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THE ROLE OF GREEN MONETARY POLICY IN MITIGATING INFLATIONARY PRESSURES DURING THE ENERGY TRANSITION IN THE EU

Abstract

Objectives: *The study aims to examine how green monetary policy can support the energy transition in the European Union (EU) while maintaining price stability. Specifically, it investigates the relationship between monetary policy instruments, particularly interest rates and pro-ecological investment, inflation, and carbon dioxide emissions. The research seeks to determine whether central banks can effectively integrate climate-related objectives into their monetary frameworks to mitigate inflationary pressures during the green transition.*

Material and Methods: *The research utilized both literature analysis and econometric modeling. Panel data for 27 EU member states covering the period 2015–2022 were obtained from Eurostat. The empirical analysis employed a Vector Error Correction Model (VECM) to assess the long-run and short-run relationships among variables including GDP, inflation (CPI), long-term interest rates, green investment, and CO_2 emissions. Stationarity was tested using Levin-Lin-Chu, Pesaran-Shin, and Fisher tests, and the impulse response and variance decomposition analyses were applied to examine dynamic interactions.*

Results: *The results indicate that an increase in long-term interest rates leads to a decline in green investment and, consequently, to higher carbon dioxide emissions. Inflation also exerts a negative effect on ecological transformation by constraining financial capacity for green projects. The impulse response analysis showed that a one-unit increase in interest rates causes a gradual rise in CO_2 emissions over a seven-year horizon, while variance decomposition revealed that approximately 50% of CO_2 emission changes can be explained by interest rate fluctuations. This confirms that higher financing costs significantly hinder the green transition.*

Conclusions: *Monetary policy can play a critical role in the EU's energy transition by facilitating cheaper financing for green investments through lower interest rates. Integrating environmental objectives into central bank strategies can promote sustainable growth and mitigate climate-related inflationary risks. Green monetary policy, when effectively designed, can thus reconcile price stability with environmental sustainability, strengthening the EU's resilience to climate and energy shocks.*

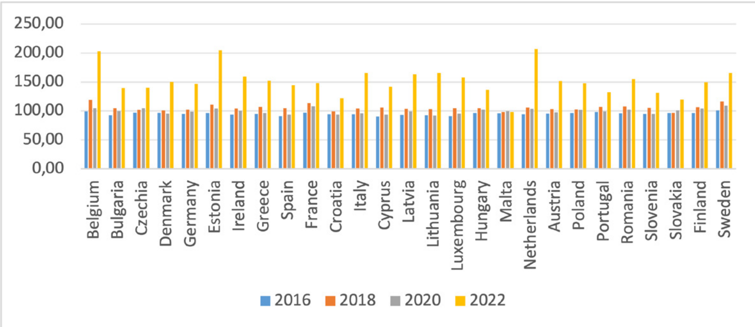
Keywords: *green economy, monetary policy, inflation, interest rate, carbon emissions*

1. Introduction

The rise in energy prices in the EU member states has many interconnected causes, and its effects are widely felt by households, businesses and governments. In recent years, and especially after the Russian invasion of Ukraine, the prices of fossil fuels (especially gas, coal and oil) have increased dramatically. Russia was one of the main suppliers of gas to the EU, and the reduction of supplies (or complete interruption) led to shortages and increased competition for the raw material. Fluctuations in oil prices on the global market have also affected the costs of electricity production, especially in countries where oil is an important source of energy. The war in Ukraine and sanctions against Russia have affected the supply chains of energy raw materials. The EU had to look for alternative sources, which resulted in higher prices due to the need for rapid market reorganization and the construction of new infrastructure (e.g. LNG terminals). The transition to renewable energy sources (RES) under the Green Deal policy involves investments in new infrastructure, which initially increases costs. The introduction of the Emissions Trading System (ETS) also affects the increase in energy prices, as companies have to buy CO2 emission allowances, which increases the costs of energy production from fossil fuels. The lack of stability in energy production from renewable sources also increases the demand for traditional energy sources, such as gas or coal, which increases their prices. The largest increases in energy prices in the EU took place in 2022, in particular in the Netherlands, Estonia and Belgium (by over 100% compared to 2015), while the smallest growth dynamics were found in Malta and Croatia, where energy prices were similar to those in 2015 [Figure 1].

