

# Backwardness, Industrialisation and Economic Development in Europe

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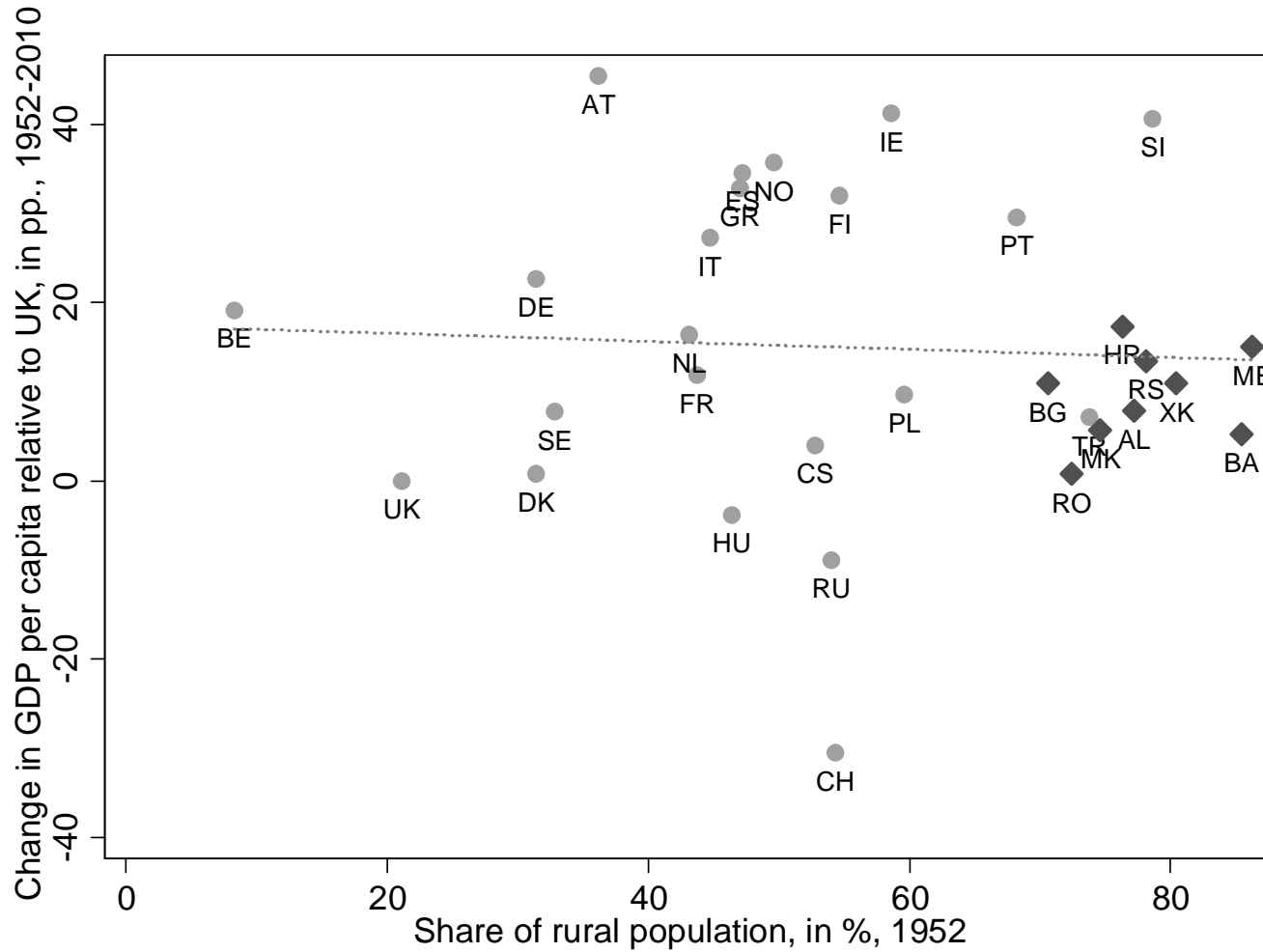
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# Main goals of the analysis

- Are the Balkans an extensive backward area with particularly rigid obstacles to economic development and industrialisation over the long run?
- What is the general impact of EU membership on long-term economic development and industrialisation?
- What are the long-run industrialisation and deindustrialisation patterns in different sectors in Europe?

### Initial backwardness and (no) catching up in Europe, 1952-2010



Source: New Maddison Project Database, Population Division of The Department of Economic and Social Affairs of the United Nations Secretariat, own calculations.

# Empirical strategy-Backwardness

- Time: 1952 -2010 ; Countries: 31
- Sources: Penn World Table, Population Division of The Department of Economic and Social Affairs UN, World Bank's Climate Change Knowledge Portal
- $\Delta GDP_i = Geography'_i + History'_i + Backwardness'_i + EU'_i + \varepsilon_i$

