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Does Central Bank Independence Affect Inflation?

Abstract: The objective of this paper is to analyze the impact of central bank independence on inflation in Western Balkan countries, from 2010q1 to 2022q4. In this paper the panel Autoregressive Distributed Lags (ARDL) model for six Western Balkan countries is used to analyse the effects of central bank independence on inflation. Results show that central bank independence has a negative effect on inflation in countries studied. These findings help management of banks and policymakers to find other monetary tools to reduce inflation and develop more effective regulations. The paper recommends central banks to use central bank independence to fight inflation.

Key words: central bank, independence, Western Balkan, inflation.

JEL Code: E31, E50, E52, E58.

1. Introduction

Inflation has always been the subject of debate among many economists, especially since various developments on the macroeconomic front. Following the coronavirus pandemic, rising commodity prices, supply chain disruptions from Russia's war in Ukraine, and a strong post-pandemic demand recovery have caused inflation to reach levels not seen in decades (Minasyan, Badertscher & Khachatryan, 2023).

World Bank data show that inflation in the Western Balkans in 2022 reached its highest level in two decades. In the Western Balkan countries, inflation is a major challenge given the high rates of poverty, hyperinflation in the past and limited instruments of monetary policy. In theory, central bank independence (CBI) is

seen as the main remedy for governments' inflationary bias (Fouad, Fayed, Emam, 2019). A large number of researchers have investigated whether the central bank independence can affect inflation and they confirmed the negative relationship ((Anwar (2022), Zheng (2020), Carriga & Rodriguez (2020), Daniel & Raul (2019)).

At the end of 2022, according to World bank data, the inflation rate in Montenegro was 17.2%. The emergence of inflation in Montenegro was influenced by external events as well as the fact that Montenegro is a predominantly importing country and is largely dependent on prices in other countries. According to European Commission in 2022, Montenegro implemented several measures to address inflation and mitigate its impact on the economy and citizens: Fiscal Reform Program: The government approved "Europe Now," a comprehensive agenda for budgetary reform. This program's fiscal stimulus measures were intended to aid in the post-pandemic recovery. Tax Policy Changes: Montenegro modified its tax system in order to lessen the effect of price increases on consumer purchasing power and corporate operations. Notably, they slashed the value-added tax (VAT) for particular products and the fuel excise fee (Mirkovic, 2022). Price Controls: In preparation for the heating season, the government limited the prices of essential products for people's health and well-being. The Government of Montenegro has launched the "Stop Inflation" campaign, which has reduced prices for about 25 products (Golubovic, 2023).

National bank of Serbia announced to set the inflation target for the period 2022–2024, targeting a 3% annual inflation rate from January 2022 (with a tolerance band of ±1.5 percentage points).[1] The government acted to restrict grain exports and set price freezes for staple foods and lowered fuel excise taxes, which helped to mitigate the effects of rising energy prices (Ladjevac, 2022).

Word bank data shows that in 2022, the inflation rate in North Macedonia was 14.2%. According to IMF country report, The National Bank of North Macedonia significantly tightened monetary policy, which slowed inflation and helped stabilize the currency market. Since the beginning of 2022, the central bank has raised the base interest rate five times - in April, May, June, July and September and also decided to raise the overnight deposit interest rate by 0.5 percentage points to 0.95 percent and the seven-day deposit interest rate by 0.5 percentage points to 1.00 percent (Gjorgjioska, 2022). Due to limited tax freedom, the authorities direct support to the most vulnerable households and companies.

[1] National Bank of Serbia's Memorandum on Inflation Targets until 2024, available at: https://www.nbs.rs/export/sites/NBS_site/documents-eng/monetarna__politika/memorandum_ciljevi_do_2024_eng.pdf

In July 2022, Albania presented the „Social Resilience Package". This package included: around 36 million € funds to be used for the next indexation for pensions with 434 thousand beneficiaries, public sector salary increase of 41 per thousand employees (Mursabelliu, 2022).

The Government of Bosnia and Herzegovina enacted a series of measures that provided businesses in this entity with aid totalling over 260 million KM (132.8 million EUR) (Borić, 2022). According to IMF Bosnia and Herzegovina implemented several policies to address inflation, driven by rising energy and food prices: Transitioning from coal to renewable energy and getting ready for carbon taxes in the EU are steps in a longer-term plan to stabilize the economy and lower inflation; in an effort to lessen the impact of inflation on vulnerable individuals and businesses, the government increased public spending. Boosting pensions, providing emergency assistance to disadvantaged groups, setting a record agricultural budget, fortifying commodity reserves, lowering power costs, and many other initiatives (Borić, 2022).