The increase in fuel prices affects the costs of transport and distribution of energy. Transporting gas, oil and even coal is becoming more expensive, which additionally increases energy costs. Due to the drive for decarbonisation and withdrawal from investments in fossil fuels, there is a lack of new investments in traditional energy sources, which limits their availability and increases costs. The increase in energy prices translates into higher electricity, gas and heating bills. Households, especially those with lower incomes, experience greater financial difficulties, which leads to so-called energy poverty. Companies, particularly those in energy-intensive sectors must pay more for energy, resulting in greater production costs and a decline in worldwide competitiveness. Because energy is a basic expense in many areas of the economy, rising energy prices create an overall increase in the pricing of goods and services (greenflation). This puts further strain on households and businesses.

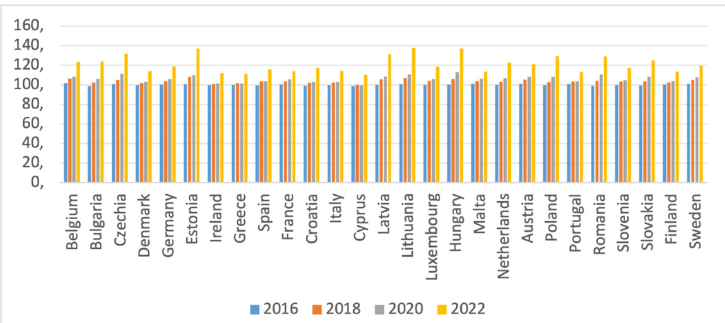
Figure 1. *The dynamics of energy price in the EU countries (2015 year=100)*



Source: Own study based on Eurostat data (2024).

In the case of EU countries, the highest price dynamics of consumer goods and services was recorded in Lithuania, Estonia and Hungary (an increase of around 37% compared to 2015), while the lowest price dynamics was recorded in Cyprus, Italy and Ireland, where the price dynamics was around 10% compared to 2015 [Figure 2].

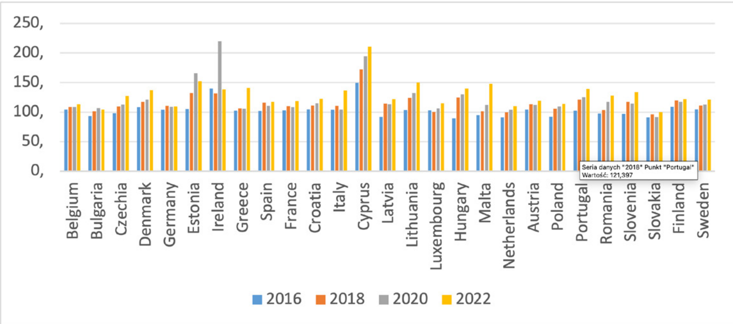
Figure 2. *Inflation rate in the EU countries (2015 year=100)*



Source: Own study based on Eurostat data (2024).

Rising energy costs generally lead to a decline in consumption and investment. Businesses usually reduce production and investment, and consumers reduce their spending on goods and services. The lowest investment dynamics were recorded in countries where energy prices rose relatively quickly, leading to a significant acceleration in inflation. This includes countries such as Slovakia and Bulgaria, where investment volumes in 2022 were similar to those in 2015. On the other hand, the highest investment growth dynamics was revealed in Cyprus (an increase of over 100% compared to the volume in 2015) [Figure 3].

Figure 3. *The dynamics of investments in the EU countries (2015 year=100)*

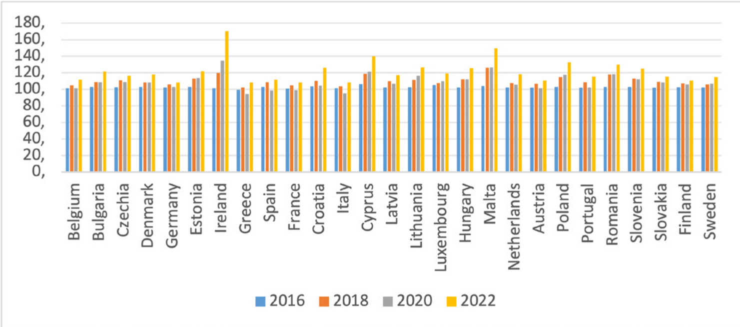


Source: Own study based on Eurostat data (2024).

