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Interest Rate Policy, Asset Value, and the National Bank of Poland's Financial Outcomes

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Abstract:

Purpose: *This study examines the impact of interest rate changes on the asset value of the National Bank of Poland (NBP) from 2015 to 2023, considering the broader financial outcomes of the Central bank.*
Design/Methodology/Approach: *The research employs statistical and econometric techniques, including the vector autoregression (VAR) model and the Granger causality test. It also utilizes literature reviews in banking and finance. Data sources include the National Bank of Poland's financial reports and quarterly data from the Bank for International Settlements.*
Findings: *The study finds that while changes in NBP interest rates correlate with shifts in the bank's asset value relative to GDP, the impact is relatively weak (correlation coefficient of 0.31). The Granger causality test suggests that other economic and non-economic factors significantly influence asset value changes. The NBP's financial performance fluctuated over the analyzed period, with losses occurring in years of rising interest rates due to increased costs on reserves and money bills.*
Practical Implications: *The findings highlight the challenges Central banks face in maintaining financial stability while implementing monetary policy. The study underscores the importance of Central bank capital management and the potential need for government intervention in extreme loss scenarios.*
Originality/Value: *This research contributes to the ongoing discourse on Central bank financial stability by analyzing the unique case of the National Bank of Poland. It offers empirical insights into the effects of interest rate policy on Central bank assets and financial performance, with broader implications for Central bank independence and monetary policy effectiveness.*

Keywords: *Central Bank, assets, interest rate, Poland.*

JEL classification: *E58, E52, G12.*

Paper type: *Research article.*

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1. Introduction

Because the idea of Central bank losses is so alien to Central banking, Central bankers may perceive their emergence as a sign of a lack of financial discipline, which might eventually cast doubt on the stability of the financial system. The biggest question is whether Central banks' financial losses may compromise their ability to fulfill their principal goal of keeping the nation's prices steady. It makes sense to assume that Central banks in bad financial standing might lose a significant amount of their independence, legitimacy, and public trust.

Actually, if a Central bank has to increase income and profits, it may have to give up on its inflation aim if it is experiencing losses and is running on a low level of equity. As an alternative, the government may provide the Central bank with a capital infusion, although this is unlikely to happen due to the negative image the Central bank would acquire. Since there is no bankruptcy process for these public organizations, Central banks are unable to file for bankruptcy.

Furthermore, taxpayers ultimately fund Central banks since national governments are their beneficial owners. The US Federal Reserve (which is entirely owned by private banks), the Banca d'Italia, the National Bank of Belgium, the Bank of Greece, the Swiss National Bank, the Bank of Japan, and the Central Bank of Turkey are among the Central banks that are exempt from bankruptcy. According to scholarly research, Central banks with private shareholders and public Central banks seem to be identical in terms of profitability and the percentage of earnings distributed to shareholders (El Joueidi, 2024).

Central banks benefit monopolistically from the issuance of bank reserves and currency. Since creating fiat money is an extremely lucrative enterprise, these profits are produced consistently. Central banks have taken financial positions, taking on substantial interest rate, credit, equity, and currency risks ever since they started using their balance sheets to offset the consequences of the global financial crisis, the Covid epidemic, and other catastrophes.

Long-term government and corporate bond yields (on the asset side) have significantly outpaced the interest rates on excess reserves (on the liability side) as Central banks' balance sheets expanded and interest rates dropped to around zero beginning in 2008. This has resulted in substantial profits for Central banks. Consequently, cumulative payments to governments have grown dramatically throughout this time. Balance sheets expanded even more quickly in 2020, which compelled Central banks to purchase pricey government bonds with low or even negative returns.

This increased the value of balance sheets that were exposed to more interest rate risk. In 2021, Central banks' earnings and equity declined as they started to reduce their balance sheets and hike interest rates in reaction to inflation.

On the asset side, Central banks started to post large capital losses on their bond holdings while paying higher interest rates on private bank deposits—possibly even surpassing their seigniorage revenues.

2. Central Bank Balance Sheet

The profit made by issuing physical national money monopolistically is the main source of income for the majority of Central banks. The gap between the banknote's (or coin's) face value and its production costs (seigniorage) yields these earnings. Generally speaking, the cost of creating a banknote is a tiny portion of its face value. Supported by interest-bearing assets, the banknote is a Central bank obligation that does not bear interest.

