
Effectiveness of Institutional Monetary Instruments at the Disposal of the Polish Central Bank (NBP). Experiences of the NBP's Two Years of Struggle Against Inflation

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Abstract

Aim: The aim of the article is to attempt to answer three research questions: Was it inevitable that inflation would reach such a high (peak and cumulative) level in Poland? Can the fall in the level of inflation in Poland to the level of the European Union average be considered a real and sustainable success of NBP actions? In the struggle with inflation, did the NBP use all the institutional monetary instruments at its disposal?

Methodology: The following methodological assumptions were adopted in the process of presentation, analysis and assessment of institutional monetary instruments. Firstly, as a **methodological research requirement**, I adopted the recommendation (method of analysis) of Kenneth J. Arrow, according to which **analysis of the flow of money provides more information than any other analysis**. Secondly, I assessed only the effectiveness of monetary policy instruments in accordance with the methodological assumption, according to which the veracity of statements (**the applied monetary instruments**) only makes sense in the context of the adopted assumptions (**the causes of inflation**), whose *a priori* falsehood determines the falsehood of theories or models (the effectiveness of **combatting inflation**).

Results: The article conducts an analytical and synthetic assessment of the effectiveness of institutional monetary instruments used by the NBP.

Implications and recommendations: The analysis provides the basis for presenting recommended changes to the strategy for combatting inflation in the future.

Originality/Value: Author's critical analysis of the effectiveness of the NBP's use of monetary instruments in the fight against inflation.

Keywords: inflation, New Institutional Economics, monetary instruments, Narodowy Bank Polski

1. Introduction

Life is a beautiful theatre, unfortunately the repertoire is poor.

Oscar Wilde

In March 2024 (Kolany K., 2023, April 17) the level of inflation in Poland (2.7%) fell to the level of the European Union average (2.6%) (2.4% in the eurozone). A year earlier (i.e. in March 2023) it was respectively 15.2% in Poland, 8.3% in the whole EU and 6.9% in eurozone countries (Kolany, 2023). The almost double or more than double level of inflation at its peak resulted in the cumulative level of inflation (calculated by the increase in the core consumer price index CCP) in Poland in the years 2022-2024 which reached around 48% and was more than twice the EU average (around 21%) (Trading Economics, n.d., a, b). Inflation is not only an increase in prices, but also the depreciation of savings, which means that the savings of Polish citizens fell in purchasing power by almost 50%. Additionally, estimating the level of inflation in Poland using a simple basket of goods and services does not take into account the structure of real consumer baskets of goods and services, which are dependent on consumers' level of income i.e. real demand and not only potential demand. As a result, almost 50% of cumulative inflation, that is a proportion of goods and services, has 'vanished' (they are now too expensive) from the baskets of specific consumers, and thus their level of inflation has become irrelevant to such consumers.

The aforementioned data justifies the attempt to provide answers to the following research questions:

- Was it inevitable that inflation would reach such a high (peak and cumulative) level in Poland?
- Can the fall in the level of inflation in Poland to the level of the European Union average be considered a real and sustainable success of NBP actions?
- In the struggle with inflation, did the NBP use all the institutional monetary instruments at its disposal?

The discussion both in the media and among researchers was and is almost exclusively focused on the level (the rise or fall) in interest rates, creating an information and research gap regarding analysis of the effectiveness of other NBP institutional monetary instruments. Without filling this gap, a substantive exchange of views is, in my opinion, impossible, for both evaluating the effectiveness of NBP actions in the past as well as developing a more effective monetary strategy to combat inflation in the future, also in the context of the repeated rise in inflation in July 2024 to the level of 4.6%.

2. Method of Analysis

Logic is an absolutely sure way of reaching unsure conclusions.

Manly's maxim

The following methodological assumptions were adopted in the process of presentation, analysis and assessment of institutional monetary instruments:

Firstly, being aware of the fact that forecasts formulated by economics work excellently when nothing is happening, but when a crisis comes along they become completely useless (Sedláček, & Orrell, 2012), as a **methodological research requirement**, I adopted the recommendation (method of analysis) of Kenneth J. Arrow (Getzen, 2000, p. 19), according to which **analysis of the flow of money provides more information than any other analysis**. For this reason, I have presented each of the monetary policy instruments taking into account the impact of market money flows on the level of inflation.

Secondly, I assessed only the effectiveness¹ of monetary policy instruments in accordance with the methodological assumption, according to which the veracity of statements (**the applied monetary instruments**) only makes sense in the context of the adopted assumptions (**the causes of inflation**), whose *a priori* falsehood determines the falsehood of theories or models (the effectiveness of **combatting inflation**). In other words: the **(in)effectiveness of combatting inflation is a derivative of correct (or incorrect) diagnosis of its causes determining the correct (or incorrect) selection of the applied monetary instruments.**

I conducted an assessment of the effectiveness of monetary policy instruments both analytically by presenting them individually as well as synthetically i.e. by presenting what, in my opinion, are the real causes of inflation in Poland.

3. Are Interest Rates a ‘Miraculous’ Instrument in Combatting Inflation?

*If a problem (**the reference rate** – my addition)
is the cause of many sittings (of the **Monetary Policy Council (MPC)** – my addition),
in the end, the sittings become more important than the problem itself (**inflation** – my addition).*

Hendrickson’s Law

Through WIBOR (the Warsaw Interbank Offered Rate)² the base reference NBP interest rate influences the cost of loans, and thus the total value of loans granted, and indirectly in the long term the size of consumer demand, which with a considerable delay (9-24 months) determines the dynamics of inflation. As NBP experts admitted in their report, a reference rate of 6.75% causes a reduction in inflation of only 2.8% in 2023 and 5.4% in 2024 (Narodowy Bank Polski, n.d.). This means that the (real and statistical) fall in inflation in 2023 and 2024 is not mainly the result of raising interest rates, but primarily a decline in consumer demand caused by inflation itself (in real terms) and (statistically) an increase in the static base.

