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# ŠIROKI KONSENZUS PRE I TOKOM KRIZE I BUDUĆI IZAZOVI CENTRALNOG BANKARSTVA

## Rezime

Glavni cilj niska i stabilna inflacija uz mikroprudencijalni nadzor bankarskog sektora nije bio dovoljan da osujeti i spreči nagomilavanje sistemskog rizika. Sa eskalacijom krize centralne banke su preduzele niz standardnih mera za ograničavanje i ublažavanje finansijskih neravnoteža. Standardne mere nisu ispunile očekivanja, pa su centralne banke bile prinuđene da aktiviraju nestandardne mere kako bi nadoknadile presušene izvore likvidnosti. Centralne banke su delovale inovativno, kreiranjem novih programa. One su obezbedile široke razmere likvidnosti uz povoljne kamate i pogodne kolaterale. Povećale su svoje bilanse i otkupile velike količine HoV od državnog i privatnog sektora. Te akcije su uticale na smirivanje finansijskih nevolja. Nakon krize preispituje se dosadašnji način rada centralnih banaka i njihova buduća uloga. Predkrizni široko prihvaćen konsenzus više nije održiv te su neophodne promene. Uбудuće, one treba da zadrže svoj glavni cilj, stabilnost cena ali i da prošire svoj uski mandat u uspostavljanju finansijske stabilnosti i doprinesu ostvarenju drugih makroekonomskih ciljeva.

**Ključne reči:** stabilnost cena, standardne mere, nestandardne mere, kriza, likvidnost, finansijska stabilnost

**Jel:** E32, E58, F33

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# BROAD CONSENSUS BEFORE AND DURING THE CRISIS AND FUTURE CHALLENGES OF CENTRAL BANKS

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## Summary

The main objective of low and stable inflation with micro-prudential supervision of the banking sector was not enough to counteract and prevent building-up of the systemic risk. With the escalation of the crisis central banks introduced a set of standard measures for containment and mitigation of financial imbalances. Standard measures did not meet expectations, and the central banks were forced to activate measures to compensate for the dried up sources of liquidity. Central banks acted in an innovative fashion by creating new programmes. They provided large proportions of liquidity and favourable interest rates, with suitable collaterals. In addition, they increased their balances and bought large amounts of securities from public and private sectors. Their actions were aimed to quell financial troubles. After the crisis subsided, current practices of central banks were reviewed and also their future role. Pre-crisis widely accepted consensus is no longer viable and changes are necessary. In the future, they need to keep their main objective, price stability, and to expand their narrow mandate in order to establish financial stability and contribute to the achievement of the other macroeconomic goals.

**Key words:** price stability, standard measures, non-standard measures, crisis, liquidity, financial stability

**Jel:** E32, E58, F33

## Uvod

U predkriznom periodu postignut je široki konsenzus između intelektualne, stručne i druge javnosti da je glavni cilj centralnih banaka da obezbede stabilnost cena, odnosno nisku i stabilnu inflaciju. Centralne banke su raspolagale nizom pogodnih alata i instrumenata pomoću kojih su u većini nacionalnih ekonomija ostvarile planirane ciljeve. Smatralo se da je osiguranje stabilnosti cena, sasvim dovoljan uslov za obezbeđenje makroekonomske stabilnosti. Istovremeno, centralne banke su bile zadužene za mikroprudencijalni nadzor i regulaciju bankarskog sektora. Verovalo se da stabilnost cena uz mikroprudencijalni nadzor i regulaciju bankarskog sektora mogu da obezbede finansijsku stabilnost celokupnog finansijskog sistema. Pri tom, stabilnost bankarskog sistema jedne nacionalne ekonomije je važna da bi se obezbedila globalna finansijska stabilnost. Nije se uvažavala sve veća prekogranična povezanost između finansijskih tržišta velikih finansijskih centara SAD, Velike Britanije i EU i mogućnosti preliivanja negativnih eksternalija. Prekogranična saradnja je dovela do međusobno složene interakcije između pojedinih makroekonomskih varijabla nacionalnih i globalne ekonomije. Labava monetarna politika i snažan pozitivan makroekonomski uzlet, uz stabilnu i nisku inflaciju, je optimistički se jao iluziju o mogućem trajnom i održivom razvoju. Posebno, ovaj polet je bio izražen u SAD, koji se reflektovao u pojavi velikih viškova likvidnosti i padu kamatnih stopa. Stvoren je pogodan ambijent za široku kreditnu ekspanziju. I umesto da rastu cene roba i usluga porasle su cene imovine, posebno cene nekretnina. Na rast cena imovine FED nije reagovao, što je prouzrokovalo postepeno zidanje cena mehurića. Pohlepa za prinose i pogrešne iluzije, su uticale na smanjenje percepcije prema riziku. Vremenom, mehurići su eksplodirali i domino efektima se prelili na globalnom nivou, šireći finansijsku nezapamćenu krizu.

Na krizu centralne banke su brzo i hitno reagovale primenom standardnih mera i alata. One su snizile kamatne stope na istorijskom, najnižem nivou, povećale operacije na otvorenom tržištu i poboljšale uslove preko diskontnih prozora. Standardne

mere i ostvarena stabilnost cena su umnogome sprečile dalje rasplamsavanje finansijske krize. Nakon sloma kompanije Leman likvidnost je presušila. Standardne mere nisu mogle da obezbede pravilno funkcionisanje nekih segmenata transmisionog kanala. Finansijska tržišta su postala sve disfunkcionalnija. Takve negativne tendencije su bile signal za preduzimanje novih nestandardnih mera. Nove nestandardne mere su proširile ulogu centralnih banaka, kao provajdera likvidnosti u poslednjoj istanci. Stvoreni su, bez presedana, novi finansijski objekti za snabdevanje likvidnosti, novi programi i nova politika refinansiranja. Centralne banke su u svojim bilansima obezbedile velike iznose likvidnih sredstava pod povoljnim uslovima uz pogodne kolaterale. Inovativne intervencije centralnih banka su spasile od kolapsa nacionalne i globalni finansijski sistem. Oporavak je bio vidljiv u drugoj polovini, 2009 god kada su ukinute mnoge nestandardne mere. Neke od nestandardnih mera ponovo su aktivirane a stvorene su i nove, kada se u nekim zemljama EU pojavila suverena dužnička kriza. Centralne banke su odigrale ključnu ulogu, tokom krize i interventnim merama, najviše, doprinele oporavku posrnutog finansijskog sistema.

Tradicionalno, posle svake finansijske krize, pa i ove, centralne banke su doživljavale promene. Već, nakon izvesne stabilizacije finansijskih prilika, povela se velika rasprava u intelektualnoj, stručnoj i široj javnosti o ulozi centralnih banaka u postkriznom periodu. Rasprave su najčešće usredsređene na preispitivanje dosadašnjeg načina vođenja monetarne politike i o budućoj ulozi centralnih banaka. Krićka preispitivanja uloga centralnih banaka su otkrila niz slabosti široko postignutog konsenzusa i uskog mandata pre i tokom krize. Identifikovane slabosti, pre i tokom krize su:

1. Isključiva posvećenost glavnom cilju, stabilnosti cena,
2. Zanemarivanje finansijske stabilnosti,
3. Ignorisanje rasta cena imovina,
4. Slaba saradnja i koordinacija sa ostalim vladinim agencijama.

Krićka preispitivanja načina rada i uloge, centralnih banaka, pre i tokom krize, dovela su do spoznaje, da dosadašnja ekonomska, intelektualna i organizaciona struktura

## Introduction

In the pre-crisis period a broad consensus was reached between intellectual, professional and other public circles recognising that the main objective of central banks is to provide price stability, i.e. a low and stable inflation. Central banks had available a series of appropriate tools and instruments by which in the majority of national economies they achieved planned objectives. The opinion prevailed that once insured price stability would be a more than ample prerequisite for providing an overall macroeconomic stability. Concurrently, central banks were tasked with micro-prudential supervision and regulation of the banking sector. It was believed that price stability together with micro-prudential supervision and banking sector regulation would be sufficient to provide financial stability of the entire financial system. In this instance, banking system stability of any given national economy was deemed important to secure the entire global financial security. What was disregarded were increasing cross-border interconnections between financial markets of the major financial centres in the U.S., UK, and the EU, and also the possibilities for the spill-over of negative externalities. Cross-border cooperation brought about a mutual complex interaction between individual macroeconomic variables of the national and global economies. The loose monetary policy and a robust positive macroeconomic rise, together with a stable and low inflation, were propagating an optimistic illusion of a feasible durable and sustainable development. This positive momentum was especially robust in the U.S., where it was reflected in the emergence of the high liquidity surpluses and the fall in the interest rates. An appropriate environment was created for a large-scale credit expansion. And instead of having the price growth of goods and services, what were on the growth were real-estate prices. The lust and craving for high returns and erroneous illusion caused the risk perception to relax. Fed did not react to the real-estate prices growth and that caused gradual build up of prices and bubbles. Over time, bubbles have exploded and the domino effects were spilling over on a global level, spreading a financial

crisis of an unprecedented proportion.

Central banks reacted promptly and urgently to the crisis by applying standard measures and tools. They lowered the interest rates down to an historic, lowest recorded level; they boosted open market operations and improved conditions through discount windows. Standard measures and the achieved price stability have greatly helped to prevent further escalation of financial crisis. After the collapse of the Lehman Brothers Company, liquidity dried out. Standard measures could no longer provide for proper functioning of some segments of the transmission channel. Financial markets were becoming increasingly dysfunctional. Such negative tendencies were a signal for undertaking some new and non-standard measures. The new non-standard measures were broadening out the role of central banks, as the liquidity provider of last resort. What was created, without any precedents, were the new financial vehicles for liquidity sourcing, new programs and the new refinancing policy. Central banks, in their balance sheets, provided large amounts of liquid assets under favourable conditions and with suitable collaterals. Innovative central banks interventions saved from collapse both national and global financial systems. The recovery was visible already in the second half of 2009, when many non-standard measures were suspended. Some of the non-standard measures were activated once again and the new ones created, when in some of the EU countries what emerged was the sovereign debt crisis. Central banks played the crucial role during the crisis and through intervention measures, and have contributed the most to the recovery of the financial system in distress.

Traditionally, after every financial crisis, and this one as well, central banks were experiencing changes. Already after a certain stabilisation of the financial situation, a major debate ensued in the intellectual and broader public circles on the role of central banks in the post-crisis period. Debates were mostly focused on the re-examination of the past manner in which monetary policy was conducted, and on the future role of the central banks. Critical narrative on the role that the central banks should play has revealed a number of

centralnih banaka nije više održiva. Zbog toga su potrebne promene u skladu sa novonastalim uslovima. Naučene lekcije iz krize, ukazuju da treba redefinisati dosadašnju ulogu centralnih banaka. Centralne banke treba da zadrže glavni cilj, stabilnost cena i da prošire svoj mandat na finansijsku stabilnost.

U buduće centralne banke će biti poligon eksperimentisanja u pronalaženju nove konture sa mnogobrojnim izazovima, koji će dolaziti iz unutrašnjeg, ali i spoljašnjeg okruženja.

## **Usko definisani mandat centralnih banaka pre krize**

Osamdesetih godina prošlog veka, epizode sa ekcesima cena nafte, su uticale na pad privredne aktivnosti. Centralne banke, da bi podstakle i oživele rast, reagovala su oštrim smanjenjem kamatnih stopa, svesno rizikujući porast inflacije. Iako, su one reagovala u skladu sa tadašnjom vladajućom makroekonomskom doktrinom, rezultat je, na iznenađenje svih ekonomista i centralnih banaka bio nastanak stagflacije. Iskustva sa naftnim ekscenim epizodama su kod šire intelektualne, političke i druge javnosti izazvala rasprave i polemike o budućim ciljevima i delokruga rada centralnih banaka. Tokom, rasprava, postignuta je saglasnost da centralne banke ne mogu istovremeno da kontrolišu inflaciju i nivo zaposlenosti. Iz te saglasnosti je proizašao široko prihvaćen konsenzus o budućoj ulozi centralnih banaka. Glavni cilj i odgovornost centralnih banaka je obezbeđenje niske i stabilne inflacije, odnosno stabilnost cena. Istovremeno, centralnim bankama je dodeljena nezavisnost u vođenju monetarne politike i određena diskreciona ovlašćenja kao važni preduslovi za ostvarenje glavnog cilja.

U ostvarivanju svog glavnog cilja stabilnost cena, odnosno upravljanje inflacionim očekivanjima većina centralnih banaka je usvojila strategiju ciljane inflacije. Upravljanje inflacionim očekivanjem je sprovedeno određivanjem kamatne stope i definisanjem inflatornog koridora, u okviru kog, centralne banke teže da drže ciljanu stopu inflacije. Verovalo se da je stabilnost cena sasvim dovoljan uslov da se obezbedi stabilnost celokupne privrede, a u nekim slučajevima i

finansijskog sistema. Isključiva posvećenost, većine centralnih banaka, ciljanoj inflaciji, neposredno se odrazilo na vođenje monetarne politike bez direktnog uticaja na monetarne agregate, kreditne pokazatelje i monetarne modele. U tom periodu, centralne banke su viđene kao „zajmodavci u krajnjoj nuždi“, poslednji provajderi likvidnost u slučaju pojave finansijskih neravnoteža. S pravom im je pripisivana upravljačka i stabilizirajuća uloga. Dodeljivanje ove uloge centralnim bankama, je ustvari imalo kontra efekte, pri čemu „su oslabljene dve funkcije u prevenciji krize: monetarna politika koja bi trebala da vodi računa o stabilnosti cena, dok bi regulacija i nadzor preuzele brigu za finansijsku stabilnost“. (Borio, 2011, str 2-3)

Takođe, nije postojala sasvim jasna i izdiferencirana uloga centralnih banaka u obezbeđenju makroekonomske i finansijske stabilnosti. Jedino, je bila jasna uloga centralnih banaka u regulaciji i nadzoru bankarskog sektora, odnosno pojedinačnih banaka. Banke prikupljaju kratkoročne i dugoročne depozita sa ciljem plasmana kratkoročnih i dugoročnih kredita svojim klijentima radi ostvarivanja svoje osnovne funkcije, profita. U traganju za visoke profite, banke, često mogu da ne posvete dovoljno pažnje riziku plasmana, što može da im se osveti gubitkom depozita. Neoprezno sklopljeni aranžmani između banaka i klijenata mogu usled asimetričnih informacija i negativne selekcije da dovedu do moralnog hazarda na štetu deponenata. Radi zaštite deponenata i sprečavanja nagomilavanja finansijskih nevolja, u bankarskom sistemu, neophodna je bila zakonska regulacija i vršenje nadzora. Ta uloga je poverena centralnim bankama koje su visoko softicirane i stručno osposobljene i raspolažu pogodnim mikroprudencijalnim instrumentima.