Unless interest rates drop to zero or the value of the assets decreases, this spread produces a source of income that is always positive. Because of the demand for their physical money worldwide, currencies function as international reserve currencies, like the US dollar, may frequently earn privileged seigniorage income. In normal times, seigniorage revenue indicates that Central banks are structurally lucrative (Martinez-Resano, 2004; Hakim *et al.*, 2022; Hakim and Thalassinos, 2023).

In Central bank financial accounts, seigniorage revenue is typically difficult to identify. Seigniorage is correlated with the quantity of new currency that is issued. This net income flow is not individually recognizable in the accounts of the majority of Central banks as they do not specify the precise assets that support the printing of banknotes. Any upcoming Central bank digital currency (CDBC) launch by Central banks may have an effect on their seigniorage income, either by providing a new source of income in the form of a seigniorage CBDC or by reducing revenue in the event that banknote issuance were to drastically reduce.

Commercial banks may be required by certain Central banks to maintain a specific level of reserve requirements or other deposits with the Central bank, which are frequently accompanied by fees. Prudent liquidity management in the financial sector has always included such considerations. In order to provide a positive source of revenue, the requirement to pay a charge produces an interest-bearing debt that is often turned into higher-bearing Central bank assets.

Generally, the short-term interest rate is the highest amount of interest that may be paid into commercial bank accounts. In contrast, commercial bank loans pay at least the short-term interest rate and perhaps a premium. Higher yields are possible if the yield curve slopes upward since other assets, including fixed-income instruments, usually have longer maturities. However, this yield may be jeopardized by abrupt increases in interest rates. This is due to the fact that although higher yields on long-term bonds only apply to new purchases, higher interest payments are instantly applied to all reserve accounts. Fixed-rate securities held in Central bank assets therefore lose value.

On their balance sheet, Central banks also have a portfolio of foreign exchange reserves. There could be a sizable open currency position in some situations, while in others, they might be hedged against currency risk, resulting in a net zero holding. In either scenario, such foreign exchange reserves may typically be managed to provide positive net income utilizing a variety of risk premiums when there is no Central bank intervention in the foreign exchange market. This income is not certain, though, and is vulnerable to significant variations in the currency rate if it is not hedged.

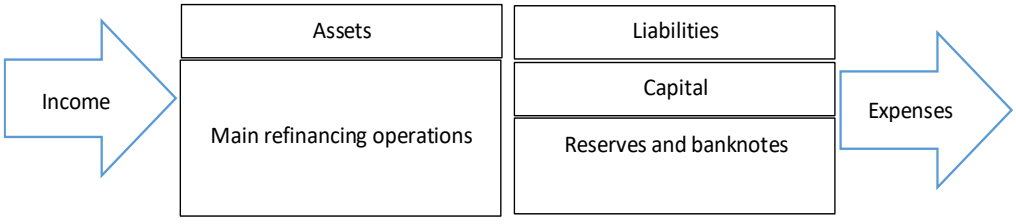
The commercial banks' reserves and banknotes, which collectively make up Central bank money, are known as Central bank liabilities. This is the most liquid, risk-free asset in the economy and the best asset for settling transactions. A Central bank's equity is the difference between the value of its assets and liabilities. The capital position of a firm and the capital position on the balance sheet of a Central bank seem to be comparable at first look.

Although the government is often a Central bank's shareholder, certain Central banks do have private investors. A Central bank's share capital and its own reserves perform the same role as a commercial bank's: they operate as a protection against losses. Like firms, it builds up its own reserves by holding onto net income. Outside of emergencies, the majority of Central banks are quite successful. However, their long-term capacity to build wealth is constrained by their mandate to distribute dividends to shareholders, mostly their governments.

The money that the Central bank's founders contributed when it was first established is known as share capital. These funds are frequently modest and paid in at face value. As a result, a Central bank's own reserves fluctuate in value in response to gains or losses, which might result in a negative total capital position.

Banknotes that incur no expenses for the Central bank and reserves that are far less value than banknotes are depicted in Figure 1 alongside loan operations that produce interest at the reference rate. While the surplus is interest-bearing at the deposit rate, which is thought to be lower than the reference rate, the portion of the reserves that corresponds to the minimum reserve needs is interest-bearing at the reference rate.