An increase in the interest rate (read: WIBOR) reduces the supply of credit money, and thus mainly limits investment abilities (also private real estate investments). The reduction in demand does not occur by reducing the current surplus of money, but through unrealised investments, part of which are future salaries and profits earned. An increase in the interest rate directly punishes (innocent of inflation) past borrowers, without taking money created in the past, but merely by reducing the supply of money in the future, which also means unrealised investments, i.e. limiting the supply of goods and services (a decline in GDP).

Only banks are pleased with a rise in base interest rates, as can be seen from their financial results³, as well as the shadow banking system, which captures additional⁴ individual borrowers who have lost their bank creditworthiness.

¹ In the case of combatting inflation, the effectiveness criterion (as a measure of ‘distancing’ from the goal) is considerably more important than the criterion of efficiency. This is due to the fact of the main **goal** of the NBP is **institutionally** determined as maintaining inflation in the price increase corridor 2.5%+1 (i.e. as a criterion of effectiveness and not efficiency).

² From the beginning of 2023, variable interest rates on mortgages can be set on the basis of a new index: WIRON, previously known as WIRD, i.e. the Warsaw Deposit Market Index.

³ For example, the net profit of Bank Handlowy in the first quarter of 2023 was 603.8 million złoty, compared to 282 million złoty in Q1 of 2022, that is an increase of 114% (Bankier.pl, 2023a).

⁴ An increase in July 2022 of 19.1% in volume and 18.0% in value year on year.

This does not mean that a rise in interest rates should only be assessed negatively. An increase in NBP interest rates fulfills a very important task with the aim of limiting the current and future inflation expectations ('feelings'⁵) of both entrepreneurs and consumers.

In the literature, two extreme approaches dominate as to the way of setting central bank interest rates:

- the method using the Taylor rule,
- the discretionary method.

The interest rate rule proposed by Taylor (1993, 1999, 2000, 2007) makes the interest rate dependent on the inflation rate, the gap in demand and the level of the natural, real interest rate.

At the other end of the spectrum is the discretionary method, according to which a decision-maker has full freedom, not limited by formal institutions or informal rules (or institutions), in taking decisions relating to the level and dates of setting interest rates.

Application of the Taylor method in the case of inflation exceeding 10% leads to high interest rates, causing a slowdown in economic growth. Its application in the case of Poland would, according to calculations by T. Grabia (2022), lead to an NBP reference rate of over 20 percent (for example 21.70% in May 2022).

On the other hand, an unrestricted discretionary method encourages the taking of subjective decisions, often with political and not economic motivations.

An alternative is my proposal for a phased indirect method, that is a discretionary method limited by rules relating to the maximum level of increases, their timing and number, and the timing of reductions in base interest rates.

The method has four phases. **Phase 1** begins when inflation exceeds the optimal limit of the inflation corridor target (2.5%). At this moment, there should be an increase in base interest rates, even slightly above the level of inflation. **Phase 2** begins when inflation grows to above the upper inflation corridor target (3.5%). In this phase there should be a decided (but only a two- or maximum threefold) increase in base interest rates to, in my opinion, double the inflation target (optimally $2 \times 2.5\%$) or at most double the upper limit ($2 \times 3.5\%$) of the inflation corridor target. Such decisive moves by the NBP should have a positive effect on reducing the inflation expectations of entrepreneurs, employees and consumers. Although the reference rate (6.75%⁶) was slightly below the limit (in my opinion the maximum = 7%) set as double the upper limit of the inflation corridor, at the same time the optimal level was exceeded by 1.75 base points, which would require the NBP's use of other additional monetary instruments that impact the reduction of the money supply faster than interest rates. With accompanying integrated action and good communication with the media, the 'perceived' position of the NBP would be as a strong, determined institution capable of reducing inflation. Exceeding double the upper limit of the inflation corridor **or** raising interest rates a dozen times or more, accompanied by a lack of use of other monetary instruments, as well as a lack of precision and clarity in social communication has the opposite effect. Inflation expectations begin to rise because the general 'feeling' increases that even the NBP does not know how high inflation will be in the future, and a 'feeling' even emerges of the belief (and even subjective certainty) that the NBP assumes (although this does not have to be verbalised by the NBP President) that inflation will increase considerably. Inflation expectations ('feelings') trigger two strong reactions in consumers and entrepreneurs: the first is 'buy now because everything is getting more expensive', while the second is 'save now because I won't be able to afford everything'. The first type of reaction drives inflation,

⁵ I dedicated significant space to the concept of 'feeling' as the main motivator of entrepreneurs' and consumers' subjective decisions in my monograph entitled "An Institutional Theory of Enterprise(s), a Paradigm (?) or an Introduction (?) to the Institutional (?) Theory (?) of Enterprise(s) (?)".

⁶ The MPC reduced the reference rate by 75 base points on 07.09.2023 and by 25 base points on 05.10.2023, i.e. to the level of 5.75%.

the second reduces it. This is why the precision of using interest rates to stimulate the ‘feeling’ of consumers, employees and entrepreneurs in every phase of inflation. Raising interest rates a dozen times or more communicates ‘it’s never going to end – buy now’. Meanwhile, two or three increases results in the reflection (and even shock) that ‘I’ll be able to buy less – I must save’. **Phase 3** covers the period of a drop in inflation to the upper limit (3.5%) of the inflation corridor target, in which interest rates should by no means be reduced, as the ‘feeling’ of reductions differs significantly from the ‘feeling’ of increases. Lowering interest rates is ‘felt’ subjectively almost immediately (that is with around a two-week delay) as a signal that ‘it’s the end of inflation – everything’s returning to normal – I don’t have to save’, which additionally may stimulate a return of inflation. In **Phase 4**, there should be a slow reduction (several times) of NBP interest rates. These reductions should be closely correlated with two processes (conditions). The *first* is a permanent drop of inflation from the upper level (3.5%) to the optimal level (2.5%) of the inflation target. In the *second*, the reduction should begin 6-9 months after two deadlines; firstly – the redemption (buyback) of a significant value (80-90%) of securities issued as a tool for combatting inflation, and secondly – the liquidation of all anti-inflation ‘shields’. Only in this case will there not be a return to inflation triggered by a return onto the market of temporarily ‘frozen’ monetary assets (in securities), the freeing up of prices, and the reaction of consumers, employees and entrepreneurs stimulated by a subjective ‘feeling’ with regard to a reduction in interest rates. Playing with the level of interest rates is primarily positive or negative psychological manipulation of the ‘feelings’ of consumers, employees and entrepreneurs, as our ‘feeling’ about inflation exists in our minds.

