



ANALYSIS OF THE INTERACTION OF MONETARY AND MACROPRUDENTIAL POLICIES

EMPIRICAL EVIDENCE FROM ALBANIA

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Outline

Introduction

Literature review

Methodology

Empirical results

Final remarks

- In Albania - a small, open, and highly euroized economy - monetary and macroprudential policies often interact through shared transmission channels.
- Lack of coordination can create policy conflicts or unintended side effects.
- Existing literature lacks system-level empirical evidence on their dynamic interplay in such contexts.
- This study fills the gap by:
 - Creating a new macroprudential policy index,
 - Applying SVAR-SVEC modeling to capture interactions,
 - Testing whether policy coordination enhances effectiveness and autonomy of the policies.

Methodology & Findings

➤ Empirical strategy:

➤ Structural VAR with Cointegrated Variables (SVAR-SVEC) [[Ouliaris, Pagan and Restrepo, 2018](#)]:

➤ Captures long-run equilibrium and short-run dynamics.

➤ Two cointegration relationships: [Price stability](#) (CPI, GDP, interest rate) & [Financial stability](#) (bank soundness, macroprudential index, exchange rate)

➤ Main findings:

➤ Monetary policy affects macroeconomic variables (GDP, inflation) as expected.

➤ Macroprudential policy improves financial stability and enables more flexible monetary policy.

➤ Evidence of policy coordination:

➤ Macroprudential tightening is often accompanied by monetary easing.

➤ Each policy maintains autonomy, but works complementarily.

How do monetary and macroprudential policies interact in Albania, and does their coordination enhance the effectiveness of the Bank of Albania in achieving price and financial stability?

- **Do monetary and macroprudential policies in Albania interact dynamically over time?**
 - *How do changes in one policy affect the other?*
- **Has the Bank of Albania coordinated these two policies effectively from 2000–2022?**
- **Does this coordination support both price stability and financial stability without one undermining the other?**
 - *Can each policy remain autonomous yet still reinforce the other's effectiveness?*

The literature highlights how monetary and macroprudential policies interact through shared transmission channels, with recent studies emphasizing the benefits of coordinated policy responses.

Bernanke et al. (1996); Jiménez et al. (2012):

USA (1980s–1990s), Spain (2002–2008): Analyze the impact of monetary policy on credit supply and borrower risk behavior. Find that low interest rates increase borrowing and encourage financial risk-taking.

Borio & Zhu (2008); Adrian & Shin (2012):

Cross-country & USA (1999–2007): Examine the risk-taking channel of monetary policy and its effect on financial institutions. Find that accommodative monetary policy increases leverage and weakens credit standards.

Altavilla et al. (2020):

Euro area (2010–2018): Investigate the interaction between monetary and macroprudential policies in Europe. Find that macroprudential easing amplifies the effects of monetary accommodation, especially for less capitalized banks.

Cozzi et al. (2020); Mendicino et al. (2020)

Study the effects of capital requirements and their interplay with monetary policy. Find that stricter macroprudential rules reduce credit growth short-term but enhance long-term stability.

