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DESET GODINA CILJANJA INFLACIJE U SRBIJI

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Rezime

Monetarna strategija ciljanja inflacije u Srbiji nezvanično je uvedena septembra 2006. godine. Narodna banka Srbije se susrela sa brojnim izazovima koji su karakteristični za tranzicione zemlje koje primenjuju istu strategiju. Na samom početku inflacionog targetiranja inflacija je svedena na jednocifren broj, što odlikuje i većinu ostalih zemalja. Međutim, volatilnost inflacije je tokom primene strategije izuzetno visoka, uglavnom zbog promena u ceni prerađene i neprerađene hrane. Pored toga, za zemlju sa visokom stepenom evroizacije, kao što je i Srbija, devizni kurs ima veoma važnu ulogu u kretanju inflacije. Kontrolisanje kretanja deviznog kursa kako bi se održala stabilnost inflacije u suprotnosti je sa pretpostavkama inflacionog targetiranja. Ipak, može se zaključiti da je i pored svih prepreka sa kojima se suočava NBS, inflaciono targetiranje najoptimalniji izbor monetarne strategije.

Ključne reči: monetarna politika, ciljanje inflacije, volatilnost deviznog kursa, eurozacija

JEL: E31, E52

TEN YEARS OF INFLATION TARGETING IN SERBIA

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Translation
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Summary

Monetary strategy of inflation targeting in Serbia was unofficially introduced in September 2006. The National Bank of Serbia has faced the numerous challenges that are typical for transition countries which apply the same strategy. At the start of inflation targeting, inflation was reduced to a single-digit number, which characterises most other countries. However, the volatility of inflation during the implementation of the strategy has been extremely high, mainly caused by the changes of processed and unprocessed food prices. Moreover, for a country with a high degree of euroisation, such as Serbia, the exchange rate plays an important role in the movement of inflation. Controlling the trends of the exchange rate in order to maintain the stability of inflation is contrary to the assumptions of inflation targeting. However, it can be concluded that despite all the obstacles faced by the NBS, inflation targeting is the optimal choice of a monetary strategy.

Key words: monetary policy, inflation targeting, exchange rate volatility, euroization

JEL: E31, E52

Uvod

Strategija ciljanja inflacije u Srbije primenjuje se deset godina. U septembru 2006. godine Memorandumom Narodne banke Srbije (u daljem tekstu NBS) o principima novog okvira monetarne politike usvojene su nove mere i odobreni su principi sprovođenja monetarne politike usmereni na ostvarenje ciljeva u pogledu inflacije. Strategija je formalno počela da se primenjuje u januaru 2009. godine nakon što je usvojen Memorandum o ciljanju inflacije kao monetarnoj strategiji.

Uzimajući u obzir period primene, moguće je doneti zaključke o tome da li se strategija uspešno primenjuje ili ne, kao i da li je dobar izbor monetarne politike. NBS susreće se sa mnogobrojnim izazovima u vođenju monetarne politike, kako na unutrašnjem, tako i na međunarodnom planu. Pri najavi novog okvira monetarne politike, postavilo se pitanje da li Srbija uopšte ispunjava teorijske preduslove strategije ciljanja inflacije. Iako je primenom nove strategije inflacija sa dvocifrenog smanjena na jednocifren broj već na samom početku, desetogodišnji period obeležen je većim delom odstupanjem inflacije od zadatog cilja. Inicijalna faza primene vezuje se za nestabilnost na međunarodnom finansijskom tržištu izazvanog globalnom finansijskom krizom. Rastuća neizvesnost na finansijskom tržištu uzrokovala je smanjenje kapitalnih priliva, rastuću tražnju za novcem i samim tim rastuća inflatorna očekivanja. Oscilacije u cenama prerađene i neprerađene hrane inicirale su značajne promene u kretanju inflacije. Pored toga, budući da je Srbija visoko eurizovana zemlja i uvezno zavisna, kretanje deviznog kursa u velikoj meri uticalo je na inflatorna očekivanja. Visoka volatilnost deviznog kursa tokom većeg perioda primene strategije uzrokovala je česte intervencije NBS na deviznom tržištu u cilju stabilizacije vrednosti domaće valute a time i nivoa inflacije. Takođe, skorašnji period odlikuje inflacija koja je ispod donje granice ciljanog nivoa. Pored faktora koji su vezani za kretanje cena hrane, nafte, isuviše niska inflacija uzrokovana niskom agregatnom tražnjom predstavlja takođe opasnost po privredu zemlje.

Teorijska postavka strategije ciljanja inflacije podrazumeva ispunjenje nekoliko uslova.

U tom smislu, date su sledeće odrednice: nezavisnost centralne banke, kredibilnost, razvijenost finansijskog tržišta, odsustvo drugih nominalnih ciljeva, transparentnost, relativno nizak nivo inflacije i makroekonomska stabilnost (Mishkin, 2000).

Ispunjenost uslova za primenu režima ciljanje inflacije

Nezavisnost centralne banke neophodna je za uspešnu primenu režima ciljanja inflacije, uzimajući u obzir da je i osnovni cilj NBS očuvanje cenovne stabilnosti. Iskustvo pre demokratskih promena pokazalo je da pritisak države na centralnu banku usled potrebe finansiranja visokih fiskalnih izdataka kroz rast primarne emisije utiče na formiranje hiperinflacione spirale. Kroz primenu tržišnih instrumenata monetarne politike koji su neovisni od zahteva države, stvara se okruženje za efikasnu monetarnu politiku koja nije podložna interesima učesnika na tržištu. Nezavisnost centralne banke može da se posmatra kroz četiri komponente: institucionalnu, operativnu, finansijsku i personalnu. Institucionalna nezavisnost tiče se samostalnosti i nezavisnosti u obavljanju funkcija određenih zakonom, što znači da državni organi i druga lica ne mogu uticati na funkcionisanje NBS. Ova komponenta je uređena i Zakonom o NBS, članom broj 2. Operativna nezavisnost odnosi na određivanje instrumenta monetarne politike u dostizanju primarnog cilja cenovne stabilnosti. Tačnije, NBS mora slobodno da određuje nivo referentne kamatne stope na novčanom tržištu. Bilo kakva ograničenja u ovom smislu, kao što je finansiranje budžetske potrošnje, ugrožava nezavisnost. Pod finansijskom nezavisnošću podrazumeva se da centralna banka nezavisno određuje svoj budžet, primenjuje računovodstvene standarde specifične za centralnu banku, poseduje jasna prava na raspodelu prihoda, i ima jasno definisane finansijske obaveze prema nadzornom organu. U tom smislu, Zakonom o NBS određeno je da Savet usvaja finansijski plan NBS, određeno je na koji način se koriste prihodi, kao i koji poslove se obavljaju za Republiku Srbiju. Izbor guvernera uređen je članom 19. Zakona o NBS, kojim je propisano da se guverner bira na šest godina, sa pravom

Introduction

Inflation targeting has been implemented as a monetary strategy in Serbia for the past ten years. In September 2006, the National Bank of Serbia (hereinafter referred to as the NBS) adopted the Memorandum on the Principles of New Monetary Policy Framework, thereby adopting the new measures and approving the new principles of conducting monetary policy directed at the fulfilment of the inflation target. The strategy formally started to be implemented in January 2009, after the Memorandum on Inflation Targeting as a Monetary Strategy was adopted.