The increase in energy prices, acceleration of inflation and the resulting decrease in investment and consumption dynamics led to a significant economic slowdown in the countries studied. The lowest GDP growth dynamics in 2022 were recorded in Greece, France and Italy (GDP growth of approx. 10% compared to 2015), while the highest GDP growth dynamics were recorded in Ireland (an increase of over 70% compared to 2015) [Figure 4].

The increase in energy prices has forced EU governments to take the necessary measures to protect citizens and the economy from the worst effects of the energy crisis. Various support programs have been introduced, such as energy subsidies, price freezes or tax cuts, which, however, constitute an additional burden on state budgets. The increase in energy prices in the EU is therefore a complex phenomenon that results from both external and internal factors (political, economic and technological). The effects of this phenomenon are felt on many levels and require integrated actions to minimize its negative impact on society and the European economy.

Figure 4. *The dynamics of GDP in the EU countries (2015 year=100)*



Source: Own study based on Eurostat data (2024).

2. Literature Review

There are two primary streams of the literature on climate change and central banks' policy responses to it. The first is about how financial stability and central banks' capacity to carry out their monetary policy mandate would be impacted by climate change and climate policy actions. The dynamics of inflation are impacted by climate change, which also raises medium-term macroeconomic instability (Cantelmo et al., 2023). Second, credit ratings and asset prices do not yet accurately represent the extent of market risk and climate threats. The banking industry might experience losses if these risks come to pass, which would have an impact on the transmission mechanism of monetary policy. Third, the long-term real interest rate declines due to climate change, which also raises business risk and diminishes the likelihood of economic development. As a result, traditional monetary policy tools may become less successful (Acharya et al., 2020).

The second research line looks at how much central banks can do to slow down climate change and lessen its effects on the economy (Khan et al., 2019). Because of the high correlation between economic activity and carbon dioxide emissions, monetary policy has an impact on both inflation and economic activity, which is relevant to climate change. The Taylor rule, which adds an emission gap target as a third aim to the conventional inflation and output gap targets, can be used by central banks to address climate change (Chen et al., 2021). In this instance, the emission gap can represent the monetary policy's reaction to variations in carbon dioxide emissions from budgeted amounts. Given the possibility of overloading monetary policy in such a scenario, the central bank might be faced with a difficult decision (Vollme, 2024).

Uncertainty about the timing and extent of finance for the transition to a low-carbon economy may have long-term ramifications for the global financial system. The shift to a low-carbon economy necessitates significant investments in so-called green industries in order to develop and acquire new green capital products (Weber et al., 2022). The annual additional investment necessary to decarbonize the global economic system is expected to average roughly 2% of global GDP between 2010 and 2050 (range from $1 trillion to $2.6 trillion) (Bouckaert et al., 2021). As a result, there appears to be a significant vacuum in green investment. At the moment, two primary barriers to increased financial resources entering low-carbon industries are the limited availability of credit and the unappealing risk-return profile of these kinds of investments. Thus, the extension of credit for economic sectors investing in environmentally friendly solutions should be considered by central banks when determining monetary policy (Campiglio, 2016).

According to Amit (2024), the transition to a low-carbon economy is viewed as a strategic solution to mitigating the consequences of oil and gas price shocks while also improving countries' energy security. The positive association between inflation and green credit flows observed in advanced economies may not be replicated in developing nations due to a variety of issues such as inadequate financial resources, different economic structures, and different policy objectives. When looking at countries as a whole, a wide range of economic situations and policy regimes may lessen or remove the distinctive impact seen in advanced economies. Monetary policy has been effective in managing inflation in industrialized economies to date, but it appears to have boosted inflation in developing countries.

