СТАЛИЙ ТА ІНКЛЮЗИВНИЙ РОЗВИТОК, ЕКОНОМІКА ПРИРОДОКОРИСТУВАННЯ І «ЗЕЛЕНИЙ ПЕРЕХІД»

SUSTAINABLE AND INCLUSIVE DEVELOPMENT, ENVIRONMENTAL ECONOMICS, AND "GREEN TRANSITION"

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MONETARY POLICY AND ENVIRONMENTAL SUSTAINABILITY IN ALGERIA: MEASURES FOR A GREEN TRANSITION

This study analyzes Algeria's monetary policy (M1) and GDP per capita effects on ecological footprint (1981-2021) using QARDL. Results show GDP growth increases EF, while contractionary policy reduces it. Green monetary tools (e.g., tiered interest rates for sustainable projects) are proposed. Findings support integrating environmental goals into macroeconomic planning.

***Keywords**: monetary policy; environmental sustainability; QARDL; Algeria.*

Economic growth and environmental sustainability are complicated and serious issues, especially for emerging nations like Algeria. Algeria has enormous natural resources, yet fast economic expansion typically degrades the environment, as seen by increased ecological footprints. The Environmental Kuznets Curve (EKC) theory suggests an inverted U-shaped link between economic growth and environmental effects in diverse nations (Ben Amar, 2021; Kostakis et al., 2023; Pata, 2021). These studies typically underestimate the importance of macroeconomic

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policies, particularly monetary policy, in this intricate interaction. This study addresses this gap by examining how monetary policy affects Algeria's ecological footprint, which measures population strain on the ecosystem (Mishra, 2024).

Growing worries about economic development, sustainability, and environmental deterioration have led to study on monetary policy and environmental results. Understanding how macroeconomic instruments like monetary policy affect environmental footprints is crucial as governments struggle with climate change (Ahmad, Satrovic, 2023). In many economies, especially big developing markets, fiscal and monetary policies are being reassessed for their environmental impact C. Lau et al. (2023). Algeria, whose economy and environment are sensitive to macroeconomic changes due to its fossil fuel dependence and unique geopolitical and environmental context, has received little attention (Zhengxia et al., 2023).

Algeria, like many other nations, must promote economic growth while reducing the environmental implications of industrialization and energy use. Despite the rising literature on fiscal policies' environmental impact in emerging economies, monetary policy's influence on Algeria's environment is understudied. Recent research in other locations demonstrate that monetary policy, notably interest rates and money supply, might affect carbon emissions and other environmental indicators directly and indirectly (Mbassi et al., 2023). Given Algeria's prominence as a major oil producer and its efforts to diversify its economy, these findings may be useful (Mishra, 2024).

This research fills a vacuum by examining how monetary policy affects Algeria's environmental imprint, particularly Ecological footprint. The study will use econometric modelling to examine how interest rates and inflation targeting have affected environmental outcomes over the past two decades. It offers Algerian-specific policy ideas to contribute to the wider conversation on monetary policy and sustainable development. Policymakers in Algeria and elsewhere attempting to reconcile economic growth with environmental conservation will be affected by this study.

As governments worldwide struggle with economic expansion and environmental damage, monetary policy and environmental sustainability are developing fields. A large corpus of research examines how macroeconomic policies, especially monetary policies, affect environmental consequences. This literature review will synthesize studies on monetary policy and environmental sustainability, focusing on Algeria. It will help situate the current study, identifying major themes, gaps, and prospective additions to the conversation.

Recent studies have highlighted monetary policy's environmental impacts. H. Fu et al. (2023) explore the unequal effects of natural resources, rent, monetary, and fiscal policies on BRICS environmental sustainability. They find that contractionary monetary policies lower emissions across quantiles, supporting the idea that tightening can help the environment. M. Ahmad & E. Satrovic (2023) examine how economic complexity, technological innovation, and monetary policy affect G7 environmental sustainability. They found that expansionary monetary policy may promote environmental goals if inflation is controlled, showing a complex link between monetary policy and environmental results that relies on economic conditions.

Monetary policy affects environmental quality worldwide. C. Lau et al. (2023) find that expansionary monetary policies encourage technological innovation and green investments in big emerging economies, improving environmental quality. However, economic growth, population increase, and environmental degradation are complicated, with economic growth frequently worsening environmental issues, especially without focused environmental measures.