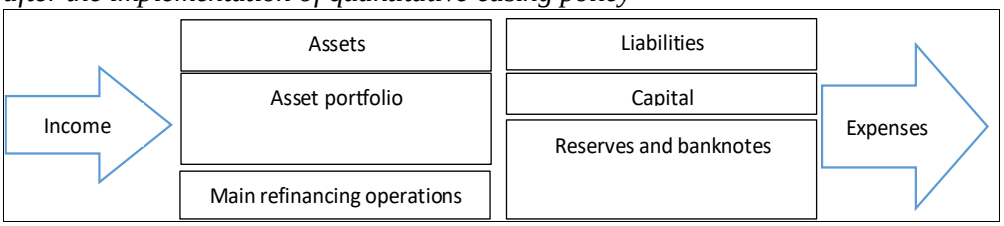
Figure 1. *Assets and liabilities in the Central bank's balance sheet during the period of standard monetary policy*



Source: *Own study.*

Because the interest revenue from the Central bank's assets exceeds the interest expenditure from its obligations, Figure 1 makes it evident that the Central bank is structurally profitable during normal times. However, Central banks may use non-standard measures (QEAP) to carry out their mandates at times of crisis or deflation risk, which might eventually result in losses for them (Figure 2).

Figure 2. *Assets and liabilities in the Central bank's balance sheet in the period after the implementation of quantitative easing policy*



Source: *Own study.*

In this case, a rise in interest rates instantly drives up the Central bank's expenses as more interest is paid on the reserves that commercial banks have placed with the Central bank. The rate of return on assets kept stays essentially constant since portfolio assets have extended maturities and only a portion are renewed at increased interest rates. Due to structural changes in their balance sheets, Central banks may eventually experience losses and negative net interest income as a result of some of the monetary policy measures that were required to enable them to carry out their mandates in the face of shifting conditions.

3. Literature Review

In this instance, an increase in interest rates immediately raises the Central bank's costs since commercial banks' reserves held with the Central bank are subject to higher interest payments. Due to the long maturities of the portfolio's assets and the fact that only a percentage of them are renewed at higher interest rates, the rate of return on assets held remains almost constant.

Eventually, some of the monetary policy actions needed to allow Central banks to fulfill their mandates in the face of changing conditions may result in losses and negative net interest income due to structural changes in their balance sheets. This is justified by the fact that governments support their Central banks by offering a guarantee that helps preserve public trust. Since prudential rules would expose Central banks to the same risk restrictions as private banks, they might possibly jeopardize this guarantee. Because it has the authority to issue money and is not subject to the standard business solvency regulations, a Central bank can nonetheless function with a negative net value in accounting terms.

Central banks can always pay their debts in their own currency since they are the only ones issuing it. There are two limitations on the production of money. First,

printing more money than is needed will eventually lead to inflation and be against the Central bank's goal of monetary stability in all nations. Second, the amount of money that the Central bank may issue may be legally restricted. Foreign currencies are likewise subject to restrictions.

If Central banks deplete their foreign exchange reserves and/or lose access to the global currency market, they may be in danger of defaulting on their foreign exchange obligations. Under such situations, a nation is typically forced to look for assistance from foreign Central banks or take out a loan with terms from an international institution like the IMF.

Unlike commercial organizations, Central banks rely on the strength of their shareholders, which always includes the Ministry of Finance, rather than their own capital. As a result, a Central bank's credit rating is nearly identical to that of its national government.

There is a compelling argument for Central banks to have their own capital and reserves, or at the very least, to be better equipped to carry out its policies with a robust capital basis, even though it is possible for them to operate with negative equity. A Central bank's independence and credibility may be reinforced by its financial strength, especially when it comes to communicating to the market that it is prepared and able to respond to a crisis swiftly and unhindered.

Another argument is that Central bankers who supervise commercial banks' capital needs as prudential regulators are better positioned to do so if their own institution is seen as having strong financial standing. Generally speaking, a Central bank that is financially independent has the resources to do its duties without unduly depending on the government (Haldane, 2020).

On the other hand, the finance ministry and, consequently, political factors may limit or even dictate the policy choices of a Central bank that is financially dependent. Market players may believe that a Central bank is losing its political independence when it lacks enough financial resources. Having strong financial resources is important for a Central bank's legitimacy and independence, not simply its financial resources.

