

Fiscal Dominance and Monetary Policy Effectiveness in a Resource Dependent Economy: An Econometric Analysis of Algeria (2020 - 2025)

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ABSTRACT

This article examines whether fiscal dominance attenuates monetary policy transmission in Algeria, a hydrocarbon dependent economy, during the period 2020-2025. The study combines a macro-structural overview for 2020-2025 with a monthly reduced form investigation for January 2022 to December 2024. Fiscal dominance is proxied by the ratio of net claims on government to broad money (M2), while monetary policy effectiveness is assessed through the response of monthly inflation to interbank conditions, monetary aggregates, and credit growth. Because the available monthly window yields only 25 usable observations, the econometric analysis is necessarily exploratory: standard unit root and cointegration tests lack sufficient power, and ordinary least squares (OLS) estimates must be interpreted as conditional correlations rather than as causal structural parameters. The baseline results reveal a weak and statistically insignificant interest rate channel, whereas credit growth exhibits a positive and significant association with inflation. In the interaction specification, the fiscal dominance coefficient is positive and marginally significant, but the interaction between fiscal dominance and the interbank rate does not attain conventional significance levels. Consequently, the hypothesized attenuation of the interest rate channel by fiscal dominance cannot be confirmed with the available data. A major omitted variable the parallel foreign exchange market premium, which is a well documented determinant of Algerian inflation likely biases the estimated coefficients. The article distinguishes between classical fiscal dominance (direct monetisation of deficits à la Sargent and Wallace) and fiscal procyclicality (hydrocarbon revenue volatility that generates automatic liquidity swings), noting that the net claims proxy captures the former while Algeria simultaneously exhibits the latter. The findings are consistent with the view that, in resource-dependent economies, large fiscal financing requirements are associated with constrained conventional monetary transmission, but the evidence should be treated as preliminary pending longer samples and the inclusion of exchange rate variables.

Keywords: fiscal dominance; fiscal procyclicality; monetary policy transmission; Algeria; resource dependence; inflation; omitted variable bias

INTRODUCTION

Fiscal dominance has reemerged as a central concern in macroeconomic policy because many emerging and developing economies have experienced a renewed entanglement of public-finance pressures and monetary policy conduct since the COVID-19 pandemic. In resource dependent economies, this problem is particularly acute. Commodity booms relax financing constraints and expand fiscal space, whereas price downturns rapidly widen deficits, compress reserves, and pressure domestic monetary institutions to absorb fiscal imbalances. Under such conditions, the central bank's capacity to pursue price stability may be weakened not only by direct financing obligations but also by the broader liquidity consequences of fiscal expansion.

Algeria offers an especially instructive case. Its external sector and fiscal position remain heavily dependent on hydrocarbons. According to the International Monetary Fund (IMF, 2025a), hydrocarbons accounted for

roughly 84 percent of total exports of goods and services and 91 percent of goods exports in 2023, implying that shifts in oil and gas prices transmit rapidly to budgetary revenues, external balances, and monetary conditions. This structural dependence means that monetary policy operates in an environment where fiscal and external shocks are closely intertwined.

The 2020-2025 period sharpened these tensions. The COVID-19 shock exposed the vulnerability of hydrocarbon-dependent revenue systems, while the subsequent recovery did not eliminate fiscal fragility. Algeria experienced renewed fiscal expansion in 2024, and the IMF projected continued large deficits in 2025 (IMF, 2025a). Banque d'Algérie (2025a) reported that the budget deficit widened markedly in 2024, reaching 13.78 percent of GDP, alongside a 22.66 percent decline in revenue and a 31.13 percent fall in hydrocarbon revenue. At the same time, inflation decelerated from 7.18 percent in 2023 to 4.40 percent in 2024, yet this disinflation occurred in a context where the policy rate and reserve requirement remained broadly unchanged, suggesting that observed price stabilisation cannot automatically be attributed to a strong conventional interest-rate channel (Banque d'Algérie, 2025a; IMF, 2025a).

A further complication is the persistence of a parallel foreign exchange market in Algeria. The gap between the official and parallel exchange rates has widened significantly in recent years, reaching roughly 70-75 percent by mid-2025 (Mebtoul, 2025). The parallel rate acts as an alternative price signal for imported goods and services and has been shown to influence money demand and inflation dynamics in Algeria (Bahmani-Oskooee, 1996; Laourari & Abderrahim, 2022). Its omission from standard monetary models constitutes a potentially serious source of omitted-variable bias.

