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Lessons Learned From the Global Recession - Redesigned Framework of Key Macroeconomic Policies

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Abstract

This research provides a critical analysis of the available relevant theoretical and empirical literature regarding the key lessons about fiscal and monetary policy during the latest global crisis. The main contribution of this paper lies in offering a new redesigned framework for the key macroeconomic policies which can serve as a general guide to policymakers for designing these policies to respond to future financial and economic crises. Our critical analysis points out 15 lessons for monetary policy which the monetary authorities should take into account in the process of designing their future policies. The analysis also includes 14 lessons as a guide for governments to design their fiscal policy during future global imbalances, addressing the efficiency of fiscal policies during large-scale economic crises, the role and significance of fiscal space, the effectiveness of austerity programs, the coordination of fiscal policies on a global level, the coordination and mutual interactions with monetary policy etc.

Keywords: *global economic crisis, fiscal policy, monetary policy, redesigned macroeconomic policy framework, policy coordination, financial stability, fiscal space, economic theory,*

financial regulation, economic cycles, speculative booms, tax regulation, Keynesianism, macroprudential interventions.

1. Introduction

The global financial and economic crisis (the Great Recession) showed that macroeconomists and central banks know less than they previously believed they knew, thus questioning the theoretical fundamentals of economic policy (Krugman, 2008). Romer (2011) clearly pointed to several segments with fragile postulates serving as basis for the macroeconomic policy framework: They thought that macroeconomic fluctuations were under control; they thought that the zero lower bound nominal interest rate presented none or only a minimal problem; they did not pay much attention to financial regulation and to financial disturbances of the macroeconomics; the idea that economic policy creators would tolerate a period (several years) of substantially increased unemployment rate became reality; the leading new Keynesian models (DSGE) were of little help. The global crisis disproved the widespread belief that large economic downfalls can be overcome only with monetary policy tools and fiscal policy once again became interesting and important (see Krugman, 2009).

The analysis of the lessons from the Great Recession and their implications on macroeconomic policies is complex and requires a thorough knowledge of the problems and causes for the crisis – global imbalances, loose monetary policy, the new financial architecture and relations, inadequate regulation and supervision, real estate bubbles. Many studies analyze the lessons learned from the recent global economic crisis, as well as the lessons from previous crises, trying to reach valuable conclusions that can help economic theory and policy in the future. However, most of the studies focus on one element, meaning on certain problems of economic theory or certain issues and elements/effects of economic policy, with empirical studies being generally more specialized than theoretical or analytical studies. For example, Bernanke (2010) reviews four lessons from the crisis: first – economic prosperity largely depends on financial stability and the health of the financial system; second – policy creators should respond strongly, creatively and determinedly in order to efficiently handle severe economic crises; third – global crises require an international policy response – the global economy and the financial systems will sink or sail/swim together; fourth – particularly important, history is never the prefect guide, which can be best seen in the words of Mark Twain "History does not repeat itself, but it does rhyme". Blanchard et al. (2010) discuss the reassessment of economic policy and find some key points: a stable inflation may be necessary, but it is not sufficient; low inflation limits the scope for monetary policy in terms of deflationary recessions; financial intermediation is of special importance; countercyclical fiscal policy is an important tool during crises; regulation is not macro-economically neutral; there is a need for reinterpretation of the "Great moderation". Another type of analysis using soft concepts and measures are especially interesting because usually are exploratory in nature and intend to provoke further research in area of interest. In this regard especially interesting is the research by Dana (1993) which elaborates what should be the extent and nature of governmental intervention in the economic sphere to achieve and create an environment conducive to entrepreneurship. The structure and purpose of this kind of research also could be foundation for future development of studies regarding lessons learned from certain crisis or economic changes, because these studies make attempt to give answer to research theses based on field research in a country, region, or beyond (see Dana, 1993, Kaynak and Dana, 2013).

The paper has a quite wide area of research, trying to tackle many problems faced by key economic policies and to create a redesigned macroeconomic policy framework. To our best knowledge, the economic literature is not very rich in this type of studies. This research is an attempt to fill the gap in the economic literature by summarizing all the dilemmas, practices and lessons concerning the area of designing fiscal and monetary policies during global economic crises. Thus the focus and research goals of this paper are widely set in line with the issues and dilemmas concerning the design of the key macroeconomic policies, their mutual interactions, as well as their effects on the macroeconomic environment in terms of crises. Having in mind the responses of the fiscal and monetary policy in the period before and during the global economic crisis we are specifically interested in the following questions/hypothesis:: what have we learned from the global economic crisis; is there a need for redesigning the existing framework of the key macroeconomic policies; is there a need to obtain a more efficient way to handle future economic crises; what are key elements of monetary/fiscal policy that should be modified.

Having this in mind, the rest of the paper is structured in five sections. The next section highlights the key challenges and dilemmas that the global economic crisis of 2008 imposed on economic theory and economic policy. The third and fourth sections are central in this study. They analyze the key lessons (also dilemmas) from the global crisis for fiscal and monetary policy and how these lessons reflect on the existing macroeconomic postulates. Based on the lessons learned from the recent global economic crisis about the need for active economic policy, its effectiveness and consequences, the fifth section finally provides a new, redesigned framework of the key macroeconomic policies. In the end, the conclusion offers some possible ways for economic policy and theory to take at the crossroad that they have reached.

2. Methodology

This paper provides a critical analysis of the available relevant theoretical and empirical literature and summarize in one place dilemmas, practices and lessons concerning the area of designing fiscal and monetary policies in terms of the recent global economic crises. We have in mind that the most of the studies in this area of research focus on one element, meaning they usually focuses on certain problems of economic theory or certain issues and elements/effects of economic policy, with empirical studies being generally more specialized than theoretical or analytical studies. Also these types of analyses that include the interrelations and research of different economic policy aspects in one place and try to determine the need to revise the economic concepts, usually is very difficult to rely on empirical data and analyzes that would lead to concrete conclusions, without the research reaching the size of several books. For these reasons, in such analyzes, the available data/information and the results of the numerous empirical studies (closely related to the focus of our research) are elaborated, synthesized and analyzed. The collection, systematization and analysis of the available data, as well as the interpretation of the results from empirical research are based on logical, consistent and scientifically based approach. The results of the research have been expressed in a clear and understandable way and in relative agreement with the previously established knowledge. The type and structure of this paper requires using a combination of research methods to examine the various aspects that are being analyzed. In the preparation of the paper, the focus was on the basic research methods: The method of comparative analysis was applied in order to analyze the different attitudes/positions related to the responses of the key economic policies (fiscal and monetary) on the various challenges as a result of the global crisis. The methods of induction and deduction are used in the sections where we make conclusions about the challenges and effects which the global economic crisis had on economic theory and policy, also in order to breakdown the elements of the economic policy response on the global crisis etc. Using the methods of analysis and synthesis, the available knowledge/data on the lessons learned by the economic policy for overcoming the global crisis have being analyzed, unified and systematized.