According to Dalton and Dziobek (2005), a Central bank should be able to make a profit at the level of basic seignorage revenue under normal conditions. However, a variety of initiatives, including as open market operations, sterilization of foreign exchange inflows, foreign and domestic investments, loans and guarantees, and expenses associated with banking sector reorganization, caused losses for a number of Central banks.

Honohan (2019) asserts that economic logic compels Central banks to have positive equity, despite the fact that they often function with negative equity. Nonetheless,

over time, a few Central banks—such as the Central Bank of Chile, the Central Bank of Israel, and the Czech National Bank—have functioned with negative equity.

According to Honohan (2019), a Central bank's operations may be constrained by domestic debt and net liabilities denominated in foreign currencies if its losses continue for an extended length of time. The Central bank's independence and credibility may be in jeopardy, and monetary management may be disrupted if the issue of paying existing losses or the consequent negative net worth is not resolved.

The issue of how a Central bank's authority influences its decision-making procedures and the efficacy of its monetary policy was the main focus of Prieto's (2022) investigations. According to the findings, a Central bank's cumulative earnings fortify its independence and shield it from outside political forces. How profitable Central banks may support economic development through financial stability and Central bank policy was the main emphasis of Schwarz *et al.* (2015)'s study.

The study's authors claim that any losses might jeopardize the Central bank's institutional independence by compromising its operational independence and reputation. According to Hoffmann and Loeffler (2017), Central banks may be compelled to carry out less expensive absorption operations in order to stop losses, which might restrict their autonomy in implementing monetary policy.

Bell *et al.* (2023) assert that Central bank losses do not always indicate a failure of monetary policy and do not have to restrict the efficacy of financial and monetary policy. While pricing and financial stability are part of Central banks' policy responsibilities, profit maximization is not.

The policy measures intended to assist them in carrying out their mandates have resulted in both their recent losses and their previous gains from quantitative easing. Furthermore, Central banks may function efficiently even with negative equity and are exempt from bankruptcy proceedings and capital adequacy standards.

Furthermore, Franta *et al.* (2022) provide projections for the balance sheet of the Czech Central Bank (CNB), indicating that equity would eventually revert to positive values and that losses will finally transform into profits. In any event, under so-called "normal" circumstances, Central banks that have negative equity as a result of previous losses ought to be able to earn a profit eventually.

Bunea *et al.* (2016) state that although earnings are a crucial measure of commercial banks' operational success, Central banks do not necessarily need to consider them. This is due to the fact that Central banks are not organizations that aim to maximize profits; rather, their effectiveness should be evaluated by how well they carry out their duties.

According to Galli and Neri (2023), practically all of the eurozone's Central banks have seen a decline in their profit and loss accounts in recent years. The authors clarify, however, that even in cases when the Central bank's losses are significant and ongoing, the Central bank shouldn't have to request funding from governments since, at least temporarily, Central banks can function efficiently with negative capital.

According to Galli and Neri (2023), chief economist at Morgan Stanley, even if Central banks lose money, they do not become bankrupt or lose their ability to implement monetary policy because they cease sending money to the Treasury and instead accumulate these losses as "deferred assets."

The Central bank will thus record the loss as a deferred asset on its balance sheet, which indicates the amount of the loss that must be replaced by future earnings, rather than lowering its capital and reserves to cover the loss. Even in times of loss, Central banks may preserve their operational capacity and financial stability thanks to the idea of delayed assets, which has no immediate negative effects on their ability to implement monetary policy (Wigglesworth, 2022).

Since governments own all of the Central banks in the great majority of situations, the national treasury typically receives the earnings that the Central banks make. However, if Central banks declare losses, governments may, in extreme cases, transfer cash to them in an effort to repair their financial situation.

Concerns over the independence of Central banks' decisions in the face of political pressure from governments may arise in such a scenario. Furthermore, new research indicates that Central banks are more likely to make money and deliberately avoid disclosing losses, despite the claims of numerous Central banks that losses are irrelevant for evaluating their operational and policy effectiveness.

In order to determine if and why Central banks refrain from disclosing losses, Goncharov *et al.* (2023) also carried out empirical investigations. This study's primary goal was to determine whether the distribution of Central bank earnings exhibits a discontinuity when it approaches zero, as this should indicate a preference for gains over losses. The authors claim that Central banks choose to declare tiny profits rather than modest losses, indicating that they control earnings to prevent losses.