Taking into consideration the implementation period, it is possible to reach the conclusions about whether the strategy has been successfully implemented or not and whether it is a good choice of monetary policy. The NBS has faced the numerous challenges in conducting monetary policy both at the local and international level. During the announcement of the new monetary policy framework, the question arose whether Serbia fulfils the theoretical preconditions for the inflation targeting strategy. Although the implementation of the new strategy reduced inflation from a two- to a single-digit number at the very beginning, the ten-year period has mostly been marked by the deviation of the current inflation from the inflation target. The initial phase of implementation was linked to the international financial market's instability caused by the global financial crisis. The increasing uncertainty on the financial market caused a drop of capital inflows, a growing money demand and thus the growing inflationary expectations. Oscillations in the prices of processed and unprocessed food initiated the significant changes in the inflation movements. Besides, given the fact that Serbia is a highly euroized and import-dependent country, changes in the exchange rate largely influenced the inflationary expectations. High exchange rate volatility during most of the period of the strategy's implementation caused the frequent NBS interventions on the exchange rate market aimed to stabilize the value of the domestic currency and, thus, the inflation level. Moreover, the recent period has

been characterized by the inflation which is below the inflation target. In addition to factors that are related to trends of food prices and oil prices, the too low inflation caused by a lower aggregate demand also poses a threat for the domestic economy.

The theoretical postulates of the inflation targeting strategy imply the fulfilment of several conditions. In this regard, the following directions are given: independence of the central bank, credibility, developed financial market, absence of other nominal targets, transparency, relatively low inflation rate and macroeconomic stability (Mishkin, 2000).

Fulfilment of Conditions for Inflation Targeting Implementation

The central bank's independence is necessary for a successful implementation of the inflation targeting regime, taking into account that the main goal of the NBS is to preserve price stability. The experience before the democratic changes showed that the government's pressure on the central bank to finance high fiscal expenditures through the growth of money supply influences the creation of a hyperinflation spiral. The implementation of market instruments of monetary policy independent from the government requirements created the environment for an efficient monetary policy that is not influenced by market participants' interests. Independency of the central bank can be observed through four components: institutional, operational, financial and personal independence. Institutional independence is the independence in conducting the functions specified by the law, which means that the government bodies and other parties cannot influence the NBS operations. This component is regulated by the Law on NBS, Article 2. Operational independence implies the definition of monetary policy instruments in achieving the primary goal of price stability. More precisely, the NBS has to freely determine the interest rate on the money market. Any constraints in this regard, such as financing fiscal expenditures can jeopardise its independence. Financial independence implies that the central bank independently designs its

ponovnog izbora. Guvernera bira i razrešava skupština na predlog predsednika Republike Srbije, a nezavisnost ove funkcije je u činjenici da guverner može da bude smenjen isključivo ako ne izvršava dobro svoju dužnost. Smena guvernera treba da bude nezavisna od promene političke vlasti. U periodu od 2001. do 2016. godine Srbija je promenila pet guvernera.

Kredibilitet centralne banke je važan deo očuvanja cenovne stabilnosti, i usko je povezan sa ostalim preduslovima ciljanja inflacije. On podrazumeva nezavisnost, transparentnost u radu centralne banke. Poverenje u centralnu banku može lako da se oceni pri primeni strategije ciljanje inflacije. Postavlja se pitanje, da li centralna banka adekvatno određuje ciljeve inflacije, i da li može dovoljno dobro da upravlja inflatornim očekivanjima u cilju dostizanja cilja? Zadatak jeste težak, ali nije nedostižan. Ispunjenje ciljeva inflacije, odnosno kretanja tekuće inflacije u zadanim okvirima, jeste adekvatan pokazatelj kredibiliteta. Za zemlje u tranziciji, dostizanje kredibiliteta jeste postepen proces usled visokih oscilacija inflacije. Brojne prepreke sa kojima se ove zemlje suočavaju u suzbijanju inflatornih očekivanja, mogu da ukazuju na nizak kredibilitet centralne banke. Ipak, ako je cenovna stabilnost i makroekonomska ravnoteža očuvana, učesnici na tržištu stižu poverenju u centralnu banku iako formalni cilj inflacije nije ispunjen.

Razvijenost finansijskog tržišta jeste sledeći važan preduslov za vođenje uspešne monetarne politike zasnovane na tržišnim instrumentima. Ako se poredi zemlje nove članice EU koje primenjuju isti režim, Srbija je imala znatno kraći vremenski period između primene tržišne ekonomije i režima ciljanja inflacije. Usled toga, u tako kratkom vremenskom roku nije bilo mogućnosti za razvoj dubine tržišta i naprednijih finansijskih instrumenata. Primera radi, kamatne stope na međubankarskom tržištu u Republici Češkoj formirane su 1993. godine, dok je režim inflacije prihvaćen 1998. godine. U Poljskoj su formirane 1995. godine, četiri godine pre primene nove strategije, dok su u Mađarskoj uspostavljene 1996. godine, pet godina od početka primene iste strategije. U slučaju Srbije, kamatne stope Beonia i Beolabor prihvaćene su u istoj godini kada je ciljanje inflacije počelo nezvanično da se primenjuje.

Generalno, tržište novca u Srbiji je i dalje prilično nerazvijeno, a glavni nedostaci su manjak instrumenata tržišta novca kao i slab izbor ročnosti već postojećih instrumenata. Pored toga, slaba likvidnost sekundarnog tržišta novca ograničava učesnike u racionalnijem upravljanju njihovom dinarskom imovinom.

Fiskalna disciplina je takođe veoma bitan uslov za očuvanje cenovne stabilnosti. Glavni razlog za formiranje hiperinflacije tokom 90-tih godina i jeste bila fiskalna ekspanzija. Memorandumom o novom inflatornom okviru utvrđeno je da „u režimu ciljanja inflacije koordinacija monetarne i fiskalne politike je od ključnog značaja, budući da njihova potencijalna nekonzistentnost može da ugrozi ne samo ostvarenje cilja, već i kredibilitet samog režima inflatornog kreditiranja“. I Sporazum Vlade Republike Srbije i NBS takođe predviđa održivu fiskalnu politiku u skladu sa ciljanim stopama inflacije. Tokom perioda primene strategije Srbija se suočava sa konstantnim fiskalnim deficitom. Visoki izdaci javnog sektora ograničavaju efikasnu primenu ciljanja inflacije, dok izostanak koordinacija monetarne i fiskalne politike ograničava efekte monetarnih instrumenata. Početak fiskalne konsolidacije doneo je smanjenje na strani rashoda, međutim ono što i dalje uzrokuje visoke fiskalne deficite jeste nedovoljno efikasna naplata prihoda.

