

To Convergence and Beyond: Human Capital, Economic Adjustment and a Return to Growth

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Introduction

- Experience of growth over the last years
- Adjusting to the current crisis
- Return to Growth?

The Convergence Process & Human Capital



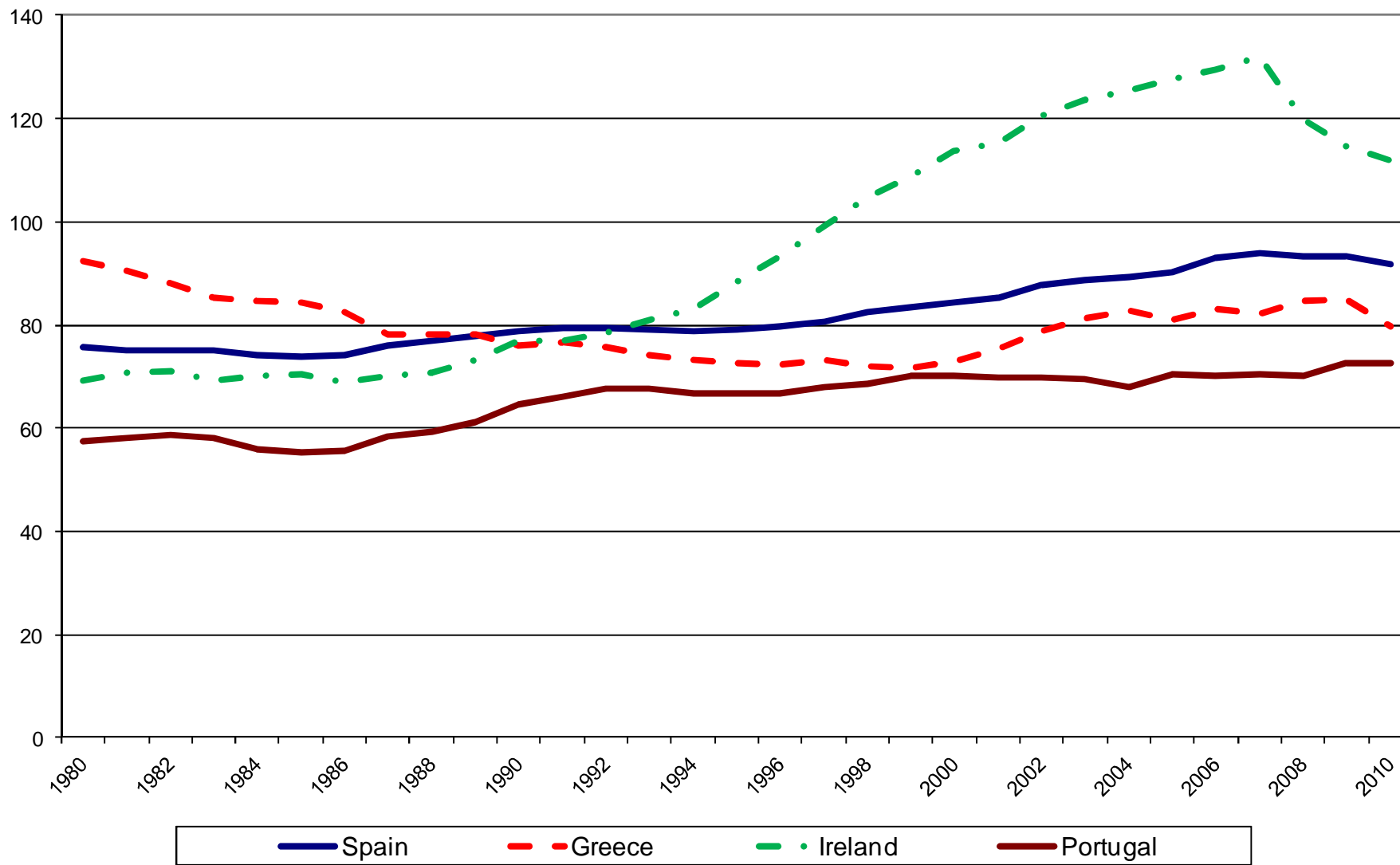
- Convergence has happened
- Different histories on human capital
- Role of human capital in the convergence process
- Lessons for the future?

Data

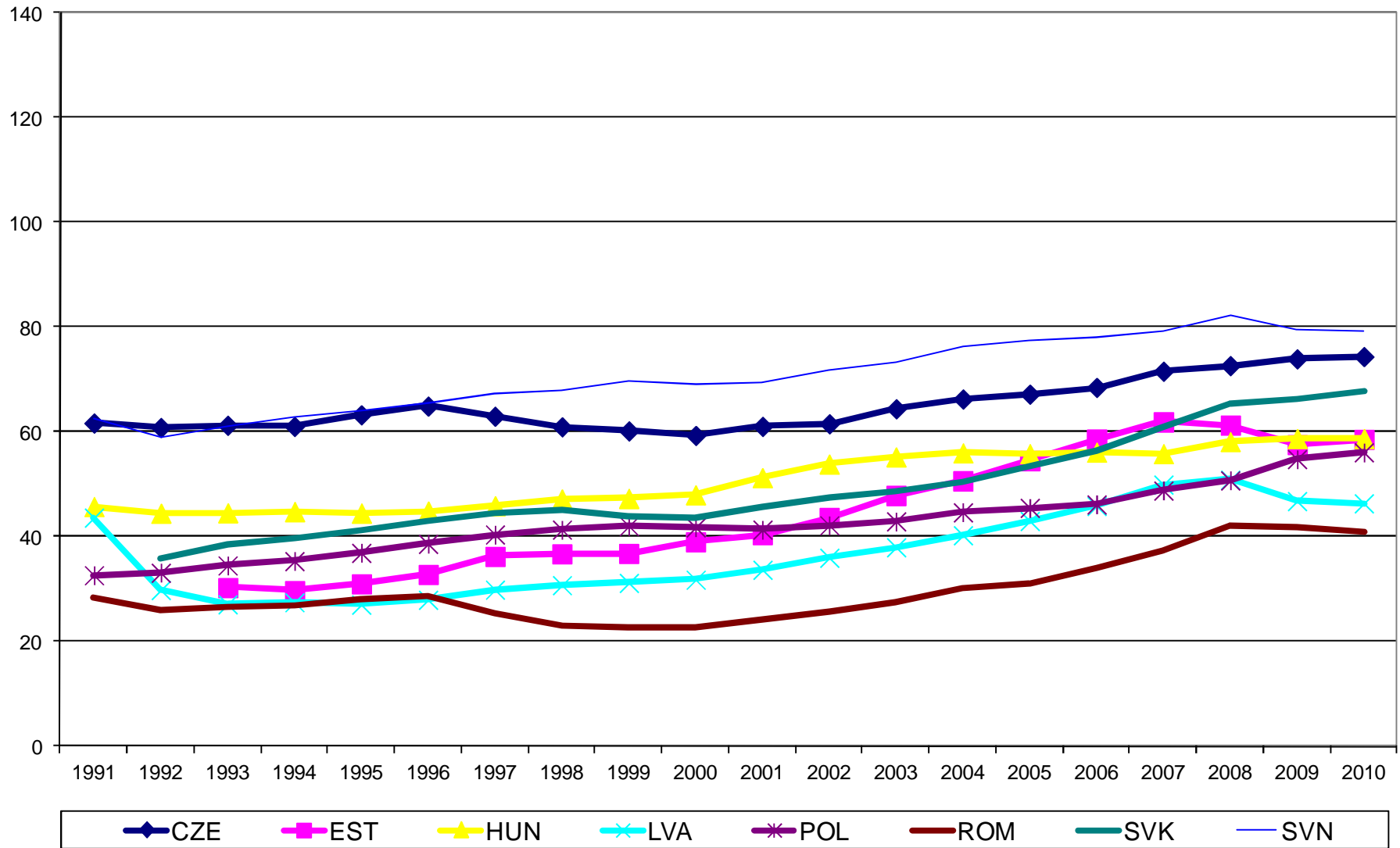


- EU Labour Force Survey
 - Quality and comparability
- US Bureau of the Census
- OECD Education at a Glance
 - Returns to Education
- Ameco database