Acceptance of the assumption that the reference rate is the **main** if not the **only** tool for combatting inflation leads, in my opinion, to a simple and seemingly shocking conclusion: the raising or lowering of NBP interest rates does not require special knowledge of economics rewarded with high salaries. However, there are other instruments that require a great deal of interdisciplinary knowledge, as their correct application requires their integrated, precise use to create various, complicated combinations.

4. The Reserve Requirement Ratio or the Inverted Keynesian Multiplier

*Some people see exactly the same
with their left and right eye
and think that is objectivism.*

Stanisław Jerzy Lec

In my opinion, a somewhat forgotten instrument at the disposal of the MPC is the reserve requirement ratio (Ustawa z dnia 29 sierpnia 1997, Rozdział 2, Art. 2...), which has remained unchanged at 3.5% since the 31 March 2022, in other words it only returned to the pre-Covid level set in 2010. This instrument is not used in practice in combatting inflation, although its impact on the creation of credit money is significantly more powerful than the base interest rate.

This tool is more powerful because:

- it directly impacts the ability (maximum value) of individual banks to grant loans,
- it has an indirect effect via the so-called money creation multiplier by impacting the money supply in the economy as a whole, which overall can be created by commercial banks.

Estimating the optimal reserve ratio level requires forecasts including the correlation of various reserve ratio levels with the strength of the impact of all other anti-inflation tools. However, we can certainly consider the following theorem to be correct: **the higher the level of the reserve requirement ratio, and the higher the value of the sale of treasury or retail bonds, the more possible it is to use lower NBP base rates.**

The reserve requirement ratio also fulfills an additional function by influencing deposit interest rates. By freezing some of the banks' assets, the reserve requirement ratio forces them to look for new deposits, thus raising their interest rates.

5. Direct Restriction of Bank Lending, in Other Words Detonating an 'Atom Bomb'

*Don't struggle with anything,
take a bigger hammer*

Anthony's Law

The MPC has at its disposal the most powerful monetary policy instrument. According to Article 46 of the bill on the NBP, in the case of a threat to the implementation of monetary policy, the council can, among other actions, introduce by way of resolution restrictions on the amount of monetary assets made available to borrowers by banks. The use of this tool means *de facto* setting direct percentage limits on credit money in relation to banks' liquid assets. The lack of a statutory limit on such a restriction means that in theory it would be possible to limit banks' credit activity to zero (detonating an 'atom bomb'). In my opinion, the current level⁷ of inflation in Poland does not justify the use of this monetary instrument (as an 'atom bomb'), although in order to reduce NBP costs (the cost of interest on the reserve requirement) its use should be considered as an alternative to or complementary to the reserve requirement ratio.

In the area of NBP decision-making, there are also monetary tools in addition to those mentioned earlier whose use is affected indirectly by:

- The issuance and/or sale of securities.
- Institutional provisions, so-called Recommendations of the Polish Financial Supervision Authority (PFSA).
- Methods of exchanging the euro to the Polish złoty.

6. Securities – or Does Anyone Read the Bill on the NBP and Understand It?

*When all else fails,
read the instructions.*

Cahn's axiom

One of the aims of issuing treasury or bank securities can be to withdraw surplus money supply from the market. The instrument for issuing (or only selling) securities is very complex and is not limited to the potential issue by the NBP of 'retail' bonds. This is not to mention the separate problem of the complexity resulting from institutional complication of the structure of individual types of securities. I will distinguish individual types of securities only to the degree necessary for this analysis, and concentrate on presenting the differences in money flows and their impact on the money supply (quantitative easing or tightening) depending on the differences between entities: the issuer and/or the seller and buyer.

⁷ In my opinion, this instrument is dedicated to situations of hyperinflation, with its objective being to prevent additional credit money supply in the short term, which means a *de facto* temporary 'nationalisation' of banks' assets.

In my opinion, the **first** and least effective solution is when the treasury⁸ directly or indirectly, e.g. via banks, issues and sells securities that are exclusively bought (through issue on the primary market – or redemption on the secondary market) by the NBP (The Constitution of the Republic of Poland only forbids covering the budget deficit by the NBP incurring liabilities, but it does not forbid the purchase (both on the primary and secondary market) by the NBP of securities, which can also be issued in situations of a budget surplus). Three stages can be distinguished in this variant. In the first, i.e. the issue and sale of securities, the government does not withdraw the excess money supply from the market because the NBP is the only buyer. In the second stage, by spending the money obtained from the issue, the government causes an increase in the money supply on the market. Such an issue means an increase in direct treasury debt, which in the third stage, i.e. the redemption of securities, causes an increase in budgetary expenditure.

In the **second** variant, the government (treasury) conducts issues of bulk treasury bonds via the NBP (or banks), which are sold to commercial banks. In the first stage, such an issue only limits the excess liquidity of the banks, without having an impact on reducing the supply on the non-bank market. In the second stage, by spending the money obtained from the issue, the government causes an increase in the supply of money on the market and a rise in direct treasury debt, probably with a higher servicing cost than in the case of purchase by the NBP, which is ‘consumed’ in the third stage.