3. Relevant literature - The global economic crisis as a challenge to economic theory and policy

Times of crisis are a challenge for economic science, such as wars are a challenge for army officers. The recent crisis is a time when the economic profession should justify its existence and prove that its analyses and models can be useful. Various interpretations can be found concerning its responsibility (Manic, 2009; Trenovski, 2013; Trenovski et al. 2015). Three main remarks can go on the account of economists and their role in the recent crisis (see Krugman, 2011): failure to anticipate the emergence of the crisis; failure to even see the possibility for an emergence of such a crisis, leading to its fast spreading; failure to offer a useful advice on what to do once the crisis emerged, but instead offering only mixed voices, without a concrete guide for economic policy. It is not fair to blame economists for the first remark, however the second remark is more important, since any economist that remembers the history would know that financial crises are far from over, while the most catastrophic failure of economists is to offer principles and measures for guiding economic policy during the crisis. Other authors focus on the methodology and concrete research by present day economists. The non-defining of the most important economic problems in modern economies, the failure to locate and present the limitations and assumptions of popular models of the dominant paradigms, as well as the failure to provide timely warnings and concrete measures, all suggest a responsibility of the economic profession for the global economic crisis and the need for large changes and redefinitions in these fields (see Colander et al., 2009; Lawson, 2009).

The post-crisis economic literature if full of comparisons of the Great Recession with the Great Depression and the terms ‘biggest economic crisis since the Great Depression’, ‘the biggest economic depression repeats’, ‘we have not learned the lessons from the Great Depression’ are used in economic debates and terminology. This triggered many papers that analyze and compare the Great Depression and the Great Recession and also find the main lessons that should not be forgotten and should provide guidance for policy creators in the future (Cecchetti 1997, Cukierman, 2009, Romer, 2009)

Economists forgot once again that each economic crisis has its own specifics and hence the Global economic crisis left economic crisis confused once again. It took some time for economists to reach for the measures that relate to history, the Great Depression and Keynes (see Mărginean and Creţu, 2011; Praščević, 2009). The debate about the neglected role of the state in society and economy and about the necessary approach for balancing the state and the market is revived. Nevertheless, the other extreme and consequences of undertaken measures are also pointed (over borrowing, inefficient allocation of money, increased protectionism and regulation etc.), (Schneider and Kirchgässner, 2009).
Before the global economic crisis, there was a widespread agreement among economists that short-term economic stabilization should be in the hands of monetary authorities, mostly because of one of these reasons: skepticism surrounding the effects of fiscal policies based on the Ricardian equivalence arguments; if the monetary policy provides output stability, where is the role for fiscal policy?; the long lags in fiscal policy implementation and the political restrictions (Delong and Tyson, 2013). This crisis caused, on one hand, the discovery of monetary policy limits, its redesign through implementation of various unconventional measures, and on the other hand, an increased significance

of expansionary fiscal policies, especially in economies with sufficient fiscal space, and their role in stimulating economic activity, since the long duration of the crisis gives enough time for fiscal policy to achieve its goals (see more details in Blanchard et al. 2010; DeLong and Tyson, 2013; DeLong and Summers 2012; Spilimbergo et al., 2008). In this regard is especially important to mention a part of the previous relevant empirical studies which focuses on the effects and efficiency of monetary or fiscal policy and their impact on macroeconomic variables (dealing with economic crisis). The studies of fiscal policy give divergent results on the effectiveness of fiscal policy, the sign and size of fiscal multipliers, the effects of fiscal consolidation, the presence of Ricardian behavior etc. (for a review see Hemming, Kell and Mahfouz, 2002; Christiansen, 2008; Ilzetzki, Mendoza and Vegh, 2012; Auerbach and Gorodnichenko, 2012 etc.) The empirical studies on monetary policy give less divergent results and generally imply that: there is a strong relationship between money and prices in the long run; monetary aggregates or policy-controlled interest rates affect output in the short run; monetary policy affects prices with a certain lag; monetary policy is neutral in the long run (Bernanke and Blinder, 1992; Gordon and Leeper, 1994; Bernanke and Mihov, 1998; Kutan and Brada, 1999; etc).

The global financial and economic crisis also has point out the lack of an analytical framework that can help in predicting and dealing with emerging global financial imbalances, showing that they can cause serious macroeconomic consequences. If we make a retrospective, we can detect some fundamental flaws in the understanding of systematic risk. In fact, it is a failure to assess how aggressive risk taking by different types of financial institutions - against the background of robust macroeconomic performance and low interest rates - was a cause for huge growth in balances across financial systems. Excessive confidence in the self- adjustment ability of the financial system led to an underestimation of the growing value of debt and leverage, resulting from the credit boom and the rise in the prices of assets (especially real estate) –reflected in the historically lowest level of volatility in prices of assets and risk premium. In addition, there was an insufficient understanding and considering of the role of financial innovation and regulation in the creation of the financial boom, financial imbalances and strong consequences for the real economy (see Galati and Moessner, 2011) .

Although the traditional economic theory offered some advice on how to conduct active economic policy in terms of the Global economic crisis, we cannot deny the fact that economic science failed to quickly and efficiently deal with the crisis and hence disappointed the public. On the other hand, as the practice confirmed, the economic approach is flexible enough to face the occurring problems, and thus we don’t need new economics, but we should use all available measures and tools (considering the past and present economic instruments) to solve the current problems (see more Schneider and Kirchgässner, 2009).