Steffen and Waidelich (2022) believe that the existing monetary policy is adverse to the green transition. Their findings reveal that rising interest rates have a greater impact on green investments than on GHG-intensive investments, because the former are more capital-intensive and require larger upfront payments to fund, necessitating greater financial leverage. As a result, they are more vulnerable to cost rises (particularly financing prices) than their high-carbon counterparts. As a result, interest rate increases have a disproportionate impact on green activities, increasing medium-term inflation by delaying the transition process, exposing the economy to additional price increases directly related to climate change while prolonging the inflationary effects of fossil fuel dependence.

Researchers identified three distinct but related forms of shocks that can influence pricing and inflation: climatflation, fossilflation, and greenflation. Climateflation refers to price increases caused by climate-related shocks. Many researchers, like Beirne et al. (2022) and Bremus et al. (2020), have found that temperature changes caused by climate change, as well as extreme weather occurrences or major natural catastrophes such as hurricanes, droughts, floods, and others, have a considerable impact on inflation. Fossilflation is the rising cost of fossil fuel dependence caused by a lack of progress in the ecological transition. Finally, greenflation refers to the possible inflationary effect that occurs when production techniques are modified to lower carbon footprint. Carbon taxes and emissions trading programs, for example, might cause greenflation by raising the operating expenses of carbon-emitting enterprises.

Academics and central bankers agree that higher interest rates could slow the green transition by boosting the cost of sustainable investments. According to estimates, increasing the cost of capital from 5 to 10% raises the cost of electricity from offshore wind by 47%. The cost of large-scale solar panels rises by 52-54%, while rooftop solar rises by 60%. In contrast, the same rise in capital costs would result in an 8% increase in the cost of natural gas-generated energy (Voldsgaard et al., 2022). Alternative estimates indicate that a 4 percentage point increase in interest rates for gas would only increase the current net cost of energy production by 4%, whereas the same increase in interest rates for offshore wind and large-scale solar PV would increase the cost of energy by more than 30% (Ferguson & Storm, 2023).

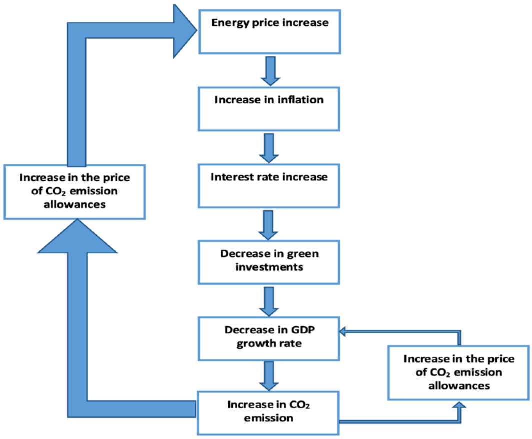
Higher interest rates make renewable energy investments riskier than fossil fuel investments. As a result, renewable energy projects must report more collateral. Furthermore, higher interest rates have a stronger negative impact on the value of green energy companies than high-carbon investments. As a result, high interest rates shield high-carbon businesses from emerging renewable energy competitors (Ferguson and Storm, 2023). Finally, higher interest rates raise the cost of borrowing for both individuals and governments (Batsaikhan, 2022).

As household budgets tighten, homeowners and renters are less likely to transition from existing, unsustainable energy systems (such as gas boilers and oil furnaces) to more sustainable alternatives (such as solar systems and heat pumps). Higher interest rates also make it more expensive for governments to borrow money to fund green development. In conjunction with increasing interest rates, the quantitative tightening strategy, which involves reducing central bank balance sheets by terminating asset purchase programs, has an uncertain environmental impact. Reducing market liquidity may help with decarbonization because central bank asset purchase programs target high-emission sectors, but it may also impede the green transformation by raising capital costs (DiLeo, 2023). As a result, Ferrari and Nispi Landi (2021) propose periodically implementing a green quantitative easing strategy and shifting the central bank's balance sheet toward green bonds.