The **third** variant is the issue by the NBP of bulk money bills that are sold to banks on the primary market. This variant only includes two stages. In the first stage, such an issue does limit the banks’ liquidity, however it has a neutral impact on the current level of money supply on non-bank markets. In the second stage there is a redemption of securities, which means a return of money to the banking sector.

The **fourth** variant is the issue by the government (via the NBP or banks) of retail bonds addressed to physical persons. In such a case, although the government withdraws the excess money supply from the consumer market in the first stage, spending the money obtained in the second stage causes an increase in money supply on the market. Such an issue means an increase in treasury debt, which in the third stage, i.e. the redemption of bonds, results in an additional increase (de facto double) of the money supply on the market.

The **fifth** issue variant is the sale by the NBP of retail bonds purchased by physical persons. This issue has only two steps. The issue of bonds causes a temporary ‘freezing’ in NBP assets of money withdrawn from the consumer market. When the bonds are bought back, there is a return of money (increased by interest) to the market.

The **sixth** variant does not refer to the issue of securities but only to sales (of securities bought earlier by the NBP) and has a single stage. It is a reversal of the past implementation of the first issue variant. It consists of the sale of treasury (but also municipal and commercial) securities purchased earlier by the NBP to banks and physical persons. This causes a reduction in the excess liquidity of banks and the non-bank market without a rise in NBP debt. However, it requires the NBP to bear costs due to the need to apply highly discounted rates. Such a sale makes sense only in the case of significantly distant dates for their redemption by the issuer.

Synthetic analysis of the discussed variants for the issue of securities enables several conclusions to be formulated.

Conclusion 1. The postulate of using the issue of securities without specifying their issuers and buyers is insufficient as specific types of issue, sale and redemption cause varying effects on money flows and on the level of the money supply (quantitative easing or tightening) on the (inter)bank and non-bank markets.

⁸ Also when the securities issuer guaranteed by the treasury is e.g. the Polish Development Fund (PFR) or the Bank Gospodarstwa Krajowego (BGK).

Conclusion 2. The first variant is anti-effective, that is the issue of securities by the treasury that are purchased exclusively by the NBP. This variant (quantitative easing) should only be used in situations of low inflation and when there is a need for the government to obtain monetary assets, among others for the financing of public infrastructure investments in order to stimulate economic activity.

Conclusion 3. The second and third variants only affect the money supply on the (inter)bank market. They should be used as short-term monetary fine-tuning instruments aimed at impacting financial (lack of or over) liquidity in the banking sector (quantitative easing or tightening only within the banking sector).

Conclusion 4. While the fourth variant does withdraw ‘consumer’ money from the market, if the funds obtained from their issue are spent by the government on social objectives, these funds return almost immediately onto the market (short-term tightening offset by quantitative easing), additionally causing a flow of surplus money from wealthier people (more inclined to save) to poorer people (more inclined towards immediate consumption), which additionally stimulates a rise in prices.

Conclusion 5. Although the fifth variant does allow for long-term collection of surplus consumer money (long-term tightening offset in the future by quantitative easing), it requires precise correlation of the redemption (or rollover) dates of securities with the current level of inflation, and generates the need for the NBP to incur high servicing costs (interest or discounting).

Conclusion 6. The sixth variant is the most effective, in that it collects surplus money both from the banking market, enterprises and the consumer market (tightening without quantitative easing). It must be closely correlated with the first variant to create a coherent (the government and NBP) set of fiscal and monetary instruments related to the current market situation. The NBP sale variant (quantitative tightening) should be implemented in periods of a rise in inflation, while the NBP redemption variant (quantitative easing) should be in periods of deflation and/or with no inflation caused by a slowing in economic growth, and should aim to stimulate the economy by carrying out public financial infrastructure investments at the cost of an increase in treasury debt.

Conclusion 7. Although analysis of NBP financial reports for 2022 and 2023 is made much more difficult due to the lack of money flows and detailed data, it does allow for three remarks to be formulated regarding the use of the above-mentioned securities issue variants. **Firstly**, in 2022, the NBP reduced its holdings of treasury (or state treasury-guaranteed) debt securities only by 8.6 billion PLN, from 149 to 140.4 billion PLN, however, this was not as a result of their sale on the open market, but due to their redemption (7.784 billion PLN) by the issuer (the treasury) at maturity. In 2023, the situation underwent an almost unnoticeable improvement, i.e. the value of debt securities reduced by only 1.6 billion PLN to 138.8 billion PLN. This is evidence of the NBP’s very limited use of the most effective variant (i.e. variant 6 above) with regard to the sale of treasury securities. **Secondly**, the above was accompanied by a fall in domestic bank deposits of 10.2 billion PLN in 2022, and a rise in 2023 of 5.3 billion PLN, a fall in bank current accounts of 31 billion PLN in 2022 and a rise of 14.0 billion PLN in 2023, as well as a rise in the value of NBP money bills issued as part of fine-tuning operations (the third variant above) of 67.7 billion PLN in 2022 and of 50.8 billion PLN in 2023. On balance, this led to a reduction in the money supply on the interbank market of **only** 25.4 billion PLN in 2022, and of 70.1 billion PLN in 2023. However, this was of a short-term nature even assuming that there was a rollover of short-term (3-7 day) money bills. **Thirdly**, the reduction in the money supply on the banking market in the years 2022-2023 was mainly as a result of the NBP issuing money bills as part of fine-tuning operations (short-term quantitative tightening) rather than the sale by the NBP of treasury debt securities (medium- or long-term quantitative tightening).

Conclusion 8. Most importantly, analysis of reports and records of discussions (so-called ‘protocol summaries’) held at MPC meetings published on the NBP website suggests that no analysis or assessment was made of the effects of using various issue variants or only the sale of securities.