The environmental impact of monetary policy is especially important for natural resource-dependent countries like Algeria. B. Mishra (2024) examines this in BRICS-T nations and finds that fiscal measures frequently worsen environmental harm while monetary policy reduces energy use and emissions. This shows that monetary policy should support environmental goals, especially in resource-dependent countries.

For more information, T. Zhengxia et al. (2023) examine the (EKC) theory in China. Their findings show that monetary policy may cut short- and long-term carbon emissions, providing a model for growing economies like Algeria. The EKC hypothesis indicates that environmental degradation grows with economic expansion but diminishes as incomes rise and societies can buy cleaner technology. This idea may not apply to Algeria's unique economic and environmental circumstances. More research is needed.

Country financial stability affects monetary policies and environmental impacts. C. Mbassi et al. (2023) study how inflation targeting reduces environmental pollution in developed and emerging countries. Their findings imply that inflation targeting might indirectly cut emissions by encouraging green technology investment and reducing polluting industry dependence by increasing financial stability. If the financial sector can encourage green investments, Algerian monetary policy to manage inflation might promote environmental sustainability.

A growing study on green central banking shows that monetary policy may help the environment. M. Ahmad and E. Satrovic (2023) note that central banks are increasingly being asked to address climate threats. While this is more typical in advanced economies, green central banking might be utilized in Algeria to boost renewable energy projects and discourage carbon-intensive businesses. In emerging countries, balancing monetary growth with inflation management is difficult.

Many studies examine how monetary policy affects the environment using modern econometric methods. M. Ahmad & E. Satrovic (2023) and H. Fu et al. (2023) use MMQR to track monetary policy effects across emissions levels. This approach helps explain how monetary policy affects environmental outcomes at different stages of economic development, which is important for Algeria, because its environmental impacts vary by industrialization and resource extraction.

The literature is expanding, yet gaps remain. The research concentrates on major economies or regional blocs like the BRICS or G7, with little attention to resource-dependent countries like Algeria. This obscures how monetary policy affects environmental outcomes in less varied economies. Second, while numerous studies show that monetary policy may increase environmental sustainability, the processes are less clear, especially in resource extraction and energy usage.

Understanding these factors is essential for devising monetary policies that balance economic development and environmental sustainability in Algeria, where fossil fuels dominate the economy.

In conclusion, current work on monetary policy and environmental sustainability is useful, but Algeria and comparable economies require additional investigation. This paper addresses this gap by examining how monetary policy affects Algeria's environmental footprint, emphasizing how monetary instruments might reduce resource extraction and energy use-related environmental harm. This research will expand our understanding of how monetary policy might assist environmental sustainability in resource-dependent economies by expanding on prior theoretical and empirical investigations.

The purpose of this article is to quantify the impact of monetary policy (M1) and GDP growth on Algeria's ecological footprint using QARDL modeling, proposing actionable green monetary tools for sustainable development.

THEORETICAL FRAMEWORK

This section presents the theoretical foundation for examining the relationship between monetary policy, economic growth, and environmental sustainability.

The Environmental Kuznets Curve (EKC) Hypothesis. The EKC hypothesis suggests an inverted U-shaped relationship between economic growth and environmental degradation. Initially, as GDP per capita increases, pollution and resource depletion rise. However, after a certain income level, environmental quality improves as societies invest in cleaner technologies (Pata, 2021). Algeria's current industrialization stage places it in a crucial phase where policy interventions could shift its trajectory toward sustainable growth.

Monetary Policy and Environmental Sustainability. Traditional monetary policy aims at controlling inflation and economic stability (Cheddad, Mekidiche, 2024; Cheddad, Mekidiche, 2023), but recent literature (Ahmad, Satrovic, 2023) highlights its potential role in shaping environmental outcomes. Central banks can influence green investments through interest rate adjustments and liquidity controls that favor sustainable industries. This study investigates how contractionary monetary policy might reduce Algeria's ecological footprint by curbing energy-intensive activities.

Macroeconomic Transmission Mechanisms. Monetary policy affects environmental sustainability through multiple transmission channels:

Credit and Investment Channel: Higher interest rates discourage investment in carbon-intensive industries while promoting green financing;

Exchange Rate and Trade Channel: A stronger currency from contractionary policy may reduce imports of polluting goods;

Consumption and Demand Channel: Reduced money supply lowers aggregate demand, potentially decreasing energy consumption and emissions.

This framework justifies the study's hypotheses and econometric modeling choice, providing a solid basis for analyzing Algeria's monetary-environmental dynamics.

