



Some Aspects of Actual CBI and Inflation in the Countries of Southeast Europe

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ABSTRACT

Although the countries of Southeast Europe are connected in many ways, there are a lot differences among them with reference to development of the market economy, and especially in the way of conducting of the monetary policy and achieving of the price stability. The subject of this article's research is the actual central bank independence and its impact on monetary stability in the specific environment of Southeast European countries. Therefore, we applied it TOR as a research method because shorter average duration of the mandate of a central bank governor can be an obstacle for conducting of the monetary policy in the long run, as in such a case central bank would be less interested in obtaining its primary goal – keeping of monetary stability. The main hypothesis in this study is that there was a significant influence of the actual central bank independence to monetary stability, regardless of different implementations of the monetary policies of the central banks of the observed countries. We have used statistical methods to prove the hypotheses and then we gave an adequate explanation of the research results. The result of our research has shown that in the period 2000-2016, despite their differences, actual independence of the respective central banks was strengthening, while the inflation rate in the countries of the Southeast Europe was decreasing, but the connection between the two was weak. However, we have established that in the Southeast European countries in the end relatively higher degree of the actual independence of their central banks has been obtained, as well as lower inflation rate in 2016, while their negative correlation has become very strong. The observed countries can have obtained their monetary stability greatly thanks to the higher degree of the actual independence of their respective central banks, but at the same the independence by itself is not enough to keep the inflation rate at the desired rate, like the one requested by Maastricht's criteria. In modern circumstances lower inflation rate can depend on some other factors, such as political lobbies, mutual adjustment of fiscal and monetary policies, imperfection of the labour market, national culture of the inflation, etc.

INTRODUCTION

Only a few decades back most of the central banks in the world were under a strong political influence of the government and they had no independence, or the independence was of a very low level in conducting of the measures of the monetary policy. The growth of the central bank independence have substantially changed definition and understanding of the creators of the monetary policy, as well as responsibility for the goals achieved in its conduction. A very strong support of the central bank independence were the results achieved in conducting of the monetary policy of the German central bank (Deutsche Bundesbank), which was considered the most independent central bank in the world, until it transferred its independence to the European Central Bank. It was breaking of the link between government of a country and its authority in conduction of monetary policy that influenced such authorities to be transferred to an independent and competent institution that would not depend on any political pressures. Thus, government has lost its discretion ability to trick other economic participants by its acts, on the contrary it has been put into 'more equal position' with other economic participants, whereas monetary authority has been given to central bank exclusively, whose credibility became very important for all other economic participant's behaviour.

Considering the undisputable importance of establishing the rate of the central bank independence, ways and methods of its measuring became very important in order to for this measuring to be more credible and calculation more precise. Measuring of the central bank independence that uses legal indicators can show substantially different results compared to measurement of the so called actual central bank independence, due to its flaws. Therefore actual central bank independence became an issue of the research of more and more authors. Namely, it is difficult to measure certain factors that can be important for establishing of the central bank independence, such as the Governor's or other bank leaders' personalities, factors that arise from the tradition, etc. At the same time it is possible to apply certain legislative regulations differently in practice, although they may be expressed in the same way in the legislation regulating the work of the central bank. Hence, it is often due to various types of pressure that the mandate of a Governor of the central bank can last shorter than his term, in order to elect the Governor of the central bank who would be more convenient for conducting of such monetary policy that would suit to certain political, interest and other groups.

Although the countries of Southeast Europe have common similarities, and are additionally connected by common regional area, at the same time it is obvious that there are differences in their political and economic development, achieved transition results, etc., while in the context of our research we especially point out differences in conducting of monetary policy. Time that has passed from the beginning of the transition, as well as a degree of total liberalization of the economies have created basis for a quality research of the influence of the actual central bank independence to the monetary stability in the countries of Southeast Europe, and also possibility to properly observe mutual correlation of the researched phenomena, and consequently, the possibility of making adequate conclusions.

1. THEORETIC CONSIDERATIONS AND RESEARCHES OF THE CENTRAL BANK INDEPENDENCE AND THE INFLATION

Broad consensus of economists, politicians and public has influenced the decision to direct monetary policy to keep monetary stability as a long-term goal. Such a position of the central bank enabled it to be free of the obligation of some other macro-economic goals that have remained as an obligation of the governments. Tinbergen (1954) is considered to be modern creator of an idea that central banks should be independent, because he thought that if there were more economic goals which were in conflict, each of them should have been solved by an independent specialized institution. However the very idea of central bank independence is based on time-inconsistency of

the monetary policy that was explained by Kydland and Prescott (1977). The above authors relate negatively to implementing of economic policy on the basis of the discretion and they support its implementing on the basis of the set rules („rules against discretion“). The very conducting of the monetary policy by the rules can efficiently solve the problem of the inflation. Economic participants would deem conducting of such an economic policy credible, unless there are inflation surprises. Therefore, nowadays, solving of the problem of time-inconsistency of the monetary policy is in the very scope of operation of central banks. On the other hand, Buchanan and Wagner (1977) have clearly pointed out that only an independent central bank can be resistant to political pressure that would result in inflation tendency. Bade and Parkin (1982) have conducted their research of 12 OECD countries and they have calculated the level of the independence of their central banks for the period 1951-1975. They have established that the central bank independence have negative influence to the inflation rate. While researching elements of the central bank independence, Rogoff (1985) has established that its Governor has conservative approach to the monetary policy, i.e. more important meaning in its conduction should be directed to the price stability instead some other goals of the economic policy, such as increasing of the employment rate, economic growth, etc.

Several authors, such as Alesina (1988), Burdekin and Willet (1991), Cukierman (1992), Cukierman, Webb and Neyapti (1991), Eijffinger and Schaling (1993) have pointed out that the central bank independence is institutionally essential for obtaining of the monetary stability. Alesina (1988) has also used Bade-Parkins index in his researches and has established negative correlation of the central bank independence and the inflation. Furthermore, Alesina (1989) has additionally concluded that the independent central bank can reduce fluctuation in monetary policy during election cycles. Neumann's (1991) research has shown clear reasons for entrusting central bank to independently implement monetary policy, but also certain elements that could be used for creating of different models for measuring of the central bank independence. Grilli, Masciandaro and Tabellini (1991) have constructed (GMT) index for measuring of political and economic central bank independence. By its application in the research the authors have established negative correlation between central bank independence and the inflation in developed western countries. On the other hand Lohmann (1992) has been researching optimum design of the institution of the central banking.