GDP per head former "cohesion" countries relative to EU15, PPS



GDP per head relative to EU15, New Member States, PPS

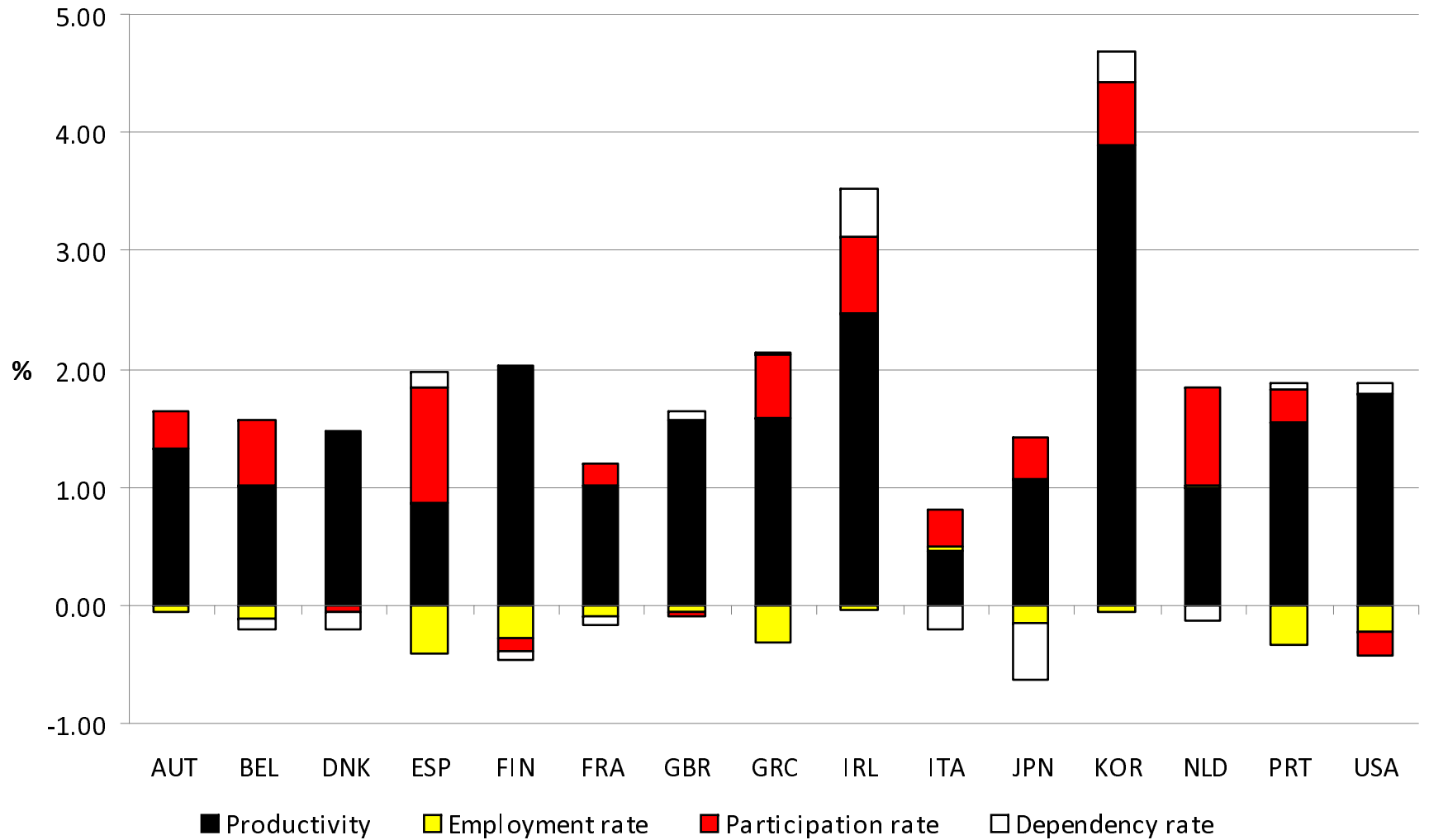


Decomposition of Growth

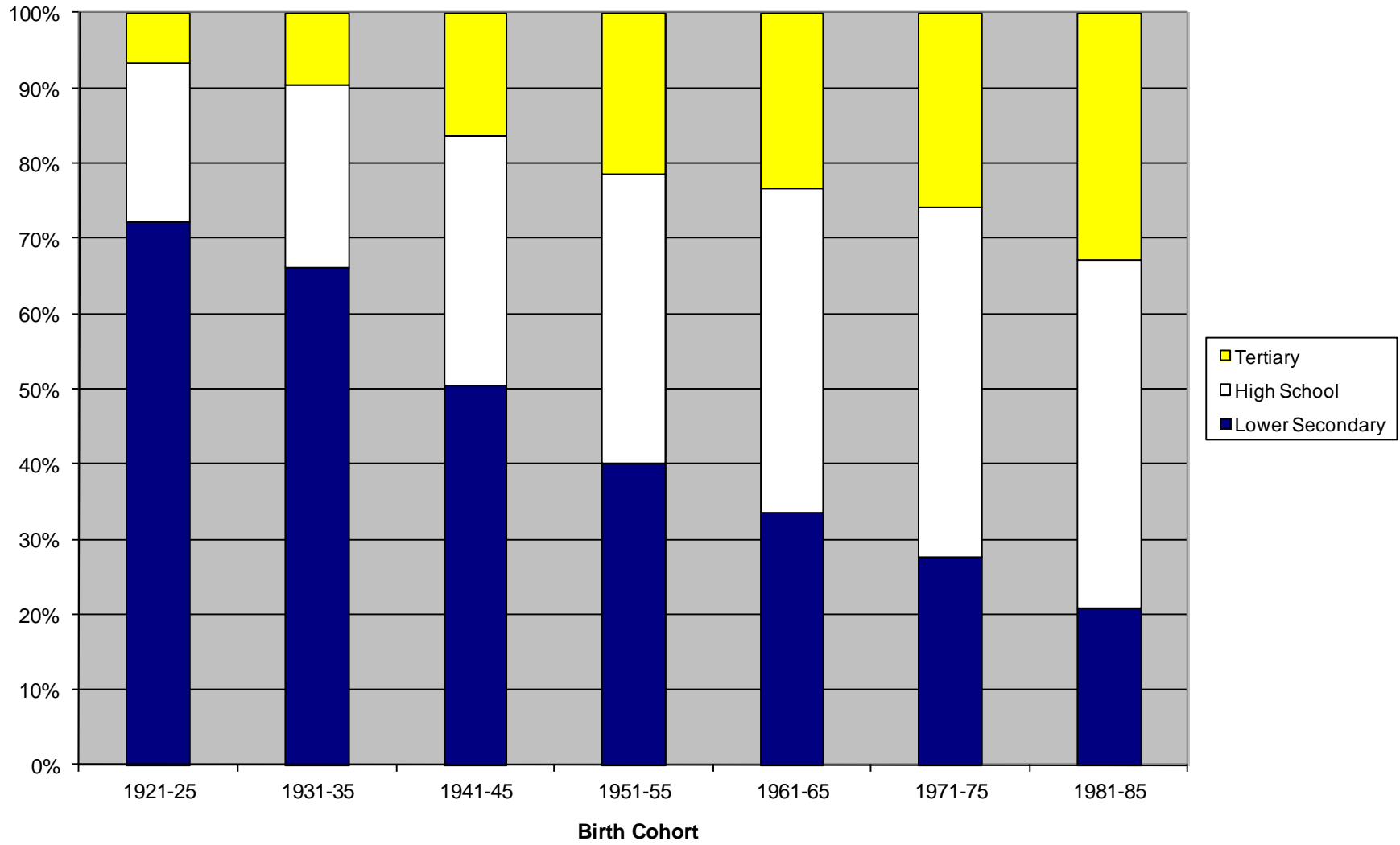


$$\underbrace{\frac{GDP}{Pop}}_{\text{GDP per capita}} = \underbrace{\frac{GDP}{Emp}}_{\text{Productivity}} \cdot \underbrace{\frac{Emp}{LForce}}_{\text{Employment Rate}} \cdot \underbrace{\frac{LForce}{Pop1564}}_{\text{Participation Rate}} \cdot \underbrace{\frac{Pop1564}{Pop}}_{\text{Dependency Ratio (inverse)}}$$