4. Lessons learned for monetary policy

The Global economic crisis showed the importance and risks that can arise from the financial sector for economic activity and for macroeconomic policy. The zero bound interest rate proved to be a more serious problem and limitation for monetary policy than previously thought. The costs of the burst of the financial bubble triggered the debate about proactive monetary policy during crisis vs. "cleaning" after the crisis. These and many other challenges started a debate about the need for redesigning the framework for monetary policy after the crisis in order to increase its efficiency and to maintain its function and goal. Mishkin (2010), reviewing monetary policy strategies and the learned lessons, concludes that all the basic principles of monetary policy which were relevant before the crisis remain valid, but the importance of the principle that financial disagreements play an important role in the economic cycles is higher than anticipated by central banks before the crisis. The authors here would add: "the devil is in the details", i.e. although the basic principles of monetary policy in essence remain relevant, the changed financial and economic environment requires their further specification, defining, and there is a special need to question whether they are sufficient or there is room for their complementation with some new principles that would arise from the lessons from the global crisis.

1) ***The "Lean vs. Clean" monetary policy dilemma*** (see more Mishkin, 2010; White, 2010; Furceri and Mourougane, 2009), referring to whether monetary policy should act during potential threats from creation of bubbles – assets price growth. The global economic crisis taught us that a burst of a bubble created by high credit growth and financial imbalances, besides causing large costs, makes "cleaning" the financial and economic consequences very difficult. Therefore, we can expand this debate with the lesson that ***the costs for "cleaning" after a financial crisis are extremely large.*** In addition to large output losses, caused by the global recession, the financial crisis causes additional costs: financial crises are usually followed by a very slow growth, countries' fiscal positions have substantially worsened; central banks' exit strategy could be very complicated and could endanger the successful and credible functioning of central banks in the future. According to this, the importance of monetary policy in the response to potential threats is larger than "cleaning" after the materialization of the threat. If the debate is aimed at the possibility for monetary policy to react to potential threats, the next logical question would be: how to do that? We have on one hand macroprudential policies and regulations, whereas on the other hand we have the influence of monetary policy on the creation of credit bubbles "risk taking channel of monetary policy" (Tobias and Shin, 2010). Having in mind the confirmation that monetary policy impacts risk taking, does this mean that it should be used for preventing bubbles? There are also strong arguments against it – most generally, that would mean breaking the old rule – an instrument can be used for two purposes: stabilizing the financial sector and stabilizing the economy. Besides, there is another instrument available (macroprudential policies) for stabilizing the financial sector. The different aspects of this debate show that the decision to use monetary policy for prevention of bubbles is not easy to make. This points to the existence of a "trade-off" in monetary policy between financial stability and price and output stability. Giving another goal for monetary policy could lead to confusion about the dedication of the central bank to price stability, thus weakening the nominal anchor, causing potential adverse effects on the economy.

2) ***Speculative bubbles are difficult to identify ahead with certainty*** **-** The Global economic crisis proved that, despite the obvious inconsistencies and risks in the financial sector, the rapidly growing real estate (and the whole financial sector) bubble was difficult to detect. In the period of the creation of the bubble, the policy creators were relaxed that the observed variables and parameters were within normal limits (inflation rate, growth rate and many financial variables that were considered relevant). Some studies show that it is easier to determine credit bubbles than asset price bubbles (including credit-driven bubbles and bubbles of irrational enthusiasm), hence the higher importance of these bubbles for monetary policy (White, 2009; Mishkin, 2010). ***Thus, one of the key lessons for monetary policy creators is the creation of mechanism and instruments for detecting and signaling a development of credit bubbles*** **–** high credit growth, rising leverage, low risk margins, analysis of credit standards and policies etc. The analysis of potentially unsustainable credit and leverage growth is complex and requires accounting for corporations, households and financial (see more Caruana, 2009; Blanchard, 2009). The monitoring of credit markets and the markets of other financial instruments and intermediaries will become a particularly important activity. Thus, research in this field and reforms in this direction will be of special importance in the future.

3) ***The influence of monetary policy (low reference interest rates) on risk taking*** (see more Jiménez et al., 2007). Several channels are often found for low reference interest rates to affect risk taking (Mishkin, 2010; Adrian and Shin, 2010a , 2010b; Gambacorta, 2009; Tirole and Farhi, 2009): low interest rates can increase incentives of asset and risk managers in financial institutions for "search for profit" and thus to substantially increase risk taking; low reference interest rates increase interest margins (they can increase the value of collateral) and to increase the value of financial companies, thus increasing their capacity for higher leverage and risk taking; although desired in view of establishing credibility and a strong nominal anchor, a predictable monetary policy can reduce uncertainty and encourage financial managers (institutions) to underestimate risk; monetary policy, with "cleaning" of financial collapses via lowering the reference interest rate (Greenspan put), leads to: moral hazard, where financial institutions expect the central bank to save them from bad investments; increased systemic risk, when a number of large financial companies have disturbances which stimulates them to conduct similar investment strategies.

4) ***The reference interest rate is a weak and inefficient tool for handling increased leverage, risk taking and deviations of asset prices*** (see Claessens et al., 2010; Caruana, 2009) If low interest rates lead indeed to higher leverage and risk taking, than should the central bank keep a higher reference interest rate than the level implied by standard interest rules? If the monetary policy does not hold other available instruments, it would face a difficult choice, having to accept a moderate positive output gap in return for lower risk taking. Besides, during large expansions, the expected return on investments can be so big that marginal changes in interest rates can only slightly affect the investment decisions. The larger the expansion, the less the speculative component of their investment decisions is correlated to the central bank interest rate.[1] We must not forget the lesson that the zero bound is a bigger problem than previously thought and that it strongly limits the scope of monetary policy acting. There is a wide debate over the extent of that limitation, having in mind the unconventional measures and their efficiency (see IMF, 2010). It is however clear that the basic tool of monetary policy (reference rate) has reached its limit during crisis. Thus, without the wide unconventional set of instruments and macroprudent support, ***monetary policy by itself is not efficient enough to handle speculative booms*** (see more Mishkin, 2009; Blanchard, 2009, Moghadam, 2009).

5) ***A false dichotomy between monetary policy and the financial stability policy*** (see Mishkin, 2010; Hannoun, 2012). Monetary policy and financial stability are crucially related and hence the dichotomy between the two is false. As seen, monetary policy can affect strongly the financial stability, while macroprudential policies for promoting financial stability will affect monetary policy, e.g. if interest rates are kept low, there is a possibility of rising risk of forming of a credit bubble. In such case, tightening macrodprudential policies can help prevent the bubble. Therefore, it is important to note that the coordination of monetary and macroprudent policy is of special importance if we wish to achieve all three goals – price, financial and economic stability.