While researching the influence of the central bank on the monetary stability, Cukierman and the others (1992), and later Cukierman again (1994) have established that the legal central bank independence is more convenient to be measured in developed countries, where it is connected to the lower inflation rate. On the other hand, turnover rate of governors (TOR) is more convenient for researching of the central bank independence in developing countries, where it is connected to the lower inflation rate. Furthermore, Alesina (1993) has established negative correlation between inflation rate and central bank independence for a group of developed western countries, where he used and upgraded model made by Bade and Parkin. Capie, Mills and Wood (1993) came to the conclusion that in order to keep the stability of prices, central bank independence is not the only necessary condition, but also some other conditions are needed. Fischer (1994), and again DeBelle and Fischer (1995) attributed larger importance to the economic central bank independence and not political independence, while Walsh (1995) researched central bank as government's mediator that tried to maximize goal function.

A unique historic period, such as transition of socialist economies into modern market economies created at the same time new opportunities for researching of certain social and especially economic phenomena together with their specific characteristics. These circumstances differed greatly when compared to conditions where monetary policy was conducted by central banks of developed countries. Radzyner and Reisinger (1997) were researching central banking of Czech, Hungary, Poland, Slovakia and Slovenia. However, the authors have established, as a negative side, that there was still certain direct crediting of the governments from the central bank. Loungani and Sheets (1997) have established that the central bank independence in transition

conditions negatively influences inflation rate, which has also been established by Cukierman (1998), whereas he pointed out necessity for economic liberalization of adequate level. Lybek (1999) has researched connection of the central bank independence and certain macro-economic indicators in former Soviet countries, whereas he included elements of the accountability of the central banks into the model designed for measuring of the independence. His model is more rigorous than Cukierman's or GMT model, in order to be less influenced by subjective elements when applied. Lybek has established that the countries with higher level of de jure independence and accountability of their central banks have lower annual inflation rate for the period 1995 – 1997. Within our research context it is important to point out that Lybek was researching the influence of the actual central bank independence on the inflation rate, but due to the short period of the research, he was not able to establish significant correlation.

Maliszewski (2000) was researching independence of central banks in 20 transition countries, where he used GMT model as a research basis. The model that Maliszewski used differed from the original model because he presumed that central bank has higher level of political independence if countries' Governor could only be relieved by non-political factors and that crediting of the government by the central bank is less harmful if the whole direct credit is securitized. Maliszewski has concluded that there is significant influence of the central bank independence to the inflation rate in the observed countries, but that there was no such an important correlation with the economic independence of the central banks. Ilieva et al. (2001) have constructed index of the central bank independence that included legislative and behavioural aspects of its independence and they have established that the central bank independence is higher in transition countries that are in the process of being admitted into EU than in other transition countries. Cukierman et al. (2002) have researched influence of the central bank independence to certain macro-economic elements in 26 transition countries, whereas they have used two Cukierman's measures of the independence of the Central bank: LVAW, made out of 16 indicators and its modified version LVAU. The authors have established that following elements have the most important influence on the level of the central bank independence: allocation of the authorities in conducting of the monetary policy, procedure of resolving the issues between the government and the central bank and attributing the importance to the price stability within the legislation of the central banks. Freytag (2003) has researched legal central bank independence in some of transition countries, whereas he has created monetary commitment index and has established its very high independence.

Dvorski (2004) has used index of frequency of changing the Governors of the central banks and has researched legislative regulations in the work of central banks of Southeast Europe, whereas she has included Maastricht Criteria requirements. The author has concluded that Maastricht Criteria have mostly been implemented into legislations, but that the central banks are not completely free from political influence in practice. Piplica (2012) has researched actual central bank independence and the inflation in Croatia and transition countries EU members and has concluded that there is relatively higher level of the actual central bank independence and lower inflation rate for the period 1998-2010. The author has also concluded that the higher level of the actual central bank independence is no more correlated to the lower inflation rate once monetary stability is already obtained. Furthermore, Piplica (2015) has also transformed and upgraded GMT model and has researched the influence of the central bank independence to the monetary stability in transition countries EU members in early and in later phase of the transition process. The author has concluded that in the early and in the whole transition period there is a significant negative influence of the legal central bank independence to the inflation, but that this is not so obvious in the latter phase of the transition. Bogoev and Petrevski (2015) have analysed political and economic arguments for establishing of the independent central banks, and have especially critically valued different element for quantifying of the legal and actual central bank independence. The authors have also given a review of the evolution of the central bank independence in the transition countries of the Central and Eastern Europe. Angelovska-Bezhoska, A. (2017) has oriented to researching of the legal regulations that define the independence of the National Bank of the Republic of Macedonia based on the index of Cukierman et al. (1992) and the index of Jacome

and Vasquez (2005), important for keeping the stability of the prices. The author has established the growth of the independence of the National Bank of the Republic of Macedonia, whereas an improvement in the area of expressing of the monetary policy is essential, as well as the process of appointment of the non-executive members of the council of the National Bank of the Republic of Macedonia.

Of course, there are also the authors that in their researches of the central bank independence have come to the opposite results with reference to the above mentioned. Thus for example, de Haan and Sierman (1994) and Cargill (1995) have established that there is no significant correlation between the central bank independence and the inflation rate. Also, Eijffinger and Van Kuelen (1995) in their research used models designed by Alesina, as well as Bade and Parkin model, and Eijffinger and Schaling model, and finally model designed by Grilli, Masciandaro and Tabellini, and they have also concluded that there is no significant influence of the central bank independence to the inflation. Cargill (2016) thinks that the central bank independence is only a myth and he states that: „The conventional wisdom so widely accepted in the academic literature is based on a confused perception of independence that fails to distinguish between legal (de jure) and actual (de facto) independence.“ Many other authors have researched central bank independence and its influence to the monetary stability, but we have pointed out only authors important to the context of this conducted research.

