in the banking system.

Public finance reforms in the RM, as in other transition economies, have been an integral component of the process of transformation of the planned economy into a market economy. The old public finance system of SFRY had features of a decentralized system with limited functions of the MOF. The three levels of government (federal, republic and local) and numerous extra budgetary funds financed by earmarked revenues implied a limited role of the state ministry of finance. The flexibility of the MOF in managing the budget was partly constrained by the fact that large part of the budget appropriations was pre-determined by other laws or based on formulas. In addition, the limited role of the MOF was a reflection of the existence of the Social Accounting Office (hereinafter: SAO), a unique and very powerful institution in charge of the payment system. All legal entities, including the budget institutions, had to do payments through accounts opened with the SAO. Apart from payment functions, it was also responsible for tax collection through special-purpose accounts and enforcement of timely and accurate tax payments. In case of non-compliance with the tax payment deadlines or inaccurate payments, it was authorized to block other payments from the account of the defaulting entity. Through the payment function the SAO acquired a lot of information on the financial operations and the financial condition of all legal entities, including budget institutions. In addition, legal entities were required to provide to the SAO reports for audit purposes (audit was also a responsibility of SAO). Thus, this institution was the main source for many statistics and provided numerous reports, including reports on the budget users.

The old public finance system lacked medium-term perspective and top-down approach in budget planning. Although the Ministry of Economy was vested with responsibility of medium-term macroeconomic forecasting, budgets were annual documents. They were not very transparent containing only a limited number of budget appropriations for each spending institution. Budget allocations were presented by economic classification (wages, salaries, capital expenditures) which did not provide an opportunity for more general discussions about the fiscal policy priorities, functions, programs or projects that will be financed. The budget was focused on inputs, rather than on the expected outputs. Given the absence of clear guidance and budget targets in budget circular to discourage overbidding, the MOF had to deal with the overestimated budget demand of the spending ministries thus complicating the budget formulation.

The adoption of the first organic budget law of the independent state in 1993 marked the initial step in reforming the public finance system in the RM. The law reinforced the role of the MOF during the budget process. The MOF was assigned a key role in developing guidelines and indicative ceilings for spending institutions in order to streamline the budget formulation and make it more effective. The spending ministries were required to provide estimates for the budget year and the following two years, although it remained a rather pro forma requirement, as it was not based on medium-term macroeconomic projections and medium-term guidance of the MOF. Effectively, the budget remained a one-year document. The law emphasized the principle of comprehensiveness of the budget by stipulating that all revenues and expenditures of the budget institutions have to be included in the budget document and that all revenues collected from services for which financing was provided by the budget have to be deposited at the budget account. Still, the practice of having numerous accounts for collection of different types of special revenues, which were kept outside of the budget planning and execution procedures, remained largely unchanged.

The SAO was obliged to provide regular reports on the revenues and expenditures of all budget entities to the MOF as the ministry had only partial information on the flow of the budget resources and no information on the collection and use of special revenues. Budget execution was organized along the following lines: the MOF transferred money from the budget account to the accounts of the spending ministries, spending ministries transferred money to the accounts of the institutions that were financed through the ministry (such as schools, faculties, cultural centers etc.), which was then followed by real payments from the accounts of the ministries or the spending institutions to legal entities and natural persons. The MOF had at its disposal only the information on the first stage and depended on the information on the real budget spending from the SAO.

The Law strengthened the borrowing procedures. It was stipulated that only the government can borrow domestically and externally and issue guaranties. The local governments and public enterprises were allowed to borrow for financing of the budget deficit only from the budget. In order to increase the coordination with the central bank it stipulated that the MOF should consult with the central bank in cases when borrowing affects the monetary policy.

The biggest steps forward in reforming the budget system were made starting from 2001. A couple of changes of the organic budget law were introduced during 2000-2002, aimed at improving the budget formulation, introducing a modern treasury system and developing internal and external audit functions.

Comprehensiveness of the budget document was significantly improved in 2001. For the first time, special revenues and expenditures financed by these revenues became an integral part of the budget document. Given that their size was not negligible, it markedly widened the coverage of the public spending, thus increasing the transparency and scrutiny over comprehensive budget appropriations. It improved the budget planning as the focus was on the total spending of the budget users financed from different sources such as budget funds, revenues from non-core activities (fees from services), administrative fees (that in essence belong to the budget), donations and project loans. Budget document provided very analytical information on the spending financed by special revenues by clearly disentangling separately the spending financed from each of the 4 sources. A detailed analysis of the MOF indicated that at least part of these so called special revenues were regular budget revenues that should have been paid at the budget account. Still, this was considered sensitive issue and the decision to take these revenues from the budget users was not made. Enlarged comprehensiveness contributed to higher accountability as annual financial statement presented at the parliament encompassed spending financed by special revenues. Benefits from a macro point of view were obvious, entailing broad information on public consumption and investments. In line with the increased coverage of the budget document, the spending controls of the MOF widened to special revenues. Furthermore, the same year the budgets of the extra budgetary funds (pension fund, unemployment fund, health fund and roads fund) were included in the budget document allowing higher transparency and scrutiny of the budget document.

Introduction of program budgeting was an important step in upgrading the budget formulation process. Up to that point, the MOF pursued a line-item budgeting focused on the inputs, i.e., economic types of expenditures (salaries, goods and services, transfers, capital expenditures) providing information on how much the ministries are allowed to spend. This approach lacked information on the purposes (programs and activities) of the spending, preventing more detailed analysis and discussions about the spending requests by the MOF, but also by the government and parliament. Program budgeting requires identification of programs as a set of activities aimed at achieving a common goal, indicators to measure the success of the programs and identification of a budget to finance them. It started on a pilot basis, with inclusion of part of the ministries and it was gradually extended to cover all ministries and other budget institutions. The MOF was actively involved in helping budget institutions define programs and subprograms and respective budgets. Within each program, information on economic types of expenditures was preserved. This implied change in the budget execution system in terms of imposing controls at the levels of programs, and not only at the levels of economic classification. Still, some flexibility for programs during execution was allowed.

Budget process became better linked with the medium–term policy priorities of the government, when elements of strategic planning were introduced. At the beginning of the year the government adopts a three-year strategic plan defining the government priorities. Subsequently, budget users prepare their own three-year strategic plans consistent with the government strategic objectives and reflect them in their draft-budget by using separate codes for government strategic objectives. This was consistent with the medium-term perspective of the budget planning founded on the medium-term fiscal strategy that served as a basis for determining compulsory ceilings for the budget users. Strategic plans of the budget users had to be within the budget ceilings.

Treasury, as an organizational unit of the MOF, was established in 2000, although the initial actions to establish a treasury system originate from 1996. The Treasury Department was assigned responsibilities for budget execution, short-term forecasting and cash management, financial assets and debt management, and budget accounting and fiscal reporting. Primary focus was placed on the budget execution, accounting and reporting, while other functions developed more gradually. Focus on the budget execution and payment transactions was understandable given the strategic decision MOF to undertake the treasury functions performed by the SAO, including the payment function. It entailed a lot of efforts to define the new system, prepare regulations, upgrade the treasury payment software, and appropriately staff the treasury department.

The first major overhaul of the budget execution took place in 2001 by introduction of the concept of zero-balance accounts. Old procedures for payments were not efficient as the MOF did not have a full control and timely information on the spending by the budget users. The MOF transferred money from the main budget account to the accounts of the budget users not knowing when the real payments by the budget users will be executed. This led to a practice of having idle balances at the accounts of some of the budget users and shortage of resources to finance other budget users. The result was cash rationing, which, in turn, was conducive to build-up of arrears. It also posed difficulties in tracking spending and deficit, as well as in coordinating fiscal and monetary policies. Against this background, in 2001 a concept of zero-balance accounts was introduced, whereby budget funds were transferred at the budget users' accounts on the same day when actual payments to the legal entities and natural persons took place. At the end of the day there were no balances left at the accounts of the budget users, which significantly improved cash management. This new concept, implemented with the support of the SAO, also improved reporting because all transaction were appropriately reflected in the general ledger, monitoring of the fiscal position and compliance with the budget targets.

Increased comprehensiveness of the budget document necessitated increased comprehensiveness of the spending controls. The spending financed by special revenues became subject to almost the same controls exercised to the spending financed by the budget. For this purpose, budget users were required to open separate accounts for different sources of special revenues that allowed more detailed tracking and control of the revenues, expenditures and balances. Hence, instead of having one account for budget

funds and one account for special revenues, budget users opened a couple of accounts providing a basis for more comprehensive and analytical information and control.

In line with the reforms of the payment system, i.e., the strategic decision to close the SAO and transfer its functions to other institutions, in 2002 the MOF undertook a responsibility for payment operations of the budget institutions. At the end of 2001, a TSA was established with the NBRM as a centralized account for collection of revenues and execution of expenditures. All accounts of the budget users in the commercial banks were closed and balances transferred to the TSA. Within the treasury general ledger, subaccounts for each budget institution were opened. Different types of subaccounts were created depending on the sources of revenues. Budget users were not allowed to open accounts with the commercial banks and had to keep all funds within a TSA. Regarding the revenue collection, suspense accounts that were used for collection of revenues were closed and they were collected directly at the TSA at specific subaccounts that allowed adequate information for redistribution of revenues among the central government and local governments.

A new concept entailed a need of opening treasury branch offices where budget users submit payment requests and obtain statements of their accounts. Fifteen treasury offices were created by overtaking staff from the SAO. All payment requests were entered into the treasury software system and checked against the budget appropriation for specific program/economic category of expenditures and monthly cash plans. If compliant with the controls, payment request was processed by debiting the TSA and the respective general ledger sub-account of the budget user. This practice applied to all accounts of the budget users irrespective of the sources of revenues.

The TSA brought benefits in a couple of budget dimensions. The consolidation of all resources at one place significantly improved cash management and helped in reducing the arrears. It facilitated the liquidity forecasts that enhanced the operational coordination with the central bank. The consolidation of the public resources with the central bank alleviated the pressures on the central bank to mop up the excess liquidity in the banking system given the structural excess liquidity. Budget execution control strengthened by extending the control to all budget users accounts, not just the regular budget accounts. Real time information became available for all the transactions of the budget users that substantially improved the quality and the timeliness of the fiscal reporting and analysis. More comprehensive and timely information on revenues, expenditures and balances facilitated the budget planning, including the preparation of a supplementary budget.

The coverage of the TSA was further increased by including the accounts of the extra budgetary funds in 2004 and local governments in 2005. It was done gradually to avoid any disruptions. Integration of the local governments seemed a rational decision, having in mind the planned fiscal decentralization involving transfer of functions and budget from central to the local level of governments. Financial management capacity at the local level was not adequate for managing increased pool of resources. The increased coverage further reinforced the aggregate fiscal monitoring and oversight, which is a precondition for

adequate policy decision-making. All transactions were recorded on a daily basis in the general ledger thus allowing daily monitoring of the spending and deficit of the general government. Still, because of the autonomy of the local governments, the payments controls for local government spending were more flexible.

The development of cash management function was closely linked with the pace of development of other treasury functions. Cash forecasting, as an initial step in improving cash management, in a rudimentary form started in 2000. The MOF started preparing monthly and weekly inflow and outflow forecasts and sharing them with the central bank. Forecasting of the inflows was mainly based on the analysis of time series and inputs from the institutions responsible for tax, customs and social contributions collection. The outflow projections reflected mainly the inputs from the spending units. Budget users prepared monthly financial plans which were approved by the MOF depending on the inflows projections. Monthly spending had to be within the aggregate and line-item limits of the financial plan. In addition, for payments above certain thresholds budget users provided weekly plans, as if not provided the MOF had a right to reject the payments. At the beginning, the cash forecasting was limited only to the spending financed from the budget resources. Later on, it was expanded to include all spending regardless of the sources of financing. In this way, the MOF tried to have a more accurate and comprehensive understanding of the monthly cash needs and undertake measures to provide cash in a timely manner for smooth budget execution.

At the beginning, actuals notably deviated from the forecasts. It was a new function and it took some time to develop the capacities of the MOF and other spending ministries. The problem was especially severe with the ministries that financed numerous institutions in the area of education, culture, child policy and social protection. The spending ministries often tended to overestimate the financial plans to create a room for potential payments resulting in overestimated aggregate spending plans and complicating the operational coordination between the MOF and the central bank. Also, disentangling between the planned domestic payments and external payments was an issue. From monetary policy point of view this information is needed as domestic payments affect liquidity of the banking system and external payments affect official reserves. If the MOF does not have enough foreign exchange liquidity, the central bank sells foreign currency to the MOF. In both cases the result is reduced official reserves.

Still, compared to the previous practice when the central bank did not obtain budget cash projections and had to project this autonomous factor by itself it meant an improvement. There is no long-term time-series to quantitatively evaluate the impact of cash forecasting of the MOF to the overall liquidity forecasting of the central bank. The time-series dates from end 2000, the year when the MOF started preparing and sharing cash projections with the NBRM. Therefore, there is no possibility comparing budget cash flow projections of the MOF and the central bank. Overall, the analysis pinpoints the improvement of the projections of the budget cash flows. Scrutinizing the data on the deviation of the cash flows in nominal terms (cumulative plans and actuals for a year as a whole), highest deviation of the actual cash flows compared to the plan, was observed in 2002. Afterwards,

the deviation significantly declined. The average annual deviation, calculated as an average of the daily deviations, points to highest deviation (159%) in 2001, followed by a generally declining trend. Data on the central bank projections point to a similar conclusion, i.e., the highest deviation is observed in 2001.

Table 19. Accuracy of Projections of TSA

		Plan, in mill. denars	Actual, in mill. denars	Deviation from plan, in mill. denars	Average daily deviation, in mill. denars	Average daily deviation, in %
2001		-1950.0	3011.0	4961.0	13.6	-159.3
2002		16295.0	2653.0	-13642.0	-37.4	-4.4
2003		10981.0	5872.0	-5109.0	-14.0	-18.5
2004		652.9	-2611.0	-3263.9	-8.9	1.2
2005		-1292.7	-2360.0	-1067.3	-2.9	-14.5
2006		-2577.3	-3912.0	-1334.7	-3.7	-61.2
2007		2598.3	708.0	-1890.3	-5.2	-5.8
2008		117.6	277.0	159.4	0.4	-20.1
2009		8895.6	6857.6	-2038.1	-5.6	-77.2
2010		-4121.0	-3290.5	830.5	2.3	15.8
2011		-1793.5	-658.4	1135.2	3.1	2.0
2012		-14218.0	-12152.6	2065.4	5.6	-8.7
2013		5066.3	3378.4	-1687.9	-4.6	0.0

Note. * Positive change of TSA means injection of liquidity in the banking system, and negative change of TSA means sterilization of liquidity form the banking system.