Ono and Pina (2023) assert that the fiscal balance sheets of governments shouldn't be significantly impacted by Central bank losses. But since these losses will continue for years, even a minor effect on government budgets will have a lasting effect.

In reality, very few nations have laws that outline the proper recapitalization process for Central banks. For instance, in Georgia and Tanzania, the government may issue

market-rate securities to provide the Central bank more capital, but in Armenia and Botswana, the recapitalization may be carried out by issuing securities that do not yield interest.

From the Central bank's point of view, the state recapitalization of the Central bank should give it more marketable assets or a direct transfer of cash if it is to support the execution of monetary policy.

Unpaid capital won't give the Central bank the extra resources it needs to implement monetary policy; it can only be used to offset the Central bank's accounting loss (Long and Fisher, 2024).

4. Data and Empirical Results

The theoretical approach holds that interest rate fluctuations significantly affect Central banks' financial performance and asset values. Interest rate increases have the potential to lower the value of stored fixed-rate assets and have a detrimental impact on the Central bank's overall financial performance.

Therefore, the drive behind the model study was an attempt to empirically validate the connections between shifts in Central bank interest rates and the Central bank's asset holdings' value in relation to Poland's GDP that are found in theoretical studies. The following single-equation model is used to show the connections that have been studied in this paper.

$$aPOLAND = \alpha + \beta \cdot irPOLAND + \varepsilon \tag{1}$$

where:
aPOLAND - value of NBP assets in relation to GDP in %;
α - the free term of the equation;
β - sensitivity coefficient;
irPOLAND - NBP reference rate in %;
ε - random component.

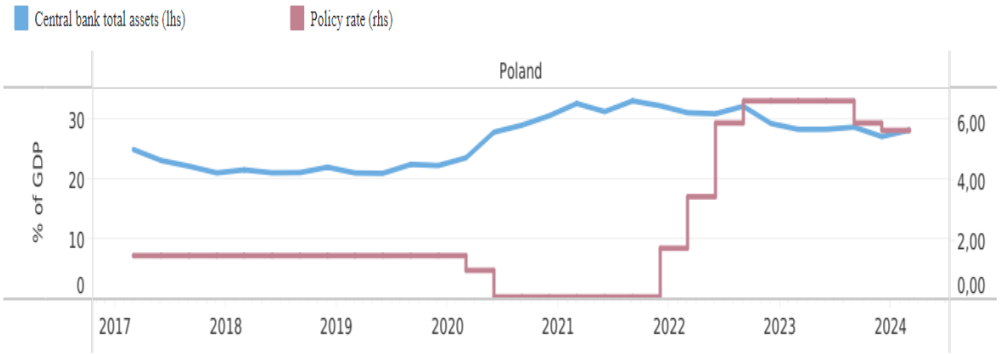
The Bank for International Settlements' database and the National Bank of Poland's yearly financial reports provided all of the statistical information utilized in the study. The data were collected quarterly and the analysis period was from 2015 to 2023.

According to the statistics shown in Figure 3, interest rates were at a relatively low level of 1.5% from 2015 to 2020 before the NBP steadily lowered them to 0.1%. In the post-pandemic period, which began in 2022, the BNP interest rate increased systematically, peaking at 6.75% between mid-2022 and mid-2023. In the months that followed, the NBP reference rate saw a fresh decline to 5.75%.

Changes in the value of the Central bank's assets relative to GDP coincided with changes in the NBP interest rates. In particular, until the start of 2020, the value of NBP assets relative to GDP stayed relatively constant, ranging between 23-25%.

However, in the second half of 2022, there was a significant increase in the value of these assets relative to GDP, reaching a level of over 33%. Following this time frame, the proportion of NBP assets to GDP fell significantly, reaching 27% by the end of 2023. During the period under consideration, the computed correlation coefficient between changes in interest rates and the ratio of NBP assets to GDP was 0.31, which was comparatively low and positive.

Figure 3. *Reference rate and NBP assets in relation to GDP (in %) in 2015-2023*



Source: *BIS (2024).*

There is a notable difference in this regard, according to statistics on interest rates and NBP assets relative to GDP. While the standard deviation of assets to GDP was over 4.07, the standard deviation of interest rates was about 2.21. Between 2015 and 2023, the average Central bank interest rate was 2.36 percent, while the average asset-to-GDP ratio was 25.8%.

