

The Role of Macroeconomic Variables in Driving Bank Profitability in Albania: Evidence from a Panel Mixed Frequency Approach

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Motivation: Why Bank Profitability, Why Albania?



Profitability is central to:

Financial stability and loss-absorbing capacity

Monetary transmission and credit supply



Albania

Young banking system, major reforms since early 2000s

Transition, small open economy, exposed to external shocks

The Empirical Gap



Standard profitability studies

Annual or quarterly data only

Macro & bank variables at same frequency

Problems with mix-freq reality

Financial indicators observed monthly or daily

Aggregation → loss of dynamics

Many lags: over-parameterization, multicollinearity



Our solution

Panel MIDAS with Polynomial Lag Distributions

Research Questions



Primary research question

Which bank-level and macro variables drive ROA in Albania?

How quickly do their effects appear and how long do they last?

Secondary research question

How did the GFC, the Greek debt crisis, and Covid-19 affect profitability?

Data

Variables	Measurement	Proxy	Unit	Expected sign
ROA	Profitability	Return over assets	%	
GDP	Economic activity	Gross domestic product	Annual growth in %	+
INF	Inflation	Consumer price index	Annual growth in %	-/+
EXR	Exchange rate	Lek -Euro exchange rate	Index in natural logarithm	-/+
R	Interest rate	Repo rate	%	-/+
Δ CAR	Capital adequacy	Regulatory capital to risk weighted assets	Percentage points	-/+
NPLs	Credit risk	Non performing loans to total loans	%	-
ASSETS	Bank size	Assets	LEK in natural logarithm	-/+
NII	Efficiency	Non-interest income to the non-interest expenses	%	+
D1	GFC	Binar variable	0/1	-
D2	Greek sovereign debt crisis	Binar variable	0/1	-
D3	COVID-19 Pandemic	Binar variable	0/1	-

Methodology: MIDAS



Goal

To relate quarterly ROA to monthly and quarterly bank and macro shocks

MIDAS methodology

$$ROA_{\{i,t\}} = \beta' X_{\{i,t\}}^{\{(quarterly)\}} + \sum w(k; \theta) \cdot Z_{\{t-k\}}^{\{(monthly)\}} + u_{\{i,t\}}$$