This article asks the following focused question: to what extent did fiscal dominance weaken the effectiveness of monetary policy in Algeria during 2020-2025? The contribution is threefold. First, it synthesises recent theoretical and empirical work on fiscal dominance, monetary transmission, and resource dependence, explicitly distinguishing classical fiscal dominance from fiscal procyclicality. Second, it constructs a reduced form monthly dataset from Algerian central bank “bank of Algeria” bulletins to examine how inflation responds to interbank conditions under varying degrees of fiscal dominance. Third, it interprets the empirical results in light of Algeria's institutional setting, acknowledging the severe data constraints and omitted variables that limit causal inference.

The central argument is that Algeria's monetary policy has operated under conditions of constrained effectiveness rather than outright impotence. The evidence suggests that the direct interest rate channel is weak, whereas fiscal liquidity conditions and domestic credit creation play a more systematic role in inflation dynamics. However, these findings are conditional on a short sample window and the exclusion of the parallel exchange rate, and they should be treated as exploratory.

LITERATURE REVIEW

Fiscal dominance and monetary policy: classical and procyclical variants

The concept of fiscal dominance originates in the « unpleasant monetarist arithmetic of Sargent and Wallace (1981). In their framework, a fiscally dominant regime is one in which the fiscal authority sets an exogenous path for real primary deficits that must be financed either by money creation or by debt issuance. If the central bank attempts to tighten monetary conditions, it merely postpones inflation, because the accumulated debt must eventually be monetised. In this classical sense, fiscal dominance refers to the direct monetisation of budget deficits and the resulting subordination of monetary policy to fiscal imperatives.

A distinct but related concept is fiscal procyclicality, particularly prevalent in resource-dependent economies. Frankel (2010) and subsequent empirical work have documented that government consumption in resource-rich countries tends to rise in commodity booms and fall in busts, amplifying business cycle volatility.

Coutinho et al. (2022) provide robust cross-country evidence that fiscal policy is strongly procyclical in resource-dependent economies, with a one-percent exogenous rise in GDP growth leading to a two-to-three-percent rise in real government consumption growth. In Algeria, hydrocarbon-revenue volatility generates

automatic fiscal swings that alter liquidity conditions without necessarily involving direct central bank financing of the deficit. The distinction matters for policy: classical dominance calls for institutional constraints on monetisation, whereas procyclicality calls for stabilisation funds and countercyclical fiscal rules.

Monetary transmission in resource-dependent and administered economies

Recent literature has reframed fiscal dominance as a forward looking macro financial regime in which fiscal imbalances shape monetary responses, inflation expectations, and interest-rate behaviour. Bajaro, Galimberti, and Qureshi (2025), using forward-looking Taylor rule evidence from 52 economies, demonstrate that fiscal dominance is more pronounced in emerging economies with weaker central-bank independence, higher debt burdens, and weaker fiscal rules. Their findings are relevant for Algeria because they suggest that interest-rate decisions can become conditioned by fiscal stress even in the absence of formal monetary financing.

For resource dependent economies, the problem is magnified by commodity-price volatility. Omotosho (2022) demonstrates that negative oil price shocks can depress output, alter inflation dynamics, depreciate the exchange rate, and trigger monetary responses that are difficult to calibrate. Constantine (2025) argues that persistent monetised deficits in resource based economies generate a “financial resource curse,” characterised by excess liquidity, weaker productive credit allocation, higher spreads, and banking distortions.

The Algeria specific literature points in a similar direction. Benheddi and Si (2023), using an autoregressive distributed lag (ARDL) framework for 1998–2020, find that the budget deficit, exchange rate, oil prices, and broad money are significantly linked to inflation in Algeria, with stronger effects during the COVID-19 period. Their results support the presence of a non-Ricardian environment in which fiscal behaviour materially affects price dynamics. Benazza and Bensaad (2020) show that monetary policy shocks in Algeria are transmitted primarily through the broad-money and exchange rate channels rather than through a strong market-based interest rate channel. Plebani and Gbohoui (2025) argue that transmission in Algeria remains weak where fiscal dominance and liquidity structure blur the effects of conventional policy tools.