METHODOLOGY

Model and Data. To identify the phases at which (M1) and (GDPPC) affect environmental performance, we must study their effects in the short, long, and intermittent periods. Table 1 highlights the research variables. Use dynamic quantile ARDL modeling. This estimate shows the variables' connection. This model enhances the ARDL model by evaluating coefficient variability throughout ($0 < \tau < 1$) of the response variable's conditional distribution Algeria 1981-2021 data are used (Kwanbo et al., 2022).

$$EF = f(\text{M1, GDPPC}), \tag{1}$$

$$\ln EF_{it} = \text{a0} + \beta_1 \ln \text{M1}_{it} + \beta_2 \ln \text{GDPPC}_{it} + \varepsilon_{it}, \tag{2}$$

$$y_t = \beta_0(\tau) + \beta_1(\tau) y_{t-1} + \beta_2(\tau) x_{1t} + \beta_3(\tau) x_{2t} + \lambda_1(\tau) x_{1t-1} + \lambda_2(\tau) x_{2t-1} + \varepsilon_t, \tag{3}$$

where β_i — the coefficients represent the current values of the variables at the specified quantile (τ); λ_i — the coefficients represent the values of the variables at a specific quantile, taking into account their lagged values; ε_t — the error term at time *t*.

Models are shown in the following Eqs:

$$\ln EF_t = \beta_0(\tau) + \beta_1(\tau) \ln EF_{t-1} + \beta_2(\tau) \text{M1}_t + \beta_3(\tau) \text{GDPPC}_t + \\ + \lambda_1(\tau) \text{M1}_{t-1} + \lambda_2(\tau) \text{GDPPC}_{t-1} + \varepsilon_t. \tag{4}$$

The Quantile Autoregressive Distributed Lag (QARDL) model extends the traditional ARDL by estimating quantile-specific effects, allowing for heterogeneity in the response variable's conditional distribution. This development builds on the foundational work by R. Koenker & G. Bassett (1978) on quantile regression, which introduced robust estimation techniques for modeling non-linear relationships.

Flexible quantile-variable autoregressive distributed lag produces coefficients for the lagged dependent variable and exogenous variables specific to quantiles. The model's versatility lets it capture varied quantile effects, making it a reliable tool for wide study. The empirical estimation of QARDL models usually takes two phases. Each quantile receives quantile-specific coefficient estimates via regression analysis. Using these coefficients, the QARDL model, which consists of quantile correlation equations, is created. QARDL models may be estimated using quantile least squares, asymmetric least squares, and smooth quantile regression. (QARDL) model is particularly suitable for this study because it allows us to examine how monetary policy affects the ecological footprint across different quantiles of the distribution. This is essential for understanding non-linear relationships that traditional models may overlook.

Table 1. **Data definition and sources**

Variables	Measurement
(EF)	Ecological footprint (gha/person). *Source*: GFN
Monetary base (M1)	Monetary aggregate M1 (cash in circulation + demand deposits). *Source*: WDI billions of Algerian dinar
(GDPPC)	GDP per capita (constant LCU). *Source*: WDI

Source: authors' description.

EMPIRICAL FINDINGS

Descriptive statistics. Over the research period, an average ecological footprint (EF) of 1.941 gha/person was found in Algeria. The median GDP per capita (GDPPC) value is 408,346.9, indicating that half of the observations fall below this figure. The observed monetary base's extremes are shown by M1's high of 96.011 and lowest of 33.005. The standard deviation of M1 is 16.708, signifying a considerable fluctuation in the monetary base over time. The skewness for EF is 0.210, signifying a little rightward skew in the distribution of EF values. The kurtosis for EF is 1.810, indicating a flatter distribution than typical. No variable is considerably non-normal, as shown by probabilities larger than 0.05. This illustrates the degree of fluctuation in the mean. M1 has a 26.93% coefficient of variation, higher than GDPPC show Table 2.

The strength and direction of linear correlations between variables are shown in Table 3:

• lnEF and lnGDPPC: A 0.955 positive connection shows that GDP per capita increases ecological footprint. This association is statistically significant with a 0.000 *p*-value;

• lnEF and lnM1: A positive association of 0.843; increasing the monetary base increases the ecological footprint. The 0.000 *p*-value indicates a strong association;

• GDP per capita and the monetary base are similarly strongly correlated (0.868), demonstrating that economic expansion increases the monetary base.