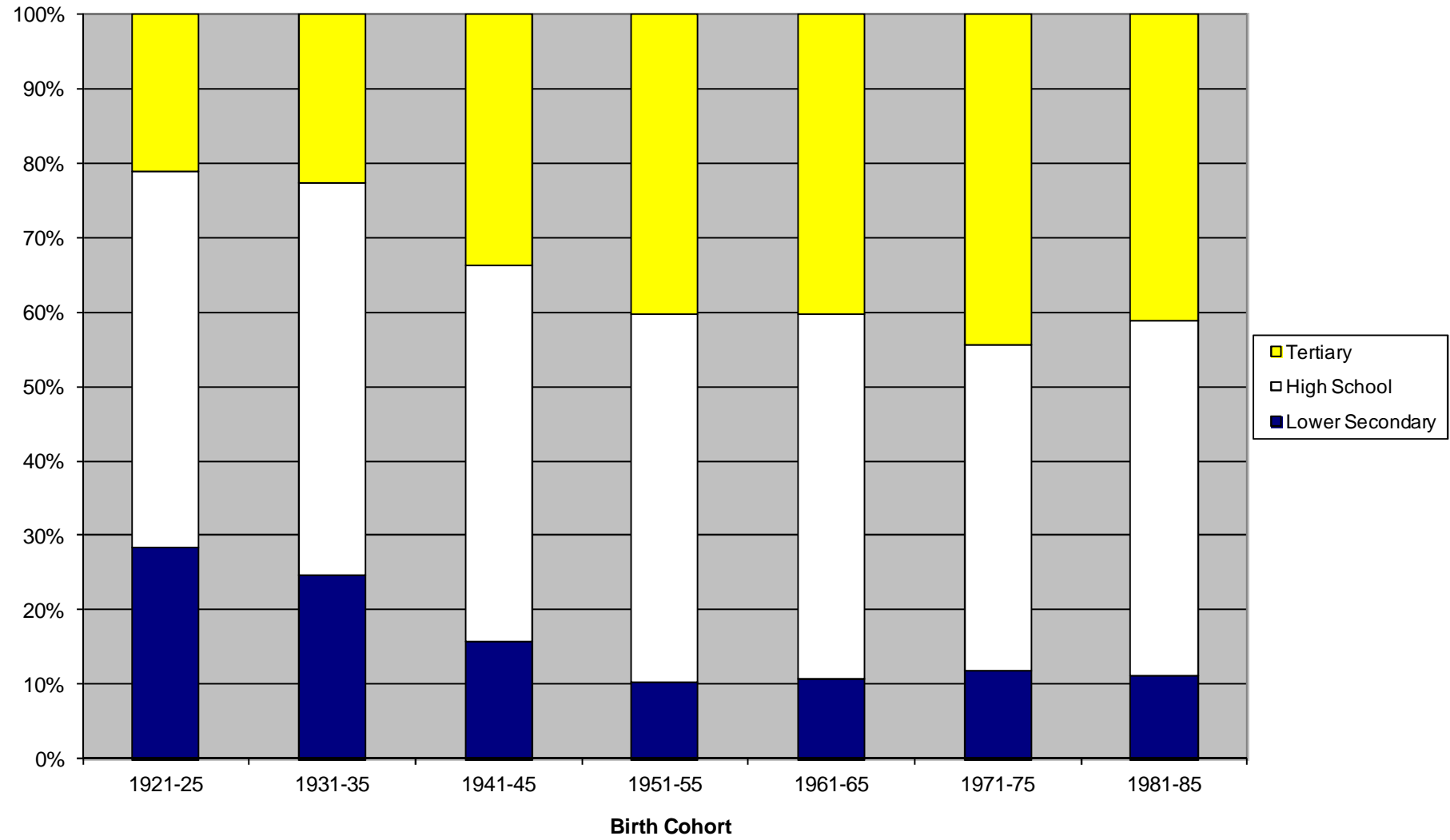
Growth of GDP per head, 1990-2010



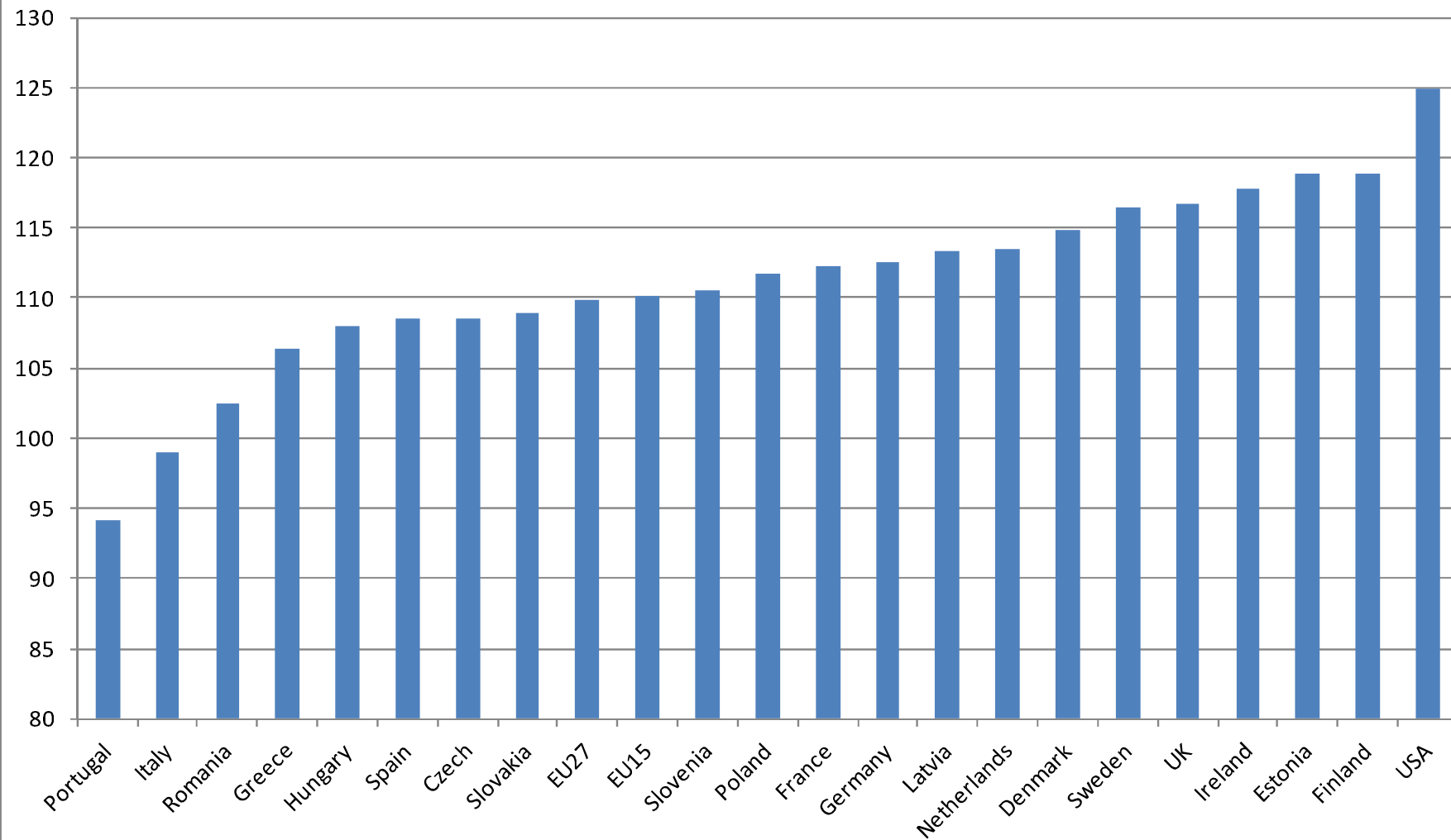
EU15, Educational Attainment



USA, Educational Attainment

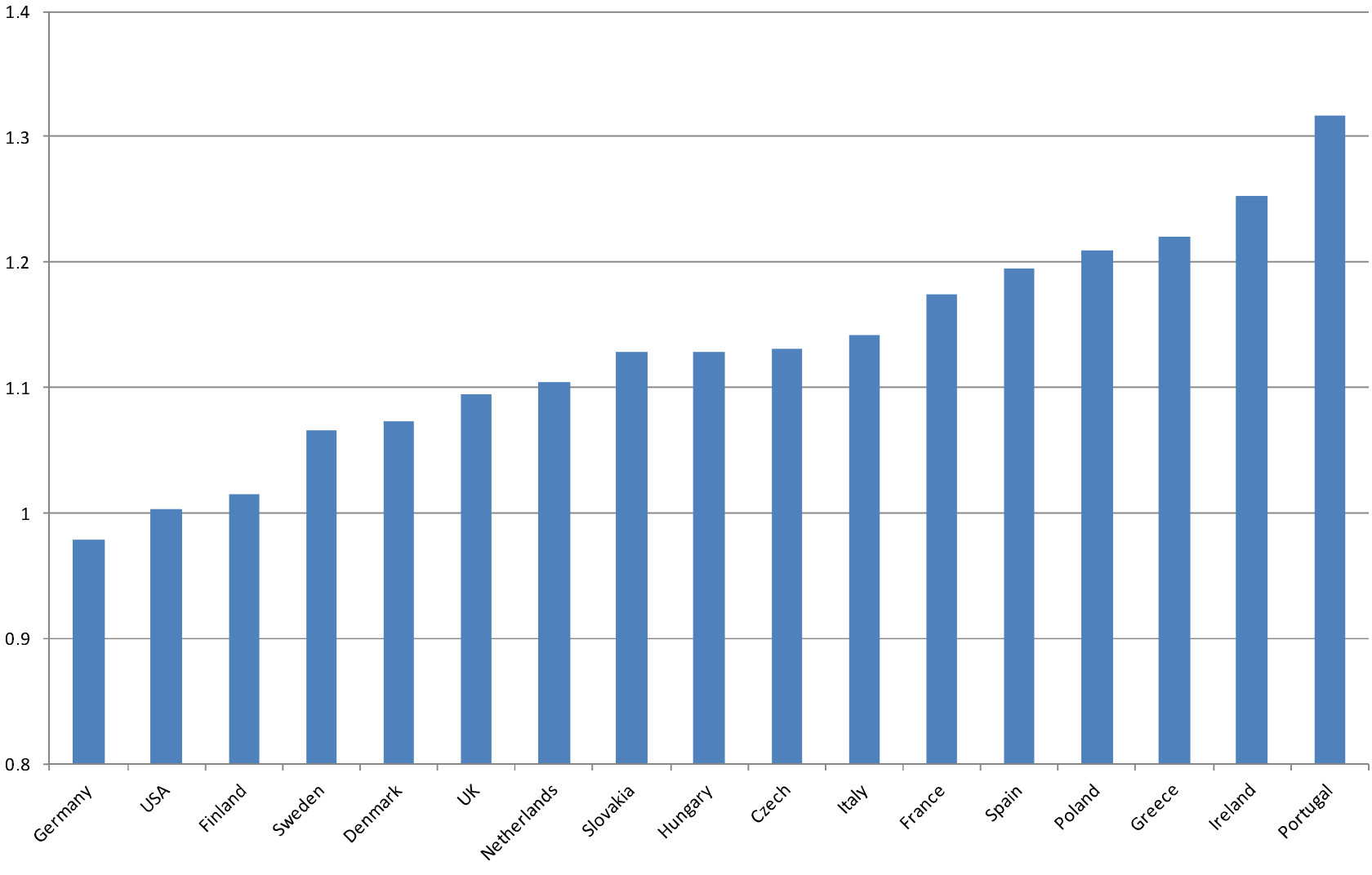


Human Capital Index, 2010, Population 20-64, OECD average returns to education