General conclusion. The **seventh** and **eighth** conclusions show that the existing NBP strategy does not provide for the use of mixes of the above-mentioned instruments with regard to the issue and/or sale of securities as alternative or even complementary tools (to interest rates) in combatting inflation.

7. Indirect Influence of the NBP on the Indirect Monetary Instruments of the Polish Financial Supervision Authority (PFSA)

*In crisis situations,
when it is necessary to choose between various alternatives,
the majority of people choose the worst solution.*

Rudin's Law

The NBP has an indirect influence on the internal parameters of tools at the disposal of the PFSA, one of whose nine members (Ustawa z dnia 21 lipca 2006, Art. 5.1....) is the NBP President.

Such monetary instruments include PFSA guidelines relating, among others to:

- the tier1 and tier2 indicator,
- so-called credit buffers contained in PFSA recommendations issued on the basis of article 137 point 5 of the act on banking law.

Capital ratios, which are the ratio of equity (tier1) or total capital (tier2) to adjusted (risk-‘weighted’) assets are legally regulated at the European Union level (European Union Regulation No 575/2013 introduced in reaction to the causes of the global crisis 2008/2009), the domestic level (Ustawa z dnia 29 sierpnia 1997, Artykuł 128, paragraf 1, punkt 3...) and the executive level of the PFSA (Ustawa z dnia 21 lipca 2006, Artykuł 1.2.4...). Changes to their structure and use require both domestic and EU institutional changes. Nevertheless, it would be necessary to at least conduct an analysis of the methods for estimating classes of risk used by the PFSA when calculating the risk factor levels of individual types of bank assets in order to minimise the danger of bank insolvency, especially in situations of the possible use of a high reserve requirement ratio or an ‘atom bomb’.

The PFSA can also issue recommendations related to good practices for the careful and stable management of banks. Such recommendations are listed using the letters A to Z. From the point of view of credit money supply, Recommendation S (relating to good practices regarding management of mortgage-backed credit exposures) is of particular importance.

The aim of Recommendation S is to develop good practices regarding the management of mortgage-backed loans, as well as increasing the level of security of banking operations by formulating recommendations relating, among others, to:

- the maximum period for creditworthiness calculations (even if the loan is to be granted for a longer period),
- the use by banks of a prudential buffer, i.e. applying a higher interest rate for the process of assessing creditworthiness,
- the level of the LtV ratio (Loan to Value), which determines the ratio of the amount of a loan to the current mortgage value of a property,
- the level of the DStI ratio (Debt Service to Income), which expresses the ratio of total annual costs for servicing credit obligations to the total annual income of retail customers.

The synthetically discussed Recommendations have an indirect but also relatively strong impact on credit money supply (the strength of the effect depends on the level of their internal parameters). Unfortunately, the materials posted on the NBP website lack any information relating, for example, to the MPC discussion on possible recommendations for the NBP President in terms of voting in the PFSA, as well as the impact of these instruments on the level of inflation. This fact indirectly shows that the above-mentioned tools do not generate particular interest in the MPC, let alone their complementary use.

8. The 'Euro Exchange Method' as an Indirect Monetary Instrument

*Price is what you pay.
Value is what you get.*

Warren Buffett

A monetary tool that is underestimated and almost unnoticed by government decision-makers that somehow 'slips through the hands' of the NBP President is the 'exchange method' for euros obtained within the European Union.

EU funds can act as a 'magic wand' but also like 'gasoline poured on the fire'.

Firstly, EU funds received in the form of subsidies or loans permanently or temporarily increase the money supply on the domestic market, which is potentially an inflationary factor depending on their intended purpose (investment or consumption).

Secondly, there are four possible euro 'exchange methods': two with the direct participation of the NBP and two without its direct participation. These methods have a varying impact on the value of the zloty, and, more importantly, have different effects on money supply on the domestic market.

First method. Exchanging the euro to the Polish zloty can take place by simple calculation according to the current currency exchange rate, which means illegal additional printing of the Polish zloty by the NBP. Although the total value of the supply of the euro and the Polish zloty remains unchanged, this method causes the 'disappearance' of the euro and the appearance of 'additionally printed' Polish zloty.

Second method. The exchange may occur by the NBP purchasing euros, as a result of which there is an exchange of assets from zloty reserves to euro reserves. Although in this case, the total value of the euro and the zloty also remains unchanged, there is an increased supply of the Polish zloty at the disposal of the government.

Both of the above 'exchange methods', with direct participation of the NBP, have a neutral impact on the current currency exchange rate because it is the NBP that sets its contractual level. More importantly, however, both methods increase the supply of the Polish zloty on the domestic market.

The exchange of euros can also take place **avoiding the direct** participation of the NBP, i.e. through market transactions. The government (jointly with the NBP and BGK) had already used this 'exchange method' in 2004 and 2005, as well as for four years during the Eurozone crisis, exchanging around 40 billion EUR. The government also used this 'exchange method' in 2022, but its objective was not to directly combat inflation, but merely an attempt to weaken the depreciation of the Polish zloty. This way of exchanging euros can be conducted using two transaction 'methods': either only on international markets or only on the domestic market.

Third method. Exchange **only on international markets**, despite the intention to sell euros, *de facto* means the purchase of Polish currency using euros, that is the opposite process to that intended. This causes a rise in the euro exchange rate, in other words a fall in the value of the Polish zloty and the 'import' of an additional supply of the Polish zloty (previously accumulated electronically abroad) to the domestic market at the moment the exchange is made.

Fourth method. Exchange **only on the domestic market** is only apparently the same as exchanging on international markets. This is because it means selling euros for the Polish zloty, resulting in a fall in the euro exchange rate, but more importantly the withdrawing of surplus money supply from the domestic market.

In the case of spending euros received from the European Union, it is also possible, as announced by the Minister of Finance, to ignore the Euro exchange process and finance the costs of the National Reconstruction Plan (KPO) both abroad and domestically in euros.

