Communication of Central Banks as a Determinant of Credibility and Effectiveness of Monetary Policy

Submitted 13/09/22, 1st revision 26/09/22, 2nd revision 13/10/22, accepted 30/10/22

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Abstract:

Purpose: *The aim of the research is to explain, on theoretical and empirical grounds, the interdependencies between the communication of central banks, their transparency and credibility, and, consequently, the effectiveness of the monetary policy conducted by central banks.*

Design/Methodology/Approach: *The research used research methods based on the analysis of the literature on the subject of banking and finance as well as statistical and econometric methods (Granger causality analysis and the vector autoregression model -VAR). Literature studies are aimed at answering the question of what is the relationship between transparency, the credibility of the central bank, and the efficiency of monetary policy in theoretical terms. And empirical research is aimed at confirming the hypothesis (H_0) or rejecting the hypothesis (H_1) about the causal relationships between the aforementioned variables.*

Findings: *On the basis of theoretical and empirical research conducted, it turns out that in countries with a relatively lower level of economic development, lower economic stability, and relatively low central bank credibility, the greatest impact on the effectiveness of the monetary policy of the central bank is the transparency of the central bank, and in countries with relatively higher horizontal development and higher economic stability the greatest impact on the effectiveness of the monetary policy of the central bank is influenced by the credibility of the monetary institution.*

Practical Implications: *The results of the conducted research may constitute a starting point for further, in-depth analysis of the interdependence between communication, credibility, and efficiency of central banks in countries with different levels of economic development. This issue seems to be particularly important in the period of turbulence in the international market in connection with rising global inflation caused by demand and supply shocks.*

Originality/Value: *So far, the impact of communication on market behavior has not been fully analyzed by researchers. Furthermore, the results of the empirical analysis conducted in the paper provide a specific supplement to the existing economic knowledge regarding the impact of the central bank's communication with the market on the credibility and effectiveness of the monetary policy pursued.*

Keywords: *Communication, transparency, credibility, central bank, monetary policy.*

Type of paper: *Research article.*

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1. Introduction

1.1 Transparency of the Central Bank

Until twenty years ago, virtually all central banks in the world communicated to a small extent with the environment, doing so with great caution. Before 1990, there was a conviction in central banking circles that monetary policy should be shrouded in secrecy. The time inconsistency paradigm articulated by Nobel laureates in economics Finn Kydland and Edward Prescott and applied to central banking by Robert Barro and David Gordon assumed effectiveness in shaping monetary policy through surprises.

Barro and Gordon showed that policymakers, under certain institutional conditions, may have the incentive to exploit the short-term trade-off between inflation and employment. In a world where the money illusion cannot last long, such a policy is only profitable if the central bank does not reveal any clues about its goals, intentions and timing. At the same time, Kydland and Prescott and Barro and Gordon exposed the suboptimal of such a policy at the same time as providing positive arguments for monetary surprises.

This is due to the fact that when a society recognizes the incentives that motivate monetary power, it will adjust its expectations accordingly, and unexpected monetary impulses will not have a lasting effect. In the long run, production will return to its natural level and the economy will suffer from continuously higher inflation. Recognition of the problem of time consistency meant the collapse of an activist monetary policy with short-term goals. The drive to increase the independence of central banks provided an additional, positive incentive for the openness and transparency of central banks' activities.

At the same time, the autonomy of central banks has imposed greater transparency and frequent communications from monetary authorities as a manifestation of democratic accountability for the actions taken.

However, many central banks have gone well beyond the strict legal requirements regarding both their communication obligations and transparency, trying to maximize the economic impact through targeted messages to the economic environment, making as little use of traditional monetary policy instruments as possible, a good example of this. approach to the pursued monetary policy may be the Swiss central bank, which primarily influences inflation expectations through announcements of *forward guidance* (Blinder, 2018).

Conventional monetary policy usually works by influencing short-term interest rates by managing the rate at which private banks can borrow short-term funds from the central bank. This rate, in turn, affects the interest rates of commercial banks and thus affects the real economy. This means that central banks control interest rates

only on the shorter end of the maturity spectrum, but the impetus for their decisions is channeled across the economy through the expected impact on long-term interest rates as well as on asset prices and exchange rates. This transmission mechanism is therefore necessary for the functioning of monetary policy, that is, to lower (or raise) interest rates in order to stimulate (or reduce) the demand for money and thus stimulate (or cool) economic activity.