Investment in Human Capital, 2010

Ratio 25-29 to 55-59

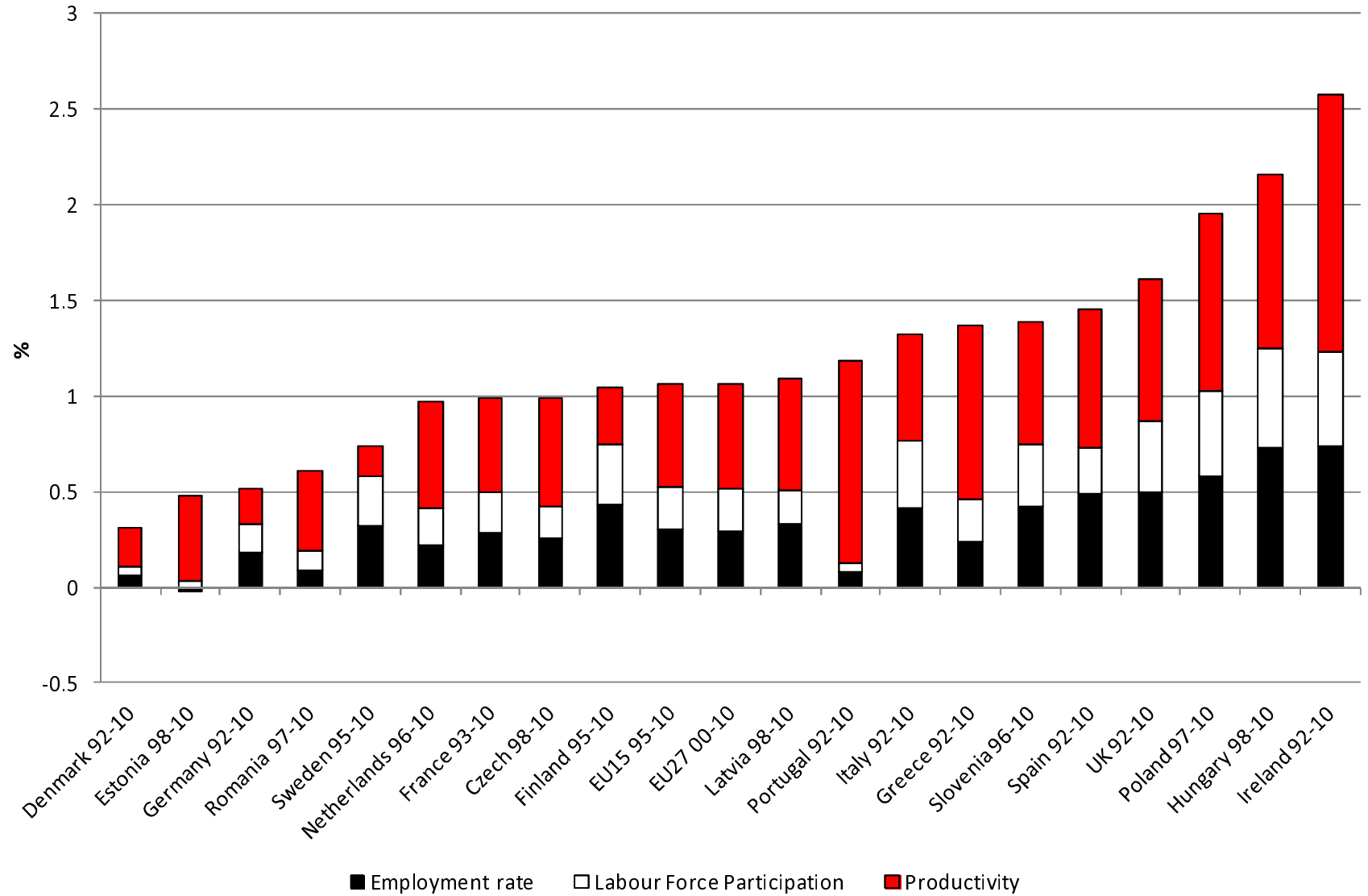


Human capital: channels affecting economy

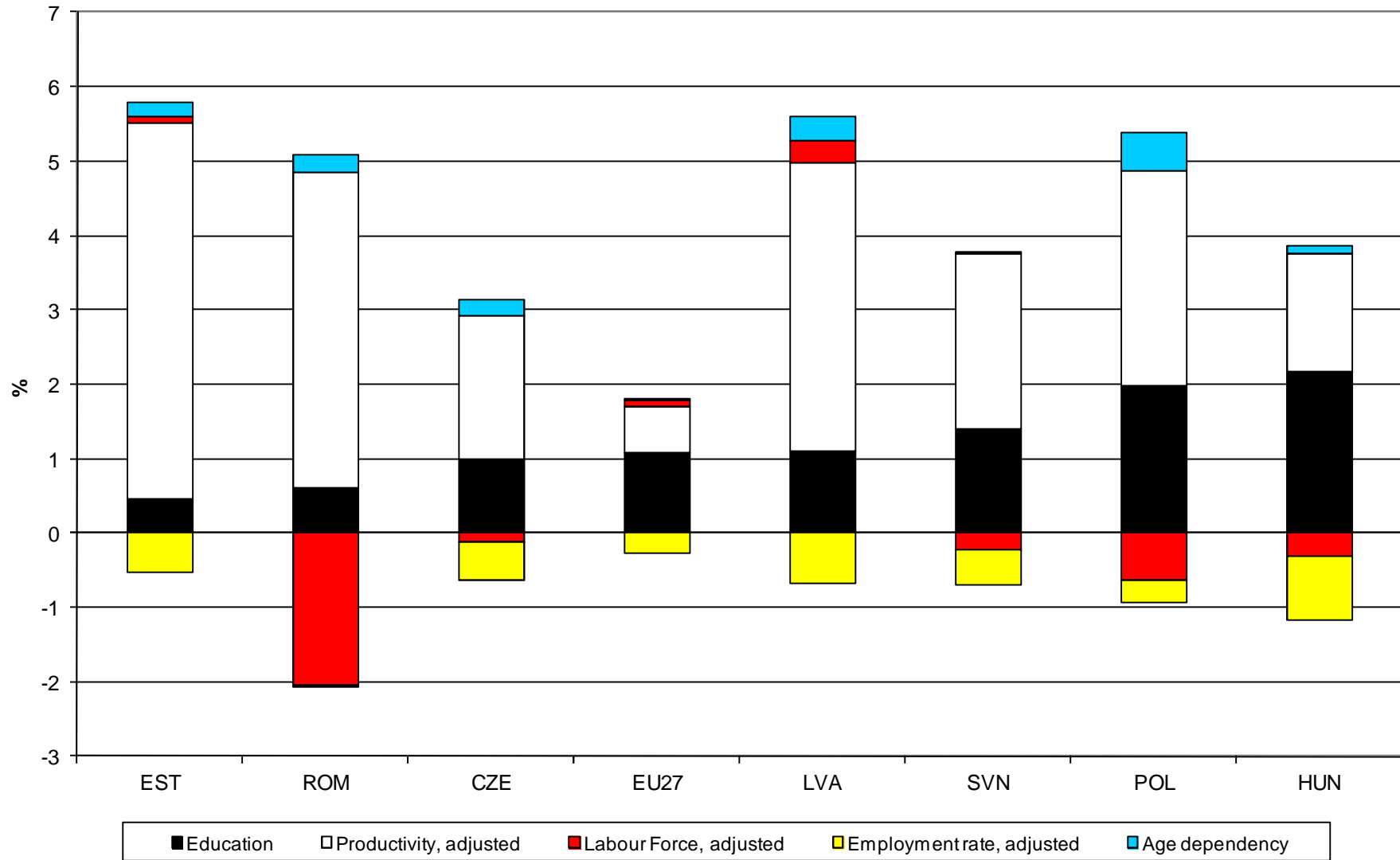


- Increases productivity
 - Assume labour paid marginal product
 - Measured by private returns to education
- Increases labour force participation
 - Affects returns from paid work relative to alternative
 - Affects labour force, hence employment - assumptions
- Reduces unemployment
 - Replacement rate high for those with lower education
 - Affects employment - assumptions