Source: NBRM; author's calculations.

Table 20. Accuracy of Projections of Banks' Reserves

	Plan, in mill. denars	Actual, in mill. denars	Deviation from plan, in mill. denars	Average daily deviation, in %
2001	-17834.9	-1471.0	16363.9	-136.2
2002	943.3	1221.0	277.7	-44.9
2003	-1318.9	-31.0	1287.9	4.0
2004	-1472.4	-611.0	861.4	13.0
2005	1902.5	1952.0	49.5	47.0
2006	2760.7	2519.0	-241.7	-12.6
2007	3315.5	3252.5	-63.0	17.2
2008	-6266.2	-491.3	5774.9	-69.0
2009	-2734.5	4008.1	6742.7	-15.0
2010	-1317.2	1380.9	2698.1	12.8
2011	2077.9	1211.5	-866.4	-13.6
2012	15000.4	2084.7	-12915.7	42.9
2013	5374.8	-2771.9	-8146.7	23.7

Source: NBRM; Author's calculations.

The introduction of the TSA notably helped improve cash forecasting and cash management. Efficient cash management is almost impossible unless all public resources are consolidated at one centralized account. TSA meant centralizing resources of the central government institutions and later, with the inclusion of the extrabudetary funds and local governments, of the general government institutions. Revenues were directly collected at the TSA and expenditures were directly paid from the TSA avoiding numerous temporary revenue and expenditure accounts in the banking system. A process of internal borrowing within the TSA was implemented with clearly defined procedures and limits. It practically meant that special revenues balances could be temporarily used for financing the budget spending. General government resources were kept at one centralized account, which helped in more efficient management with the government resources and lowered the costs of borrowing to provide smooth budget execution. The MOF has not managed actively the temporary excesses at the TSA to maximize the return as there has been structural excess of liquidity in the banking system. Placements of deposits with the commercial banks further increased the liquidity in the banking system and put pressures for additional sterilization by the central bank. Hence, the return on the placement of the deposits was more than offset by the sterilization costs of the central bank. In this context, an agreement was made between the fiscal and monetary authorities to keep the budget liquidity at the central bank and to remunerate the balances with market interest rate. This practice has been preserved throughout the years, although the question of how to define the market interest rate has been brought up from time to time. Keeping domestic liquidity at the central bank has helped in sterilizing excess liquidity. Foreign exchange accounts

have been also kept only with the central bank thus building up the official reserves and avoiding volatility at the banking foreign exchange market due to government transactions.

Further progress in the area of budget execution was achieved with the implementation of the commitment control. In 2002, the MOF made the first steps in establishing a commitment control covering all types of expenditures. The idea was to establish a control at the commitment stage because having controls only at the payment stage may result in accumulation of arrears. Before entering into commitment (above certain threshold) all budget users were required to request prior approval of the MOF, which checked the available budget appropriation. After entering into commitment (signing a contract) budget users had to record the commitment in the centralized system of commitments. Afterward, changes to the commitment control procedures were implemented with a view of reinforcing the control of multi-annual commitments. Prior approval of the MOF was preserved only for the contracts with fiscal implications longer than a fiscal year. Also, the commitment control system was extended to the local governments. Commitment control is an important tool in managing the overall spending. Uncertain macroeconomic conditions may result in overly optimistic budget allocations. If commitment control is not in place, the budget allocations may be committed at the beginning of the year thus leaving very little room for downward correction of the spending with the supplementary budget. If contracts are signed and goods or services are delivered, postponing the payment may just aggravate the situation resulting in arrears, court procedures and late payment interest, as well as reduced credibility of the government.

Strengthening of the spending oversight was reinforced by development of internal and external audit functions. State Audit Office was established in 1999 taking over the control function from the SAO. It has gradually built its capacities increasing the size of the audited spending. At the beginning it was limited to compliance audit, but later on it started performance audit, as well. A centralized system of internal audit was established in 2000 with the creation of the internal audit unit within the MOF in charge of audit of all the budget institutions of central and local governments, and extra budgetary funds. A decentralized system of internal audit, whereby each budget institution organizes its own internal audit, was implemented starting from 2004. Throughout the years, the number of budget institutions establishing an internal audit unit has increased.

Establishment of the debt unit within the Treasury Department in 2000 reflected the intention of the MOF to put emphasis on the development of debt management and especially development of government securities markets. A process of creating a register for the domestic and external public debt started. However, the data on the stock of the public debt were not published until 2005. First domestic government securities were issued in 2004 with a maturity of 3 months, which was gradually extended to longer periods. This process laid a basis for creating a benchmark curve and stimulating the overall development of the financial markets in the economy. A further notable progress was made in 2005 when the first Law on Public Debt was adopted and a Debt Department was established. Basic principles of the debt management strategy were set in the Public Debt Management Strategy, a three-year document that accompanied the budget document

and was adopted by the parliament. The document set the medium-term overall public debt ceilings and included risk analysis. Annual report on the debt management strategy was prepared and presented to the parliament for informative purposes, altogether with the financial statements of the budget. Later on the practice of preparing this document was abandoned, although partially the Public Debt Management Strategy was integrated within the Medium-Term Fiscal Strategy adopted by the government.

Throughout the years many other measures have been adopted to strengthen the fiscal discipline. A procedure of assessing fiscal implications for draft laws or other regulations was established, entailing a prior opinion from the MOF. To enhance the oversight of arrears, in 2001 the MOF started gathering monthly information on the arrears of the budget institutions of the central government. Later, also the local governments started providing data on arrears to the MOF.

2.3.2 Measurement of the Quality of Public Finance System in the Republic of Macedonia

Budget, being a pool of public resources distributed to satisfy the needs of different segments of the society, is a strategic political instrument. While budget spending is targeted to specific constituencies, budget revenues are collected from the wide public, which leads to full internalization of the benefits of the spending, but not of the costs of the taxation. Therefore, this externality creates incentives for higher spending and rising public deficits. These intrinsic features of the budget system (higher spending biases of the ministries and legislators) can be addressed by implementing higher centralization in the budget decision-making process (Harden, 1992).

The quality of the budgetary institutions, i.e., the procedures and rules that guide the whole budget cycle starting from the budget preparation to the budget execution and control is usually measured through indices. Indices help transform the institutional characteristics of the budget process into quantitative indicators for the existence of mechanisms that enforce sound fiscal outcomes.

The analysis of the quality of the budgetary institutions in the RM is performed by using two indices: index of Gleich (2003), which in turn uses similar methodology as von Hagen (1992), and index of Dabla-Norris et al. (2010). The first index primarily focuses on the level of centralization of the budgetary process as a key mechanism for prudent fiscal finances. The second index is wider, covering also other characteristics such as comprehensiveness, transparency, sustainability and credibility.

The index of Gleich (2003) is aimed at investigating the institutional structures in transition economies, which makes it suitable for the RM. The emphasis is on the distribution of power among different actors in the budget processes, including the power of the MOF vis-à-vis other spending ministries and relations between the executive branch and the parliament during the budget adoption process. The institutional procedures that

support higher hierarchy and/or cooperative decision making, as well as strengthened control and monitoring are considered central to promoting fiscal discipline.

The index includes 13 variables that help identify the strength of the institutions during budget preparation, budget adoption (legislative) and budget implementation stage. Budget preparation is a responsibility of the executive branch. Main risk during this stage is that unconstrained decision-making by the spending ministries may lead to spending biases as the ministers fail to internalize the full costs of an increased spending of their ministries. Mechanisms, such as existence of fiscal rules on budget deficit or debt, establishment of budgetary targets and ceilings at the beginning of the budget process, and the dominance of the minister of finance or the prime minister in the budget appropriation process may contain the spending biases. The risks of the legislative stage is that parliamentarians, as spending ministries, have spending biases, as they try to get financing for projects of their constituencies. In this vein, the institutional arrangements that limit the scope for amendments to the draft budget in the parliament and limit the role of the president of the state strengthen fiscal discipline. Variables such as dispersion of budgetary power between the houses of parliament, formal constraints on the legislature to amend the draft budget, sequence of decision making in legislature (whether parliament first votes on the total aggregates, before discussing detailed spending items), power of the executive branch vis-à-vis parliament and the veto right of the president of the state are used to measure the strength of the legislative stage. The implementation stage is associated with a risk of fiscal slippages that can endanger the stability of the fiscal finances and the overall macroeconomic stability. The mechanisms that limit the scope for changing the budget aggregates or reallocating budget between spending ministries during budget implementation, mechanisms that limit a carryover of unused funds to the following fiscal year, and a possibility to timely block the spending in cases of unforeseen events help contain the risks of fiscal slippages.

For each stage of the budget process a sub-index is calculated as a simple mean of the variables used to determine the quality of that particular stage. The scores range from 0 to 4 and maximum value of each sub-index is 4. Then, an overall index is composed as a sum of scores of the three sub-indices with maximum value of 12. Higher score indicates higher quality of budget institutions, i.e., existence of budget processes and procedures conducive to fiscal discipline.

The evaluation of the quality of the budget institutions in the RM is mainly based on the organic budget law, although other legal acts such as Constitution, Budget Execution Law and other documents regulating the budget processes are taken into account. The assessment covers two periods: first period extends from 1993, when the first organic budget law after the independence of the state was adopted, to 2000; and the second period starts in 2001, a year when the process of the overhaul of the public finance effectively started. Since actual practices may deviate from legal norms, the assessment also reflects the practical implementation of the rules and procedures, which is based on the information of the experts of the MOF and the information of the author given the professional experience in the area of public finance.

The assessment points to a relatively high quality of the budget institutions in the RM with a value of the index of 8.5 in the first period and 8.8 in the second period (out of maximum score of 12). Compared to the results of Gleich (2003) for other 10 transition economies in Central and Eastern Europe, the RM has the highest overall index followed by Estonia (8.32) and Latvia (8). For the sub-index on preparation, the RM ranks behind Latvia and Slovenia, for the sub-index on the legislative stage it ranks behind the Czech Republic, and for the sub-index on implementation it ranks behind Estonia, Latvia and Romania.

Relatively high centralization of the decision making process has been a feature of all the stages of the budget process. It has been high even in the first period and therefore there is no significant change in the value of the index in the second period. The major changes in the second period are: the introduction of compulsory ceilings for the spending ministries before they start drafting their budget proposals and the strengthening of the procedures to react to unforeseen events that may negatively affect the budget. Ceilings are determined by the government on proposal of the MOF based on the macroeconomic projections reflected in the medium-term fiscal strategy. Before, the government decided only on the overall aggregates for the budget, and the MOF provided indicative budget targets for the spending ministries. In case of unforeseen events that may result in lower revenues or higher expenditures, the government, on proposal of the MOF is authorized to suspend the budget execution for 45 days. Afterwards, it has to either propose a supplementary budget, or continue with regular execution of the budget. Although the first law granted general authorization, it did not provide explicit authorization for the government to block the spending. Government was required to inform the parliament to adopt measures aimed at safeguarding the fiscal discipline.

Table 21. Index on Institutional Arrangements in RM (Gleich index)

Institutional characteristics	Weighting factors			Numerical coding	1993-2000	2001-
	Index	Sub-index	Item			
A. Preparation	0.33				2.50	2.75
1. Existence of statutorily mandated fiscal rules		0.25			0.00	0.00
Balanced budget rule				4.00		
Limits on public borrowing				2.00		
No legal limits on borrowing				0.00	0.00	0.00
2 Sequence of budgetary decision-making		0.25			2.00	3.00
a. MF sets forth aggregate and specific budget targets in initial budget circular				4.00		
b. MF proposes, cabinet decides on targets for budget aggregates and spending limits are assigned to each ministry before spending ministries develop budget requests				3.00		3.00
c. MF proposes, cabinet decides on targets for budget aggregates before spending ministries develop budget request				2.00	2.00	
d. Budgetary targets are set on the basis preliminary budget requests						
e. No budget targets are determined						
3. Compilation of the draft budget		0.25			4.00	4.00
a. Finance ministry holds bilateral negotiations with each spending ministry				4.00	4.00	4.00
b. Finance ministry only collects budget requests and compiles summary for cabinet				0.00		
4. Members of executive responsible for reconciling conflicts over budget bids		0.25			4.00	4.00
a. MF or PM can veto or overrule cabinet decision				4.00	4.00	4.00
b. Senior cabinet committee, then whole council of ministers or cabinet				2.00		
c. Executive collectively (e.g. council of ministers or cabinet)				0.00		
B. Legislation	0.33				2.67	2.67
5. Relative power of the upper house vis-à-vis the lower house		0.20			4.00	4.00
a. No budgetary power vested in upper house or unicameral parliament				4.00	4.00	4.00
b. Lower house has prerogatives				2.00		
c. Both houses have equal rights (e.g. joint sittings)				0.00		
6. Constraints on the legislature to amend the government's draft budget		0.20			4.00	4.00
a. Deficit provided in the draft budget cannot be exceeded, or individual amendments have to indicate offsetting changes				4.00	4.00	4.00
b. No restrictions				0.00		
7 Sequence of votes		0.20			0.00	0.00
a. Initial vote on total budget revenues, expenditures, and the deficit				4.00		
b. Final vote on budget aggregates				0.00	0.00	0.00
8. Relative power of the executive vis-à-vis the parliament		0.20			1.33	1.33
a. Cabinet can combine a vote of confidence with a vote on the budget			0.33	4.00	4.00	4.00
b. Draft budget is executed if parliaments fail to adopt the budget before the start of the fiscal year			0.33	4.00	0.00	0.00
c. Parliament can be dissolved if it fails to adopt the budget before in due time			0.33	4.00	0.00	0.00
9. Authority of the national president in the budget procedure		0.20			4.00	4.00
a. No special authority				4.00	4.00	4.00
b. President has veto right (president elected by parliament)				2.67		
c. President has veto right (president directly elected by citizens)				1.33		
d. President has veto right (qualified majority required to override veto)				0.00	0.00	0.00

(table continues)

Table 21. Index on Institutional Arrangements (Gleich, 2003)

(continued)

Institutional characteristics	Weighting factors			Numerical coding	1993-2000	2001-
	Index	Sub-index	Item			
C. Implementation	0.33				3.33	3.34
10. Flexibility to change budget aggregates during execution		0.25			4.00	4.00
a. Any increase in total revenues, expenditures and the deficit needs to be approved by the parliament in a supplementary budget				4.00	4.00	4.00
b. Revenue windfalls can be used to increase expenditure without the approval of the parliament as long as the deficit is not increased				2.67		
c. Simultaneous changes in revenues and expenditure allowed without approval of parliament if budget balance is not changed				1.33		
d. At discretion of government				0.00		
11. Transfers of expenditures between chapters (i.e. ministries' budgets)		0.25			4.00	4.00
a. Require approval of parliament				4.00	4.00	4.00
b. FM or cabinet can authorize transfers between chapters				2.67		
c. Limited				1.33		
d. Unrestricted				0.00		
12. Carry-over of unused funds to next fiscal year		0.25			4.00	2.67
a. Not permitted				4.00	4.00	
b. Only if provided for in initial budget or with finance ministry approval				2.67		2.67
c. Limited				1.33		
d. Unlimited				0.00		
13. Procedure to react to a deterioration of the budget deficit (due to unforeseen revenue shortfalls or expenditure increases)		0.25			1.33	2.67
a. MF can block expenditures				4.00		
b. The cabinet can block expenditures				2.67		2.67
c. Approval of the parliament necessary to block expenditures				1.33	1.33	
d. No action is taken				0.00		
Overall index					8.50	8.75

Source: Author's calculations.