# Cross-section model

Dependent variable: GDP per capita growth 1952-2010	backward selection <sup>1</sup>	forward selection <sup>2</sup>	backward stepwise <sup>3</sup>	forward stepwise <sup>3</sup>
Log of GDP per capita 1952	-1.4234 (6.36)***	-0.8113 (6.56)***	-1.1043 (6.53)***	-0.8113 (6.56)***
Rural population share 1952	-0.0213 (2.54)**			
Balkan rural population share 1952 <sup>+</sup>	-0.0245 (2.33)**		-0.0249 (2.69)**	
Urbanisation share change 1952-2010	0.0207 (2.49)**			
EU dummy		0.3812 (2.84)***	0.4590 (3.49)***	0.3812 (2.84)***
EU years and rural 1952 interaction <sup>+</sup>	0.0003 (1.73)*			
Years under Ottoman rule	-0.0008 (1.79)*	-0.0008 (1.90)*		-0.0008 (1.90)*
Comecon 1949 dummy	-0.5854 (4.34)***	-0.7679 (5.86)***	-0.7426 (5.85)***	-0.7679 (5.86)***
Latitude	0.0427 (2.40)**		0.0215 (1.88)*	
Average annual temperature	0.0588 (2.94)***			
Average annual precipitation	0.0008 (2.89)***		0.0006 (2.91)***	
Constant	11.9173 (6.61)***	9.1344 (8.86)***	9.8937 (9.41)***	9.1344 (8.86)***
$R^2$	0.83	0.73	0.80	0.73
Adjusted $R^2$	0.75	0.69	0.74	0.69
$N$	31	31	31	31

## Panel model

Dependent variable: GDP per capita 1952-2010				
	OLS	FE	SYS-GMM	DOLS
Rural population share	-0.0307 (0.0276)	-0.00945** (0.00416)	-0.00967* (0.00551)	-0.0103** (0.00457)
Balkan rural population share	0.0592 (0.0369)	-0.00131 (0.00453)	0.000869 (0.00121)	-0.00286 (0.00453)
EU dummy and rural interaction	0.0184 (0.0274)	0.00561** (0.00212)	-0.00179* (0.00103)	0.00481** (0.00235)
EU dummy	1.114*** (0.316)	0.184*** (0.0381)	-0.000453 (0.00870)	0.175*** (0.0376)
EU dummy and Balkan interaction	-0.400 (0.559)	-0.215*** (0.0573)	0.00279 (0.0125)	-0.126** (0.0581)
Yugoslavia dummy	-3.380** (1.402)	0.311** (0.119)	0.0521* (0.0259)	0.338** (0.124)
Comecon dummy	-0.282 (0.533)	0.324*** (0.0869)	0.0172 (0.0241)	0.283*** (0.0942)
Lagged log of GDP per capita			0.822*** (0.0913)	
Constant	9.572*** (1.166)	7.945*** (0.214)		1.062*** (0.235)
Observations	1,829	1,829	1,767	1,736
R-squared	0.430	0.902		0.995
Number of countries	31	31	31	31

# Empirical strategy-Industrialisation

- Time: 1965-2011 ; Countries: 43
- 5 ten year periods
- Sources: United Nations Industrial Development Organization, Penn World Table, Population Division of The Department of Economic and Social Affairs UN
  
- $\Delta 10Y avg Industrialisation = Initial + FE' + Interaction' + \varepsilon$

# Results

	employment share	employment growth	value added share	value added growth	productivity growth	dominant overlap
1963-1972	Neg.: earlyEU		Neg.: earlyEU, midEU		Neg.: midRur	<u>Neg.: earlyEU</u>
1973-1982	Pos.: midCom, lateCom; Neg.: earlyEU	Pos.: earlyCom; Neg.: earlyEU, midEU, lateEU	Pos.: earlyCom, midCom, lateCom; Neg.: lateRur	Pos.: earlyCom	Pos.: earlyCom, midCom, lateCom	Pos.: <u>earlyCom, midCom, lateCom</u>
1983-1992	Pos.: earlyEU, midEU, lateEU	Pos.: earlyEU, midEU, lateEU; Neg.: lateCom	Neg.: lateCom	Pos.: earlyEU, lateEU, earlyCom	Pos.: earlyEU, earlyCom	Pos.: <u>earlyEU, midEU, lateEU;</u> Neg.: <u>lateCom</u>
1993-2002	Pos.: earlyEU, midEU, lateEU	Pos.: earlyEU, midEU, earlyCom, midCom; Neg.: earlyBalk, lateBalk	Pos.: earlyBalk, midBalk, lateBalk	Pos.: earlyBalk	Pos.: earlyBalk, midBalk	Pos.: <u>earlyBalk, midBalk</u>
2003-2011	Pos.: midEU, lateEU, earlyBalk, midBalk, lateBalk		Pos.: lateEU, earlyBalk		Neg.: earlyBalk	Pos.: <u>lateEU, earlyBalk</u>
1965-2011	Pos.: earlyEU, midEU, lateEU; Neg.: lateRur	Neg.: earlyEU, midEU, lateEU, earlyRur, midRur, lateRur	Pos.: earlyEU, midEU, lateEU; Neg.: lateRur	Pos.: earlyEU, midEU, lateEU; Neg.: earlyRur, midRur, lateRur	Pos.: earlyEU, midEU, lateEU, earlyRur, lateRur	Pos.: <u>earlyEU, midEU, lateEU;</u> Neg.: <u>lateRur</u>



# Summary

- income convergence in countries that were able to exploit the advantages of (mild) backwardness
- difficulties to catch up in the Balkans due to excessive backwardness
- membership in the European Union helps
  
- industries of the EU member states tend to grow faster
- after war recovery for lower-tech Balkan industries
  
- EU serves as promoter of growth and industrialisation

Thank you!