Finansijska stabilnost celokupnog finansijskog sistema nije bila u nadležnosti centralnih banaka. Istorijski gledano, one su prepoznale svoju značajnu ulogu u obezbeđenju finansijske stabilnosti celokupnog finansijskog sistema. Novim konsenzusom bile su skrajnute na marginama. Postojalo je snažno poverenje u hipotezi efikasnosti finansijskih tržišta. Smatralo se da bi regulacija i nadzor finansijskih tržišta sputavala njihov razvoj i ograničavala njihovu efikasnost. Verovalo se

shortcomings in the broad consensus reached and a narrow mandate granted both prior and during the crisis. Weaknesses identified prior and during the crisis were the following:

1. An exclusive focus on the main objective, price stability;
2. Neglect of financial stability;
3. Ignoring real-estate price growth;
4. A deficient cooperation and coordination with other government agencies.

Critical review of the manner of work and role of central banks, prior and during the crisis, led to the conclusion that the past economic, intellectual and organisational structure of central banks was no longer sustainable. Therefore changes were necessary in accordance with the newly arisen circumstances. Lessons learnt from the crisis show that it is necessary to re-define the role of central banks. Central banks should maintain their main objective, price stability, but should expand their mandate to encompass financial stability.

In future, central banks should become a training ground for experimenting in the quest for new contours with a multitude of challenges, deriving both from the internal, but also from the external environment.

### **Tight definition of the central banks pre-crisis mandate**

In the 1980s, the episodes with excess oil prices have impacted the fall in economic activities. Central banks, wishing to boost and revive growth, reacted by sharp lowering of interest rates, consciously risking growth of inflation. Although they reacted in accordance with the then prevailing macroeconomic doctrine, the result came as a surprise both to all the economists and central bankers, in the emergence of stagflation. Experience with the oil excess episodes caused debate to ensue in the broader intellectual, political and other public circles, causing discussion and polemics on the future objectives and the scope of work of the central banks. During the debates an agreement was reached that the central banks can not concurrently control inflation and employment level. The agreement on this point led to a broad consensus on the future role of central banks. The main objective and

responsibility of the central banks was to ensure low and stable inflation, i.e. price stability. At the same time, central banks were granted independence in conducting monetary policy and certain discretionary powers as important prerequisites for reaching their main objective.

In mastering the main objective of price stability, i.e. inflationary expectations management, the majority of central banks adopted the strategy of targeted inflation. Inflationary expectations management was conducted by determining interest rates and defining inflationary corridor, within which central banks strive to maintain targeted inflation rate. The opinion prevailed that price stability was quite a sufficient prerequisite to provide for stability of the overall economy, and in some cases even the stability of the financial system. The exclusive focus, by majority of central banks, on targeted inflation, directly was reflected on the monetary policy conducted, without any direct impact on the monetary aggregates, credit indicators and monetary models. In that period, central banks were seen as “lenders of last resort”, the last resort providers of liquidity in case of emergence of financial imbalances. They were rightfully assigned the managerial and stabilising role. Once this role was assigned to central banks, some counter-effects emerged, “where two functions in crisis prevention were derogated: monetary policy that was to care for price stability, while the regulation and supervision would care for financial stability”. (Borio, 2011, p. 2-3)

In addition, there was an absence of a completely clear and differentiated role of central banks in providing macroeconomic and financial stability. The only role of central banks that was clearly defined was that in the regulation and supervision of the banking sector, i.e. of individual banks. Banks are taking short-term and long-term deposits to be used for placement in short-term and long-term credits to their clients for purpose of achieving their basic function, i.e. profit making. In the quest for high profits, banks may often fail to pay sufficient attention to the placement risk, which in turn may cause them to suffer loss of deposits. When an arrangement is made between banks and clients without sufficient

da su efikasna finansijska tržišta sposobna da sama obezbede finansijsku stabilnost. Iz takvog verovanja, proizašlo je opšte prihvaćeno mišljenje, da centralne banke treba da se posvete isključivo mikroprudencijalnoj regulaciji i nadzoru bankarskog sektora a vladinim agencijama da se prepusti regulacija i nadzor nebankarskih finansijskih institucija i ostala finansijska infrastruktura. Uz to, ako nema jačih egzogenih finansijskih udara, vladine agencije su dovoljne da osiguraju stabilan rast ekonomije. Prekogranična saradnja i povezanost finansijskih tržišta nisu smatrana opasnim izvorom potencijalnih preliivanja finansijskih zaraza. Stabilnost cena, mikroprudencijalna regulacija i nadzor bankarskog sektora i (hipoteza) efikasnosti finansijskih tržišta su dovoljni da obezbede makroekonomsku i finansijsku stabilnost.

Iz prethodnog, proizašlo je uverenje, da ako centralne banke obezbede stabilnost cena i stabilnost bankarskog sektora u svojim nadležnim jurisdikcijama da će se to pozitivno, po nekom ne viđenom pravilu, odraziti na stabilnost međunarodnog finansijskog sistema. Dakle, stabilnost cena i bankarskog sektora nacionalnih ekonomija „automatski“ će obezbediti međunarodnu finansijsku stabilnost. Time su definisani očekivani doprinosi novog konsenzusa od centralnih banaka.

Očekivani doprinosi novog konsenzusa, pre krize, rezultirali su „obaranjem inflacije efektnom kombinacijom poboljšanja u vođenju monetarne politike, veće javne potražnje za stabilnost cena“ (Gerlach, S., Giovannini, A., Tille C., 2009) i ostvarenjem makroekonomske stabilnosti. Makroekonomska stabilnost zajedno sa finansijskim inovacijama i eksterna kupovina trezorskih obveznica u SAD od zemalja sa visokim suficitima, (npr. Kina, Saudijska Arabija) su neposredno, sinergetski, doprineli pojavi visoke likvidnosti i padu kamatnih stopa. Rezime takvih trendova je brzi porast kreditnog volumena uz nisku i stabilnu inflaciju. Posledice rasta kreditnog volumena bilo je širenje kreditne ekspanzije.

Teoretski, višak likvidnost i niske kamatne stope treba da utiču na rast cena roba i usluga a samim tim i na rast inflacije. Upravo, dogodilo se obrnuto. Inflacija je ostala niska i stabilna, cene roba i usluga ostale su stabilne a porasle

su cene imovine, posebno cene nekretnina. Reakcije centralnih banaka su izostale, iz uverenja da rast cena nekretnina ne mogu da ugroze finansijsku stabilnost. Stabilnost cena i snažan makroekonomski pozitivan trend podstrekivao je uverenje da je trajan i održivo visoki nivoa rasta ne samo moguć, već je, izvesno verovatan i moguć. To nije bio samo osećaj i verovanje, već optimistički, izvesna sejana iluzija, zasnovana na pozitivnom rastu nekih važnijih varijabla.

Povoljno makroekonomsko okruženje, niske cene državnih HoV i preterani optimizam ohrabrivao je pohlepne investitore da tragaju za novim, atraktivnijim ali neproverenim finansijskim inovacijama koje su nosile visoke prinose. Zaslepljenost za visokim prinosa je smanjila njihovu poslovličnu opreznost i percepcije na moguće potencijalne rizike koje nose nedovoljno regulisana finansijska tržišta. Neregulisani ili nedovoljno regulisani zajmovi na bazi hipotekarnog kolaterala i sekjuritizacija HoV su inicirali i podstrekivali stvaranje široko rasprostranjenih kućnih mehurića. Centralne banke, (posebno u SAD), nisu bile sigurne da će ovakav razvoj događaja ugroziti finansijsku stabilnost i ostale su inertne. Saradnja sa vladinim agencijama za stabilnost celokupnog finansijskog sistema je izostala. Nagomilani i naduveni kućni mehurići su popucali i dotadašnji „novi konsenzus“ centralnog bankarstva raspršili a nezapamćena finansijska kriza eksplodirala.

## Centralna banka tokom krize

Nakon pucanja nagomilanih kućnih mehurića i početka velike globalne finansijske krize, krajem avgusta 2007 god., centralne banke su preduzele važnu stabilizacionu ulogu upravljanja krizom. Na samom startu finansijske krize, u nedostatku drugih operativnih institucija i povećane nelikvidnosti, centralne banke su viđene kao provajderi i kreditori poslednjeg utočišta likvidnosti. Blizina finansijskih tržišta, respektabilne operativne mogućnosti i nezavisna upravljačka struktura su bili glavni argumenti centralnim bankama, da mogu brzo i efikasno da preduzmu interventne, antikrizne mere.

Centralne banke su na pucanje mehurića odmah reagovala standardnim merama i

prudence due to asymmetric information and negative selection, it may cause moral hazard at the expense of the depositor. For purpose of protection of the depositor and prevention of building up of financial distress, what is needed in the banking system is legal regulation and supervision. This role is given to the central banks which are highly sophisticated and professionally qualified and have available the appropriate micro-prudential instruments.

Financial stability of the entire financial system was not within the jurisdiction of the central banks. Historically speaking, they have been recognised as institutions with an important role to play in providing financial stability of the entire financial system. Yet in the context of the new consensus, they were pushed to the margins. What prevailed was a robust confidence in the hypothesis that supported the financial markets efficacy. It was deemed that the regulation and supervision of financial markets would constrain their development and limit their efficiency. It was also believed that efficient financial markets are fully capable of providing for themselves the necessary financial stability. Such a belief resulted in a generally recognised stance that central banks should devote their efforts exclusively to the micro-prudential regulation and supervision of the banking sector, while the government agencies should be tasked with regulation and supervision of the non-banking financial institutions and the other financial infrastructure. In addition, in the absence of some robust exogenous financial impacts, government agencies would suffice in securing a stable economic growth. Cross-border cooperation and interconnections of financial markets were not regarded as a hazardous source for potential spill-over of financial contagions. Price stability, micro-prudential regulation and supervision of the banking sector, and the (hypothesis) of financial markets efficacy were sufficient to secure macro-economic and financial stability.

The above stated offers the credence that if central banks are to secure price stability and banking sector stability within their competent jurisdictions, that will have, concordant with some unforeseeable imperative, a positive reflection on stability of the international financial system. Hence price stability and

stability of the banking sector in the national economies will “automatically” provide for the global financial stability. This is how the expected contributions of the new consensus on central banks were defined.

The pre-crisis anticipated contributions of the new consensus resulted in “lowering down of inflation by an effective combination of improvements in conducting monetary policy, and higher public demand for price stability”, (Gerlach, S., Giovannini, A., Tille, C., 2009), and the achievement of macroeconomic stability. Macroeconomic stability, together with financial innovations and extremely high purchase of US Treasury bonds by countries with high surpluses (for example, China, Saudi Arabia), have directly, in a synergy, boosted the emergence of high liquidity and the fall in the interest rates. The sum up of such trends was a fast growth of crediting volume with low and stable inflation. The consequence of the crediting volume growth was the high credit expansion.

In theory, surplus of liquidity and low interest rates should impact the growth of prices of goods and services, and thus growth of inflation itself. In actual fact, what happened was the reverse situation. Inflation remained low and stable, prices of goods and services remained stable, while asset prices surged, especially real-estate prices. The reactions by central banks were absent, with the belief that the real-estate price growth will not undermine financial stability. Price stability and a robust macroeconomic positive trend were boosting the belief that a permanent and sustainable high growth level is not only possible, but certainly both probable and feasible. This was not only the feeling and belief, but an optimistic and with assurance disseminated illusion, based on the positive growth of some significant variables.

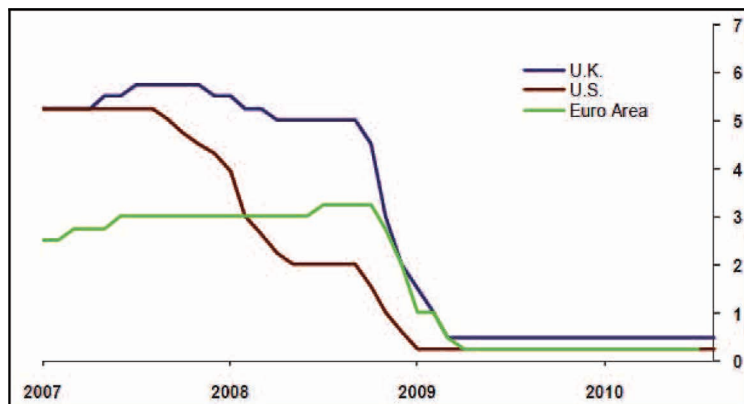
Favourable macroeconomic climate, low prices of the sovereign securities and an excessive optimism encouraged voracious investors to search for new, attractive yet unverified financial innovations that were bringing high yields. Fascinated by high yields caused their proverbial prudence and perception of possible potential risks to fall, regarding those risks embodied in the insufficiently regulated financial markets. Non-regulated or insufficiently regulated loans



alatima. Snizile su ključne kamatne stope, do tada na istorijskom, najnižem nivou, održavajući ih u dužem vremenskom periodu. (Figure 1)

eskalirale. Ozbiljnost i dramatičnost finansijskih disfunkcionalnosti su uticale na napuštanje standardnih mera i alata i preduzimanje

Figure 1. Kamatne politike centralnih banka SAD, BoE i EU u periodu 2007-2010



Izvor: Posen, A. Pisani-Ferry, J., From Convoy to Parting Ways? Post-crisis Divergence Between European and US Macroeconomic Policies Prepared for Bruegel-PIIE conference, Washington DC, 2010, str. 12

širih intervencija „sa jasnim ciljem i usmerenjem na šire finansijske uslove da se podrže makroekonomski ciljevi centralnih banaka“ (Caruana, 2009, str 2).