The Granger causality analysis was employed to ascertain whether the explanatory variables are significant causes of the explained variable of the model in order to validate the research hypothesis that changes in the Central bank reference rate will have a significant impact on the value of assets held by the Central bank.

The fact of causality, which states that if the effect happens in period t, then the cause arises in period tk, is the fundamental premise of the Granger causality analysis. If the present value of variable y can be predicted more accurately with the help of previous values of variable x than without them, but the other information stays the same, then variable x is a Granger cause for variable y (Maddala, 2008).

The null hypothesis states that changes in NBP assets relative to GDP were not caused by the NBP reference rate. Given the comparatively high degree of significance (Prob.>0.05), this hypothesis could not be rejected.

The idea that the NBP reference rate was not the reason behind variations in the value of NBP assets relative to GDP was thus accepted. Therefore, additional economic or non-economic variables may have had an impact on the change in the value of NBP assets, based on the Granger test results.

Table 1. *Granger causality test between the NBP reference rate and assets*

Pairwise Granger Causality Tests
Date: 11/14/24 Time: 22:30
Sample: 2015Q1 2024Q1
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
APOLAND does not Granger Cause IRPOLAND	35	3.13495	0.0580
IRPOLAND does not Granger Cause APOLAND		0.46923	0.6300

Source: *Own study.*

The estimate of equation (1) using the Vector Autoregression Model was the next step in the analysis process. This estimating method's primary benefit is that, in its instance, the phenomena under study is examined using a set of equations that concurrently resolve the issue of exogeneity of explanatory variables in line with Sims's postulate (1980). The study made the assumption that there would be two quarters y between the explanatory and explained variables.

The findings of the information criterion of the Akaike, Schwartz-Bayesian, and Hannan-Quinn models were taken into consideration while choosing the order of delays. The model with two delays has the highest information capacity based on these factors. The value of NBP assets relative to GDP over the 2015–2023 period was most positively impacted by the NBP reference rate that was one quarter behind the actual rate, according to the data in Table 2.

Measuring the effect of the NBP reference rate on the value of NBP assets relative to GDP was the next stage of the investigation. The impulse response function, which measures how the value of assets in relation to GDP responds to an impulse in the form of a unit change in the Central bank's lagged reference rate, was used to conduct this assessment.

Based on the information shown in the figure below, a unit increase in the NBP reference rate causes the value of NBP assets relative to GDP to gradually decrease until stabilizing during the seventh quarter following the shock modification.

In order to evaluate the effect of changes in the NBP reference rate on the variability of the value of Central bank assets in relation to GDP, the last step of the study involved decomposing the variance of the residual component of the value of NBP assets in connection to GDP.

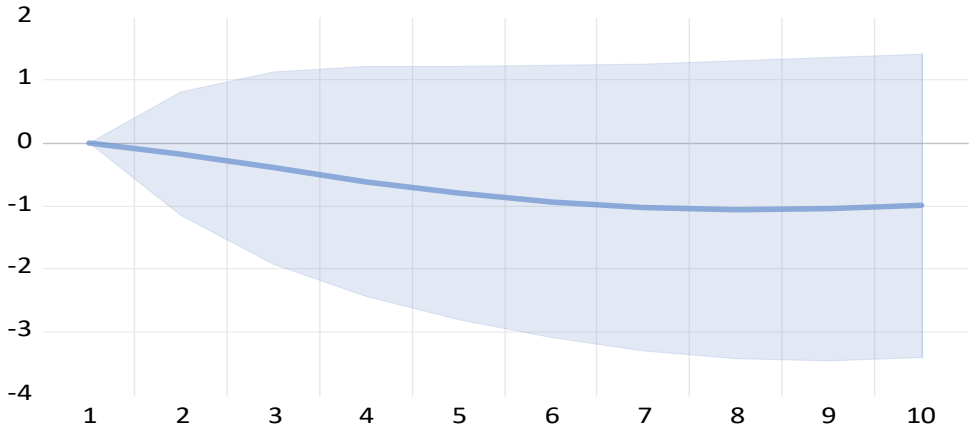
Only around 5% of the variations in the value of NBP assets relative to GDP could be explained by changes in the NBP reference rate, according to the statistics shown in Figure 5 below.