Prihvatanjem nove strategije monetarne politike NBS je prihvatila i novo nominalno sidro u vidu inflacije. Glavni instrument za dostizanje ovog cilja jeste referentna kamatna stopa, dok devizni kurs predstavlja samo pomoćno sredstvo. Devizni kurs se formira slobodno na deviznom tržištu, gde su intervencije od strane NBS dozvoljene jedino ako kretanja ugrožavaju makroekonomsku ravnotežu i finansijsku stabilnost. Na donjem grafikonu prikazana su kretanja deviznog kursa i intervencije NBS na deviznom tržištu. Uočavaju se nešto učestalije intervencije u periodu od početka 2014. godine, čime su umanjene oscilacije deviznog kursa. Međutim, učestalost intervencija na deviznom tržištu može da stvori utisak o postojanju drugog nominalnog sidra u formi deviznog kursa, što je u suprotnosti sa osnovnim pretpostavkama uspešnog inflatornog targetiranja. U uslovima visoke eurizacije gde devizni kurs ima veliku ulogu na kretanju u privredi, pomeranja na

budget, implements the accounting standards specific for central banks, has the clear rights on income distribution, and has the clearly defined financial obligations towards the supervisory authority. The Law on NBS prescribes that the Monetary Council adopts the NBS financial plan, and it also regulates in which ways the NBS income is deployed and what services are provided to the Government of Republic of Serbia. Personal independence is governed by Article 19 of the Law on NBS, which prescribes that the governor is elected every six years, with the right to re-election. The governor is appointed and dismissed by the National Assembly at the proposal of the President of the Republic of Serbia. Independence of this position implies that the governors can be dismissed only if their performance of duties is unsatisfactory. The dismissal of the governor should be independent from any changes in political authority. In the period from 2001 to 2016, the National Bank of Serbia changed five governors.

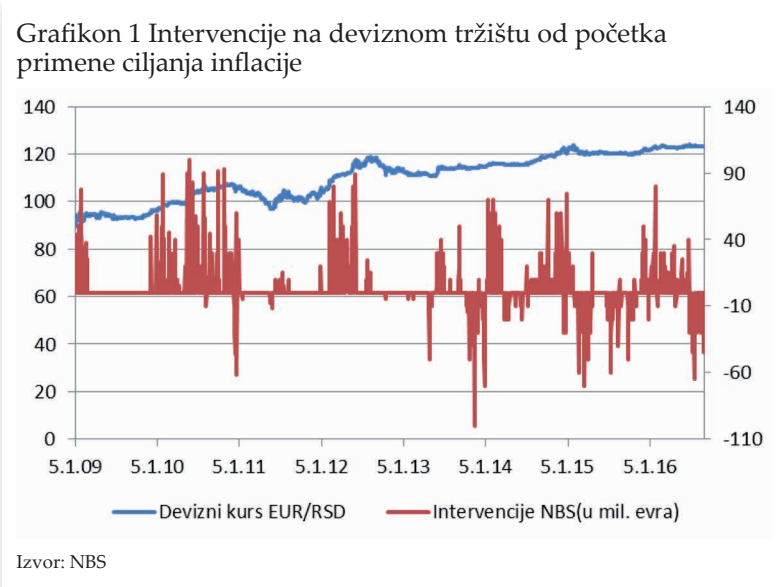
Credibility of the central bank is important in order to maintain price stability, and is closely related to other prerequisites of inflation targeting. It implies independence and transparency in performing the central bank's operations. The confidence in the central bank can be easily assessed throughout the implementation of the inflation targeting strategy. The question is whether the central bank determines the inflation targets adequately, and whether it can manage the inflationary expectations sufficiently well in order to achieve the objective? The task is tough, but not unfeasible. The realization of inflation targets, which means that the current inflation remains within the boundaries of the targeted zone, is the adequate indicator of credibility. For transition countries, the achievement of credibility is a gradual process due to the high inflation oscillations. Numerous obstacles that those countries face in anchoring inflationary expectations can indicate a low credibility of the central bank. However, if the price and macroeconomic stability is preserved, the market participants gain confidence in the central bank, although the formal inflation target has not been achieved.

A developed financial market is another

important prerequisite for a successful implementation of monetary policy based on the market instruments. If we compare the new EU member countries applying the same monetary regime, Serbia has had a significantly shorter period of time between the establishment of market economy and implementation of inflation targeting. Consequently, such a short period of time did not leave any possibility to develop the depth of the financial market and more advanced market instruments. For example, the interest rates on the interbank market in Czech Republic were established in 1993, while the inflation targeting regime was accepted in 1998. In Poland the interest rates were established in 1995, four years before the implementation of the new strategy, while in Hungary they were set up in 1996, five years before the adoption of the same strategy. In case of Serbia, the interest rates of Beonia and Beolibor were accepted in the same year as the inflation targeting unofficially began to be implemented. In general, the money market in Serbia is still rather undeveloped, the main shortages being the lack of money market instruments as well as a poor range of maturities of the existing instruments. Besides, the low liquidity on the secondary market limits the market participants, forcing them to manage their dinar-denominated assets more rationally.

Fiscal discipline is another very important precondition for maintaining the price stability. The main reason for hyperinflation in the 1990s was the fiscal expansion. The Memorandum on New Inflation Framework established that "the coordination between monetary and fiscal policies is of key importance within the inflation targeting regime as any inconsistencies between the two policies may threaten not only the achievement of the target but also the credibility of the inflation targeting regime itself". The Agreement between the Government of Republic of Serbia and the NBS also prescribes a sustainable fiscal policy in coordination with the inflation rate target. During the period of the strategy implementation, Serbia was facing a constant fiscal deficit. High expenditures of the public sector limit the efficient inflation targeting, while the lack of coordination between monetary and fiscal policies limits the

deviznom tržištu ne mogu se staviti isključivo u kontekst monetarne strategije već je neophodno sagledati i implikacije na makroekonomsku i finansijsku ravnotežu.



Transparentnom monetarnom politikom isključuje se problem asimetrije informacija između centralne banke i javnosti. Ovim se jasno se daje do znanja koji su ciljevi, strategija i taktika centralne banke kao i pretpostavke modeliranja srednjoročne inflacije, metoda i zvaničnih predviđanja (Bernanke, 2010). Na ovaj način moguće je da akteri na finansijskom tržištu adekvatnije predvide poteze centralne banke, što dalje vodi i jačanju njene kredibilnosti. U režimu ciljanja inflacije transparentnost se postiže objavljivanjem redovnih izveštaja o kretanju inflacije. NBS je na samom početku

primene režima i počela objavljivanje ovakvog izveštaja, gde je predstavljen srednjoročni model predviđanja inflacije, kao i razlozi za odstupanja od cilja. Redovna konferencija predstavnika NBS povodom objavljivanja Izveštaja o inflaciji doprinose boljoj transparentnosti razvijenoj komunikaciji NBS sa učesnicima na tržištu.

Još jedan u nizu uslova za uspešnu primenu targetiranja inflacije jeste relativno nizak nivo inflacije i makroekonomska stabilnost. Poredeći sa zemljama novim članicama EU koje takođe primenjuju ovu strategiju, zaključuje se da je Srbija u vreme prihvatanja strategije ciljanja inflacije imala najviši nivo inflacije.