World bank data show that in 2022 inflation rate in Kosovo was 11.6%. Kosovo implemented several policies to combat inflation. In economic annual report of Kosovo is written that 4.3% of GDP was allocated to a significant fiscal package unveiled by the administration. This includes actions like imposing a maximum trade margin on petroleum prices and providing energy bill subsidies, also in order to avoid possible food scarcity, the government prohibited the export of fundamental agricultural items and implemented subsidies for fertilizers.

Analysing the various measures that the Western Balkan countries have applied to reduce inflation, the objective of this paper is to determine whether the central bank independence affects inflation. For that panel ARDL model is applied from 2010q1 to 2022q4. Based on the research of the literature, it has been observed that there is a gap in the existing theory and empirical research. The novelty of this paper is that no such research has been done for only one region. Therefore, this kind of research has not been done for the Western Balkan countries. The current paper also apply the panel ARDL model, which was not used in previous research.

The remainder of the paper is organized as follows: section two is literature review. Section three presents the methodological framework of the paper, while the empirical results are discussed in fourth part. The paper ends with a conclusion.

2. Literature review

Impacted by the events on the macroeconomic level, inflation in Westen Balkan countries continued to move upward. The government implemented a number of policies to mitigate the effects of growing prices.

Democratization led to the accelerated development of central bank independence. Many nations follow the common practice of central bank independence, linking it to positive economic performance and separating monetary policy from the distortion of policy cycles connected to electoral business or party cycles (Ezzat & Fayed, 2019). The public views an independent central bank as having greater credibility than alternative institutional arrangements (Yildirim, Esen, and Cinar, 2024). Central bank independence is still being implemented in underdeveloped nations, even though it has been adopted in practice by developed nations (Rabhi, 2024). There are several developed indices of central bank independence. Among the most frequently used are: Bade and Parkin (1997); Alesina (1988); Grilli, Masciandaro and Tabellini (1991); Zukierman, Webb and Nayapati (1992). Many studies have investigated the relationship between central bank independence and inflation.

Daniel and Raul (2019) examine the connection between inflation and central bank independence in a sample of 182 nations from 1970 to 2018. The findings indicate that central bank independence and inflation volatility are negatively correlated. Only when the entire sample of nations is employed do the results become statistically significant.

Furthermore, Zheng (2020) using the method of least squares calculated the independence of the central bank of China, and the inflation rate in China for the period 1994-2017 was calculated. Based on the collected data, a time series analysis of central bank independence and inflation in China was made. The results show that central bank independence has a negative relationship with inflation. The author believes that in order to achieve macroeconomic stability, especially for developing countries, it is necessary to improve the independence of the central bank.

Carriga and Rodriguez (2020), investigate the impact of central bank independence on inflation in developing countries. Between 1980 and 2013, the authors studied a sample of 118 developing nations. Research results show that greater independence of the central bank contributes to a lower inflation rate. They also show that the greater the presence of democracy in a country, the stronger this effect. Additionally, they think that reducing inflation is aided by all aspects of

central bank independence, including goals, staff, policy, and financial independence.

Anwar (2022), also examines the relationship between central bank independence and inflation for developing countries. Unlike previous authors, the research was conducted on a sample of 37 developing countries in the period from 1972 to 2019. Using the Chow and Roi–Zellner tests, which assume panel homogeneity, the results demonstrated that the model is not homogenous and that there is no significant correlation between central bank independence and inflation. Also, they conducted a panel heterogeneity model with a pooled estimate of the group mean which showed that there is an inverse relationship between central bank independence and inflation.

Research by Gyeke-Dako, Agbloyor and Abbey (2022), shows that central bank independence helps to control inflation and leads to a decline in inflation. The authors conducted research on a sample of 44 sub-Saharan countries for the period 1970-2012.