3. Methodology

This part of the article attempts to empirically examine whether monetary policy can affect pro-ecological expenditure and, as a result, the level of carbon dioxide emissions in the economy. Therefore, the potential impact of interest rates on carbon dioxide emissions was examined by creating appropriate conditions for financing green investments, while ensuring a stable price level in the European Union economy. According to the adopted model assumption, the increase in energy prices leads to an increase in inflation, which results in an increase in interest rates in the country as a result of the appropriate reaction of the central bank to rising prices. Subsequently, rising interest rates cause a decrease in investment expenditure (including expenditure financing green investments), which results in a decrease in GDP dynamics. The decrease in real incomes means that enterprises, households and governments of individual countries are less interested in financing pro-ecological projects, which ultimately leads to an increase in carbon dioxide emissions in the economy [Figure 5].

Figure 5. *The mechanism of price impulse transmission in the green economy*



Source: Own study.

To investigate the relationship between monetary policy and the effects of pro-environmental investments, the following panel data model was used. The econometric model was proposed by Roy (2024).

$$E_{it} = \alpha_i + \beta_{1i} GDP_{it} + \beta_{2i} Green_{it} + \beta_{3i} IR_{it} + \beta_{4i} CPI_{it} + \varepsilon_{it} \quad (1)$$

Where :
E_{it} – carbon dioxide emission level in countries i = 1, 2, …, N in the period t = 1, 2… T;
GDP_{it} – gross domestic product in countries i = 1 , 2, …, N in period t = 1, 2… N;
$Green_{it}$ – value of expenditures on pro-ecological purposes in countries i = 1, 2, …, N in the period t = 1, 2… N;
IR_{it} – long-term interest rate (yield rate on 10-year Treasury bonds) in countries i = 1, 2, …, N in period t = 1, 2… N;
CPI_{it} – , consumer price index measuring the inflation rate in countries i = 1, 2, …, N in the period t = 1, 2… N;
B_{1i}, …, β_{4i} – estimated parameters defining the influence of a given explanatory variable on the explained variable;
and $_{it}$ – the free term of the equation;
$\mathcal{E}_{it}$ – random error.

4. Data and enpirical results

It should be noted here that due to the fact that twenty EU member states belong to the euro zone, where a single monetary policy is conducted by the European Central Bank, while in the seven remaining EU countries independent monetary policies are conducted by national central banks, instead of central bank interest rates, the study uses long-term interest rates (10-year Treasury bond yields), which in fact affect the cost of long-term investments in all EU member states. An additional advantage of using 10-year Treasury bond yields is that their level depends on the level of central bank interest rates and the risk associated with the capital recipient. Therefore, the risk factor is also included in the levels of these interest rates.

In order to examine the potential impact of interest rate policy on the effects of ecological transformation, relevant statistical data for the European Union member states (27 countries) from the Eurostat statistical database were used. The data had an annual frequency and covered the period 2015-2022.

Before the econometric analysis, a test for the presence of a unit root was performed. The general process generating panel data can be written in the following form:

$$y_{it} = \alpha_i + \delta_{it} + \varphi_i y_{it-1} + \theta_t + \varepsilon_{it} \quad (2)$$

This method differentiates between two individual effects (α), individual linear trends (δ), heterogeneous autoregressive parameters (φ), and heterogeneous time effects (θ). In certain cases, some of these parameters may not be heterogeneous. When testing stationarity, it's crucial to examine the parameter φ. There are various methods for determining the presence of unit roots in panel data. There are two categories of tests: first-generation and second-generation. They address the question of cross-sectional data reliance differently. First-generation tests assume no interdependence, whereas second-generation tests allow for cross-sectional dependence (Staszczyk, 2017). The Levin, Lin, and Chu y tests, Peseran and Shin tests, and Fisher's test were employed to determine the stationarity of the variables under consideration [Table 1].

Table 1. *Test for the occurrence of a unit root in panel data*

Panel unit root test: Summary
Series: E
Date: 10/04/24 Time: 19:31
Sample: 2015 2022
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.25491	0.0006	27	162
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	1.77451	0.9620	27	162
ADF - Fisher Chi-square	32.7819	0.9900	27	162
PP - Fisher Chi-square	48.2003	0.6966	27	189

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Source: Own study using Eviews software.