Tabela 1 Nivo inflacije u periodu pre prihvatanja ciljanja inflacije

	24 meseca pre prihvatanja	12 meseci pre prihvatanja	U vreme prihvatanja
Srbija	11,5	17,2	13,1
Republika Češka	7,9	8,6	10,0
Poljska	19,5	13,6	10,6
Mađarska	9,1	9,1	10,5
Rumunija	14,2	12,4	8,9

Izvor: centralne banke odabranih zemalja

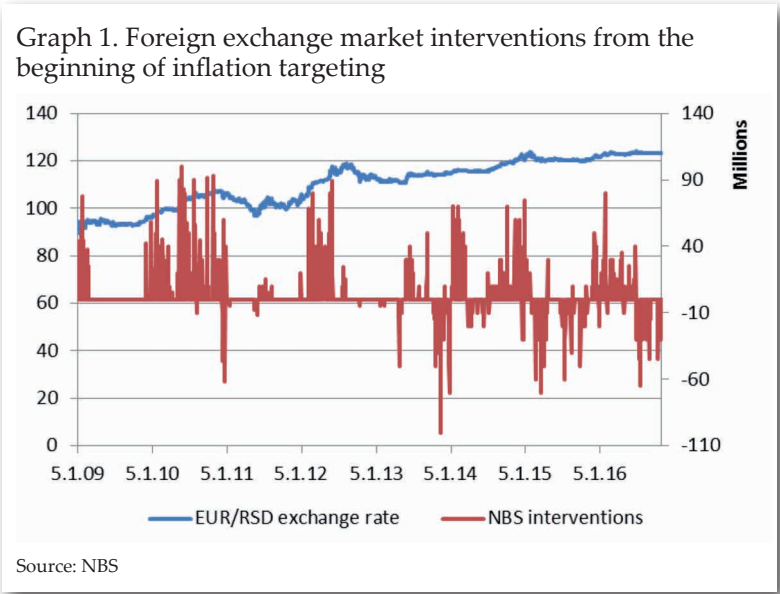
Srbija je u vreme prihvatanja novog režima imala rastući deficit platnog bilansa, naročito tekućeg računa. Iako je u godini pre primene režima zabeležen budžetski suficit of 0,3% učešća u BDP, u svim prethodnim godinama,

effects of monetary instruments. The beginning of fiscal consolidation brought a decrease of fiscal expenditures; however, what still causes high fiscal deficits is the inefficient revenues collection.

By adopting the new strategy of monetary policy, the NBS accepted a new nominal anchor in the form of inflation. The main instrument for achieving the target is the benchmark interest rate, whereas the foreign exchange rate is just a subsidiary instrument. The foreign exchange rate is formed freely on the FX market, the NBS interventions being allowed only if its movements threaten the macroeconomic and financial stability. The graph below shows the FX rate trends and the NBS interventions on the FX market. Somewhat more frequent interventions can be observed in the period since the beginning of 2014, reducing the fluctuations of the FX rate. However, the frequency of interventions can generate the impression about the existence of another nominal anchor in form of the FX rate, which is opposing the basic assumptions of successful inflation targeting. In the environment of high euroisation, where the FX rate plays a major role in the economic developments, the changes in the FX rate cannot solely be placed in the context of the monetary strategy, but it is also necessary to look at the implications on the macroeconomic and financial stability.

The transparent monetary policy eliminates the problem of information asymmetry between central banks and the public. This makes clear which are the targets, strategies and tactic of the central bank, as well as the assumptions of modelling mid-term inflation, methods and official forecasting (Bernake, 2010). This way it is possible for market participants to anticipate the moves of the central bank more adequately, which strengthens the central bank’s credibility. Transparency in the inflation targeting regime is achieved by the publishing of regular reports on inflation trends. At the very beginning of inflation targeting, the NBS started to publish such reports, which presented the middle term inflation forecasting model, as well as the reasons for target deviations. The regular press conferences by the NBS representatives regarding the publication of inflation reports contribute to the better transparency and improved communication between the NBS and market participants.

Another one in the sequence of preconditions for inflation targeting is a relatively low level of inflation in combination with macroeconomic stability. Compared with the new EU member states also applying inflation targeting, it can be concluded that, at the time of accepting the strategy, Serbia had the highest level of inflation, as can be seen in the following table.



kao u godinama nakon prihvatanja strategije zabeležen je deficit koji je već na kraju 2006. godine iznosio 1,95% BDP-a. Nezaposlenost je u istoj godini dostigla najviši nivo od 20,9% u odnosu na period nakon 2001. godine, iako su prosečne zarade imale rastući trend. Iz svega navedenog može se zaključiti da Srbija inicijalno nije ispunila uslove za uspešnu primenu strategije, kao ni većina zemalja koje su prihvatile ovu strategiju monetarne politike tokom perioda tranzicije.

Tabela 2 Makroekonomska kretanja u Srbiji

Makroekonomski podaci	2006.	2009.	2012.	2015.
Realni rast BDP-a (u %)	4,9	-3,1	-1,0	0,74
Potrošačke cene (u % u odnosu na isti mesec prethodne godine)	6,6	6,6	12,2	1,5
Nezaposlenost	20,9	16,1	23,9	17,7
Republički budžetski suficit/deficit (u % BDP-a)	-1,7	-3,2	-5,9	-2,9
Javni dug Republike Srbije (u % BDP-a)	35,9	32,8	56,2	75,9

Izvor: NBS

Dosadašnje iskustvo u primeni strategije

Pored navedenih ograničenja sa kojima se susreće u vođenju uspešne monetarne politike, visoka eurizacija predstavlja jedan od najvećih izazova kreatora monetarne politike. Kada referentna kamatna stopa predstavlja glavni instrument monetarne politike, onda je njeno delovanje u privredi gde postoji visok stepen eurizacije značajno ograničeno. U takvom okruženju, kretanja kamatnih stopa na domaćem finansijskom tržištu prvenstveno je rukovođeno kretanjem kamatnih stopa vezanih za evro. NBS primenjuje monetarnu politiku kroz lokalne operacije na domaćem tržištu, uglavnom preko regularnih aukcija na zapise centralne banke i Trezora, kroz repo operacije i kratkoročne evro depozite kod centralne banke.

U visoko eurizovanoj zemlji, ako su potrošači i kompanije neto dužnici, promene kamatne stope imaće dva simultana, ali suprotna efekta. Rast kamatne stope uzrokuje pad potrošnje, kroz efekat supstitucije. Takođe utiče na apresijaciju domaće valute, čime se smanjuje dug koji je denominiran u stranoj valuti posmatrajući kroz domaću valutu i tako utiče na pozitivan neto efekat bogatstva (Armas i ostali, 2006). U eurizovanoj ekonomiji devizni kurs i jeste dodatni operativni cilj, te

česte i značajne promene deviznog kursa predstavljaju rizik za visoku inflaciju i finansijsku stabilnost. Obzirom na ograničen nivo imovine koji je denominovan u domaćoj valuti, intervencije na deviznom tržištu su zastupljenije u privredama u razvoju. Nasuprot tome, u razvijenim ekonomijama veličina tržišta obveznica denominovanih u domaćoj valuti je toliko velika da operacije sterilizacije na deviznom tržištu jedva utiču na ponudu imovine denominovane u domaćoj i stranoj valuti.

Pored toga, u zemljama sa visokom eurizacijom postavlja se i pitanje mogućnost primene režima ciljanja inflacije. Kamatni kanal monetarne transmisije ima veoma ograničen efekat kada je skoro 2/3 kredita indeksirano u stranoj valuti. Na sledećem grafikonu prikazana je struktura kredita po ugovorenoj zaštiti od rizika, posebno za stanovništvo i privredu. Ono što se primećuje jeste da se kod kredita stanovništvu udeo indeksiranih kredita postepeno smanjuje, dok je obrnut slučaj kod sektora privrede. Ipak ovde je neophodno uzeti u obzir da postoji nešto slabiji pad kratkoročnih zaduživanja privrede u korist dugoročnih, dok je kod stanovništva prisutan obrnut trend. Time se objašnjavaju i podaci vezani za kredite, jer je i većina dugoročnih kredita indeksirana.