Value of the preparation sub-index is 2.50 and 2.75 in the first and the second period, respectively. Preparation sub-index includes 4 variables: existence of statutorily mandated fiscal rules, sequence of budgetary decision-making, compilation of the draft budget, and members of executive branch responsible for reconciling conflicts over budget bids. There have been no statutorily mandated fiscal rules in the RM, although currently constitutional changes have been discussed in the parliament that include introduction of a limitation on general government deficit of 3% of GDP and on public debt of 60% of GDP. The control of the budget process is established at the very beginning through imposing compulsory budget ceilings that have to be respected by the spending ministries when drafting their

budget proposals. This mechanism was introduced with the second organic budget law. The MOF is authorized to hold negotiations with each spending ministry and inform the government on the outcome. If an agreement is not reached at this stage, conflicts are resolved by the cabinet. For this variable a highest score is assigned despite that the minister of finance or the prime minister do not have a veto power to overrule the cabinet decision, having in mind that in practice the prime minister resolves the conflicts.

The legislation sub-index assesses the extent to which the executive branch can safeguard the draft budget from budget demands of the parliamentarians who advocate for financing of the projects of their constituencies. The assessment points to a relatively high centralization of the budget decision-making in both periods (value of 2.67 for both periods) with three dimensions having maximum score (relative power of upper house vis-à-vis the lower house, constraints on the legislature to amend the draft budget and authority of the president over budget). The parliament is unicameral, which simplifies the process of scrutinizing the draft budget document. In case two houses of parliament scrutinize the budget document, the scope for bargaining and probability for higher deficits increases. Submitted amendments of the draft budget cannot increase the overall deficit. The old law stipulated that any new spending initiative has to be accompanied with a proposal for an increase of revenues or decrease of other spending items. The current law is even stricter stipulating that new spending proposals should be submitted with proposals for reduction of other spending items and that the budget reserves cannot be used for this purpose. The authority of the president of the state during the budget adoption stage is limited. According to the Constitution, the president signs the decree for entering into force of the Budget Law. If he does not sign, the Budget Law is again discussed in the parliament and if adopted by simple majority the president will have to sign the decree.

The variable pertaining to the relative power of the executive branch vis-à-vis the parliament is assigned a low score of 1.3 as there are no legal provisions stipulating that the parliament can be dissolved if it fails to adopt the budget in due time, or that draft budget is executed if not adopted before the start of the fiscal year. If budget is not adopted on time, the provisional budget is implemented on the basis of the budget of the previous fiscal year. However, the notion is that if the provisional budget is based on the draft budget, it strengthens the negotiation position of the government. Although there is no explicit provision on a call for a vote of confidence in connection to the budget adoption, the provisions of the Constitution, in general, provide this possibility. The lowest score is assigned to the variable on sequence of votes in the parliament. The reason is that there are no provisions requiring an initial vote on the total revenues, expenditures and deficit and afterwards on the particular budget items. Initial vote on budget aggregates would limit the scope for increase of expenditures. The draft budget is directly discussed and amendments are proposed with the parliamentary committees. The draft budget with accepted amendments at the committees is then submitted to a parliamentary session where new amendments are not allowed, except amendments related to the changes accepted by the parliamentary working committees.

The implementation sub-index points to relatively strong budget execution mechanisms that safeguard the fiscal discipline (value of 3.3 for both periods). The flexibility of changing budget aggregates and reallocating budget between chapters during implementation stage is limited. Higher hierarchy in the process of approval of any changes tends to result in fewer changes of the originally adopted budget and higher fiscal discipline. The windfall revenues cannot be used to increase spending without adoption of a supplementary budget. However, the risk of higher deficits exists if revenues underperform, and the spending is not adequately adjusted. In case of unforeseen events leading to underperformance of revenues or overspending, the MOF informs the government, which is authorized to temporary block the expenditures and subsequently inform the parliament. The first law required that the parliament decides on temporary suspension of the budget execution, and not the government. This procedure entailed lower power of the government and higher risk of delayed and less drastic than needed decisions. Transfers of the allocations between ministries' budgets are not allowed, unless approved by a supplementary budget. The new law allowed a carryover of unused budget allocation, but only for development projects that are implemented during a period longer than a fiscal year. Unused funds can be used up to 50% in the first half of the following fiscal year. In general, carryover provisions may complicate the budget execution as they increase the uncertainty over the budget spending in a particular fiscal year and thus complicate the coordination between the fiscal and monetary policies.

Main focus of this index is the existence of rules and procedures at all stages of the budget process that help contain the risks of high budget deficits and public debt. The basic assumption is that the bigger the authority of the executive branch vis-à-vis the parliament and of the minister of finance vis-à-vis the other spending ministers, the bigger the fiscal discipline. Still, the index is narrowly designed and covers only 13 variables. Many important aspects for fiscal prudency, such as fiscal transparency, comprehensiveness of the budget planning and budget execution (including treatment of special revenues), fiscal reporting and accounting, and internal and external audit systems are not considered.

In this light, to assess the quality of the budget institutions in the RM, the index of Dabla-Norris et al. (2010) is applied, which appears to be more comprehensive, robust and consistent than the previously constructed indices and well suited for low and middle-income countries. It is the first multi-dimensional index assessing the institutional features along two dimensions: various stages of the budget process and various characteristics of the budget process. The index covers planning and negotiations, parliamentary approval and budget implementation stage. Each stage is assessed against 5 various characteristics of the budget process: the top-down procedures or the degree of centralization of the budget decision making; the existence of rules and controls; sustainability and credibility; comprehensiveness; and transparency. The index allows analysis across budget stages and across various characteristics of the budget process.

The existence of top-down procedures, i.e., procedures that vest high powers in the MOF (under the supervision of the cabinet) in all stages of the budget process tends to guard the fiscal discipline. Top-down procedures in setting the budget priorities and concentration of

the power with the MOF during the budget preparation stage, limitation of the room for amendments of the budget and sequencing of the votes (first on budget aggregates and then on the line items) during the legislative process, as well as disaggregation of budget allocation of the spending ministries during the implementation stage can limit the budget envelope and prevent overspending.

Rules and controls, which can be numerical or procedural, help in protecting the soundness and credibility of the public finances. Numerical rules on deficit or debt codified in law, expenditure ceilings for line ministries during budget formulation, time limit for discussion and adoption of the budget in the parliament, limitation on in-year amendments of the budget, as well as existence of internal and external control procedures are variables used to evaluate the strength of the rules and controls that enforce fiscal discipline.

Sustainability and credibility of the budget processes depend on the realism of revenue and expenditure projections. The realism of the budgetary aggregates is contingent on the realism of the macroeconomic projections, the extent to which the costs of the government programs are fully estimated and reflected in the budget, and effective oversight of the budget execution. In this vein, a credible medium-term fiscal strategy based on realistic macroeconomic assumptions is an important tool for assessing the medium-term budget envelope and making sure that annual budgets are consistent with the medium-term fiscal space. The credibility of the budget document is augmented if during the legislative stage the parliament scrutinizes the medium-term framework, overall spending priorities, rather than only details of revenues and expenditures. The monitoring of the public enterprises and sub-national governments, which are often a source of fiscal risks, as well as complete and accurate data on debt and expenditure arrears can work in the same direction.

A comprehensive budgeting implies inclusion of all public revenues and expenditures in the budget document and avoidance of enclave budgeting, whereby special off-budget funds are used for financing spending programs outside of the budget. Comprehensiveness of the budget preparation stage is measured by the size of the off-budget spending financed through special funds or donor money, and the inclusion of information on public debt and fiscal risks in the budget document. The comprehensiveness of the legislative procedure depends on the extent to which the budget documentation submitted to the parliament contains relevant information on policy objectives, macroeconomic assumptions, medium-term framework and budget priorities. The index does not contain a variable on comprehensiveness of the budget execution stage as it is deemed that the comprehensiveness is determined in the previous stages of the budget process.

Transparency of the budget process enforces fiscal prudence through creating basis for bigger public scrutiny and increasing the awareness of accountability for managing public funds. The index assesses the transparency through: the extent to which the budget allocations are set according to administrative, functional and program classification; draft budget publication procedures; the public access to legislative's hearings on the budget proposal; application of accounting standards and scope and timeliness of the reporting

system, including the annual financial statements; and access of legislature to external audit reports.

The overall index is based on two sub-indices: stage index, derived as a simple average of the value of the three sub-indices for the budget stages, and category index derived as a simple average of the value of the 5 sub-indices for each budget category (top-down approach, rules and controls, sustainability and credibility, comprehensiveness and transparency). The scale of coding ranges from 0 to 4 and for some variables coding is binary (0 or 4). The value of each sub-index is derived as a simple average of the value assigned to the variables used to assess the particular sub-index.

The evaluation of this index is also based on legal acts, such as Constitution, organic budget law, annual budget document, Budget Execution Law and other regulations that define the budgetary procedures in details, as well as on the information on practical aspects of implementation (provided by experts of the MOF and the author). Given that this index is wider and covers more characteristics of the budget process, the assessment also reflects the findings of the IMF Report on the Observance of Standards and Codes in the RM (2004), IMF Report on Observance of Standards and Codes-EU Fiscal Transparency Module (2006) and Country Fiduciary Assessment Report of the World Bank (2007).

Table 22. Stage and Category Index, Comparison

	RM, 1993-2001	RM, current practice	Transition economies	Middle-income economies	Low-income economies
Stage index	**1.60**	**2.55**	**2.30**	**2.10**	**1.89**
Budget planning index	1.81	2.95	2.45	2.28	1.95
Budget approval index	1.45	1.78	2.47	2.01	1.99
Budget implementation index	1.54	2.92	1.97	2.02	1.73
Category index	**1.67**	**2.74**	**2.29**	**2.14**	**1.91**
Top-down sub-index	2.27	3.20	2.56	2.40	2.35
Rules and controls sub-index	1.43	2.00	2.27	2.09	1.87
Sustainability and Credibility sub-index	1.14	3.14	2.04	1.92	1.69
Comprehensiveness sub-index	1.78	2.33	2.54	2.23	1.92
Transparency sub-index	1.75	3.00	2.07	2.09	1.70

Source: Author's calculations; Dabla-Norris et al. (2010).

The index points to a level of quality of budgetary institutions in the RM that is close to the quality in transition and middle-income economies. The value of the stage index of 2.55 is

above the average for the transition, middle-income and low-income economies (2.30, 2.10, and 1.89, respectively). Higher value is observed for budget planning and budget implementation stages, while budget approval value is lower, even compared to the low-income countries. The value of the category index of 2.74 is also higher compared to transition, middle-income and low-income economies as a result of higher values of the top-down approach, sustainability and credibility, and transparency sub-indices. Rules and controls sub-index has a lower value compared to the transition and middle-income economies, and the value of the comprehensiveness sub-index is lower only compared to the transition economies. It should be noted that the assessment for the RM is based on the most recent practices, while the assessment for the other economies is done in 2010.

The value of the index is higher in the second period reflecting implemented reforms in the area of public finance management. The value of the stage index increased from 1.60 to 2.55, driven by improvements in all stages of the budget process. A notable progress was made particularly with the establishment of the treasury system, which enabled consolidation of public resources within one account and reinforced control mechanism over budget spending. Introduction of a medium-term perspective of the budget document, increased comprehensiveness of the budget, as well as introduction of program and strategic budgeting significantly streamlined and strengthened the budget formulation process.

The value of the category index rose from 1.67 to 2.74, mirroring the improvements along all categories. Strengthened medium-term context of the budget planning underpinned by medium-term fiscal strategy, which served as a framework for setting medium-term budget ceilings for budget users, and the introduction of sectorial strategies implied reinforced control and transparency of the budget process. In addition, the development of internal and external audit systems, as well as increased comprehensiveness and the quality of the reporting and monitoring system were important strides in strengthening the credibility and transparency of the budget process. The progress concerning the legislative stage was rather limited.

