

Rethinking Monetary Strategy in CEMAC: Assessing the Role of Franco-CEMAC Cooperation in Shaping Policy and Business Cycle Resilience Amidst Crisis and Uncertainty

Repenser la stratégie monétaire en CEMAC : évaluer le rôle de la coopération France-CEMAC dans la définition des politiques et la résilience des cycles économiques en période de crise et d'incertitude

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Abstract

Over the past decade, external shocks have placed growing pressure on the monetary policy framework of the BEAC, which remains primarily focused on price stability as a result of its institutional cooperation with France. This paper examines how that cooperation has shaped the orientation and effectiveness of BEAC's monetary policy, particularly its capacity to manage economic cycles and support macroeconomic resilience. Through an analysis of stylized facts and the estimation of a VAR model based on Cameroonian data, the study finds that this cooperation has progressively constrained BEAC's policy flexibility. While monetary interventions have helped cushion short-term impacts of crises, their overall effect on cyclical stabilization remains limited, due to a partial, delayed, and nonlinear transmission mechanism. These structural constraints hinder countercyclical policy management and weaken the region's resilience to shocks. The findings suggest that the current strategy is insufficient in the face of rising economic risks. A transition toward a more flexible policy framework, supported by credible inflation targeting and innovative tools, is necessary. However, such a shift also requires a broader rethinking of the institutional foundations of Franco-CEMAC cooperation, to allow for greater regional ownership and alignment of monetary policy with the region's development objectives.

Keywords: Monetary cooperation; Price stability; Business cycle; Shocks; Resilience.

Résumé

Au cours de la dernière décennie, les chocs externes ont exercé une pression croissante sur le cadre de la politique monétaire de la BEAC, qui reste principalement axée sur la stabilité des prix en raison de sa coopération institutionnelle avec la France. Cet article examine comment cette coopération a influencé l'orientation et l'efficacité de la politique monétaire de la BEAC, en particulier sa capacité à gérer les cycles économiques et à soutenir la résilience macroéconomique. À travers une analyse de faits stylisés et l'estimation d'un modèle VAR basé sur des données camerounaises, l'étude montre que cette coopération a progressivement limité la flexibilité de la politique monétaire de la BEAC. Si les interventions monétaires ont contribué à atténuer les effets à court terme des crises, leur impact global sur la stabilisation cyclique demeure limité, en raison d'un mécanisme de transmission partiel, retardé et non linéaire. Ces contraintes structurelles entravent la gestion contracyclique de la politique monétaire et affaiblissent la résilience de la région face aux chocs. Les résultats suggèrent que la stratégie actuelle est insuffisante face à l'augmentation des risques économiques. Une transition vers un cadre politique plus flexible, appuyé par une cible d'inflation crédible et des outils innovants, est nécessaire. Toutefois, un tel changement requiert également une réflexion plus large sur les fondements institutionnels de la coopération franco-CEMAC, afin de permettre une plus grande appropriation régionale et un meilleur alignement de la politique monétaire avec les objectifs de développement de la région.

Mots clés : Coopération monétaire; Stabilité des prix; Cycle économique; Chocs; Résilience.

Introduction

The last decade has brought a succession of global and regional crises —commodity price collapses (Coulibaly and al., 2022), the COVID-19 pandemic, heightened geopolitical tensions, financial market volatility, inflationary pressures and recession risks stemming from global uncertainty — that have profoundly exposed the limitations of existing monetary frameworks in Sub-Saharan Africa (Akinci and Queralto, 2022).

In the Central African Economic and Monetary Community (CEMAC), these shocks have significantly affected growth trajectories and exacerbated macroeconomic instability, placing enormous pressure on the monetary policy framework of the Bank of Central African States (BEAC), traditionally focused on ensuring price stability¹ shaped by the long-standing monetary cooperation with France.

Within the CFA franc zone, new developments on the monetary system such as the proposal of a regional currency (the eco) in West Africa, the adoption of the Sango cryptocurrency by the Central African Republic, and mounting criticism of the monetary cooperation with France, have highlighted the role of currency as an economic tool and reignited debates initiated by Kako Nubukpo (2015), Guillaumont P. and Guillaumont J. (2017) about the effectiveness and the adequacy of the inherited monetary policy framework.

Rooted in postcolonial agreements over 50 years old, this framework remains both a source of support and a constraint for the region's central banks (Guillaumont P. and Guillaumont J, 2017; Hugon, 1999; Van de Walle, 2001).

On one hand, relying on an external anchor², it has granted African monetary authorities and economies a higher degree of credibility and stability in exchange and interest rates; thereby facilitating their access to international capital markets (Hugon, 1999; Kinda, 2019). Furthermore, according to monetarist theory, the choice of price stability as the main policy objective is intended to promote long-term growth and reduce macroeconomic fluctuations, thereby ensuring the proper functioning of economies (Friedman, 1968; Barro, 1995; Svensson, 1999; Woodford, 2003).

On the other hand, critics have long emphasized the drawbacks of the fixed exchange rate regime and the peg to a relative strong currency. They argue that this arrangement has eroded external competitiveness and contributed only marginally to economic development and sub-

¹ BEAC (2010). Statuts de la Banque des États de l'Afrique Centrale (BEAC). Article 1. Available at: <https://www.beac.int>.

² Through the euro peg and a pooled foreign exchange reserve system managed by the French Treasury (see Hugon, P. (1999) for more developments on the institutional features of the CFA Franc Zone.

regional integration (Kako Nubukpo, 2015; Ripoll, 2001; Zafar, 2005; Zobo, 2014). Moreover, in light of the “impossible trinity,” the BEAC’s monetary framework has historically limited monetary sovereignty and constrained policy innovation, thereby weakening the region’s ability to respond effectively to asymmetric shocks (Kinda, 2019; Bénassy-Quéré and Coulibaly, 2020). This structural rigidity is supposed to hamper not only the Central Bank’s capacity for short-term macroeconomic stabilization in the face of crises, but also its ability to support long-term business cycle resilience.

