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INSTITUTIONAL PATH OF CENTRAL BANK INDEPENDENCE STRENGTHENING IN EMERGING MARKETS: ROLE OF INFLATION TARGETING AND EU ACCESSION

Abstract

Emerging market countries implemented a similar set of structural reforms. However, were there differences in the institutional paths of strengthening central bank independence (CBI)? Yes. The introduction of inflation targeting had a statistically significant impact on strengthening CBI in Central and Eastern European (CEE) countries, especially in the new EU member states. EU membership had a greater impact on the level of CBI than on the timing of its most significant strengthening. The inflation performance in the region indicates that the reforms were not merely formal, which is facilitated by the higher rule of law index in the new EU members compared to most emerging market countries. The institutional path of CBI strengthening in CEE countries is much more consistent with theoretical assumptions about the need for such independence to implement inflation targeting, as well as its positive impact on the ability to maintain price stability. This contrasts with the examples of many other inflation-targeting emerging market countries, where either central bank reforms have been formal in nature or price stability is maintained based on informalized institutional changes around monetary authorities.

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central bank independence, economy of CEE countries, EU accession, emerging market countries, inflation targeting, rule of law.

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1 table, 8 figures, 52 references.

Problem Statement

Central bank independence (CBI) is continuing to attract academic interest (Romelli, 2024; Dincer et al., 2024; Garriga & Rodriguez, 2023). Yet the institutional paths for its strengthening remain a subject of debate. This motivates further inquiry into the process of strengthening the independence of monetary authorities that has taken place in many emerging market economies (EM). How similar are these institutional paths across countries? Are Central and Eastern European (CEE) countries a special case?

Relatively little time passed between the period of implementation of ambitious macroeconomic stabilization programs known as first-generation structural reforms and the period of searching for an optimal monetary regime. Subsequently, EU membership required further steps in institutional adaptation. While the countries of the “old EU” strengthened the independence of their central banks after the establishment of the EU and before joining the euro area, the CEE countries faced the need to further strengthen such independence even before accession. However, such further CBI reforms took place only after they had reached a certain political consensus on the status of the central bank in the process of market transformation (Koziuk, 2025b). This is a compelling reason to believe that the strengthening of the independence of monetary institutions in the Central European region followed a different institutional path compared to other EM countries.

On the other hand, the transition to inflation targeting is often considered as a monetary regime that requires a high degree of monetary authorities' autonomy (Bernanke & Mishkin, 1997; Batini & Laxton, 2007; Hammond, 2012). At the same time, whether the formal strengthening of CBI during launch of inflation targeting actually took place is a matter of debate (Petrevski, 2023). Instead, membership in integration associations is recognized as a powerful incentive for legislative changes that increase the formal level of central bank independence (Romelli, 2022, 2024; Koziuk, 2025b). It follows that the institutional path of CBI evolution in EM countries cannot follow a single trajectory. How different are CEE countries compared to other EM countries?

The paper demonstrates empirically that the introduction of inflation targeting (IT) has had a stronger impact on strengthening the CBI in CEE countries than European integration requirements. The transition to inflation targeting does indeed contribute to increasing the formal autonomy of monetary authorities in EM countries. At the same time, EU requirements for institutional convergence of central bank status have made the region a leader in terms of CBI compared to other inflation-targeting countries. The anti-inflationary effectiveness of more independent central banks in CEE countries compared to other EM countries also indicates that the latter is not a formality been backed by the rule of law and having significant macroeconomic essence.

Literature Review

This paper is related to the important directions of research focused on monetary institutions.

First, studies on the evolvement of central banks in CEE countries are quite clear in stating that market transition replicates in a concentrated form the challenges faced by many countries in the process of macroeconomic stabilization and the search for the optimal design of monetary institutions. For example, Lybeck (1999) demonstrates that hyperinflationary pressure in post-communist countries is negatively correlated with the level of CBI. Cukierman et al. (2002) note that central bank reforms in CEE countries were remarkably similar to those that took place in Latin American countries escaping from permanent hyperinflationary crises. Although such reforms can clearly be classified as first-generation structural reforms (Cukierman et al., 2002), there are certain differences. The institutionalization of central bank independence was a multi-stage process that was quite uneven across countries in the region (Koziuk, 2004; Kyrylenko et al., 2021; Koziuk, 2025b). Koziuk (2019) demonstrates that for many post-communist countries the inverse relationship between inflation and the level of independence of monetary authorities does not weaken as inflation declines, and that the frag-

mentation of society significantly affects the ability of central banks to effectively implement their price stability mandate.

Second, there is an opposite relationship between central bank independence and inflation. This follows from early studies of this issue (Grilli et al., 1991). At the same time, attention is drawn to the difference between formal and actual independence (Cukierman, 1992; Cukierman et al., 1992; Cukierman & Webb, 1995). Subsequent studies covered a substantial number of countries and time periods (Jacome, 2001; Jacome & Vazquez, 2008; Crowe & Meade, 2008; Bodea & Hicks, 2015) and generally confirmed the theoretically predicted inverse relationship between inflation and the corresponding indicator used to assess formal central bank independence. Comparable results are presented in several recent publications (Jacome & Pienknagura, 2022; Garriga & Rodriguez, 2020, 2023; Masciandaro & Romelli, 2018; Romelli, 2022, 2024). Athanasopoulos et al. (2025) draw attention to the inverse relationship between CBI and the strength of inflation persistence.