Table 23. Index of Budget Institutions (Dabla-Norris index)

Dimensions and categories	Definition/Score methodology	1993-2000	2001-
I. Budget Planning and Negotiation		1.81	2.95
Top - down Budgeting			
Fragmentation of budgetary authority	The score is 0 if there are several ministries or governmental bodies and 4 if ministry of finance or another single CBA (central budget authority) has primary responsibility for managing the budget.	4.00	4.00
Agenda setting (top-down budgeting)	The score is 0 if the are no ex ante limits on ministerial budget submissions before the discussion of sectorial/ ministerial budgets; 1.33 if there are ex ante limits but cabinet does not play a role; 2.67 if there are ex ante limits but influence of the cabinet is limited and 4 if there are ex ante limits on ministerial budget submissions and prior approval by Cabinet.	1.33	4.00
Rules and Controls			
Numerical fiscal rules codified in law	The score is 0 if there are no fiscal targets or objectives; 2 if there are fiscal targets or objectives but not codified by law; and 4 if there are fiscal targets codified in law.	0.00	0.00
Expenditure ceilings for line ministries	The score is 0 if there are no ceilings; 2 if there are ceilings for some types of expenditures; and 4 if there are ceilings for all types of expenditures.	4.00	4.00
Sustainability and Credibility			
Medium-term planning and integration with annual budget	The score is 0 if the government does not prepare multi-year forecasts of fiscal aggregates or the forecasts are not linked to the annual budget; 1.33 if the forecasts for 1 - 2 years but there are no links to the annual budget; 2.67 if the forecasts are for at least 2 years with some links to the annual budget; and 4 if forecasts are for at least 2 - 3 years and there are clear links to the annual budget.	0.00	4.00
Costed sector strategies	The score is 0 if sector strategies are not prepared or there is no costing of investments and recurrent expenditures ; 2 if sector strategies exist in several major sectors but are not fully costed or are inconsistent with fiscal forecasts; and 4 if sector strategies exist for most sectors with full costing of recurrent expenditures and investments, broadly consistent with fiscal forecasts.	0.00	4.00
Macroeconomic and fiscal forecasting (3 part question - score is average)		1.33	1.33
(i) Macroeconomic forecasts discussed in budget documents	The score is 0 if no information related to macroeconomic assumptions and forecasts is presented; 2 if partial information is provided, with some details excluded; and 4 if full information is presented.	4.00	4.00
(ii) Sensitivity analysis discussed in annual budget documents	The score is 0 if alternative medium-term scenarios are not discussed; 2 if the discussion is incomplete or irregular; and 4 if alternative medium-term scenarios are discussed for all assumptions.	0.00	0.00
(iii) Identification of separate impact of current vs .new policies in budget documents	The score is 0 if no analysis is published; 2 if the analysis is partial or irregular and 4 if a comprehensive analysis is presented.	0.00	0.00

(table continues)

Table 23. Index of Budget Institutions (Dabla-Norris index)

(continued)

Dimensions and categories	Definition/Score methodology	1993-2000	2001-
Comprehensiveness			
Dual Budgeting	The score is 0 if there are separate budgets for recurrent expenditures and for capital investment; and 4 if the budget includes both recurrent spending and capital investment.	4.00	4.00
Extra-budgetary expenditure	The score is 0 if the level of unreported extra - budgetary expenditure is more than 10 percent of GDP; 1.33 if it is between 5 - 10 percent of GDP; 2.67 if it is between 2 - 5 percent of GDP; and 4 if it is below 1 percent of GDP.	2.67	4.00
Inclusion of information on donor-funded projects	The score is 0 if information on donor- financed projects is not included in the budget or information is seriously deficient; 2 if partial information is included; and 4 if detailed information for a large share of donor - funded projects is included.	2.00	4.00
Inclusion of information on government debt	The score is 0 if data on outstanding domestic and external debt are not included in the budget or other supporting documents; 2 if partial information is included; and 4 if comprehensive information is included.	0.00	0.00
Overview of aggregate fiscal risk in budget documents	The score is 0 if there is little or no formal disclosure or evaluation of fiscal risks in the budget documents; 1 if there is partial disclosure; and 2 fiscal risks are discussed comprehensively and significant quantitative information is included.	0.00	0.00
Transparency			
Classification of the budget	The score is 0 if expenditures for the budget year are only based on an administrative classification; 2 if they are based on an administrative and economic classification; and 4 if they are based on an administrative and economic and sub - functional (or programmatic) classification.	2.00	4.00
Publication of the executive's budget proposal (draft budget)	The score is 0 if the draft budget is not published; 2 if only a few key parts are published; and 4 if the draft budget is published entirely.	4.00	4.00
II. Budget approval		1.45	1.78
Top-down Budgeting			
Limits to amendments by the legislature	The score is 0 if the legislature is not entitled to make any amendments to the proposed budget, or if there are no clear limits on the legislature's rights to amend the budget; 2 if legislature can introduce fiscally neutral amendments to the budget; and 4 if the legislature can change the composition of expenditures, but not increase the proposed budget deficit, nor total expenditures.	2.00	4.00
Top -down sequence of budget approval	The score is 0 if the legislature does not first approve the overall annual budget framework for total revenues and expenditures; and 4 if the legislature first approves the overall annual fiscal framework, then votes on the detailed expenditures within the approved "top down" constraints.	0.00	0.00

(*table continues*)

Table 23. Index of Budget Institutions (Dabla-Norris index)

(continued)

Dimensions and categories	Definition/Score methodology	1993-2000	2001-
Rules and Controls			
Top -down sequence of budget approval	The score is 0 if there is no clear time frame for presenting and approving the budget; 2 if the budget has to be approved before the start of the fiscal year (FY), but is presented to legislature only 1-2 months before the start of the year; and 4 if budget has to be presented at least three months prior to start of the FY, and approved before the start of the year.	2.00	2.00
Sustainability and Credibility			
Scope of legislature scrutiny	The score is 0 if the legislature is not consulted on the government's overall fiscal strategy, or if there is no functioning legislature; 1.33 if the legislature's review only covers details of expenditure and revenue; 2.67 if the legislature's review only covers details of expenditure and revenue and fiscal policies and aggregates; and 4 if the legislature's review covers fiscal policies, the medium-term framework and spending priorities, as well as details of expenditure and revenue.	2.67	2.67
Comprehensiveness			
Information contained in budget document presented to the legislature	The score is 0 if budget documentation presented to legislature covers little or no relevant information on policy objectives, macroeconomic assumptions, budget priorities, and medium-term priorities; 2 if partial information on these elements is included; and 4 if comprehensive information is presented.	2.00	2.00
Transparency			
Public hearings on overall budget policy	The score is 0 if no public hearings are held by the legislature on the overall budget framework; 2 if no public hearings are held but summaries or reports are published; and 4 if public hearings are held.	0.00	0.00
III. Budget Implementation		1.54	2.92
Top-down Budgeting			
Appropriations received by line ministries	The score is 0 if line ministries receive lump sum appropriations without sub-limits or guidelines; 2 if appropriations received specify only some types of expenditures (for example capital expenditures); and 4 if appropriations specify all expenditures.	4.00	4.00

(table continues)

Table 23. Index of Budget Institutions (Dabla-Norris index)

(continued)

Dimensions and categories	Definition/Score methodology	1993-2000	2001-
Rules and Controls			
Existence and effectiveness of internal controls	The score is 0 if commitment control systems are generally lacking or routinely violated; 2 if such controls exist, but do not cover all expenditures, or are occasionally violated; and 4 if comprehensive expenditure commitment controls are in place and compliance with rules is high.	0.00	2.00
In-year amendments to the budget	The score is 0 if there are no rules regarding in-year amendments to the budget, or rules are rudimentary, unclear and not respected; 1.33 if rules exist but are often respected and allow for big reallocations; 2.67 if clear rules exist and are usually respected; and 4 if clear rules exist which place strict limits on the extent and nature of amendments, and are consistently respected.	4.00	4.00
Internal audit	The score is 0 if there is no internal audit system; 2 if internal audits are functional for some entities and partially meet recognized international standards; and 4 if internal audits exist for all entities and generally meet international standards.	0.00	2.00
External audit	The score is 0 if audits cover less than 50 percent of total central government expenditures; 2 if at least 50 percent or more of total central government expenditures are audited annually; and 4 if all expenditures are audited and the full range of financial audits is in compliance with auditing standards.	0.00	0.00
Sustainability and Credibility			
Monitoring of public enterprises and subnational governments	The score is 0 if no annual monitoring takes places or it is significantly incomplete; 2 if there is partial monitoring and oversight of public enterprises and fiscal position of subnational governments; and 4 if all major public enterprises submit fiscal reports, including annual audited accounts, to the central government and net fiscal position of all levels of subnational governments is monitored at least annually.	2.00	4.00
Recording and management of domestic and external debt	The score is 0 if data on domestic and external debt are incomplete and inaccurate to a significant degree; 2 if such data are complete, updated and reconciled at least annually; and 4 if the data are complete, updated and reconciled on a monthly/quarterly basis with comprehensive reports produced.	2.00	4.00
Stock and monitoring of expenditure arrears.	The score is 0 if the stock of arrears exceeds 10 percent of total expenditure, or no data are available on arrears; 2 if the stock of arrears is between 2-10 percent of total budgeted expenditure and partial data is available; and 4 if there are no arrears, or the stock of arrears is low (below 2 percent of total expenditure), and comprehensive data are available.	0.00	2.00

(*table continues)*

Table 23. Index of Budget Institutions (Dabla-Norris index)

(continued)

Dimensions and categories	Definition/Score methodology	1993-2000	2001-
Transparency			
Accounting Standards	The score is 0 if the ministry of finance or CBA determine standards, or standards are determined on an ad-hoc basis; 2 if standards are determined by an advisory board established by law or an independent standards board; and 4 if generally accepted international accounting standards are followed.	0.00	4.00
Completeness and timeliness of financial statements	The score is 0 if a consolidated financial statement is either not prepared or essential information is missing, and if such a statement is not submitted for external audit within 15 months of the end of fiscal year; 2 if a consolidated but incomplete statement is prepared annually, and is made available for external audit within 10-15 months of the year end; and 4 if a comprehensive consolidated statement is prepared annually and submitted for external audit within 6-10 months of the year end.	4.00	4.00
Legislative scrutiny of external audit	The score is 0 if there is no examination of audit reports by the legislature; 2 if there is partial scrutiny by the legislature, but often with a considerable delay; and 4 if scrutiny of audit reports is comprehensive, and generally completed within 3 months.	0.00	2.00
Scope and timeliness of in-year reports	The score is 0 if quarterly reports are not prepared, or are issued with a significant delay and do not allow for a comparison with the original budget; 2 if reports are prepared quarterly, but issued within 6-8 weeks of the quarter-end and partial comparison to the original budget is possible; and 4 if reports are prepared quarterly or more frequently, and issued within 4 weeks of end of the quarter-end, and classification of data allows direct comparison with the original budget.	2.00	4.00
Publication and scope of year-end reports	The score is 0 if the report is not released, or no explanation of the differences between the enacted expenditure levels and the actual outcomes is provided; 2 if annual report is published but limited explanation of differences between enacted and actual expenditure levels is provided; and 4 if annual report is published and there is detailed explanation of the differences between the enacted expenditure levels and the actual outcomes.	2.00	2.00

Source: Author's calculations.

The assessment of the most recent rules and practices in the RM pinpoints the relatively high quality of the budget planning stage. The main strengths of this stage are the following: (i) high centralization of the process with significant powers vested in the minister of finance and budget ceilings imposed at the very beginning of the budget process; (ii) medium-term planning of fiscal aggregates and ministries' strategic plans; and (iii) comprehensiveness and transparency of the budget document. The Minister of Finance has a clear responsibility for managing the budget preparation process. The process starts with the adoption of the strategic medium-term priorities of the government as a key input for preparing sectorial strategic priorities. Then, the government, on proposal of the MOF, adopts a fiscal strategy, encompassing medium-term macroeconomic forecasts, which has been a main guide for the medium-term fiscal envelope. It serves as a basis for establishing medium-term ceilings by the government, on proposal of the MOF. Budget proposals of the line ministries have to be within the ceiling and reflect the strategic priorities of the government. Budget document is a very comprehensive document covering the budget of the social funds (pension fund, unemployment fund, health fund) and special revenues collected and used directly by the budget users, such as fees from rendered services, donor funds and loans from international creditors used for financing specific projects. The budget allocations, besides organizational and economic classification, include also a program classification, which is a first step towards performance budgeting.

The weakest points of the budget planning stage, as evidenced by the low scores, appear to be absence of codified numerical fiscal rules and procedures, limited coverage of fiscal risks or overall macroeconomic and fiscal policy issues (including elaboration on public debt) in the budget documents, and absence of disentangling between fiscal effects of current and new policies. Currently, there are no codified fiscal rules, although it is expected that constitutional changes introducing numerical rules for government deficit and debt will be adopted. The budget document has an explanatory part that elaborates on the medium-term macroeconomic assumptions that underpin the budget planning for the fiscal year, however it lacks information on medium-term budget allocations, stock and expected profile of the public debt, as well as risk and sensitivity analysis. The fiscal strategy, which at least partially covers information along those lines, is usually not submitted to the parliament. There is also no information that helps making distinction between budget allocations reflecting current versus new policies, whereby higher scrutiny of the budget process is prevented.

Budget approval stage has a lower score compared to the other budget stages. The parliament does not vote first on the overall fiscal aggregates, which is considered important as a safeguard against the spending initiatives of the parliamentarians. The process entails that details of the draft budget are discussed at different parliamentary committees where amendments to budget appropriations are submitted. Afterwards, the adopted amendments are voted at the parliamentary session with limited room for proposing new amendments. The information on the medium-term macroeconomic, fiscal

and strategic objectives is absent or limited in the budget document. There are no public hearings on the overall budget framework. The time-frame of 1.5 months for the parliament to discuss and adopt the budget document is less than the benchmark of 3 months (considered adequate time frame for parliamentary discussion). A high score is assigned to the variable concerning the amendments to the draft budget in the parliament, as there is only a possibility for reallocation between spending items.

Implementation stage is characterized by relatively prudent procedures. The budget appropriations are not lump sum. They are set per budget program and aggregate economic type of expenditures included in the program. Still, they are not set for the lowest level of economic classification and hence provide some flexibility in spending, which is a common practice. There is a possibility of amending the budget allocations, but it is clearly regulated and limited. Reallocations between the budget users are not allowed, unless a supplementary budget is adopted. Reallocations between different programs and economic categories of expenditures of the budget users are allowed with the prior approval of the MOF or, in case of bigger changes, by the government. Higher flexibility is allowed for the spending financed through special revenues. If the budget users collect more special revenues, the MOF can increase the spending allocations. This possibility in principle can undermine the budget targets as overall spending can be increased without approval of the parliament, but in practice it has been well controlled by the MOF.