Centralne banke su, shodno pogoršanim tržišnim uslovima, posegle za nestandardne alate i mere. Nestandardne mere su predstavljale alternativne perspektive i produžena ruka monetarne politike. Uključivanjem nestandardnih mera i alata ojačan je široko postavljani finansijski odbrambeni front u borbi

Ojačane su operacije na otvorenom tržištu i snabdevanje likvidnošću preko diskontnih prozora. Istovremeno, centralne banke su preduzele koordinirane akcije da olabave monetarnu politiku.

protiv sve nadirajućeg razvoja finansijske zaraze i potencijalnih pretnji od deflacije. Na taj način dodatno je proširena uloga centralnih banka. (Slika 1)

Ostvarena i održana stabilnost cena i brze i odlučne intervencije standardnim merama su doprinele izvesnom smanjenju napetosti i širenje finansijske zaraze.

Finansijske napetosti, su se nakon kraha dilerske kuće Brothers Lemman, ponovo intenzivirale. Kriza je dostigla vrhunac, kamatne stope nisu ostvarivale željene ciljeve a pojedini segmenti transmissionog mehanizma monetarne politike su prestali da funkcionišu. Ugroženo funkcionisanje transmisionih kanala je uticalo na presušivanje i onako tankih izvora likvidnosti. Istovremeno su povećane premije na neosigurane kredite. Ugrožena je stabilnost cena. Cene imovine su

Tabela 1. Proširenje uloge centralne banke poslednjih nekoliko godina

Konvencionalne	Alati monetarne politike	Alati prudencijalne politike
Fokus na cene Indirektni uticaj na finansijske uslove i cene imovine Jedini direktan uticaj na međubankarskom tržištu na kratak rok	Politika kamatnih stopa Obavezne rezerve	Kapitalni zahtevi Zahtevi likvidnosti
Nekonvencionalne	Bilansni alati centralne banke	
Fokus pomeranja sa cene na količine Direktna intervencija na finansijskim tržištima	Intervencije na domaćem finansijskom tržištu Terminsko međubankarsko tržište Suverena tržišta obveznica Kreditna tržišta (korporativne obveznice, pokrivene akcije i ABS) Hipotekarna tržišta	Intervencije na deviznim tržištima FX intervencije Akumulacija rezervi Valutni svop aranžmani

Izvor: H. Hannoun: The expanding role of central banks since the crisis: what are the limits? BIS 2010 str 2

Proširena uloga centralnih banaka u finansijskoj krizi su omogućile njihove

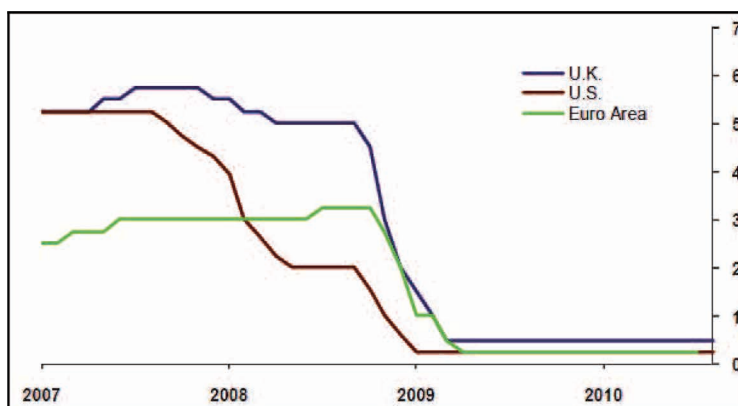
based on mortgage collateral and securitisation of securities have initiated and boosted the creation of the broadly spread housing bubbles. Central banks (especially in the U.S.) were not sure whether such a development of events would undermine financial stability and have remained inactive. Cooperation with the government agencies in insuring stability of the overall financial system was absent. The piled up and bloated out of all proportion housing market bubbles were bursting, and the then prevailing “new consensus” on central banking was blown away and reflected in an unprecedented financial crisis that erupted.

### Central bank during crisis

After the burst of the piled up housing market bubbles and the eruption of the major global financial crisis, in late August 2007, central banks took upon themselves an important stabilising role in crisis management. At the very start of the financial crisis, in the absence of some other operative institutions and with an increased illiquidity, central banks were perceived as liquidity providers and lenders of last resort. The proximity of financial markets, respectable operative capabilities and an independent management structure were the main arguments for the central banks to be able to promptly and efficiently undertake intervention through anti-crisis measures.

Central banks reacted promptly to the bubble bursts by conventional measures and tools. They lowered the key interest rates that were at that time at a historic, lowest level, keeping them low for a long period of time (Figure 1).

Figure 1 Interest rate policies of the central banks of the U.S., BoE, and EU in the period 2007-2010



Source: Posen, A. Pisani-Ferry, J., From Convoy to Parting Ways? Post-crisis Divergence Between European and US Macroeconomic Policies Prepared for Bruegel-PIIE conference, Washington DC, 2010, str. 12

Open market operations were reinforced along with the liquidity supply through discount windows. Concurrently, central banks were undertaking coordinated actions to relax monetary policy. Achieved and maintained price stability and prompt and decisive conventional measures of intervention helped a certain mitigation of tensions and have put a stop to spreading of financial contagion.

Financial tensions, after the collapse of the dealing house Lehman Brothers, were reactivated again. The crisis reached its peak, interest rates were not reaching their intended targets, and certain segments of the monetary policy transmission mechanism had ceased to function. The undermined functioning of transmission channels impacted the drying out of an already scarce liquidity sources. At the same time, non-insured credit premiums were augmented. Price stability was jeopardized. Property prices escalated. Just how serious and dramatically dysfunctional financial situation was had been best reflected in the abandoning of the conventional measures and tools, and the undertaking of a broad spectrum of interventions, “with a clear objective and focus on broader financial requirements in support of macroeconomic targets of the central banks” (Caruana, 2009, p. 2).

intervencije na finansijskim tržištima, koje se mogu sažeti u tri karakteristike: (Noyer, 2009, str 2-3):

- Brza, odlučna i efikasna akcija ubrizgavanja preko potrebne likvidnosti na međubankarskom tržištu, koja je dodatno povećavana kako se kriza rasplamsavala;
- Te intervencije su fleksibilne i visoko inovativne. Centralne banke su videle kao svoju misiju da se izbegne paraliza finansijskog posredovanja i da se zadrži efikasnost rada transmisionog monetarnog mehanizma;
- Intervencije su bile izuzetno operativne i konvergentne.

Koordinirana i operativna primena nestandardnih mera uz održivu stabilnost cena i u kombinaciji sa vladinim antikriznim merama su sinergetski delovali na sistematično proširenje potrebne likvidnosti. Centralne banke, posebno velikih finansijskih centara, su primenom nestandardnih mera inovativno i kreativno delovale. Upostavile su nove mehanizme delovanja, osnivanjem novih finansijskih objekata snabdevanja likvidnosti, inovirale efikasnije načine refinansiranja i kreirale nove programe finansijske podrške. Operativnim intervencijama, putem novih, uspostavljenih mehanizama, centralne banke su obezbedile nedostatak likvidnosti na finansijskim tržištima, povezale isprekidane kreditne tokove i doprinele oporavku funkcionisanja pojedinih segmenata transmisionog mehanizma monetarne politike. Svojim intervencijama na finansijskim tržištima, one su ubrizgale velike svote likvidnosti i „mnogo produžile trajanje fonda za snabdevanje poslovanja i olakšan pristup likvidnosti povećanjem broja poslovnih partnera i proširenjem podobnog kolateral.“ (Vinals, 2010, str 10)

Politika primene nestandardnih mera su antikrizno delovale na finansijske nestabilnosti, putem: (Carvalho, Eusepi, Grisse, 2011, str 11):

- Obezbeđenja veće količine likvidnosti finansijskom sektoru za duži vremenski period, kao i promenu uslova pružanja likvidnosti;
- Proširenja broja finansijskih institucija koje imaju pristup likvidnosti centralnih banaka i prihvatanje šireg spektra sredstava za kolateral;

- Promena kompozicije bilansa centralnih banaka (relaksacija kredita) kupovinom dugoročnih državnih obveznica i imovinu privatnog sektora u cilju poboljšanja likvidnosti i snižavanje troškova zaduživanja ili kupovinu deviza kako bi se sprečila „prevelika“ apreprijacija valute u nominalno bezbednu sigurno utočište;
- Širenja bilansa stanja da se poveća ponudu novca i podiže nominalna potrošnja (kvantitativno popuštanje).

Dijagnostikovan bolestan finansijski sistem je hospitalizovan od strane centralnih banaka zajedničkim standardnim i nestandardnim merama i instrumentima s tim što su „pristupi bili različiti, prilagođeni odgovarajućim privredama i njihovim strukturama“ (Trichet, 2012, str 4)

Pristupi centralnih banka vodećih finansijskih centara SAD, Velike Britanije i Evropske unije nakon pucanja globalne finansijske krize mogu se analizirati kroz dve faze. U prvoj fazi krize (2007-2009) vodeće centralne banke su odgovorile na dosta sličan način. One su bile prinuđene, da nakon nedovoljnog odgovora standardnim merama, da primene nestandardne mere, proširivanjem postojećih i izgradnju novih mehanizma za olakšan pristup finansijskih institucija likvidnim sredstvima i obezbede pravilno funkcionisanje transmisionog mehanizma monetarne politike.

Druga faza krize (2010-2012) je posebno, pogodila finansijska tržišta evro zone. Nakon 2010 god. FED je posvetio pažnju privrednom oporavku iznurene ekonomije. On je pristupio snižavanju dugoročnih kamatnih stopa i kupovinom velike količine imovine sopstvenim novcem. Ta politika FEDa poznata je kao, tzv. „kvantitativno popuštanje“. Te mere su uticale na povećanu količinu obveznica u bilansu stanja na 1, 6 triliona dolara. Slično je postupila i BoE (Centralna banka Velike Britanije) kupovinom prvoklasnih državnih obveznica uvećavajući svoj bilans stanja na 325 biliona funti.

U evrozoni, u proleće 2010 god., finansijska kriza se pretvorila u suverenu dužničku krizu, usled grčke nesolventnosti. Druga polovina 2011 god bila je karakteristična obnavljanjem i intenziviranjem dugova suverenih tržišta, koji su se brzo raširili na bankarski sistem. (Praet, 2012, naslov 3. 6 pasus) To se odrazilo na pogoršanje

Central banks, concordant with the deteriorated market conditions, took refuge in the non-standard tools and measures. Non-standard measures were alternative perspectives and an extended hand of the monetary policy. Inclusion of the non-standard measures and tools strengthened a broadly founded financial defense front in the struggle against ever more pervasive development of financial contagion and a potential threat of deflation. In this manner, the role of central banks was additionally expanded. (Table 1)

Table 1 The expanded role of the central banks over the last few years

Conventional	Monetary policy tools	Prudential policy tools
Focus on prices Indirect impact on financial terms and assets prices The sole direct impact on the Interbank short-term market	Interest rate policy Required reserves	Capital adequacy requirements Liquidity requirements
Non-standard	Central bank balance sheet tools	
	Interventions on domestic financial market	Interventions on the foreign exchange markets
Focus on shifting from price to quantity Direct intervention on financial markets	Futures Interbank market Sovereign bonds market Credit markets (corporate bonds, secured stocks and the ABS) Mortgage loan markets	FX intervention Reserves accumulation FX swap arrangements

Source: H. Hannoun: The expanding role of central banks since the crisis: what are the limits? BIS 2010 str 2

The expanded role of the central banks in the financial crisis allowed for their interventions to be made on financial markets, and they may be summed up in the three main characteristic actions (Noyer, 2009, p. 2-3):

- Prompt, decisive and efficient action of injecting the urgently required liquidity to the Interbank market, which was additionally boosted up as the crisis escalated;
- These interventions are flexible and highly innovative. Central banks have envisaged them as their mission to avoid the paralysis of the financial intermediation, and to maintain efficacy of the monetary

transmission mechanism function;

- Interventions were extremely operative and convergent.

Coordinated and operative implementation of the non-standard measures, together with the sustainable price stability and in combination with the government anti-crisis measures, had a synergic effect on systemic expansion of the necessary liquidity. Central banks, especially those of the major financial centers, by applying non-standard measures produced an innovative and creative action. They have set in place

some novel mechanisms of action by establishing new financial vehicles for liquidity supply, innovated efficient ways of refinancing, and have created new financial policy programs. Through operative interventions, by ways of novel established mechanisms, central banks have covered the shortage of liquidity on financial markets, they re-connected the interrupted credit flows and helped the recovery of functioning in certain segments of the monetary policy transmission mechanism. Through their interventions on the financial markets, they injected large amounts

of liquidity and “had largely expanded the duration of the business provisioning fund, and an easier access to liquidity by a higher number of business partners, and by expanding the collateral suitability.” (Vinals, 2010, p. 10)

The policy of implementation of the non-standard measures had an anti-crisis effect on financial instability, in the following fashion (Carvalho, Eusepi, Grisse, 2011, p. 11):

- Providing higher liquidity quantities for the financial sector over a longer period of time, and also changed liquidity accessibility requirements;
- Expanding number of financial institutions

finansijskih uslova. Posledice su jačanja stresa i panike u evro zoni, posebno u nekim zemljama, članicama. Istovremeno, pojavio se strah za budućnost evra a samim tim i budućnost ECB. Nagomilane tenzije suverenog duga i pretnje fiskalne eskalacije su primorale ECB (Evropska centralna banka) da odgovori intervencijama na tržištu obveznica problematičnih, zemalja članica, kroz Program tržišta hartija od vrednosti (SMP-The Securities Markets Programme). Program ne predstavlja „kvantitativno popuštanje“, ali se ne može odvojiti od operacije sterilizacije, imajući u vidu ogromna finansijska sredstva koja su upumpana u bankarski sektor stresnih zemalja, članica. Istovremeno, program se „nije bavio podsticanjem vlada da se uključe u neophodne reforme i rebalans svojih finansija.“ (Asmusse, 2012, str 4) Bez obzira što je SMP imao značajnu finansijsku podršku u bilansu ECB, program, nije uspeo da na održiv način stabilizuje finansijske nevolje i istovremeno je proizveo određene neželjene efekte, te je ukinut tokom 2012 god.