$w(k; \theta)$: smooth polynomial lag weights

MIDAS advantages

Uses all monthly information

Keeps parameter count small

Provides lag profile of each determinant

Results: Headline



Positive Impact: Economic activity, CAR, Bank efficiency



Negative Impact: Credit risk, Exchange rate, Monetary tightening

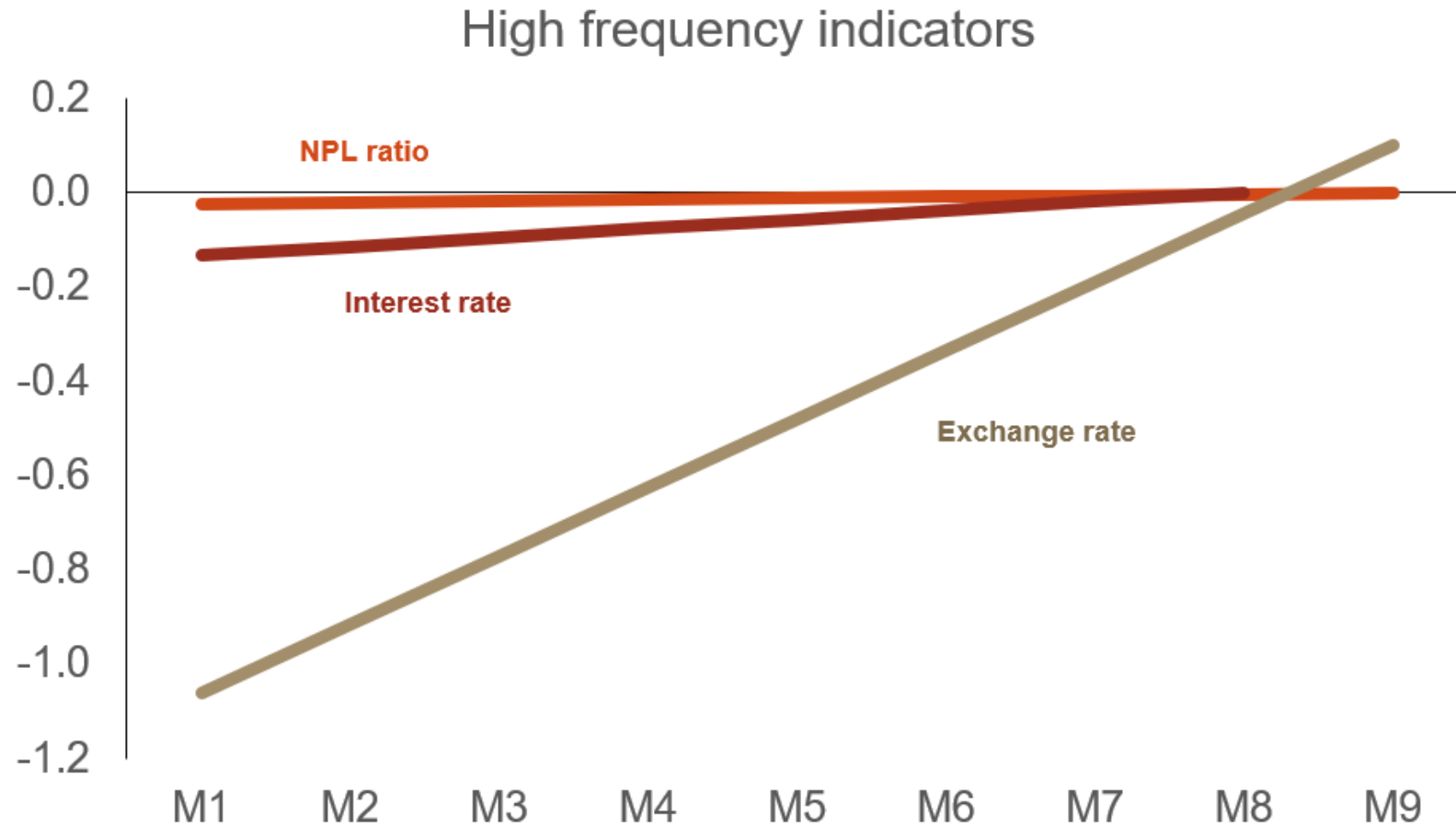


Temporal Dynamics: Effects fade out gradually in 2-3 quarters

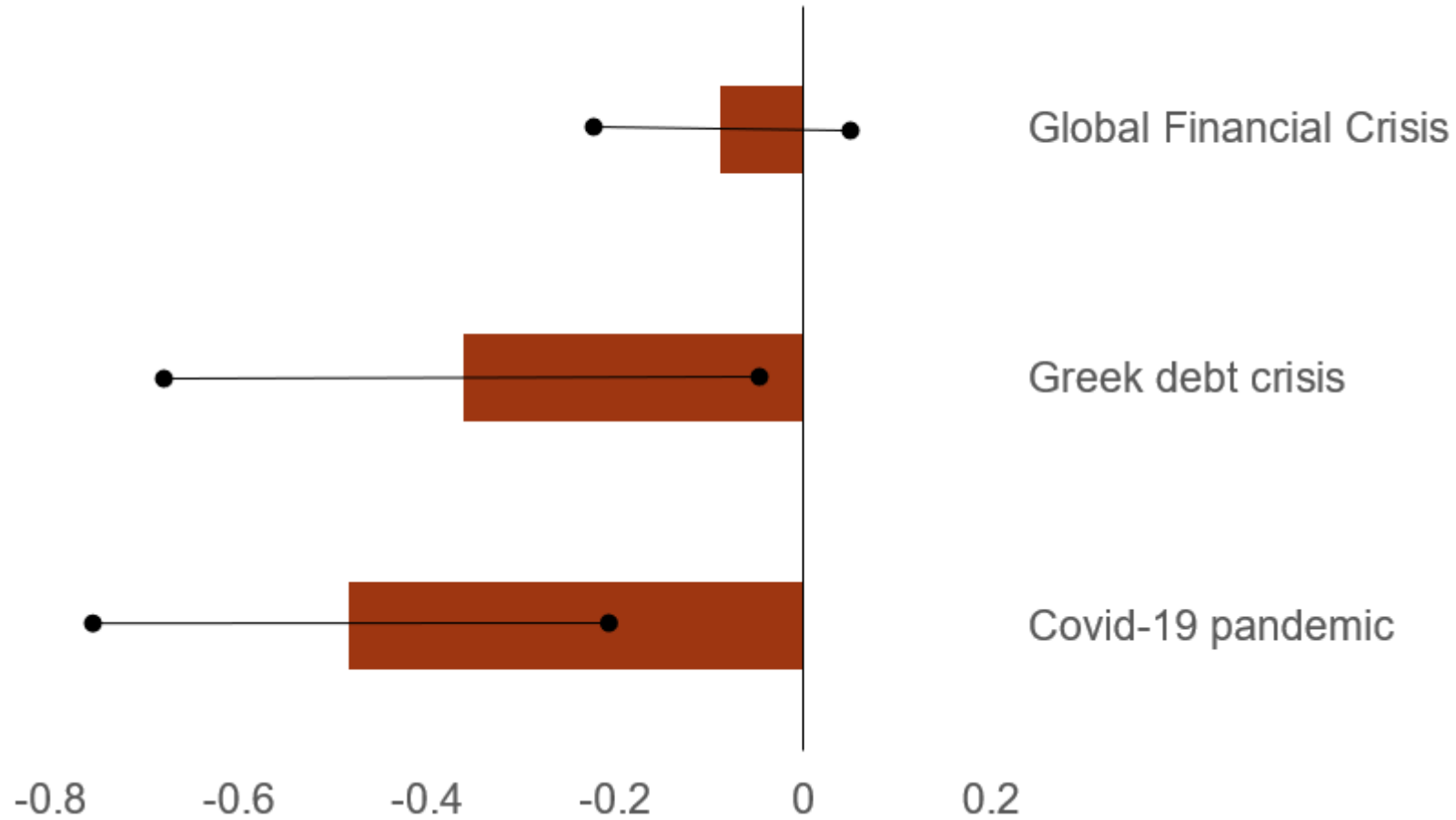


Crisis Shocks: Negative impact (GFC, Greek crisis, COVID-19)

Results: Dynamic Patterns from MIDAS



Results: Crisis Effects



Robustness & Credibility



Robustness checks

Alternative lag lengths / PLD specifications

Additional controls and subsamples



Results

Core signs and dynamic patterns are stable

Crisis impacts remain significant

Policy Implications:



IMPORTANT

For supervisors and central bank:

Credit risk management is central, NPL shocks transmit quickly and persist for months
Capital buffers support profitability, CAR has a positive and stabilizing association with ROA
High frequency monitoring matters, monthly activity indicators, rates, and FX should feed into profitability projections and stress tests



Framework:

Panel MIDAS can be integrated into forward looking stress testing of ROA and capital

Limitations & Future :

Limitations

Single country study; external validity to be tested

Focus on ROA; ROE, NIM and risk adjusted measures are natural extensions

Reduced form; no explicit modeling of competition or strategic behavior



Future work

Apply panel MIDAS to regional banking systems (Western Balkans, SEE)

Enrich with structural or DSGE banking blocks

Embed in macro prudential stress testing frameworks

Thank you for attention!