Since the value of the p parameter is lower than the assumed significance level of 0.05, it can be stated that the variables studied do not have a common unit root, i.e. treated as homogeneous, they are stationary. The tests also indicate that some individual variables have an individual unit root, so they may not be stationary. Johansen (1988), analyzing the issues of cointegration, concluded that it is possible to study the long-term equilibrium between variables using the vector autoregression model (VAR), if this model is supplemented with the so-called error correction component, presenting the long-term relationship between non-stationary variables. This means transforming the VAR model into a vector error correction model (VECM) (Marona & Bieniek 2013).

Therefore, due to the presence of a unit root in the case of several individual variables, the vector error correction model was used instead of the VAR model. Therefore, the next stage of the analysis was to determine the structural parameters of the model (1). The choice of the order of lags between variables was made based on the Akaike and Schwarz tests. The test results indicated that the greatest information capacity was found in variables lagged by 2 periods (2 years). The results of the analysis are presented below [Table 2].

Table 2. *VECM model estimation results*

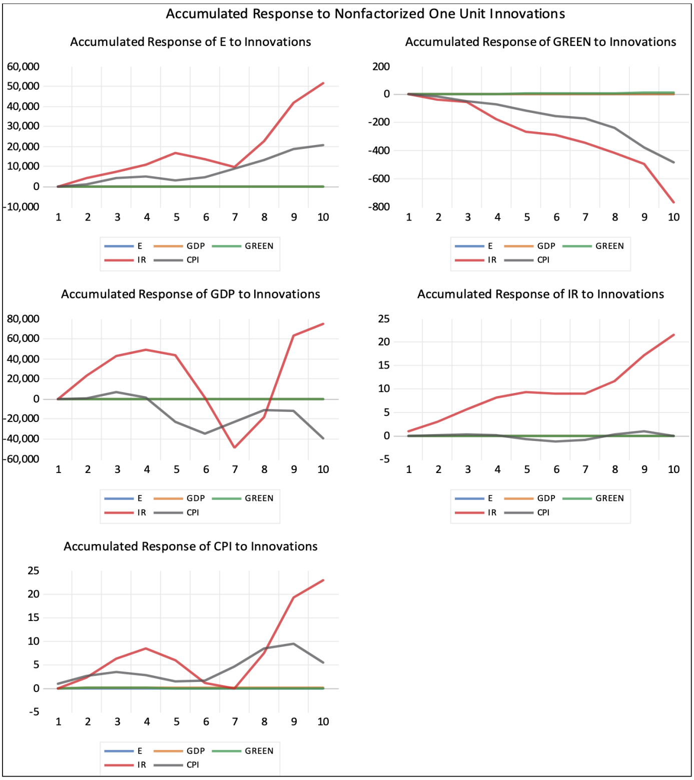
Error Correction:	D(E)	D(GDP)	D(GREEN)	D(IR)	D(CPI)
COINTEQ1	-0.0020	0.0640	0.0002	0.0000	0.0000
	0.0020	0.0097	0.0001	0.0000	0.0000
	[-0.97753]	[6.57273]	[2.68058]	[-2.52057]	[-2.12392]
D(E(-1))	0.0332	1.1885	-0.0011	0.0000	0.0000
	0.0973	0.4746	0.0029	0.0000	0.0000
	[0.34071]	[2.50418]	[-0.39067]	[-0.59070]	[-0.23755]
D(E(-2))	-0.3698	-1.5131	-0.0015	0.0000	-0.0001
	0.0990	0.4829	0.0030	0.0000	0.0000
	[-3.73497]	[-3.13348]	[-0.51200]	[-2.79832]	[-2.38621]
D(GDP(-1))	-0.2160	-0.7724	0.0021	0.0000	0.0000
	0.0265	0.1292	0.0008	0.0000	0.0000
	[-8.15730]	[-5.97996]	[2.66252]	[1.77357]	[0.72128]
D(GDP(-2))	-0.1260	-0.5874	-0.0028	0.0000	0.0000
	0.0365	0.1779	0.0011	0.0000	0.0000
	[-3.45588]	[-3.30258]	[-2.59104]	[0.03169]	[0.35137]
D(GREEN(-1))	0.8009	-24.3543	-0.0055	0.0003	0.0007
	0.2477	0.1208	0.0742	0.0003	0.0009
	[0.32332]	[-2.01587]	[-0.07440]	[1.03276]	[0.79480]
D(GREEN(-2))	12.9610	-5.8487	0.1205	0.0000	-0.0003
	0.2614	0.1275	0.0783	0.0003	0.0010
	[4.95786]	[-0.45871]	[1.53809]	[0.06402]	[-0.27363]
D(IR(-1))	4307.6549	23756.0889	-37.6591	0.8975	2.1499
	0.1412	0.6889	0.4232	0.1514	0.5233
	[3.04998]	[3.44863]	[-0.88983]	[5.92722]	[4.10863]
D(IR(-2))	-2595.0389	-13504.6688	51.8913	-0.4992	-1.3697
	0.1463	0.7137	0.4385	0.1569	0.5421
	[-1.77352]	[-1.89232]	[1.18351]	[-3.18194]	[-2.52666]
D(CPI(-1))	824.3765	5425,1204	-4.9847	0.1482	0.4073
	0.5138	0.2506	0.1540	0.0551	0.1904
	[1.60447]	[2.16487]	[-0.32376]	[2.69122]	[2.13957]
D(CPI(-2))	930.3182	4674.6714	10.8868	-0.3551	-1.4975
	0.6403	0.3123	0.1919	0.0686	0.2372
	[1.45298]	[1.49691]	[0.56743]	[-5.17344]	[-6.31289]
C	38.9195	36324.9814	49.0916	0.0460	1.4087
	0, 118 7	0, 5801	0, 3564	0.1275	0.4407
	[0.03272]	[6.26096]	[1.37724]	[0.36038]	[3.19645]
R-squared	0.6811	0.6259	0.5191	0.5981	0.5387
Adj. R-squared	0.6518	0.5916	0.4750	0.5612	0.4964