U decembru 2011 god ECB je uspostavila novi program Dugoročne operacije refinansiranja, poznat kao LTRO (LTRO-Long-term refinancing Operation) u iznosu od 1.000 milijardi evra sa ciljem podstrekivanja oporavka finansijskih tržišta problematičnih članica zemalja suverenog duga. Ove intervencije su preduzete iz straha od mogućnosti prelivanja suverene krize na celo međubankarsko tržište evro-zone.

## **Efikasnost reagovanja centralnih banaka**

Standardne i nestandardne monetarne politike su bile efikasne tokom finansijske krize. (Mishkin, 2011, str 26) Efekti smanjenja kamatnih stopa su u nekim vremenskim periodima krize uticale na značajnijeg statističkog smanjenja u ESI (ESI-Economic Stres Index). Njihova efikasnost, tokom krize, bez obzira na dugoročniji vremenski horizont, bila je na izvestan način, zamagljena usled snažnog negativnog efekta sve zahuktalijeg finansijskog cunamija. Nema sumnje da je politika niskih kamatnih stopa, barem u startu, doprinela ublažavanju silovitih finansijskih

udara. Međutim, postoji tvrdnja, da u dužem vremenskom periodu politika niskih kamatnih stopa daje naizmenično, pozitivne i negativne efekte. Ganjon i drugi sugerišu da niske kamatne stope FEDa tokom nedavne krize možda nisu bile efikasne. (Vinals, 2011, str 11) Mada, je na osnovu jednog dokaza rano donositi takve zaključke. Ma kakve bile rasprave, treba usvojiti, na početku, navedeno mišljenje uvaženog autoriteta Miškina (2011, str, 26) „sigurno je jedno, da je politika niskih kamatnih stopa postigla efikasnost u smanjenju finansijskih troškova u privlačenju i obezbeđenju likvidnosti“.

Podržana likvidnost od strane centralnih banaka je doprinela stabilizaciji međubankarskih tržišta u različitim ekonomijama. Smanjen je kreditni rizik u Evro zoni ali ne i u SAD, verovatno zbog garancije koje obezbeđuju skup poverilaca a ne banka u celini.

Procena relativne efikasnosti intervencija upoređivanjem veličine finansijske intervencije sa procentom GDP pokazuju da su odgovori centralnih banaka u početku bili relativno efikasni a da su u kasnijim periodima opali. Kapitalno ubrizgavanje je bilo efikasno u ublažavanju finansijske krize ali „najveća efikasnost je ostvarena u kombinaciji sa drugim merama na primer, drugi krug injekcija kapitala u evro zoni“. (IMF, 2009, str 124)

Ubrizgavanjem likvidnosti u finansijskim sistemima je imala „značajan uticaj na prosečni kompozitni CDS (CDS-Credit default swap) sprid što je ukazalo da su bile efikasne u smanjenju kreditnog rizika iako su se ovi događaji odigrali tokom druge i treće faze krize. (IMF, 2009, str. 124) Finansiranje dolarima izvan SAD uz posvećenost FEDa da američkim dolarima obezbedi swap linije uticalo je na smanjenje napetosti deviznog tržišta. Ustanovljeno je da je podrška centralnih banaka finansiranju deviznog tržišta bilo uspešno. (Vinals, 2011, str. 11)

Zajednički efekat centralnih banaka od mera i operacija tokom kriznog perioda je visoka ekspanzija bilansa centralnih banaka. Slika pokazuje da je ekspanzija u bilansu stanja ECB bila 170% dok kod FEDa od 230%.

with an access to the liquidity of the central banks, and an acceptance of the broader spectrum of collateral assets;

- Change in the composition of the central bank balance sheet (credit relaxation facilities) by purchase of long term treasury bonds and the private sector assets for purpose of boosting liquidity and lowering of borrowing costs, or purchase of foreign exchange currency in order to prevent “an excessive” appropriation of currency in a nominally safe and ensured sanctuary;
- Spreading the balance sheet to increase money supply and boost nominal consumption (Quantitative Easing).

A financial system that was diagnosed as distressed was hospitalized by the central banks through the combined conventional and non-standard measures and instruments, provided that the “approaches were different, adapted to the respective economies and their structures” (Trichet, 2012, p. 4).

Central banks approach in the leading financial centers of the U.S., UK, and EU, after the eruption of the global economic crisis, can be analyzed through the two phases. In phase one of the crisis (2007-2009), the leading central banks responded in a rather similar fashion. They were forced, after an insufficient response by standard measures, to implement non-standard measures, by expanding both the present and the construction of new mechanisms for an easier access of financial institutions to the liquid assets and providing for proper functioning of the monetary policy transmission mechanism.

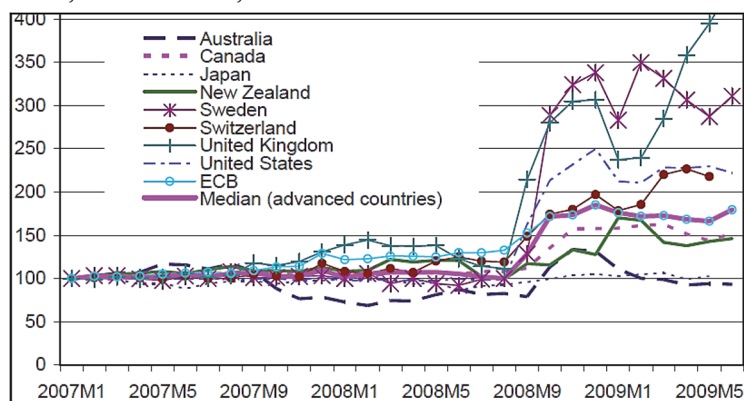
The crisis phase two (2010-2012) had especially impacted the euro-zone financial markets. After 2010, FEDs focused their attention to the economic recovery of the exhausted state economy. FED undertook lowering of the long-term interest rates and purchasing of large quantities of assets with its own funds. This FEDs’ instigated policy is also known as the so-called “Quantitative Easing”. Such measures resulted in a grown quantity of bonds in the balance sheet, reaching up to 1.6 trillion US dollars. Similar approach was adopted by the BoE ( the Bank of England) through purchase of the prime class sovereign

bonds thus increasing their balance sheet size to 325 billion pounds sterling.

In the euro-zone, by the spring of 2010, financial crisis turned into a sovereign debt crisis, as a result of the Greek financial insolvency. The second half of 2011 was characteristic for the renewal and intensification of the sovereign debt market, which had promptly spilled over on to the banking system (Praet, 2012, title 3, paragraph 6). This was reflected on the deterioration of the financial conditions. The consequences were intensification of the stress and a growing panic in the euro-zone, especially in some of the member countries. Concurrently, there was an anxiety as to the future of the EURO itself, and hence for the future of the European Central Bank – ECB. The growing tension of the sovereign debt and threats of fiscal escalation forced the ECB to respond by interventions on the treasury bonds market of the problematic member countries, through The Securities Market Program. The Program was not a form of “Quantitative Easing”, but it could not be separated from the sterilization operation, bearing in mind the enormous amount of financial resources which have been pumped into the banking sector of the distressed EU member-countries. At the same time, the program “did not deal with the instigation of governments to join in with necessary reforms and rebalancing of their finances.” (Asmussen, 2012, p. 4). Regardless of the fact that the Securities Markets Program had a substantial financial support in the ECB balance sheet, the program did not succeed in stabilizing, in any sustainable manner the financial distress, yet at the same time it also caused certain detrimental effects, and hence it was suspended during the year 2012.

In December 2011, ECB established a new program. Long-term refinancing operations program, known as the LTRO (Long-term Refinancing Operation), in the amount of 1,000 billion EUR, was targeted at the recovery of financial markets in the distressed member countries in the matter of their sovereign debt. These interventions were undertaken out of fear for the possibility of the spilling over of the sovereign debt crisis on to the entire inter-bank market of the euro-zone.

Figure 2. Ukupna aktiva/pasiva centralnih banaka razvijenih ekonomija



Izvor: : Ishi, K., Stone, S., and Yehoue, E., „Unconventional Central Bank Measures for Emerging Economies“ IMF Working Paper, str. 30 2009

Centralne banke su odigrale ključnu ulogu u stabilizaciji finansijskog sistema i pružile podršku ekonomskom oporavku. One su značajno uticale na poboljšanje uslova na tržištu novca, što je doprinelo lakšem finansiranju privrede i pomoglo ograničavanje širenja krize na realni sektor i kretanje cena.

## Post krizni period

U postkriznom periodu, centralno bankarstvo, će kao i uvek, posle svake velike finansijske krize doživeti određene promene. Preispitivanja dosadašnjeg načina vođenja monetarne politike su u toku a rasprave o novoj ulozi centralnih banaka još nije konkretizovana. Goldhart, navodi da će naredni periodi biti periodi eksperimentisanja u centralnom bankarstvu. (Borio, 2011, str 6) Karuna, rangira izazove na „tri kategorije-ekonomski, intelektualno i institucionalno“ i ukazuje da će „posledice za uloge centralnih banaka verovatno biti dalekosežne“. (Caruana, 2011, str 1) Orphanides (ukazuje na novu paradigmu centralne banke, kroz tri pitanja: nova paradigma u monetarnoj teoriji i politici? Nova paradigma u bankarstvu i finansijskom tržištu? Nova paradigma finansijske regulacije i nadzora? (Orphanides, 2011, str. 2) Asmussen predlaže nekoliko uloga centralnih banaka u budućnosti i pita koje od njih su od značaja „kao čuvar stabilnosti i njihova uloga kao kriznog menadžera.“ (Asmussen, 2012, str 4)

## Preispitivanje dosadašnje uloge centralne banke (ključna pitanja)

Preispitivanje uloge centralnih banaka, proizlazi iz sve opšteg i rastućeg priznanja da je novi konsenzus, pre i tokom krize, pokazao mnoge nedostatke. Zbog toga, mnogi su skloni da za nastanak i eskalaciju krize proglašavaju centralne banke glavnim krivcima. Uglavnom, kritička preispitivanja uloge centralnih

banaka odnose se na primenu standardnih mera i alata u vođenju monetarne politike. Fokus je na suviše uski mandat centralnih banaka, koji nije sposoban da ispuni domaće i globalne potrebe. (Committee on International Economic Policy and Reform, 2011 str. 30) U nastavku, ukazaćemo, po našem mišljenju, rezime glavnih preispitivanja novog konsenzusa, pre i tokom krize.

Glavni cilj, stabilnost cena, centralne banke su ostvarile pre i tokom krize. Međutim, stabilnost cena u predkriznom periodu nije bila dovoljna da onemogući i spreči zidanje finansijske nestabilnosti, koja, je u usponu, trajala skoro deset godina. Ali, ona je bila neophodna i dobrodošla kada je kriza eskalirala. Dodeljena nezavisnost, je isključivo bila podređena ostvarivanju glavnog cilja, stabilnost cena. Stabilnost cena je ostvarena strategijom ciljane inflacije. Strategija ciljane inflacije, je ostvarila, bez sumnje, neka praktična dostignuća. Zemlje, koje su bile sklone domaćoj nestabilnosti, usvajanjem strategije ciljane inflacije, su posle dužeg vremenskog perioda, uspele da stabilizuju svoje cene. Okvir ciljane inflacije je, tokom svih dešavanja pre i tokom krize, delimično doprineo padu globalne inflacije i uticao na ublažavanje kontroverzi deviznog kursa.

Centralne banke su imale mandat regulacije i nadzora bankarskog sektora. Primenom mikroprudencijalnih mera i alata centralne banke su kontrolisale pojedinačne bankarske institucije. Mikroprudencijalnom regulacijom i nadzorom, postignuta je finansijska stabilnost bankarskog sektora. Stabilnost je ostvarena u pogledu sprečavanja moralnog

## Central banks reaction efficacy

Both the standard and non-standard monetary policy measures were efficient during the financial crisis (Mishkin, 2011, p. 26). The effects of lowered interest rates have, in some periods of the crisis, impacted a significant statistical fall in the ESI (Economic Stress Index – ESI). Their efficacy, during the crisis, regardless of a long-term time horizon, was in a way obscured because of a robust negative effect produced by an ever escalating financial tsunami. There is no doubt that the low interest rates policy, at least in its start, contributed to a mitigation of powerful financial shocks. However there is also an argument that, over a longer period of time, the low interest rate policy will produce intermittently both positive and negative effects. Ganjon et al suggest that the low interest rates imposed by the FEDs during the recent crisis may not have been efficient (Vinalis, 2011, p. 11), although on the basis of one single piece of evidence it is too early to make such conclusions. Regardless of the present discourse and arguments put forward, it is necessary to adopt as a start, the above stated opinion of the distinguished authority, Mishkin (2011, p.26), who states as follows: “One thing is sure, that the low interest rate policy has reached effects by lowering financial costs in attracting and securing liquidity”.

Boosted liquidity by the central banks helped to stabilize the interbank market in different economies. Credit risk was lowered in the euro-zone, but not in the U.S., probably because of the guarantees that are secured by the set of creditors, but not by the banks in general.

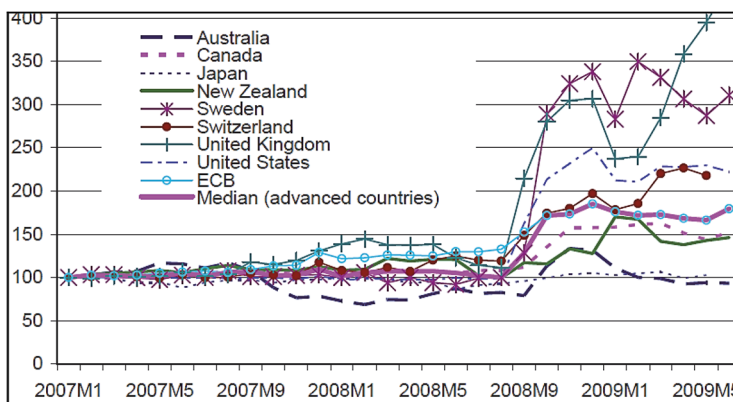
The assessment of a relative efficacy of intervention by comparing the size of financial intervention with the GDP percentage shows that the response of the central banks in the beginning was relatively efficient, yet that they have fallen in efficacy over a longer period. Capital injection was efficient in mitigating the financial crisis but “the highest efficacy was

achieved in combination with other measures, for example, the second round of capital injections in the euro-zone” (IMF, 2009, p. 124).