The parallel foreign exchange market and inflation in Algeria

A substantial body of empirical work identifies the exchange rate as a principal determinant of Algerian inflation. Laourari and Abderrahim (2022), using monthly ARDL models for 2011–2021, find that the nominal effective exchange rate (NEER) is the most influential long-run determinant of inflation, with a one-percent depreciation raising inflation by approximately 0.5 percent. Their causality tests confirm that the NEER Granger causes inflation, but not vice versa. Hellal, Brahmia, and Gueddouche (2025) employ a vector autoregression (VAR) framework and document significant exchange rate pass through to consumer prices in Algeria.

These studies rely primarily on official exchange rate series. However, Algeria has long maintained a parallel (informal) foreign-exchange market in which the dinar trades at a substantial discount to the official rate. Mebtoul (2025) documents that by June 2025 the euro traded at roughly 260 dinars in the parallel market compared to an official rate of 152 dinars a gap exceeding 70 percent. Bahmani-Oskooee (1996) demonstrates that the black market exchange rate is a significant determinant of money demand in Algeria, implying that the parallel rate influences inflation through both direct pass through and portfolio substitution channels. The omission of the parallel premium from monthly inflation models is therefore a potentially serious specification error.

Research gaps

Three gaps motivate the present study. First, the Algeria specific literature either predates the latest fiscal deterioration or treats inflation and transmission separately rather than jointly. Second, existing studies of fiscal dominance in commodity exporters rarely distinguish classical dominance from hydrocarbon driven procyclicality, limiting the policy relevance of their conclusions. Third, the parallel exchange rate premium has been excluded from recent reduced form models of Algerian inflation despite its documented empirical importance. This article addresses these gaps by combining a resource-dependence perspective with a

parsimonious monthly inflation model that includes a fiscal dominance proxy, while explicitly acknowledging the omitted parallel market variable and the short sample constraints that preclude more sophisticated dynamic estimation.

DATA AND METHODOLOGY

Research design and sample constraints

The empirical strategy combines descriptive macroeconomic analysis for 2020-2025 with monthly reduced form estimation for January 2022 to December 2024. The broader 2020-2025 window contextualises the fiscal and monetary environment using IMF, World Bank, and Bank of Algeria reports. The econometric core begins in 2022 because this is the earliest point from which monthly observations on inflation, M2, credit to the economy, interbank rates, and net claims on government can be assembled consistently from available central-bank statistical bulletins.

A critical limitation must be acknowledged at the outset. The monthly regression sample contains only 27 observations, of which 25 remain usable after lag construction. With $T = 25$, standard unit root tests (ADF, KPSS) lack statistical power to distinguish between stationary and non stationary processes; bounds-testing for cointegration (Pesaran, Shin, & Smith, 2001) is infeasible because the F-statistic critical values require substantially larger samples; and structuralbreak tests (Zivot-Andrews, Bai-Perron) cannot be implemented with confidence. Ordinary least squares (OLS) applied to short, potentially non stationary series risks producing spurious correlations if variables share stochastic trends. Consequently, the regression results reported below should be interpreted strictly as reduced form, conditional correlations descriptive of the 2022-2024 window, not as causal structural estimates. They are best viewed as exploratory evidence that motivates future research with longer quarterly or monthly panels, or with structural VAR/ARDL frameworks, once additional data become available.

Data sources and variable construction

The dataset is constructed from the following official sources: (i) Banque d'Algérie annual and quarterly publications, including the Rapport annuel 2024 and quarterly statistical bulletins for 2020-2024; (ii) IMF (2025a) for annual macro-fiscal context; (iii) IMF Selected Issues and Plebani and Gbohoui (2025) for institutional interpretation of monetary transmission; and (iv) World Bank (2024, 2025) for macroeconomic contextualization.

The monthly variables are defined as follows:

1. **Inflation (π_t)**: month on month percentage change in the consumer price index (CPI), derived from the official CPI series reported by Banque d'Algérie and the Office National des Statistiques (ONS). The month on month specification is chosen to maximise the number of usable observations given data availability.
2. **Interbank rate (it)**: the monthly global interbank rate, used as the operative market rate proxy for monetary policy stance.
3. **M2 growth ($\Delta M2_t$)**: month on month percentage growth of broad money (M2).
4. **Credit growth ($\Delta Credit_t$)**: month on month percentage growth in credit to the economy.
5. **Fiscal-dominance ratio (FD_t)**: defined as $FD_t = 100 \times \frac{M2_t}{Net\ claims\ on\ government}$. Net claims on government capture the stock of central bank and banking system credit extended to the government (including direct advances and holdings of government securities) relative to the broad monetary aggregate. A rising ratio indicates that government financing needs absorbs an increasing share of domestic liquidity. It should be noted that this proxy captures classical fiscal dominance direct monetary absorption by the state but does not fully capture procyclical liquidity swings driven by hydrocarbon-revenue volatility that bypass the net claims measure.
6. **Lagged inflation (π_{t-1})**: included to account for short-run persistence.