This means that monetary policy is more effective when the central bank is able to influence the expectations of markets and households which are so important for the transmission of monetary policy. This is where communication becomes crucial as communication allows central banks to guide their understanding of financial markets and expectations for current and future monetary policy decisions, shape corporate investment and household consumption decisions, and facilitate activities that move the economy toward the central bank's intended goals (Blinder, 2018).

Transparency is not only a price that monetary authorities have to pay to gain a strengthened constitutional role as a safeguard for macroeconomic stability. It soon became clear that communication was an instrument to strengthen monetary policy itself. Once the inflationary bias is eliminated from the central bank's preferences, knowing more about these preferences can only serve as a tool for co-ordinating private beliefs. In a world where surprise policymaking has declined in importance, anchoring expectations around monetary policy goals helps to coordinate the response of economic behavior to macroeconomic shocks along the appropriate adjustment path that the central bank wants the economy to follow.

Consequently, many central banks began to report their firm commitment to the nominal anchor by announcing a precise arithmetic definition of price stability (e.g. the central banks of Poland, Hungary, the Czech Republic, Romania). In many cases, central banks have gone further in the pursuit of openness and have defined a more general monetary policy strategy and analytical framework used by policymakers to assess risk to achieve central bank objectives (e.g., Bulgarian central bank).

Communication about the target helps establish a stable economy, the end point towards which the economy is moving after the economic shocks have faded out. Communication on the strategy helps to explain how monetary policy behaves outside of the steady state, and how it responds to shocks and friction to facilitate economic convergence back to equilibrium.

Communicating about the rules governing your strategy makes the adjustment process faster and less painful. A growing body of empirical evidence supports the supposition that clear quantitative targets and strategic communication strengthen monetary policy. Empirical findings confirm that the precise definition of price stability, i.e. the announcement of the inflation target, lowers inflation expectations, helps to anchor them at levels consistent with the preferences of the central bank and

reduces the sensitivity of inflation expectations to past inflation and other macroeconomic variables.

For example, studies by the European Central Bank and the Federal Reserve System show that market inflation expectations in the UK, Sweden, US and the euro area are generally unresponsive to macroeconomic news, meaning they tend to remain undisturbed as the economic environment changes.

1.2 Communication and Credibility of the Central Bank

Adopting a clear and well-thought-out communication strategy of the central bank in the area of the pursued monetary policy basically covers two areas. It is about announcing and explaining monetary policy decisions as they are taken, and regularly providing a central bank's assessment of the current economic situation and its most likely evolution. In the absence of frequent information on the pursued monetary policy and economic situation, market participants may not be able to attribute inflation fluctuations to external shocks beyond the control of the central bank, or to changes in political intentions.

Unfavorable adjustments of inflation expectations may lead to the current increase in inflation and to a slower and more painful reversal of this trend later. The central bank has two instruments in such situations, which are not substitutes but rather complement each other. It may raise the interest rate, which will adversely affect economic activity. At a time when central banks minimized their statements and made no efforts to disclose their views on an ongoing basis, such a central bank reaction was indeed the only option open.

Conversely, in the current climate where central banks seek to increase transparency, communication channels offer more lines of defense against such situations. Providing economic interpretation of the situation, judgment and economic thinking, and a central bank's assessment of future directions can correct erroneous expectations at source. This can minimize the risk that inaccurate forecasts could misallocate resources and correct economic development. Communication is not a substitute for action.

However, it can help fill the information gap that sometimes underlies the need for action. Central bank credibility is defined as an obligation to adhere to well-articulated and transparent monetary policy principles and objectives. More specifically, credibility refers to the extent to which the public believes there has been a change in monetary policy when there has actually been a change (Cukierman, 2007). More generally, the issue of the credibility of the central bank was presented by Karl Brunner, who combined the credibility with the efficiency of institutions authorized to conduct monetary policy.