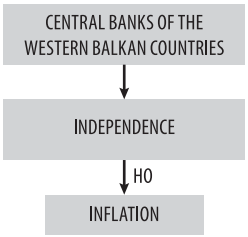
3. Methodology and data

The current paper test the following hypothesis:

> Ho: Central bank independence has a significant negative impact on inflation in Western Balkan countries
>
> The purpose of this hypothesis is to investigate how central bank independence affects inflation. Considering that inflation has a negative link with central bank independence, many academics have examined the relationship between the two (Garriga and Rodriguez, 2020; Zheng, 2020). The main result of these empirical studies is that inflation decreases as central bank independence increases. This hypothesis was developed based on the research expectations.

Following the previously formulated hypotheses, a conceptual research model was created, shown in Fig 1.

Figure 1: Conceptual model of research



Source: Author's processing

An adequate econometric model is created in order to test the impact of central bank independence on inflation of the Western Balkan countries with the help of software support. Auto-Regressive Distributed Lag (ARDL) models were introduced by Pesaran and Shin (1998) and Pesaran, Shin, and Smith (2001). The ARDL models are models particularly suited to a stress test exercise: a) ARDL modelling makes it possible to link microeconomic variables (default rate, LGD) with macroeconomic variables assuming that these are exogenous (no impact of microeconomic variables on macroeconomic variables), b) the ARDL model makes it possible to take into account all the short term and long-term links (cointegrating relationships) between these variables, c) ARDL modelling does not require prior testing for the presence of a unit root when testing for cointegration, d) it allows you to stay agnostic as for the orders of integration of all the variables in the model, which can be either I(0) or I(1), cointegrated or not. Pesaran et al. (2001) show that the ARDL model is a re-parameterization of an ECM (Error Correction Model) issued from a VAR(Vector Auto-Regressive) representation. Three alternative ARDL approaches were applied: the Mean Group (MG), Pooled Mean Group (PMG) and Dynamic Fixed Effects (DFE). A comparison of these models was made and the best estimator among these three models was selected using the Hausman test (1978). The econometric model that is used to assess the impact of central bank transparency and independence of the Western Balkan countries on inflation is presented by the following equation:

$$CPI_{it} = \beta_0 + \beta_1 * IND_{it} + \beta_2 * BMG_{it} + \beta_3 * OPENNESS_{it} + \varepsilon_{it}$$

where CPI_{it} represents the rate of inflation; the independent variables that affect inflation are: central bank independence (IND_{it}), trade openness ($OPENNESS_{it}$), and monetary aggregate growth (BMG_{it}), β_0 is a constant, β_1,..., β_3 are the coefficients of the independent variables that the model evaluates, i denotes the country, t denotes the time, and ε_{it} is a random error.

The application of the ARDL regression model to the above equation is:

$$CPI_{it} = \alpha_1 + \sum_{t=1}^{p} \beta_1 * CPI_{It-1} + \sum_{t=0}^{q1} \beta_2 * IND_{it-1} + \sum_{t=0}^{q2} \beta_3 * BMG_{it-1} + \sum_{t=0}^{q3} \beta_4 * OPENNESS_{it-1} + \varepsilon_{it}$$

where i=1.2,...., N, t = 1.2,...., p and q denote the number of delays, α_i is the intercept, β_1,..., β_4 are the latency coefficients of the dependent variable and the regressor.

Except for the central bank independence, the data for this study was obtained from Western Balkan central banks, respecting quarterly data for the period 2010-2022. The data needed to calculate the central bank independence index of the Western Balkan countries were obtained on the basis of laws, statutes and other documents published on the websites of the central banks for the period from 2010q1 to 2022q4. The indices were calculated based on the methodology created by Cukierman, Webb and Neyapti (1992).

4. Empirical results

The Panel ARDL model does not require the unit root test to be performed. However, as this model would not work in the case of stochastic integrated trend I (2), Nkoro and Uko (2016) believe that a unit root test should be performed to know the number of unit roots in the series under consideration.

All factors are stationary, based on unit root tests of Levin, Lin & Chu (2002). Visual assessment and measurable correlograms depict and affirm stationarity as well. Test comes about of t-statistics and p-values dismiss the invalid theory of unit-roots. Reults of uniroot test are presented in table 1.

Table 1: Results of panel uniroot test (p-value)

Variables	Level and 1st diff.	Levin, Lin & Chu (2002?)
CPI	Level	0.0010*
IND	Level	0.0101*
OPENNESS	1 st difference	0.0136*
BMG	Level	0.0003*

*5% Source: Author's calculation

The results in table 1 indicate that all the variables are integrated in order I (0), except OPENNESS which is I(1).