Table 1. Level of inflation in the period prior to implementation of inflation targeting

	24 month prior to inflating targeting	12 month prior to inflating targeting	At the time of implementation
Serbia	11.5	17.2	13.1
Czech Republic	7.9	8.6	10.0
Poland	19.5	13.6	10.6
Hungary	9.1	9.1	10.5
Romania	14.2	12.4	8.9

Source: central banks of selected countries

At the time of adopting the new regime, Serbia had the increasing deficit of balance of payments, especially of the current account. Although in the year prior to the regime implementation Serbia recorded a budget surplus of 0.3% of GDP, in all the previous years, as well as in the years following the strategy implementation, it recorded a deficit which at the end of 2006 amounted to 1.95% of GDP. In the same year unemployment reached the highest level of 20.9% since 2001, although the average wages recorded a rising trend. All of the above leads to the conclusion that Serbia initially did not fulfil the conditions for successful inflation targeting, just like the majority of countries which accepted this strategy during the period of transition.

Table 2. Macroeconomic data in Serbia

Macroeconomic data	2006	2009	2012	2015
Real GDP growth (%)	4.9	-3.1	-1.0	0.74
Consumer prices (in % compared to the same month of the previous year)	6.6	6.6	12.2	1.5
Unemployment	20.9	16.1	23.9	17.7
Budget surplus/deficit at the national level (in % of GDP)	-1.7	-3.2	-5.9	-2.9
Public debt of the Republic of Serbia (in % of GDP)	35.9	32.8	56.2	75.9

Source: NBS

Present Experience in Inflation Targeting

In addition to the above mentioned obstacles that the NBS faced in conducting monetary policy, the high level of euroisation poses one of the biggest challenges for monetary policymakers. When the benchmark interest rate is the main monetary policy instrument,

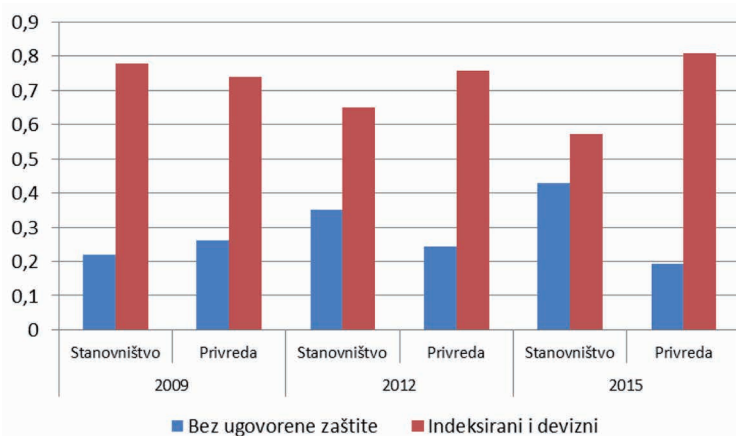
its performance in a highly euroized economy is significantly limited. In such an environment, the changes in interest rates on the local financial market are mainly guided by the changes in interest rates related to the euro. The NBS pursues the monetary policy through its local operations on the domestic market, mainly through the regular auctions of the NBS and treasury bills, repo operations and short term euro deposits at the central bank.

In a highly euroized country, if consumers and companies are net borrowers, the changes in interest rates have the two simultaneous, but opposite effects. An increase in interest rates causes a decrease in consumption having in mind the substitution effect. It also affects the domestic currency’s appreciation, which reduces the FX-denominated debt in relation to the local currency, and induces a positive net wealth effect (Armas et al, 2006). In a euroized economy the foreign exchange rate is an additional operational target, and the frequent and significant FX rate changes pose a risk in terms of high inflation and financial stability. Given the limited amount of assets denominated in local currency, interventions

on the foreign exchange market are more prevalent in the developing economies. As opposed to that, in the developed economies the size of the bond market denominated in the local currency is so large that the sterilization operations on the foreign exchange market hardly affect the supply of assets denominated in local and foreign currency.

Nevertheless, in highly euroized countries it is questionable whether inflation targeting can be pursued or not. The interest rate channel has a very limited effect when nearly 2/3 of total loans are indexed in foreign currency. The following graph shows the structure of loans according to the arranged risk hedge, divided into the retail and corporate sectors. What is noticeable is that the share of indexed retail loans has gradually decreased, while the opposite is true for the corporate

Grafikon 2 Udeo indeksiranih kredita



Izvor: NBS

Da bi se moglo računati na deeurizaciju privrede, dugoročnim merama neophodno je obezbediti makroekonomsku stabilnost i nižu volatilnost inflacije i deviznog kursa. Očuvanjem kredibiliteta i nezavisnosti NBS u sprovođenju njene politike moguće je adekvatnije upravljati inflatornim očekivanjima u cilju ograničavanja inflacije unutar zadatih okvira. Takođe, dinarski finansijski instrumenti sa razvijenim spektrom ročnosti su jedan od neophodnih uslova za smanjenje stope eurizacije. Pored toga, neophodno je ograničiti neto deviznu poziciju komercijalnih banaka, uspostaviti instrumente stimulisanja štednje u domaćoj valuti, ograničiti odobravanje indeksiranih kredita domaćinstvima sa niskim primanjima koja nisu obezbeđena od deviznog rizika, kao i indeksiranih kredita javnom sektoru (Chailloux i ostali, 2010). U tom smislu, kao deo kratkoročnih mera neophodno je podstaći kreditiranje u domaćoj valuti pre nego ograničavanje kreditiranja indeksiranog u stranoj valuti.

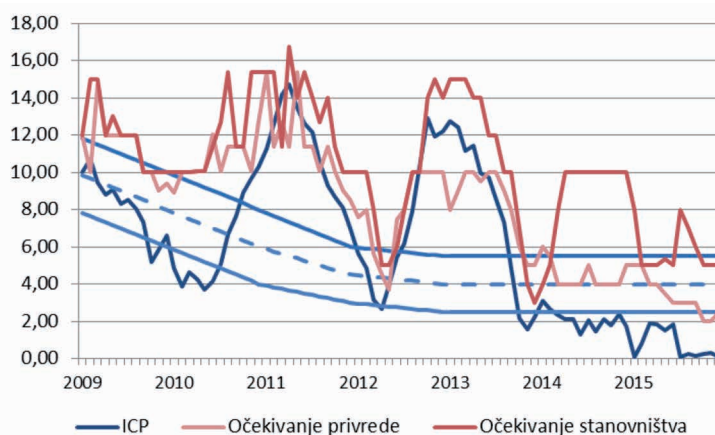
Dosadašnje iskustvo sa ciljanjem inflacije u Srbiji je raznoliko. Sa jedne strane, primenom inflacionog targetiranja inflacija je svedena na jednocifren broj, što je uspeh u odnosu na period pre primene strategije kada je inflacija dostizala dvocifren broj, iako je tokom 2011. i 2013. godine takođe bila

dvocifrena. Ipak, ono što odlikuje ovaj period jeste često odstupanje tekuće inflacije od okvira ciljanja. Ovom zapažanju ide i u prilog činjenica da je u periodu od 2009-2016. godine samo u jednoj trećini posmatranog perioda kretanje inflacije bilo unutar okvira ciljanja.