2. APPLIED MODEL AND MEASUREMENT OF THE ACTUAL CENTRAL BANK INDEPENDENCE

The researches have often shown that the actual central bank independence differs from its legal independence, whereas lower level of actual independence was shown. Actual central bank independence has become research subject of greater number of the authors, because it is not possible to get some answers by applying of the measures of legal central bank independence. Prevailing theoretical opinion of large number of the authors considers that monetary policy in the long run has a neutral character and that government must not gain from direct measures of the monetary policy in the short run, because it can result in unwanted effects. That is why shorter mandate of the Governor of the central bank can be an obstacle for credible conduction of the monetary policy in the long run.

It is not possible to precisely measure the actual central bank independence, because it is very difficult to measure all the elements that in fact actually impact its independence. One of the means of measuring of the actual central bank independence is the grade (index) of frequency of the changing of the Governors of the central bank and we will apply it in our research. The central bank independence is often measured by questioner (questionnaire based index), whereas monetary experts from the observed countries fill in the questioner. We are of the opinion that such questionnaires are subject to certain subjective feeling of the questioned persons, hence they are less credible. Regardless of the fact that they are monetary experts, they can enter a certain subjectivity that will be expressed in positive or negative perception of some measuring elements that can result in a distorted picture of reality.

The rate of frequency of replacement of the Governor of the central bank is, in its nature, a very simple indicator, based on the fact that the Governor of the central bank is the most important person in conducting of the monetary policy, and if often replaced it is a sign of political (or some other) influence in restraining of the central bank independence. Moreover, this index is not so subject to subjective approach as questionnaire based index, hence it is more appropriate for measuring of the actual central bank independence. Because all mentioned above, and some other circumstances, it is presumed that the term of mandate of the Governor of the central bank is an assurance for stability of the conducting of the monetary policy, whose primary goal will be obtaining and maintaining the price stability. Turn-over rate of the Governor of the central bank (TOR)

represents average term of mandate, and it is obtained as a relation of the number of the Governors of the central bank in the period of time and the length of the observed period. Thus,

$$\text{Turn-over Rate of the Governor of the Central bank (TOR)} = \frac{\text{Number of the Governors of the Central bank}}{\text{Length of the Term of Mandate}}$$

It is obvious that lower result at the same time means higher level of the actual central bank independence. Considering the length of the term of mandate of the Governor of the central bank, that mostly lasts 4-5 years (somewhere even longer), as well as the length of duration of the election cycles in democratic countries, Cukierman et al. deem it is not desirable for the upper level of turnover rate of the Governors to be above 0,2 or 0,25. Of course, low level of TOR does not automatically mean high level of the central bank independence and this way of measurement should not be taken as exact way. We cannot exclude the fact that the Governor of the central bank is subject to government pressures, in order to prolong his mandate as a head of the central bank. Therefore, sometimes there are situations when the Governors of the central banks for certain reasons were connected to the governments, such as in Romania, Czech Republic, etc. where they later became members of the governments in these countries.

3. INFLUENCE OF THE ACTUAL CENTRAL BANK INDEPENDENCE TO THE INFLATION IN THE COUNTRIES OF SOUTHEAST EUROPE

The research has taken place in the countries of Southeast Europe: Albania, Croatia, Romania, Bulgaria, Serbia, Bosnia and Herzegovina, Montenegro, Macedonia, Kosovo and Greece, which although connected geographically, historically, economically, culturally, nationally and in many other ways, at the same time show significant differences in forming of the states, democratic tradition, structures of the national economies, (non)membership of the EU, conducting of the monetary policy, etc. Therefore, each of the central banks conducts monetary policy in somehow different political and economic surrounding, which can influence the success in obtaining the goals of the monetary policy.

Monetary policy of the Southeast European countries has many differences, but primary goal of all the central banks was obtaining and maintaining monetary stability. Thus for example, the National Bank of Romania conducts direct inflation targeting as of 2005. Inflation goals are established at the level of yearly changes of consumer price index, for precisely established percentage points. Similar to the above, Serbia is conducting inflation targeting since 2009, whereas such monetary strategy has been gradually introduced since 2006. National Bank of Serbia conducts independent monetary policy with floating exchange rate of its national currency. Inflation targeting is also conducted in Albania in order to modify and anticipate inflation. On the other hand national currencies of Bosnia and Herzegovina and Bulgaria function in the currency board system. The Croatian National Bank keeps the stability of the exchange rate of its national currency according to euro as so called nominal anchor of monetary policy in order to stabilize inflation expectations. The stability of exchange rate regime is kept by currency interventions (according to euro). In 2009 IMF considered Croatia as a regime of directed floating currency exchange. Also, the National Bank of the Republic of Macedonia uses direction of nominal exchange rate since 1995, first according to Deutsche Mark and since 2002 according to euro as a nominal anchor. Greece is the only observed country of the Southeast Europe that is a member of Euro zone, and accordingly it has transferred its responsibility for monetary policy to ECB during 2001. On the other hand, Montenegro and Kosovo have done one-sided euroisation (so called dollarization) of their national currencies. Such a rigid form of the regime, where a country uses other countries' currency instead of its own, was present in Montenegro first as unofficial euroisation, than as partly official euroisation, and in the end Montenegro became officially euroised economy by introducing firstly Deutsche Mark and later euro as an only legal means of payment. Similar as Montenegro, Kosovo has also simply adopted Deutsche Mark and later euro as a means of payment with no agreements whatsoever.

ever with the central bank of Germany (Deutsche Bundesbank), or later ECB. It is total of the mentioned similarities and differences that has created a unique surrounding, and an opportunity to explore the influence of the central bank independence to the inflation in different circumstances, than for example in developed western countries, or elsewhere.

3.1. ACTUAL CENTRAL BANK INDEPENDENCE IN THE COUNTRIES OF SOUTH EAST EUROPE – APPLICATION OF TOR ANALYSES

We have started the research of the average term of mandate of the governors of the central banks of the Southeast Europe with different periods, because there are differences in some countries in forming of their central banks, etc. The data for Romania, Croatia, Bulgaria, and Greece have been researched since 1990; data for Serbia have partly been taken from former Yugoslavia, data for Bosnia and Herzegovina dates back to 1997, data for Montenegro since 2001, data for Macedonia and Albania since 1992, while data for Kosovo are from 2008. Term of their Governors' mandates is presented in Table No. 1.