6) ***Monetary policy should take into account the macro-financial stability, and not only the price*** (see Blanchard, 2009; Moghadam, 2009;IMF, 2010). The global crisis triggered the need for monetary decisions to be based on a framework which incorporates long-term implications of the expected booms (specific markets bubbles) for inflation and economic growth. Inflation remains the main goal of monetary policy. However, policy creators should pay more attention to asset price movements, credit expansions, leverage and systemic risk . When the systemic risk can cause adverse effects on the economy, and the financial regulation is not capable to fully prevent that from happening, monetary policy can play an active role. However, the risk of diminishing credibility in the fight against inflation will be larger and this is a similar argument to the one that caused the division of monetary and supervisory authorities. Hence, ***financial stability (or more directly asset price stability) should not be an explicit target of monetary policy.*** The monetary authorities can instead take into account the effect of their decisions on asset prices, on financial stability and on the

[1] The tightened monetary conditions in the EU did not prevent European banks to invest in mortgage securities in the USA or to aggressively lend in foreign currencies to East-European banks and households.

response of regulation/supervision, only by the extent of their influence on inflation and growth in the long run, similar to the way they take into account the effect of interest rates on the fiscal balance and the monetary policy reaction. Considering the limitations of monetary policy, ***the burden of preventing credit booms should firstly fall on flexible prudent and supervisory policies*** in order to smooth the pro-cyclicality of financial intermediation. Prudent and administrative measures can provide more precise and rational (less costly) solutions than the changes in reference interest rate and they should be in the centre of the integrated policy response. ***Thus, prudent and supervisory policies will be more effective in handling the specific risks that accompany the boom*** (Caruana, 2009; IMF, 2010).

7) ***The need for coordination of monetary policy and regulation*** (see more Claessens et al., 2010; Blanchard et al., 2010). The Global crisis strongly influenced toward a reconnection of monetary and regulatory policy, and even pointed to monetary policy as the most appropriate candidate for macroprudential regulation. Central banks are ideally positioned to monitor macroeconomic movements, inconsistent communication between the two policies has significant consequences for the whole economic system (clearly seen from the global crisis), and in addition the potential implications from the decisions of monetary policy for macroprudent stability are of extreme importance. There are two main arguments against the decision to grant central banks such power: first, central banks will have a "softer" approach toward inflation, having in mind that rises in interest rates will have adverse effects on banks' balance sheets; second, the central bank will have a more complex mandate and in that case it would be less responsible and calculating. Both arguments deserve attention and point to the need for increasing the transparency of central banks, provided they get that function. If we look at the other option – division of these policies and the way that mechanism would work, we can realize that it is not providing higher efficiency of the instruments in times of crisis.

8) Is a stable inflation necessary, but not sufficient? Should the inflation target be increased? The Global economic crisis showed that inflation and output gap can be stable while asset prices, credit aggregates or output structure are unfavourable and cause strong macroeconomic repercussions. It also showed that the zero bound interest rate can be a serious limitation of the scope for action of monetary policy. Thus, questions were initiated about the relevance and height of inflation as a main target of monetary policy. There is still a considerable support of the view that the central bank should strongly and credibly dedicate to stabilizing inflation in the long run by publishing an explicit, numerical inflation target, but there should still be flexibility to undertake output stabilization policies in the short run (flexible inflation targeting). The arguments in favour of maintaining low and stable inflation (the often mentioned 2% target) are that the costs of reducing the higher level of inflation should be considered and that the relevance of higher inflation only arises when reaching the zero bound, which rarely occurs (see more Mishkin, 2010, 2009). There are opinions in favour of increasing the inflation target (e.g. 4%), thus leaving more room for maneuver for monetary policy during crisis episodes, arguing that the costs of the narrowed space for monetary policy are also significant, that inflation is a tax like all the others, that the economic system can be adjusted (increasing its inflation neutrality, securities indexing etc.) in order to reduce the distortions caused by the higher inflation level etc. (Blanchard et al., 2010). The reactions to these recommendations for higher inflation target are strong and alarming, that this defocuses monetary policy from its main goal and that the hard earned credibility can easily be lost (Hannoun, 2012). As one solution to the dilemma there is an alternative to inflation targeting – price level targeting – which would have a smaller influence on output variations. However, there are studies that claim the opposite and highlight that this target would be difficult to communicate with the public (see Mishkin, 2010; Vestin, 2006).

9) Securing a higher level of liquidity can have positive effects (see more Blanchard et al., 2010; Claessens et al., 2010; Furceri and Mourougane, 2009; Caruana, 2009). The Global economic crisis forced central banks to expand their role as a last resort creditor. They expanded their scope to non-deposit financial institutions and intervened directly or indirectly on a large number of financial markets. Many studies confirm that the expanded role of central banks had a decisive role on the stabilization of financial markets and expectations and in alleviating the financial collapse (but initiated many risks for central banks). This opens the dilemma of whether these functions should be kept as a practice in the regular toolkit of central banks. Generally, about providing liquidity in a case of a sharp investors' run from certain markets or banking crises – the government is in a unique position to intervene, having in mind the source of funds (taxation) and the time horizon for intervention. In this case several potential problems appear: risks to central bank's balance sheet, a portfolio term structure transformation of financial institutions (toward less liquid) and the moral hazard as a result of the wide support. However, these problems are solvable by using certain insurance schemes, lists of acceptable collateral, meeting certain supervision and regulation standards for access to liquidity etc.

10) Central banks will have to set clear boundaries between monetary and fiscal policy. Avoiding fiscal dominance will require decisive steps by central banks and by other policy creators (fiscal authorities). The central bank has a monopoly over the interest rate policy, but not over the balance sheet policy. Almost every balance sheet policy of central banks can be replaced by the government. Balance sheet policies should be regarded within the balance sheet of the whole economy, because each balance sheet policy conducted by the central bank influences the consolidated public sector budget. Thus, the numerous unconventional policies employed by central banks during the crisis, which surpassed the limit between fiscal and monetary policy, should be accordingly abandoned, in order to maintain the credibility and clear goals of monetary policy untouched (see more Hannoun, 2012, Trenovski and Tashevska, 2015).