After determining the order of integration, a panel Kao cointegration test was performed (1999). Based on the results of the test, the null hypothesis of the presence of no cointegration is rejected.

Three estimators: the Mean Group (MG), Pooled Mean Group (PMG), and Dynamic Fixed Effects (DFE), were assessed following unit root and cointegration tests. A Hausman test was then conducted which selected PMG as a more efficient estimator than MG and DFE. Table 2 shows the long-run parameters for the cointegrated variables.

Table 2: Estimation results using panel ADRL model for Western Balkan countries (Pooled Mean Group)

Variable	Coefficient	Std.Error	Prob.
	Long run equation		
D.IND	-1.218175	0.3798751	0.001
D.OPENNESS	-0.0138385	0.006279	0.028
D.BMG	0.0238025	0.0215908	0.270

Source: Author's calculation

The PMG result in Table 2 show that the central bank independence has negative long run impact on inflation in Western Balkan countries. This signifies that an increase in central bank independence will lead to decrease in inflation. Increase in 1% central bank independence leads to 1.218175% decrease in inflation.

Trade openness is statistically significant and has a negative sign. An increase of 1% in openness reduces inflation by 0.0138385%. Variable broad money growth in statistically insignificant in long run.

The estimated short run results are presented in Table 3.

Table 3. Estimation results using panel ADRL model for Western Balkan countries (Pooled Mean Group)

Variable	Coefficient	Std.Error	Prob.
	Short run equation		
L.IND	-3.240447	1.69194	0.055
L.OPENNESS	0.0082563	0.0081495	0.311
L.BMG	0.0031033	0.0046708	0.506

Source: Author's calculation

In the short run, central bank independence has a negative impact on inflation. Increase of 1% in central bank independence leads to a 3.240447% fall in inflation. Variables OPENNESS and BMG have a negative sign, but are statistically insignificant.

Thus, the current paper's empirical findings indicate that central bank independence has the potential to lower inflation. By improving central bank independence, the inflation will fall.

5. Conclusion

The current research paper examined the impact of central bank independence on inflation using the panel ARDL model in Western Balkan countries from 2010q1 to 2022q4. Long-term negative coefficients for central bank independence show that raising these variables is linked to a notable drop in regional inflation rates. Policymakers must take into account that trade openness and broad money growth also affect inflation in the long run and must find a way to stop inflation from being unduly affected by exogenous shocks. While trade openness leads to lower inflation over the long term, it tends to increase inflation in the short term. Variable broad money growth increases inflation both in short and long run and is statistically insignificant. According to panel data results, the hypothesis H0 can be accepted, therefore, it can be concluded that central bank independence has a negative significant impact on inflation.

Based on the findings of this study, Western Balkan countries should revise the goals set for their central banks and give greater priority to price stability. The Law on the Central Bank of Bosnia and Herzegovina does not fulfil the criteria for central bank independence, as its primary objective is maintaining exchange rate stability. It is therefore necessary to amend the article of the law that defines the objective of the CBBH.[2] Also, the primary objective of Central Bank of the republic of Kosovo is to foster and maintain a stable financial system.[3] The Central Bank of Montenegro Law states that the goals of the CBCG are the fostering and maintaining of the financial system stability , including fostering and maintaining a sound banking system and safe and effective payment systems, as well as the contribution to the achievement and maintenance of price stability, and this until Montenegro's entry into the European Union, when the price stability will be the main objective.[4] The primary objective of monetary policy must be to maintain

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[2] General information about the Central Bank of Bosnia and Herzegovina, available at: https://www.cbbh.ba/Content/Read/13

[3] Functions and Responsibilities of the Central Bank of the Republic of Kosovo: https://bqk-kos.org/rreth-bqk/funksionet-dhe-pergjegjesite/?lang=en

[4] Objective of the, Central Bank of Montenegro: https://www.cbcg.me/en/core-functions/monetary-policy/objectives

price stability. There could be other objectives added, including maintaining the integrity of the financial system, that do not interfere with price stability.

Policies that improve the independence and openness of central banks could have a major positive impact on Western Balkan nations. To guarantee that inflation stays constant, these initiatives must be backed by careful control of trade openness and BMG. A well-rounded strategy like this supports the macroeconomic framework of the area and complies with EU economic stability standards, setting it up for more robust growth and possible EU integration.