Table 1. Term of Mandate of the Governors of the Central Banks in the Countries of South East Europe

| <i>Central Bank</i> | <i>Governor</i> | <i>Term in Office</i> | |
|------------------------|---|-----------------------|------------|
| Croatia | Ante Čičin-Sain | VIII.1990. | V.1992. |
| | Pero Jurković | VI.1992. | II.1996. |
| | Marko Škreb | III.1996. | VII.2000. |
| | Željko Rohatinski | VII.2000. | VII.2006. |
| | Željko Rohatinski | VII.2006. | VII.2012. |
| | Boris Vujčić | VII.2012. | incumbent |
| Romania | Mugur Constantin Isărescu | IX.1990 | XII.1999 |
| | Eugen I. Ghizari ¹ (interim) | XII.1999 | XII.2000 |
| | Mugur Constantin Isărescu | XII.2000 | incumbent |
| Bulgaria | Ivan Dragnevski | XII.1989. | I.1991. |
| | Todor Valchev | I.1991. | I.1996. |
| | Lyubomir Filipov | I.1996. | VI.1997. |
| | Svetoslav Gavriiski | VI.1997. | X.2003. |
| | Ivan Iskrov | X.2003. | VII.2015. |
| | Dimitar Radev | VII.2015 | incumbent |
| SFRJ | Dušan Vlatković | VI.1986 | VI.1992. |
| FR Yugoslavia | Vuk Ognjanović | VII.1992 | VII.1993. |
| | Borisav Atanacković | VII.1993 | X.1993. |
| | Dragoslav Avramović | III.1994 | V.1996. |
| | Dušan Vlatković | VI.1997 | XI.2000. |
| | Mlađan Dinkić | XI.2000 | II.2003. |
| Serbia | Mlađan Dinkić | II.2003 | VII.2003 |
| | Kori Udovički | VII.2003 | II.2004. |
| | Radovan Jelašić | II.2004 | VII.2010. |
| | Dejan Šoškić | VII.2010 | VIII.2012. |
| | Jorgovanka Tabaković | VII.2012 | incumbent |
| Bosnia and Herzegovina | Peter Nicholl | VI.1997. | XII.2004. |
| | Kemal Kozarić | I.2005. | VIII.2015. |
| | Senad Softić | VIII.2015. | incumbent |
| Montenegro | Ljubiša Krgović | III.2001. | X.2010 |
| | Radoje Žugić | X.2010. | XII.2012. |
| | Milojica Dakić | I.2013. | X.2016. |
| | Radoje Žugić | X.2016. | incumbent |
| Albania | Ilir Hoti, | V 1992 | IX 1993. |

| | | | |
|-----------|-------------------------|-----------|------------|
| | Dylber Vrioni, | IX 1993 | XII 1994 |
| | Kristaq Luniku, | XII 1994 | IV 1997 |
| | Qamil Tusha, | IV 1997 | VIII 1997. |
| | Shkelqim Cani, | VIII 1997 | IX 2004. |
| | Ardian Fullani, | X 2004 | IX 2014 |
| | Elisabeta Gjoni, | IX 2014- | II 2015 |
| | Gent Sejko, | II.2015 | incumbent |
| Macedonia | Borko Stanoevski | IV 1992 | V 1997 |
| | Ljube Trpeski | V 1997 | V 2004. |
| | Petar Gosev | V 2004 | V 2011. |
| | Dimitar Bogov | V 2011 | incumbent |
| Kosovo | Hashim Rexhepi | III 2008 | VII 2010 |
| | Gani Gërguri | VII 2010 | III 2013 |
| | Bedri Hamza | III 2013 | incumbent |
| Greece | Dimitrios Chalikias | II. 1984 | II. 1992 |
| | Efthymios Christodoulou | II. 1992 | XII 1993 |
| | Ioannis Boutos | I. 1993 | X. 1994 |
| | Lucas Papademos | X. 1994 | VI. 2002 |
| | Nikolaos Garganas | VI. 2002 | VI. 2008 |
| | Georgios Provopoulos | VI. 2008 | VI. 2014 |
| | Yannis Stournaras | VI. 2014 | incumbent |

Source: Central banks of the mentioned countries

The reasons that have caused shorter term of mandate of some Governors of the central banks are very important, because it is not the same if mandate was terminated due to some misfortune, unlawful activities or because of the political pressure of the government. In that sense, we point out that Croatian Governor Pero Jurković has not completed his term of mandate for medical reasons. On the other hand, National Bank of Romania had only one Governor, Mugur Isărescu, however, inflation rate in Romania was not the lowest of the observed countries. It is also interesting that Romanian Governor has also been president of the Romanian government in December 1999 and during 2000, while he was not relieved from the function of the Governor, but his authorities were temporarily transferred to his deputy. Also, the Governor of the Central bank of the Republic of Kosovo, Hashim Rexhepi, was arrested mid-2010, under suspicion for corruption and money laundering by EULEX, but he was released at beginning of 2012, as innocent.