Yet, in a world of increasingly frequent and severe global shocks where the region’s vulnerability is heightened, effective business cycle management and economic resilience have become essential (Coulibaly, Gandhi and Senbet, 2022). This calls for a reassessment of the BEAC’s monetary strategy, not solely through the prism of price stability, but also with a greater emphasis on resilience especially particularly as some CEMAC countries remain committed to preserving it, as well as their broader monetary cooperation with France (Guillaumont J. and Guillaumont P., 2017).

For these countries, while price stability remains the cornerstone of BEAC’s mandate, its statutes also require it to support the broader economic objectives of the CEMAC region (BEAC, 2020). In this regard, BEAC has shown some responsiveness during recent crises—particularly during the COVID-19 pandemic. The central bank has implemented countercyclical measures such as lowering its policy rate, injecting liquidity and easing collateral requirements in financial system to mitigate recessionary risks (BEAC, 2020). However, the effectiveness of these interventions in stabilizing the business cycle beyond short-term shock absorption and ensure resilience remains debatable (Coulibaly et al., 2022; Caldera Sánchez and Gori, 2016).

The question arises whether this policy framework is still adequate or if a more flexible, resilience-focused monetary policy is required for BEAC to better address the dynamic challenges posed by global economic uncertain and volatile environment. This paper investigates how monetary cooperation with France has shaped the design and evolution of monetary policy actions of BEAC, and assesses how the result monetary framework has influenced the BEAC's ability to manage business cycle fluctuations and ensure economic resilience over the last decade.

By drawing on the experience of CEMAC, this paper contributes to the broader debate on how central banks in low-income and developing countries (LDCs) can reconcile external

monetary cooperation and institutional constraints with the need for more adaptive, resilient, and counter-cyclical policy frameworks. In doing so, it sheds light on how evolving global shocks and structural dependencies affect not only the effectiveness of conventional monetary tools, but also the capacity of central banks to stabilize business cycles and foster long-term economic resilience under fixed exchange rate regimes.

To explore these issues, the paper is structured as follows. Section 1 provides a literature review on monetary strategy, external anchors, and business cycle resilience in developing economies, highlighting both theoretical foundations and recent empirical insights and gaps relevant to the CEMAC context. Section 2 analyzes how monetary cooperation with France has historically shaped BEAC's policy design over time. Section 3 presents the empirical methodology and findings from a Panel Vector Autoregression (PVAR) model, used to assess the effectiveness of BEAC's recent monetary interventions and its impact on business cycle management in the CEMAC. The final section concludes with policy recommendations aimed at enhancing the region's capacity to manage shocks within a constrained monetary regime.

1. Literature Review: Monetary Policy and Business Cycle Resilience in Developing Economies

Developing economies face distinct challenges in designing effective monetary policies that foster resilience amidst economic fluctuations. This literature review examines the theoretical and practical dimensions of monetary policy in these contexts. It explores the foundations of policy design in developing countries emphasizing the influence of external arrangements and domestic constraints (1.1), the evolution of strategies beyond price stability (1.2), and the role of counter-cyclical approaches in building resilience (1.3).

1.1. Foundations of Monetary Policy Design in Developing Economies

Monetary policy in developing countries is often shaped by both domestic constraints and external institutional arrangements. External anchors such as fixed exchange rates, currency boards, and monetary unions are commonly adopted to promote stability and credibility in volatile environments (Reinhart & Rogoff, 2004; Frankel, 2011). The Mundell-Fleming model illustrates how these arrangements limit monetary autonomy under open capital accounts. Despite such constraints, central banks in low-income countries (LICs) prioritize price stability (Fischer, 1993), often as a pragmatic response to weak institutions and inflation risks.

Regional examples include Barbados, the ECCU, Bhutan and Nepal's currency pegs, and BEAC's operations in CEMAC, where historical legacies support macroeconomic stability

(Hugon, 1999; Van de Walle, 2001; Guillaumont & Guillaumont, 2017). The commitment to low and predictable inflation is rooted in monetarist thought, linking stable prices to credibility and growth (Friedman, 1968; Barro, 1995; Svensson, 1999; Woodford, 2003; Mishkin, 2007; Hammond, 2012; Blanchard, 2018). Inflation targeting (IT) frameworks, initially adopted by advanced economies, have since gained traction in the developing world as a means of anchoring expectations and reducing volatility (Obstfeld, Shambaugh & Taylor, 2005). The emphasis on price stability has helped these countries achieve low inflation, attract investment, and promote economic growth. In the CFA Franc Zone, mechanisms like the euro peg and French Treasury backing have helped maintain low inflation (Nubukpo et al., 2016).

1.2. Strategic Evolution of Monetary Policy and Business Cycles in Developing Economies

The 2008 global financial crisis exposed the limitations of inflation-centric frameworks, especially in economies with supply shocks, fiscal dominance, or shallow financial systems (Frankel et al., 2013). This led to calls for more flexible, context-specific mandates that consider growth, employment, and macroprudential objectives (Arslan et al., 2021; Bénassy-Quéré & Coulibaly, 2020). Some African countries responded by adopting flexible IT regimes (Mishkin, 2007), while others, like Nigeria, employed unconventional tools such as targeted credit policies during crises (Sanusi, 2012).