Third, considerable attention is paid to studying differences in levels of central bank independence across countries. In this regard, two main approaches can be identified: the structural approach and the political system approach. In terms of structural approach, financial development, openness or labour markets etc. are taken as drivers of optimal CBI. For example, according to Posen (1993; 1995) financial development affects higher level of CBI. The main argument is that inflation erodes financial wealth, and fighting it brings instability to markets. The nature of the distribution of financial wealth also matters in terms of what set of functions will be delegated to the central bank (Masciandaro & Passarelli, 2013). Cukierman & Lippi (1999) proposed an analysis of the best choice of institutional status for central banks based on considerations of labour market rigidity. If labour markets generate strong effects of nominal rigidities, a strict anti-inflation mandate may increase macroeconomic volatility. However, labour market reforms have shown that linking the optimal level of central bank independence to the centralization of labour contracts or the strength of trade unions does not have a proper macroeconomic basis, while macroeconomic volatility can be generated by deteriorating inflation expectations. These considerations were incorporated into the validation of strengthening the status of central banks in Europe during the process of European integration (Bruni, 1996). The discussions on how openness affects optimal central bank independence (D'Amato et al., 2009) are similar in kind.

De Haan & Van't Hag (1995), on the other hand, argue that structural factors are less influential than macroeconomic factors in determining the choice of central bank status. De Haan & Eijffinger (2016) argue that structural factors are unlikely to be a reliable argument in favour of decisions on the status of central banks, as such decisions are made by politicians who analyse their own costs and benefits. The nature of the distribution of benefits from commodity wealth is also important (Koziuk, 2016). Culture also may play a role. Uncertainty avoid-

ance pushes societies characterized by this cultural attitude to adopt higher levels of central bank autonomy (De Jong, 2002).

The arguments on the side of the political system focus more on the nature of the restrictions imposed on key actors and how this affects the possibilities for monopolizing power or, conversely, the possibilities for maintaining checks and balances. In other words, the more concentrated political power is, the less independent the central bank will be (Moser, 1999; Keefer & Stasavage, 2003). The political regime is also not a neutral factor in terms of the level of CBI, as are political preferences. Regarding the former, a higher level of democracy correlates positively with the level of central bank independence (Dincer & Eichengreen, 2014). On the other hand, extreme left-wing and extreme right-wing political preferences are inversely correlated with CBI level (Bodea et al., 2019; Romelli, 2022; Binder, 2021). Populism bias does not support the strong status of regulators (Gavin & Manger, 2023). Political polarization of society also negatively contributes to the likelihood of strengthening the status of monetary authorities (Alesina & Stella, 2010). On the other hand, CBI can be more effectively achieved in countries with a more independent judicial system (Hayo & Voigt, 2008) and the rule of law (Nurbayev, 2017). In turn, Koziuk (2025a) demonstrates that legal tradition affects the level of central bank independence.

Fourth, there are studies focusing on the drivers of strengthening CBI. The fact of increasing central bank independence is widely recognized (Dincer & Eichengreen, 2014; Romelli, 2022, 2024; Dincer et al., 2024; Garriga & Rodriguez, 2023). However, the drivers of strengthening CBI remain a subject of debate. Acemoglu et al. (2008) point out that central bank reforms are often formal in nature. Strengthening their independence is limited to changes in legislation and rarely leads to changes in the institutions that determine the role of monetary authorities in macroeconomic policy. Hayo & Hefeker (2002) argue that there must be additional factors that bring formal and actual independence of central banks closer together. Hayo & Voigt (2008) note the role of judicial independence. Nurbayev (2017) highlights the role of the rule of law. Masciandaro (2020) analyses constitutional choices regarding the status of monetary regulators. Globalization and openness, on the other hand, while increasing vulnerability to reversals in capital flows, encourage real central bank reforms (Romelli, 2022). The same applies to membership in a currency union (Romelli, 2024). The peer pressure effect also works in the case of reform decisions. Romelli (2022) and Bodea & Hicks (2015) show that the regional factor of CBI motivates reforms at the level of individual countries. In turn, Berggren et al. (2014) argue that the status of a central bank is determined by social trust. If there is a demand for price stability and trust in politicians in society, then the latter, being accountable to voters, will implement proper reforms. On the other hand, social trust means that the need for reforms may disappear, as central banks will behave in accordance with social preferences, and politicians will tolerate this regardless of the formal status of central banks. It follows that social capital can drive reforms, or it can create conditions

that make reforms unnecessary. As a result, countries with medium levels of social trust are most likely to apply central bank reforms.

Fifth, there are works that examine the inflation targeting preconditions. Papers devoted to the analysis of the key features of this monetary regime demonstrates a consensus that the independence of central banks is a key precondition and a necessary component of such regime launch and further support (Bernanke & Mishkin, 1997; Hammond, 2012). However, empirical analysis demonstrates clear mismatch between the preconditions for introducing IT and the actual situation. Mishkin & Schmidt-Hebbel (2002) show that strengthening the status of central banks prior to the IT introduction is more pronounced in terms of instrument independence. The increase in the CBI did not always occur before the launch of inflation targeting, and the corresponding reforms of monetary authorities often did not affect substantial changes in formal status (IMF, 2005; Batini & Laxton, 2007; Schmidt-Hebbel & Carrasco, 2016). These conclusions clearly contrast with the very understanding of what inflation targeting is and what its institutional basis should be. On the other hand, reforming central banks during the implementation of inflation targeting can also take place. The cases of the United Kingdom and Thailand are illustrative (Petrevski, 2023).