In order to meet the requirements of Chapter 17, Economic and Monetary Union, one of the most crucial chapters in the EU accession process, more attention must be paid to the independence of central bank operations, especially since Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia are all candidate countries and Kosovo is a potential candidate for EU membership. Consequently, the apparent scientific research gap in the body of current literature should be partially filled by this research paper. Additionally, the paper makes a practical contribution by providing central banks with a better understanding of the areas that require improvement from the perspectives of central bank independence.

Empirical limitation of this research is the number of countries included in the research. The empirical research carried out in this paper opens up space for further research in this area and how certain aspects of central bank independence affect inflation could be the subject of future research.

Appendix

The Appendix provides a description of the method of calculating the independence index of central banks (Cukierman et al., 1992).

Table 1: Independence index of the central bank

Variables	Weights	Codes
1. Chief Executive Officer (CEO)	0.20	
a. Term of Office		
Over eight years		1.00
Six to eight years		0.75
Five years		0.50
Four years		0.25
Under four years or at the discretion of appointer		0.00
b. Who appoints CEO?		
Board of central bank		1.00
A council of the central bank board, executive branch, and legislative branch		0.75
Legislature (congress, king)		0.50
Executive collectively (e.g. council of ministers)		0.25
c. Dismissal		
No provision for dismissal		1.00
Only for reasons not related to policy (incapacity or violation of law)		0.83
At the discretion of central bank board		0.67
At legislature's discretion		0.50
Unconditional dismissal possible by legislature		0.33
At executive's discretion		0.17
Unconditional dismissal possible by executive or not mentioned		0.00
d. May CEO hold other offices in government?		
No		1.00
Only with permission of the executive branch		0.50
No rule against CEO holding another office		0.00
2. Policy Formulation		0.15
a. Who formulates monetary policy?		
Bank alone		1.00
Bank participates, but has little influence		0.67
Bank only advises government		0.33
Bank has no say		0.00
b. Who has final word in resolution of conflict?		
The bank, on issues clearly defined in the law as its objectives		1.00
Government, on policy issues not clearly defined as the bank's goals or in case of conflict within bank		0.80
A council of the central bank, executive branch, and legislative branch gives final decision		0.60
The legislature has final authority on policy issues		0.40
The executive branch on policy issues, subject to due process and possible protest by CB		0.20
The executive branch has unconditional priority		0.00
c. Role in the government's budgetary process		
Central bank active 1.00		1.00
Central bank has no influence		0.00

3. Objectives	0.15
Price stability mentioned as the major or only objective in the charter, and in case of conflict with government, CB has final authority to pursue policies aimed at achieving this goal	1.00
Price stability is the only objective	0.80
Price stability is the primary goal, with other compatible objectives, such as a stable banking system	0.60
Price stability is the primary goal, with potentially conflicting objectives, such as a full employment	0.40
No objectives stated in the bank charter	0.20
Stated objectives do not include price stability	0.00
4. Limitations on lending to the government	0.15
a. Advances (limitation on non-securitized lending)	
No advances permitted	1.00
Advances permitted, but with strict limits (e.g. absolute cash amounts or up to 15 percent of government revenue)	0.67
Advances permitted, and the limits are loose (e.g. over 15 percent of government revenue)	0.33
No legal limits on lending	0.00
b. Securitized lending	0.10
Not permitted	1.00
Permitted, but with strict limits (e.g. up to 15 percent of government revenue)	0.67
Permitted, and the limits are loose (e.g. over 15 percent of government revenue)	0.33
No legal limits on lending 0.00	0.00
c. Terms of lending (maturity, interest, amount)	0.10
Controlled by the bank 1.00	1.00
Specified by the bank charter 0.67	0.67
Agreed between the central bank and the executive	0.33
Decided by the executive branch alone 0.00	0.00
d. Potential borrowers from the bank	0.05
Only the central government	1.00
All levels of government (state as well as central)	0.67
Those mentioned above and public enterprises	0.33
Public and private sector	0.00
e. Limits on central bank lending defined in 0.025 Currency amounts	1.00
Shares of central bank demand liabilities or capital	0.67
Shares of government revenue	0.33
Shares of government expenditure	0.00
f. Maturity of loans 0.025	0.025
Within six months	1.00
Within one year	0.67
More than one year	0.33
No mention of maturity in the law	0.00
g. Interest rates on loans must be	0.025
Above minimum rates	1.00
At market rates	0.75
Below maximum rates	0.50
Interest rate is not mentioned	0.25
No interest on government borrowing from the central bank	0.00
h. Central bank prohibited from buying or selling government securities in the primary market	0.025
Yes	1.00
No	0.00