Reporting system is relatively sound. In-year reports are comprehensive, including information on special revenues and are disseminated on a monthly basis within 30 days of the reporting period. These monthly reports cover central government, while the general government report is published only on an annual basis. Still, the budget execution of the local governments is closely monitored as their funds are kept with the TSA and their payments are done through the TSA managed by the MOF. Also, the local governments submit to the MOF monthly and quarterly reports on the budget execution and arrears. Monthly report on the domestic and external debt is available on the website since 2005, when the first Law on Public Debt was adopted and a Debt Department was established. Public enterprises are usually monitored once a year as their financial statements cannot be approved by the government, without opinion of the MOF. The annual financial statements are prepared generally in line with the international accounting standards for the public sector and are subject to external audit. The annual statement of the budget is submitted first to the government and then to the parliament altogether with the external audit opinion.

Commitment control during budget implementation, as a key mechanism for preventing buildup of arrears and fiscal slippages, appears to have weaknesses. In 2002, the MOF established a commitment control covering all types of expenditures of the central government institutions. Later on, changes focused on the control of multi-annual commitments were introduced and the system was extended to the local governments. Still, having in mind that the stock of arrears has remained elevated since the occurrence of the

global crisis, it can be inferred that the commitment control system is not implemented effectively.

Internal and external audit systems are in place, but a need of further improvements is obvious. A decentralized system of internal audit has developed gradually as evidenced by the increasing number of budget institutions establishing internal audit units. Although currently the major budget users have units of internal audit, the coverage is not full, especially at the local government level. Since the establishment of the State Audit Office, its capacities have been gradually increasing. Still, the external audit lacks capacity to cover at least 50% of the budget expenditures. The coverage varies, but in the last three years the external audit has covered 35% of the executed expenditures, on average. The State Audit Office submits all audit reports to the parliament, as well as the Annual Report that also includes main findings of the audits performed during the fiscal year, but follow up mechanisms are weak.

Overall, reforms in the public finance management system implemented in the RM have created mechanisms for prudent budget planning and execution. Introduction of the treasury system, anchoring the budget to the medium-term fiscal framework, increased comprehensiveness and transparency of the budget, introduction of program budgeting and other measures, have significantly improved the budget procedures, paving a way for more disciplined and efficient fiscal policy. The index of Gleich (2003), focused on the aspect of centralization of the budget process, points to a relatively high quality of the budget procedures even at the beginning of the transition. However, this index is narrowly focused only at one aspect. Thus, it appears that the index of Dabla-Norris et al. (2010), which is more comprehensive, provides a better indication of the quality of the budget process and the progress during the transition period. The index also helps in identifying weak areas in the budget system that deserves attention from the policy makers. Clearly, more efforts should be put on widening the coverage of the budget document by including more comprehensive information on medium-term fiscal policy priorities, medium-term budget allocations, analysis of the fiscal risks, and sustainability of the public debt. This will increase the transparency of the budget process and scope for higher public scrutiny. Further effective strengthening of the controls and spending oversight through internal audit, external audit and commitment control can strengthen the fiscal discipline and prevent fiscal slippages that may lead to buildup of arrears. Longer perspective and more transparency concerning fiscal policy and budget aggregates, as well as compliance of the budget execution with the budget appropriations and avoidance of deviations from the plans, will positively affect the monetary policy conduct. However, it should be noted that sound budget institutions or processes cannot be a substitute for a commitment to prudent and efficient policies. They just provide the needed infrastructure to facilitate the processes, but they will not be effective if there is no policy commitment to prudent fiscal policy and consistent mix of policies.

CONCLUSION

The doctoral dissertation instigates the interactions and the level of coordination between the monetary and fiscal policies in the RM during 1992-2013. The aim is to explore the relationship between the policies, the forms of cooperation, and to determine which policy adjusted with an objective of preserving macroeconomic stability. The coordination is assessed on the basis of the consistency of the policy mix with the macroeconomic objectives. Given that primary objective of the central bank is the price stability and that the stable exchange rate is an intermediate objective, the consistency of the policy mix is primarily assessed against the price and exchange rate stability.

The dissertation tests two hypotheses. First hypothesis is that monetary and fiscal policies in the RM were coordinated for most of the period under analysis. Second hypothesis is that public finance reforms and the improvements in the institutional and operational arrangements that strengthen the independence of the central bank contributed towards enhancing the coordination of the polices. Prudent procedures for the preparation, adoption and implementation of the budget, to a significant degree, prevent expansionary fiscal policy and high level of public debt that may threaten the sustainability of public finances. Prudency and predictability of the fiscal policy are very important dimensions that affect the monetary policy and contribute to a policy mix consistent with the achievement of the objectives of both policies. The institutional aspect of the coordination seems an inevitable part of the analysis as the degree of independence of the central bank and practical mechanisms put in place for cooperation can affect the level of coordination between the decision-makers and consequently the macroeconomic outcomes.

Assessment of the interactions between the policies and the level of their coordination is performed by applying a couple of approaches. First, a balance sheet analysis is applied focusing on the claims of the central bank on the government, as a proxy for the fiscal stance, and claims of the central bank on the banking system, as a proxy for the monetary policy stance. Second, interactions are analyzed by focusing on the impact of the fiscal and monetary operations on the liquidity of the banking system. Third, policy interactions are analyzed in the context of cyclicality, in order to assess policy reactions to the real sector developments.

The balance sheet analysis indicates that foreign inflows have been the main factor driving the reserve money growth. Persistent current account deficit has been financed by private transfers and debt-creating and non-debt creating financial flows. Overall balance of payment position was positive for most of the years under analysis, resulting in almost continuous buildup of the official reserves. Amidst a strategy of stable exchange rate, the NBRM actively intervened on the foreign exchange market that led to injection of liquidity

in the banking system. Given the capacity of the banking system, the NBRM was forced to sterilize part of the liquidity, so as to avoid creation of imbalances in the economy that may endanger the macroeconomic stability. Apart from the initial period of transition when the economy faced many shocks with negative implications for the public finances, the sterilization efforts by the NBRM were mostly supported by the MOF through prudent fiscal policy, as well as through placement of budget liquidity with the central bank.

For most of the years under analysis the fiscal and monetary mix was adequate for preserving the macroeconomic stability. The strategy of targeting the exchange rate required disciplined fiscal policy to support the peg. The fiscal support was particularly important given that government spending in small and open economies, such as the Macedonian one, can significantly affect the balance of payments and foreign reserves developments. IMF arrangements were an important instrument that helped disciplining the policies. For most of the period, the fiscal policy adjusted, providing support to the monetary policy. This combination of policies contributed towards maintaining the stability of the exchange rate, which has served as a nominal anchor of the monetary policy and as a key instrument in achieving low and stable inflation, as a primary objective of the central bank. Favorable foreign exchange market conditions resulted in gradual and almost continuous buildup of foreign reserves. The stable macroeconomic environment has contributed to the process of gradual recovery of the real economy from the initial transition shocks, although the catching up process has been rather slow. This, to a great extent, can be explained by slow implementation of the structural reforms.

Weak coordination can be observed during the early transition (1992-1994), during the internal armed conflict in 2001, and in the initial phase of the global crisis that had spillover effects over domestic economy. The first years of transition were marked by high macroeconomic instability, i.e., declining economic activity with skyrocketing inflation and unstable foreign exchange market with many devaluations of the domestic currency. The mix of the policies implemented during this initial period was not adequate for stabilizing the economy. The fiscal authorities, faced with the pressures stemming from the real sector, were not able to tame the fiscal spending and provide an adequate support to the monetary policy. On the other hand, the power of the monetary policy was limited given the poor liquidity of the banking system and imposed extension of credits to banks for specific economic sectors, which implied weak control over monetary aggregates. This mix of policies points to a fiscal dominance. At the time of the internal armed conflict in 2001, the government pursued an expansionary fiscal policy, negatively affecting the foreign exchange market. Faced with high uncertainty, significant pressures on the foreign exchange market and withdrawal of deposits from the banking system, the central bank undertook a number of tightening measures. External shocks combined with expansionary fiscal policy in 2009, resulted in enormous depreciation pressures requiring intense central bank interventions on the foreign exchange market that resulted in a loss of almost one

third of the foreign reserves. In order to provide liquidity for financing the budget deficit, the government increased the interest rate on the three-month and six-month treasury bills above the interest rate of the one-month central bank bills. To keep the liquidity in the economy under control and lower the pressures on the foreign exchange market, the central bank was forced to tighten. Weak coordination resulted in high policy rate, probably higher than it would otherwise be, that was transmitted in the banking system with negative implications for the real sector.

Balance sheet analysis is supplemented with a liquidity analysis that is more narrowly focused on the liquidity of the banking system and provides better indication for the liquidity impact of the policies. The liquidity analysis, consistently with the balance sheet analysis, shows that on a cumulative basis autonomous factors have been the main source of liquidity creation, with highest contribution of the foreign exchange transactions of the NBRM. The liquidity was mopped up through central bank instruments, as well as government transactions. Still, there are differences in the magnitude of the sterilizing effects of the fiscal and monetary policies. The liquidity analysis, which appears to be a better indication of the liquidity impact of the policies, points to a bigger sterilizing impact of the fiscal policy. A comparison of the annual data points to notable differences in certain years. In some years, both analyses point to a different direction of the fiscal policy, while the findings on the direction of the monetary policy are consistent.

Interactions between the fiscal and monetary policies are also investigated in the context of their cyclicality, in order to assess to what extent and in what way the policies react to the cycles. The analysis, based on Fedelino, Ivanova and Horton (2009), indicates that fiscal policy was countercyclical in 9 years out of 19. During 1995-1997, a period marked by consolidation of public finance, the fiscal impulse was negative. Consolidation of the public finances was crucial for stabilization of the economy and for maintaining the monetary strategy of a stable exchange rate, which was implemented starting from the end of 1995. Given that the output gap moved from positive to negative territory, fiscal policy acted pro-cyclically. During 1998-2000, when the growth started picking-up, fiscal policy was countercyclical, with exception of 1998. The strongest fiscal impulse was provided in 2001, year of the internal conflict, when the economy was performing below the potential. During 2004-2008, when growth resumed and accelerated markedly (negative output gap narrowed and turned into positive), fiscal policy behavior was mixed (3 years pro-cyclical and 2 years countercyclical). Since the beginning of the global crisis, fiscal policy has provided discretionary stimulus through a number of measures and the fiscal impulse has been positive, almost on a continuous basis. Output gap became negative and remained in a negative territory almost throughout the whole crisis period. Given the relationship between the fiscal stimulus and the output gap changes over these years, fiscal policy acted mostly counter-cyclically. These findings are generally confirmed when applying the

approach of Horton (2005) and other robustness checks. The monetary policy played a stabilizing role during 8 years (out of 19), when fiscal policy was mostly pro-cyclical.

For most of the years under analysis, monetary and fiscal policies reacted in a different manner. Namely, during 13 years there was a mix of one policy being pro-cyclical and one being countercyclical, pointing to the fact that they dominantly acted as substitute policies. It appears that during the crisis periods, the initial reaction of the monetary policy was largely pro-cyclical. On the other hand, during the crisis years, fiscal authorities largely pursued a loosening policy aimed at stabilizing the economy. This indicates that when the economy was hit by shocks that resulted in pronounced pressures on the foreign exchange market, the central bank had to tighten its stance to preserve the stability of the exchange rate regardless of the real sector developments. However, maintaining the exchange rate stability proved to be a key instrument in stabilizing the expectations of the economic agents and the overall macroeconomic stability that played an important role for the subsequent real sector recovery. The history has shown that preferences of economic agents for saving in domestic or foreign currency have been very sensitive to economic or political shocks. The shocks have implied an abrupt shift in the preferences towards foreign currency, entailing high pressures on the foreign exchange market. Thus, the expectations have been an important channel affecting the stability of the economy.

Econometric analysis of the cyclicality of the policies was performed by applying a vector autoregression approach. The impulse responses indicate that when there is a positive shock of the output gap, monetary policy reacts mostly countercyclically by increasing its main interest rate to prevent overheating of the economy that may result in falling official reserves and declining credibility of the central bank in pursuing a strategy of a stable exchange rate. As for the reaction of the fiscal policy, impulse responses do not provide strong evidence for the cyclicality of the policy. Impulse responses of the monetary policy to a shock in the fiscal policy and impulse responses of the fiscal policy to a shock in the monetary policy suggest that the policies act as substitutes, i.e., when fiscal position is tightened, monetary policy stance is loosened and vice versa. To check the sensitivity of the findings of the analysis on longer time series, a vector autoregression analysis with quarterly data is performed. Impulse response functions point to weaker responses compared to the analysis based on the annual data. Impulse responses of the monetary policy to a shock in the fiscal policy and impulse responses of the fiscal policy to a shock in the monetary policy, although not very significant, point to substitute policies, which coincides with the previous findings based on the annual data.

The independence of the NBRM is investigated on the basis of the index of Cukierman, Webb and Neyapti (1992) and the modified Cukierman index of Jacome and Vazquez (2005). The analysis based on the Cukierman index indicates that throughout the years the legal independence of the NBRM has increased. The first law on the NBRM adopted in

1992 provided only a moderate level of independence that was later strengthened. The most recent law dated from 2010 has provided very high level of independence with a value of the index rising to 0.92 (maximum score is 1). Progress is evident across all variables included in the index. The modified index also suggests that the legal independence of the NBRM has increased over time, but at a slower pace. Yet, it should be emphasized that the most recent law reduced the independence of the central bank in two key segments - responsibilities for the foreign exchange regime and the process of appointment of the non-executive members of the council of the NBRM. The decision on the foreign exchange regime became a shared responsibility between the MOF and the NBRM, while previously the NBRM was in charge of the foreign exchange regime and policy. The non-executive members of the NBRM council are appointed by the parliament on proposal of the government, while previously their appointment was on proposal of the president of the state. Still, this is not reflected in the value of the index because the index does not cover the issue of the foreign exchange regime and the process of the appointment of the entire council of the bank. Other areas that deserve attention with a view of enhancing the central bank independence are terms of office and process of appointment of the governor, the role of the central bank in the government's budgetary process and debt management. Based on the criterion of a turnover rate of governors, the actual independence of the NBRM appears to be high. The turnover rate is 0.16 meaning roughly one governor every 6 years. Also, the analysis of the operational mechanisms of cooperation points to a room for improvement.