Source: Own study using Eviews software.

According to the data presented in Table 2, in the period under review there was a negative impact of the long-term interest rate lagged by two years on carbon dioxide emissions in the EU countries. This meant that the increase in the interest rate, through the increase in costs and consequently the decrease in the volume of green investments, contributed to the increase in carbon dioxide emissions in the EU economy. The negative impact of lagged inflation on the effects of the green transformation was also revealed, as the rising prices of goods and services could significantly limit the investment possibilities of households, enterprises and the government in the green economy.

The impulse response function, on the other hand, illustrates the time lines that show how variables react to unexpected events or shocks in a dynamic system. In general, the impulse response captures the reaction of any dynamic system when confronted with an external shock. An impulse in the form of an increase in the long-term interest rate caused a gradual increase in carbon dioxide emissions during the next 7 years following the shock, and then a sharp increase in CO_2 emissions in the following years. On the other hand, a shock increase in the long-term interest rate by one unit led to a sharp decline in expenditure on financing green investments within 10 years from the moment of the change in the interest rate [Figure 6].

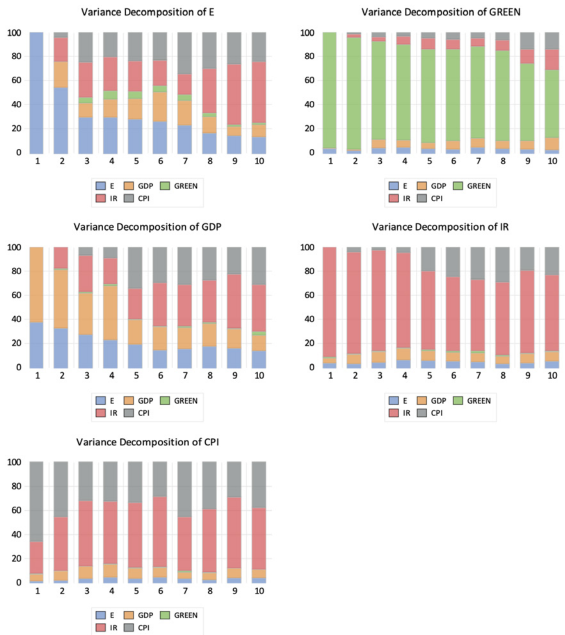
Figure 6. *Impulse response function*



Source: Own study using Eviews software.