CEE countries implemented significant reforms of their central banks prior to joining the EU (Koziuk, 2025b). Simultaneously, this group of countries also implemented reforms during market transition and during IT launch. This raises several research questions:

- Do CEE countries differ from other EM countries in terms of strengthening the independence of central banks during the inflation targeting launch?
- What has a more pronounced impact on the central bank reforms: preparation for the IT launch, which essentially requires strengthening the independence of monetary institutions, or preparation for EU membership, for which strengthening such independence is a formal requirement?
- How effective central bank reforms in CEE countries have been compared to other EM countries in terms of their impact on maintaining price stability?

The empirical analysis suggests that CEE countries differ from other EM countries in terms of strengthening the CBI prior to the introduction of IT regime. EU accession strengthened CBI further. CEE countries are not inferior to, and often surpass, other EM countries in terms of the relationship between the level of central bank independence and the maintenance of price stability. This means that the reforms of monetary institutions were not formal. The timing of reforms was determined by changes in the monetary regime that require strong CBI. While EU membership had a significant impact on the levels of formal independence of monetary institutions. The impact of EU membership cannot be dismissed having in mind strong focus on rule of law that has positive consequences on the ability to ensure actual central bank independence and, accordingly, price stability.

The aim of the paper is to identify differences in the institutional paths of central bank independence strengthening in the emerging market countries, empirically confirm such differences, and rationalize the impact of the inflation targeting launch and EU accession on the transformation of the formal status of central banks in Central and Eastern European countries.

Methodology

The methodology of research consists of two stages.

In the first stage we group countries according to whether they are inflation-targeting countries or countries with emerging markets (Appendix A). Next, a subgroup of CEE countries and a subgroup of CEE countries that are inflation targeters are identified (Slovakia is included in this subgroup because it switched to inflation targeting before the introduction of the euro). A group of new EU member countries is also identified. The year of introduction of inflation targeting is defined as t. Changes in the independence of central banks are analysed in the time window from *t*-5 to *t*+5. The selected indicator is the corresponding index of central bank independence – cbie_index (Romelli, 2022, 2024). Such changes are recorded for countries with emerging markets in general and for CEE countries. Next, a *t*-test is applied to determine the statistical significance of the difference in the average group values of the selected index at *t*-5 and *t*+5. The statistical significance of the differences in the average values will indicate that the level of independence before and after the introduction of inflation targeting differs significantly. A similar procedure is applied in the case of EU accession, with the value *t* assigned to the corresponding year. However, in this case, all new EU members and new member countries that are inflation targeters are compared. *t*-statistics are applied in the same way.

The second stage assesses the effectiveness of institutional changes. This is based on calculating the Gap between the distance to frontier indicator of the institutional variable and the distance to frontier indicator of the resulting variable. In other words, the difference between the status at place and the performance indicates the effectiveness of the former (Oto-Peralias & Romero-Avila, 2017). A negative Gap will indicate a positive outcome of the reforms. Specifically, in this case, it will mean that countries where central bank reforms have pushed the formal status to the frontier (the best available results) perform the lowest inflation rates possible. The distance to frontier in the case of the central bank independence index and inflation is determined according to min-max normalization and multiplied by 100. In this way, the effectiveness of the status in relation to the achieved result is assessed. This procedure is applied for groups and individual countries analysis. Country heterogeneity in the Gap value is further analysed for the validity of specific structural factors. A simple regression model confirms the impact of the rule of law on maintaining an opposite relationship between the inflation rate and the central bank independence index.

Research Results

EM countries have undergone a complicated process of structural reforms, resulting in a significant improvement in the macroeconomic situation and strengthening the resilience of financial systems to global shocks. The strengthening of central bank independence has reflected radical changes in the previous political status quo regarding the macroeconomic policy institutions. This is easy to observe in how the independence of monetary authorities was strengthened. It is clear both across countries with different income levels and across regions or exchange rate regimes (Romelli, 2024; Garriga & Rodriguez, 2023).