Table 2. Actual CBI and Inflation 2016

| Countries | TOR | Predicted & Residual Values - inflation 2016 | | | | | | | | | |
|--------------|------|--|---------------------------------------|-------------|--------|-----------------|---------------|-------------------|----------------|---------------|----------------|
| | | Inflat. | Observ. Value Inflat. ($\pi/1+\pi$) | Pred. Value | Resid. | Stand. Pred. v. | Stand. Resid. | Std.Err. Pred.Val | Mahal. Distan. | Delet. Resid. | Cook's Distan. |
| Greece | 0.26 | 0.29 | 0,003 | 0,068 | -0,065 | -0,356 | -0,398 | 0,012 | 0,127 | -0,065 | 0,000 |
| Albania | 0.32 | 2.18 | 0,021 | 0,084 | -0,063 | -0,142 | -0,386 | 0,011 | 0,020 | -0,063 | 0,000 |
| Romania | 0.04 | -0.53 | -0,005 | 0,009 | -0,014 | -1,138 | -0,087 | 0,017 | 1,295 | -0,014 | 0,000 |
| Bulgaria | 0.23 | -0.50 | -0,005 | 0,060 | -0,065 | -0,462 | -0,398 | 0,012 | 0,214 | -0,065 | 0,000 |
| Serbia | 0.37 | 1.53 | 0,015 | 0,097 | -0,082 | 0,035 | -0,505 | 0,011 | 0,001 | -0,082 | 0,001 |
| Bos.and Her. | 0.15 | -0.29 | -0,003 | 0,038 | -0,041 | -0,747 | -0,255 | 0,014 | 0,558 | -0,042 | 0,000 |
| Montenegro | 0.25 | 1.00 | 0,010 | 0,065 | -0,055 | -0,391 | -0,339 | 0,012 | 0,153 | -0,055 | 0,000 |
| Croatia | 0.19 | 0.20 | 0,002 | 0,049 | -0,047 | -0,605 | -0,290 | 0,013 | 0,366 | -0,047 | 0,000 |
| Macedonia | 0.16 | -0.29 | -0,003 | 0,041 | -0,044 | -0,711 | -0,271 | 0,014 | 0,506 | -0,044 | 0,000 |
| Kosovo | 0.34 | 1.29 | 0,013 | 0,089 | -0,076 | -0,071 | -0,468 | 0,011 | 0,005 | -0,076 | 0,001 |

Source: own calculation

In our research we have set a thesis that in the observed period a significant actual independence of the respective central banks of the countries of Southeast countries of Europe measured by TOR was achieved. In calculation of the actual central bank independence measured by the index of frequency of changing of the Governors of the central banks, we have taken only the Governors of the central bank and not the persons that substituted them in certain periods. If some of the Governors were re-elected to the position of the head of the central bank, we took the whole period of his function as one mandate, but if in the meantime another Governor was elected, than we deem that such a change in the implementation of the monetary policy can occur, so we entered such a change in the calculation. It is obvious that most of the central banks have had TOR values that are lower of around limits of election cycles in the observed countries, which means that they have expressed high or higher level of the central bank independence. It is also obvious that in several of the observed countries Governors were often replaced before they have completed their mandates. Furthermore, we can see that the inflation rate in all the countries of Southeast Europe was at low level and within Maastricht Criteria.

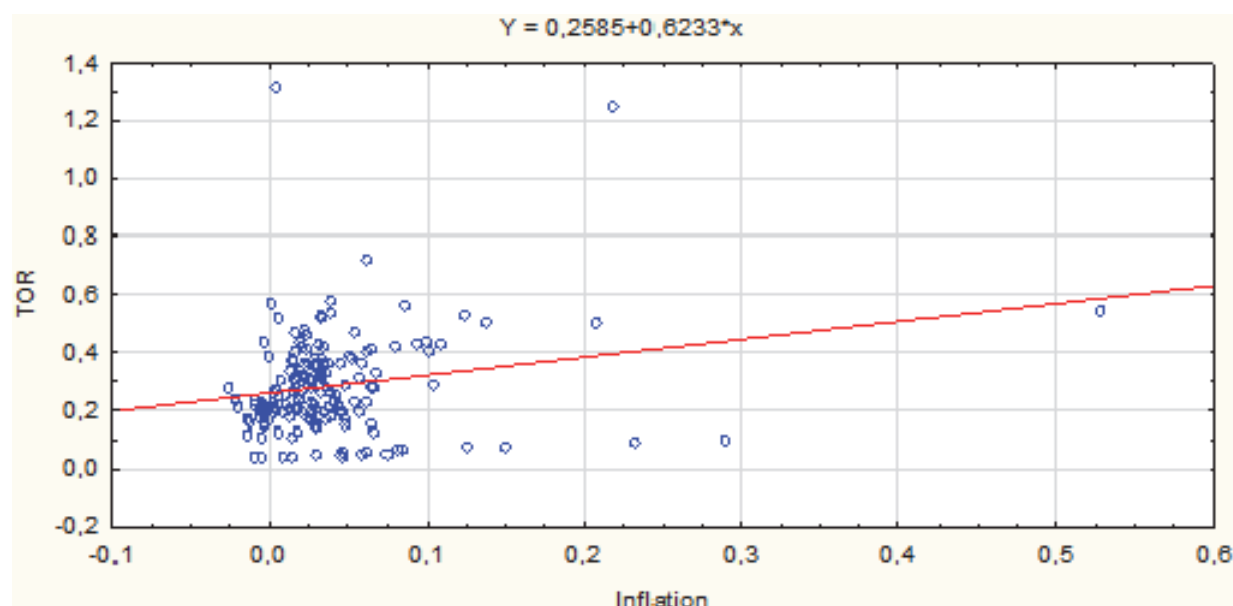
3.2 Influence of the Actual Central Bank Independence to Inflation in the Countries of Southeast Europe

Considering all the circumstances of the conducted research, we have observed TOR values since 2000, when cumulative liberalization index (CLI) was on a higher level in all of the observed countries, i.e. when there was a certain time lapse from the very beginnings of the transition and when it was possible to count some average time of the Governors' terms of mandate. In our research we have set the thesis that there was a significant influence of the actual central bank independence to monetary stability, regardless of different implementations of the monetary policies of the central banks of the countries of Southeast Europe.

Central bank independence of the countries of Southeast Europe expressed in TOR values would be set into relation to the inflation expressed in index of depreciation of the actual value of money $\frac{\pi}{1 + \pi}$ whereas π presents inflation rate. We'll observe inflation for years when TOR values of the independence of the central banks were observed. The inflation rate π is expressed by the index of consumer's prices at the end of the year. Our research comprises period of 2000-2016. The above is clearly visible from the following graph.

In our research we have taken total of 161 indicators, whereas it is obvious that the average change of the Governors of the central banks in the period 2000-2016 was 0,28, meaning that in the observed countries' Governors are often replaced before completing their terms of mandate. However, we should point out that in the mentioned period, TOR value was continuously lowering and actual central bank independence was growing. At the same time inflation rate was on average slightly higher than the one requested by Maastricht Criteria, but by the end of our time research was within requested limits.