Omitted variable: the parallel exchange rate premium

The parallel foreign exchange market premium is excluded from the regressions because reliable monthly observations are not available in the official bulletins. This omission is methodologically consequential. The parallel premium is correlated with both fiscal stress (as balance of payments pressures intensify during hydrocarbon downturns) and inflation (through direct pass through to import prices). Its exclusion likely biases the fiscal dominance coefficient upward and may attenuate the estimated coefficient on the interbank rate, because the fiscal dominance proxy instead absorbs part of the inflationary signal that would otherwise be captured by exchange rate depreciation. Future research should incorporate the parallel premium, either through direct survey data or through proxy variables such as the spread between official and bureau rates.

Model specification

Two parsimonious equations are estimated by OLS with heteroskedasticity-robust standard errors:

Baseline model $\pi_t = \alpha + \rho\pi_{t-1} + \beta_1 i_t + \beta_2 FD_t + \beta_3 \Delta M2_t + \beta_4 \Delta Credit_t + \epsilon_t$

Interaction model $\pi_t = \alpha + \rho\pi_{t-1} + \beta_1 i_t + \beta_2 FD_t + \beta_3 (FD_t \times i_t) + \beta_4 \Delta M2_t + \beta_5 \Delta Credit_t + \epsilon_t$

The baseline model identifies whether fiscal dominance has a direct association with inflation. The interaction model tests whether the inflation effect of the interbank rate depends on the degree of fiscal dominance. If fiscal dominance weakens monetary policy, the marginal disinflationary effect of higher rates should become smaller as fiscal pressures intensify. However, given the small sample, even a correctly signed interaction term that fails to reach conventional significance cannot be interpreted as confirmation of the hypothesised mechanism.

Stylised Facts

Table 1 summarizes the key macroeconomic indicators for 2020-2025. Algeria's macroeconomic context during this period is characterized by the interaction between hydrocarbon dependence, fiscal volatility, and government-controlled financial intermediation. When oil revenues decline, the budget balance deteriorates rapidly, and the state's financing needs put pressure on domestic liquidity management.

Table 1 : Key Macroeconomic Indicators, 2020-2025

Indicator	2020	2021	2022	2023	2024	2025	Interpretation
Inflation (%)	2.42	7.23	9.27	9.32	4,05	1.42	Disinflation despite weak evidence of a strong rate channel
M2, end year (DZD billions)	17,659.6	20,053.5	22,964.5	24,330.9	26,528.9	28,177.0	Continued liquidity expansion
Net claims on government, end year (DZD billions)	9,353.5	12,908.7	13,033.3	13,298.2	15,639.9	19,262.5	Growing state financing footprint
Fiscal-dominance ratio (net claims on government / M2 × 100)	52.97	64.37	56.75	54.66	58.95	68.36	Partial easing followed by renewed increase

Sources: Banque d'Algérie (2025a); Ministry of Finance (2026); IMF (2025a).

The data point to a regime in which monetary policy operated under tightening fiscal constraints. End of year M2 rose from DZD 17,659.6 billion in 2020 to DZD 28,177.0 billion in 2025, while net claims on government increased from DZD 9,353.5 billion to DZD 19,262.5 billion. The fiscal dominance ratio declined from 64.37 percent in 2021 to 54.66 percent in 2023 before rising again to 58.95 percent in 2024 and 68.36 percent in 2025. Inflation slowed in 2024-2025, but the interbank and policy rate evidence suggests that the conventional price based policy channel remained muted.

EMPIRICAL RESULTS

Regression estimates

Table 2 reports the OLS estimates. Robust standard errors are shown in parentheses. Given the small sample, significance is assessed at the 10, 5, and 1 percent levels, and all results are interpreted with appropriate caution.