The theoretical rationale for this shift draws from both Keynesian and monetarist traditions. Keynesians emphasize the role of monetary policy in stabilizing aggregate demand through interest rates, exchange rates, and credit channels (Sabta, 2015; Mishkin, 1995; Bekolo Ebe, 1997, 1998; Ekomane & Yamb, 2016). Monetarists, by contrast, see exogenous money supply changes as key drivers of business cycles (Friedman & Schwartz, 1975; Clarida, Gali & Gertler, 1999; Ireland, 2001; Canova & De Nicolo, 2002). Real business cycle theorists (Kydland & Prescott, 1998) emphasize real shocks over monetary influences. The New Neoclassical Synthesis (Goodfriend & King, 1997) bridges these perspectives, supporting short-run monetary non-neutrality and long-run neutrality. Nowadays, empirical models like VAR, PVAR, and DSGE (Sims & Zha, 1995; Leeper et al., 1996; Bernanke et al., 2004) are widely used to analyze policy impacts on business cycles.

As empirical approaches like VAR, PVAR, and DSGE deepen our understanding of monetary transmission, attention has shifted toward how counter-cyclical policy frameworks can be leveraged to strengthen economic resilience, particularly in contexts marked by recurring shocks.

1.3. Counter-Cyclical Policy as a Pillar of Economic Resilience

Developing countries face more volatile business cycles due to external dependencies, structural vulnerabilities, and limited shock absorption capacity (Aghion et al., 2004; Hausmann et al., 2006; IMF, 2015). As global shocks become more frequent and severe, strengthening macroeconomic resilience has become a policy priority (Blanchard et al., 2010; Caldera Sánchez & Gori, 2016; Coulibaly et al., 2022).

Economic resilience the ability to absorb and recover from shocks is increasingly associated with counter-cyclical policy, which is rooted in Keynesian economics (Keynes, 1936). Evidence from Latin America and Africa suggests these policies can cushion shocks and accelerate recovery, despite fiscal constraints (Calderón & Schmidt-Hebbel, 2008; Blanchard et al., 2010; Ayadi et al., 2020; Coulibaly et al., 2022). However, many LICs face weak transmission mechanisms. In CEMAC, studies show that BEAC's fixed exchange regime and informal economies limit the effectiveness of monetary tools (Kinda, 2019; Ayuk, 2021). Even with expansionary responses, such as those during COVID-19, BEAC's narrow mandate and external anchors constrain its ability to deliver consistent stabilization. Consequently, there is a growing consensus that fostering resilience in such contexts demands more adaptive and inclusive monetary policy frameworks. However, despite this emerging perspective, important questions remain unaddressed in the existing literature, particularly in relation to the CEMAC region.

However, the articulation between these theoretical frameworks and the specific realities of the CEMAC region, particularly regarding monetary sovereignty and the scope for policy innovation, remains insufficiently explored. The tension between external monetary commitments and domestic policy autonomy poses unique challenges for designing and implementing effective counter-cyclical policies in this context. Despite this emerging perspective, important questions remain unaddressed in the literature, especially concerning the CEMAC region.

1.4. Gaps in the literature and relevance for the CEMAC context

Despite increasing interest in the macroeconomic implications of monetary cooperation and the performance of monetary unions in low-income countries (LDCs) and Africa, there remains limited research on how institutional constraints—particularly those arising from structural monetary cooperation between BEAC and France—affect central banks' capacity to manage business cycles and build resilience. Most existing studies treat monetary policy effectiveness and economic resilience as separate issues, often neglecting the historical and

institutional factors that limit policy space in regions like CEMAC. Additionally, empirical evaluations of BEAC's policy effectiveness using robust tools such as PVAR models are scarce, despite the urgency created by evolving global shocks and the growing need for responsive policy frameworks. This paper addresses these gaps by integrating theoretical insights on monetary strategy, empirical evidence on transmission mechanisms and resilience, and a contextual understanding of the CFA franc zone, thereby contributing to broader debates on the future of monetary policy in structurally constrained developing economies. Before turning to the empirical analysis, it is essential to first examine how the historical monetary cooperation with France has shaped BEAC's institutional architecture, policy priorities, and operational framework in the CEMAC region over the time.

2. The Legacy of Monetary Cooperation: BEAC's Policy Design Under French Influence

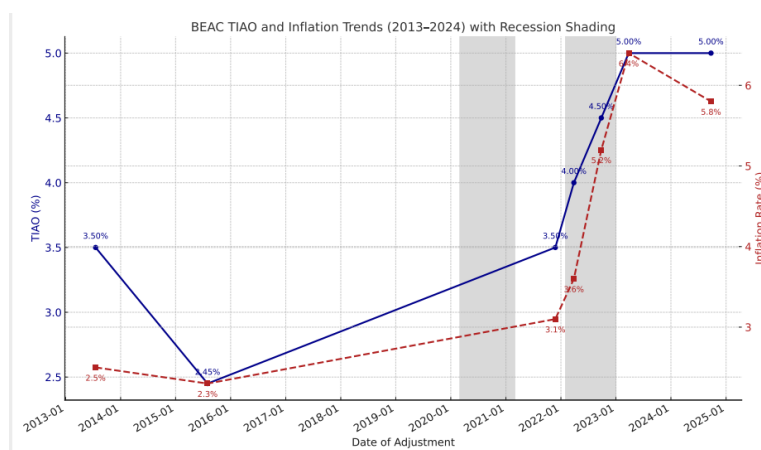
The monetary framework of the CEMAC region is deeply rooted in its fixed exchange rate regime, anchored to the euro and underpinned by France's guarantee of convertibility and centralized reserve management. Since its inception, the BEAC's monetary policy design has been heavily shaped by its cooperation with the Banque de France, mirroring the credibility-focused approach of the European Central Bank (ECB) (Biti, 2011). While this arrangement has enhanced macroeconomic predictability and institutional credibility, it has also limited BEAC's autonomy to implement context-specific responses to regional economic challenges. Autors such as Elom (2017) and Sodoke (2021) highlight how this structural dependence restricts the BEAC's ability to deploy counter-cyclical tools during crises or absorb external shocks. As BEAC's interest rate (TIAO) is often adjusted in response to changes in the ECB's policy rate, the region's monetary policy remains closely synchronized with Eurozone trends, reducing the flexibility needed to address local economic conditions.