Na donjem grafikonu prati se period od 2009. godine kada je i usvojen indeks potrošačkih cena (u daljem tekstu IPC) kao mera cilja inflacije. Sam početak primene strategije obeležen je i početkom finansijske krize,

te se može reći da je za većinu centralnih banaka ovo bio težak period. Pad ekonomske aktivnosti i smanjenje autputa uzrokovali su pad agregatne tražnje na globalnom nivou, što je rezultiralo niskim stopama inflacije. Period odlikuje pad investicione aktivnosti privrede i javnog sektora, kao i zamrzavanje plata u javnom sektoru kao važnih izvora lične potrošnje. Zatim sledi period rapidnog rasta inflacije izazvanog porastom cene hrane, fiskalne potrošnje, kao i depresijacijom dinara. Ono što je karakteristično za veći deo perioda posmatranja jeste visoka volatilnost inflacije. Skokovi inflacije su toliko izraženi da periodi kada je inflacija bila u okviru cilja izgledaju kao samo prelazi između najviše i najniže tačke.

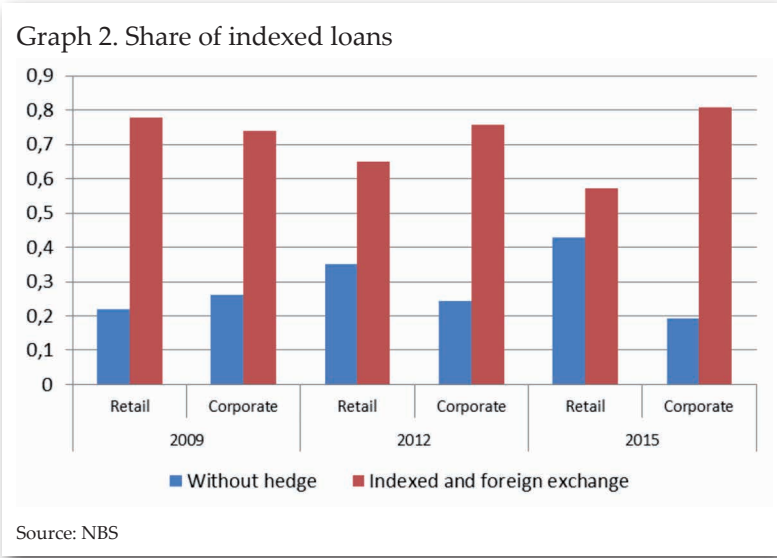
Grafikon 3 Kretanje tekuće inflacije i inflatornih očekivanja



Izvor: NBS

Volatilnost inflacije je prvenstveno uzrokovana značajnom osetljivošću inflacije

sector. However, it has to be considered that there is a somewhat slighter decrease of corporate short term loans in favour of the longer term ones, whereas the retail sector records the opposite trend. This can explain the data related to loans, because the vast majority of the long term loans are also indexed.



To be able to count on de-euroization of an economy, it is necessary to implement long-term measures to provide macroeconomic stability and lower the inflation and exchange rate volatility. By preserving the NBS credibility and independence in pursuing its monetary policy it is possible to manage inflationary expectations more adequately in order to curb the inflation within the set targets. Also, the dinar financial instruments with a developed range of maturities are one of the necessary conditions for reducing euroization. Besides, it is necessary to curb the commercial banks' net FX position, establish the instruments that stimulate local currency deposits, limit retail lending in foreign currency to unhedged borrowers, mostly lower-income households and the public sector (Chailloux et al, 2010). In this regard, as part of the short term measures it is necessary to encourage local currency loans rather than restrict the indexed foreign currency loans.

The previous inflation targeting experience in Serbia is diverse. On the one side, inflation targeting reduced the current inflation to a single-digit level, which is a success compared to the period prior to the strategy implementation when inflation reached the two-digit level, although in 2011 and 2013 it was also at the two-digit level. However, the characteristic of this period is the current inflation's frequent deviation from the target. This observation is supported by the facts that in the period between 2009 and 2016, the current inflation remained within the target during only one third of that period.

The graph below examines the period since 2009 when the consumer price indexed was adopted (hereinafter referred to as the CPI). The very beginning of the strategy was marked by the outbreak of the financial crisis, and it can be said that for most central banks this was a difficult period. The decline of economic activity and the output decrease caused a drop in aggregate demand on the global level, resulting in low inflation. The period is characterized by the decline of investment activities in the economy and the public sector, as well as by the freezing of the public sector wages as an important source of personal expenditures. This was followed by a period of rapid inflation growth caused by the upsurge in food prices and fiscal expenditures, as well as by the dinar depreciation. What is characteristic for most of the period is high inflation volatility. Inflation jumps are so distinctive that the periods where current inflation is within the target seem like shifts from the highest to the lowest points.

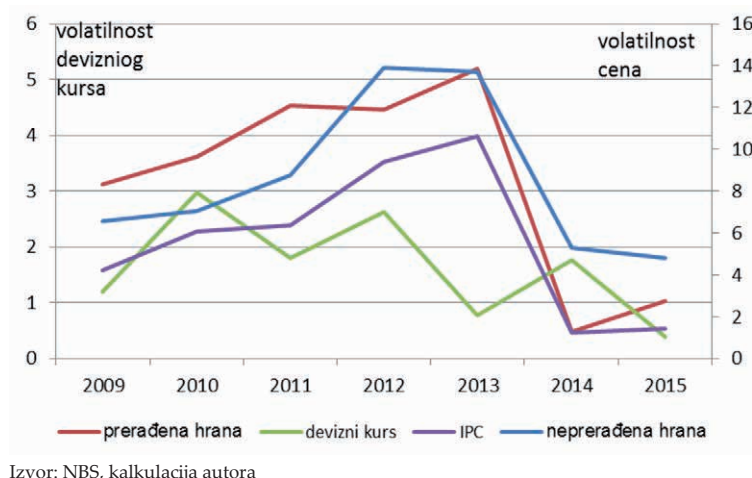
na cene hrane (Šoškić, 2015). Visoka osetljivost inflacije na cene hrane onemogućava NBS da adekvatno upravlja inflatornim očekivanjima, te je veliki izazov održati inflaciju u granicama okvira. Niska kupovna moć stanovništva Srbije u velikoj meri određuje ovako visok udeo cene hrane u kretanju inflacije. U zemljama sa nižim prihodima stanovništva, potrošnja hrane predstavlja veći deo izdataka domaćinstva. Izdaci za hranu predstavljaju 50% budžeta domaćinstva u zemljama sa niskim prihodima, 30% u zemljama sa srednjim prihodima, dok 20% u zemljama sa visokim prihodima. Samim tim, u ovim zemljama uticaj promena cena hrane izazvaće značajne promene u indeksu potrošačkih cena (Pourroy i ostali, 2012). Takođe, u cilju boljeg upravljanja cenom hrane neophodno je uvesti efikasniji sistem robnih rezervi kako bi se moglo bolje odgovoriti na novonastale šokove cena (Šoškić, 2015).

Očekivanja učesnika na tržištu u vezi sa inflacijom 12 meseci unapred relativno dobro prate trend tekuće inflacije, što ukazuje na ograničenja NBS da upravlja očekivanjima u okvirima ciljanog okvira. Ipak, snažan dezinflacioni proces nastao tokom 2014. godine nije predviđen kako od stanovništva tako ni od privrede. Šokovi cena hrane su nepredvidivi, te se učesnici najčešće rukovode prethodnom inflacijom kao i kretanjima na deviznom tržištu.