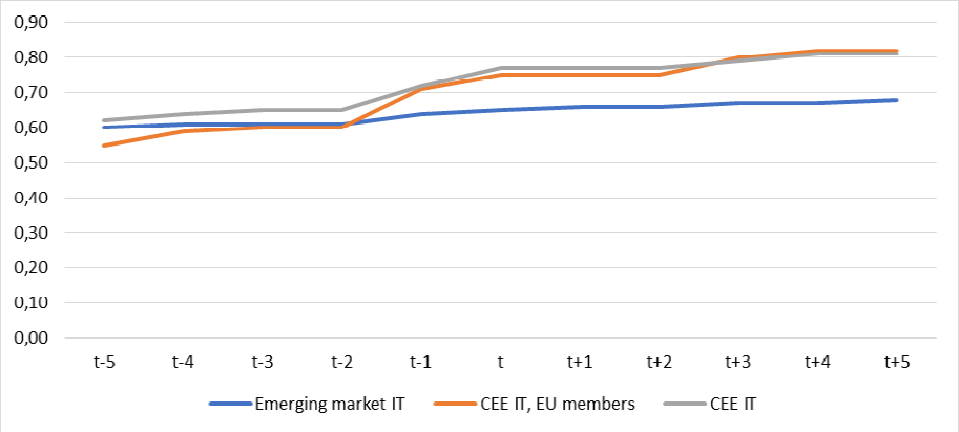
There is still debate about the timing of strengthening CBI, taking into account mismatch between expected central bank reforms and actual state of things during IT launch (Petrevski, 2023). Despite recognition of the necessary precondition of such independence for the implementation of inflation targeting (Bernanke & Mishkin, 1997; Hammond, 2012), some studies emphasize disappointing results of changes in central bank legislation. In other words, before and after the introduction of this monetary regime, the CBI level may not change significantly, and in some countries, it has not changed at all (IMF, 2005; Batini & Laxton, 2007; Schmidt-Hebbel & Carrasco, 2016; Petrevski, 2023). On the other hand, membership in an integration project with corresponding formal entry requirements appears to be more effective in reforming central banks (Romelli, 2022, 2024; Koziuk, 2025b). However, CEE countries are unique in that many of them introduced inflation targeting prior to EU membership. This means that they would have to face a set of incentives for monetary institution reforms that was not present in emerging market countries in general.

Following the methodology, we label year of It launch as a *t*. Figure 1 shows changes in the formal status of central banks on the before and after the launch of inflation targeting over a ten-year period. It is evident that for the group of EM countries, there is a general trend toward an increase in the value of the corresponding index. In contrast, for the group of CEE countries that are inflation targeters and for the group of CEE inflation targeters that are new EU members, there is a clear jump in the value of the corresponding index before moment *t*. This trend continued in subsequent periods in the case of CEE region. The strengthening of central bank independence continued after the transition to inflation targeting.

The *t*-test was applied to check the statistical significance of differences in the CBI strengthening across countries' groups. The results are displayed in Figure 2.

Figure 1

Changes in CBI during inflation targeting launch



Source: developed by author basing on the information about the year each country IT has adopted.

Figure 2

t-test result for t-5 vs t+5 during IT Launch

Source: author's calculations.

As can be seen in Figure 2, for all IT EM countries, the rejection of the null hypothesis of similarity of means is close to statistical significance. The *t*-statistic value is 0.05122. In contrast, for CEE countries, the null hypothesis of similarity of means is rejected with high statistical significance. Moreover, for inflation-targeting countries that are new EU members, the statistical significance is higher than for CEE countries with IT. The *t*-statistic values are 0.000487 and 0.001319, respectively. In other words, while for the entire group of EM countries the adoption of inflation targeting was not accompanied by statistically significant changes in the formal status of central banks, in CEE countries such changes, on the contrary, have clear statistical significance. This empirical fact is interesting from the point of view of what kind of independence of central banks is important for successful inflation targeting—formal or actual (IMF, 2005; Batini & Laxton, 2007; Hammond, 2012; Schmidt-Hebbel & Carrasco, 2016; Petrevski, 2023). It is possible that for many inflation-targeting countries, the launch of a new monetary regime involved reforms in substance rather than form, otherwise it would be difficult to talk about the stability of such a regime over time and the increasing number of countries implementing it. However, backing up actual reforms with legislative changes only improves the ability of central banks to fulfil their delegated mandate and increases the political cost of reversing monetary reforms, which has been the subject of long-standing debate (Bruni, 1996; Acemoglu et al., 2008; Jacome & Vazquez, 2008; Berggren et al., 2014; Masciandaro & Romelli, 2018; Jacome & Pienknagura, 2022; Romelli, 2022, 2024). Below, we will show that in the case of CEE countries, the reforms were not merely formal.

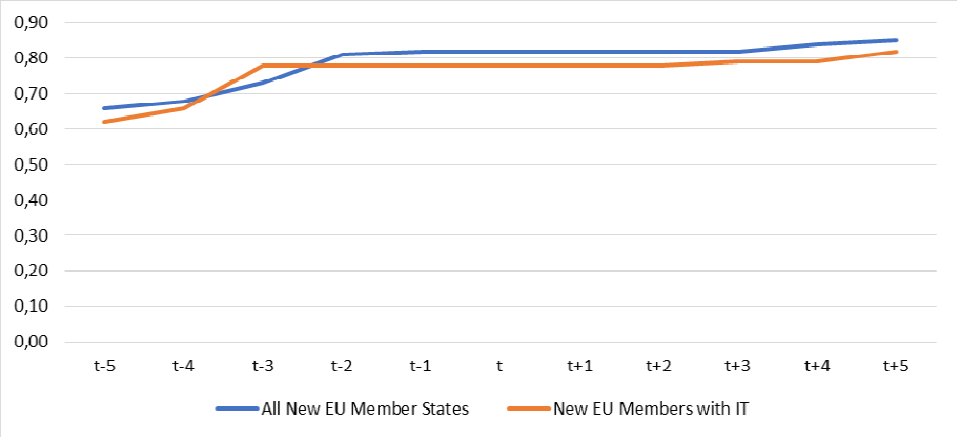
With regard to EU membership, it is well known that meeting the criteria for institutional convergence requires CBI strengthening to a level considered comparable to that of the European System of Central Banks. The old EU members reformed the monetary institutions legislation mainly between the establishment of the EU and the introduction of the euro. In contrast, all new EU members must implement the relevant reforms before accession, which is what happened during several waves of European Union enlargement (Koziuk, 2025a). However, Figure 3 clearly shows that for the new EU members, changes in central bank legislation that would significantly strengthen their independence took place in advance and could also increase in the future. Moreover, inflation-targeting countries among the new EU members have slightly lower CBI levels than the group as a whole.