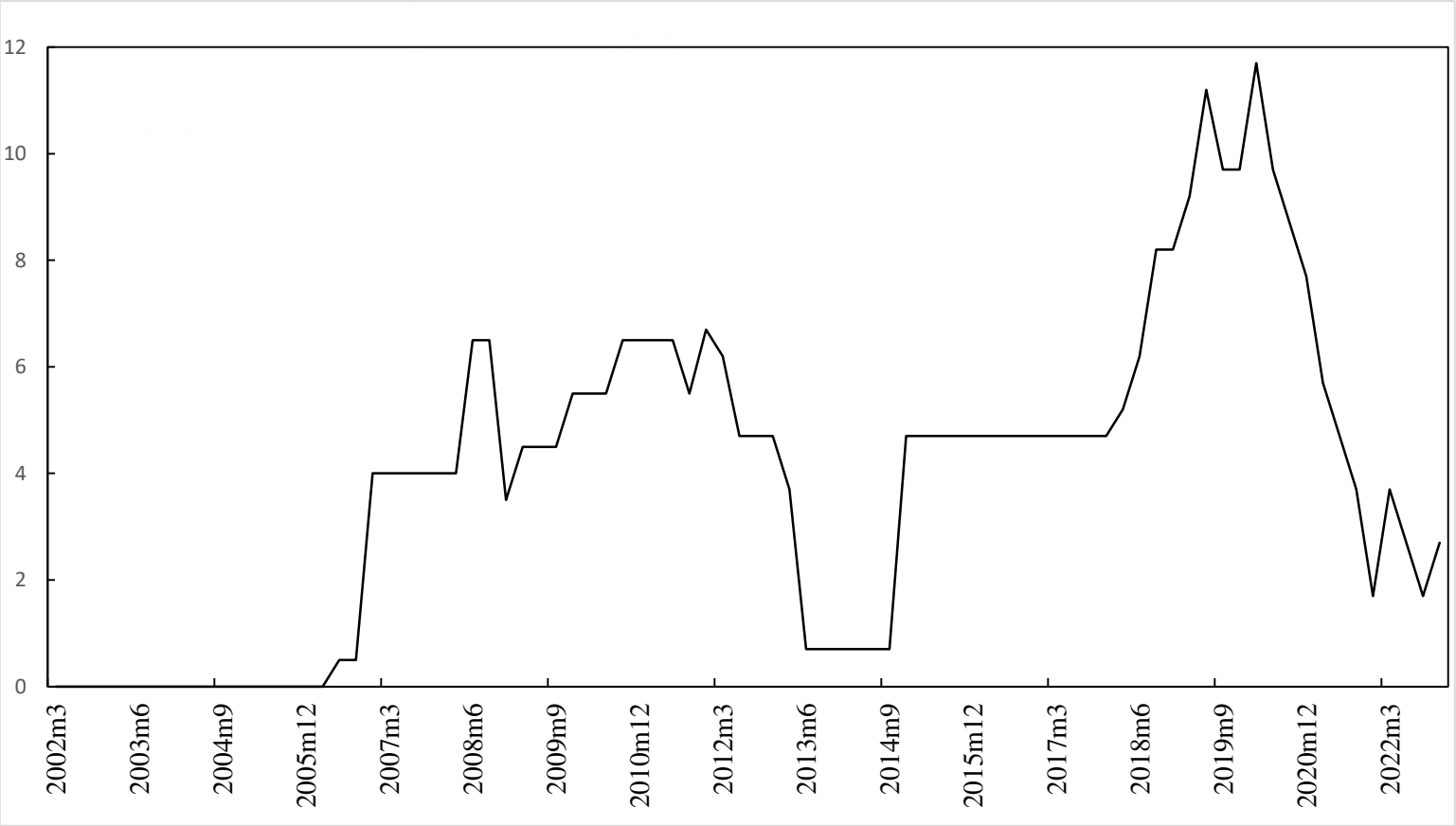
For Albania:

The studies so far are conducted within a single equation framework, without studying the system dynamics.

➤ Macroprudential Policy Index (PMP):

- Based on **official BoA decisions**.
- Built following **Alam et al. (2019)** methodology:
 - Assigns values to policy actions:
 - +1** for tightening measures
 - 1** for easing measures
 - 0** for neutral
 - Adjusted by ± 0.5 in partial or indirect measures.
- Reflects the **direction and intensity** of macroprudential policy over time.

Figure 1. Performance of the macroprudential policy (MPP) index.



Source: Bank of Albania and authors' calculations.

- **Structural Vector Autoregressive model (SVAR) & Structural Vector Error Correction (SVEC)**
- **Ouliaris, Pagan e Restrepo (2018)** framework
- Captures **short-run dynamics** and **long-run equilibrium** via cointegration
- **Variables:**
 - Monetary policy: REPO rate, CPI
 - Macroprudential policy: MPP index, banking soundness index (BSI)
 - Macroeconomic context: GDP, exchange rate (ALL/EUR)
- Two identified long-run relationships:
 - **Price stability (CPI-driven)**
 - **Financial stability (BSI-driven)**
- **Data sources:** Bank of Albania (& decisions of the Supervisory Council), National Statistical Offices, IMF
- **Frequency:** quarterly data for 2000-2022