Under this approach, credibility is interpreted in terms of inflation performance. The greater the credibility is, the smaller the difference between actual inflation and

expected inflation, which does not have to be explicit or announced publicly. Credibility is in part determined by the relative weight to which the central bank attaches real and nominal targets. Occurring economic shocks and the way in which the central bank steers monetary policy affect how credibility changes over time.

Credibility evolves in a non-linear fashion, i.e., it is gained slowly and laboriously, however, it is susceptible to significant deterioration due to unforeseen events. In the opinion of Benjamin Franklin, it takes many good deeds to build a reputation, and only one bad thing to lose it. Identifying and measuring credibility is a challenge. As Cukierman (2007) claims, the ability of monetary decision makers to achieve future monetary policy goals depends on the set inflation targets. These inflation expectations, in turn, depend on the public's assessment of the credibility of monetary policy makers.

Therefore, the autonomy, transparency, accountability and the applied monetary policy strategy can affect both the credibility and reputation of the monetary authority. Credibility builds trust in institutions and helps in crisis situations. It also helps the markets and the public discerns what policies are actually being applied. The key determinants of credibility are the applicable monetary regime and institutional factors (e.g. central bank autonomy). These variables are critical to understanding how a central bank is able to manage its creditworthiness over time.

So, what is the ultimate relationship between communication, transparency, credibility and effectiveness of monetary policy? It turns out that the very explanation of the direction of the pursued monetary policy is a key but insufficient condition for the transparency of the central bank. Efficient communication is another important aspect that should be taken into account when analyzing the transparency of a central bank. From this point of view, monetary policy is transparent if it is predictable, i.e., if information is provided by the central bank, it helps the private sector to understand the policy objectives and to predict central bank decisions.

A better understanding of the activities of the central bank achieved through an appropriate communication policy should positively affect the ability of the central bank to manage inflation expectations of the private sector. A central bank that is able to anchor inflation expectations at a level consistent with the goals of monetary policy is perceived as credible. Therefore, the existing measures of central bank credibility refer to the gap between the actual inflation and the inflation expectations of economic agents (Bordo & Siklos, 2014). Various factors affect the credibility of a central bank.

2. Literature Review

Blinder *et al.* (2017) analyzed the goals of central banks' communication policy on two separate issues. Namely, how communication can be used to manage

expectations by creating messages or eliminating misinformation in the markets. Creating messages is related to communication effectiveness, the problem of how central bank announcements affect financial expectations and markets, revealing new information about monetary policy developments or economic prospects.

Although the impact of communication on market behavior has not been fully analyzed by researchers, the main conclusion from the research undertaken so far is that central bank communication is effective, i.e. it allows it to influence market activity. Evidence shows that communication is effective and that financial markets are responding to information that central banks provide to the private sector (Wyplosz, 2022).

The effectiveness of communication depends on the content and source of the information, as well as the time of communication. Blinder *et al.* (2017) show that market volatility increases over time from the announcement of the announcement. The authors examine the consistency of the ECB's communication in the first years after the establishment of the European Monetary Union (EMU), focusing on the period 1999-2002. They use the Taylor rule-based probit model as a methodological framework and include communication as an explanatory variable in the regression model. They come to the conclusion that the decisions are closely related to changes in macroeconomic indicators about the future.

Nakamura and Steinsson (2018) emphasize the informational effect of monetary policy announcements, including forward guidance. However, the change of policy may also be perceived as an indication that the central bank has worse news on the macroeconomic fundamentals, and thus result in pessimism among market participants.

Keida and Takeda (2019) analyzed the difference in the communication strategy of two Japanese central bank governors to examine the impact of changing narratives on economic fluctuations. Researchers analyzed the narrative at regular press conferences following each Monetary Policy Committee meeting as used by Governor Masaaki Shirakawa and Governor Haruhiko Kuroda. Governor Shirakawa consistently used highly technical and academic language and openly exposed his pessimism about the ability of central banks to raise inflation. Governor Kuroda, on the other hand, made prepared statements that only emphasized the positive effects of the current monetary policy.