Injection of liquidity into financial systems had “a significant impact on the average composition the CDS (Credit Default Swap – CDS) spread, which demonstrated that they were efficient in reducing the credit risk, although these events have taken place during the second and the third crisis phases (IMF, 2009, p. 124). Financing with US dollars from outside of the U.S., together with the devotion of the FED to secure the swap lines in US dollars, impacted the alleviation of tensions in the foreign exchange market. It was determined that the support of central banks in financing foreign exchange market was successful (Vinalis, 2011, p. 11).

The joint effect of central banks resulting from the measures and operations undertaken during the crisis period was a high expansion of the central banks balance sheets. The following Figure shows the expansion of the balance sheet of the ECB that reached 170%, while the FEDs achieved 230%.

Figure 2 Total assets/liabilities of the developed economies central banks



Source: : Ishi, K., Stone, S., and Yehoue, E., „Unconventional Central Bank Measures for Emerging Economies“ IMF Working Paper, str. 30 2009

Central banks have played a crucial role in the stabilization of the financial system and have offered a strong support to the economic recovery. They have significantly impacted the improvement of conditions on the money market, which has in turn rendered easier financing of economy and helped to restrain the crisis from its spilling over on the real sector and price movement.



hazarda osiguranjem depozita, obezbeđenjem adekvatnih kapitalnih zahteva, ispravnosti poslovanja, ograničavanjem prekomerne ekspanzije kredita i finansijskih malverzacija. Jasnoća ove uloge je široko prihvaćena i podržana od akademske javnosti i svih učesnika na finansijskim tržištima.

Tradicionalni pristup, da su stabilnost cena i mikroprudencijalni nadzor bankarskog sektora dovoljni da obezbede finansijsku stabilnost celokupnog finansijskog sistema na domaćem i globalnom nivou su tokom krize uzdrmani. Globalna finansijska kriza je definitivno potvrdila, da mikroprudencijalna politika nije primarni instrument za obezbeđenje stabilnosti finansijskog sistema u celini. Konačno, finansijska stabilnost se ne može postići nadzorom samo pojedinačnih finansijskih institucija. U tom smislu, na globalnom nivou i u velikim finansijskim centrima već su uspostavljeni posebni specijalizovani organi za makroprudencijalni nadzor i regulaciju celokupnog finansijskog sistema. Standardni (konvencionalni) pristup centralnih banaka, je bio usko definisan i nije bio dovoljno fleksibilan i fokusiran da predvidi i objasni rizike u finansijskom sektoru. Povećani izvori likvidnosti i labava monetarna politika nisu identifikovali na vreme nastanak i nagomilavanje finansijskih nevolja. Centralne banke su imale mandat da deluju na nagomilavanje mehurića cene imovine, podizanjem kamatnih stopa i uticajem na tržišne uslove. Ali ove intervencije su izostale iz uverenja da je samoregulisajuća efikasnost finansijskih tržišta dovoljna. Preovladao je čuveni Gripsenov, stav, da se mehurići cene imovine teško mogu identifikovati jer nisu u domenu centralnih banaka, da one ne raspolazu pogodnim alatima i da one mogu da počiste „nered“ kada mehurići eksplodiraju. Iz tog stava je proisteklo mišljenje, da povećanje kamatnih stopa nije najbolje rešenje jer one utiču na usporavanje razvoja finansijskih tržišta. Istovremeno, čišćenje „nereda“ od strane centralnih banaka se pokazalo skupo sa visokim troškovima.

Pored toga, pristup pre nastanka krize, bazirao se na ograničenom ili nepostojećem prelivanju monetarne politike. Upravo, je kriza demantovala ovaj pristup, a praksa pokazala povezanost domaćih makro varijabla sa

spoljašnjim varijabilama, koja je bila neizvesna i problematična. Globalna prelivanja su jedna od ključnih pretpostavki za širenje eksternalija i finansijskih ekscesa.

U svetu, centralne banke vode različite režime monetarne politike. Koriste razne opcije koje prilagođavaju svojim ekonomskim i drugim ciljevima, kao i specifičnim okolnostima u kojima deluju. Međutim, na međunarodnom nivou, nepodudarnosti između različitih režima monetarnih politika, reprodukuje jačanje prekogranična prelivanja Uski mandat, prethodno postignutog konsenzusa, nije dovoljno uvažavao moguće uticaje različitih monetarnih režima, te im nije poklanjao posebnu pažnju.

Dodatno intenziviranje prelivanja eksternalija je nastalo kada su centralne banke nastavile da vode monetarnu politiku nestandardnim intervencijama. Posebno, snižavanjem kamatnih stopa na niskom nivou (blizu nule ili na nuli). Intenziviranje prelivanja eksternalija je dodatno uticalo na ekonomije sa slabom domaćom tražnjom i na probleme kreditiranja banaka. Zbog slabe domaće tražnje, kao i poteškoća banaka koje su spremne da pozajmljuju za podsticanje podešavanja portfolija od nekonvencionalnih politika, mogu u velikoj meri da posluže da povećaju protok u zemljama sa jačim izgledima za rast nego da podstiču domaće kredite kao što je predviđeno. (Committee on International Economic Policy and Reform, 2011 str. 3)

Povećani politički pritisci, tokom krize, na centralne banke su uticali na njenu nezavisnost u vođenju monetarne politike. Dodatni pritisak će se nastaviti i dalje usled velikog suverenog duga u razvijenim zemljama kojima centralne banke ne mogu da se suprotstave. Ali to je realnost koju centralne banke ne mogu da ignorišu.

## **Buduće prilagođavanje i proširenje uskog mandata**

Kritičko preispitivanje uloge centralnih banaka, pre i tokom krize, po glavnim, napred navedenim pitanjima, je kod stručne i druge javnosti izazvalo u nekim aspektima saglasnost a o nekim i dalje postoje razlike. Istovremeno, ne postoji jedinstveno mišljenje i stav kada je u pitanju nova uloga i mandat centralnih

## The post-crisis period

In the post-crisis period, central banking, as always after each major financial crisis, will undergo certain changes. Examination of the past ways in which monetary policies were conducted is now under way and discussions on the new role of central banks has not as yet been crystallized. Goldhart states that the forthcoming period will be the one of experimenting in the central banking (Borio, 2011, p. 6), Karuna is ranking the challenges “into three categories: economic, intellectual, and institutional”, and points out that “the consequences of the role of central banks will probably be far-reaching” (Caruana, 2011, p. 11). Orphanides focuses on a new paradigm of a central bank, through the three questions: A new paradigm in the monetary theory and policy? New paradigm in banking and in financial markets? New paradigm in financial regulation and supervision? (Orphanides, 2011, p. 2). Asmussen proposes several possible roles that central banks may play in the future and asks which ones of them would be important “as guardians of stability and their role as crisis manager.” (Asmussen, 2012, p. 4)

### Reexamination of the past role of a central bank (key questions)

Reexamination of the role that the central banks have played in the past results from a growing general recognition that the new consensus, during the crisis, has manifested its many shortcomings. Hence many are rather inclined to blame for the emergence and escalation of crisis actually central banks as the main culprits. Generally speaking, critical reexamination of the role of central banks pertains to the application of standard measures and tools in conducting monetary policy. The focus is on a too narrow a mandate of central banks which was not capable of fulfilling both the domestic and the global needs (Committee on International Economic Policy and Reform, 2011, p. 30). Further in this paper we shall try to highlight the summary which in our opinion is the core of main reexamination of the new consensus, both prior and during the crisis.

The main target, price stability, central banks

were achieving both prior and during the crisis. However, price stability in the pre-crisis period was not sufficient to impede and to prevent building up of financial instability, which was on the rise for almost ten years. Nevertheless, it was both necessary and warmly welcomed once the crisis escalated. The acquired independence was exclusively subordinated to the achievement of the main target, price stability. Price stability was achieved through the targeted inflation. The targeted inflation strategy had achieved, beyond any doubt, some practical accomplishments. The countries which were prone to a domestic instability, by adopting the targeted inflation strategy, over a longer period of time, succeed in stabilizing their prices. The scope of targeted inflation, during all the developments both prior and during the crisis, caused in part the fall of global inflation and impacted exchange rate controversy mitigation.

Central banks had a mandate to regulate and supervise the banking sector. By implementing micro-prudential measures and tools, the central banks controlled individual banking institutions. Micro-prudential regulation and supervision achieved a financial stability of the banking sector. Stability was also achieved in the field of preventing moral hazard by securing deposits, by prescribing capital adequacy requirements, correct business practices, constraining of excessive credit expansion and financial malpractices. Such a transparently defined role was broadly accepted and supported both by the academic circles and all the stakeholders on financial markets.

The traditional approach implying that the price stability and the micro-prudential supervision of the banking sector are sufficient to secure financial stability of the entire financial system, both domestically and on the global level, have been rather shaken during the crisis. The global financial crisis had definitely confirmed that the micro-prudential policy is not a primary instrument in securing stability of the financial system in general. Finally, financial stability can not be achieved solely through supervision over the individual financial institutions. In this sense, on a global level and in the major financial centers, there are already well established specialized authorities for macro-prudential

banaka u postkriznom periodu. Borio navodi da je „intelektualna pozadina heterogena“ i sva gledišta se mogu „sažeti u tri oblasti slaganja i dva neslaganja“. (Borio, 2011, str 6) Uglavnom, postoji široka saglasnost da pojedine ciljeve centralne banke trebaju da zadrže ali i da prošire svoj obim delovanja (mandat).

Postoji široko prihvaćen konsenzus da niska i stabilna inflacija nije dovoljna garancija za finansijsku i makroekonomsku stabilnost i rano otkrivanje nagomilavanje sistemskog rizika. Ali svi su saglasni da je niska i stabilna inflacija poželjna i neophodna. Argument je, da je niska i stabilna inflacija delimično uticala na ublažavanje finansijskih neravnoteža i doprinela da se kriza još više ne produbljuje. Istovremeno, ona „je znatno uticala na smanjenje ranjivost finansijskog sistema, što se odrazilo na lakše rešavanje finansijskih neravnoteža i obima rizika.“ (Momirović, 2010, str. 293) Iz tih razloga, svi su se složili da centralne banke i u buduću trebaju da zadrže svoj glavni cilj, stabilnosti cena.

Takođe, svi su se složili da standardne mere monetarne politike nisu respektabilne koje mogu uspešno da ublaže ili ograniče finansijske neravnoteža i da postepeno neutrališu negativne efekte preliivanja krize na globalnom nivou i u realnom sektoru. Saglasnost je, takođe, postignuta da centralne banke, kao provajderi likvidnosti u poslednjoj istanci, mogu nestandardnim merama (nestandardne, konvencionalne mere, Borio i drugi nazivaju „bilansna politika“ a bilans stanja centralnih banaka, „novim instrumentom“ monetarne politike), putem svojih bilansa, da utiču na dugoročne kamatne stope i poboljšaju finansijske uslove. Poboljšanje finansijskih okolnosti uključuje obezbeđenje kredita u velikom obimu, po povoljnim uslovima uz podobne i široke skale kolaterala. Iskustva iz krize pokazuju delotvornost ovih mera u stabilizaciji finansijskih nevolja. Prevashodno, one su uticale na veliku kupovinu hipotekarnih HoV od vlade i privatnog sektora, uz istovremeno obezbeđenje široke podrške likvidnosti bankarskom sektoru.

Ostvarena je saglasnost u pogledu, efikasnije prevencije mogućih pojava finansijskih nevolja u bankarskom sektoru. Postignuta je saglasnost da centralne banke

nastave sa mikroprudencijalnim nadzorom i regulacijom bankarskih institucija. Pri tom, posebno je naglašen argument koji se odnosi na mogućnost moralnog hazarda, usled lošijeg makroekonomskog okruženja, kada centralna banka zauzme zaštitničku ulogu prema slabijim i sumnjivim bankama u okviru svoje jurisdikcije. Istovremeno, centralne banke treba da usvoje nove i ojačaju postojeće instrumente i sprovedu robusniji nadzor i regulaciju sa ciljem ranog otkrivanja i prevenciju potencijalnih rizika u bankarskom sektoru.

Globalna finansijska kriza je uzdrmala poverenje u mikroprudencijalni regulaciju i nadzor kao primarnog instrumenta za obezbeđenje finansijske stabilnosti celokupnog finansijskog sistema. (Comitete on International Economic Policy and Reform, 2011, str. 5) Naučene lekcije, nedvosmisleno ukazuju da je cilj stabilnosti cena i mikroprudencijalni nadzor i regulacija pojedinačnih bankarskih institucija, kao dve politike koje nezavisno funkcionišu jedna od druge, nedovoljne da očuvaju celokupnu finansijsku stabilnost. Jedan alat, kamatna stopa, nije bila adekvatan instrument da obezbedi dva cilja, monetarnu i finansijsku stabilnost. Finansijska stabilnost zahteva primenu drugih instrumenata. Po tom pitanju, postignuta je saglasnost da regulisanje i nadzor finansijskog sistema i za rano otkrivanje i signaliziranje nagomilavanje sistemskog rizika neophodna makroprudencijalna politika. Pri tom, posebno je naglašena puna koordinacija aktivnosti, primenom novih standarda, razmenom informacija i zajedničkim delovanjem u ranoj fazi otkrivanja sistemskog rizika između svih učesnika mikroprudencijalnog i makroprudencijalnog nadzora i regulacije. Ovo sinergetsko delovanje obe politike je od suštinske važnosti, o čemu ne postoje razmimoilaženja. Takođe, postoji saglasnost o kompromisu između upotrebe monetarnih i makroprudencijalnih instrumenata u donošenju zajedničkih mera.