11) Creating a risk management approach. The increased importance of financial disturbances and the nonlinearities in the economy triggered the creation of ways to manage risks by monetary policy (see more in Mishkin, 2010. IMF, 2010; Moghadam, 2009). The first element of this approach should be the preventive action of monetary policy on financial disturbances when a macroeconomic risk is found to be present (a large possibility that this disturbance will cause strong adverse effects on the real economy). The second element is the timely action (waiting too long can be costly) once the financial events are found to threaten with adverse effects on the key macroeconomic goals of monetary policy (using all available data and information). The third element is the decisive action when the above mentioned risks are present, without giving confusing signals, to calm expectations. The fourth element of this approach is particularly important and refers to policy flexibility – financial markets can often change their direction and their effects on the macroeconomic environment. There are risks in the use of this approach, considering that it could create a perception that monetary policy cares more about economic stability than about price stability (due to which the approach is widely criticized). Hence, the decision for its implementation requires subdued inflation expectations and dedication to the nominal anchor.

12) The Great Recession highlights the significance and need for domestic and international policy coordination . On a national level, macroeconomic and financial stability are treated separately. None of the policy creators could realize the risks coming from the shadow financial sector, nor paid bigger attention to the wider effects of credit growth trends, leverage and systemic risk. Considering the many relations between different financial institutions on a global level and the increasing trend of globalization of financial systems, it becomes clear that there is an unavoidable need for larger international coordination of monetary and regulatory authorities. In this aspect, the following is especially important for improving the macroeconomic framework and reducing the adverse effects of potential future economic and financial shocks (Caruana, 2009; Blanshard, 2009): following and exchange of information on the movements of economic and financial variables (leverage, systemic risk, asset prices), sharing prognoses and assumptions about certain risks and weaknesses of policies/regulation for policy coordination, which can have significant spillover effects, and coordination in cases when there is need for liquidity support of the affected economies. As a part of this lesson we have to point out that t**he cooperation among central banks is important to internalize the global effects of individual monetary and foreign exchange policies** (see Hannoun, 2012; Blanchard et al., 2010). A monetary policy aimed at maintaining a certain level of foreign exchange rate can only unintentionally achieve a set level of inflation rate. The only way to reduce the dominance of the foreign exchange rate is to let it flow. This is especially important for small open economies where the foreign exchange rate fluctuations can have large adverse effects and which should consider the stability of the foreign exchange rate as a part of their goal function. The global economic crisis, accompanied by large variations of the global demand and the effects on the real sector and trade, increased the significance of the cooperation among central banks in order to internalize the global effects of individual monetary policies. In this sense, developing countries should take into account the global implications of their foreign exchange rate policies, while developed economies should take into account the spillover effects of their expansionary monetary policies on the constellations of foreign exchange rates.

13) Setting limits for central bank interventions on financial markets (see more Hannoun, 2012). This lesson is especially important considering that the short term success of unconventional policies lead to higher expectations that central banks will strongly intervene on financial markets in the future as well. Central banks should try to avoid creating such expectations, by clearly acknowledging and pointing that there are time and scope limits of their interventions (while at the same time leaving the option to intervene in the future if necessary). Monetary policy should carefully withdraw and leave the market to regulate the value of financial assets and intermediaries, while not creating a moral hazard.

14) The efficiency of monetary policy is often limited by the openness of the capital account (Blanshard, 2009). This especially applies to small open economies with developed financial sectors, where banks have an easy access to foreign credits. The policy of reserve requirements can sometimes be efficient in lowering credit growth in domestic currency. In many countries the presence of dollarization presents a specific problem. Eastern European countries' experience shows that restrictive monetary policy leads to reduction of domestic currency borrowing and a corresponding increase in foreign currency denominated credits, thus increasing the risk of a potential financial shock. Further, monetary policy tightening can trigger expectations for currency appreciation, which could cause a further increase of capital inflows (which was proved to possibly lead to creating bubbles).

As can be seen from the elaborated lessons/implications, the global economic crisis showed that there is a need for redefining or expanding of certain parts of the existing monetary policy framework – to take into account the limits and efficiency of monetary policy, its role in the prevention and handling financial booms, its structure and cooperation with other economic policies, regulation and supervision, its goals and relation to the financial stability etc.

5. Lessons learned for fiscal policy

During the global crisis there were often demands for governments of many countries to actively use fiscal policy as a stimulus and a tool for handling the sharp fall of economic activity. However, risks that accompanies the increase of public debt further rise due to the low growth of potential GDP and higher interest rates, which can have further prolonged fiscal implications, especially if accompanied by a fall in employment. Higher interest rates additionally increase risks and implications, especially for countries with a large public debt burden or which plan to increase that burden.

During the few recent years a vast literature appeared on the lessons and implications regarding fiscal policy, resulting from the crisis and its importance strengthens considering that some authors divide the development of the economic crisis into three parts (crises) – financial crisis, unemployment crisis and fiscal crisis (e.g. Blanchard et al., 2012). Unemployment is a big problem and the fiscal problems (especially in Europe) still have no clear perspective. Romer (2011) writes about what we have learned from the crisis about fiscal policy: there is a need for fiscal stabilization measures in the short run; there is strong evidence that fiscal policy is more effective and more stimulating compared to the pre-crisis period; fiscal space is especially important; the features and factors of political economy are of a special importance. In a latter paper Blanchard et al. (2012) adds that: unsustainable fiscal deficits ultimately lead to collapse; the fast implementation of austerity programs is most often counter-productive, there is a need for "back-loaded" austerity programs; strong countries should conduct expansionary fiscal policies; structural reforms are necessary, but their benefits are felt in the long run; monetary policy could be very helpful. The IMF (see Blanchard, 2009), pointed out that many countries did not provide enough fiscal space in the pre-crisis expansionary years; fiscal policy can help reduce the speculative episodes and handle the consequences after their end; tax distortions are not direct causes of the crisis, but can impact an increase in leverage; ad-hoc changes in the tax regulation are not the most adequate way to control speculative booms. Blanchard et al. (2010) highlight that it is extremely important to create more fiscal space in "good times" and to redesign better automatic fiscal stabilizers. Furceri and Mourougane (2009) focus on the importance of automatic stabilizers, the design of fiscal packages, the international coordination of fiscal policy etc. However, drastic worsening of many developed nations' fiscal state, as a result of a decreased economic activity and of various fiscal packages aimed at the financial sector and the economy as a whole, complemented by budgetary pressures from an aging population, activated debates on the size, sustainability and the consequences of budget deficits and public dept. Recent events, part as a consequence of the global cises, particularly the conditions created by the European debt crisis under which, some EU member states faced difficulties in access to markets, confirmed that the challenges of fiscal sustainability are not only long-term, and are not typical only of developing countries, but are a real problem for developed countries with a growing public debt, stagnant economic growth, unfavorable demographic trends and obligations passed on by the financial sector. This imposed the sustainability of public finances as one of the most important macroeconomic subjects for number of countrie on a global level. Based on the literature focused on these issues and the characteristics and effects of fiscal policy, we can summarize several general lessons and implications for the new redesigned fiscal policy framework after the global economic crisis.