The dominant conviction among central banks is that it is necessary to avoid unintended surprises in the conduct of monetary policy. From this point of view, predictability becomes the most important factor in the effectiveness of monetary policy. For example, interest rates are usually changed gradually in such a way as to signal the direction of changes in monetary policy.

Central banks try to familiarize their audience with the language they use and provide them with guidance on what to expect from an agency in the near future, given a specific set of conditions. As former Fed chairman Ben Bernanke (2013) put it, the more clues a central bank can provide to the public about how monetary policy might evolve (or about the principles on which policy decisions will be based), the greater the chance that market participants will draw the right conclusions. Predictability therefore means stability in the results of communication.

As the current vice-chairman of the FED's monetary policy committee, Jerome Powell recently stated, we tend to make relatively few changes to the language of speech. In short, central banks, like other public agencies, consider their communication performance to be essentially irreversible (Christelis *et al.,* 2019). A commitment to irreversibility in monetary policy communication, however, is far from a smooth operation. This is due in particular to the ubiquitous uncertainty that characterizes monetary policy development (Bernanke, 2013).

Let us start with the fact that, as expected, the decisions of central banks affect the real economy by influencing market expectations. However, the conclusions these recipients draw from the actions and communications of central banks are largely unknown to central banks. In addition, monetary policymakers make decisions subject to information constraints due to the complex and ever-changing nature of the economy and because of problems with measuring some key economic indicators (Greenspan, 2004).

Uncertainty thus undermines central banks' commitment to irreversibility policies and, consequently, puts reputation at stake. As new information becomes available on the state of the economy, the structure of the economy, and the response of households and markets to monetary policy decisions, central banks may need to revise their previous communications outcomes to remain effective and accountable.

In doing so, however, they face serious reputational costs. Indeed, when a central bank changes its announced monetary policy path, the public may perceive the change as a failure to meet previous commitments or as an indication that the previous policy path was wrong. In other words, the act of changing the nature of monetary policy is likely to draw the attention of various recipients to the error that the central bank has made in its current monetary policy, even though central bank decisions are by definition dependent on the state of the economy (Moschella and Romelli, 2022).

In other words, even if the central bank conducts its policy in an optimal manner, deviations from the envisaged policy path may be viewed as a central bank failure and may damage the credibility of the central bank. Uncertainty forces central banks to face the dilemma of disappointing expectations and thus the risk of a weakening of the monetary policy transmission mechanism, even if they may have convincing arguments to justify a reassessment of the circumstances (Issing, 2005).

Based on the above observations, the argument made is that reputation calculations have a significant influence on how the central bank speaks. In particular, the reputational costs of future policy reversals are expected to shape central bank communication. Central banks are likely to focus their communication on issues that have lower reputational costs with the prospect of a future policy reversal.

Reversibility costs are higher in reputable areas as these areas are directly related to the agency's claim of uniqueness (Christelis *et al.,* 2019) and are the areas where previous investment in reputation cultivation has been most intense. In fact, agencies nurture their distinguished reputation by demonstrating their organizational ability to deliver benefits, plans and solutions to national problems that cannot be found anywhere else in the system in which they operate.

Based on these considerations, we expect the central bank to ease the focus on its unique reputation in an environment of uncertainty due to the high costs that would result from a reversal of its previous monetary policy intentions. As the cost of reversibility is relatively lower in areas where the reputation of a central bank has not yet been established, we expect the central bank to be more inclined to highlight issues related to the changing nature of monetary policy in the face of uncertainty (Rosa and Dietz, 2022).