Optimising the supply of the Polish zloty on the domestic market requires appropriate proportions to be maintained between offers of selling euros to the banking sector, the enterprise sector and individual customers, as well as additional synchronisation of euro exchange tranches with bond issues and/or only the sale of treasury bonds by the NBP.

9. Causes of Inflation in Poland

*There doesn't exist a problem,
irrespective of how complicated it is,
that on closer inspection
doesn't turn out to be even more complicated.*

Murphy's Law

The causes of the current inflation in Poland are considerably more complicated than the external factors indicated by the NBP, i.e. the increase in the price of energy sources and foodstuffs as a result of the Russian aggression against Ukraine, and the disruption to production and transport (logistics) related to the pandemic crisis. It is hard not to agree with the fact that the above factors impacted prices both in Poland and around the world.

The above-mentioned external factors (**first cause**) are accompanied by two internal causes, on which the NBP remains silent.

Second cause. 'Empty' (extra⁹) budgetary expenditure – including mainly social programmes (500/800 plus, 13th and 14th pensions etc.) and expenditure related to so-called anti-Covid shields. Their common feature is that such expenditure caused an increase in the money supply without this being accompanied by an increase in GDP.

Third cause. An insufficient level of private investment (dropping in Poland from **20.4% in 2015 to 16.8% in 2022, alongside an average EU increase from 20.2% to 22.7% of GDP (Ciekaweliczby.pl, 2023)** and an accompanying fall in the amount of savings (from 110% in 2020 to 98.7% of GDP in 2022 (Analizy.pl, n.d.)). This causes economic growth mainly due to consumption and not investment, leading to a 'distorted' (i.e. consumptionist) Keynesian multiplier of a 'rat race to the bottom of the barrel'. Additionally, in 2022, GDP growth was 'covered' mainly by a growth in stock (materials, production in progress and products) as a reaction of entrepreneurs to Covid logistics difficulties.

10. Synthetic Assessment of (and Recommendations Regarding) the Effectiveness of the NBP's Struggle Against Inflation

*'The faster you pass on bad news,
the better.'*

White's Theorem

Although the NBP is not the original source of inflation in Poland, its determinants have not been the subject of MPC analysis, and it is therefore difficult to indicate what percentage impact specific causes have on the level of inflation in Poland. Only in great simplification and intuitively can it be said that their impact is more or less equal, that is each of the causes is 1/3 'responsible' for the level of inflation in Poland.

⁹ Extra-budgetary expenditure according to the Polish Economic Institute amounted to 324 billion PLN in 2022, and around 440 billion PLN in 2023, wherein this did not include foreign loans granted to Poland for arms purchases (Bankier.pl, 2023b).

The NBP's monetary tools only have an influence on one type of cause of inflation, that is surplus money supply. Such tools have a limited effect on external factors and the level and structure of investment, although a high interest rate limits investments financed not only via bank loans.

The presented remarks enable a synthetic assessment to be made of the NBP's use of individual monetary tools, also in the context of the timing of money supply creation. Although every monetary tool has a present and future impact dimension, some of them also affect the money supply created in the past.

Firstly, in my opinion, the **only tool actively** used by the NBP are base interest rates. Although the level (6.75%¹⁰) of the reference rate is (was until 07.09.2023) somewhat lower, in my opinion, the maximum value determined by twice the upper limit of the inflation corridor also exceeds the optimal level (5.0%) by 1.75 base points. Use of the base interest rate requires precise four-phase application. This applies to all phases, including currently phase 3. This is indirectly confirmed by the FED's strategy in combatting inflation, as despite a fall in inflation in the USA to 3.2%, it has maintained the base interest rate at the level of 5.5%¹¹, and this despite the fact (see below) that it is not the principal anti-inflation instrument.

Secondly, the NBP is also not actively using the reserve requirement ratio, which remains unchanged at 3.5%. Analysis of world data (Trading economics. n.d. a) shows that although it is not generally applied, some countries actively use this tool to combat inflation. In first place outside Europe, not including countries with very high (hyper)inflation, is China, which applied an 18.5% reserve requirement ratio, reduced to 10.75% in 2023. Among European countries, Moldova is at the forefront (34%), followed by Turkey (25%) and Hungary (10%). This tool is also used by the American FED, although it is used very flexibly (from 0 to 10%), mainly depending on the value of deposits in specific banks.

Similarly to NBP interest rates, this instrument is aimed at limiting the money supply in the future without punishing past or present borrowers.

Estimating the optimal level of the reserve requirement ratio cannot be done in isolation, i.e. separately from other monetary instruments. This is due to the simple fact that financial markets function as vessels connected both subjectively and temporally. However, I can repeat with full confidence the thesis that: **the higher the reserve requirement ratio and the higher the value of the sale of treasury bonds, the greater the possibility of using lower NBP base rates.**

Thirdly, the current level of inflation does not in my opinion justify the need to apply the tool of direct percentage limits on credit assets in relation to banks' liquid assets.

Fourthly, the NBP applies the tool of the issue (sale) of securities only as an ad hoc, short-term fine-tuning instrument by selling banks (on the primary market) bulk money bills.

The NBP uses neither the retail sale of (its own) bonds purchased by physical persons, nor, more importantly, the sale of treasury securities purchased earlier. Even if at the present moment the NBP decided to use this monetary instrument (correlated with the long-term rollover variant), it would in any case be a delayed action. In my opinion, this is the NBP's greatest mistake and indirectly confirms the strategy employed by the FED (Federal Reserve System, 2023, March 3) for combatting inflation. In 2022, the FED first introduced a 30 billion dollar and from August 2022 a 60 billion dollar monthly upper limit of the sale of state and federal securities, which led to an increase in average sales from \$17.5 billion in the first half of 2022 to \$35 billion in the second half of 2022.