1) ***There is strong evidence that fiscal policy is more effective and more stimulating compared to the pre-crisis period,*** which makes it an important factor for stabilization and stimulation of the economy in terms of the global crisis (see more Romer, 2011). Starting from 1985 and up until 2006, things seemed much different than today – fluctuations and cycles were smoothed, in most cases monetary policy had the necessary instruments to cope with the problems, while the effects and importance of fiscal policy were minimal. The global crisis, especially when monetary policy does not respond aggressively or is not able to, opened a new chapter and provided an open room for fiscal policy. This is confirmed with numerous analyses of the effects and experiences from expansionary fiscal policy in certain countries, regions or country groups in terms of the global crisis (see more Leigh et al., 2010; Nakamura and Steinsson, 2011). In addition, looking only at the effects on economic activity from expansionary fiscal policy during the two world wars, and at the macroeconomic links of monetary policy, aggregate demand, disposable income, investments, it becomes more obvious that fiscal policy as a part of the macroeconomic framework is a powerful tool in times of crisis.

2) ***Fiscal space is particularly important, hence creating more fiscal space in "good times" is of extreme importance*** (see more Blanchard et al., 2010, Romer, 2011; Blanshard, 2009; Claessens et al., 2010). This is one of the key lessons – to have enough fiscal space at disposal in order to use larger fiscal deficits when necessary. In order to back this lesson, let's assume that Europe (and USA) at the beginning of the crisis had low debt ratios, insignificant problems with demographic trends and with confidence in policy creators that they wouldn't turn the temporary measures into permanent. In that case, what would have prevented Europe (or any other country) to implement a much more expansionary fiscal packages? For example, China and Australia had a strong fiscal expansion, despite being only slightly affected by the crisis and the monetary policy was still able to react. This crisis shows first that the indebtedness target level should be lower than the one before the crisis. In this sense, in the next 10 or 20 years, when cyclical conditions allow, there should be a strong fiscal consolidation, while the recovery of economic growth should be mainly used to reduce the debt/GDP ratio, and not to finance increased public expenditures nor to reduce taxes. This can be supported with medium term fiscal frameworks, credible commitment to debt/GDP reduction, fiscal rues, avoidance of linking concrete public revenues to public expenditures, well designed budget process etc. In addition we should note that strengthening fiscal frameworks, in particular fiscal rules, has emerged as a key response to the fiscal legacy of the crisis. One IMF study covering national and supranational fiscal rules, in 81 countries from 1985 to end-March 2012 indicate three key findings (see Schaechter et al.,2012): many new fiscal rules have been adopted and existing ones strengthened in response to the crisis; the number of fiscal rules and the comprehensiveness of the design features in emerging economies has caught up to those in advanced economies; and the "next-generation" fiscal rules are increasingly complex as they combine the objectives of sustainability and with the need for flexibility in response to shocks.

3)

4) ***Unsustainable long term fiscal deficits ultimately lead to default*** (fiscal crises, crowding out and asymmetric growth, limitations of discretionary stimuli). Unsustainable fiscal deficits could cause a fiscal crisis, even in developed countries (e.g. European countries), which points to the general lesson that deficits are much more significant in the long run than previously thought to be (see more Blanchard et al., 2012, IMF, 2009). Thus far it has not been very believable that markets could turn on stable, developed economies, such as Spain, Portugal, Ireland etc. Now it is clear that fiscal crises happen in economies only when it becomes clear to the markets that the budget deficits are completely unsustainable and that there is a clear unpreparedness or inability of policy creators to handle the situation. It is worth to mention here the focus of economists on the link between rising indebtedness, growth of interest rates and crowding out of the private sector. Although the crowding out effect has been extensively documented in the economic literature, it should be pointed that it is often forgotten that extensive public borrowing can harm the economy even if there are enough capital inflows to keep low interest rates. The final general consequence of permanent budget deficits, which can be clearly seen in the recent crisis, is the limitations that countries face to react in times of recessions.

5) ***Fiscal policy can help reduce/shorten the speculative episodes and handle their consequences in the aftermath***. Fiscal buffers should be created in "normal times", while a well-designed fiscal framework based on rules can strengthen this fiscal position, which is especially important when the significant growth of asset prices by a temporary increase in tax revenues can hinder the shaky fiscal position. Beside, on aggregate level, fiscal policy, through reducing demand pressures, can alleviate booms and reduce the shock sensitivity of the economy (Blanshard, 2009).

6) **Changes in fiscal policy have significant short term effects**. There was a widespread consensus before the crisis among macroeconomists and policy creators that short term stabilization belongs almost exclusively to monetary policy. Monetary policy is flexible, easily isolated from political pressures, conducted mostly by experts, the zero bound interest rate presents no serious problem and monetary policy has other tools at its disposal. However, the global crisis proved that this view is largely wrong (Blanchard, et al., 2012). Perhaps the measure package used by central banks in the crisis was limited by the potential costs, but one thing became clear: the economies needed new tools and the natural alternative of monetary instruments is fiscal instruments. Therefore, almost every developed (and developing) country implemented large fiscal stimulus (see Council of Economic Advisors, 2009; Crowe et al., 2009). There are many studies that, analyzing the effects of exogenous changes in fiscal policy, find that fiscal policy actions had strong effects on employment and output in the short run (see Romer and Romer, 2010);

7) **The tax structure impacts the increase of leverage and the sensitivity of the private sector to shocks.** Thus, although tax distortions are not direct causes of the crisis, they can strongly influence the rise of leverage (Blanshard, 2009). Although changes in the tax framework are still at the beginning in many countries, there are no notable larger changes in the tendency to change the tax structure, aimed at supporting the high level of indebtedness of households and businesses (including the financial sector). Regulations, e.g. the ones that refer to reducing the tax base for interest paid on mortgage, or interest that companies pay on newly issued debt, can technically be alleviated and leveled with other market regulations. This is a view and lesson that should be carefully taken into account and implemented considering the situation in the sectors being stimulated and the political pressures. However, once the economic recovery gets pace, this alternative should be seriously reviewed.