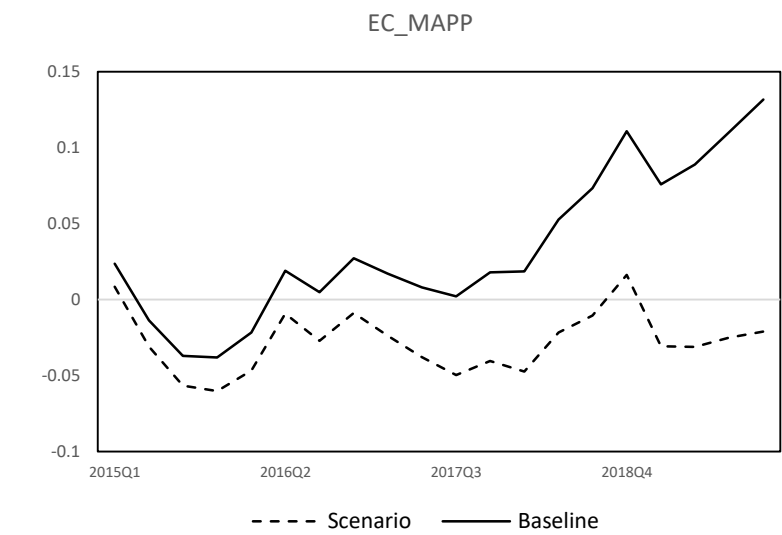
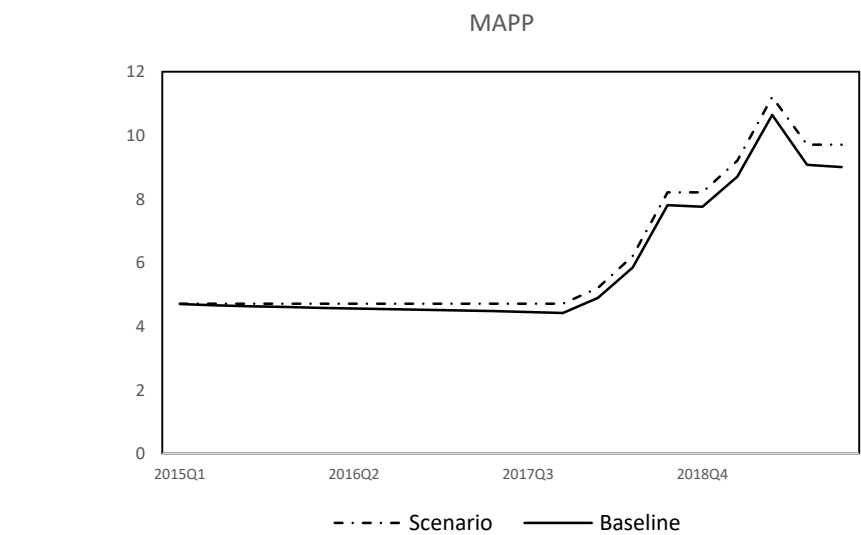
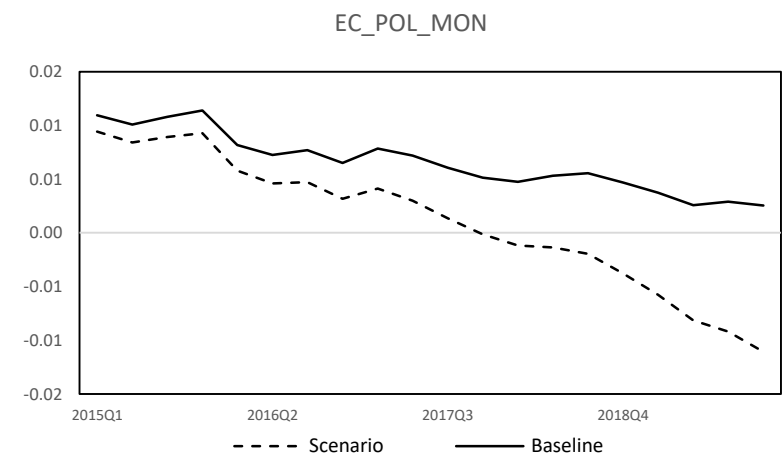
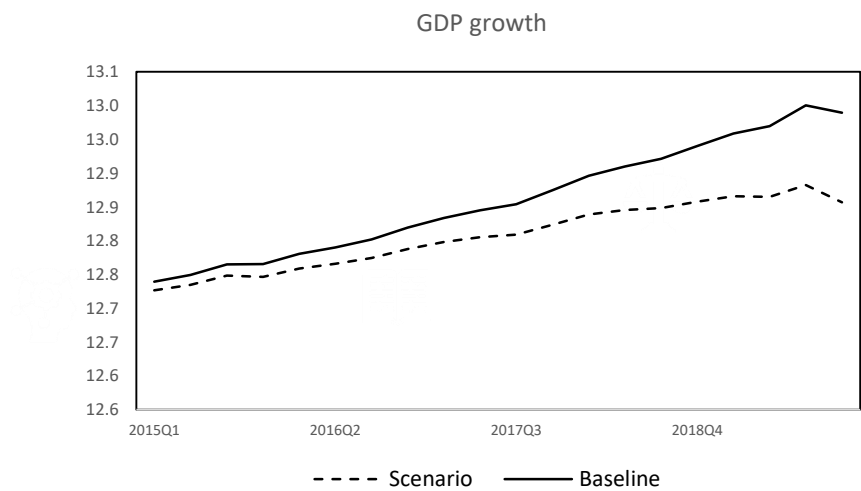
Figure 2. Imposed restrictions.