Table 2: Independence index of the central banks of the Western Balkan countries

Country	Year	Quarter	Independence index
Montenegro	2010	1	0.65
Montenegro	2010	2	0.65
Montenegro	2010	3	0.65
Montenegro	2010	4	0.65
Montenegro	2011	1	0.65
Montenegro	2011	2	0.65
Montenegro	2011	3	0.65
Montenegro	2011	4	0.65
Montenegro	2012	1	0.87
Montenegro	2012	2	0.87
Montenegro	2012	3	0.87
Montenegro	2012	4	0.87
Montenegro	2013	1	0.87
Montenegro	2013	2	0.87
Montenegro	2013	3	0.87
Montenegro	2013	4	0.87
Montenegro	2014	1	0.87
Montenegro	2014	2	0.87
Montenegro	2014	3	0.87
Montenegro	2014	4	0.87
Montenegro	2015	1	0.87
Montenegro	2015	2	0.87
Montenegro	2015	3	0.87
Montenegro	2015	4	0.87
Montenegro	2016	1	0.87
Montenegro	2016	2	0.87
Montenegro	2016	3	0.87
Montenegro	2016	4	0.87
Montenegro	2017	1	0.87
Montenegro	2017	2	0.87
Montenegro	2017	3	0.87
Montenegro	2017	4	0.87
Montenegro	2018	1	0.87
Montenegro	2018	2	0.87
Montenegro	2018	3	0.87
Montenegro	2018	4	0.87
Montenegro	2019	1	0.87

Montenegro	2019	2	0.87
Montenegro	2019	3	0.87
Montenegro	2019	4	0.87
Montenegro	2020	1	0.87
Montenegro	2020	2	0.87
Montenegro	2020	3	0.87
Montenegro	2020	4	0.87
Montenegro	2021	1	0.87
Montenegro	2021	2	0.87
Montenegro	2021	3	0.87
Montenegro	2021	4	0.87
Montenegro	2022	1	0.87
Montenegro	2022	2	0.87
Montenegro	2022	3	0.87
Montenegro	2022	4	0.87
Serbia	2010	1	0.65
Serbia	2010	2	0.65
Serbia	2010	3	0.65
Serbia	2010	4	0.65
Serbia	2011	1	0.65
Serbia	2011	2	0.65
Serbia	2011	3	0.65
Serbia	2011	4	0.65
Serbia	2012	1	0.65
Serbia	2012	2	0.65
Serbia	2012	3	0.65
Serbia	2012	4	0.65
Serbia	2013	1	0.65
Serbia	2013	2	0.65
Serbia	2013	3	0.65
Serbia	2013	4	0.65
Serbia	2014	1	0.65
Serbia	2014	2	0.65
Serbia	2014	3	0.65
Serbia	2014	4	0.65
Serbia	2015	1	0.79
Serbia	2015	2	0.79
Serbia	2015	3	0.79

Serbia	2015	4	0.79
Serbia	2016	1	0.79
Serbia	2016	2	0.79
Serbia	2016	3	0.79
Serbia	2016	4	0.79
Serbia	2017	1	0.79
Serbia	2017	2	0.79
Serbia	2017	3	0.79
Serbia	2017	4	0.79
Serbia	2018	1	0.79
Serbia	2018	2	0.79
Serbia	2018	3	0.79
Serbia	2018	4	0.79
Serbia	2019	1	0.79
Serbia	2019	2	0.79
Serbia	2019	3	0.79
Serbia	2019	4	0.79
Serbia	2020	1	0.79
Serbia	2020	2	0.87
Serbia	2020	3	0.87
Serbia	2020	4	0.87
Serbia	2021	1	0.87
Serbia	2021	2	0.87
Serbia	2021	3	0.87
Serbia	2021	4	0.87
Serbia	2022	1	0.87
Serbia	2022	2	0.87
Serbia	2022	3	0.87
Serbia	2022	4	0.87
North Macedonia	2010	1	0.65
North Macedonia	2010	2	0.65
North Macedonia	2010	3	0.65
North Macedonia	2010	4	0.65
North Macedonia	2011	1	0.65
North Macedonia	2011	2	0.65
North Macedonia	2011	3	0.65
North Macedonia	2011	4	0.65
North Macedonia	2012	1	0.65