Table 2. *Parameter estimates of the VAR model*

Vector Autoregression Estimates Date: 11/14/24 Time: 22:38 Sample (adjusted): 2015Q3 2024Q1 Included observations: 35 after adjus... Standard errors in ( ) & t-statistics in [ ]	APOLAND
APOLAND(-1)	0.963072 (0.18950) [5.08215]
APOLAND(-2)	-0.013926 (0.20337) [-0.06848]
IRPOLAND(-1)	-0.176499 (0.50015) [-0.35290]
IRPOLAND(-2)	0.039919 (0.48794) [0.08181]
C	1.772285 (1.92782) [0.91932]
R-squared	0.868751
Adj. R-squared	0.851252
Sum sq. resids	75.44182
S.E. equation	1.585789
F-statistic	49.64349
Log likelihood	-63.10309
Akaike AIC	3.891605
Schwarz SC	4.113798
Mean dependent	25.99157
S.D. dependent	4.111681

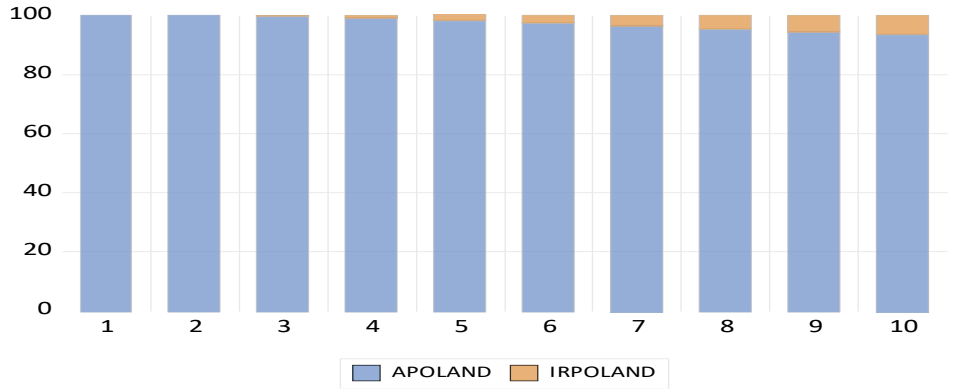
Source: *Own study.*

Figure 4. *Impulse response function of the value of NBP assets in relation to GDP to an impulse in the form of a unit change in the NBP reference rate*



Source: *Own study.*

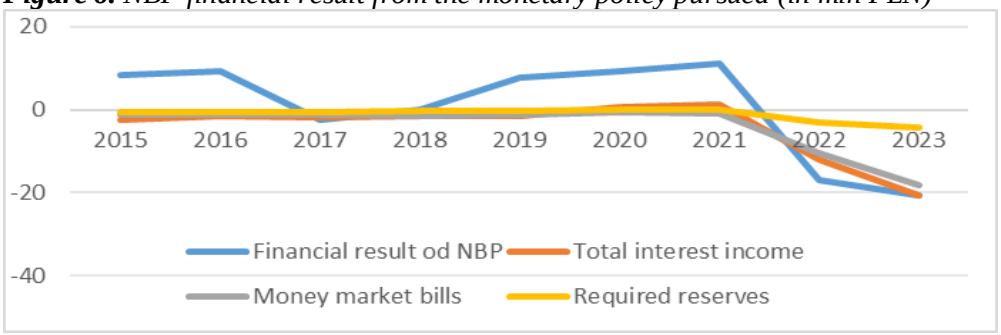
Figure 5. *Decomposition of the variance of NBP assets in relation to GDP*



Source: *Own study.*

Examining the NBP's annual reports from 2015 to 2023, it is also possible to observe that the organization's financial performance was favorable in 2015–2016 and 2018–2021. The remaining years of the period under evaluation (2017 and 2022-2023) had negative financial results for the NBP. Higher interest rates on the mandatory reserve funds held by commercial banks at the Central bank and the rising discount costs on NBP-issued money bills that were in commercial banks' portfolios were the main causes of the financial result's decline as a result of monetary policy.