F	ϵ_{GDP}	ϵ_{REPO}	ϵ_{ec1}	ϵ_{ER}	ϵ_{MAPP}	ϵ_{ec2}
GDP	NA	0	0	0	0	0
REPO	NA	NA	0	NA	NA	0
$\text{CPI}_{(\text{EC1})}$	NA	NA	NA	NA	NA	0
ER	NA	NA	0	NA	NA	0
MAPP	NA	NA	0	NA	NA	0
$\text{BSI}_{(\text{EC2})}$	NA	NA	0	NA	NA	NA

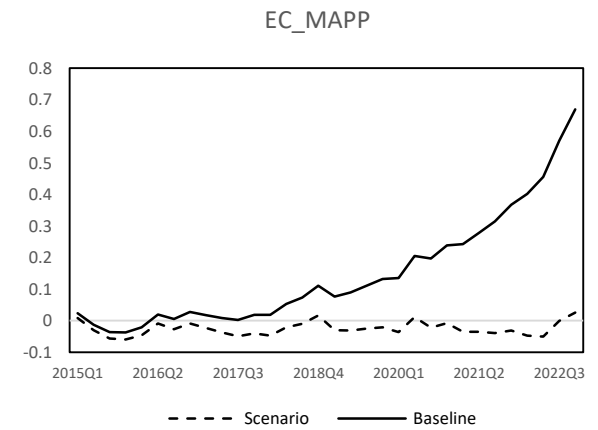
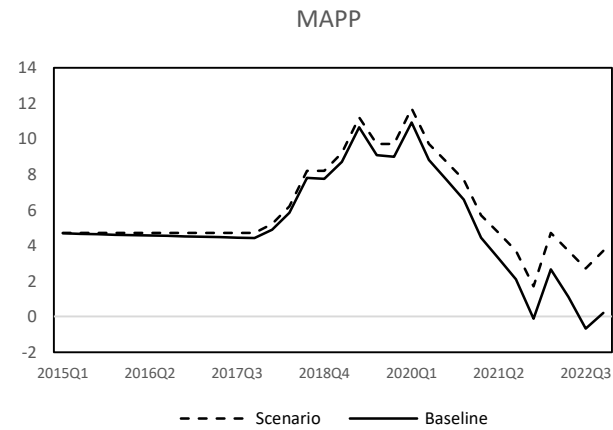
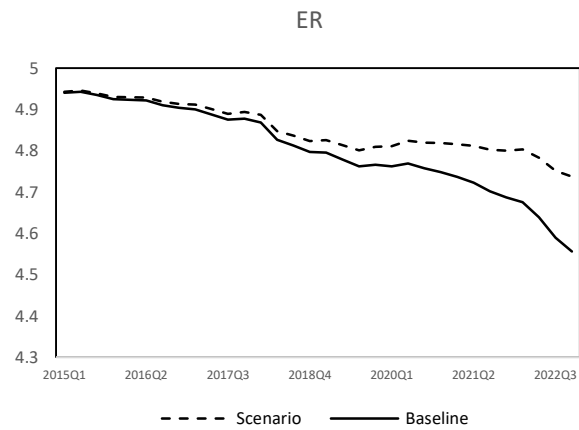
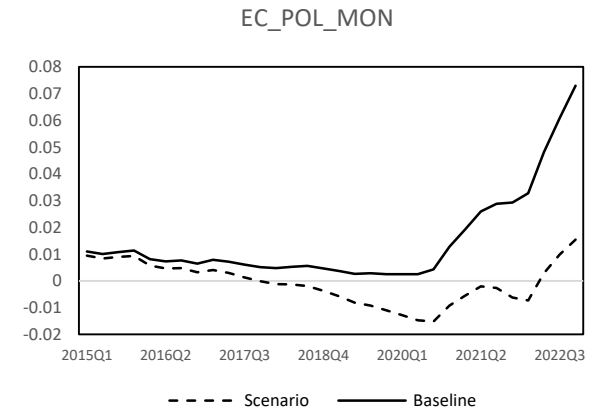
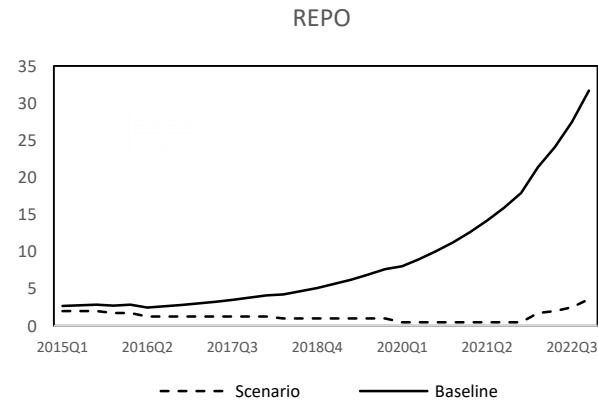
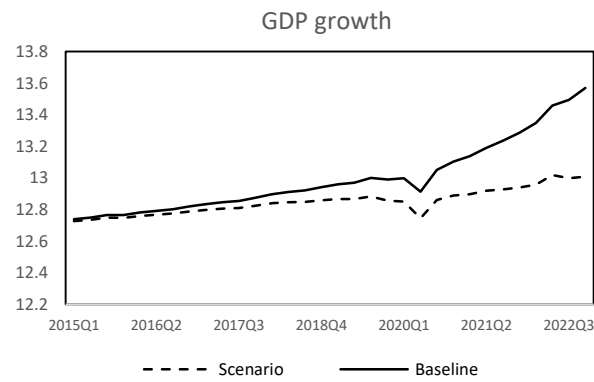
- MP does not affect GDP in the short-run.
- MP does not react to stabilize the exchange rate.