Graph 1. TOR and Inflation 2000-2016



Source: own calculation

Table 3. TOR and Inflation ($\pi / 1 + \pi$) 2000-2016

| Variable | Test of means against reference constant (value) | | | | | | | |
|-----------|--|----------|-----|----------|--------------------|----------|-----|----------|
| | Mean | Std.Dv. | N | Std.Err. | Reference Constant | t-value | df | p |
| TOR | 0,283106 | 0,175482 | 161 | 0,013830 | 0,00 | 20,47048 | 160 | 0,000000 |
| Inflation | 0,039443 | 0,059264 | 161 | 0,004671 | 0,00 | 8,44475 | 160 | 0,000000 |

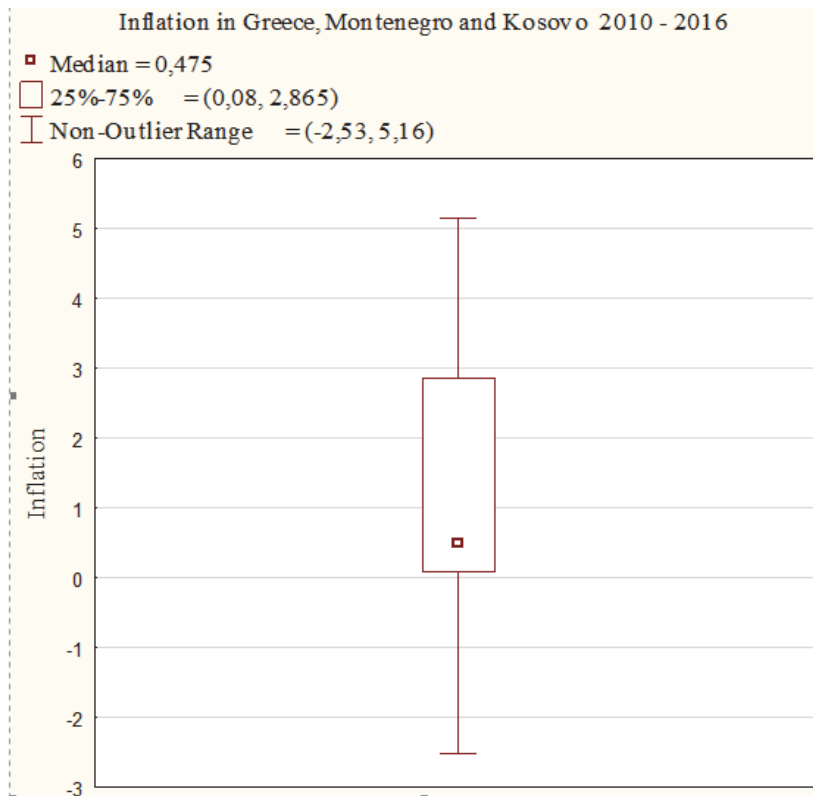
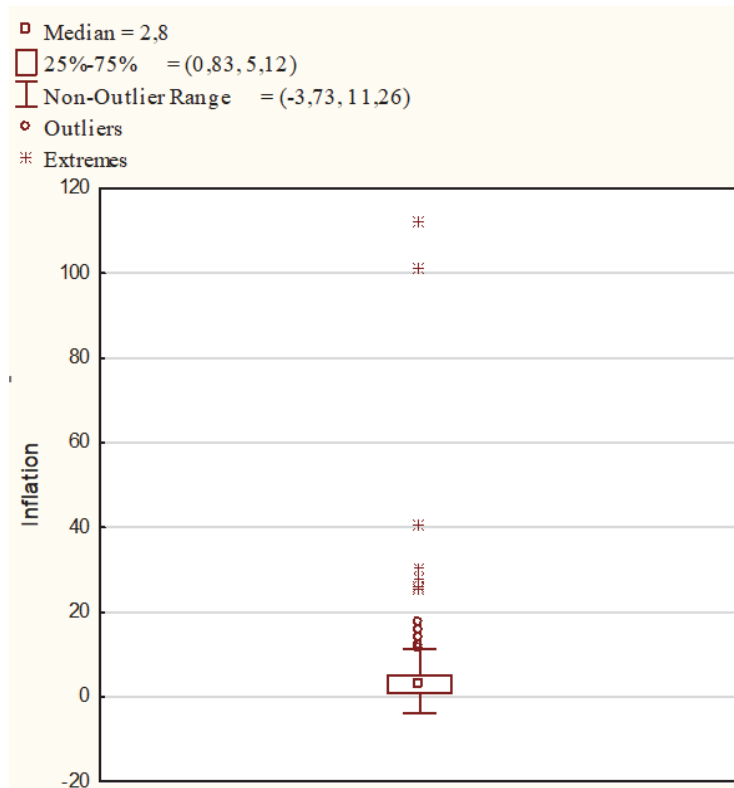
Own calculation

Regression line is positive ($Y=0,2585 + 0,6233 X$) whereas graph visually shows that there is a very weak correlation between frequency of the turnover of the Governors of the central banks in the observed transition countries (TOR) and the inflation measured by the depreciation of the actual value of money index. It is also obvious that in the period 2000-2016, for which this research was done, we had relatively low inflation rates, regardless of the frequency of the changes of the Governors of the central banks of the countries of Southeast Europe.

It is interesting that Romania shows high level of the actual independence of its central bank, but in some years still had high inflation rates. In that sense, expressed TOR value for 2000 is 0,10, but the inflation rate was 40,71%, in 2001 expressed TOR value was lowered to 0,09, but the inflation rate was still high 30,19%, in 2002 TOR value was 0,08 and inflation rate was 17,5%. In later years of the research Romanian inflation rate is within limits of Maastricht Criteria, and even showing deflation character.

At the same time, it is interesting that Greece for a sequence of years had inflation rate above Maastricht Criteria requests, although it has euro as payment means, so in 2010 it amounted 5,16%, but in the latter years of our research it is however low, even expressing deflation. Similar situation is in Kosovo and Montenegro (in 2012 inflation rate was 5,12%).