Ne postoji nikakav dogovor, o tome, da li i koliko daleko režimi monetarne politike treba da budu prilagođeni naslanjanjem na nagomilanim finansijskim neravnotežama. (Borio, 2001, str 8) Po ovim neslaganjima postoje dva viđenja, prvo, da monetarni režimi treba da nastave fokus na stabilnost cena i drugo, da se finansijska

supervision and regulation of the entire financial system. Standard (conventional) approach of the central banks was narrowly defined and was not sufficiently flexible and focused to predict and explain financial sector risks. The increased liquidity sources and a relaxed monetary policy remained unidentified during the time of emergence and piling up of financial distress. Central banks had a mandate to act against the piling up of the asset-price bubbles by rising interest rates and impacting market conditions. But all of these interventions remained absent out of the belief that a self-regulating efficiency of the financial markets is sufficient in itself. What prevailed was the notorious Grispence stance saying that the asset-price bubbles can hardly be identified as they are not in the domain of central banks, and that they do not have appropriate tools, and can clean up "the mess" only once the bubbles have been busted. From this stance derived the opinion that the interest rates rise is not the best solution as they impact the slowing down of the movements on the financial markets. At the same time, cleansing of "the mess" by central banks has shown to be very costly with high expenditures incurred.

In addition, the approach prior to the crisis was based on a limited or inexistent spilling over of the monetary policy. It was actually the crisis that had denied such an approach, and the practice has shown the connection between the domestic macro variables and the external variables, which was uncertain and problematic. Global spilling over was one of the key assumptions for the expansion of external events and financial excess. In the world, central banks are conducting different monetary policies. They are using different options which are being adjusted to their own economic and other targets, but also to the specific circumstances prevailing in the given country. However, on a global level, the inconsistencies between different monetary policy regimes are reproducing strengthening of the cross-border spill-over. The narrowly constrained mandate of the previously reached consensus did not take into sufficient consideration the possible impacts that the different monetary regimes may produce, and failed to pay them sufficient attention.

Additional intensification of the externalia

spill-over came about when the central banks continued to conduct monetary policy through the non-standard interventions. That was especially the case when they lowered interest rates that were already on a very low level (close to zero or at a zero point). Intensive spill over of externalia had an additional impact on the economies with low domestic demand and on the bank crediting problems. Due to poor domestic demand, and difficulties encountered by banks ready to lend for boosting non-standard policy portfolios, those funds could have been used to a greater extent for boosting turnover in countries with stronger growth prospects, rather than supporting domestic crediting activities as forecasted. (Committee on International Economic Policy and Reform, 2011, p. 3).

Increased political pressures during the crisis that were exerted on the central banks have impacted their independence in conducting monetary policy. Additional pressure will be further continued because of a massive sovereign debt in the developed countries where the central banks can not offer any resistance. But this is a reality that the central banks can not ignore.

### **Future adjustments and expansion of a narrow mandate**

Critical re-examination of the role of central banks, both prior and during the crisis, on the main and in advance raised issues, caused both in the academic circles and in the broad public an agreement on some aspects, while some other issues still remain divisive. At the same time, there is an absence of a consensus and stance on the new role and mandate of the central banks in the post-crisis period. Borio argues that "the intellectual background was heterogeneous" and that all the views may be "summed up in three areas of agreement and two areas of disagreement" (Borio, 2011, p. 6). In general, there is a broad consensus that certain targets of the central banks should be maintained, but also that their mandate should be expanded.

There is also a broadly recognized consensus that the low and stable inflation is not a sufficient guarantee to provide for a financial

stabilnost najbolje može ostvariti preko uspostavljenih, novih, makroprudencijalnih organa. Dodela makroprudencijalne regulacije i nadzora novo uspostavljenim, odvojenim, vladinim organima, uticalo bi na smanjenje preopterećenosti centralnih banaka i smanjenje rizika koji ugrožava njihov kredibilitet. Novo uspostavljeni makroprudencijalni regulatorni i nadzorni organi mogu da se staraju o stabilnosti finansijskog sistema ali to nije dovoljno bez učešća monetarne politike. Monetarna politika je isuviše respektabilna da bi bila zaobiđena.

Tokom krize monetarna politika je dobila i usvojila još jedan instrument bilans stanja. Novi instrument je izazvao nove nesaglasnosti oko pravilnog načina vođenja monetarne politike. Ta nesaglasnost se odnosi na ispravnost politike korišćenja kamatnih stopa ili korišćenje politike bilansa stanja. "Jedan stav je da politika treba da bude što je moguće akomodativna, da politike spuste stope na nulu i obavežu ih da ih zadrže do god je potrebno centralnim bankama da agresivnije raspoređuju bilans stanja. Još jedan pogled naglašava kolateralnu štetu od takvog stava ako se akomodativna politika vodi izvan faze kriznog menadžmenta." (Borio, 2011, str 8)

### **Izazovi u prilagođavanju i novoj ulozi u budućnost**

U postkriznom periodu, u prilično negativnom okruženju centralne banke se suočavaju sa mnogim izazovima. Ekonomsko okruženje nije im naklonjeno, intelektualni jaz je produbljen, institucionalno, uski ili širi mandat, polemike velike, stavovi različiti. Mi ćemo se usredsrediti na nekoliko izazova za koje smatramo važnim za budućnost centralnih banaka.

Da li treba centralne banke da nastave sa primenom ciljane inflacije? Pre krize primena politike ciljane inflacije je u mnogim zemljama uspešno primenjena sa dužim vremenskim periodima stabilnosti cena uz stabilan rast i nisku nezaposlenost. Održavanje stabilnosti cena, pre i tokom krize, je umnogome doprinelo usporavanju dalje ekspanzije krize. Rasplet velike krize je uzdrmao „glavni pogled pre krize koji bio, da je stabilnost cena i finansijska stabilnost pojačavaju jednu drugu. (Subbarao, 2010, str. 3) Kriza je pokazala da ta sinergija

nije funkcionisala i da stabilnost cena ne može uvek da osigura finansijsku stabilnost. Jačaju uverenja, da čak postoji isključivost između stabilnosti cena i finansijske stabilnosti i da centralne banke sa uspešnijim politikama stabilnosti cena imaju veće šanse da ugroze finansijsku stabilnost.

Kako upravljati nacionalnom monetarnom politikom u globalnim okvirima? Kriza je pokazala da centralne banke nisu bile u stanju, i pored svih intervencija, da upravljaju i drže pod kontrolom finansijsku krizu na globalnom nivou. Velika finansijska povezanosti finansijskih sistema i prekogranična saradnja su ometale centralne banke da upravljaju krizom na globalnom nivou. Ono, do čega su došle, je osećanje poverenja i saznanje da se u uslovima globalne krize ne može upravljati bez međusobne saradnje i zajedničkog, globalnog, odgovora. U tom kontekstu, buduća iskušenja centralnih banaka je u upravljanju sopstvenom makroekonomskom politikom u sve neizvesnijim globalnom okruženju. Neizvesnost je sve izraženija u svetlu međusobne povezanosti domaćih makro varijabla sa spoljašnjim finansijskim varijabilama. Ta povezanost se odvija putem globalnih cena, protokom kapitala, robe, intelektualnog kapitala cena imovina itd. Sve veća prekogranična saradnja dovodi do međusobnog preliivanja pozitivnih i negativnih efekata. Pozitivnim i negativnim efektima prekograničnog preliivanja su više podložne otvorenije ekonomije. Uz to, mnogi smatraju da su centralne banke više pod uticajem globalnih politika ako raspolažu sa širokim mandatom. Mada, postoje i mišljenja, da otvorene ekonomije mogu da se odbrane od efekata globalnog preliivanja ako uspevaju da strogo kontrolišu srednjoročna inflatorna očekivanja. Bez obzira na sve, ipak centralne banke sa široko dodeljenim mandatom, svakako treba da prilikom vođenja svoje monetarne politike da obavezno uvažavaju globalna kretanja. Jer, globalizacija i njen uticaj nije novina. Nedavna kriza je pokazala svu žestinu i raznovrsnost prenosnih kanala negativnih preliivanja na domaće monetarne politike i njene nepredvidljive posledice. Izazovi za centralne banke u spektru globalnih odnosa je bolje poznavanje kretanja globalnih i domaćih faktora koje su u njenom interesu. Centralne banke treba da iznađu efikasna

and macroeconomic stability, and also for an early detection of the piled up systemic risk. There is a general agreement that the low and stable inflation is desirable and necessary. The argument put forward, however, is that the low and stable inflation had in part impacted mitigation of financial imbalances and had helped the crisis not to be deepened any further. At the same time, "it had significantly impacted lowering of the financial system vulnerability, which was reflected on an easier resolution of financial imbalances and the risk volume" (Momirovic, 2010, p. 293). For this reason, everyone agrees that the central banks also in future should maintain their main target, price stability.

In addition, there is a general agreement that standard monetary policy measures are not sufficiently respectable as to be able to successfully mitigate or limit financial imbalances, and gradually neutralize negative effects of the crisis spill-over effects on a global level and in the real sector. There is also a consensus that central banks, in their role of the last resort liquidity provider, will be able through non-standard measures (non-standard, conventional measures are called by Borio and others "balancing policy", and the central banks balance sheets called "new monetary policy instrument"), through their balance sheets, impact the long-term interest rates and improve financial conditions. Improvement of financial circumstances precludes securing large volume of crediting potential offered on soft terms and on a broad-scale suitable collateral. Experience gained from the crisis shows the efficacy of these measures in stabilizing financial distress. Primarily, they had boosted a high demand for purchase of the mortgage securities both by the government and by the private sector, while simultaneously offering broad support to the banking sector liquidity.

The agreement was reached regarding more efficient prevention of financial distress appearing in the banking sector. It was also agreed that central banks should continue with their micro-prudential supervision and regulation of banking institutions. Especially important here is the argument which refers to the possibility of moral hazard occurring as a result of the macroeconomic environment, when

a central bank takes upon itself a protective role towards those less robust and more dubious banks within its jurisdiction. Concurrently, central banks must adopt new and reinforce the existing instruments and implement a more robust supervision and regulation with the objective of early detection and prevention of potential risk in the banking sector.

Global financial crisis has traumatized confidence in the micro-prudential regulation and supervision as the primary instrument for securing financial stability of the entire financial system (Committee on International Economic Policy and Reform, 2011, p. 5). The lessons learned unambiguously point out at the fact that the targeted price stability and the micro-prudential supervision and regulation of individual banking institutions, as the two policies functioning irrespective of each other, proved to be insufficient for the preservation of the entire financial stability. One of the tools, the interest rate, was not an adequate instrument to secure both of these targets, monetary and financial stability. Financial stability requires application of some other instruments as well. In this respect, agreement was reached that the financial system regulation and supervision and early detection and signaling of the piled up systemic risk is a necessary macro-prudential policy. Especially emphasized argument in this respect was the need for a fully coordinated action through the implementation of the new standards, exchange of information and a joint action in the early detection phase of systemic risk amongst all the participants in the micro-prudential and macro-prudential supervision and regulation. This synergic action of both policies is of essential importance, and on this point there are no confronting arguments. There is also a consensus on a compromise to be made between the use of monetary and macro-prudential instruments in the adoption of joint measures.

There is no agreement at all on how far monetary policy regimes should be adjusted by relying of the piled up financial imbalances (Borio, 2001, p. 8). There are two stances regarding these discrepancies, the first one arguing that monetary regimes should continue to be focused on the price stability, and the second one maintaining that the financial

rešenja u razmeni informacija i učine dodatne napore u unapređenju globalnog regulatornog i nadzornog okvira i uključivanje u sprovođenju novih standarda.

Saglasnost da centralne banke treba da dožive promene, istovremeno inicira niz pitanja o kojim promenama je reč, odnosno da li one treba da zadrže sadašnji ili da redefinišu postojeći mandat? Ovo su institucionalni izazovi o kojima se vode široke kritičke rasprave. Iz tih rasprava se već naziru izvesne konture organizacione i buduće uloge i odgovornosti centralnih banaka. Iskustava i pouke iz krize su potvrdila da glavni cilj očuvanje niske i stabilne inflacije, nije bio dovoljan i efikasan garant za održivu finansijsku i makroekonomsku stabilnost. Istovremeno kriza je dokazala da je niska i stabilna inflacija poželjna i neophodna. Stabilnost cena u kriznom periodu je odigrala delimičnu, ali važnu ulogu. Kriza je dala novi podsticaj „nove hipoteze okruženja“ (Subbarao, 2010, str. 3) prema kojima centralne banke treba prevashodno da se usredsrede na svoj glavni cilj stabilnosti cena i da prošire svoj mandat iznad okvira stabilnosti cena.

Kriza je otkrila niz manjkavosti i nedostatke u regulisanju i nadzoru finansijskog sistema. Centralne banke su imale mandat nadzora i regulacije pojedinačnih bankarskih institucija bez zakonskog mandata regulacije i nadzora celokupnog finansijskog sistema. Regulacija i nadzor finansijskog sistema u celini je bila dodeljena odvojenim vladinim agencijama. Međusobna saradnja između centralne banke i vladinih agencija za nadzor i regulaciju finansijskog sistema nije bila zadovoljavajuća. Nije postojala zadovoljavajuća koordinacija, razmena informacija, planiranje i sprovođenje zajedničkih aktivnosti i akcija. Delom, takav odnos između ova nezavisna tela je uticala na pogoršanje krize. To je iniciralo sve rastuće interesovanje za finansijsku stabilnost. Argument je da centralne banke sa svojim glavnim ciljem stabilnost cena i mikroprudencijalnom politikom u obezbeđenju finansijske stabilnosti celokupnog finansijskog sistema nije održiv. Na premisi navedenog argumenta izveden je zaključak da centralne banke treba da zadrže sadašnji mandat mikroprudencijalnog nadzora i regulacije pojedinačnih bankarskih institucija, a da nadzor i regulaciju celokupnog

finansijskog sistema treba dodeliti makroprudencijalnim perspektivama. Za takav stav postoje dva argumenta, prvi, bez obzira na izgradnju nove regulatorne i nadzorne strukture, nesporno je da centralne banke ostaju poslednje utočište likvidnosti i glavni poverioci finansijskom sistemu. Svoju ulogu poslednjeg provajdera likvidnosti, centralne banke, a kriza je to pokazala, mogu da izvrše efikasnije ako prošire svoj mandat i na nebankarske finansijske institucije. Ovo je izvodljivo ako centralne banke imaju odgovornost za nadzor bankarskog sektora. Drugi argument, proizlazi iz stava međusobne sinergije monetarne (mikroprudencijalni nadzor) i makroprudencijalne politike. Sinergijski razmena i protok informacije iz mikroprudencijalnog nadzora bankarskih institucija mogu biti dragocene za makroprudencijalnu politiku i obratno. Međutim, postoji i jak argument protiv mikroprudencijalnog nadzora centralnih banaka nad bankarskim institucijama, koji se odnosi na mogućnost moralnog hazarda. Svaka zemlja treba da se ovim suoči i reši na način koji smatra da je za nju najbolji, uvažavajući, pri tom, svoje specifičnosti.