S	ϵ_{GDP}	ϵ_{REPO}	ϵ_{ec1}	ϵ_{ER}	ϵ_{MAPP}	ϵ_{ec2}
GDP	NA	0	NA	NA	NA	NA
REPO	NA	NA	NA	0	NA	NA
$\text{CPI}_{(\text{EC1})}$	NA	NA	NA	NA	NA	NA
ER	NA	NA	NA	NA	NA	NA
MAPP	NA	NA	NA	NA	NA	NA
$\text{BSI}_{(\text{EC2})}$	NA	NA	NA	NA	NA	NA

Estimation results: Results of a positive REPO shock scenario.



Estimation results: Results of a MPP index shock scenario.



Monetary Policy Shock (e.g., increase in interest rate):

- GDP contracts and prices adjust downward as expected.
- Exchange rate remains stable, showing limited sensitivity.
- Macroprudential policy indicator is unaffected, confirming policy independence.
- Banking soundness improves due to higher interest margins and capital adequacy, despite increased debt burden.
- No need for macroprudential intervention, reinforcing monetary policy's standalone effectiveness.

Macroprudential Policy Shock (tightening):

- Credit access decreases, leading to lower GDP and prices.
- Slight depreciation of local currency observed.
- Banking soundness improves, confirming policy effectiveness.
- Triggers a decrease in interest rates, allowing monetary policy to ease.
- Macroprudential policy supports monetary policy, especially when interest rates are low or transmission is weak (e.g., during crises).

- Monetary policy effectively influences GDP and inflation, but has little impact on macroprudential indicators.
- Macroprudential policy affects credit and GDP, but strengthens banking soundness.
- Policies should remain independent but well-coordinated to ensure both price and financial stability.
- Policymakers must adapt tools flexibly and consider external factors like ECB policy and exchange rates due to Albania's euroization.
- Conclusions apply to small open economies with flexible regimes; further research is needed for different monetary systems.

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**Thank you
for
Your attention!**

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