Graph 2. Inflation in the Countries of Southeast Europe



Source: WEO database 2016, own calculation

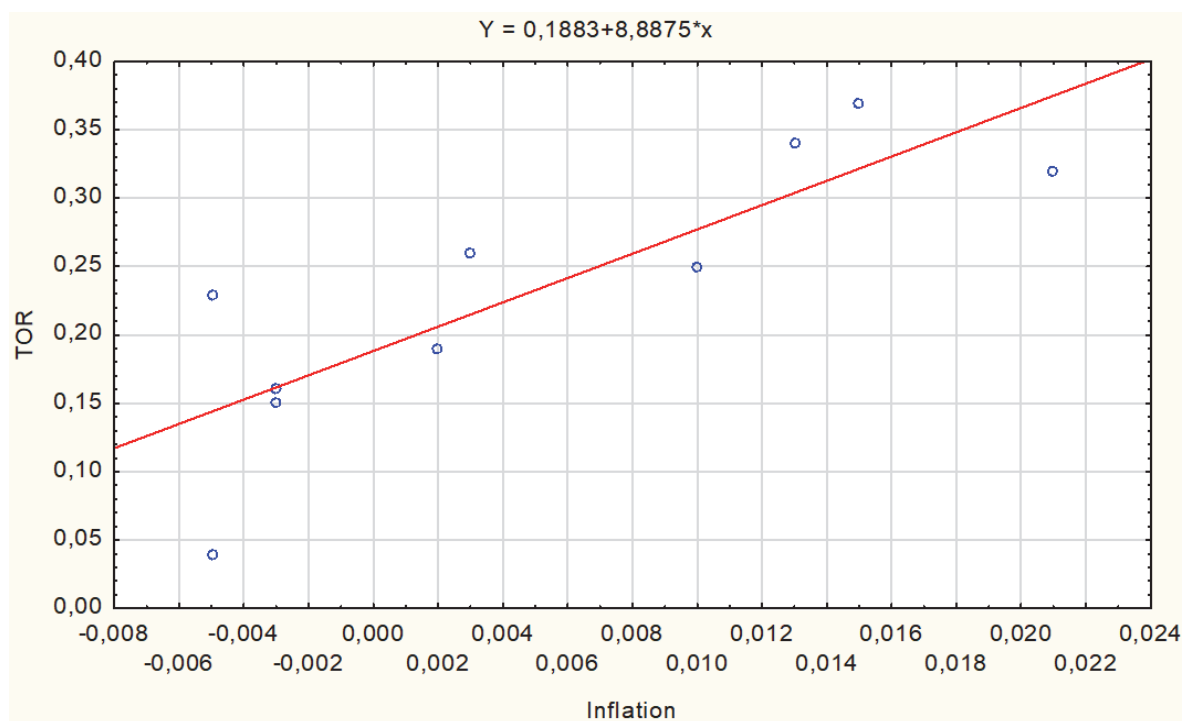
Our research comprises total of 161 cases, for the period between 2000 and 2016, for which period data was available. Standard error of evaluation is 0,058, determination index of 0,044 is low, while the level of the correlation is positive, amounting 0,211, and such correlation can be considered as almost insignificant. Since lower level of TOR values means higher level of actual central bank independence, it is obvious that the actual CBI and the inflation have a weak negative correlation. The regression results are shown in the following table:

Table 4. Regression Results 2000 - 2016

| | | | |
|-------------------------|-------------------------|----------------------------|-----------------------------------|
| Dependent: Inflation | R2= 0,04431609 | No. of cases: 161 | Stand. err of est: 0,058118306 |
| R = 0,21051387 | df = 1,159 | adjusted R2= 0,03830550 | p = 0,007353 |
| F = 7,373001 | Std.Error: 0,0087135 | t(159) = 2,2167 | p = 0,0281 |
| Intercept:0,019315342 | | Inflation b* = 0,211 | |

Source: own calculation

Graph 3. TOR and Inflation 2016.



Source: own calculation

On the other hand, actual central bank independence of the countries of Southeast Europe in later years of our research had common influence to monetary stability of the mentioned countries. Although in Serbia, Kosovo and Albania, expressed TOR values are still significantly higher than 0,25, i.e. they show that the Governors are frequently changing before completing their mandates,

price stability have been obtained and inflation rate is below 2% in last years. The last year of our research shows that there was a very strong mutual connection between the frequency of changing the Governors of central banks of the observed countries (TOR) and inflation, measured by depreciation of the actual value of money index, i.e. that actual CBI strongly influences lowering of prices, which is visible from the graph below.

Despite small number of the observed cases, graph No. 3 clearly visually shows that in 2016 there was a very strong positive connection between frequency of the turnover of the Governors of central banks of the observed transition countries (TOR) and inflation measured by the index of depreciation of the actual value of money. Linear regression equation is positive ($Y = .1883 + 8.8875 X$), just like correlation index which is 0,83, while determination index is 0,69, of course, is high, meaning that at the same time there was a strong negative correlation between actual CBI and inflation for 2016. Therefore, it is obvious that we have substantial change of the influence of actual CBI at the end of the observed period, regarding the whole period of the research.

Table 5. Regression Results TOR and Inflation 2016

| | | | |
|-------------------------|-----------------------------|---|------------------------------------|
| Dependent: Inflation | R ² = 0,68878174 | No. of cases: 10 | Stand. err. of est: 0,005528258 |
| R = 0,82992876 | df = 1,8 | adjusted R ² = 0,64987946 | p = 0,002965 |
| F = 17,70543 | Std.Error: 0,0045998 | t(8) = -2,849 | p = 0,0215 |
| Intercept: -0,013102564 | | Inflation b* = 0,830 | |

Source: own calculation

Our research has confirmed our thesis that in the observed specific surrounding of the countries of Southeast Europe relatively high (higher) actual central bank independence was achieved, influencing lower inflation rate.

4. FACTORS THAT ENDANGER ACTUAL CENTRAL BANK INDEPENDENCE OF SOUTHEAST EUROPE AND REFLECTION TO MAINTAINING OF THE MONETARY STABILITY

All economic participants in the observed countries have accepted point of view that monetary stability is long-term goal of implementing of monetary policy and that inflation results in numerous harmful consequences for their economies. Obtaining of high (higher) level of the central bank independence, and lower inflation rate represent at the same time a task for maintaining of such values, at the same or better level. However, countries of Southeast Europe are in their regulative have differently incorporated regulations that leading persons of their respective central banks should fulfil, which is not in accordance with theoretical considerations regarding the central bank independence. (Neumann, J.M.M., 1991).