The statistical significance of difference of relevant CBI index before and after joining EU is clear (Figure 4).

From Figure 4, it is clear that the null hypothesis of similarity of the mean values of the corresponding index can be rejected with a high level of statistical confidence. At the same time, for the group of all new EU members, the *t*-statistic value is significantly lower: 0.000428 versus 0.009 for the group of inflation targeters among the new members. That is, for the first group, the difference in the CBI levels before and after EU accession was even more significant.

Figure 3

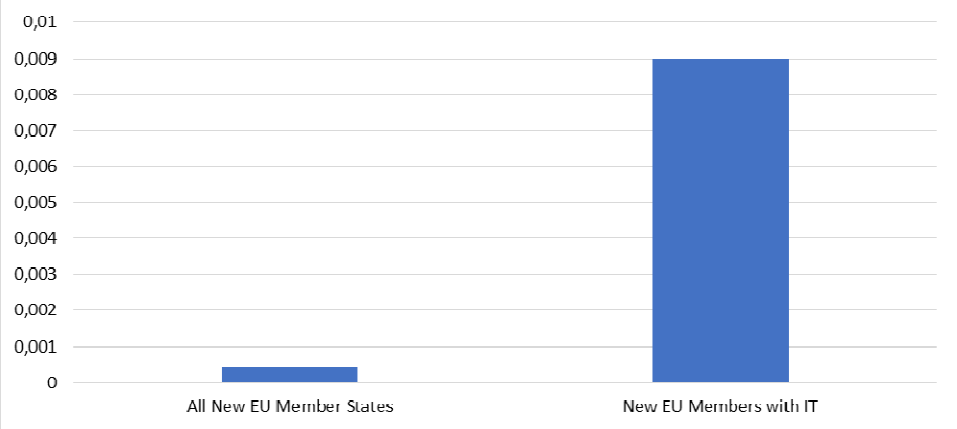
Changes in CBI during EU accession



Source: developed by the author based on the information about the year each country joined the EU.

Figure 4

***t*-test results for t-5 vs t+5 during EU accession**



Source: author's calculation.

This contrasts to some extent with previous conclusions that the introduction of inflation targeting has a strong impact on central bank reforms. The explanation for the results in Figures 1-4 is the following. CEE countries with IT differ from all EM countries with IT in the way that theory predicts. That is, the CBI strengthening took place before IT launch and before EU joining all together. However, in the case of EU accession, the groups composition matter. For example, the Baltic countries have strengthened their central banks even further. In other words, compliance with EU requirements may be accompanied by a strengthening of central bank independence that exceeds even that required for inflation targeting.

At the same time, more radical reforms of central banks in CEE countries compared to other middle-income countries raise the question of how effective such structural changes in terms of inflation. To this end, the distance to frontier (DtoF) for the CBI index (DtoF CBI) and inflation (DtoF Infl) was calculated, as well as the Gap between them. The calculations applied for three periods: 1998-2008, which is characterized by the escape from hyperinflation in virtually all emerging market countries and rapid economic growth before the global financial crisis, and therefore central banks may have been under pressure to prevent economic slowdown; 2009-2020, which known for slowdown in the global economy after the global financial crisis, the European debt crisis, and the COVID crisis, during which central banks could be under pressure to create additional stimulus for the economy; 2021-2024, featured by the post-COVID inflation surge, during which some central banks may have been under pressure to respond softly on accelerated inflation. The results of the calculations for the three groups of countries and three periods are presented in Table 1.

The empirical results presented in Table 1 allow us to make the following conclusions. First, CEE countries are clear leaders in terms of the formal level of independence achieved by their central banks. The highest result for this indicator is found in CEE countries that are inflation targeters and members of the EU. In other words, the transition to inflation targeting and EU accession clearly influenced the reforms of monetary institutions that made them leaders in terms of the legislative framework for their independence. Second, CEE countries are close to the rest of the countries analysed in terms of the DtoF Infl indicator. However, while they performed slightly better in the first two periods, they performed slightly worse in the third period. Third, the latter affected the fact that the Gap indicator became positive for the second group. This can be explained by the specifics of the inflation surge in this group of countries, due to which they demonstrated the worst inflation result among all EM countries whose central banks targeting inflation. Fourth, in general, it can be observed that institutional reforms of central banks were not formal for the entire and CEE groups of countries. The Gap indicator is in negative territory (except for the inflationary surge in Central and Eastern Europe during 2021-2024), which indicates that central bank independence has achieved anti-inflationary effectiveness from an institutional point of view. In other words, the law in place at the relevant point in time does not exceed the performance; rather, the opposite is true.