3. Transparency, Credibility and Efficiency of Central Banks in the EU-5 Countries
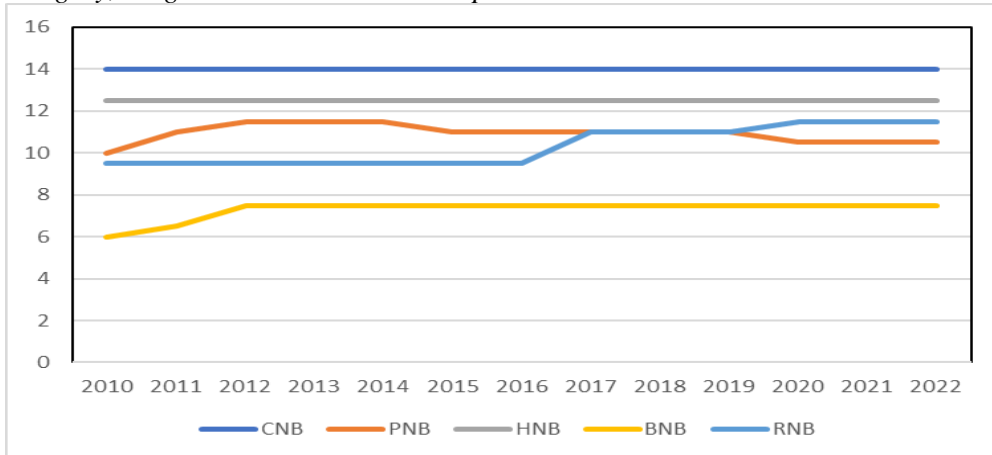
The central bank transparency index, in line with the approach proposed by Dincer *et al.* (2022), is the sum of assessments related to fifteen criteria, falling within the following five areas (min = 0, max = 15). The higher the value of the indicator, the greater the transparency of the central bank.

> ➢ Political transparency - this refers to being open to policy goals. This includes a formal declaration of objectives, including clear prioritization for multiple objectives, quantification of the main objective(s), and explicit institutional arrangements.
> ➢ Economic transparency - focuses on economic information used in monetary policy. This includes economic data, the economic model used by a central bank to construct forecasts or assess the impact of its decisions, and internal forecasts (model-based or judgmental) on which the central bank relies.
> ➢ Procedural transparency - relates to the manner of making monetary policy decisions.
> ➢ Procedural transparency - concerns the way monetary policy decisions are made.
> ➢ Operational transparency - concerns the implementation of the central bank's political activities. It involves the discussion of control errors in the achievement of operational goals and (unforeseen) macroeconomic

disturbances affecting the transmission of monetary policy (Dincer *et al.,* 2022).

Figure 1. *Central bank transparency indicators in the Czech Republic, Poland, Hungary, Bulgaria and Romania in the period 2010-2022*

Source: Own elaboration based on Dincer, Eichengreen and Geraats (2022).

When analyzing the changes in the transparency indicators of the central bank, it can be noticed that the Czech central bank was the most transparent in the whole analyzed period, while the lowest transparency was found in the Bulgarian central bank. The central banks of the other countries surveyed were generally characterized by a stable or even increasing level of transparency, with the exception of the Polish central bank, where a downward trend in this regard was recorded, starting in 2015.

On the other hand, a way to measure the credibility of the central bank is to look at how closely inflation expectations correspond to the actual inflation in the country (Demertzis et al. 2012). The closer to these two values, the more credible the central bank is in terms of its monetary policy. Credibility is therefore measured as the square of the difference between the forecast inflation and observed inflation. The higher the index value, the lower the central bank's credibility.

When analyzing the credibility ratios of the central banks of five EU countries in the period 2010-2022, it can be noticed that the Hungarian central bank was characterized by the highest credibility, while the Bulgarian central bank had the lowest credibility.

At the same time, it can be noticed that in the case of Bulgaria, the credibility of the central bank showed high volatility over time, while in the case of other central banks this credibility was relatively stable. Moreover, since 2021 the credibility of the central banks of the Czech Republic and Poland has significantly deteriorated

due to the sharp increase in inflation in these countries, significantly different from the forecast.