In the sale of securities instrument alone, the NBP has at its disposal a reserve of 138.9 billion PLN. Additionally, taking into account the possibility for the NBP (and not the treasury) to issue retail

¹⁰ Analysis of the interest rates in leading global banks (Lynxbroker.pl, n.d.) shows that in Poland (in relation to the level of inflation), the central bank uses base interest rates considerably above the global average.

¹¹ And even does not exclude an increase. This is due to the fact that from the annual perspective there is a redemption (buyback) of a considerable amount of securities sold earlier by the FED, and at the same time a return of potentially inflationary money onto the market, which can cause a return of inflation.

securities, it would be possible to withdraw around 200 billion PLN from the market. Importantly, this instrument is aimed at money that appeared on the market in the past.

Fifthly, although the influence of the NBP on the parameters of tools at the disposal of the PFSa is not decisive, the development by the MPC of a clear and precise position on this matter would be of key importance in shaping the 'feeling' in the media that the NBP has a strategy that is coordinated with other participants of the monetary instrument market.

Sixthly, in combatting inflation, use should be made of the euro 'exchange method' monetary 'tool', which to date has been practically unnoticeable. It would be necessary to apply an exchange mix on the domestic and international markets so as to optimise the achievement of two constitutional goals of the NBP: combatting inflation (price stability within the inflation target corridor (2.5%+-1%)), and counteracting the depreciation/appreciation of the Polish currency exchange rate (also in the corridor, e.g. +-10% of the central exchange base rate).

The causes of inflation in Poland that I have highlighted show that the use of a mix of monetary tools at the disposal of the NBP is insufficient, although necessary. This is because NBP monetary tools have an influence on only one of three causes of inflation i.e. the oversupply of money on the market, accompanied by not eliminating their source i.e. excessive (extra)budgetary expenditure. In addition, the NBP does not have an influence on two other causes i.e. the 'import' of energy price increases and insufficient private investment, although in the case of the latter, a raise in interest rates causing an increase in investment capital costs deepens the negative 'feeling' of a lack of willingness to invest. Both the main causes of inflation (above the EU average) and the tools for combatting them are the responsibility of the Polish government.

11. General Conclusion

*After completing a demanding
and careful analysis of some sample,
you always find out that it's not that sample
and it has nothing to do with the problem.*

Law of Revision

The tools discussed synthetically in this article can be used as both anti- and pro-inflation instruments. How they are used depends on decision-makers' level of knowledge. Too high interest rates (base, reserve or credit) will 'slaughter' the economy. The issue of bonds by the government and not by the NBP, or the incorrect exchange of euros, leads to increasing the money supply on the market. The 'slaughtered' economy and the increase of money supply on the market are the simplest path to stagflation, not to combatting inflation, the results of which will be borne by each and every Polish citizen.

My synthetic assessment of the effectiveness of NBP action in combatting inflation does not lead to the claim often appearing in the media that the Polish central bank has 'hung out the white flag'. It is not my intention to claim that base interest rates are too low or too high. The dramatic situation of the Polish socio-economic system is not due to the NBP's use of base interest rates as not the most effective tool for combatting inflation, but primarily because of the lack of any professional discussions and analyses on the effectiveness of the application of various mixes of instruments at the disposal of the NBP, thanks to which:

- the NBP would effectively use all institutional monetary instruments at its disposal,
- the level of inflation (peak and cumulated) would be considerably lower, possibly even close to the average level in the European Union,

- it would be possible to recognise the NBP's success as real (not just in the media) and stable (not short-term).