North Macedonia	2012	2	0.65
North Macedonia	2012	3	0.65
North Macedonia	2012	4	0.65
North Macedonia	2013	1	0.65
North Macedonia	2013	2	0.65
North Macedonia	2013	3	0.65
North Macedonia	2013	4	0.65
North Macedonia	2014	1	0.65
North Macedonia	2014	2	0.65
North Macedonia	2014	3	0.84
North Macedonia	2014	4	0.84
North Macedonia	2015	1	0.84
North Macedonia	2015	2	0.84
North Macedonia	2015	3	0.84
North Macedonia	2015	4	0.84
North Macedonia	2016	1	0.84
North Macedonia	2016	2	0.84
North Macedonia	2016	3	0.84
North Macedonia	2016	4	0.84
North Macedonia	2017	1	0.84
North Macedonia	2017	2	0.84
North Macedonia	2017	3	0.84
North Macedonia	2017	4	0.84
North Macedonia	2018	1	0.84
North Macedonia	2018	2	0.84
North Macedonia	2018	3	0.84
North Macedonia	2018	4	0.84
North Macedonia	2019	1	0.84
North Macedonia	2019	2	0.84
North Macedonia	2019	3	0.84
North Macedonia	2019	4	0.84
North Macedonia	2020	1	0.84
North Macedonia	2020	2	0.84
North Macedonia	2020	3	0.84
North Macedonia	2020	4	0.84
North Macedonia	2021	1	0.84
North Macedonia	2021	2	0.84
North Macedonia	2021	3	0.84

North Macedonia	2021	4	0.84
North Macedonia	2022	1	0.84
North Macedonia	2022	2	0.84
North Macedonia	2022	3	0.84
North Macedonia	2022	4	0.84
Bosnia and Herzegovina	2010	1	0.69
Bosnia and Herzegovina	2010	2	0.69
Bosnia and Herzegovina	2010	3	0.69
Bosnia and Herzegovina	2010	4	0.69
Bosnia and Herzegovina	2011	1	0.69
Bosnia and Herzegovina	2011	2	0.69
Bosnia and Herzegovina	2011	3	0.79
Bosnia and Herzegovina	2011	4	0.79
Bosnia and Herzegovina	2012	1	0.79
Bosnia and Herzegovina	2012	2	0.79
Bosnia and Herzegovina	2012	3	0.79
Bosnia and Herzegovina	2012	4	0.79
Bosnia and Herzegovina	2013	1	0.79
Bosnia and Herzegovina	2013	2	0.79
Bosnia and Herzegovina	2013	3	0.79
Bosnia and Herzegovina	2013	4	0.79
Bosnia and Herzegovina	2014	1	0.79
Bosnia and Herzegovina	2014	2	0.79
Bosnia and Herzegovina	2014	3	0.79
Bosnia and Herzegovina	2014	4	0.79
Bosnia and Herzegovina	2015	1	0.79
Bosnia and Herzegovina	2015	2	0.79
Bosnia and Herzegovina	2015	3	0.79
Bosnia and Herzegovina	2015	4	0.79
Bosnia and Herzegovina	2016	1	0.79
Bosnia and Herzegovina	2016	2	0.79
Bosnia and Herzegovina	2016	3	0.79
Bosnia and Herzegovina	2016	4	0.79
Bosnia and Herzegovina	2017	1	0.79
Bosnia and Herzegovina	2017	2	0.79
Bosnia and Herzegovina	2017	3	0.79
Bosnia and Herzegovina	2017	4	0.79
Bosnia and Herzegovina	2018	1	0.79