Table 1

Distance to frontier and Gap by the CBI index and inflation in CEE vs EM countries

		1998-2008	2009-2020	2021-2024
Central bank independence distance to frontier (DtoF CBI)	EM countries with inflation targeting	68.24	59.44	46.6
	CEE countries with inflation targeting, EU members	83.54	99.18	99.18
	CEE countries with inflation targeting	82.26	81.93	81.96
Inflation distance to frontier (DtoF Infl)	EM countries with inflation targeting	90.82	93.37	86
	CEE countries with inflation targeting, EU members	92.4	101.09	85.86
	CEE countries with inflation targeting	91.59	95.89	85.22
Gap (Gap = DtoF CBI – DtoF Infl)	EM countries with inflation targeting	-22.58	-33.93	-39.4
	CEE countries with inflation targeting, EU members	-8.86	-1.91	13.32
	CEE countries with inflation targeting	-9.33	-13.96	-3.26

Note: maximum and minimum values of relevant variables for DtoF CBI and DtoF Infl calculations were chosen for each period. Slovak Republic as a country that adopted inflation targeting before joining euro zone is in the relevant groups.
Source: authors' calculations.

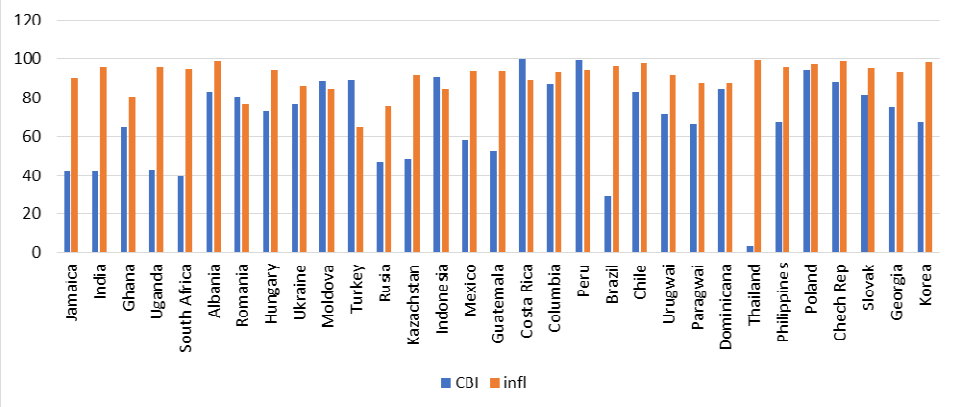
At the same time, the positive Gap for the second group of countries in the latest period reflects the fact that in some cases, the deterioration of inflationary processes may occur not as a result of the institutional weakness of central banks or their vulnerability to political pressure, but rather as a result of independent central banks' attempts to respond optimally in a specific context. In other words, considering the specific of the inflationary surge in CEE countries in 2021-2024, the deterioration in the relationship between the level of central bank independence and inflationary outcomes may be more macroeconomic than institutional in nature. This is confirmed by the fact that the overall value of the DtoF Infl indicator for this group of countries has not undergone radical erosion compared to other countries but remains at a level close to that of the other two groups. Overall, inflation level deteriorated in all groups during 2021-2024, indicating the global nature of the inflationary shock, and the CEE countries were no exception.

However, this does not reject the more complex relationship between the degree of CBI and inflation outcomes. This is evident from the fact that EM countries as a group lag significantly behind the second and third groups in terms of DtoF CBI, but are comparable in terms of DtoF Infl. Koziuk (2025a) argues that the difference in anti-inflationary effectiveness achieved by different levels of formal central bank independence can be explained from the perspective of the legal origin approach. In the more specific case of inflation targeting in middle-income countries, there are several nuances that clarify the position expressed in Koziuk (2025a). This is evident from the comparison of the DtoF CBI and DtoF Infl indicators by country (Figures 5-7). (Slovakia is included in the sample as a country that introduced inflation targeting before switching to the euro).

As can be seen in Figures 5-7, there is a substantial country variation in the difference between DtoF CBI and DtoF Infl indicators. A significant negative Gap value occurs in a certain set of countries with relatively low levels of CBI. In particular, for Jamaica, India, Uganda, South Africa, and Thailand, this can be explained by the specific influence of English Common Law (Koziuk, 2025a). For Brazil, there is a specific situation with historically low formal independence of the central bank, with significant changes to the law only being made in 2021, although its actual independence was significantly strengthened in the process of introducing inflation targeting in 1999.

Figure 5

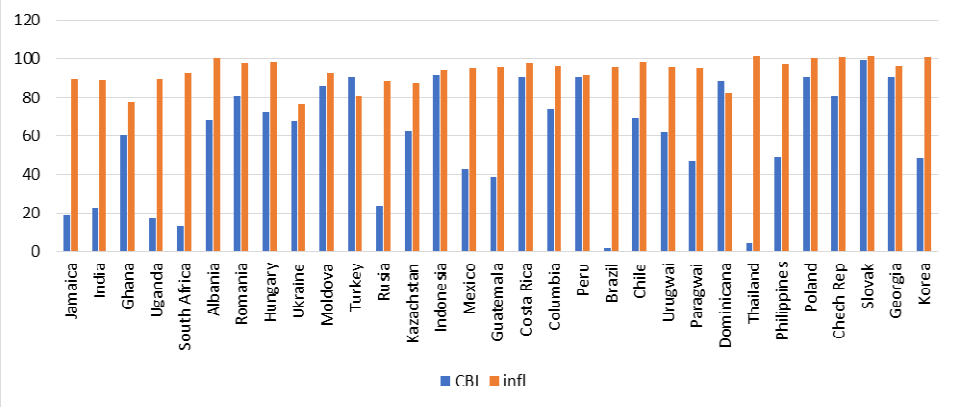
Distance to frontier of CBI and inflation in inflation-targeting EM countries, 1998-2008



Source: author's calculations.

