DETERMINANTS OF GDP PER CAPITA GROWTH IN THE EU

Mehmet Karaca 20250344, Alexander XY, Muhammad Ammar 20250440, Khuzaima Bashir 20250441

NOVA Information Management School (NOVA IMS), Lisbon

Introduction

27	10	~270
EU Countries	Years	Observations

Context: Migration crisis (2015), COVID-19 (2020), recovery (2021–22).

Goal: Identify key drivers of economic growth across EU.

We wanted to check what are the factors influencing GDP growth using panel econometrics with country fixed effects.

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)*

Data

Source: Eurostat (2014–2023)

Variable	Description	Unit
GDP Growth	Real GDP per capita	%
Migration	Net migration rate	‰
Unemployment	Rate (15–74 years)	%
Investment	Gross fixed capital	% GDP

Methodology

To answer our research question, we extracted panel data and tested three models:

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

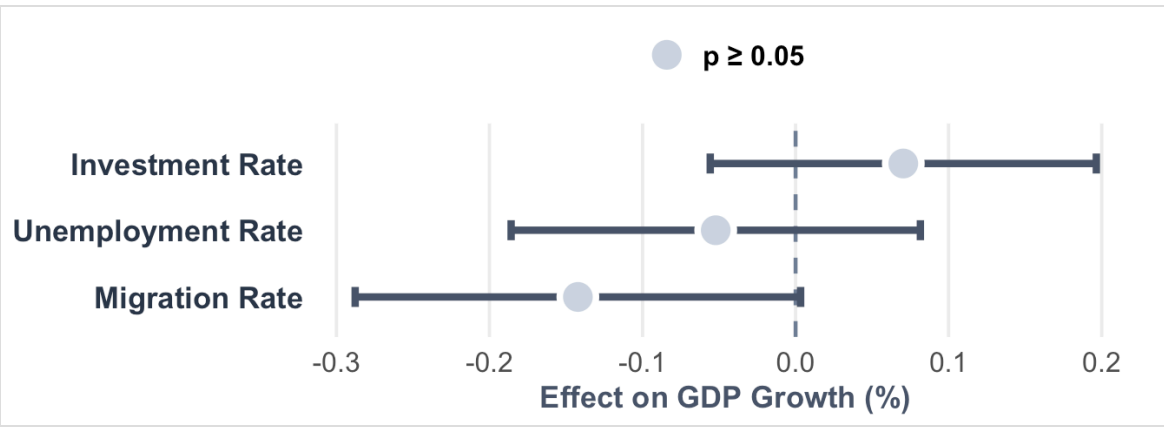**Model Selection:** Hausman Test → **FE preferred**. F-Test → Individual effects significant.

Diagnostics

Test	Result	Action
Hausman	$p < 0.05$	→ Use FE
F-Test	$p < 0.001$	→ Effects present
BP (Hetero.)	$p < 0.05$	→ Robust SE

Final Model: Fixed Effects with cluster-robust Standard Errors.

Results

Variable	Coef	SE	Sig
Migration	-0.142	0.074	.
Unemployment	-0.052	0.068	
Investment	0.070	0.064	*

- $p<.05$, ** $p<.01$, *** $p<.001$

Conclusion

The significance of investment and unemployment in predicting GDP growth proved to be consistent with economic theory.

- 📉 **Unemployment:** Negative effect on GDP growth.
- 📈 **Investment:** Positive effect on GDP growth.
- 🌍 **Migration:** Mixed results depending on specification.

Next Steps

Policy Implications:

1. **Reduce unemployment** → strongest growth lever.
2. **Stimulate investment** → capital formation matters.
3. **Migration policy** → context-specific analysis needed.

References: Eurostat (2024); Boubtane et al. (2016); Ortega & Peri (2013); Wooldridge (2010).