8) ***Designing better automatic fiscal stabilizers*** is of extreme importance (Blanchard et al., 2010; Furceri and Mourougane, 2009; IMF, 2009). The specifics of the global crisis and its effects were a challenge for discretionary fiscal policy, which in many cases came a moment too late to handle the recession or its effects were mixed. The dilemmas and problems opened by fiscal discretionary measures were large enough reason to pay more attention to automatic stabilizers in the new fiscal framework. In this case our focus should be aimed at two types of automatic stabilizers (see Claessens et al., 2010):[2] genuine automatic stabilizers, which by their nature imply a reduction in transfers or increase in tax revenues; and rules that allow for some transfers and taxes to vary on basis of previously specified triggers, related to the economic cycle. To achieve larger macroeconomic effects, the reforms in the first group of automatic stabilizers can be aimed at increasing the role of the state, larger progressivity of taxes or more generous social programs. Having in mind the causes and consequences of the global crisis, for fiscal policies more interesting is the second group of stabilizers, ones not related to complicated procedures, large costs as the first group, and which can be implemented on both public expenditures and public revenues (taxes) sides with large multipliers. Regarding taxes, they can target low income households (variants of tax discount, percentage reduction of the tax obligation etc.) or companies (tax relief determined by the cycle). Regarding expenditures, temporary transfers can be aimed at low income households or households facing other problems, according to previously defined thresholds of certain economic variables (GDP, unemployment, disposable income etc.).

9) ***The quick implementation of austerity programs is often counter-productive. In this sense, there is need for back-loaded austerity policies*** (see more Romer, 2012; Leigh et al., 2010). Since fiscal consolidation has strong contractionary effects in the short run, a quick implementation of austerity programs will make more difficult or even impossible achieving budget progress. Thus, a sharp reduction of public expenditures and rise in taxes in countries with high unemployment rates will likely do more harm than good. A look at the data on European countries implementing austerity measures shows that almost all experienced a rise in unemployment and negative forecast for their future growth and a rising debt ratio. Adding the political reactions to these policies, especially in

[2] See more on automatic stabilizers in the IMF research by Baunsgaard and Symansky (2009).

countries with high unemployment rates, and the possibility of hysteresis effect, the arguments against the quick implementation of austerity programs and consolidation further strengthen. Their optimal response would be to adopt a plan for deficit reduction and to reduce public spending and increase taxes in phases – gradually (for which someone will inevitably pay the political cost).

10) ***Tax regulations can strongly influence the level, growth and variability of asset prices – however ad-hoc changes do not represent the most adequate way to control speculative booms***. The effects from taxation on the dynamics of asset prices are potentially complex and each ad-hoc undertaken measure increases the risk and possibility for tax evasion. For example, reducing the tax base for paid dividend (USA) can increase stock prices etc. The measures of financial regulation can be better directed, providing neutrality among different types of assets and income, which is a solid basis for the tax policy the countercyclical component of which would in that case be implemented in the best way and equally for everyone (Blanshard, 2009).

11) **Strong countries should implement expansionary fiscal policies**. This will have positive effects, firstly for the countries implementing these policies and the positive externalities will spillover to their neighbours, trade partners and other countries by increasing the global demand, confidence, recovery of the financial system etc. (Romer, 2012). However, the fiscal policy response to the crisis showed an interesting tendency – the size of fiscal packages increases with the stability of the initial fiscal position, but decreased with the level of trade openness.

12) **International coordination of fiscal policy** is of extreme importance. It will enhance policy efficiency, especially in the cases where the trade and financial flows of the countries are closely integrated. A coordinated approach will also aid the consistency of the timing and distribution of fiscal stimuli among countries (see Furceri and Mourougane, 2009). Past experience provides little information and is a poor guide for the selection of different instruments in terms of the recent global and complex situation. In any case, stabilization policies in the short run should be consistent with the long run fiscal sustainability.

12) Structural reforms are positive and necessary, but their gains are felt in the long run. Facing problems such as reducing the power of monopolies, tax policy reform and its unification, improvement of the business climate and reducing the restrictions, enhancing the flexibility and productivity of labour markets, the long run economic growth will undoubtedly be higher. Since economic growth is essential for fiscal health, structural reforms are important for the long run solvency (Blanchard, et al., 2012). Yet, structural reforms should not be considered as substitutes for expansionary fiscal policy in stimulating aggregate demand (in the short run), nor as complementaries to consolidation policies, but as their partial substitutes.

13) Monetary policy should be very supportive. One of the key lessons is that monetary policy should play a larger role (especially in countries with enough space). The process in many countries with high unemployment rates, large budget deficits, gradualist consolidation programs, can be substantially alleviated if monetary policy remains expansionary (see more Romer, 2012).

14) The characteristics and factors of the political economy are especially important (see more Romer, 2011). The beliefs of the political economy are central in understanding the fiscal policy response to the global crisis. The gap between adequate (ideal) policies that should be undertaken and the ones that are undertaken in the economies across the world arises from the way that political systems work. Theory and practice point that the reasons behind the often unfavorable outcomes from the political process cannot be found in rational agents models with sophisticated economic reasoning. This can be explained with the very fact that the incentives and ability of voters to understand difficult political decisions is minimal. Thus, their rationality is guided by intuition, impressions, emotions etc.

At the end some questions which should close the new fiscal framework and complete the lessons regarding effects/efficiency of the fiscal policy still remain open: first, there is still room for assessing the efficiency and costs for the economy, of the different structures of fiscal stimulus; second, the fiscal crisis that in many countries (above all Europe) followed the global economic crisis remains a challenge for defining the new fiscal framework and an opportunity for its testing; third, the question about an efficient use of the lesson for better coordination of fiscal policy on a global scale is still open; and lastly, the extent to which the fiscal policy lessons triggered by the global economic crisis will be implemented (or forgotten) is yet to be seen.