These structural constraints have become increasingly problematic in the face of recurring external shocks, particularly in the post-COVID-19 era marked by commodity price volatility, mounting debt, and weakened fiscal buffers (Biti, 2018; Nkurunziza, 2020). In response, the BEAC has progressively evolved its monetary tools to navigate these complex challenges.

The historic inflation target remains at 3% despite persistent inflationary pressures and the impact of external shocks. Similarly, The Tender Interest Rate (TIAO) remain the first tool used to address inflationary pressures. A rise in TIAO signals a tightening of monetary policy, aimed at curbing inflation, while a reduction signals an easing policy to encourage credit and

economic growth. The figure 1 below presents the evolution of BEAC's tender rate, inflation trends with recession shading over the past decade.

Figure N°1: Evolution of BEAC TIAO and inflation trends between 2013 and 2024



Source: author's computation from BEAC database

Over the past decade, the central bank has transitioned from an accommodative to a tightening stance, raising the TIAO from 3.25% to 5% between 2021 and 2023 in response to surging inflation. Similarly, BEAC's use of Open Market Operations (OMOs) has shifted depending on the macroeconomic environment injecting liquidity during crises (e.g., 2015–2020) and tightening conditions in inflationary periods (post-2022). These adjustments reflect an attempt to balance monetary stability with the need for flexibility, despite the limitations imposed by the fixed exchange rate and external monetary coordination. Alongside interest rate tools and OMOs, BEAC has also reoriented its reserve requirements to better align with regional economic realities. Reserve requirements for commercial banks previously used to manage liquidity and prevent overheating were relaxed during the COVID-19 period to stimulate lending. Structural reforms, particularly around capital flow controls, have also been introduced in recent years to safeguard the CFA franc's parity and protect foreign reserves. These policy adaptations indicate a gradual but constrained shift toward greater monetary responsiveness in the CEMAC region, within the bounds of longstanding institutional arrangements with France. The table No 1 below presents a synthesis of the evolution of monetary policy actions of BEAC between 2013 and 2024

Table N° 1: A synthesis of the evolution of monetary policy actions of BEAC between 2013 and 2024

Periods	State of economies	Monetary policy actions	Nature of policy
2013-2014	Moderate inflationary pressures	- Reserve requirements kept stable at 11% - Liquidity injections - Lower interest rates	Accommodative monetary policy
2015-2016	Economic slowdown due to the fall in global oil prices	- BEAC maintained high reserve requirements - BEAC's policy shifted towards inflation control - Capital flows within the CEMAC region were tightly controlled to stabilize the CFA Franc and protect foreign reserves - injected liquidity - rate stability	Accommodative monetary policy
2017-2019	Rising inflation and slight recovery (global oil price recovery) 2018- 2019: External risks (e.g., currency fluctuations and rising global interest rates) started to increase from trade wars and global uncertainties	- Slightly adjustment reserve requirements (Tightening of liquidity) 2016-2018: - BEAC introduced measures to strengthen foreign exchange reserves and regulate capital inflows and outflows - withdrawing liquidity - rate stability	Restrictive monetary policy
2020-2021	The global recession / COVID-19 crisis Rising inflation	- relaxed reserve requirements to provide greater liquidity to commercial banks - aggressive liquidity injections - interest rate cuts - more flexibility was introduced in capital controls to support economic recovery and prevent financial distress	Accommodative monetary policy
2021-2023	Inflationary pressures from supply chain disruptions and rising commodity prices	- Interest rate hikes - Liquidity withdrawals	Tightening Monetary Policy
2023- 2024	Moderate inflation	Current reserve requirement is approximately 11% - Liquidity Injections	Accommodative monetary policy
2024	inflationary pressures	- Liquidity Withdrawal - BEAC maintained higher interest rates (5.0%)	Tightening Monetary Policy
2025	Rising inflation	- Current reserve requirement is approximately 11% - Liquidity Injection	Tightening Monetary Polic

Source: Author from BEAC reports and database.

Between 2013 and 2024, BEAC's monetary policy actions reflected a countercyclical approach, easing conditions during downturns such as the 2014 oil price collapse and the COVID-19 pandemic through liquidity injections, lower interest rates, and relaxed capital controls to support growth and financial stability. In contrast, during periods of recovery and rising inflation (2018–2022), the central bank adopted a restrictive stance by tightening liquidity and raising interest rates to control inflation and uphold the CFA Franc's peg to the Euro. This policy adaptability underscores BEAC's commitment to stabilizing the business cycle and maintaining macroeconomic stability, warranting further empirical analysis of its effectiveness in enhancing economic resilience in the CEMAC region.

3. Evaluating the Effectiveness of Monetary Policy in Managing Business Cycles in the CEMAC Region: A VAR Approach

To empirically investigate the effectiveness of Monetary Policy in Managing Business Cycles in the CEMAC Region, we use a twofold empirical strategy. First, we estimate model to capture the dynamic impact of monetary policy shocks on output and business cycle. Second, we conduct structural and stability tests to assess how the effectiveness of policy measures has evolved over time, particularly in the aftermath of major crises such as the COVID-19 pandemic and the 2014–2016 commodity price collapse.

3.1. Assessing the dynamic impact of monetary policy actions on output and business cycle

3.1.1. Model specification and data

To analyze the effect of BEAC monetary policy on the business cycles in the CEMAC, it is essential to first identify these cycles and determine the monetary policy indicator upon which the analysis will rely. Growth cycle which are of particular interest for the conduct of monetary policy as suggested by Majetti (2012) will be identify using the Hodrick-Prescott filter and non-parametric models, such as the Bry-Boschan algorithm (1971) to determine peaks and troughs.