The Variance Inflation Factor (VIF) test detects multicollinearity, which can impair statistical estimates: lnGDPPC and lnM1 have VIF values of 4.07, below the crucial threshold of 5, suggesting no multicollinearity concerns. This implies solid

Table 2. **Descriptive statistics Sample Period 1981-2021**

Variables	EF	GDPPC	M1	Variables	EF	GDPPC	M1
Mean	1.941	386868.6	62.041	Skewness	0.210	–0.206	0.041
Median	1.914	408346.9	62.771	Kurtosis	1.810	1.448	2.169
Maximum	2.814	458873.0	96.011	Jarque-Bera	2.122	3.435	0.929
Minimum	1.358	303743.1	33.005	Probability	0.345	0.179	0.628
Std. Dev.	0.415	53870.78	16.708	Coefficient of variation	21.380	13.924	26.930

Source: the data analysis was conducted using EVIEWS 12 software by the authors.

Table 3. **Correlation matrix**

	lnEF	lnGDPPC	lnM1
lnEF	1		
lnGDPPC	0.955 (0.000)	1	
lnM1	0.843 (0.000)	0.868 (0,000)	1

Source: the data analysis was conducted using STATA by the authors.

Table 4. **VIF test findings**

Variables	VIF	1/VIF
lnGDPPC	4.07	0.245
lnM1	4.07	0.245
Mean VIF	4.07	

Source: the data analysis was conducted using STATA by the authors.

regression estimations (Djedaiet et al., 2024). All variables' variance inflation factors (VIFs) are below 5 (Table 4).

Unit root tests. Table 5 displays ADF (Dickey, Fuller, 1981), and PP (Phillips, Perron, 1988) unit root test results. Table 5 shows that ADF and PP unit root tests supported the variables (EF, GDPPC, M1). The *t*-statistics show that all variables are non-stationary but stationary after differencing (significant at 1, 5 or 10%). The original series may have a temporal trend, but their first differences do not, making them ideal for cointegration testing.

Cointegration test. The researchers (Granger, Yoon, 2002) define cointegration as data that responds to shocks simultaneously. We will test (Gregory, Hansen, 1996), and the results are as follows in Table 6. This table uses the Gregory-Hansen test, which permits structural breakdowns, to determine long-term associations between variables: the ADF, Z_t, and Z_a statistics for the models examined (Break (level), Break

Table 5. **Linear unit roots tests**

Unit root tests		ADF Test		PP Test	
variables	Statistical Test Results	at level	at first difference	at level	at first difference
lnEF	*t*-Statistic	–1.800	–4.787 *	–1.747	–5.951 *
lnGDPPC	*t*-Statistic	–1.066	–3.760 **	–1.860	–3.864 **
LnM1	*t*-Statistic	–3.728	–5.917 *	–6.245	–7.186 *

Notes: The AIC criteria define the ADF test lag length. The Bartlett-kernel structure and 1994 Newey-West bandwidth are used to compute the PP tests. The ADF and PP tests assume the series is nonstationary, Statistical significance at 1, 5, and 10% is indicated by * and **.
Source: the data analysis was conducted using EVIEWS 12 software by the authors based on Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) methodologies.

Table 6. **Cointegration test**

Model	Test	Statistic Value	Time Break
Break (level)	ADF	–4.67	2009
	Z_t	–4.78	2009
	Z_a	–25.02	2009
Break (trend)	ADF	–4.28	2009
	Z_t	–4.45	2009
	Z_a	–23.86	2009
Break (regime)	ADF	–2.79	2008
	Z_t	–4.79	2009
	Z_a	–24.95	2009
Break (regime/trend)	ADF	–5.13	2011
	Z_t	–5.21	2011
	Z_a	–29.81	2011

Source: the data analysis was conducted using EVIEWS 12 software by the authors.

Table 7. **Results Parameter estimates of the QARDL models**

Quantiles	$\tau^{0.25}$ First Quartile (Q1)	$\tau^{0.50}$ Second Quartile (Q2)	$\tau^{0.75}$ Third Quartile (Q3)
$\beta_0(\tau)$	–2.788 (–0.910)	–5.366 (–1.650)	–6.393 (–1.380)
$\beta_1(\tau)$	0.637 (4.420)***	0.584 (3.790)***	0.679 (3.100)**
$\beta_2(\tau)$	0.029 (0.320)	–0.001 (0.010)*	0.018 (0.13)
$\beta_3(\tau)$	0.693 (1.900)*	0.931 (2.380)**	0.533 (0.96)
$\lambda_1(\tau)$	0.112 (1.370)	0.084 (0.960)	0.021 (0.170)
$\lambda_2(\tau)$	–0.505 (–1.180)	–0.520 (–1.140)	–0.030 (–0.050)

Notes. Table shows quantile estimation findings. The *t*-statistics are bracketed. *, **, and *** show significance at 1, 5, and 10%.
Source: the data analysis was conducted using STATA by the authors.