Pored cena hrane, u visoko evroizovanoj zemlji kao što je Srbija oscilacije deviznog kursa značajno uslovljavaju i promene inflacije. Ocena kamatnog kanala i kanala deviznog kursa u Srbiji ukazuje na visoku osetljivost inflacije na kretanje deviznog kursa (Bungin i ostali, 2015). Posledično, visoka volatilnost deviznog kursa uzrokuje i visoke raspone u kretanju inflacije. Na grafikonu prikazana su poređenja volatilnosti¹ IPC, cena neprerađene i prerađene hrane,

kao i deviznog kursa. Karakteristično je da je prisutna izuzetno visoka volatilnost prerađene i neprerađene hrane, dok je volatilnost same inflacije i deviznog kursa nešto niža, ali ipak i dalje na visokom nivou. Skokovi volatilnosti inflacije prate skokovi cena hrane. Promene deviznog kursa utiču na inflaciju sa određenom docnjom, te skok volatilnosti deviznog kursa utiče na skok volatilnosti inflacije sa vremenskim pomakom.

Grafikon 4 Volatilnost deviznog kursa, IPC, cena prerađene i neprerađene hrane

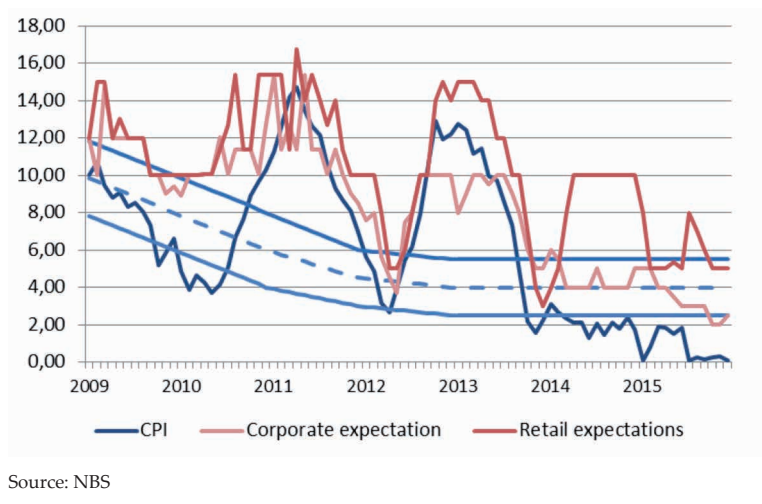


Primetno je da u periodima kada je referentna kamatna stopa na relativnom visokom nivou, očekuje se i visoka volatilnost deviznog kursa usled prisustva špekulativnih investitora. Pojava carry trade investitora vezuje se za periode visoke referentne kamatne stope i relativno stabilnog deviznog kursa. Međutim, pri samim nagoveštajima kolebanja deviznog kursa koji uzrokuje smanjenje profite, dolazi do naglog povlačenja špekulativnih investitora, čime se naglo povećava ponuda dinara na tržištu, uzrokujući tako pad vrednosti domaće valute. (Bungin i ostali, 2012).

Iako od početka 2014. godine počinje period niske inflacije, tekuća inflacija je ispod donjeg okvira ciljanja. Ovakav trend uzrokovan je sa nekoliko faktora i to usled niske agregatne tražnje, niske inflacije u evrozoni, niske cene primarnih proizvoda, odsustva korekcije

¹ Volatilnost je izračunata kao standardna devijacija mesečnih kretanja IPC, cene prerađene i neprerađene hrane i nominalnog efektivnog deviznog kursa.

Graph 3. Current inflation and inflationary expectations movements



Inflation volatility is mainly caused by a significant sensitivity of inflation to food prices (Šoškić, 2015). High inflation responsiveness to food prices prevents the NBS from adequately anchoring the inflationary expectations, which makes it a big challenge to keep inflation within the target. Low purchasing power in Serbia to a large degree determines the high impact of food price on inflation trends. In countries with lower income, food consumption constitutes a major part of household expenditures. Food related expenses account for 50% of the households' budget in low-income countries, 30% in middle-income and 20% in high-income countries. Therefore, in these countries the impact of changes in food prices will cause significant changes in the consumer price index (Pourroy et al, 2012). Moreover, with the purpose of better managing the food prices it is necessary to introduce a more efficient system of commodity reserves in order to better respond to the new price shocks (Šoškić, 2015).

The expectations of market participants in

relation to inflation 12 months ahead follow the current inflation trend relatively well, which indicates the limitations of the NBS in managing the expectations in terms of the targeted zone. However, the strong disinflation process occurring in 2014 was not expected either by the retail sector or by the corporate sector. The shocks in food prices are unpredictable, and the participants are usually governed by the previous inflation as well as the developments in the foreign

exchange market.

In addition to the food prices, in a highly euroized country like Serbia, fluctuations in the exchange rate significantly affect the changes in inflation. The assessment of the interest rate channel and the exchange rate channel in Serbia indicates a high sensitivity of inflation to exchange rate movements (Bungin et al, 2015). Consequently, the high volatility of the exchange rate causes high spreads of the inflation movements. Graph 4 compares the volatilities¹ of the CPI, prices of unprocessed and processed food, and the FX rate. It is characteristic that there is an extremely high volatility of processed and unprocessed food, while the volatility of both inflation and the FX rate is somewhat lower, but still remains at a high level. The spikes in inflation volatility are followed by the spikes in food prices. The FX rate changes affect inflation with a certain delay, hence the spikes in the FX rate volatility cause the spikes of inflation volatility with a time lag.

1 Volatility is calculated as standard deviation of standard deviation of monthly changes of ICP, prices of processed and unprocessed food and nominal effective exchange rate.

regulisanih cena kao i rekordno niskih cena nafte na međunarodnom tržištu. Niska agregatna tražnja je delimično uzrokovana uspešnom fiskalnom konsolidacijom. Pad zaposlenosti takođe prati period veoma niske inflacije, kao i nestabilnosti autputa. Relaksacija monetarne politike putem obaranja referentne kamatne stope nije vratila inflaciju u zonu ciljane. Ono što treba imati u vidu jeste da niska inflacija takođe nije poželjna, čak može biti i opasnija po privredna kretanja od visoke inflacije (Mishkin, 2002). Dezinflacija je naročito opasna za zemlje sa visokim spoljnim dugom, gde pad inflacije dalje uzrokuje pad ekonomske aktivnosti a time i smanjenje moći otplate duga.

Zaključak

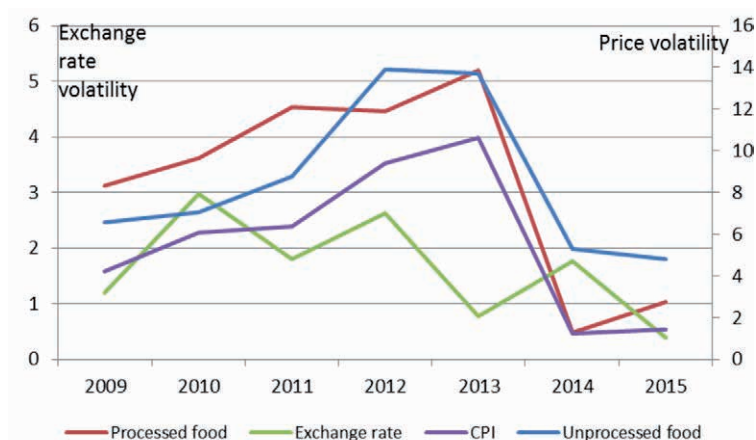
Ciljanje inflacije jeste monetarna strategija novijeg datuma, mada je u nekim stručnim krugovima predstavljena i kao pomodarska. Za njenu uspešnu primenu neophodno je ispuniti niz preduslova, koji uglavnom odlikuju zemlje sa dužom istorijom tržišne ekonomije i zrelijim finansijskim tržištima. Većina tranzicionih zemalja počele su sa primenom ove strategije nakon neuspešnih pokušaja primene strategije monetarnog targetiranja i fiksnog deviznog kursa. U slučaju Srbije, ciljanje inflacije je prihvaćeno kao sredstvo za suzbijanje visoke inflacije u uslovima makroekonomske neravnoteže, visokih oscilacija deviznog kursa, ekspanzivne fiskalne politike i nerazvijenog finansijskog tržišta. Srbija kao i mnoge zemlje koje su prihvatile ovu strategiju monetarne politike, nije ispunjavala neophodne uslove na samom početku njene primene. Efikasnost ciljanja inflacije međutim, dostiže se kroz postepeno unapređivanje svih neophodnih komponenti.