There are various factors that endanger preserving of the central bank independence, as well as monetary stability, while political pressure (of the government) is always continuous and can hardly ever be stopped. Namely, political interests of the leading parties are always aimed to beautify reality in the eyes of the public, in order to gain trust from voters for a new mandate. Therefore, they often try to use the influence of monetary policy in order to obtain certain economic goals that were not realized by other measures of economic policy (especially by fiscal measures). On the

other hand, insufficiently restructured economies of the observed countries still have economic subjects that used continuous depreciation of domestic currency in comparison to the foreign one, and the stability of the prices and exchange rates does not suit them, as they could lose their preferential position. Furthermore, there are continuous pressures of the workers unions for irrational recovering of some poor economic subjects that represent a huge pressure to the government, requesting deficit financing, in order to keep social peace of the citizens. Underdeveloped labour market and necessary restructuring of the economy has resulted in surplus of the labourers, and higher unemployment rate in the observed countries. That, again, has created social pressure to the governments to increase employment, economic growth, and the like, making these issues more important than obtaining monetary stability.

A special danger for preserving of the monetary stability represents lack of coordination in conducting measures of monetary and fiscal policies. Inefficient fiscal policy, which was conducted in a part of the observed countries, resulted in higher budget deficit than desirable, lacks on non-budget accounts, insolvency, etc. At the same time, significant fiscal evasion and still very strong grey economy resulted in inability to finance budget expenditures which further creates pressure for such expenditures to be financed by a new money emission. Coordination of the monetary and fiscal authorities should be reached at the moment of establishing of macro-economic goals in the process of parliamentary acceptance. Of course, unpredicted situations should always be kept in mind, such as big natural or social catastrophes, that can create disturbances in the economy, and that can reflect to the activity of the central bank and monetary stability of a country.

On the other hand, monetary sovereignty of several countries of Southeast Europe has been transferred to ECB and euro has been introduced as a means of payment, which has strengthened monetary stability from abroad. It, however, means that certain inner (or outer) factors could not endanger price stability. A strong factor that supports monetary stability in the countries of Southeast Europe is financial sector, since it is a significant source of the funds and financial institutions get short-term funds, while they grant the long-term. Bank system of the countries of Southeast Europe is largely owned by foreign bank houses, that prefer monetary stability and an independent institution whose primary goal is maintaining price stability. However, it is not rare that financial institutions inspire irrational strengthening of domestic consumption above the abilities of the economic participants. Therefore, the central banks of the observed countries have to evaluate properly future expectations of the economic participants, but also foreign influences, in order to conduct an adequate strategy of measures of monetary policy.

A very specific situation developed in the countries that used exchange rate as a nominal anchor (and other reasons as well) that resulted in the fact that many domestic prices were indexed in foreign currency, firstly in Deutsche Mark, and later in euro, which has supported monetary stability of these countries. Furthermore, a large part of the companies' deposits, and citizens' deposits too, was expressed in the foreign currency, and the loans were granted in foreign currency, and all of this resulted with stabilization of the financial sector. Some of the observed countries have applied monetary policy where their central bank targeted inflation in order to strengthen the credibility of their central banks towards the domestic public. Thus, all economic participants can adjust their activities toward inflation expectations, without fear that they would be deceived by discretion measures of the monetary policy.

Strengthening of the central bank independence of the observed countries was enlarged by higher level of transparency in conducting measures of the monetary policy as well as legislative regulations that have established mandate of the leaders of central bank to be conditioned by achieving of the set goals, i.e. preserving the monetary stability, while they could be relieved only by non-political reasons. At the same time in all of the Southeast countries in the observed period, national culture of inflation has grown. Large number of citizens of the mentioned countries work in developed western countries, where public is aversive to the inflation, and such citizens present power that had pressured political structures of their countries to reach for values existing in the countries where they have worked. Strengthening of the level of democratic standards has at the

same time strengthened the predispositions for the level of the actual independence of the central bank to be increased, as it cannot exist in non-democratic systems. A part of the observed countries are fully equal members of EU and they are obliged to fulfil Maastricht Criteria, while the other part of the countries are in the process of being accessed to the EU membership, and accordingly they will have to implement the same standards.

CONCLUSION

The research of the influence of the actual central bank independence to the monetary stability was conducted in the countries of Southeast Europe: Albania, Croatia, Romania, Bulgaria, Serbia, Bosnia and Herzegovina, Montenegro, Macedonia, Kosovo and Greece, that are significantly connected, but at the same time there are differences in formatting of certain state communities, democratic tradition, structures of the national economies, (non)membership of EU, conducting of the monetary policy, etc. Although each of the respective central banks conducts monetary policy in somewhat different political and economic surrounding, that can influence the success in obtaining the goals of the monetary policy; primary goal of all the central banks was achieving and maintaining of monetary stability.

In our research we have used the rate of the frequency of turnover of the Governor of the central bank, considering the Governor of the central bank to be the most important person in conducting the measures of the monetary policy, and that frequent changes of the Governor show political (or some other) influence that limit the independence of the central bank. The research has shown continuous strengthening of the actual central bank independence and lowering of the inflation rate in the observed countries in the period 2000 – 2016. However, in the whole observed period there is weaker influence of the actual central bank independence to the lowering of the inflation. But at the same time, we have established that at the end of the observed period in the countries of Southeast Europe relatively high or higher level of the independence of the respective central banks have been reached, and lower inflation rate as well, in 2016, whereas the influence of the actual central bank independence to the lowering of the inflation rate became very strong.

There is a large number of factors that can result in damaging consequences at preserving of high level of the central bank independence and monetary stability in the countries of Southeast Europe, such as inconsistency in monetary and fiscal policies, continuous pressure for depreciation of the national currency in relation to foreign currencies, increasing of the debit side of the state budget, and deficit financing of the necessities, underdeveloped labour market, etc. However, recent law regulations have made an important step towards higher accountability of the central bank in conducting the measures of the monetary policy, and transparency of its work to all of the economic participants, that have a positive influence in maintaining of monetary stability. Membership, i.e. accession of the observed countries to EU has resulted in significant support to monetary stability of the observed countries.

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