Figure 2. *Credibility indicators of central banks of selected EU countries in the period 2010-2022*
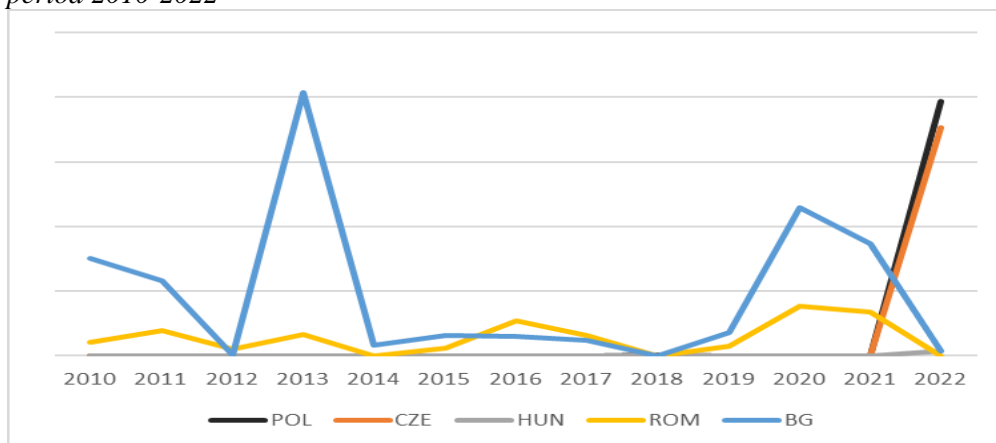
On the other hand, the effectiveness of monetary policy is related to the scope of implementation of the inflation target set by the central bank. It is measured as the square of the difference between the observed inflation and the set inflation target. The higher the value of the index, the lower the effectiveness of the central bank's monetary policy.

When examining the changes in the monetary policy effectiveness indicators of the central banks of the EU-5 countries, it can be noticed that these indicators in the period 2010-2021 were relatively low, which testified to the high effectiveness of the monetary policy conducted in these countries.

Moreover, the effectiveness of these policies was similar in all analyzed economies. Among the analyzed countries, the monetary policy of the Hungarian central bank was the most effective, while the monetary policy of the Bulgarian central bank was the least effective.[2] The rapid deterioration in the effectiveness of the monetary policies of the surveyed central banks took place after 2021, due to a sharp increase in inflation in the world, including in EU member states.

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[2]*The main goal of the Bulgarian Central Bank is to maintain price stability by ensuring the stability of the national currency. Thus, there is no specific inflation target in this case, as in the case of other analyzed economies. Due to the fact that Bulgaria has an exchange rate regime known as the currency chamber, the country is determined to join the euro area as soon as possible, hence it can be assumed that the inflation target pursued by the Central Bank in Bulgaria is close to the target set by the European Central Bank.*

The calculated correlation coefficients between the transparency, credibility and efficiency of monetary policy in the EU-5 countries indicate a relatively strong, positive relationship between the credibility and efficiency of central banks, and no significant linear relationship between the transparency and efficiency of central banks in these countries.

Figure 3. *Indicators of the effectiveness of the monetary policy of central banks in selected EU countries in the period 2010-2022*
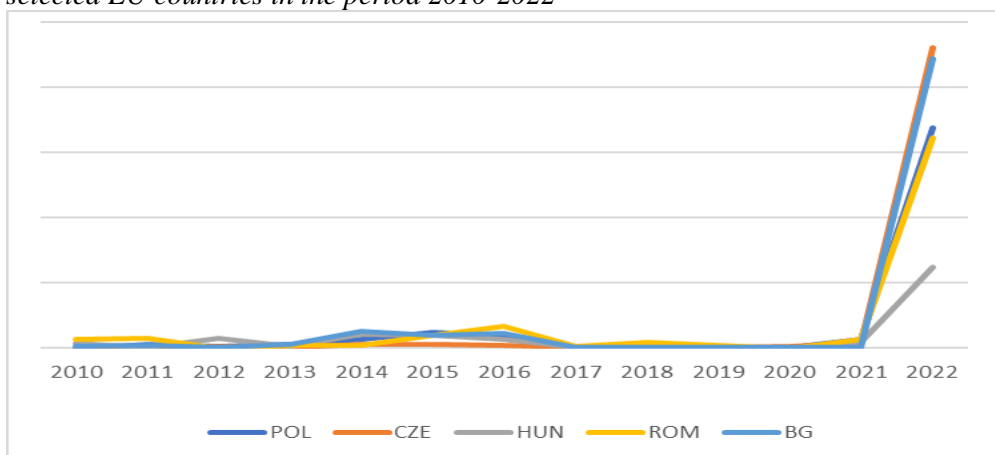
Source: Own study.