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References

- Analizy.pl (n.d.). *Struktura oszczędności gospodarstw domowych*. Analizy.pl. <https://www.analizy.pl/raporty/31631/struktura-oszczednosci-gospodarstw-domowych-wrzesien-2022#:~:text=Struktura%20oszcz%20C4%99dno%20C5%9Bci%20gospodarstw%20domowych%20%28wrzesie%20%20C5%84%202022%29%20W%20trzecim,%20ponad%2050%20mld%20z%20C5%82%20C%20czyli%20ok.%203%25>
- Bankier.pl (2023a). *Handlowy rozbił bank. Zyski ponad dwa razy większe*. Retrieved 2023, May 11, from <https://www.bankier.pl/wiadomosc/Zysk-netto-Banku-Handlowego-w-l-kw-23-wyniosl-603-8-mln-zl-powyzej-konsensusu-8537959.html>
- Bankier.pl (2023b). *Tyle Polska wydaje poza budżetem*. <https://www.bankier.pl/wiadomosc/Polska-pozza-budzetem-wydaje-wiecej-niz-Niemcy-8506205.html>
- Ciekaweliczby.pl (2023, April 13). *Jak zmieniał się poziom inwestycji w Polsce?* https://ciekaweliczby.pl/inwestycje_2022/#:~:text=Inwestycje%20w%20Polsce%20jako%20procent%20PKB%20%28nak%20C5%82ady%20brutto,Polsce%20by%20C5%82%20na%20zbl%20C5%BConym%20poziomie%20co%20%20C5%9Brednia%20europejska
- Federal Reserve System (2023, March 3). *Monetary Policy Report*. Federal Reserve System. https://www.federalreserve.gov/monetarypolicy/files/20230303_mprfullreport.pdf
- Getzen, T. E. (2000). *Ekonomika zdrowia. Teoria i praktyka*. Wydawnictwo Naukowe PWN.
- Grabia, T. (2022). Reakcje Narodowego Banku Polskiego na zmiany stóp inflacji i wzrostu gospodarczego w czasie pandemii COVID-19. *Folia Oeconomica*, 3(360), 18-37. <https://doi.org/10.18778/0208-6018.360.02>
- Kolany, K. (2023, April 19). *Europa Środkowa pozostaje inflacyjnym epicentrum*. Bankier.pl. <https://www.bankier.pl/wiadomosc/Inflacja-w-Unii-Europejskiej-marzec-2023-8525546.html>
- Kolany, K. (2024, April 17). *Polska w inflacyjnym peletonie. Rumunia nowym liderem*. Bankier.pl. <https://www.bankier.pl/wiadomosc/Inflacja-w-Unii-Europejskiej-w-marcu-2024-Polska-w-srodku-stawki-8730212.html>
- Konstytucja Rzeczypospolitej Polskiej z dnia 2 kwietnia 1997 r. – (Dz.U. 1997 nr 78 poz. 483)
- Lynxbroker.pl (n.d.). *Stopy procentowe banków centralnych*. Lynxbroker.pl. <https://www.lynxbroker.pl/inwestowanie/gielda/informacje-gieldowe/stopy-procentowe-bankow-centralnych/>
- Misiński, W. (2021). *Instytucjonalna Teoria Przedsiębiorstw(a). Paradygmat (?) czy Wstęp (?) do Instytucjonalnej (?)Teorii (?) Przedsiębiorstw(a) (?)*. Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- Narodowy Bank Polski (n.d.). *Raporty o inflacji*. Narodowy Bank Polski. <https://nbp.pl/polityka-pieniezna/dokumenty-rpp/raporty-o-inflacji/>
- Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 Text with EEA relevance
- Sedláček, T., & Orrrell, D. (2012). *Zmierzch Homo Economicus*. Studio Emka.
- Szcześniak, P. (2013). Status prawny Narodowego Banku Polskiego w świetle przepisów Konstytucji Rzeczypospolitej Polskiej oraz w orzecznictwie Trybunału Konstytucyjnego. Wybrane zagadnienia. *Studenckie Zeszyty Naukowe*, 16(23), 117-131. <https://journals.umcs.pl/szn/article/view/1404>
- Taleb, N. N. (2014). *Czarny Łabędź. O skutkach nieprzewidywalnych zdarzeń*. Kurhaus.
- Taylor, J. B. (1993). Discretion Versus Policy Rules in Practice. *Carnegie-Rochester Series on Public Policy*, 39, 195-214. [https://doi.org/10.1016/0167-2231\(93\)90009-L](https://doi.org/10.1016/0167-2231(93)90009-L)
- Taylor, J. B. (1999). The Robustness and Efficiency of Monetary Policy Rules as Guidelines for Interest Rate Setting by the European Central Bank. *Journal of Monetary Economics*, 43(3), 655-679. [https://doi.org/10.1016/S0304-3932\(99\)00008-2](https://doi.org/10.1016/S0304-3932(99)00008-2)
- Taylor, J. B. (2000). Alternative Views of the Monetary Transmission Mechanism: What Difference Do They Make for Monetary Policy. *Oxford Review of Economic Policy*, 16(4), 60-73. <https://doi.org/10.1093/oxrep/16.4.60>
- Taylor, J. B. (2007). Explanatory Power of Monetary Policy Rules. *Business Economics*, 42(4), 8-15. <https://doi.org/10.2145/20070401>
- Trading Economics. (n.d. a) *Stopa procentowa – lista krajów*. Trading Economics. <https://pl.tradingeconomics.com/country-list/interest-rate>

Trading Economics. (n.d. b). *Bazowy wskaźnik cen konsumpcyjnych - lista krajów*. Trading Economics. <https://pl.tradingeconomics.com/country-list/core-consumer-prices>

Ustawa z dnia 29 sierpnia 1997 r. o Narodowym Banku Polskim (Dz.U. 1997 nr 140, poz. 938).

Ustawa z dnia 29 sierpnia 1997 r. Prawo bankowe (Dz.U. 1997 nr 140, poz. 939).

Ustawa z dnia 21 lipca 2006 r. o nadzorze nad rynkiem finansowym (Dz.U. 2006 nr. 157 poz. 1119, Tekst jednolity Dz.U. 2023 r. poz. 753).

Skuteczność instytucjonalnych instrumentów monetarnych będących w dyspozycji Narodowego Banku Polskiego (NBP). Doświadczenia dwóch lat walki NBP z inflacją

Streszczenie

Cel: Celem artykułu jest próba odpowiedzi na trzy pytania badawcze: Czy osiągnięcie tak wysokiego (szczytowego i skumulowanego) poziomu inflacji w Polsce było nieuniknione? Czy spadek poziomu inflacji w Polsce do poziomu średniej Unii Europejskiej można uznać za realny i trwały sukces działań NBP? Czy w walce z inflacją NBP wykorzystał wszystkie dostępne mu instytucjonalne instrumenty polityki pieniężnej?

Metodyka: W procesie prezentacji, analizy i oceny instytucjonalnych instrumentów pieniężnych przyjęto następujące założenia metodologiczne: Po pierwsze jako metodologiczny wymóg badawczy przyjęłem zalecenie (metodę analizy) Kennetha J. Arrowa, zgodnie z którym analiza przepływu pieniądza dostarcza więcej informacji niż jakakolwiek inna analiza. Po drugie oceniałem wyłącznie skuteczność instrumentów polityki pieniężnej zgodnie z założeniem metodologicznym, według którego prawdziwość twierdzeń (stosowanych instrumentów polityki pieniężnej) ma sens tylko w kontekście przyjętych założeń (przyczyn inflacji), których fałszywość a priori przesądza o fałszywości teorii lub modeli (skuteczności walki z inflacją).

Wyniki: W artykule dokonano analitycznej i syntetycznej oceny skuteczności instytucjonalnych instrumentów polityki pieniężnej stosowanych przez NBP.

Implikacje i rekomendacje: Przeprowadzona analiza stanowi podstawę do przedstawienia rekomendowanych zmian w strategii walki z inflacją w przyszłości.

Oryginalność/wartość: Artykuł jest autorską analizą i oceną poziomu (nie)skuteczności wykorzystania przez NBP będących w jego dyspozycji instrumentów monetarnych.

Słowa kluczowe: inflacja, nowa ekonomia instytucjonalna, instrumenty monetarne, Narodowy Bank Polski