Following Sims, (1980, 1992), Christiano, Eichenbaum and Evans (1999), Blanchard and Quah (1989), Gali (1999), Christiano, Eichenbaum and Evans (2005), this study adopts a VAR model to evaluate the effects of monetary shocks on the growth cycle, incorporating the other theoretically inspired macroeconomic variables assumed to be exogenous. The general form of our VAR(p) model is as follows:

$$Y_t = \alpha + \sum_{i=1}^p \phi_i Y_{t-i} + \beta M_t + \mu_t \quad (2)$$

With : $Y_t = \begin{pmatrix} \varepsilon_{PMt} \\ y_t \end{pmatrix}$: the vector of the 2 endogenous variables at time t; M_t :the matrix of exogenous variables including final consumption (CF), investment (INV), credits granted to the economy by the BEAC (CE) and trade openness (ouv); ϕ_i is the matrix of coefficients to be estimated; β is the vector of coefficients associated with the exogenous variables; $\alpha = \begin{pmatrix} \alpha_1 \\ \alpha_2 \end{pmatrix}$: the vector of the two constant terms of the system and μ_{it} : the matrix of error terms.

In line with the BEAC's monetary policy strategy, the analysis employs a forward-looking Taylor rule-based approach³ draws on works by (1996), Orphanides (1997), Kozicki (1999),

³ This is expressed as follows: $i_t = \alpha + \mu i_{t-1} + \beta \pi_t + \delta y_t + \gamma i_t^* + \partial AEN_t + \phi PNG_t + \varepsilon_{PMt}$

Clarida, Gali, and Gertler (1999), and Tenou (2010) to estimate monetary policy shocks (ε_{PMT}) or interest rate variations unrelated to economic fundamentals.

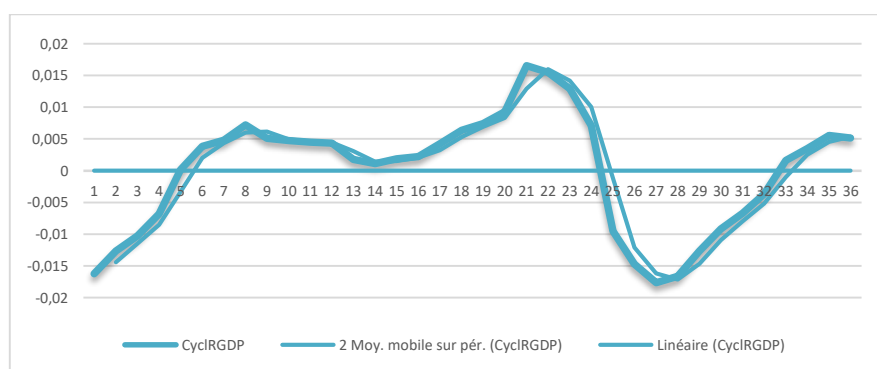
3.1.2. Estimates results

Due to constraints related to data availability and quality within the CEMAC region, this study focuses primarily on Cameroon, which represents the largest economy in the zone and offers relatively more comprehensive data. This approach ensures the robustness of the empirical analysis, while acknowledging that the findings cannot be fully generalized to the entire CEMAC region. Future research could expand this analysis to include other countries in the region as harmonized data becomes accessible.

Data used come from World bank development indicators, BEAC statistics and Cameroon's database. The annual data were disaggregated into quarterly series using the Denton method⁴. To identify the country's growth cycles based on the Cameroonian dynamic, we primarily rely on quarterly real Gross Domestic Product (GDP) at constant prices over the period 2013–2021. This timeframe is selected due to data availability, as national accounts are often revised, and it typically takes at least three years for estimates to be considered final.

Our estimates suggest that, during this period, real GDP dynamic was marked by short-term cycles, characterized by alternating phases of slowed growth or contraction (2014-2016 and 2018-2019q2) and periods of expansion (2013-2014; 2016-2018 and 2019q2-2021q2) as illustrated in Figure 2 below.

Figure N° 2: Growth cycle of Cameroon 2013-2021



Source: author's computations.

(i_{t-1}) accounts for the delayed effect of monetary policy decisions and includes the Eurozone's monetary policy instrument (i_t^*), (ε_{PMT}) is Monetary shocks, (PNG_t) reflects fiscal dominance proxied by the net position of governments with the financial sector. The output gap (y_t), inflation deviation from the 3% target (π_t), and reserves deviation from their long-term trend (AEN_t) are key variables, reflecting BEAC's objectives of internal and external stability.

⁴ The Denton method is a temporal disaggregation technique that distributes low-frequency data (e.g., annual) into higher-frequency series (e.g., quarterly or monthly) by minimizing the volatility of changes between periods, while ensuring consistency with the original aggregate totals.

Overall, periods of strong economic growth tend to be both longer and more intense—lasting on average 7.7 quarters, with an average amplitude of 2.58 and a severity index of 10.27—compared to contraction phases, which average 6 quarters in duration, with an amplitude of 1.45 and a severity of 4.37.

These cyclical patterns reflect short-term, or conjonctural, fluctuations largely driven by changes in the broader and domestic economic environment. The contraction phases coincide with external shocks such as the 2014 oil price collapse and global uncertainty, compounded by domestic fiscal tightening under IMF-supported programs, sluggish private sector activity and structural constraints. In contrast, the expansion phases align with more favorable conditions, including stable commodity prices, renewed public investment, and supportive policy responses. Taken together, these dynamics point to the relatively unstable economy with limited resilience to external shocks.

By cross-referencing the dynamics of the growth cycle with the nature of the monetary policy implemented during the different periods, as reported in Table 1, it appears that the actions of the BEAC are more procyclical than countercyclical.