Strategiju ciljanja inflacije u Srbiji prati visoka volatilnost inflacije čiji se nivo uglavnom kreće izvan granice okvira ciljanja. Visoke oscilacije prvenstveno su uzrokovane cenama prerađene i neprerađene hrane. Pored toga, budući da je Srbija visoko evroizovana zemlja i uvozno zavisna, inflacija u njoj je značajno

podložna promenama deviznog kursa. NBS intervencijama na deviznom tržištu ograničava fluktuacije deviznog kursa. Česte intervencije mogu da ukazuju na postojanje i drugog nominalnog sidra u formi deviznog kursa, ali uzimajući u obzir visoku eurizaciju privrede i neophodnosti aktivnijeg rukovođenja deviznog kursa, adekvatnom komunikacijom NBS i učesnika na tržištu moguće je prevazići ovaj problem. Agregatnu tražnju u velikoj meri određuje politika javnog sektora pravac i u tom smislu pravac fiskalne politike oslikava se i na kretanje inflacije. Konsolidacija javnih finansija u svakom slučaju daje pozitivne rezultate u smanjenju stope inflacije. Međutim, treba imati na umu da suviše niska inflacije takođe nije dobra pojava. Pored toga što određuje gornju granicu ciljanja, NBS je usvojila i donju granicu ciljanja inflacije. Kretanje inflacije ispod donje granice takođe ukazuje na nemogućnost upravljanja inflacijom.

Na kraju, sasvim logično se postavlja pitanje da li je ciljanje inflacije dobar izbor. Režim fiksnog deviznog kursa pokazao se kao dobra strategija u smanjivanju stope inflacije kod zemalja u početnoj fazi tranzicije, međutim on sa sobom nosi i određene opasnosti. Kao što se to i pokazalo, veštačko održavanje deviznog kursa u okvirima cilja dovodi do nekonkurentne pozicije domaćih proizvođača na stranom tržištu, podsticaj uvoza i značajnog pogoršanja platnog bilansa. Sve ovo deluje destruktivno na domaću ekonomiju, te je domet ove strategije veoma ograničen. Sa druge strane, najveći nedostatak režima monetarnog targetiranja jeste nemogućnost kontrolisanja novčane mase, njegova netransparentnost i nerazumevanje od strane učesnika na tržištu. S tim u vezi, ciljanje inflacije i pored svih prepreka sa kojima se suočava NBS jeste trenutno najoptimalnija strategija. Ipak, neophodno je dalje unapređivati uslove kako bi se politika ciljanja inflacije efikasnije primenjivala, i to u oblasti jačanja kontrole cena hrane, fiskalne discipline i razvoja dinarskog novčanog tržišta.

Graph 4. Exchange rate volatility, CPI, prices of processed and unprocessed food



Source: NBS, author's calculation

Evidently enough, in the periods when the benchmark interest rate is at a relatively high level, a high volatility of the FX rate is also expected due to the presence of speculative investors. The emergence of carry trade investors is associated with the periods of high benchmark interest rates and a relatively stable FX rate. However, even the hints of fluctuations in the FX rate which cause lower profits, there is a sudden withdrawal of speculative investors, which sharply increases the dinar supply on the market, causing a depreciation of the domestic currency (Bungin et al, 2012).

Although the period of low inflation began in early 2014, the current inflation rate is below the target. This trend is caused by several factors, due to the low aggregate demand, the low inflation in the euro zone, the low prices of primary products, the absence of adjustments in administered prices and the unprecedented low oil prices on the international market. Low aggregate demand is partly due to the successful fiscal consolidation. The drop in employment also accompanies the period of very low inflation and output instability. The relaxation of monetary policy by reducing the benchmark interest rates did not return inflation within the target. What we should bear in mind is that low inflation is not desirable either, and may even be more dangerous for the economic trends than high inflation (Mishkin, 2002). Disinflation is especially dangerous for the countries with high external debt, where the decline in inflation further causes a drop in economic activity and thereby reduces the power of debt repayment.

Conclusion

Inflation targeting is a monetary strategy of a recent date, although in some professional circles it is presented as fashionable. For its successful implementation one must fulfil a number of preconditions, which mainly characterize the countries with a longer history of market economies and mature financial markets. Most transition countries started with the implementation of this strategy after the unsuccessful attempts to apply the strategy of monetary targeting and the fixed exchange rate. In the case of Serbia, inflation targeting is accepted as a mean of combating high inflation in terms of macroeconomic imbalances, high fluctuations of the exchange rate, expansionary fiscal policy and underdeveloped financial markets. Serbia, as well as many countries that have adopted this strategy of monetary policy, did not meet the necessary prerequisites at the very beginning of its application. The efficiency of inflation targeting, however, has been reached through a gradual improvement of all the necessary components.

The strategy of inflation targeting in Serbia is accompanied by high inflation volatility whose levels mainly move beyond the boundaries of the targeting framework. High oscillations are primarily caused by the prices of processed and unprocessed food. In addition, given that Serbia is a highly euroized and import-dependent country, its inflation is significantly subject to the FX rate fluctuations. The NBS interventions on the foreign exchange market limit the FX rate fluctuations. Frequent interventions may suggest the existence of another nominal anchor in the form of the exchange rate, but taking into account the high euroization of the economy and the necessity of a more active management of the FX rate through the more adequate communication between the NBS and market participants, it is possible to overcome this problem. Aggregate demand is largely determined by the public

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sector policy and in this regard the direction of fiscal policy is reflected in the inflation movements. Consolidation of public finances in each case yields some positive results in reducing inflation. However, it should also be considered that the too low inflation is not a good thing either. In addition to determining the target ceiling, the NBS also adopted the floor of inflation targeting. Inflation below the target also points to the inability of managing inflation.

Finally, the logical question is whether inflation targeting is a good choice. The fixed exchange rate regime has proven to be a good strategy for reducing the rate of inflation in the countries at the initial stage of transition, but it also brings certain dangers. As it turned out, the artificial maintenance of the FX rate within the target leads to a non-competitive

position of domestic producers on the foreign markets, encouragement of imports and a significant deterioration of the balance of payments. This all seems destructive to the local economy, and the scope of this strategy is very limited. On the other hand, the biggest drawback of monetary targeting regime is the inability to control the money supply, its lack of transparency and the lack of understanding by the market participants. In this respect, inflation targeting, despite all the obstacles faced by the NBS is currently the most optimal strategy. Nevertheless, it is necessary to further improve the relevant conditions so that the policy of inflation targeting could be applied more effectively, for instance strengthen the control of food prices, fiscal discipline and develop the dinar money market.