Istovremeno, aktuelna kriza je inicirala sve obimnije rasprave o odgovornosti i ulozi centralnih banaka u obezbeđenju finansijske stabilnosti. Saglasnost da centralne banke odgovaraju za stabilnost bankarskog sektora nije sporna. Nije sporno i da su monetarna i makroprudencijalna politika deo sveukupne ekonomske politike i da su time neposredno zadužene i odgovorne za makroekonomsku stabilnost. U ovom kontekstu, odgovornost monetarne politike za celokupnu finansijsku stabilnost je bez sumnje. Međutim, nesaglasnost postoji kada se govori o eksplicitnoj ulozi centralnih banaka u obezbeđenju finansijske stabilnosti. Dodeljivanje uloge u obezbeđenju finansijske stabilnosti bi bilo suvišno i opterećujuće za centralne banke. Proširenje mandata bez sumnje bi ugrozilo postizanje standardnih ciljeva centralnih banaka, stabilnost cena, rast proizvodnje i zaposlenosti. S druge strane uslov ostvarivanja svih ovih ciljeva je finansijska stabilnost, mada i ona nije dovoljna. Eksplicitna dodela uloge centralnim bankama u obezbeđenju finansijske stabilnosti

stability may best be achieved through well established, novel and macro-prudential bodies. Allocation of macro-prudential regulation and supervision to the newly established, separate government authorities would have an impact on the reduction of tasks on an already over loaded central banks duties and would lower the risk that is threatening to undermine their credibility. Newly established macro-prudential regulatory and supervisory authorities would focus on stability of the financial system, but this is not sufficient without the participation of the monetary policy. Monetary policy is too respectable to be circumvented in this respect.

During the crisis, monetary policy gained and adopted yet another balance sheet instrument. This new instrument caused a new controversy regarding the proper manner in which the monetary policy is to be conducted. Such a controversy relates to the correct implementation of the interest rates policy or application of the balance sheet policy. "One of the stances argued that the policy should be as accommodating as possible, that the policies should lower the rates to a zero and undertake to keep them on that level for as long as necessary for the central banks to undertake a more aggressive allocation of the balance sheet positions. Yet another view upholds that the collateral damage of such a procedure will be caused if the accommodation policy is conducted outside of the crisis management phase." (Borio, 2011, p. 8)

### **Challenges of adjustment and the new role in future**

In the post-crisis period central banks are faced, in a rather negative environment, with many challenges. Economic climate is not lenient, intellectual gap is deepened, and the institutionally either constrained or broadened mandate, while polemics are ostentatious, differing stances argued and disputed. We shall focus here on those few challenges that we deem to be important for the future of the central banks.

Should the central banks continue to pursue the targeted inflation policy? Before the crisis erupted implementation of the targeted inflation policy in many countries proved to

be successfully implemented over a longer period of time of price stability, and a stable growth and low unemployment. Maintaining price stability, both before and after the crisis, greatly contributed to the slowing down of further crisis expansion. The resolution of the great crisis disturbed "the main pre-crisis stance which was that the price stability and financial stability are mutually reinforcing" (Subbarao, 2010, p. 3). The crisis showed that this synergy did not function and that the price stability can not always guarantee financial stability. Opinions are now being reinforced that there is even a mutual exclusion between price stability and financial stability, and that the central banks with successful policies of price stability are having higher chances of undermining financial stability.

How should the national monetary policy be managed within the global framework? The crisis has shown that central banks were not capable, in spite of all the interventions, to manage and keep under control financial crisis on a global level. An extensive financial connectivity between the financial systems and the cross border cooperation were obstructing central banks from crisis management on a global level. What they have come about to realize is that the feeling of confidence and the awareness that in the global crisis climate no management is possible without mutual cooperation, and a joint, global response. In this context, the future challenges facing central banks are in the field of management of their own macroeconomic policies in a growingly uncertain global environment. Uncertainty is ever more emphatic in the light of the mutual interconnection between the domestic macro variables and the exterior financial variables. This connectivity is taking place through the global prices, capital flows, flows of goods, intellectual capital flows, also asset prices, etc. Growing cross border cooperation leads to the shared spilling over both of the positive and of the negative effects. Positive and negative effects of the cross border spilling over are having an ever growing effect on the open market economies. In addition, many are of the view that central banks would be rather more influenced by the global policies if they were to be granted a broader mandate. There are



celokupnog finansijskog sistema brzo bi erodirala kroz moguće složene procedure upotrebe finansijskih instrumenata i prisutne protivrečnosti ciljeva između monetarne i makroprudencijalne politike. Ovakva shvatanja su sve više zapažena u javnim raspravama i polemikama i pridobijaju sve više pobornika. Istovremeno, centralnim bankama stoji na raspolaganju jedna jasna i nezaobilazna uloga, kada se svetla nesolventnosti i nelikvidnosti upale, ona postaje, provajder i poslednje utočište likvidnosti. Mada je i ta uloga donekle ograničena. Iako su tokom krize centralne banke obezbedile veliku količinu likvidnosti, pod najpovoljnijim finansijskim uslovima, to nije posebno podstrekivalo investitore da kupuju imovinu čije se cene brzo srozavaju. Najbolje rešenje, možda je bilo da same centralne banke otkupuju imovinu. U tom slučaju centralne banke pored utočišta krajnjeg zajmodavca moraju da budu tržišni mejkleri poslednjeg utočišta (MMLR-Market Mejker Last Resorts). Izazovi u eksplicitnoj dodeli uloge centralnim bankama u obezbeđenju finansijske stabilnosti treba sagledati kroz samu širinu definicije finansijske stabilnosti. Zatim, koliko je eksplicitno uključena finansijska stabilnost u ciljeve centralnih banaka. Potom, da li postoji zajednička ili isključiva odgovornost centralnih banaka u obezbeđenju finansijske stabilnosti. Raspoložu li centralne banke adekvatnim alatima za obezbeđenje finansijske stabilnosti. Koliko cilj finansijske stabilnosti urušava nezavisnost centralnih banaka?

Kriza je ispostavila pitanje da li centralne banke treba i kako da odgovore na potencijalne mehuriće cene imovine. Kriza je pokazala da je u nekim zemljama članica EU, restriktivnija i čvršća monetarna politika na izvestan način, delimično obeshrabrila eksploziju cene mehurića imovine. Iz toga je proizašlo mišljenje, da centralne banke treba da imaju nadležnost u sprečavanju nagomilavanja mehurića cene imovine. Reakcije centralnih banaka na pojavu mehurića cene imovine restriktivnijom monetarnom politikom nije baš najprikladnije jer može da bude u suprotnosti sa osnovnim ciljevima. Umesto da se fokusira na cene imovine fokus treba da bude na kreditne uslove tržišta. (Mishkin, 2011, str 51) Centralne banke raspoložu adekvatnim alatima da mogu neposredno da deluju na kreditne

uslove tržišta. Delovanjem na tržišne kreditne uslove, one bi, indirektno uticale na potencijalne kreditne mehuriće. Istovremeno, one bi trebale da na simetričniji način vode monetarne politike. Napori centralnih banaka u sprečavanju mehurića nekretnina zahteva visoke analitičke sposobnosti i zrelu procenu rizika.

Izazov usklađivanja nezavisnosti i odgovornosti obuhvata širok niz pitanja i problema. Kriza je, bez obzira na kredibilitet očuvanja stabilnosti cena, ugrozila autoritet centralnih banaka. Centralne banke su proglašene krivim za eskalaciju krize u mnogim segmentima. Na teret im se stavlja prevelika nezavisnost koja im je omogućila vođenje labave monetarne politike uz isključivu posvećenost svom glavnom cilju, niskoj i stabilnoj inflaciji uz zanemarivanje razvoja mehurića cene imovine. Pored toga, okrivljene su da nisu bile sposobne da razvijaju propise u skladu sa kretanjem inovacija na finansijskom tržištu. Iz tih negativnih konotacija proizašle su loše reakcije na dalji puni legitimitet nezavisnosti centralnih banaka. Reakcije se odnose na ograničenje diskrecione sposobnosti centralnih banaka da se uključe u politike koje suštinski pripadaju fiskalnim vlastima ili privatnim tržištima. Zahtevi za diskreciono ograničenje su dobili punu podršku. Centralne banke koje prekrše određene limite rizikuju svoj legitimitet, kredibilitet i na kraju svoju nezavisnost. Međutim, i pored opravdanih reakcija, tokom poslednjih godina kombinacija finansijske krize i održivih fiskalnih neravnoteža su uticali na slom institucionalnih okvira, ranije prihvaćenih strogih razdvajanja monetarne i fiskalne politike. Sve je prisutnija i rastuće tenzija između monetarne i fiskalne politike. Kako god bilo, ipak sve su prisutniji napadi na nezavisnost centralnih banaka, nakon uloge centralnih banaka pre krize i dešavanja tokom krize. U svakom slučaju izazov usklađivanja odgovornosti i očuvanja nezavisnosti centralnih banaka ne treba tražiti u čvrstoj argumentaciji za i protiv, već kroz sopstvenu energičnost i naporima za transparentnost i punu odgovornost. Glavne pretpostavke su jačanje procesa odlučivanja i ekonomskih analiza kao i uspostavljanje jasne granice između monetarne i fiskalne politike.

U uslovima sve izraženijih tenzija „sindroma“

opinions also, however, that open economies can defend themselves from the global spill-over if they are able to successfully control medium-term inflationary expectations. Regardless of all these implications, central banks with a broadly granted mandate should engage, in conducting their monetary policies, in the respect and observance of the global movements and trends. Globalization, per se, and its impact is not a novel phenomenon. The recent crisis has manifested all the turbulence and diversity of the transmission channel for its spill-over effect on the domestic monetary policies and its unpredictable consequences. The challenges facing central banks in the spectrum of global relations are a better awareness of the global trends and domestic factors which are in their best interest. Central banks should always seek to find efficient solutions in the exchange of information and should invest additional efforts in the promotion of global regulatory and supervisory framework, and the engagement in the implementation of the new standards.

Consensus that central banks should experience changes at the same time initiates a series of questions regarding changes themselves, whether they should retain the present or redefine the existing mandate? These are some institutional challenges that have become the focus of a broad critical debate. These debates already offer certain contours to be perceived of the organizational and future role and responsibility of the central banks. Experience and lessons from the time of crisis have confirmed that the main target to preserve low and stable inflation was neither a sufficient nor an efficient guarantee for a sustainable financial and macroeconomic stability. At the same time, the crisis proved that low and stable inflation is both desirable and necessary. Price stability in the crisis period has played a partial yet important role. Crisis has given a new impetus to “the new environmental hypothesis” (Subbarao, 2010, p. 3), according to which the central banks should primarily be focused on their main objective of price stability, yet should expand their mandate beyond the scope of price stability.

The crisis revealed a series of shortcomings and shortfalls in the regulation and supervision of the financial system. Central banks had a

mandate to supervise and regulate individual banking institutions without legal mandate to regulate and supervise the entire financial system. Regulation and supervision of the financial system as a whole was entrusted to separate government agencies. Mutual cooperation between the central bank and the government agencies in charge of supervision and regulation of the financial system was not a satisfactory one. There was an absence of satisfactory coordination, exchange of information, planning and implementation of joint activities and actions. Such a relationship between these two independent bodies was in part causing a deterioration of the crisis. This in turn initiated an ever growing interest in financial stability. The argument is that central banks with their main aim to achieve targeted price stability and micro-prudential policy in securing financial stability of the entire financial system is an aim that is not sustainable. On the premise of the said argument conclusion was reached that central banks should retain their present mandate of micro-prudential supervision and regulation of individual banking institutions, and that the supervision and regulation of the entire financial system should be allocated to the macro-prudential perspectives. There are two arguments in support of this stance: the first one is that regardless of the building up of a new regulatory and supervisory structure, it is undisputable that central banks remain the liquidity providers of last resort and the main creditors of the financial system. Their role of liquidity provider of last resort, as the crisis has shown, central banks can perform more efficiently if they are to expand their mandate on to the non-banking financial institutions. This is feasible if central banks should have a responsibility to supervise the banking sector. The second argument derives from the view on mutual synergy of the monetary (micro-prudential supervision) and the macro-prudential policy. Synergic exchange and flow of information from the micro-prudential supervision of the banking institutions may prove to be precious for the macro-prudential policy and vice versa. There is however another strong argument opposing micro-prudential central banks supervision of the banking institutions, which pertains to the possibility of moral hazard. Every country

suverenog duga, vlade zemalja sa fiskalnim deficitima su sve sklonije političkom pritisku na centralne banke. Povećana politička pažnja nije bez rizika, zato što može dovesti do promena zakonodavstva u centralnoj banci i ugrozi princip nezavisnosti. (Thomas, 2012 str. 291)