Bosnia and Herzegovina	2018	2	0.79
Bosnia and Herzegovina	2018	3	0.79
Bosnia and Herzegovina	2018	4	0.79
Bosnia and Herzegovina	2019	1	0.79
Bosnia and Herzegovina	2019	2	0.79
Bosnia and Herzegovina	2019	3	0.79
Bosnia and Herzegovina	2019	4	0.79
Bosnia and Herzegovina	2020	1	0.79
Bosnia and Herzegovina	2020	2	0.79
Bosnia and Herzegovina	2020	3	0.79
Bosnia and Herzegovina	2020	4	0.79
Bosnia and Herzegovina	2021	1	0.79
Bosnia and Herzegovina	2021	2	0.79
Bosnia and Herzegovina	2021	3	0.79
Bosnia and Herzegovina	2021	4	0.79
Bosnia and Herzegovina	2022	1	0.79
Bosnia and Herzegovina	2022	2	0.79
Bosnia and Herzegovina	2022	3	0.79
Bosnia and Herzegovina	2022	4	0.79
Albania	2010	1	0.79
Albania	2010	2	0.79
Albania	2010	3	0.79
Albania	2010	4	0.79
Albania	2011	1	0.79
Albania	2011	2	0.79
Albania	2011	3	0.79
Albania	2011	4	0.79
Albania	2012	1	0.79
Albania	2012	2	0.79
Albania	2012	3	0.79
Albania	2012	4	0.79
Albania	2013	1	0.79
Albania	2013	2	0.79
Albania	2013	3	0.79
Albania	2013	4	0.8
Albania	2014	1	0.8
Albania	2014	2	0.8
Albania	2014	3	0.8

Albania	2014	4	0.8
Albania	2015	1	0.8
Albania	2015	2	0.8
Albania	2015	3	0.8
Albania	2015	4	0.8
Albania	2016	1	0.8
Albania	2016	2	0.81
Albania	2016	3	0.81
Albania	2016	4	0.81
Albania	2017	1	0.81
Albania	2017	2	0.81
Albania	2017	3	0.81
Albania	2017	4	0.81
Albania	2018	1	0.81
Albania	2018	2	0.81
Albania	2018	3	0.81
Albania	2018	4	0.81
Albania	2019	1	0.81
Albania	2019	2	0.81
Albania	2019	3	0.81
Albania	2019	4	0.81
Albania	2020	1	0.81
Albania	2020	2	0.81
Albania	2020	3	0.81
Albania	2020	4	0.81
Albania	2021	1	0.81
Albania	2021	2	0.81
Albania	2021	3	0.81
Albania	2021	4	0.81
Albania	2022	1	0.81
Albania	2022	2	0.81
Albania	2022	3	0.81
Albania	2022	4	0.81
Kosovo	2010	1	0.65
Kosovo	2010	2	0.65
Kosovo	2010	3	0.65
Kosovo	2010	4	0.65
Kosovo	2011	1	0.65

Kosovo	2011	2	0.65
Kosovo	2011	3	0.65
Kosovo	2011	4	0.65
Kosovo	2012	1	0.79
Kosovo	2012	2	0.79
Kosovo	2012	3	0.79
Kosovo	2012	4	0.79
Kosovo	2013	1	0.79
Kosovo	2013	2	0.79
Kosovo	2013	3	0.79
Kosovo	2013	4	0.79
Kosovo	2014	1	0.79
Kosovo	2014	2	0.88
Kosovo	2014	3	0.88
Kosovo	2014	4	0.88
Kosovo	2015	1	0.88
Kosovo	2015	2	0.88
Kosovo	2015	3	0.88
Kosovo	2015	4	0.88
Kosovo	2016	1	0.88
Kosovo	2016	2	0.88
Kosovo	2016	3	0.88
Kosovo	2016	4	0.88
Kosovo	2017	1	0.88
Kosovo	2017	2	0.88
Kosovo	2017	3	0.88
Kosovo	2017	4	0.88
Kosovo	2018	1	0.88
Kosovo	2018	2	0.88
Kosovo	2018	3	0.88
Kosovo	2018	4	0.88
Kosovo	2019	1	0.88
Kosovo	2019	2	0.88
Kosovo	2019	3	0.88
Kosovo	2019	4	0.88
Kosovo	2020	1	0.88
Kosovo	2020	2	0.88
Kosovo	2020	3	0.88

Kosovo	2020	4	0.88
Kosovo	2021	1	0.88
Kosovo	2021	2	0.88
Kosovo	2021	3	0.88
Kosovo	2021	4	0.88
Kosovo	2022	1	0.88
Kosovo	2022	2	0.88
Kosovo	2022	3	0.88
Kosovo	2022	4	0.88

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