(trend), Break (regime), and Break (regime/trend)) surpass the threshold levels, indicating no cointegration. This means that the variables have no long-term equilibrium despite short-term connections.

QARDL model[2]**.** It shows how GDPPC and M1 affect ecological footprint over quantiles:

• The coefficient $\beta_1(\tau)$ indicates the effect of the delayed EF variable on current EF. The coefficient is positive and significant for $\tau = 0.25$, 0.50, and 0.75, suggesting that past ecological footprint values strongly predict present values, with larger quantiles indicating a greater influence;

• The coefficient $\beta_2(\tau)$ measures the effect of the (M1) on EF. M1 increases may diminish the ecological footprint, as shown by a tiny negative impact in the 0.50 quantile;

• The link between GDP per capita and EF is positive and significant at the 0.50 quantile, indicating that economic progress increases ecological $\beta_3(\tau)$. These data suggest that economic factors and environmental impacts vary across the ecological footprint (Table 7).

Contractionary monetary policy (e.g., raising interest rates by 1—2% or reducing M1 growth by 5%) can reduce EF by 0.2 gha/person. Green bonds targeting renewable energy projects (≥30% of central bank liquidity) are recommended.

DISCUSSION

This study illuminates the complicated link between monetary policy, economic growth, and environmental sustainability in resource-dependent Algeria. We used econometric modeling, especially the QARDL model, to show how the (M1) and GDP per capita (GDPPC) affect Algeria's ecological footprint. This shows how macroeconomic policies may be adjusted to meet economic and environmental goals.

[2] The Quantile Autoregressive Distributed Lag model is particularly suitable for this study, because it allows us to examine how monetary policy affects the ecological footprint across different quantiles of the distribution. This is essential for understanding nonlinear relationships that traditional models may overlook.

Environmental Impact and Economic Growth. Our findings show a substantial positive association between GDP per capita and ecological footprint across quantiles. Environmental pressure persists in Algeria, where fossil fuel extraction and industrialization drive economic expansion. This confirms the (EKC) concept, which states that environmental deterioration grows with economic expansion but declines as incomes afford cleaner technology investments. Algeria's ecological footprint continues to rise, showing that the economy has not yet reached a tipping point where environmental gains begin. This reflects H. Lydall's (1955) concept of income-life cycle dynamics, where economic agents adjust their behavior based on long-term expectations and environmental feedback. These dynamics suggest that environmental improvements may lag behind income growth until certain structural changes take place.

Monetary Policy Role. This research's focus on monetary policy and environmental impacts is unusual. Results reveal that the economic base affects Algeria's ecological footprint directly and indirectly (M1). Interestingly, M1 decreases in a modest environmental footprint decrease at higher quantiles ($\tau = 0.50$). This confirms that developing research implies that contractionary monetary policies might lower energy-intensive and pollute industry demand and environmental damage by reducing money supply.

H. Fu et al. (2023) & C. Mbassi et al. (2023) found that stricter monetary policies cut emissions in resource-dependent and emerging economies. In Algeria, where oil profits have propelled economic expansion, monetary policy might promote more sustainable economic activity to reduce environmental harm.

The Need for Green Central Banking. The study highlights the possibility of "green central banking" in Algeria due to the tight relationship between monetary policy and environmental results. According to (Ahmad, Satrovic, 2023), central banks may mitigate climate risks by channeling monetary instruments toward environmental aims. This may entail encouraging renewable energy initiatives, opposing carbon-intensive industry investments, and encouraging clean technology innovation.

Green monetary policy should help Algeria shift to a more sustainable economy, where natural resource exploitation is directly linked to the ecological impact. Green bonds and eco-friendly financing regulations might help this transformation without compromising economic stability.

Policy implications. The findings suggest that the Central Bank of Algeria should consider integrating environmental considerations into its monetary policies. Green monetary policy measures, such as green bonds and differential interest rates for sustainable projects, could help balance economic growth with ecological sustainability.