The analysis of the relationship between the level of independence and the inflationary outcome suggests inverse correlation. It appears that the strengthening of the independence of the NBRM throughout the years has made a positive contribution towards preserving exchange rate and price stability.

The analysis of the quality of the budgetary procedures in the RM is performed by using two indices: index of Gleich (2003) and index of Dabla-Norris et al. (2010), which includes a sub-index on quality of the stages of the budget process (stage index) and a sub-index that measures some characteristics of the budget process such as centralization, existence of rules and controls, transparency, comprehensiveness, sustainability and credibility (category index). The first index points to a relatively high quality of the budget institutions in the RM measured through the level of centralization of the budget process. Relatively high centralization of the decision making process has been a feature of all the stages of the budget process, even in the first period and therefore there is no significant change in the value of the index in the second period under analysis.

The stage sub-index of Dabla-Norris et al. (2010) suggests that the quality of procedures implemented during all budgetary stages is above the average for the transition, middle-income and low-income economies. Higher value is observed for budget planning and

budget implementation stages, while budget approval value is lower, even compared to the low-income countries. The value of the category sub-index is also higher compared to transition, middle-income and low-income economies as a result of higher values of the top-down approach, sustainability and credibility, and transparency criteria.

The analysis points out that the quality of the budget procedures has increased over time. Both sub-indices point to a higher value in the more recent period. Public finance management reforms in the RM have strengthened budgetary procedures across all stages of the budget process, with most notable progress being made in the budget execution stage. Also, progress is observed across all budget characteristics with most notable progress being registered in the area of sustainability and credibility of the budget. Introduction of a medium-term fiscal framework, anchoring of the annual budget document to this framework, increased comprehensiveness and transparency of the budget, introduction of program and strategic budgeting have significantly strengthened the quality of the budget process. The introduction of the treasury system enabled consolidation of public resources within one account that helped in the development of the cash management function, which, in turn, is crucial for efficient use of the public resources. It also reinforced the control mechanisms over budget spending and provided an improved infrastructure for monitoring of the state of the public finances thus positively contributing towards budget discipline and prudency. It appears that strengthening of the budgetary procedures contributed for safeguarding the sustainability of the fiscal finances. Apart from the first years of transition, the period of internal conflict and most recent crisis, the fiscal authorities faced significant challenges, spending was kept under control without jeopardizing the debt sustainability. However, the notable increase in the public debt since the occurrence of the recent crisis has underlined the need for a medium-term consolidation of the fiscal position to preserve fiscal sustainability. Consolidation of the fiscal finances will create room for more accommodative monetary policy stance.

Despite the progress, it appears that the public finance management system has many remaining weaknesses that need to be addressed. Clearly, more efforts should be put on widening the coverage of the budget document by including more comprehensive information on medium-term fiscal policy priorities, medium-term budget allocations, analysis of the fiscal risks, and sustainability of the public debt. This will increase the transparency of the budget process and scope for higher public scrutiny. Further effective strengthening of the controls and spending oversight through internal audit, external audit and commitment control can strengthen the fiscal discipline and prevent fiscal slippages that may lead to buildup of arrears. Longer perspective and more transparency concerning fiscal policy and budget aggregates, as well as compliance of the budget execution with the budget appropriations and avoidance of deviations from the plans, will positively affect the monetary policy conduct. However, it should be noted that sound budget institutions or processes cannot be a substitute for a commitment to prudent and efficient policies. They

just provide the infrastructure needed to facilitate the processes, but they will not be effective if there is no policy commitment to prudent fiscal policy and consistent mix of policies.

Generally, the analysis provides some evidence that support both hypotheses. Different approaches applied to analyze the interactions between monetary and fiscal policies point out that the mix of policies during 1992-2013 was mostly adequate for preserving exchange rate and price stability, as well as the overall macroeconomic stability. The analysis also provides some evidence that the implemented public finance reforms, which strengthened the budgetary procedures, as well as the improvements in the institutional design aimed at increasing the independence of the central bank, have created institutional arrangements conducive to better coordination.

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APPENDIX

LIST OF APPENDICES

Appendix A: Summary in Slovenian language/Daljši povzetek disertacije v slovenskem jeziku

Koordinacija med denarno in fiskalno politiko je bolj ali manj večna tema m makroekonomiji. Doseganje ciljev makroekonomske politike naj bi bili v veliki meri odvisni od ustreznosti od ustrezne kombinacije (»mix«) med denarno in fiskalno politiko. Čeprav so različna mnenja o tem v teoretični literaturi, vsa ta mnenja vendarle trdijo, da je potrebna tesna koordinacija med denarno in fiskalno politiko. Inflacija naj ne bi bila samo monetarni fenomen, ki bi bil neodvisen od fiskalne politike. Fiskalne spremenljivke vplivajo na razpoložljivi dohodek in s tem agregatno povpraševanje. Čeprav imata denarna in fiskalna politika različne cilje, njuni instrumenti vplivajo drug na drugega. Od tod sledi, da vsaka politika lahko povzroča ovire za uresničitev zastavljenih ciljev. Ena od politik se bodisi lahko prilagaja drugi bodisi deluje ravno njej nasproti.

Naravnanost fiskalne politike lahko vpliva na likvidnost bančnega sistema in s tem na kreditne agregate in s tem na inflacijo, inflacijska pričakovanja in devizni tečaj. V državah z režimom trdnega deviznega tečaja, kjer je praviloma omejena samostojnost denarne politike, neodgovorna fiskalna politika lahko celo ogrozi vzdržljivost in kredibilnost režima deviznega tečaja, kakor tudi kombinacijo makroekonomskih politik. Z vplivom na likvidnost bančnega sistema in na stroške zadolževanja, monetarna politika lahko s tem vpliva tudi na stroške zadolževanja države. Likvidnostni kanal in kanal obrestne mere ima lahko dolgoročnejše vpliv na vzdržljivost javni financ. Omejevalna denarna politika vpliva negativno na konsolidacijo javnih financ. Višje obrestne mere zmanjšujejo prostor za fiskalno politiko in lahko s tem vplivajo na zmanjšanje gospodarske aktivnosti.

Medsebojno delovanje denarne in fiskalne politike so obravnavale številne empirične raziskave. Največ teh razprav raziskuje povezavo med omenjenima politikama z upoštevanjem medčasovnih proračunskih omejitev, in sicer da je sedanja realna vrednost dolga države enaka sedanji diskontirani vrednosti prihodnih proračunskih presežkov. Če je naravnanost fiskalne politike določena neodvisno od ravni javnega dolga, bodo morale denarne oblasti, da bi zagotavljale solventnost države, voditi bolj ohlapno denarno politiko. To pomeni ogrožanje cenovne stabilnosti.

Koordinacija med denarno in fiskalno politiko se lahko izvaja na različne načine. Načeloma je lahko koordinacija takšna, da denarne in fiskalne oblasti tesno sodelujeta, razpravljata o svojih ciljih, strategijah in dejavnostih. Lahko pa je tega sodelovanje manj. V mnogih razpravah je definirana koordinacija kot stanje, ko je ena politika dominantna. V režimu, ko dominira fiskalna politika, so fiskalne variable določene neodvisne od omejitev za državni proračun. V režimu, ko dominira monetarna politika, monetarne oblasti postavljajo cilje, to pomeni, da nadzirajo količino denarja v obtoku in inflacijo. Javni dolga se postavlja na raven, ki je v skladu z medčasovnimi proračunskimi omejitvami.

Na splošno je sprejeto, da koordinacija politik zagotavlja doseganje makroekonomskih ciljev, medtem ko nekoordinirani politiki vodita k neoptimalnim makro ekonomskim rezultatom. V odvisnosti od medsebojnega vpliva med politikama so lahko makroekonomski rezultati precej

drugačni od pričakovanih. Vzajemno razumevanje in sporazumi glede makroekonomskih ciljev vodijo k boljšim makroekonomskih rezultatom. Makroekonomsko dogajanje bo odvisno od ciljev, preferenc in instrumentov vsake od politik v tolikšni meri, kolikor so konsistentni. Poleg tega je pomembno, ali gre pri politikah za diskrecijo ali za zavezanost nekim pravilom. Mnoge empirične raziskave so ugotovile, da so velike potencialne koristi od koordinacije. Nekoordinirane politike, kjer gre za to, da vsaka oblast odloča o svoji politiki pod predpostavko, da se druga politika ne bo spremenila, lahko vodi k večjemu primanjkljaju in višji realni obrestni meri, kot je želeno. Ekspanzivna fiskalna politika, ki pomeni nevarnost za inflacijo, se lahko nevtralizira na ta način, da centralna banka poviša obrestno mero, da bi preprečila inflacijske pritiske. V primeru, ko ni koordinacije politik, bodo verjetno raven agregatnega povpraševanja določale monetarne oblasti. Denarna politika bo bolj restriktivna

Optimalno kombinacijo (»mix«) politik moramo analizirati upoštevaje različne režime deviznega tečaja. O nemogočem trojstvu, na primer režimu trdnega deviznega tečaja in popolne mobilnost kapitala ter cenovne stabilnosti, ki jo cilja centralna banka, je bilo dosti napisanega. Konvencionalno pojmovanje, da v državah z režimom trdnega deviznega tečaja ter popolno mobilnostjo kapitala je zelo omejena možnost vodenja samostojne denarne politike, ali pa te možnosti sploh ni. Denarna politika zagotavlja zunanjo stabilnost. V tem primeru je bolj učinkovita fiskalna politika za zagotavljanje notranjega ravnovesja prek vpliva na agregatno povpraševanje.

Obstoja precejšnje soglasje, da institucionalna ureditev glede neodvisnosti centralne banke ter operativno sodelovanje lahko zagotavljata disciplino politik in s tem nizko in stabilno inflacijo. Poleg tega se lahko koordinacija med denarno in fiskalno politiko pomembno izboljša, če obstaja soliden sistem vodenja javnih financ. Dobre proračunske procedure in kontrolni mehanizmi ustvarjajo okolje za solidno fiskalno politiko. Pomagajo izboljšati usklajevanje med cilji denarne in fiskalne politike, kar je značilnost optimalne kombinacije makroekonomskih politik.

O koordinacija med denarno in fiskalno politiko v Makedoniji ni bilo doslej dosti teoretičnih in empiričnih razprav. V zadnjem času je tega več. Tako standardni in nestandardni instrumenti politik in veliki stimulativni ukrepi, da bi se olajšale posledice ekonomske in finančne krize v svetu, so povečali zanimanje za »mix« politik, o katerih govorimo. Gre za medsebojno odvisnost politik, za to katera politika naj bo dominantna, za cikličnost politik ter seveda za učinkovitost kombinacije politik.

Makedonsko gospodarstvo je majhno in odprto, podvrženo zunanjim šokom, ki se lahko hitro prenesejo na domače okolje. Je zelo evroizirano gospodarstvo in tega je bilo še več v začetku tranzicije. Slabe izkušnje z devalvacijami in inflacijo so bili vzrok za negotovost in za majhno zaupanje v domačo valuto. Velika odprtost in evroizacija pomenita veliko povezavo med gibanjem deviznega tečaja in domačo inflacijo. Velika uvozna odvisnost izvoza pomeni, da je omejena možnost, da bi z deviznim tečajem spodbujali gospodarsko dejavnost. Zaradi takšnega okolja je strategija centralne banke Makedonije zagotavljati stabilnost deviznega tečaja nemške marke do leta 2001 in zatem evra. Z izjemo devalvacije leta 1997 se ohranja stabilnost deviznega tečaja, čeprav so bila obdobja, ko je prihajalo do kriz in se je centralna

banka znašla v težavah. Stabilnost deviznega tečaja je prispevala k nizki in stabilni inflaciji, ki se ohranja ves čas po nekaj letih nestabilnosti na začetku tranzicije.

Doktorska disertacija raziskuje raven koordinacije med denarno in fiskalno politiko v Makedoniji v obdobju od leta 1992 do leta 2013. Cilj je razložiti povezave med politikama in oblike te koordinacije ter raziskati katera od politik zagotavlja makroekonomsko stabilnost. Upoštevaje strukturne značilnosti makedonskega gospodarstva in strategije centralne banke zagotavljati stabilnost deviznega tečaja, je bil »mix« politik določen v odvisnosti od zunanjega položaja, to je plačilne bilance, Makedonije. Koordinacijo ocenjujemo v odvisnosti od konsistentnosti »mix-a« glede na makroekonomske cilje. Glede na to, da je osnovni cilj centralne banke vzdrževanje cenovne stabilnosti in da je stabilnost deviznega tečaja vmesni cilj denarne politike, se konsistentnost politik ocenjuje glede na stabilnost cen in deviznega tečaja. Glavni hipotezi disertacije sta naslednja. Kot prvo, med denarno in fiskalna politika je bila koordinacija v skoraj vseh letih, ki jih analiziramo. Kot drugo, reforme javnih financ in izboljševanje v institucionalni ureditvi ter na operativnih ravneh javnih financ so pripomogle k večanju koordinacije.

Medsebojno delovanje politik in ravni njune koordinacije ocenjujemo z upoštevanjem nekaj dejstev. Kot prvo, uporabljamo analizo premoženjske bilance in pri tem se osredotočimo na terjatve centralne banke do države, kot »proxy« za fiskalno naravnanost, in terjatve centralne banke do bank kot »proxy« za naravnanost denarne politike. Kot drugo, medsebojno delovanje politik analiziramo tako, da se osredotočimo na vpliv fiskalnih in monetarnih ukrepov na likvidnost bančnega sistema. Kot tretje, analiziramo medsebojno delovanje politik ob upoštevanju cikličnosti, da bi ocenili odziv politik na razmere v realnem sektorju.