The last stage of the analysis is the decomposition of the variance of the residual component of variables (the amount of carbon dioxide emissions and expenditures on pro-ecological investments) , in order to estimate the impact of changes in the long-term interest rate on changes in individual variables . Based on the data presented in Figure 6, it can be seen that changes in the long-term interest rate explained a significant part of the changes in carbon dioxide emissions. About 50 % of the changes in carbon dioxide emissions were explained by changes in the interest rate during the 10th year from the change in the size of the issue . However, in a much lower m the extent to which changes in the long-term interest rate were explained by changes in expenditure on financing green investments. Namely, almost 20% of changes in expenditure on financing pro-ecological investments could be explained by changes in the long-term interest rate 10 years after the change in these expenditures [Figure 7].

Figure 7. *Variance decomposition using Cholesky (d.f. adujsted) Factors*



Source: Own study using Eviews software.

Therefore, based on the research conducted, it can be concluded that monetary policy can indeed contribute to the energy transformation and meeting environmental challenges without threatening price stability, through cheaper financing of green projects at lower interest rates. Since external financing costs are the main factor determining the costs of investment in green projects, lower interest rates can contribute to falling energy prices. In the case of renewable energy sources, which are to replace fossil fuels, lowering their financing costs, and thus their prices, will reduce the inflationary effect resulting from the continued dependence of economies on non-renewable resources. Moreover, higher investment usually encourages innovation, stimulating efficiency growth, which can reduce costs and, consequently, prices. Moreover, green investments can contribute to mitigating climate change and adapting the economy to its effects, thereby reducing inflationary environmental and climate shocks and increasing resilience to risks related to changes in climate conditions.

5. Conclusion

Climate change is decreasing central banks' ability to conduct effective monetary policy by raising energy prices and increasing investment risk. Price shocks can be either transitory or lasting. Climate change hazards are split into two categories: physical risk and transformation risk. Physical climate change risk refers to the likelihood of an increase in the frequency and severity of negative supply shocks (e.g., capital stock erosion, supply chain disruptions) and demand shocks (e.g., deterioration of household and corporate balance sheets, resulting in reduced consumption and investment). While monetary policy can usually handle demand shocks, supply shocks are more difficult to eliminate because they force central banks to choose between stabilizing inflation and stabilizing production variations. The increased frequency and severity of negative supply shocks makes it more difficult for central banks to accurately anticipate potential output, the output gap, and, as a result, inflation. Changes in established weather patterns, in particular, may increase inflation volatility, for example, by affecting food and energy prices.

Transition risk emerges as a result of changes in economic policy to meet the new demands of a low-emission economy (also known as the green economy). The shift to a low-emission economy necessitates the implementation of several climate laws, significant technological advancement, investment in green technology, and significant socioeconomic changes. While this transition opens up chances for innovation, investment, and potential green growth, it also introduces hazards connected with economic upheaval. Changes in climate policy, technology, or market attitude can cause inefficient resource allocation in the economy, necessitating the revaluation of some financial assets. Climate-related changes in predicted earnings and costs, in particular, can have a detrimental impact on banks' and other financial institutions' ability to repay debt and provide collateral to borrowers, as well as enhance the credit risk they face. The rate at which such asset revaluations occur is unknown, but their consequences can be considerable for financial institution safety and soundness, as well as the economy's financial stability.

Greenflation and green monetary policy are two sides of the same coin in the global shift to a sustainable economy. Greenflation describes the inflationary pressures caused by green policies and shifting market dynamics, whereas green monetary policy refers to central banks' efforts to control these transitions and promote environmental sustainability. The challenge is to balance inflationary pressures, maintain economic stability, and direct the economy towards long-term environmental goals. Policymakers must connect green policies with appropriate risk management to ensure that the most vulnerable groups are not disproportionately affected by these changes.

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