

Determinants of GDP per Capita Growth in the EU

A Panel Data Analysis (2014–2023)
 Mehmet Karaca | Alexander XY | Ammar | Khuzaima
 NOVA Information Management School (NOVA IMS), Lisbon

INTRODUCTION

27
EU COUNTRIES

10
YEARS

~270
OBSERVATIONS

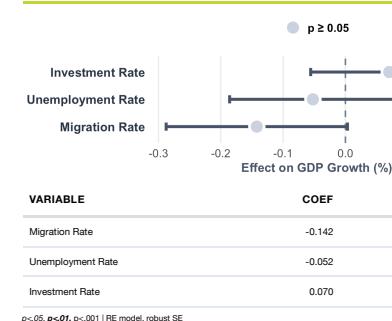
- Context: Migration crisis (2015), COVID-19 (2020), recovery (2021–22)
- Goal: Identify key drivers of economic growth across EU
- Approach: Panel econometrics with country fixed effects

DATA

Source: Eurostat (2014–2023)

VARIABLE	DESCRIPTION	UNIT
GDP Growth	Real GDP per capita growth	%
Migration	Net migration rate	%
Unemployment	Rate [15–74 years]	%
Investment	Gross fixed capital formation	% GDP

RESULTS



RESEARCH QUESTION

How do migration, unemployment, and investment affect GDP per capita growth in the EU?

HYPOTHESES

- H1: Migration ↑ → GDP Growth ↑ (Labor supply)
- H2: Unemployment ↑ → GDP Growth ↓ (Demand loss)
- H3: Investment ↑ → GDP Growth ↑ (Capital accumulation)

METHODOLOGY

Panel Models Compared:

MODEL	PURPOSE
Pooled OLS	Baseline
Fixed Effects	Controls unobserved heterogeneity
Random Effects	Efficiency under exogeneity

Model Selection: - Hausman Test → FE preferred - F-Test → Individual effects significant - Robust SE (cluster) for inference

DIAGNOSTICS

TEST	RESULT	ACTION
Hausman	p < 0.05	→ Use FE
F-Test	p < 0.001	→ Effects present

KEY FINDINGS

- Unemployment → Negative effect on GDP growth (significant)
- Investment → Positive effect on GDP growth (significant)
- Migration → Mixed results depending on specification

CONCLUSION

Policy Implications:

- Reduce unemployment → strongest growth lever
- Stimulate investment → capital formation matters
- Migration policy → context-specific analysis needed

REFERENCES

Eurostat (2024) · Boubtane et al. (2016) · Ortega & Peri (2013) · Wooldridge (2010)