Table 2: Monetary Policy Effectiveness and Fiscal Dominance, OLS Estimates

Variable	Baseline coefficient	p-value	Interaction coefficient	p-value
Constant	-4.2509	.5205	-18.7803	.0952
Lagged inflation	-0.4741	.0171	-0.4857	.0064
Interbank rate	-0.3117	.3328	8.1768	.2442
Fiscal-dominance ratio	0.0960	.3934	0.3523	.0699
Fiscal dominance $\times$ interbank rate	—	—	-0.1504	.2281
M2 growth	0.0434	.8166	0.0196	.9077
Credit growth	0.6857	.0210	0.6275	.0117
R ²	0.2973		0.3253	

Source: Regression analysis OLS established by a student based on macroeconomic data

Interpretation

Several conditional correlations emerge from the estimates, which should be read as suggestive given the short sample and the risk of spurious regression.

First, the interbank rate does not exert a statistically significant effect on inflation in either specification. In the baseline, the coefficient is negative (-0.312) but imprecisely estimated ($p = 0.333$). In the interaction model, the level effect of the interbank rate is positive (8.177) but again insignificant ($p = 0.244$). The absence of a robust interest-rate channel is consistent with the institutional literature on Algeria, which documents shallow interest-rate pass-through and administratively influenced liquidity conditions (Benazza & Bensaad, 2020; Plebani & Gbohoui, 2025).

Second, the fiscal-dominance ratio is not significant in the baseline ($p = 0.393$), but its coefficient increases markedly in magnitude and becomes marginally significant (0.352, $p = 0.070$) once the interaction term is included. This pattern is consistent with the hypothesis that fiscal dominance influences inflation, but the small sample prevents strong inference.

Third, and most importantly, the interaction term carries the theoretically predicted negative sign (-0.150), implying that the marginal disinflationary impact of a higher interbank rate may diminish as fiscal dominance rises. However, the coefficient is not statistically significant at conventional levels ($p = 0.228$). Consequently, one cannot reject the null hypothesis that the interaction effect is zero. The hypothesised attenuation mechanism that fiscal dominance blunts the interest-rate channel therefore receives no statistically robust support from these data. The result should be treated as directional rather than conclusive.

Fourth, money-supply growth does not exhibit a significant association with inflation in either model ($p = 0.817$ and $p = 0.908$). This may reflect the fact that a substantial share of currency circulates outside the formal banking system, and that administered prices partially decouple the money stock from measured price dynamics. By contrast, credit growth is positive and significant in both specifications (0.686, $p = 0.021$; 0.628, $p = 0.012$), indicating that inflation dynamics in Algeria respond more reliably to balance-sheet expansion in the banking sector than to the formal policy rate.

Fifth, lagged inflation enters negatively and significantly in both models. This result should not be interpreted as evidence of strong nominal anchoring; rather, it likely captures mean reversion after the sharp inflation spike

of 2022-2023. The disinflation observed in 2024-2025 appears to have been driven in part by falling food prices and exchange-rate stability, rather than by a contractionary monetary stance.

Finally, the models explain roughly 30 percent of the variation in monthly inflation ($R^2 = 0.297$ and 0.325). Given the short sample, the omission of supply shock and exchange rate variables, and the likely non stationarity of some series, this explanatory power is modest and not unusual for reduced-form monthly specifications.

DISCUSSION

Why OLS was used despite the short sample

The decision to estimate the models by OLS rather than ARDL or VECM requires explicit justification. As noted in Section 3.1, the available harmonised monthly series span only 36 months (25 usable observations after lag construction). ARDL bounds testing requires a minimum sample size of approximately 50-80 observations to achieve acceptable power against the null of no cointegration (Narayan, 2005); with $T = 25$, the F-test cannot reliably distinguish between cointegration and spurious regression. Similarly, Johansen cointegration rank tests and the subsequent VECM are unreliable with fewer than 50 observations, as the trace statistic suffers severe size distortions in small samples (Cheung & Lai, 1993).

We therefore face a trade-off between econometric sophistication and data availability. OLS with robust standard errors provides a transparent benchmark that describes conditional correlations within the observed window. We do not claim that the estimates are unbiased or consistent in the presence of unit roots; rather, we treat them as exploratory evidence that must be validated by future research using longer samples. To mitigate spurious regression concerns, we include lagged inflation as a control for short run dynamics, and we interpret all coefficients with explicit reference to their standard errors and the limited power of the tests.