- BEAC reaction function and estimation of monetary shocks

When the interest rate (TIAO) is analyzed alongside its main determinants (see the table 2 report in annex), it shows a significant and positive reaction to its lagged value, confirming the hypothesis of smoothing monetary policy decisions. The TIAO also responds significantly and positively to domestic inflation reflecting the priority of price stability pursued by the monetary authority. Moreover, the TIAO is influenced by the key interest rate in the eurozone, reflecting the external anchor effect highlighted by Ghosh, Ostry, and Tsangarides (2010).

In contrast, the BEAC appears unresponsive to the domestic output gap and fiscal policy dynamics within CEMAC, as the coefficients associated with the output gap and fiscal dominance are statistically insignificant. However, the significant and negative coefficient associated with changes in net foreign assets suggests that the BEAC's monetary policy stance is sensitive to the region's external position. The monetary shocks are estimated based on the results of this equation⁵.

⁵ For the sake of brevity, only the most relevant results are presented in the paper. Additional intermediary results and the underlying database are available from the authors upon request.

- Dynamic Impacts of Monetary Policy Shocks on Output

To assess the impact of monetary policy shocks on output, we estimated the previously specified VAR model following a series of preliminary tests and estimates⁶. These tests confirmed the stationarity properties of the variables; with the exception of those representing the growth cycle and monetary shocks, all variables are integrated of order one. We also identified a single cointegration relationship and selected two lags as the optimal lag length based on standard criteria. Granger causality tests indicate that monetary shocks have a significant effect on the Cameroon growth cycle, while the reverse relationship is not supported. Accordingly, Table 2 below presents only the estimation results for the effect of monetary shocks on the growth cycle.

Table N° 2: Estimated effect of monetary shocks on the growth cycle of Cameroon

Equation	Parms	RMSE	R-sq	chi2	P>chi2
cyclepibr	9	.017751	0.9804	548.913	0.0000
chocs_mon	9	1.51628	0.5448	13.16407	0.1063

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
cyclepibr						
cyclepibr						
L1.	.5445207	.1611007	3.38	0.001	.2287691	.8602723
L2.	-.5015464	.0570534	-8.79	0.000	-.6133689	-.3897239
chocs_mon						
L1.	.0195729	.0087047	2.25	0.025	.002512	.0366338
L2.	.0540517	.0088241	6.13	0.000	.0367567	.0713467
ouv	-.2975068	.1247364	-2.39	0.017	-.5419856	-.053028
CF	.2998065	.0887764	3.38	0.001	.1258079	.4738051
CE	-.1014813	.0152011	-6.68	0.000	-.1312748	-.0716878
INV	-.1059241	.0937245	-1.13	0.258	-.2896208	.0777727
_cons	-1.724661	.2112916	-8.16	0.000	-2.138785	-1.310537

Source: author's computations.

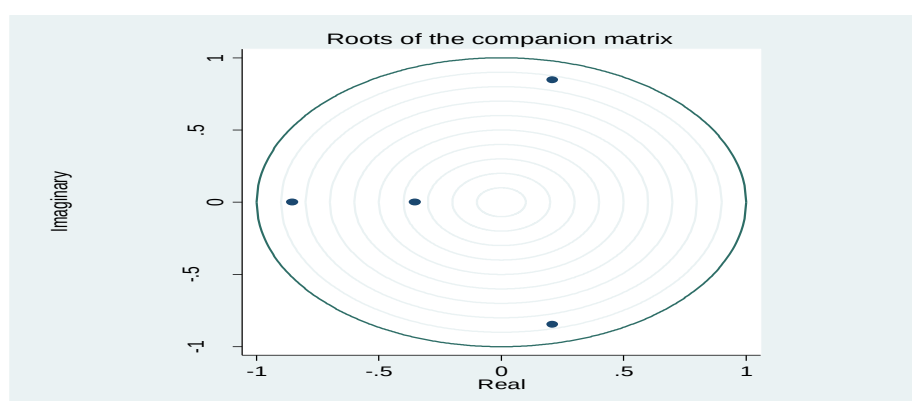
The results indicate that the specified model is strongly significant overall (at the 98% level). The lagged values of the growth cycle are individually significant, highlighting its persistence, as are the monetary shocks and the credit shock variable (proxied by domestic credit to the economy).

Credit to the economy exerts a countercyclical influence on the growth cycle, suggesting that the central bank adjusts bank reserves—and consequently, bank lending to stimulate activity during downturns or to cool the economy during periods of overheating. The relatively small coefficient (-0.10) may reflect constraints such as moral hazard, which limit banks' willingness or capacity to extend credit in the absence of sufficient information on borrowers' financial health.

⁶ For the sake of brevity, only the most relevant results are presented in the paper. Additional intermediary results and the underlying database are available from the authors upon request.

Monetary shocks at lags $t-1$ and $t-2$ are positively associated with the growth cycle, with coefficients of 1.95% and 5.40%, respectively. This suggests that monetary shocks reinforce the prevailing phase of the cycle: in recessions, positive shocks have countercyclical effects by mitigating the downturn, while in expansions, they exert procyclical effects by amplifying growth. Conversely, negative shocks during recessions are procyclical and deepen the crisis, whereas during expansions, they are countercyclical and dampen growth. The stability analysis, illustrated in Graph 3 below, confirms that the estimated model is stable.