Figure 6. *NBP financial result from the monetary policy pursued (in mln PLN)*

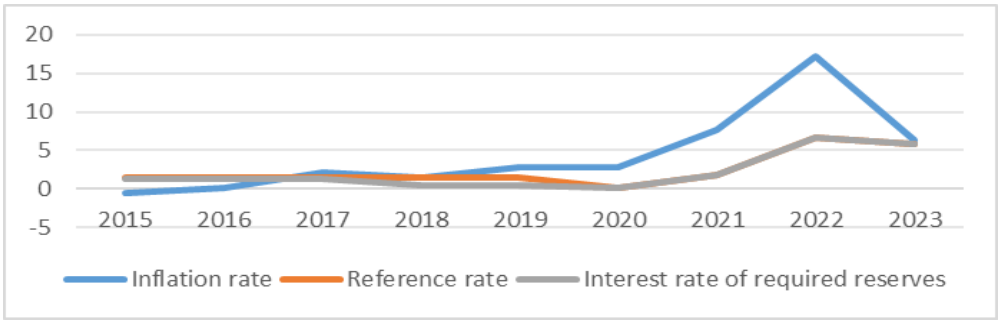


Source: *NBP (2024).*

It should be noted that the rise in NBP interest rates, particularly the reference rate and the interest rate on the obligatory reserve, as well as the average annual level of money market bills issued throughout these periods led to an increase in interest expenses.

Dynamically rising inflation during the 2020–2022 era and in the years before to the interest rate hikes were the main causes of the increase in NBP interest rates during this time. Thus, the tightening of NBP's monetary policy during a time of comparatively high inflation was closely linked to the decline of NBP's financial performance.

Figure 7. *Inflation rate in Poland, reference rate and interest on the required reserves*



Source: *NBP (2024).*

5. Conclusion

Price stability is the core goal of the majority of Central banks. Central banks carry out a variety of revenue-generating and loss-generating activities to fulfill this purpose, which are documented in the Central banks' financial statements. Instead of being viewed as an aim in and of itself, the financial outcome at the end of the year should be viewed as a byproduct or side effect of their activities.

This indicates that a Central bank, in contrast to the private sector, is driven by the public mandate to preserve price stability through monetary policy rather than by the pursuit of profit maximization. Since they are public organizations, such as Central banks, they have to handle their resources extremely carefully. Together with a strong legal framework, they should have enough capital to guarantee their financial independence, which guards against potential outside pressures and a decline in credibility that might endanger their ability to carry out their mandate and the efficient operation of the monetary system as a whole.

Nonetheless, there are rare situations where Central banks may experience short-term losses as a result of their monetary policy in an effort to maintain price stability, even though they have managed their resources carefully. In some situations, such as during certain kinds of economic crises, Central banks may be compelled to take on more risk than they typically would.

In order to fulfill its responsibilities and prevent major economic repercussions, Central banks were had to make unprecedented steps in the wake of the 2008 financial crisis and, more recently, the COVID-19 epidemic. In fact, several of these Central banks began to report short-term losses following the interest rate rises in 2020–2022, or these losses are expected to materialize soon. The National Bank of Poland is in a similar predicament.

Varied nations' accounting laws may have varied consequences on losses, and whether or not the government budget will cover these losses will determine how

much of an impact they might have on the economy. It should be made very apparent that a Central bank's objective is to preserve price stability, not to increase profits. Because Central banks are public entities, they are structurally profitable during so-called "normal" times, and their asset management is responsible and open.

Many Central banks have strong risk management procedures and establish rules that shield them from any losses in light of this. Nevertheless, the actions taken to maintain price stability throughout the recent financial and economic crises have radically altered the balance sheet structure, causing many of them to declare losses now and in the years to come.

In any event, it is not unusual for Central banks to carry out their operations and be able to fulfill their mandate even with negative equity. This is because of the laws and the capital that has been amassed, which enable them to absorb part of these losses. In any event, the losses a number of Central banks are reporting due to the sudden and drastic increase in interest rates since 2020 are probably only short-term and will be compensated for over time. To put it briefly, Central banks will continue to take the required steps to ensure price stability and carry out their public mandate despite the tremendous losses.

In the event that the government does not recapitalize the Central bank, what will be the eventual effect of the NBP's loss on the course of capital transfers and Central bank money creation? In contrast to when the Central bank turns a profit, in this case there is just a net transfer from the Central bank to certain economic sectors. Furthermore, regardless of the makeup of its assets, the Central bank creates more money anytime it experiences a loss.

However, the Central bank must be certain that the fiscal authorities would eventually sustain it in the case of more severe losses in order to be completely autonomous in carrying out its duties.

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