The parallel exchange-rate premium as an omitted variable

The most serious methodological limitation of this study is the exclusion of the parallel foreign exchange market premium. To what extent would its inclusion affect the validity of the coefficients? The answer depends on the correlation structure between the omitted variable and the included regressors.

The parallel premium is correlated with fiscal stress: when hydrocarbon revenues fall, the balance of payments deteriorates, foreign exchange scarcity intensifies, and the parallel-market discount widens. The premium is also correlated with inflation, through direct pass-through to import prices and through portfolio-substitution effects on money demand (Bahmani-Oskooee, 1996). Because the fiscal dominance proxy (net claims on government / M2) is positively correlated with fiscal stress, the omitted parallel premium is likely positively correlated with both the fiscal dominance variable and inflation. Under standard omitted variable bias logic, this implies that the coefficient on fiscal dominance in Table 2 is biased upward. Part of the inflationary effect currently attributed to the net claims ratio may in fact reflect exchange rate depreciation in the parallel market that accompanies fiscal deterioration.

Conversely, the interbank rate may be negatively correlated with the parallel premium (tighter monetary conditions tend to stabilise the exchange rate). If the parallel premium has a positive effect on inflation, its omission would bias the interbank rate coefficient toward zero, making the interest rate channel appear even weaker than it truly is. In other words, the inclusion of the parallel premium could potentially (i) reduce the magnitude and significance of the fiscal dominance coefficient, and (ii) strengthen the estimated effect of the interbank rate, though neither effect can be quantified without the data.

Interpreting the insignificant interaction term

How should one interpret the lack of statistical significance of the interaction term ($p = 0.228$) given that the text hypothesises a moderating effect of fiscal dominance? The theoretically predicted mechanism is that as fiscal dominance rises, the anti-inflationary impact of monetary tightening diminishes because market

participants anticipate that fiscal financing needs will continue to inject liquidity regardless of the policy rate. The interaction term in Table 2 carries the correct negative sign (-0.150), but it is imprecisely estimated.

In formal terms, one cannot reject the null hypothesis that the interaction effect is zero at the 10 percent level. Therefore, the data do not provide statistically robust support for the attenuation hypothesis. The marginally significant direct effect of fiscal dominance (0.352, $p = 0.070$) suggests that higher net claims on government are associated with higher inflation, but it does not confirm that this association operates through a weakening of the interest rate channel.

We interpret this result as follows. The interaction term may be insignificant because (i) the sample is too small to detect a modest interaction effect with adequate power; (ii) the fiscal dominance proxy is measured with error, attenuating the interaction coefficient toward zero; or (iii) the true mechanism is not an interaction but rather a direct additive effect of fiscal dominance on inflation, with the interest rate channel being weak for other institutional reasons (shallow pass through, administered rates) independent of the fiscal regime. Any of these interpretations is consistent with the data, and the article does not claim to adjudicate among them.

Fiscal dominance versus fiscal procyclicality

A central conceptual question is whether the observed ineffectiveness of monetary policy stems from strict fiscal dominance (financing needs) or from fiscal procyclicality (liquidity injections linked to hydrocarbon rents). These two mechanisms have different empirical signatures and policy implications.

The net claims on government proxy captures classical fiscal dominance. It reflects direct monetary absorption by the state: when the budget deficit widens, the Treasury borrows from the central bank and commercial banks, increasing net claims and crowding out private credit. This mechanism is structural and institutional; it can be addressed through legal limits on central bank financing, deeper domestic debt markets, and fiscal consolidation.

Fiscal procyclicality operates through hydrocarbon revenue volatility rather than deficit financing. When oil prices rise, fiscal revenues increase automatically, government spending expands, and liquidity conditions ease through higher deposits and credit expansion without any change in the net claims ratio. When oil prices fall, the reverse occurs, but the adjustment is asymmetric: spending cuts are delayed, and the deficit is financed by drawing down buffers or by monetary accommodation. This mechanism is cyclical and external; it can be addressed through sovereign wealth funds, countercyclical fiscal rules, and diversification of the revenue base.

The net claims proxy used in this study captures classical dominance but not procyclicality. Yet Algeria exhibits both. The fiscal dominance ratio declined from 64.37 percent in 2021 to 54.66 percent in 2023 (suggesting easing direct dominance) while inflation remained elevated, possibly because procyclical liquidity expansion during the post pandemic hydrocarbon recovery was still feeding through. Conversely, the ratio rose to 68.36 percent in 2025 alongside a widening budget deficit, suggesting a return of classical dominance.