Figure N° 3: Analysis of model stability



Source: author

3.2. Evaluating the Adaptive Effectiveness of Monetary Policy of BEAC

3.2.1. Dynamic Impacts of Monetary Policy Shocks on Business Cycle Smoothing

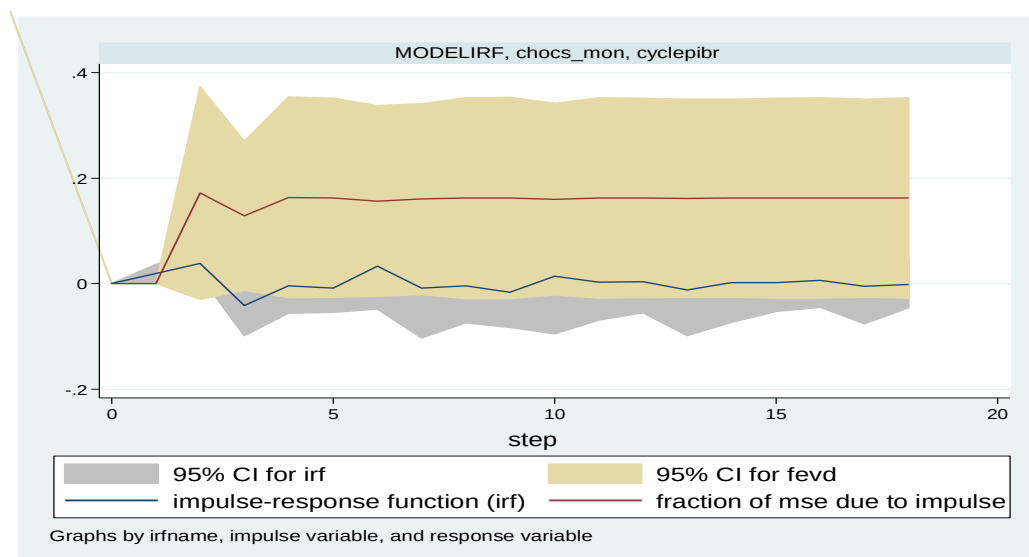
An impulse response analysis is conducted, under the assumption of a constant economic environment (*ceteris paribus*) to provide valuable insights into the capacity of monetary policy to smooth economic fluctuations by mitigating short-term volatility and moderating cyclical swings and to influence the economy's trajectory following a shock.

Globally, it appears that interest rate adjustments alone have weak traction in the real economy due to shallow financial markets and structural asymmetries. The variance decomposition results show that, on average, 16% of the forecast error variance in the growth cycle is attributable to monetary shocks, underscoring their meaningful though partial influence on cyclical dynamics.

The impulse response analysis report below further reveals that a positive monetary shock produces a sustained, positive effect on the growth cycle, particularly during the first two

years following the shock. From the third year onward, the response becomes oscillatory, eventually stabilizing around the fourteenth year.

Figure N° 4: IFR computation



Source: author's computation.

These findings confirm the delayed and variable nature of monetary policy transmission, consistent with the observations of Friedman (1960). In the short and medium term, the effects of monetary policy appear uncertain, gradual, and nonlinear, which limits the Central Bank's ability to precisely manage the timing and intensity of cyclical fluctuations. This uncertainty implies that aggressive or abrupt adjustments to the policy rate may produce unintended consequences, making macroeconomic conditions more volatile rather than less. In light of this, the results support the idea that monetary policy in CEMAC plays only a modest role in smoothing economic fluctuations, and that its effectiveness is constrained by transmission lags and structural rigidities. As noted by Clarida et al. (1999), this justifies a more cautious and forward-looking policy stance, where the Central Bank prioritizes long-term economic stability over short-term cyclical fine-tuning. The preference for gradual adjustments and alignment with long-term growth objectives reflects a strategy aimed at minimizing policy-induced volatility and maintaining macroeconomic credibility.

3.2.2. Dynamic Impacts of Monetary Policy Shocks on Business Cycle Resilience

The analysis of the output gap dynamics between 2013 and 2021 reveals a significant closure of the gap beginning in the first quarter of 2014. After a prolonged period of negative output gaps, the economy transitioned into positive territory, where the output gap remained consistently positive for 20 consecutive quarters, or roughly five years. This period of positive output gap growth suggests a recovery phase where actual output gradually aligned with

potential output, signaling resilience in the economic growth cycle. The sustained closure of the output gap during this period is indicative of the economy's ability to recover from shocks and maintain growth despite external constraints, including the challenges posed by the global economic environment and regional economic factors. The resilience of the growth cycle in Cameroon, particularly in light of the post-COVID-19 recovery, underscores the importance of sound monetary policies and the capacity for sustained economic recovery in the face of uncertainty and crisis.

This result emphasizes the dual nature of the economic recovery highlighting a tension between the economy's inherent capacity to recover and the institutional constraints that may undermine the full effectiveness of monetary interventions.

The preceding analyses focusing respectively on the smoothing of cyclical fluctuations and the resilience of post-shock recovery offer complementary perspectives on the adaptive behavior of monetary policy in the CEMAC region. While monetary shocks exhibit some stabilizing influence on the business cycle, their effects unfold with considerable delay and uncertainty. Simultaneously, the output gap trajectory reflects a degree of endogenous resilience that may be only partially attributable to policy intervention. These findings call for a critical synthesis: to what extent can the CEMAC monetary authority act responsively and credibly in the face of mounting external shocks and structural asymmetries? The following section evaluates that question by integrating evidence on monetary responsiveness with institutional realities, aiming to clarify the adaptive boundaries and the possible levers of current monetary strategy.

3.2.3. Toward Adaptive Credibility: Interpreting the Limits and Levers of Monetary Responsiveness in CEMAC

The empirical evidence below points to a modestly adaptive yet structurally constrained monetary policy framework in the CEMAC region. The impulse response analysis reveals that positive monetary shocks elicit a sustained but delayed positive effect on the growth cycle, particularly during the first two years following a policy intervention. However, the subsequent oscillatory behavior and long stabilization horizon (around fourteen years) underscore the nonlinear and sluggish nature of the transmission mechanism, limiting the Central Bank's ability to enact timely countercyclical stabilization.