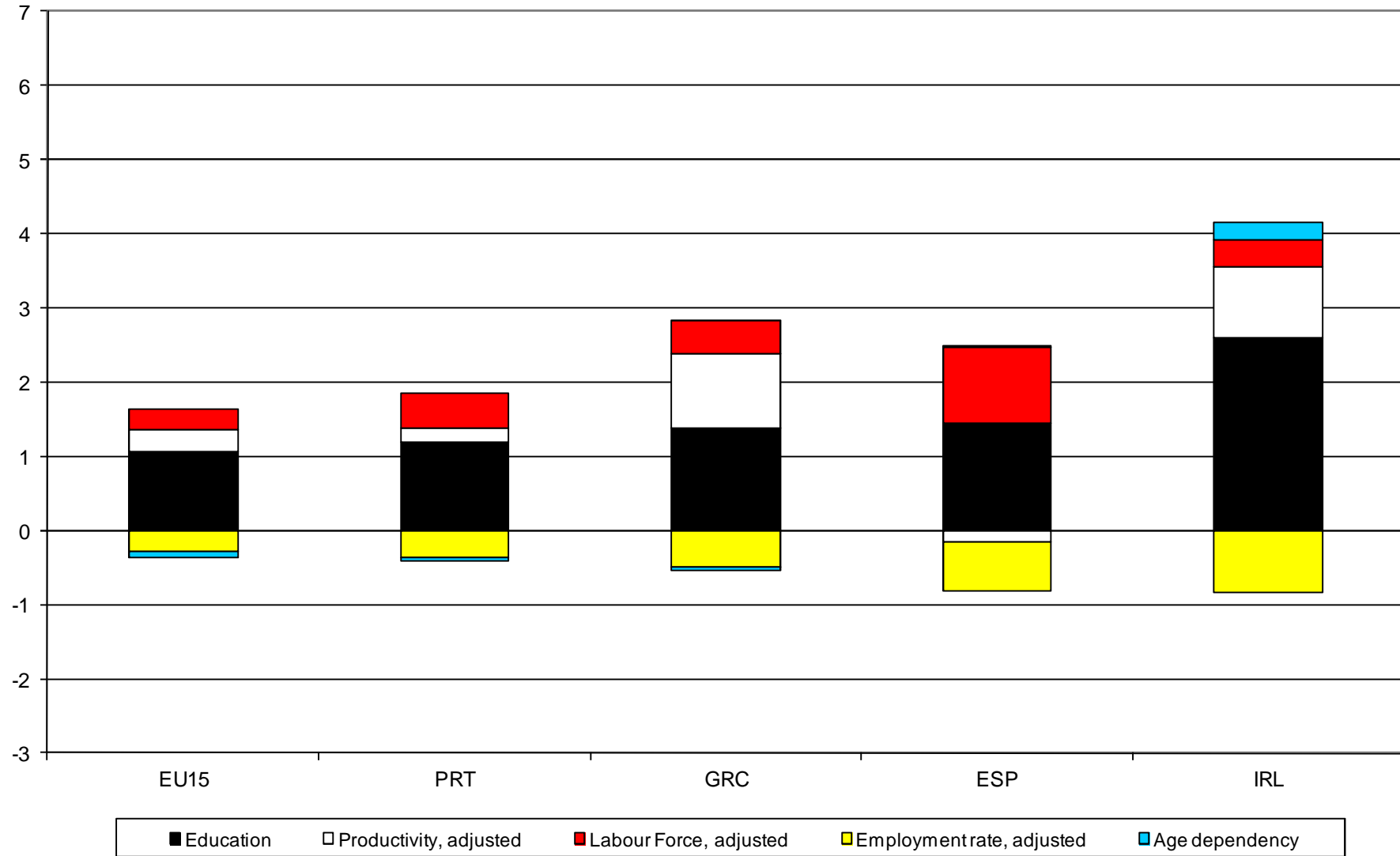
Contribution of Rising Educational Attainment to Growth, annual average



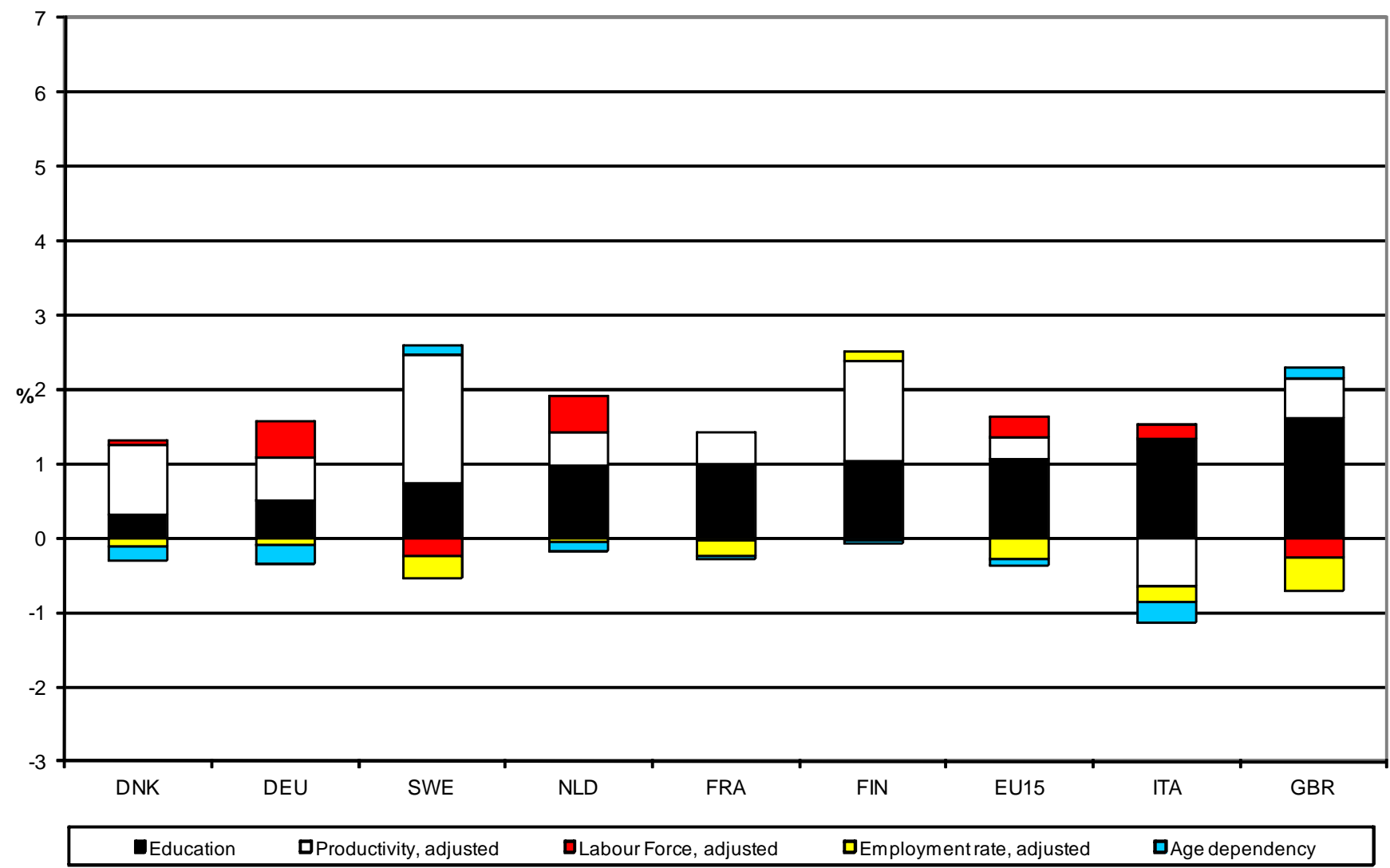
GDP per head, contributions allowing for rising educational attainment, 1995-2010