Figure 6

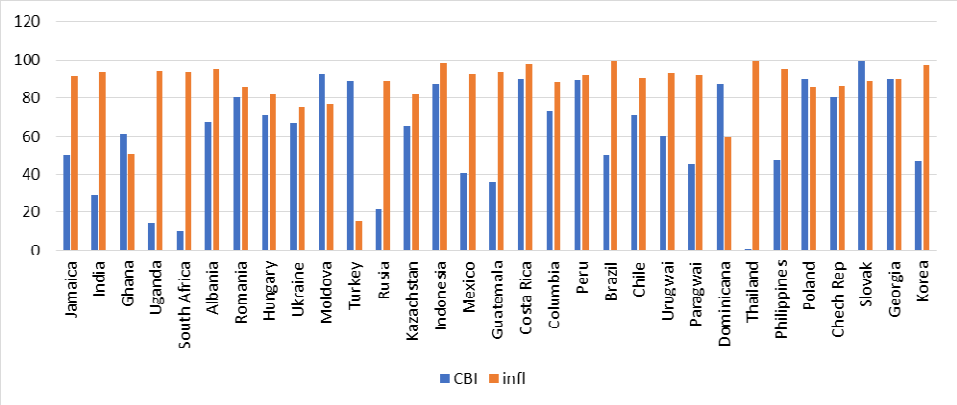
Distance to frontier of CBI and inflation in inflation-targeting EM countries, 2009-2020



Source: author's calculations.

Figure 7

Distance to frontier of CBI and inflation in inflation-targeting EM countries, 2021-2024



Source: author's calculations.

A comparable situation exists in a few other Latin American countries and in Korea, where inflation targeting has had a powerful impact on strengthened central banks of de facto independence. In contrast, Muscovy and Kazakhstan are resource-rich countries where fiscal policy plays a significant stabilizing role (Koziuk, 2016). Turkey, in turn, demonstrates the largest positive difference between DtoF CBI and DtoF Infl, confirming through its experience that the actual independence of the central bank may be significantly lower than its formal independence.

The CEE countries – new EU members – are distinguished by small negative values of the difference between DtoF CBI and DtoF Infl (with the exception of Romania in the first period and Poland and Slovakia in the third). In general, this indicates that the reforms implemented were clearly focused on substance rather than purely formal changes in legislation. EU membership requirements also play a role, as they affect legislative requirements that set the minimum threshold for central bank independence. Such thresholds are high and often exceed those necessary for the transition to inflation targeting in essence. EU membership also has a positive impact on the convergence of formal and actual independence of monetary institutions through the channels of the rule of law (Nurbayev, 2017) and the independence of the judiciary (Hayo & Voigt, 2008). In other words, the institutional path of strengthening central bank independence in CEE countries, especially in new EU members, combines actual and formal components, which distinguishes it from many other countries with emerging markets.

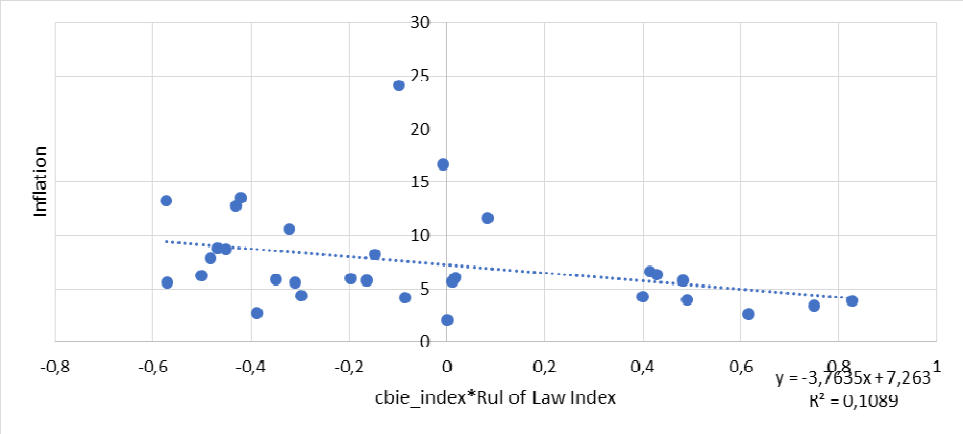
Taking into account the nature of country differences in the size of the Gap (the difference between the indicators in Figures 5-7), it can be assumed that the traditional opposite relationship between the level of CBI and inflation will be weak. For example, countries with English common law demonstrate relatively low inflation with relatively low formal central bank independence (Thailand, India, South Africa, Uganda, etc.). On the other hand, this is also relevant to some countries with French civil law (e.g., Brazil). Fiscal-lead stabilizing mechanisms are also more common in commodity-based economies (Moscovia, Kazakhstan). The rule of law can be considered as an integral criterion that reflects how differences in legal systems or macroeconomic stabilization policy mechanisms translate into institutional interactions regarding the ability of central banks to maintain price stability.