6. Redesigned Post-crisis Framework of Key Macroeconomic Policies

What we have learned for monetary policy

- *Speculative bubbles are difficult to identify ahead with certainty;*
- *Creation of mechanism for detecting/signaling a development of credit bubbles/increased leverage/ risk taking, is necessary;*
- *The influence of monetary policy (low reference interest rates) on risk taking is relevant;*
- *Monetary policy by itself is not efficient enough to handle speculative booms;*
- *There is a false dichotomy between monetary policy and the financial stability policy;*
- *Monetary policy should take into account the macro-financial stability, and not only the price;*
- *There is significant need for coordination of monetary policy and regulation;*
- *The burden of preventing credit booms should firstly fall on flexible prudent and supervisory policies/*
- *Stable inflation is necessary, but not sufficient;*
- *Securing a higher level of liquidity can have positive effects;*
- *Central banks will have to set clear boundaries between monetary and fiscal policy;*
- *The efficiency of monetary policy is often limited by the openness of the capital account;*
- *Creating a risk management approach*

- *The Global crisis highlights the significance and need for domestic and international policy coordination;*
- *Setting limits for central bank interventions on financial markets.*

What we have learned for fiscal policy

- *Fiscal policy is more effective and more stimulating compared to the pre-crisis period;*
- *Fiscal space is particularly important, hence creating more fiscal space in "good times" is of extreme importance;*
- *Unsustainable long term fiscal deficits ultimately lead to default;*
- *Fiscal policy can help reduce/shorten the speculative episodes and handle their consequences in the aftermath;*
- *There is need for short run stabilization fiscal measures, i.e. changes in fiscal policy have significant short term effects;*
- *Designing better automatic fiscal stabilizers is of extreme importance;*
- *The quick implementation of austerity programs is often counter-productive;*
- *Tax regulations can strongly influence the level, growth and variability of asset prices;.*
- *The tax structure impacts the increase of leverage and the sensitivity of the private sector to shocks;*
- *Strong countries should implement expansionary fiscal policies;*
- *International coordination of fiscal policy is of extreme importance;*
- *Structural reforms are positive and necessary, but their gains are felt in the long run;*
- *Monetary policy should play a larger role (should be very supportive), especially in countries with enough space;*
- *The characteristics and factors of the political economy are of special importance.*

6. Conclusion

Before the global economic crisis, there was a widespread agreement among economists that short-term economic stabilization should be in the hands of monetary authorities, mostly because of one of these reasons: skepticism surrounding the effects of fiscal policies based on the Ricardian equivalence arguments; if the monetary policy provides output stability, where is the role for fiscal policy?; the long lags in fiscal policy implementation and the political restrictions. This crisis caused, on one hand, the discovery of monetary policy limits, its redesign through implementation of various unconventional measures, and on the other hand, an increased significance of expansionary fiscal policies, especially in economies with sufficient fiscal space, and their role in stimulating economic activity, since the long duration of the crisis gives enough time for fiscal policy to achieve its goals.

Macroeconomic policy brought to attention the failures of the pre-crisis macroeconomic policy framework, forcing policy creators to employ new policies during the crisis and to think about a new redesigned macroeconomic policy framework. The ultimate aim of macroeconomic policy does not change – a stable output and stable inflation. However, the Great Recession proved that policy creators should follow more indicators (output structure, asset prices, systemic risk, leverage etc.) and that they have at their disposal more instruments than thought before the crisis. The global crisis also reveal that in many cases microprudential supervision failed to provide sufficient levels of capital and liquidity for financial institutions, in order to successfully deal with the shock. The effectiveness of monetary policy in dealing with systematic financial risk in terms of stable inflation, initiated a wide debate. In this respect, the present crisis has underlined the need to transcend/surpass the purely micro founded approach to financial regulation and supervision and to point out the need for significant attention to be put on the development and defining the element of macroeconomic policy for financial stability.

Our critical analysis points out 15 lessons for monetary policy which the monetary authorities should take into account in the process of designing their response to future crisis, among which: the dilemma “lean vs. clean”, the zero bound effects, the impact of monetary policy on undertaking risk in the economy, the limits and efficiency of monetary policy, its role in preventing and handling financial booms, the dichotomy between monetary policy and policy for financial stability etc. The analysis also includes 14 lessons as a guide for governments to design their fiscal policy during future global imbalances, addressing the efficiency of fiscal policies during large-scale economic crises, the role and significance of fiscal space, the effectiveness of austerity programs, the coordination of fiscal policies on a global level, the coordination and interactions with monetary policy etc. The results of this study, especially the provided redesigned framework can serve as a reminder for the economists and economic policy creators to discuss, elaborate and analyze the lessons learned from the latest economic crisis in order to address future similar challenges more efficiently.

One of the benefits from such an analysis of the learned lessons and bases for redesigning the global framework of the key macroeconomic policies allowed us to make an adequate analysis and elaboration of the direction for economic theory and policy to be on in the future.

The analysis of the key lessons for monetary and fiscal policy indicated a change in “tastes” in the macroeconomic mix on a global level. Such questions always attract a wide interest and lead economists from different proveniences to strong debates about who was more right and which theory and policy should withdraw from its standpoint. Yet economists from all macroeconomic conceptions should admit that they were caught in a “headlock” and that no conception predicted clearly the incoming global storm nor managed to offer timely, concrete and efficient solutions to the problems. Despite the thorough analyses, studies and books, there is still a considerable amount of uncertainty about the future path of the economic science after the global crisis. The crisis did not give rise to a new economist or a new macroeconomic concept with a concrete platform for formulation of economic policies, in order to improve the economic reality and handle the new challenges imposed by the Global crisis. However, the analysis points to a switch of forces on the macroeconomic scene and to a reminder of the significant rol of government intervention (more Keynesian) in handling economic crises. Thus, if we remind ourselves about the alerts for the need for a combination of several macroeconomic conceptions and policies in order to successfully handle the challenges that appear in each separate situation, we come to the conclusion that again economic science in the future will be based on a mix of the dominant macroeconomic theories.

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