GDP per head, contributions allowing for rising educational attainment, 1995-2010



GDP per head, contributions allowing for rising educational attainment, 1995-2010





- Increasing educational attainment important
 - Accounts for 1 to 2.5 percentage points of growth
 - Lowest in countries with historically good education
- Productivity (excluding education)
 - Biggest effects in new member states – catching up
 - Also important in Scandinavia
- Rising education still significant after 2010 for some countries

Adjusting to the Crisis

- Best indicator of growing problems was the BOP
 - Spain and Ireland had government surpluses but both had large and rising BOP deficits
- Once crisis hit both BOP and Government must adjust
- Look at some past large adjustments

Previous Crises



		Balance of payments		Exports	Imports	GDP	Effective
		as % of GDP					Exchange rate
Country	Years	Initial	Change	Change	Change	%	%
Austria	1980-85	-4.5	3.4	3.4	0.1	7.4	5.3
Finland	1989-93	-5.0	3.5	8.4	2.0	-9.5	-24.8
UK	1989-94	-4.9	3.9	2.8	-0.4	6.1	-8.8
Belgium	1980-85	-3.9	4.3	13.4	9.3	4.8	-15.1
Denmark	1986-90	-5.5	5.9	4.1	-1.8	2.3	8.2
Portugal	1982-86	-14.5	13.0	6.6	-7.5	4.9	-44.5
Ireland	1981-87	-13.3	13.1	9.3	-9.2	15.2	-0.3

Previous Crises

- No clear pattern
 - Mostly through higher exports
 - In most but not all cases changes in exchange rate
 - Finland only country with financial crisis
- External environment important
 - Allows adjustment with growth
- Takes 4 to 6 years for quite large adjustments
- Current circumstances different
 - The external environment is universally bleak

Adjustment to date



		Balance of payments		Exports		Imports	GDP	Exchange rate
		as % of GDP						Effective
Country	Years	Initial	Change	Initial	Change	Change	%	%
Portugal	08-10	-12.6	2.8	32	-1.5	-4.4	-1.2	-1.4
Greece	08-10	-16.3	4.6	23	-2.5	-6.9	-6.4	-0.5
Ireland	07-10	-5.5	4.8	80	22.4	12.5	-11.8	1.2
Spain	07-10	-10	5.5	27	-0.6	-5.2	-3.0	0.7
Hungary	08-10	-6.9	8.6	82	4.8	-2.0	-5.6	-8.7
Romania	07-10	-13.6	9.5	29	6.5	-2.0	-1.5	-20.1
Lithuania	07-09	-15.1	17.7	54	0.5	-11.4	-12.2	3.7
Estonia	07-09	-17.2	21.7	68	-2.9	-19.6	-18.3	3.6
Bulgaria	07-10	-25.2	24.3	59	-1.7	-19.5	0.5	1.7
Latvia	07-09	-22.3	30.9	42	1.5	-17.0	-21.4	3.2

Adjustment to date

- Generally not completed
- Size of export sector matters
- Mainly through cut in import share of GDP
 - Ireland Hungary & Romania exceptions
- Accompanied by big falls in output
 - The channel for reducing imports
 - In turn – significantly driven by fiscal policy
- Limited changes in effective exchange rate
 - Hungary and Romania exceptions

Adjustment to date



		GDP				
		Growth	Investment share of GDP			Unemployment rate
Country	Years	%	Start	End	change	change
Portugal	08-10	-1.2	22.5	19.0	-3.5	3.3
Greece	08-10	-6.4	19.1	14.7	-4.4	0.1
Ireland	07-10	-11.8	26.4	11.3	-15.1	9.1
Spain	07-10	-3.0	30.7	22.5	-8.2	11.8
Hungary	08-10	-5.6	20.6	17.7	-2.9	3.4
Romania	07-10	-1.5	30.2	22.7	-7.5	0.9
Lithuania	07-09	-12.2	28.3	17.1	-11.2	9.4
Estonia	07-09	-18.3	34.4	21.6	-12.9	9.1
Bulgaria	07-10	0.5	28.7	23.5	-5.2	3.3
Latvia	07-09	-21.4	33.7	21.5	-12.2	11.1

Adjustment to date

- Some countries with BOP problems had very large investment shares of GDP
 - Reflected building booms
- In these countries the adjustment in the BOP occurred through a building bust
 - Ireland, Spain and Baltics
- Consequence: very large rise in unemployment
 - Adjustment costs concentrated on unemployed
- In other countries reduction in imports and hence the BOP through cuts in consumption
 - Very painful for wider population – adjustment not complete
- Policy instrument used – Fiscal Tightening

A Return to Growth

- Solvency depends on both:
 - Ending borrowing by government and by nation
 - A return to growth
- Different experience on twin deficits
 - Ireland has addressed the BOP but not yet borrowing
 - Portugal and Spain have smaller government borrowing but continuing BOP deficits
 - Implications of progress on one but not both?
- Return to growth: after adjustment?
 - Obstacles?