Table 1. *Coefficients of correlation between the transparency, credibility and effectiveness of the monetary policy of the central bank in the EU-5 and in the euro area*

	CI / EI	TI / EI
Correlation coef. EU-5	0.432	-0.014

Source: Own study based on IMF (2022).

However, inference about the cause-effect relationships on the basis of a simple correlation analysis is incorrect, because the correlation only informs about the stochastic relationship of a specific set of variables in a specific research case.

4. Results of Model Analysis

The model research was motivated by an attempt to verify in practice the dependencies found in theoretical analyzes between the transparent communication policy of central banks, their credibility and effectiveness of monetary policies conducted by these central banks. The methodology used in the study covers two areas which are detailed below. The study includes qualitative as well as quantitative analysis.

First of all, statistical and econometric methods are used. The statistical methods used in the analysis include a comparative analysis, consisting in examining and

comparing the levels of transparency and credibility of five central banks of Central and Eastern Europe (Czech Republic, Poland, Hungary, Bulgaria and Romania) and the effectiveness of monetary policies implemented by the central banks of these countries. The second element of the analysis concerned financial modeling to examine the cause-and-effect relationship between the transparency and credibility of central banks and the effectiveness of monetary policies in line with the expression below.

All statistical data used in the study came from the financial statements of the analyzed central banks, the database of the International Monetary Fund (IMF World Economic Outlook), the database of the EU statistical office (Eurostat) and the OECD statistical database (OECD Data). The analysis period covered the years 2010-2022, and the obtained data had a monthly frequency.

$$EI_{EU_5} = a + \beta * CI_{EU_5} + \gamma * TI_{EU_5} + \varepsilon \qquad (1)$$

where:

EI_{EU5} - monetary policy efficiency index of the central bank,

CI_{EU5} - central bank credibility index,

TI_{EU5} - Central Bank Transparency Index,

a - intercept of the equation,

β, γ - sensitivity coefficients,

ε - random component.

First, the Graner causality analysis was used to determine whether the explanatory variables were significant causes of the model's explained variable.

The main assumption of the Granger causality analysis is the fact of a cause-and-effect sequence, according to which, if the effect occurs in period t, the cause appears in period t. Variable x is a Granger cause for variable y if the current value of y can be predicted with greater accuracy using the past values of x than without them, with the information remaining unchanged (Maddala, 2008).

On the basis of the obtained results, it can be concluded that the null hypothesis, according to which transparency is not the cause of the central bank's efficiency in the EU-5 countries, has been rejected. Similarly, the null hypothesis, according to which the credibility of the central bank is not the cause of the efficiency of the central bank in these countries, was rejected. Thus, in both cases, the adopted alternative hypotheses. The results of the Granger causality test showed a significant relationship between the transparency and efficiency of the central bank and between the credibility and efficiency of the central bank in the EU-5 countries in the period 2010-2022.

Similar research results were also disclosed in the case of the euro area. Namely, the existence of a significant relationship between the transparency and efficiency of the

central bank and between the credibility and efficiency of the central bank in the euro area in the period 2010-2022 was confirmed. The results of the relevant tests are shown in the table below.

Table 2. *Results of Granger causality tests.*

Null Hypothesis:	F-Statistic	Prob.
EI_EU_5 does not Granger Cause CI_EU_5	0.03161	0.9689
CI_EU_5 does not Granger Cause EI_EU_5	1.93471	0.1537
EI_EU_5 does not Granger Cause TI_EU_5	2.86441	0.0651
TI_EU_5 does not Granger Cause EI_EU_5	0.02427	0.9760

Note: Lags: 2
Source: Own study.

Subsequently, the relationship between the studied variables was examined by estimating the structural parameters of the model using the generalized linear model (GLM), which is a flexible generalization of the usual linear regression. GLM generalizes linear regression by allowing the linear model to be related to the response variable using a link function and allowing the magnitude of the variance of each measurement to be a function of its predicted value.

Generalized linear models were formulated by John Nelder and Robert Wedderburn as a way to standardize various other statistical models, including linear regression, logistic regression, and Poisson regression. The results are shown in the table below.