Postoje indicije da vlade mnogih zemalja traže od centralnih banaka da napuste svoj glavni cilj, stabilnosti cena i povećaju inflaciju kako bi suvereni i privatni dugovi devalvirali. Pored ovih postoje i drugi kanali političkih pritiska koji se vrše na centralne banke od strane vlada. Na primer, da centralne banke pozajmljuju nesolventnim ili neuspešnim firmama ili da štampaju novac. Pred političke pritiske centralne banke treba da reaguju u skladu sa svojim glavnim ciljem, očuvanje stabilnosti cena primenjujući svoje definisane strategije i u zakonskim okvirima

## Zaključak

Saradnja centralnih banaka, u budućnosti, će biti od suštinskog značaja za uspostavljanje međusobnog poverenja i zajedničko razumevanje prirode svih izazova i posvećenost svojim ali i globalnim monetarnim politikama. Da li je onda moguć novi konsenzus o ulozi centralnih banaka? Sa stanovišta Banke za međunarodna poravnanja, novi konsenzus bi trebalo da se bazira na tri osnove. (Videti više Caruana, 2012, str 3-7)

Prvo, potrebno je da centralne banke povrate simetriju u vođenju monetarne politike tokom finansijskih ciklusa. Tokom proteklih 10 do 15 god. centralne banke imaju tendenciju da olabave monetarnu politiku agresivno tokom krize, ali da oprezno pooštre pre krize i oporavka. (Caruana, 2012, str. 4) Iskustva, tokom krize su pokazala da centralne banke u jeku eskalacije imaju naviku da vode labaviju monetarnu politiku a da zatežu i to veoma oprezno, pre krize i tokom oporavka. Posledice asimetrične politike su pad kamatnih stopa. Neophodno je da centralne banke vode simetričniju monetarnu politiku koja bi bila labavija pre krize a restriktivna u periodu vrhunca krize. Monetarnu politiku treba prilagoditi da može doprineti efikasnijem ograničavanju finansijskih neravnoteža i jačanju otpornosti finansijskog sistema. Da bi to ostvarile

centralnim bankama bi trebalo duži vremenski horizont od dve godine. To je dugi horizont koji bi mogao proizvesti makroekonomske neravnoteže i ako bi cilj stabilnosti cena bio postignut. Zbog toga, centralne banke moraju da vode fleksibilnu politiku ciljane inflacije sa sistematičnim pristupom procene potencijalnih rizika, posebno onih koji nastaju iz finansijskih izvora. U tom kontekstu, centralne banke bi trebale da obrate pažnju na dosadašnje konceptualne slabosti njihovih analitičkih modela, pre krize, koji bi morali da podlegnu preispitivanju. Istovremeno, one treba da razvijaju nove, efikasnije modele koji će bolje uočiti vezu između finansijskih varijabla i realne ekonomije. Istovremeno, vraćanje simetričnijem pristupu zahteva i preispitivanje odgovora na pretkriznu monetarnu politiku iz koje je proizašla kreditna ekspanzija. Jer, agresivna i produžena monetarna relaksacija verovatno potcenjuje kolateralne štete. Zbog toga, je realno očekivati da centralne banke po izbijanju finansijskih nevolja preduzmu sve mere u okviru svojih nadležnosti kako bi sprečile njihovo širenje. I kada u tome uspeju, kao u ovoj krizi, neophodno je da svoje interesovanje usmere na postkriznom potrebnom prilagođavanju bilansa i privrede. Produženjem monetarne relaksacije gubi se optimalno vreme za ova obavezna prilagođavanja što može izazvati određene probleme u realni sektor. Istovremeno i prekogranična saradnja može uticati na dodatne poremećaje na finansijskim tržištima i realnu ekonomiju.

Drugo, bolje i efikasnije povezivanje i saglasnosti centralnih banaka na globalnom nivou. Centralne banke u globalnim okvirima, treba da igraju veću ulogu i da obrate posebnu pažnju na globalne implikacije svojih akcija. Zbog toga, monetarna politika centralnih banaka treba da uključi globalnu perspektivu koja se odnosi na dugoročnu stabilnost cena i finansijsku stabilnost. To ne znači da je obavezno nužna koordinacija monetarne politike na globalnom nivou, ali je potrebno da se centralne banke, međusobno, više uvažavaju i „internalizuju sporedne efekte i povratne sprege koje proizlaze iz pojedinih monetarnih politika“. (Caruana, 2012, str 4) Posebno se to odnosi na centralne banke velikih finansijskih centara, ne samo kada sprovode zajedničke

should face this and resolve it in the manner that it deems best for it, respecting in the process its specific features.

Concurrently, the actual crisis has initiated an ever growing debate on the responsibility and the role of central banks in providing financial stability. The consensus reached on the fact that central banks are responsible for stability of the banking sector is not disputable. It is neither disputable that the monetary and macro-prudential policies are a part of an overall economic policy, making them thus directly tasked and accountable for the macro-economic stability. In this context, responsibility of the monetary policy for the entire financial stability is beyond any doubt. However, there is a discrepancy when speaking of an explicit role of central banks in securing financial stability. If the central banks were to be given the role in securing financial stability, that would be an excessive overload for the central banks. Expansion of the mandate undoubtedly would jeopardize the achievement of the standard targets of the central banks, such as the price stability, production growth, and employment. On the other hand, the condition required for the achievement of all of these goals is financial stability, although it alone in itself is not sufficient. An explicit allocation of the role to central banks that they have to play in securing financial stability of the entire financial system would be soon eroded through the eventual complex procedures in the employment of financial instruments and the controversies present in targets between the monetary and the macro-prudential policies. Such perceptions are growingly evident in public debates and are gaining ever more supporters. At the same time, central bank has available one clear and obvious role: once the insolvency and illiquidity lights go up, it becomes the liquidity provider of last resort and sanctuary. Nevertheless, even this role is at times rather limited. Although the central banks, at the time of crisis, secured a very large quantity of liquidity under the best financial conditions, this did not especially incite investors to buy assets whose prices were rapidly plunging. The best solution perhaps was for the central banks themselves to engage in purchase of assets. In that case central banks, in addition to being lenders of last resort, had to

be also the market makers of last resort (Market Maker of Last Resort – MMLR). Challenges explicit in the casting of central banks in the role of an authority securing financial stability should be assessed through the scope itself of the financial stability definition. Thereupon, how explicitly is the financial stability included in the central bank targets. Furthermore, is there a joint or exclusive responsibility of central banks for securing financial stability? Do the central banks have available adequate tools to secure financial security? To what extent does the financial stability target undermines central bank independence?

The crisis has raised the question whether central banks should and how respond to the potential asset-price bubbles? The crisis has shown that in some EU member-countries restrictive and robust monetary policy has in a certain manner partially discouraged asset price bubble explosion. This has given rise to the opinion that central banks should have competences in prevention of pilling up of the asset price bubbles. Central banks reaction to the emergence of asset price bubbles by introducing a restrictive monetary policy is not perhaps the best solution, as it may stand opposed to the main targets. Instead of focusing on the asset prices, the focus should be on the credit market conditions (Mishkin, 2011, p. 51). Central banks have available adequate tools to act directly on the credit market conditions. By acting on the credit market conditions, they would indirectly impact the potential credit bubbles. At the same time, they should conduct their monetary policies in a more symmetric way. Efforts of central banks in preventing asset bubbles require high analytic capabilities and a well mature risk assessment.

The challenge of harmonizing independence and responsibility covers a broad spectrum of questions and issues. The crisis has undermined the authority of central banks regardless of their credibility in preserving price stability. Central banks were pronounced guilty of crisis escalation in many segments. They were charged with an excessive autonomy that allowed them to conduct relaxed monetary policies measures, with exclusive devotion to their main target: low and stable inflation, while neglecting developments taking place

i koordinirane aktivnosti, već i mimo tih aktivnosti. Pri tom, treba da izbegavaju javna iznošenja neslaganja i nedoslednosti koje mogu ugroziti opštu atmosferu uzajamnog poverenja i saradnju i uticati na ponašanje drugih, manje respektivnih centralnih banaka. Dakle, neophodna je kooperativnost i iskrena saradnja i razmena mišljenja o međunarodnim dimenzijama domaćih monetarnih politika. Napredak takve saradnje je neophodan.

Treće, centralne banke moraju da očuvaju svoju nezavisnost i održiv kredibilitet.

Posebno, u kontekstu finansijske stabilnosti i makroprudencijalnih perspektiva. Izazov je dakle institucionalnog karaktera. To znači, da centralne banke treba da imaju snažnu podršku sa jasnim mandatom i aranžmane koji štite njenu nezavisnost ali i istovremeno i odgovornost i efikasnost.

Konačno, da zaključimo da centralne banke treba da vode sopstvenu monetarnu politiku vodeći računa o međunarodnim implikacijama, uvažavajući, pri tom, globalne interakcije i povratne efekte.

in the asset-price bubbles. In addition, they were blamed for being incapable of developing regulations concordant with the innovation trends present on the financial markets. From such negative connotation what derived were negative reactions to any further full and legitimate independence of central banks. Reactions pertained to limitation of discretionary capabilities of central banks to engage in the policies which are essentially within the jurisdiction of fiscal authorities or private markets. Requests for discretionary limitations have received full support. Central banks, when breaching certain limits, are placing at risk their legitimacy, credibility, and ultimately their autonomy. However, in spite of justified reactions, over the last few years, the combination of financial crisis with the sustainable fiscal inequilibrium has impacted the fall of institutional frameworks of the earlier accepted strict divisions between monetary and fiscal policies. There is an ever growing presence and raising tension between monetary and fiscal policies. Anyhow, there are ever more present attacks on the independence of central banks after the role that central banks have played prior to the crisis and the events taking place at the time of crisis. In any case, the challenge of harmonizing responsibility with preservation of independence of central banks should not be looked for in any strong arguments pro and contra, but in ones own energetic involvement and efforts made for transparency and full accountability. The main assumptions are strengthening of the decision making process and economic analysis, but also setting up of a clear dividing line between monetary and fiscal policies.

In the climate of ever growing sovereign debt "syndrome" tensions, governments of countries with fiscal deficit are increasingly declined towards political pressure on central banks. A heightened political attention is never risk-free as it may lead to the changes in the central bank legislation and may undermine the principle of autonomy (Thomas, 2012, p. 291).

There are indications that governments of many countries are asking the central banks to abandon their main target, price stability, and enhance inflation so that the sovereign and private debts would be devalued. In

addition to these there are also other channels of political pressures made on central banks by the governments. For instance, pressures on central banks to lend money to insolvent or unsuccessful companies, or to print money. In the face of political pressures central banks should react in accordance with their main target, preservation of price stability by applying their defined strategies and within legal frameworks.

## Conclusion

Cooperation between central banks in the times to come will be of crucial importance for the mutual confidence building and joint understanding of the nature of all the challenges, together with commitment to ones own but also global monetary policies. Is it possible, then, to reach a new consensus on the role of central banks? The Bank for International Settlements is of the view that a new consensus should be based on the three main pillars (see Caruana, 2012, p. 3-7).

Firstly, it is necessary for the central banks to regain symmetry in conducting monetary policy measures during the financial cycles. Over the past 10 to 15 years, central banks had a tendency of relaxing monetary policy aggressively in the times of crisis, but prudentially to tighten them up prior to crisis and recovery (Caruana, 2012, p. 4). The experience gained at the time of crisis shows that central banks, at the peak of escalation are in a habit of conducting more lenient monetary policy, and to pull tight the reigns yet very prudently, prior to crisis and during recovery. Consequences of an asymmetric policy are the fall in interest rates. It is necessary for the central banks to conduct a more symmetric monetary policy which would be more lenient before the crisis and more restrictive in the period when crisis reaches its peak.

Monetary policy should be adjusted so that it may contribute to a more efficient restriction of financial imbalances and strengthening of the financial system resilience. In order to achieve this, central banks would need a longer time horizon of two years. This is a long time horizon which could produce macro-economic imbalances, even if the price stability target would be achieved. Therefore, central banks

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must conduct a flexible targeted inflation policy together with a systematic approach to the potential risks assessment, especially those that emerge from financial sources. In this context, central banks should focus their attention on the past conceptual shortcomings in their analytic pre-crisis models, which should be subject to re-examination. Concurrently, they should develop new and more efficient models that would be able better to detect the connection between financial variables and the real economy. At the same time, the return to a more symmetric approach would require re-examination of the response to the pre-crisis monetary policy from which the credit expansion derived. Because aggressive and extended monetary relaxation probably is underrating collateral damage. Therefore, it is realistic to expect that central banks, once financial distress has erupted, will undertake all the measures within their competences in order to prevent the spread and spill over of distress. When they succeed in doing so, as they have done in this crisis, it is necessary to focus their interest on the post-crisis necessary adjustment of the balance sheet and economy. By extending monetary relaxation an optimum time is being lost for these mandatory adjustments, which may cause certain problems in the real sector. At the same time, cross border cooperation may also have its impact on the additional disturbances on financial markets and the real economy.

Secondly, a better and more efficient connection and concurrence between central banks on a global level is required. Central banks within a global framework should play an enhanced role and focus special attention on the global implications of all their actions. Hence the monetary policy of central banks should include a global perspective which

pertains to a long-term price stability and financial stability. This does not necessarily mean that a coordination of monetary policy on a global level is required, but it is necessary for central banks to show more mutual respect and “internationalize side effects and recurrent bonds which derive from individual monetary policies” (Caruana, 2012, p. 4). This especially refers to the central banks of the major financial centers and not only when they are implementing joint and coordinated activities, but also beyond such activities. In doing this they should avoid public manifestation of disagreement and inconsistencies that may jeopardize the general climate of mutual confidence and cooperation, and may impact the conduct of other, less respectable central banks. Hence what is required to ensue is the cooperation and sincere coordination and exchange of opinions on international dimensions of domestic monetary policies. An advance in and the progress of such cooperation is necessary to materialize.

Thirdly, central banks must preserve their independence and sustainable credibility. Especially necessary, in this context, is the financial stability and macro-prudential perspectives. The challenge, therefore, is of an institutional character. This means that the central banks should gain a strong support with a clear mandate and arrangements which will serve to protect their independence, yet at the same time their responsibility and efficacy.

Finally, let us draw a conclusion that the central banks should conduct their own monetary policies taking into account international implications, while respecting global interactions and feedback effects.