The empirical results cannot cleanly separate these two mechanisms because the net-claims proxy is contaminated by procyclicality: hydrocarbon downturns simultaneously widen the deficit (raising net claims) and depreciate the parallel exchange rate (raising inflation through pass-through). The insignificant interaction term may reflect this conflation rather than a true absence of structural attenuation. Future research should model both mechanisms explicitly, ideally with quarterly data that permit the identification of hydrocarbon revenue shocks separately from deficit financing flows.

Synthesis and policy implications

Notwithstanding the caveats above, the empirical results suggest that monetary-policy effectiveness in Algeria is constrained by at least four structural features.

1- Hydrocarbon dependence makes fiscal policy highly procyclical. When hydrocarbon revenues fall, financing needs rise abruptly, and monetary conditions are pulled toward accommodation.

2- The domestic financial system does not transmit policy rates strongly. The insignificance of the interbank-rate coefficient is consistent with limited pass through from policy signals to broader financing conditions, reflecting the dominance of public banks and the orientation of credit flows toward the Treasury.

3- The credit channel matters more than the formal rate channel. The significant positive credit growth coefficients indicate that inflationary pressure emerges through balance sheet expansion and liquidity allocation rather than through the price of money.

4- Fiscal dominance appears to alter the informational content of monetary tightening. If market participants perceive that fiscal needs will continue to shape liquidity creation, then a stable or marginally adjusted policy rate carries less anti-inflationary credibility.

Although the econometric sample ends in December 2024, the 2025 official assessments suggest that the underlying regime did not vanish. IMF projections pointed to continued double-digit fiscal stress in 2025, while the World Bank documented renewed external vulnerabilities and slower momentum in the hydrocarbon-supported cycle (IMF, 2025a; World Bank, 2025). Thus, the econometric evidence from 2022-2024 likely captures a mechanism that remained relevant into 2025.

CONCLUSION

This article examined fiscal dominance and monetary-policy effectiveness in Algeria during 2020-2025, with econometric estimation based on monthly official data for 2022-2024 and macro-institutional interpretation extended through 2025. The core finding is that Algeria's monetary policy has not been irrelevant, but it has been constrained by fiscal conditions characteristic of a resource dependent economy.

Three conclusions follow, each qualified by the data limitations. First, the interest rate channel is weak. The interbank rate does not exert a stable, statistically robust disinflationary effect in the estimated models. This supports the argument that market based monetary transmission in Algeria remains shallow. Second, fiscal dominance matters directly. The fiscal dominance proxy is positive in all specifications and becomes materially larger in the interaction model, indicating that the state's financing footprint within the monetary system is associated with inflationary pressure. Third, credit allocation is a more powerful transmission mechanism than the formal policy rate. The significance of credit growth suggests that inflation dynamics in Algeria respond more to balance-sheet expansion than to conventional price of money signals.

However, the hypothesised interaction that fiscal dominance attenuates the interest-rate channel does not receive statistically robust support. Moreover, the omission of the parallel foreign exchange market premium, a well-documented determinant of Algerian inflation, constitutes a potentially serious source of omitted-variable bias. The small sample precludes unit-root testing, cointegration analysis, and structural-break detection, meaning that the OLS estimates should be treated as conditional correlations rather than as causal parameters.

These findings carry clear but tentative policy implications. If Algeria seeks stronger monetary policy effectiveness, it cannot rely on central-bank instruments alone. A credible medium-term fiscal consolidation framework, a deeper domestic government debt market that reduces pressure on monetary accommodation, greater operational insulation of monetary policy from fiscal financing needs, and continued financial-sector reforms to strengthen rate pass-through are all necessary complements to conventional monetary tools. Additionally, addressing the parallel exchange-rate market through coherent macroeconomic policies would reduce imported inflation and improve the transparency of monetary signals.

The article also points to priorities for future research. A longer post 2025 sample would permit ARDL or structural VAR estimation with richer dynamics. Future work should explicitly integrate the parallel exchange rate premium, sovereign financing composition, and oil-price shocks, and should model classical fiscal dominance and fiscal procyclicality as distinct channels. Even so, the present evidence supports a central proposition: in a resource dependent economy such as Algeria, monetary-policy effectiveness cannot be understood independently of the fiscal regime that surrounds it.

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