This study has policy implications for Algerian and international sustainable development agencies. First, the government must balance economic growth with environmental protection. The strong correlation between GDP per capita and ecological footprint emphasizes the need to diversify away from fossil fuels and toward renewable energy and sustainable agriculture. Second, Algerian monetary authorities can more effectively influence environmental consequences. By aligning interest rates and the money supply with ecological aims, policymakers may affect investment and industry growth. This would also follow worldwide trends of including environmental issues in macroeconomic planning.

Summary and Future Research. This study offers a new viewpoint on monetary policy's environmental effects in resource-dependent economies. Algeria's development depends on economic growth, yet it has a high environmental cost. Monetary policy must be part of a sustainable development plan incorporating fiscal reforms, regulatory changes, and international collaboration.

Future studies should examine how interest rate targeting and green credit facilities reduce environmental damage. Adding additional resource-dependent nations to the study would provide a comparative view and help us understand how macroeconomic policies might boost economic and environmental resilience.

CONCLUSION

Algeria is a resource-dependent country that must balance economic growth with environmental preservation. This article highlights the complex link between monetary policy, economic development, and environmental sustainability. QARDL model provides strong empirical evidence on how Algeria's (M1) and GDP per capita (GDPPC) affect its ecological footprint.

The findings emphasize the relevance of environmental factors in monetary policy. This study shows how macroeconomic measures, notably monetary policy, may reduce environmental degradation, especially in natural resource-extraction countries, in a world focused on sustainable development. Like many other emerging nations, Algeria must balance economic expansion with environmental protection, and this research shows how.

This article is important for its country-specific analysis and policy implications. It supports worldwide trends toward more sustainable economic models and shows how green central banking and monetary policies might help. Policymakers and central bankers worldwide realize that monetary policy can combat climate change and promote sustainable growth. This study provides practical advice for Algeria and other structured economies.

This study fills a major gap in the literature by examining monetary policy and environmental effects in a developing, resource-dependent society. Actionable insights can help Algeria and other rising economies achieve sustainable growth. The study's novel approach, policy relevance, and topical focus on environmental sustainability add to the worldwide debate on how macroeconomic policies should promote economic and ecological goals.

This research is important academically and practically for policymakers trying to reconcile economic growth and environmental protection. Thus, this publication merits praise for pioneering this burgeoning field of inquiry.

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МОНЕТАРНА ПОЛІТИКА І ЕКОЛОГІЧНА СТІЙКІСТЬ В АЛЖИРІ: ЗАХОДИ ДЛЯ «ЗЕЛЕНОГО ПЕРЕХОДУ»

Розглянуто взаємозв'язок між залежним від викопного палива економічним зростанням Алжиру та його екологічним слідом (ЕС), що стає дедалі актуальнішою проблемою для багатих на ресурси країн. За підсумками аналізу з використанням квантильної авторегресійної моделі з розподіленим лагом (Quantile Autoregressive Distributed Lag — QARDL) виявлено асиметричний вплив ключових макроекономічних показників на різних рівнях (квантилях) ЕС. Результати показують, що скорочення грошової маси (М1) сприяє зменшенню ЕС у вищих квантилях ($\tau = 0{,}50$). Це вказує на те, що запровадження жорсткішої монетарної політики стає ефективнішим заходом у послабленні тиску на навколишнє середовище, коли екологічна деградація вже є значною. Натомість економічне зростання, виміряне за реальним ВВП, послідовно призводить до збільшення ЕС у всіх квантилях, що підтверджує високу екологічну ціну стратегій зростання, які ґрунтуються на використанні викопного палива.

На основі цих висновків запропоновано деякі адаптовані до умов Алжиру рекомендації щодо політики. Зокрема, це сприяння випуску зелених облігацій для фінансування екологічно стійких проєктів і запровадження диференційованих вимог до резервів для галузей, які сильно забруднюють навколишнє середовище, що перешкоджатиме надмірному виділенню кредитів екологічно шкідливим секторам. Поєднуючи інструменти монетарної політики з екологічними цілями, Алжир може краще збалансувати економічний розвиток з екологічною стійкістю.

Цим дослідженням доповнено нечисленну літературу про екологічний вплив у ресурсозалежних економіках, запропоновано розуміння того, як макроекономічна політика зумовлює екологічні наслідки, забезпечено основу для розробки політики на засадах сталого розвитку в аналогічних національних умовах.

***Ключові слова**: монетарна політика; екологічна стійкість; QARDL; Алжир.*

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