Nurbayev (2017) demonstrates this by applying the interaction terms indicator of the central bank independence index and the rule of law index, obtaining a theoretically predictable opposite relationship. EM countries are still struggling for improving rule of law. In the sample of countries analysed, only the following have a positive average rule of law index value for 1998-2024 (shown in parentheses): Thailand (0.01), India (0.04), South Africa (0.03), Costa Rica (0.49), Uruguay (0.64), Chile (1.13), Romania (0.11), Slovakia (0.49), Hungary (0.68), Poland (0.59), Czech Republic (0.96), Korea (1.0). It is evident that the CEE countries, which are new EU members, stand out as a group. For additional test of

how rule of law affects negative relation between CBI and inflation interaction term is applied. The results confirmed theoretically predicted direction of the relation between the rule of law index and the central bank independence index interaction term and inflation on the sample of inflation-targeting EM countries (Figure 8).

Figure 8

Inflation and interrelation between CBI and rule of law in IT EM countries



Source: author's calculations.

The results presented in Figure 8 are consistent with the conclusions of Nurbayev (2017). The rule of law does indeed contribute to bringing the formal independence of central banks closer to actual independence. Since CEE countries – the new EU members – are the group with the highest average rule of law index observed, it can be concluded that Euro-integration positively affects the success of central bank reforms. Bearing in mind the strengthening of CBI before inflation targeting launch and further legislative reforms CEE institutional path combines elements of endogenous and exogenous central bank independence, distance between which is often emphasized in studies (Hayo & Hefeker, 2002; Masciandaro & Romelli, 2018; Romelli, 2022). Moreover, the strengthening of such independence took place due to two factors. First one is related to functional efficiency of the adopted inflation-targeting framework after the experience of high inflation. Second one is related to fulfilment of the European integration requirements. At the same time, this path suggests that the reforms took place in a context of moderate political constraints (Acemoglu et al., 2008) but were not formal.

It also shows that, in conditions of moderate social trust, increasing the independence of central banks meets the public demand for price stability (Berggren et al., 2014).

As for Ukraine, despite the dominance of the negative difference between the DtoF CBI and DtoF Infl indicators, inflation rates have not reached the level that is consistent with the nominal convergence necessary for EU membership. With similar levels of NBU independence compared to other central banks in the region, higher inflation rates indicate that there is still room for institutional improvements. Reforms in the area of the rule of law are still necessary to strengthen the actual independence of the NBU. A few legislative amendments will also contribute to better formalization of this independence. This will push the institutional path of Ukraine's central bank closer to that of the new EU member states.

Conclusions

Strengthening the independent status of monetary authorities is a key feature of structural reforms in EM countries, resulting in a significant improvement of inflation rate and the external resilience. Does the institutional path of strengthening CBI in CEE countries differ from that in other middle-income countries? Yes. The adoption of the inflation targeting and EU membership have been mutually reinforcing. Empirical tests confirm that CEE demonstrates a statistically significant difference in CBI level before and after adoption of inflation targeting. On the other hand, EU membership had a greater impact on the level of such independence than on the timing of the most radical changes. CEE countries are much closer to the theoretical predictions about the CBI precondition for IT launch. EU membership allows individual countries to strengthen the independence of their central banks even more than is the case with inflation-targeting countries. The reforms implemented were not merely formal. Leadership in the formal CBI in the CEE countries, especially in the new EU members, is accompanied by a relatively better inflation situation compared to other middle-income countries. The convergence of formal and actual central bank independence in the new EU members is most likely due to the positive rule of law effects as a consequence of institutional reforms implemented during EU accession. At the same time, the case of CEE countries may contrast with many examples of comparable inflation outcomes with lower levels of central bank independence. These are most likely specific cases of the influence of the legal origin, legislative tradition, or the key role of fiscal policy in macroeconomic stabilization. In Ukraine, sufficient room for improvement in the rule of law should have a positive impact on pushing the institutional path of the NBU's independence closer to that of the new EU members.

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Appendix A

Group of inflation-targeting EM countries: Jamaica, India, Ghana, Uganda, South Africa, Albania, Romania, Hungary, Ukraine, Moldova, Turkey, Muscovy, Kazakhstan, Indonesia, Mexico, Guatemala, Costa Rica, Colombia, Peru, Brazil, Chile, Uruguay, Paraguay, Dominican Republic, Thailand, Philippines, Poland, Slovakia (before Eurozone), Czech Republic, Korea, Georgia.

Group of CEE countries targeting inflation: Albania, Romania, Hungary, Slovakia (before Eurozone), Poland, Czech Republic, Ukraine, Moldova, Georgia, Moscovia.

Group of new EU member countries targeting inflation: Romania, Hungary, Slovakia (before Eurozone), Poland, Czech Republic.

Group of new EU member countries: Romania, Hungary, Slovakia, Poland, Czech Republic, Estonia, Latvia, Lithuania, Malta, Cyprus, Croatia, Slovenia, Bulgaria.

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