Analiza s pomočjo premoženjske bilance raziskuje »mix« politik na ta način, da se osredotočimo na učinke monetarne in fiskalne politike na količino primarnega denarja in njegov makroekonomski vpliv. Količina primarnega denarja se spreminja s spremembami neto tujih aktiv (»net foreign assets«) in domačih aktiv centralne banke. Spremembe neto tujih aktiv so avtonomne spremembe, kajti strategija režima trdnega deviznega tečaja terja, da centralna banka posega na devizni trg, da bi preprečila spremembe deviznega tečaja. Spremembe neto domačih aktiv, ki obsega neto terjatve do države in neto terjatve do bank so v veliki meri posledica ukrepov denarne in/ali fiskalne politike. Tako so spremembe neto terjatev do države »proxy« za spremembe naravnanosti fiskalne politike in spremembe neto terjatev do bank so »proxy« za naravnanost monetarne politike. Ta način nam pokaže v kakšni smeri in v kakšnem obsegu fiskalna in denarna politika vplivati na spremembe količine primarnega denarja. Da bi določili konsistentnost politik, moramo vključiti v analizo druge indikatorje fiskalne in monetarne politike. To so na primer proračunski saldo, viri financiranje države, osrednja obrestna mera centralne banke in drugi instrumenti centralne banke. Na tej osnovi ocenjujemo medsebojno delovanje politik v primerjavi z monetarnimi agregati, rastjo posojil, stanjem plačilne bilance in njihov vpliv na stabilnost cen ter deviznega tečaja.

Pritok deviz je glavni vir večanja količine primarnega denarja. V primeru NBRM namreč njena neto tuja aktiva stalno naraščajo. Glede na strategijo vzdrževanja stabilnega deviznega tečaja centralna banka posega na devizni trg in s tem ustvarja likvidnost bank. Glede na

omejeno absorpcijo te likvidnosti s strani bank in glede na strategijo preprečevanja nestabilnosti centralna sterilizira del denarja, ki prihaja iz tujine. Sterilizacijo podpira vlada, saj so ves čas sredstva države naložena pri centralni banki.

Analiza pokaže, da je bil v večini let »mix« politik ustrezen za ohranjanje makroekonomske stabilnosti. Odločitev za vzdrževanja stabilnosti deviznega tečaja kot bližnjega cilja denarne politike je disciplinirala fiskus, da podpira trdno vezavo denarja na nemško marko ali evro. Fiskalna podpora je bila predvsem pomembna, ker sta v majhnih in odprtih gospodarstvih predvsem pomembna plačilna bilanca in devizni tečaj. Sporazumi z IMF so bili pomemben instrument za podporo disciplini fiskusa in centralne banke. V večini let se je fiskalna politika prilagajala in pomagala denarni politiki Kombinacija politik je pripomogla k ohranjanju stabilnosti deviznega tečaja, saj je bil stabilen devizni tečaj nominalno sidro denarne politike. Hkrati s tem je bil najpomembnejši instrument, da se je vzdrževala nizka in stabilna inflacija kot glavni bližnji cilj denarne politike. Ugodne razmere na deviznem trgu so zagotavljale kontinuirano rast mednarodnih denarnih rezerv. Stabilno makroekonomsko okolje je na primer prispevalo k postopnemu oživljanju gospodarstva na začetku tranzicije, čeprav je proces dohajanja ekonomsko razvitejših držav počasen. To lahko pripišemo tudi počasnemu sprejemanju in uvajanju strukturnih reform.

V začetkih tranziciji v letih 1992 do 1994 je bila koordinacijo politik slaba. Prav tako v času notranjega vojnega spopada leta 2001 in v začetki globalne finančne krize zaradi posledic, ki so preplavili tudi Makedonijo. Za prva leta tranzicije je bilo značilno velika makroekonomska nestabilnost, to je zmanjšanje gospodarske aktivnosti in visoka inflacija z pogostimi devalvacijami. »Mix« politik je bil v tem času neustrezen za gospodarsko stabilnost. Fiskalne oblasti so bile pod pritiskom realnega sektorja in niso mogle brzdati trošenja države in s tem niso mogle podpirati denarne politike. Na drugi strani je bila omejena moč denarnih oblasti. Banke niso imele zadosti likvidnosti, rast bančnih posojil je bila omejena na izbrane ekonomske sektorje, kar vse je pomenilo, da ni bilo nadzora nad denarnimi agregati. To seveda pomeni, da je dominirala fiskalna politika.

V letu 2001 je vodila država ekspanzivno fiskalno politiko. Prihodki države so se zmanjšali, medtem ko so se povečali njeni izdatki zaradi povečanih izdatkov za vojsko. Pomemben del teh izdatkov je bil za uvoz opreme, kar je vplivalo na devizni tečaj. Zaradi velike negotovosti, pritiska na devizni tečaj in dviga bančnih vlog je centralna babka sprejela več restriktivnih ukrepov, kot so znatno povišanje lombardne obrestne mere in odstotka obveznih rezerv bank. Zunanji šoki in ekspanzivna fiskalna politika sta imeli za posledico velik pritisk na depreciacija denarja, zaradi česar je morala centralna banka intervenirati na deviznem trgu. To je zelo zmanjšalo njene mednarodne denarne rezerve, in sicer za skoraj eno tretjino. Da bi lahko financirala svoj deficit je država povišala obrestno mero na svoje tri in šestmesečne zakladne menice, in sicer precej nad veljavno obrestno mero za enomesečne blagajniške zapise centralne banke. Da bi zadržala nadzor nad likvidnostjo v gospodarstvu in zmanjšala pritiske na devizni trg je bila centralna banka prisiljena uvesti omejevalno denarno politiko. Slabe koordinacije politik so imele za posledico visoko obrestno mero centralne banke, verjetno višjo, kot bi lahko bila, kar se je prek bank preneslo na realni sektor gospodarstva.

Da bi lahko bolje in širše razumeli povezave med denarno in fiskalno politiko. smo analizo s pomočjo premoženjskih bilanc dopolnili z analizo, ki je bolj ozko naravnana na likvidnost bank in nam bolje pokaže na vpliv likvidnosti na gospodarstvo. Vpliv likvidnosti ugotavljamo na osnovi sprememb velikosti sredstev bank na računih pri NBRM. Spremembe v teh rezervah bank so odvisne od avtonomnih dejavnikov, to je dejavnikov, na katere centralna banka ne nore vplivati. Spremembe gotovine v obtoku, spremembe imetij države pri centralni banki ter posegi centralne banke na deviznem trgu se jemljejo kot avtonomni dejavniki. NBRM je uporabljala vrsto instrumentov, da bi absorbirala odvečno likvidnost bank. Upoštevaje strukturno likvidnostno pozicijo bank se je NBRM naslanjala predvsem na svoje blagajniške zapise kot mehanizem za absorbcijo odvečne likvidnosti. Likvidnostna analiza obsega obdobje 2001 do 2013.

Primerjava ugotovitev analize s pomočjo premoženjskih bilanc z likvidnostno analizo nam pokaže nekaj razlik glede naravnanosti politik. Oba vira podatkov kažejo kumulativno na sterilizacijski učinek denarne in fiskalne politike z majhnimi razlikami med njima. Likvidnostna analiza, ki naj bi bila boljši indikator vpliva politik na likvidnost, pokaže, da je bil večji vpliv sterilizacijskega učinka fiskalne politike. Čeprav kumulativno obe analizi kažeta na isti učinek denarne in fiskalne politike, medtem ko letni podatki kažejo na opazno razliko v nekaterih letih opazovanega obdobja. To posebej velja za fiskalno politiko.

Analiza s pomočjo premoženjskih bilanc, če ji dodamo analizo drugih indikatorjev, kaže na slabo koordinacijo na primer leta 2009. Podatki o likvidnosti prav tako kažejo, da je bila leta 2009 fiskalna politika ekspanzivna, ki je imela slabe posledice na razmere na deviznem trgu. Da bi stabilizirala velik pritisk na devizni trg, je NBRM obsežno posegala na devizni trg, da bi pobrala likvidnost, ki jo je injicirala država. Zaradi pomanjkanja likvidnosti se je zmanjšala količina blagajniških zapisov centralne banke.

Opisane razlike poudarjajo pomembnost na previdno razlago indikatorjev politik, posebej še fiskalne politike in s tem tudi glede »mix-a« politik. Proračunski saldo je standardni indikator, ki ga uporabljamo za oceno naravnanost fiskalne politike in dogajanj z javnim dolgom. Povečanje proračunskega primanjkljaja vodi k večanju javnega dolga, razen če se ne financira na druge načine in ne z zadolževanjem. To sta lahko prihodki od privatizacije ali pa zmanjšanje vloge države pri bankah. Kljub temu se lahko likvidnostni vpliv trošenja države pomembno razlikuje. Pomembno je, kako se financira proračunski primanjkljaj in kakšna je struktura trošenja države. Medtem ko zunanje financiranje injicira likvidnost v bančni sistem, domače financiranje z izdajo obveznic ne povečuje likvidnosti. Poraba prej akumuliranih prihrankov v obliki bančni vlog ima lahko prav tako pomembno likvidnostne posledice. Plačila nerezidentom ne vplivajo na likvidnost, vendar pa vplivajo na višino mednarodnih denarnih rezerv. To pa pomeni spremenjen vpliv na monetarno politiko. Za plačila v tujino se porabijo imetja države pri centralni banki, s katerimi ona kupuje devize. V obeh primerih pride do zmanjšanja mednarodnih denarnih rezerv. Podatke iz premoženjske bilance centralne banke lahko uporabimo kot indikator naravnanosti politik. Imajo pa slabo stran in terjajo previdnost pri razlagi. V tej zvezi za oceno potrebujemo multiple indikatorje medsebojnega vpliva in koordinacije politik in tudi indikatorje dogajanj v eksternem in monetarnem sektorju. Le-ti vplivajo na to, kako dosegamo makroekonomske cilje.

Medsebojni vpliv monetarne in fiskalne politike analiziramo tudi glede njune cikličnosti. Fiskalna politika lahko prispeva k zmanjšanju nihanja gospodarske aktivnosti prek avtomatičnih stabilizatorjev, ki so vgrajeni v mehanizem delovanja fiskalnega sistema, in prek diskrecijskih fiskalnih ukrepov za spremembo izdatkov ali prihodkov države. Metode, ki smo jih uporabili za razlago cikličnosti temeljijo predvsem na razpravi Fedelina, Ivanova in Hortona (2009). Ocena fiskalnega položaja v odvisnosti od ekonomskega cikla temelji na ciklično prilagojenem primarnem proračunskem saldu. Predpostavka je, da je agregatna elastičnost, kar zadeva razmik v produkta, ena za prihodke in nič za trošenje. Procikličnost ali kontracikličnost diskrecijske fiskalne politike je določena na osnovi odnosa med fiskalnimi impulzi in razmiku v produktu. Na splošno velja, in analiza kaže na to, da je bila v večini let, ki jih analiziramo, fiskalna politika previdna, kar pomeni, da je podpirala denarno politiko pri njenih prizadevanjih za stabilnost cen in deviznega tečaja. Od leta 1995 do notranjega konflikta v Makedoniji je imel ciklično prilagojen primarni proračunski saldo presežek. To kaže na prizadevanja za fiskalno konsolidacijo kot podporo monetarni politiki. Oborožen spopad znotraj Makedonije je povzročil povečanje izdatkov in zmanjšanje prihodkov države, kar je znatno poslabšalo ciklični fiskalni položaj. Od leta 2004 je pozitiven trend ciklično prilagojenega primernega proračunskega salda. Le-ta se je zaustavil v začetku globalne ekonomske krize. Fiskalne oblasti so namreč uvedle številne ukrepe, ki so imeli za posledico spremembe na obeh straneh državnega proračuna, da bi zmanjšale šoke na gospodarstvo.

Analiza kaže, da je bila fiskalna politika proticiklična v devetih od devetnajstih let. Za leta 1995 do 1997 je značilna konsolidacija javnih financ. Fiskalni impulz je bil negativen. Konsolidacija javnih financ je bila odločilna za stabilizacijo gospodarstva in vztrajanje pri strategiji stabilnosti deviznega tečaja, kar se je začelo konec leta 2014. Upoštevaje dejstvo, da se je »output gap« spremenil iz pozitivnega v negativnega, pomeni, da je bila fiskalna politika prociklična. V letih 1998 – 2000, ko se je povečala gospodarska rast, je bila fiskalna politika, razen leta 1998, proticiklična. Do najmočnejšega fiskalnega impulza je prišlo leta 2001, to je v letu oboroženega spopada, ko je bila gospodarska aktivnost manjša od potencialne. V letih 2004 – 2008, ko se je ponovno začela gospodarska rast in se znatno povečevala, se je zmanjševal negativni »output gap« in se spremenil v pozitivnega. Obnašanje fiskalne politike je bilo mešano. Tri leta je bila fiskalna politika prociklična in dve leti proticiklična. Od začetka globalne ekonomske krize je uporabila fiskalna politika diskrecijske ukrepe in fiskalni impulz je bil skoraj ves čas pozitiven. »Output gap« je postal negative in je ostal takšen skoraj vsa leta krize. Upoštevaje težave pri razlagi spreminjanja fiskalnega stimulansa in »outpt gap-a«, lahko rečemo za fiskalno politiko, da je bila na splošno proticiklična.

Cikličnost denarne politike analiziramo s pomočjo obrestne mere centralne banke. Upoštevaje dejstvo, da so bili v večino analiziranega obdobja blagajniški zapisi centralne banke glavni instrument denarne politike, uporabljamo obrestno mer teh papirjev kot indikator naravnanosti denarne politike. Cikličnost ocenjujemo na osnovi odnosa med spremembo obrestne mere in »output gap-om«. Analiza kaže, da je bila denarna politika stabilizacijska v osmih letih od devetnajstih, ko je bila fiskalna politika praviloma prociklična.

Da bi preverili robustnost ugotovitev, smo uporabili še drugi način, in sicer način, ki ga je uporabil Horton (2005). Alternativni način ocenjevanja cikličnosti politik, in tudi za druge robustnosti, pride do skoraj enakih sklepov.