Table 3. *Estimation results of equation (1) for EU-5 countries*
Dependent Variable: EI_EU_5

Variable	Coefficient	Std. Error	z-Statistic	Prob.
CI_EU_5	0.143876	0.016217	8.871668	0.0000
TI_EU_5	0.201155	0.022852	8.802448	0.0000
Mean dependent var	16.15595	SD dependent var		47.73120
Sum squared resid	86775.23	Log likelihood		-326.1391
Akaike info criterion	10.09659	Schwarz criterion		10.16349
Hannan-Quinn criter.	10.12299	Deviance		86775.23
Deviance statistic	1377.385	Pearson SSR		86775.23
Pearson statistic	1377.385	Dispersion		1377.385

Source: Own study.

According to the data presented in the table above, transparency and credibility of the central bank significantly determined the effectiveness of the central bank's

monetary policy. The sensitivity of the central bank's efficiency to the change in the transparency of the central bank in the analyzed period was 0.2, while the sensitivity of the central bank's effectiveness to the change in the credibility of the central bank was 0.14 in the EU-5 countries. Thus, the hypothesis put forward in the introduction about the causal relationships between transparency, credibility of the central bank and the effectiveness of monetary policy in five selected EU member states was confirmed.

5. Conclusions

To quote Blinder (2018), perhaps the best a central bank can do is teach the markets the way it thinks. This didactic role of central bank communication, if supported by the adopted strategy, is often discreet and systematic activity. As already mentioned, the strategy and basic principles of monetary policy to a large extent care for the balance between the sender and the recipient of information, which means that the transmission of monetary policy impulses to the real economy is undisturbed.

However, in tough times, when the economic outlook is extremely waning and confidence is waning, communication becomes even more important to explain how the central bank intends to keep the trade-off between stabilizing prices and supporting economic activity. The resolution of this compromise is inherently a challenge for all central banks.

However, this is supported by two basic elements of the monetary policy strategy. The first is the quantification of the price stability objective. This ensures predictability even in the absence of clear communication on the future path of monetary policy. In this case, market participants can draw the right conclusions about the most likely direction of monetary policy by comparing the most likely evolution of inflation, which is part of the information provided to the market by the central bank.

The second element of the strategy that helps in times of confusion in inflation expectations is agility in money market management combined with a balanced, medium-term approach to reassessing the central bank's position. The latter ensures that the central bank maintains an appropriate relationship with the environment and communicates with it when the markets are engulfed in a sudden loss of confidence.

The first of these elements help to calm the situation in the market, ensuring that any temporary disturbances in the way markets function do not hinder the transmission of monetary policy impulses to the real economy. The second element of the strategy provides the central bank with flexible management of operational instruments and procedures under extreme conditions, in particular during the current turmoil in the global financial market.

Thus, under a transparent monetary policy, the actions of the central bank should be predictable. Predictability can be considered as the ability of market participants to anticipate upcoming monetary policy decisions. This means that on the days of monetary policy committee meetings the unexpected component of monetary policy decisions should be low. It is assumed that market participants make more rational and more effective decisions when markets can correctly predict central bank actions (Poole, 2001). The theoretical literature and empirical evidence show that transparency is essential to the credibility of a central bank.

Transparency is a multidimensional phenomenon, which consists not only of the issue by the central bank of adequate information in terms of quantity and quality but also of the correct interpretation of the information provided by the public. In this sense, transparency should increase the private sector's ability to anticipate monetary policy actions.

Thus, on the basis of theoretical and empirical research conducted, it turns out that in countries with a relatively lower level of economic development, lower economic stability, and relatively low central bank credibility, the greatest impact on the effectiveness of the monetary policy of the central bank is the transparency of the central bank, and in countries with relatively higher horizontal development and higher economic stability the greatest impact on the effectiveness of the monetary policy of the central bank is influenced by the credibility of the monetary institution.

The results of the conducted research may constitute a starting point for further, in-depth analysis of the interdependence between communication, credibility, and efficiency of central banks in countries with different levels of economic development. This issue seems to be particularly important in the period of turbulence in the international market in connection with rising global inflation caused by demand and supply shocks.

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