Further reinforcing this, the variance decomposition attributes only 16% of the forecast error variance in output to monetary shocks, suggesting that while monetary policy plays a non-negligible role, it is far from dominant in driving short-term cyclical dynamics. This

restrained influence may reflect the institutional rigidity of the monetary framework, including the fixed exchange rate regime, limited depth of domestic financial markets, and asymmetries in shock transmission among member states.

The analysis of the output gap dynamics (2013–2021) provides a more nuanced view of resilience: following a prolonged period of economic slack, the consistent closure and subsequent five-year positive trajectory of the output gap suggest an underlying capacity for recovery. This trajectory is particularly notable in the post-2014 period and during the COVID-19 aftermath, highlighting the role that sound monetary management can play during episodes of uncertainty. However, the persistence of positive output gaps also indicates a possible decoupling between cyclical recovery and monetary steering, raising questions about whether growth is driven more by structural factors (external demand, public investment) than by adaptive monetary maneuvering.

Taken together, these findings highlight a tension between the economy's endogenous resilience and the limitations of current monetary tools. While the Central Bank appears to adopt a cautious, forward-looking policy stance favoring gradualism and credibility over short-term activism (Clarida et al., 1999) this approach may blunt the instrument's potential during acute downturns or asymmetric shocks. As such, adaptive effectiveness in the CEMAC context appears partial and contingent: responsive in principle, but constrained in practice by delayed transmission, institutional inertia, and external policy anchors.

Conclusion and policy recommendations

Empirical analysis shows that monetary shocks account for only a modest portion of output variability. This underscores a limited role for traditional policy levers in steering short-term dynamics. Moreover, impulse response functions indicate that monetary interventions operate with long and variable lags exerting a positive but delayed effect on output that becomes oscillatory by the third year post-shock and stabilizes only after more than a decade. Such sluggish transmission complicates any attempt at timely stabilization and makes aggressive rate adjustments risky in volatile environments.

Interestingly, an examination of output gap dynamics reveals a sustained recovery period, with the gap closing and remaining positive for five consecutive years signaling a degree of endogenous resilience. However, this recovery appears to stem more from structural adaptation and external factors than from the fine-tuned impact of monetary steering. The co-existence of economic rebound and limited policy traction reveals a structural disconnect between BEAC's intentions and its operational reach.

Although the Central Bank responded swiftly to cushion the effects of recent recessions and a significant recovery phase of output gap, the effectiveness and adaptability of its conventional monetary tools remain constrained by the rigid mandate or the rule-based orientation of the existing monetary policy framework. This institutional inflexibility limits the scope for more innovative or responsive policy tools in the face of recurrent shocks. It's also raises the limitations of a price-stability-only mandate and argues for a shift toward resilience-oriented policy frameworks.

To enhance adaptive effectiveness, a transition is needed toward a more flexible and forward-looking monetary policy architecture in the CEMAC region. This transition implies a shift away from a passive, credibility-centric model toward one that better balances credibility with flexibility, innovation, and responsiveness. A modernized framework would improve the region's ability to absorb shocks, reduce procyclicality, and support inclusive and sustainable economic growth not only in Cameroon, but across all member states.

From a public policy perspective, this evolution requires more than technical upgrades. It calls for a comprehensive rethinking of BEAC's monetary framework along three strategic dimensions:

- **Mandate Flexibility:** Expanding BEAC's mandate beyond strict price stability to include broader objectives such as economic growth, employment, and resilience would enable a more development-oriented approach. This would require formal revisions to BEAC's legal and institutional architecture to embed these goals into the policy framework.
- **Monetary Innovation:** Modernizing the policy toolkit by adopting forward-looking instruments such as interest rate corridors, liquidity forecasting systems, and dynamic macroprudential tools would allow for more effective and timely responses to economic fluctuations. These innovations require enhanced analytical capabilities, transparent communication strategies, and stronger data infrastructure to support real-time decision-making.
- **Diversification of Instruments and Market Development:** A more diverse set of monetary instruments (including dynamic capital buffers and liquidity ratios) would strengthen countercyclical capacity. At the same time, deepening financial markets and improving macro-financial surveillance are essential to ensure that these tools function effectively. Improved policy coordination with national fiscal authorities would further enhance monetary transmission and reinforce resilience.

Taken together, these reforms would allow BEAC to move toward a more flexible, credible, and development-oriented policy regime better aligned with the structural characteristics and macroeconomic realities of the CEMAC economies.

However, implementing a more flexible and development-oriented monetary strategy cannot be achieved solely through internal reforms at BEAC. As this study has shown, the institutional framework shaped by the long-standing Franco-CEMAC cooperation continues to exert significant influence on BEAC's policy orientation - particularly its focus on price stability and external credibility - while also constraining its policy space. Therefore, any shift toward a more flexible and development-oriented monetary framework must go beyond technical reforms within BEAC. It must also involve a reassessment of the institutional cooperation framework with France. In particular, introducing greater autonomy in monetary decision-making, enhancing policy coordination within CEMAC, and fostering regional ownership of monetary goals could create the conditions for more adaptive responses to economic shocks. This may require reforming the governance mechanisms underpinning Franco-CEMAC cooperation to ensure they reflect the evolving macroeconomic priorities of the region. Without such an evolution, technical adjustments alone may prove insufficient to achieve genuine countercyclical capacity and long-term resilience.

The recommendations offered aim to enhance BEAC's monetary policy framework based on insights derived from Cameroon's experience. While BEAC operates at the regional level, acknowledging the heterogeneity among member countries is crucial. Therefore, further empirical research covering multiple CEMAC countries as well as including critical aspects such as central bank independence and institutional credibility would help refine these recommendations and ensure they address the specific economic realities and challenges faced across the entire region.

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