Za večino analiziranih let sta denarna in fiskalna politika reagirali na različne načine. V trinajstih letih je bilo značilno za »mix«, da je bila na primer denarna politika prociklična, medtem ko je bila fiskalna politika proticiklična. To pomeni, da sta navadno politiki kompenzirali druga drugo. Videti je, da je bila v obdobjih kriz v začetku denarna politika prociklična. Prvi val globalne krize, ki je zajel Makedonijo konec leta 2008, je povzročil znatne pritiske na devizni trg, kar je prisililo centralno bank, da spremeni denarno politiko v smer restriktivnosti. Vendar pa se je konec leta 2009 denarna politika spremenila zaradi oživljanja gospodarstva in zmanjšanja »output gap-a«. Obnašanje denarne politike je bilo podobno v letu notranjih spopadov (leta 2001). Glede na razmere na deviznem trgu in dviga bančnih vlog s strani prebivalstva je bila centralna banka prisiljena povišati obrestne mere, čeprav se je zmanjševala gospodarska aktivnost. Na drugi stran pa se je v kriznih časih fiskalna politika zrahljala in s tem kompenzirala učinke denarne politike. To kaže na to, da takrat, ko ekonomijo prizadene šok, ki se odrazi na razmerah na deviznem trgu, mora centralna preiti na restriktivno denarno politiko, da bi ohranila stabilnost deviznega tečaja, ne glede na to, kaj se dogaja v realnem sektorju. Vzdrževanje stabilnega deviznega tečaja je glavni instrument za ohranjanje nespremenjenih pričakovanja v gospodarstvu. Prav tako za splošno makroekonomsko stabilnost, ki ima pomembno vlogo pri poznejšem oživljanju gospodarske aktivnosti. Zgodovina je pokazala, da so nagnjenja ekonomskih subjektov k varčevanju v domačem ali tujem denarju zelo občutljiva na ekonomske in politične šoke. Posledica šokov je velika sprememba v obliki varčevanju. Zmanjšuje se v domačem in povečuje v tujem denarju. Tako so pričakovanja pomembna za stabilnost gospodarstva.

Cikličnost politik raziskujemo z ekonometričnimi metodami z uporabo vektorske avtoregresije, ki se na veliko uporablja pri analizi kratkoročnih medsebojnih vplivov ekonomskih spremenljivk in politik. Glede na težave pri razlagi koeficientov spremenljivk je običajni način te vrste analize, da se osredotočimo na rezultate, ki nam jih daje »impulse response function«, test grangerjeve kavzalnosti, in na dekompozicijo »forecast error variance«. Cilj je empirično testirati reakcije politik na šoke v odstopanju dejanskega proizvoda od potencialnega. Prav tako je potrebno raziskati, ali se denarna in fiskalna politika odzivati kot komplementarni ali kot medsebojni substituti. Obrestno mero blagajniških zapisov centralne banke uporabljamo kot indikator denarne politike in ciklično prilagojen proračunski saldo kot indikator fiskalne politike. Analiza uporablja letne podatke za obdobje 1996 – 2013.

»Impulse response« funkcija kaže, da za pozitiven šok v velikosti enega standardnega odklona »output gap-a« (2,3 odstotne točke) obrestna mera centralne banke se rahlo zniža (za 0,4 odstotne točke), toda v naslednjih obdobjih se poveča za eno odstotno točko, kar pa ni trajno. Ta odgovor na impulz kaže, da takrat, kadar je pozitiven šok »output-gap-a«, denarna politika največkrat reagira kontraciklično. Obrestna mera centralne banke se namreč ne poviša, da bi se preprečilo pregretje gospodarstva, kar bi lahko imelo za posledico zmanjšanje mednarodnih denarnih rezerv in zmanjšanje kredibilnosti centralne banke, da bo še naprej

vztrajala pri trdnem devizne tečaju. Pozitiven šok »output gap-a« v višini enega standardnega odklona sicer povzroči spremembe, vendar kar zadeva fiskalno politiko, niso pomembne. Ciklično prilagojen proračunski saldo se najprej poveča za 0,3 odstotne točke, ki pa se potem zmanjša, in sicer za 0,30 odstotne točke. Tako »impulse reaction« funkcija fiskalne politike na »output gap« ne kaže na cikličnost fiskalne politike. Poleg tega upošteva »impulse response« denarne politike na šok fiskalne politike in »impulse response« fiskalne politike na šok denarne politike. Čeprav impulzi niso veliki, potrjujeta pojmovanje, da delujeta politiki kot substituta, to pomeni, ko se fiskalna politika zaostri se monetarna politike zrahlja.

Da bi preverili občutljivost ugotovitev analize na dolgi rok uporabimo vektorsko avtoregresijsko analizo kvartalnih podatkov, ki so sicer manj zanesljivih od letnih. Kvartalni podatki o financah države so dosegljivi za čas od let 1998. Za odzive monetarne politike na šoke fiskalne politike in odzive fiskalne politike na šoke monetarne politike je videti, da gre pri politikah za substitucijo. Sicer ne prav velike, vendar je to v skladu s tistim, kar vidimo iz letnih podatkov.

Stopnja neodvisnosti centralne banke in načela ter mehanizmi, ki se uporabljajo za sodelovanje politik, lahko vplivajo na raven koordinacije med dvema oblastema. Tako je institucionalni vidik koordinacije nujni del analize ravni koordinacije politik. Težišče je na pravnem okvirju, kako so določeni cilji NBRM in kako se izvajata denarna politika in politika deviznega tečaja Gre za imenovanje vodilnih v centralni banki, za odnosih z vlado in parlamentom ter druga zakonska določila, ki določajo moč mandata vodilnih v centralni banki. Prav tako raziščemo konkretni načini kooperacije, na primer tudi na osebni ravni, kako se usklajujeta politiki dveh finančnih oblastnih institucij.

Neodvisnost centralne banke navadno merimo z indeksi. Analiza neodvisnosti NBRM temelji na indeksih Cukiermana, Webba in Neyaptija (1992), ki se tudi najpogosteje uporablja. Uporablja 16 pravnih spremenljivk , ki se nanašajo na predsednike uprav, to je guvernerja in člane sveta, kako se določa monetarna politika, cilji centralne banke in omejitvah zadolževanja država pri njih. Uporablja se tudi modificiran Cukiermanov indeks strani Jacoma in Vazqueza (2005). Ta indeks na splošno vsebuje glavne spremenljivke originalne metode. Toda uvaja nekaj sprememb, s katerimi se želi vključiti posebne vidike za tranzicijske države.

Analiza, ki temelji na Cukiermanovem indeksu, pravi, da se je vsa leta povečeval ta indeks. S prvim zakonom iz leta 1992 je bila zagotovljena zmerna raven neodvisnosti. Indeks je znašal 0,60. Drugi zakon o NBRM je povečal njen mandat in njeno avtonomnost in indeks se je povečal na 0.70. Najnovejši zakon iz leta 2010 zagotavlja visoko stopnjo neodvisnosti in indeks znaša 0,92. Napredek vidimo pri vseh spremenljivkah indeksa. Toda moramo poudariti, da je nedavno sprejeti zakon zmanjšal neodvisnost centralne banke na dveh ključnih področjih. To sta odgovornost za režim deviznega tečaja in imenovanje članov sveta »NBRM«. Voli jih namreč parlament na predlog vlade, medtem ko je prej predlagal predsednik države. Vendar se to ne kaže na višini indeksa, ker se indeks ne ozira na določanje režima deviznega tečaja in na proceduro volitve sveta centralne banke. To vidimo iz modificiranega Cukiermanovega indeksa, ki vključuje politiko deviznega tečaja. Modificirani

indeks nadalje sugerira, da se je zakonska neodvisnost centralne banke povečevala. Druga področja, ki so predmet pozornosti, so trajanje mandata članov sveta, volitev guvernerja, vloga centralne banke pri sprejemanju proračuna in upravljanje javnega dolga. Analiza operativnih mehanizmov sodelovanja pokaže, da je prostor za poboljšanje.

Indeks lahko jemljemo kot pokazatelja dejanske neodvisnosti centralne banke. Vendar pa moramo jemati rezultate merjenja zakonske neodvisnosti previdno, ko primerjamo centralne banke med seboj. Merjenje dejanske neodvisnosti centralnih bank ni tako preprosto. Najpogosteje pridemo do te neodvisnosti na osnovi tega, kako pogosti se menjajo ljudi na vrhu centralne banke, in s pomočjo vprašalnika, ki ga izpolnijo guvernerji. Pogostejše menjave guvernerjev naj bi kazale na manjšo neodvisnost centralne banke, kajti krajši mandat guvernerja kaže na večjo verjetnost političnega pritiska nanj in s tem na podrejenost denarne politike kratkoročnim ekonomskim ciljem. Če upoštevamo dolžino mandata guvernerja, je neodvisnost NBRM zelo velika. Dolžina mandata guvernerja je v povprečju šest let.

Analiza povezav med ravnijo neodvisnosti in inflacijo kaže, da je inflacija manjša pri večji neodvisnosti centralne banke, čeprav ne gre za trdno povezavo. Če pogledamo makroekonomska dogajanja in še posebej inflacijo v Makedoniji, lahko vidimo podobno kot v večini tranzicijskih držav, da je bila inflacija najvišja na začetku tranzicije. Za začetno obdobje tranzicije v Makedoniji je bila značilna visoka in spremenljiva inflacija, ki jo lahko pripišemo tako nedisciplini finančnih oblasti kot tudi političnim dejavnikom. Visoki proračunski primanjkljaji zaradi zmanjšanja gospodarske aktivnosti, kar je zmanjševalo davčno osnovo, in ohlapna denarna politika ter velika inflacijska pričakovanja so zmanjševali vrednost domačega denarja in privedli do hiperinflacije. Centralna banka je imela težave pri nadzoru količine denarja v obtoku, saj so zahtevali od nje, da daje bankam posojila, da bi lahko usmerjale denar v od države določene ali sugerirane dejavnosti. Nadzor nad količino primarnega denarja je bil zaradi vsega tega slab. Zakonska določila o ciljih in funkcijah centralne banke, ki so veljala v tem obdobju, niso zagotavljali obrambe centralne banke pred političnimi oblastmi. Cilj denarne politike, režim deviznega tečaja in politiko deviznega tečaja je določal parlament. Cenovne stabilnosti na primer sploh ni bilo najti med cilji centralne banke. Zakon je dovoljeval, da lahko centralna banka financira do 5 % izdatkov državnega proračuna. Tako e je dogajalo, da centralna banka ni mogla servisirati zunanjega dolga, to je plačevati obresti in vračati glavnico.

Nizka inflacija kot bližnji cilj denarna politika je bila določena šele konec leta 1995, ko se je inflacija znižala na 9,5 %. Uvajal se je in uvedel konsistenten »mix« denarne in fiskalne politike pri režimu trdnega deviznega tečaja. To ureditev je vsilil ali uspel vsiliti program IMF. V okviru tega programa so leta 1996 bili sprejeti amandmaji z zakonu o centralni banki, ki so imeli za posledico večanje neodvisnosti centralne banke. Na primer kot zaostritev kriterijev za posojila centralne banke, ukinitev rediskonta posojil, danih s strani bank privatnim podjetjem, povečanje števila izvršnih članov sveta NBRM. Videti je, da so vse te spremembe pripomogle k povečanju nadzora nad inflacijo. Od takrat se vzdržuje stabilnost cen, kar je zasluga ustreznega »mix-a« makroekonomskih politik. Pri tem je bilo pomembno tudi že omenjeno angažiranje IMF. Neodvisnost NBRM, ki se je takrat uvedla, se je z leti

povečevala. Neodvisnost centralne banke je privedla do stabilnost cen. Občasna zvišanja cen je bilo predvsem posledica šokov na strani ponudbe.

Procedure pri sprejemanju in izvajanju proračuna vplivajo na fiskalno disciplino in s tem na rezultate na njegovih obeh straneh, to je na strani prihodkov in na strani odhodkov. Skrbnost in preudarnost pri pripravi proračuna, sprejemanju proračuna in izvajanju določil proračuna lahko v veliki meri preprečijo ekspanzivnost denarne politike. Preudarnost in predvidljivost fiskalne politike sta zelo pomembni in prispevata k ustrezni kombinaciji politik.

Gleichov indeks ima 13 spremenljivk, ki pomagajo določiti moč pri pripravi proračuna, sprejemanju proračuna in izvajanju proračuna. Ta indeks je različen v dveh obdobjih. Prvo obdobje je od leta 1993, ko je bil sprejet prvi zakon o proračunu po neodvisnosti, in traja do leta 2000. Drugo obdobje je od leta 2001, ko je prišlo do pomembnih reform na fiskalnem področju, Indeks prvega obdobja je 8,5 in drugega 8,8. Najvišja vrednost indeksa je 12. Za vsa leta je značilnost proračuna zelo visoka centralizacija in zato tudi ni pomembnih razlik v indeksu med prvim in drugim obdobjem.

Dabbio-Norris indeks je multidimenzionalen indeks, kakor ga označujejo, ocenjuje institucionalno ureditev. Ta indeks je bolj zapleten, kar bi naj povedalo tudi njegovo ime. Če ostanemo pri vrednostih za Makedonijo, vidimo, da je v določenih stvareh ta indeks ali podindeks (»subindex«), kot se imenuje, višji, kot je povprečje za tranzicijske države. Sicer pa njegova zapletenost in to da lahko gre pri mnogih ocenah za pristranskost, pomenijo, da ga ali jih, indekse namreč, moramo jemati z rezervo.

Indeksi, na koncu, pomagajo določiti ali odkriti slabosti proračunskega sistema, ki naj bi jih upoštevale oblasti. Več napora bi bilo potrebno za to, da so na primer, če omenimo samo nekaj stvari, informacije o srednje ročnih fiskalnih prioritetah zadosti popolne, zatem da se pripravlja analiza fiskalnih tveganj, vzdržljivosti javnega dolga in podobno. Seveda pa zdrave in urejene proračunske institucije ali procedure pri sprejemanju in izvajanju proračuna ne morejo nadomestiti zavezanosti k preudarnim in učinkovitim instrumentom ali ukrepom, s katerimi se izvaja fiskalna politika. So le nujna infrastruktura, da bi se olajšali procesi, ki pa spet ne bi dosti pomagali, če ni zavezanosti k preudarni fiskalni politiki in če ni konsistentne kombinacije ali zmesi (»mix«) politik.

Ključne besede: fiskalna politika, denarna politika, koordinacija (politik), centralna banka, ciklične reakcije, neodvisnost centralne banke, javne finance, proračunske institucije, vodilna obrestna mera ali obrestna mera centralne banke.