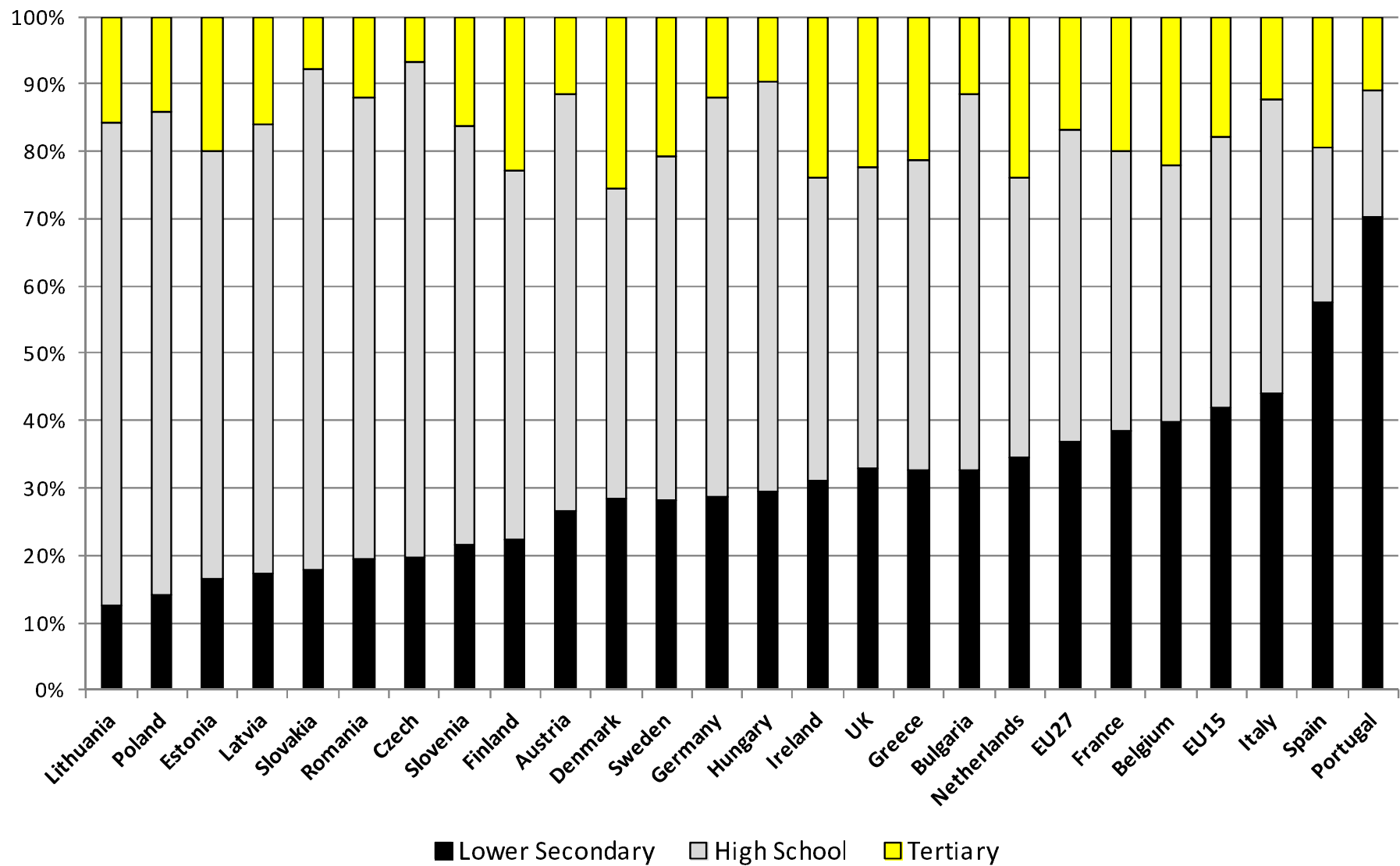
A Return to Growth

- Return EU economy to growth
- Complete necessary adjustment of domestic imbalances
- European or national banks?
- Improving competitiveness
 - Example: costs of energy infrastructure
- Addressing labour market problems

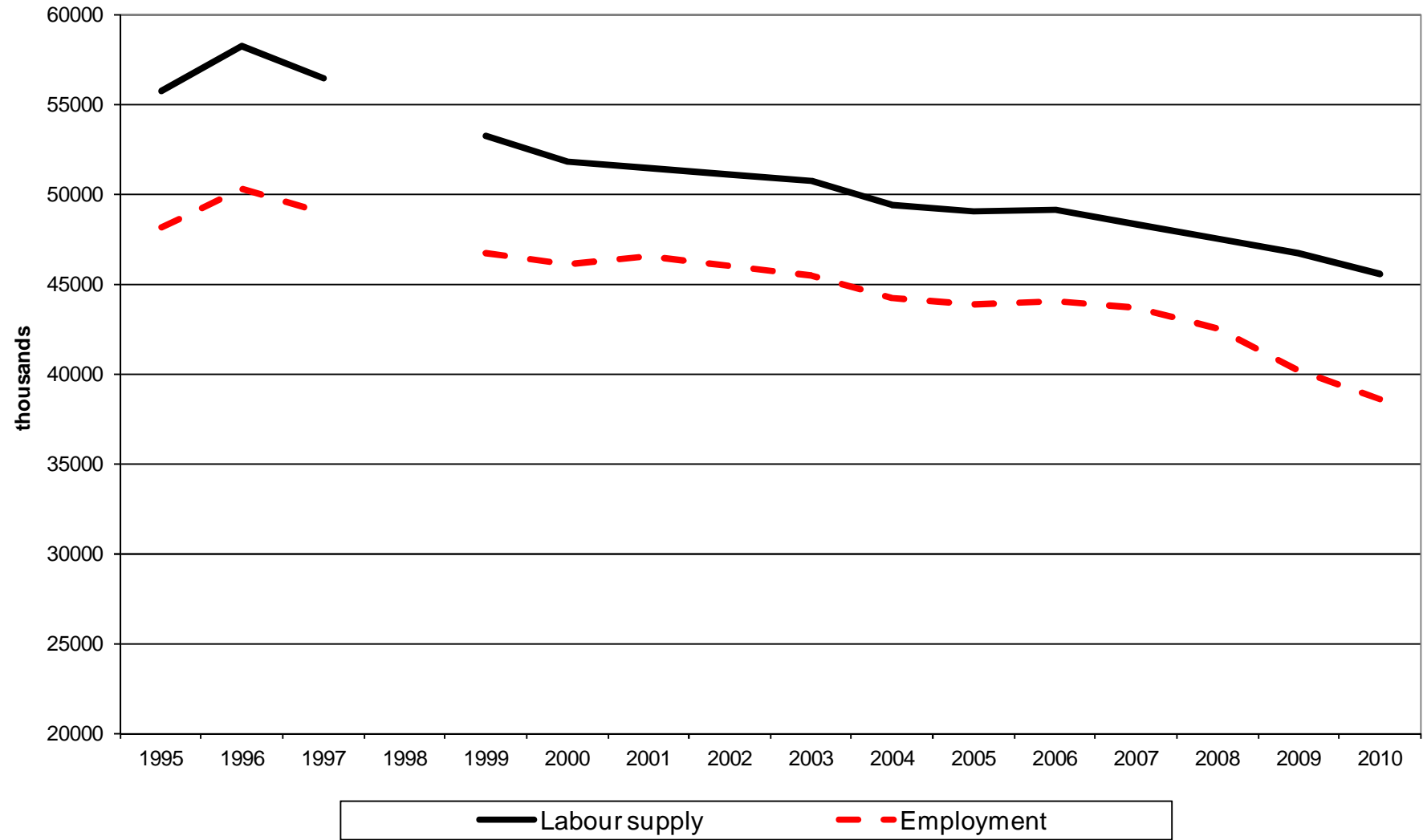
The Labour Market

- Legacy of high unemployment
 - Return to full employment – raise potential output
- Long-term implications of human capital
 - Still significant positive effects for some countries
- The Labour market - Addressing underperformance
- Elasticity of substitution of skilled for unskilled
 - If elasticity low, need to grow demand for aggregate labour or reduce supply of unskilled

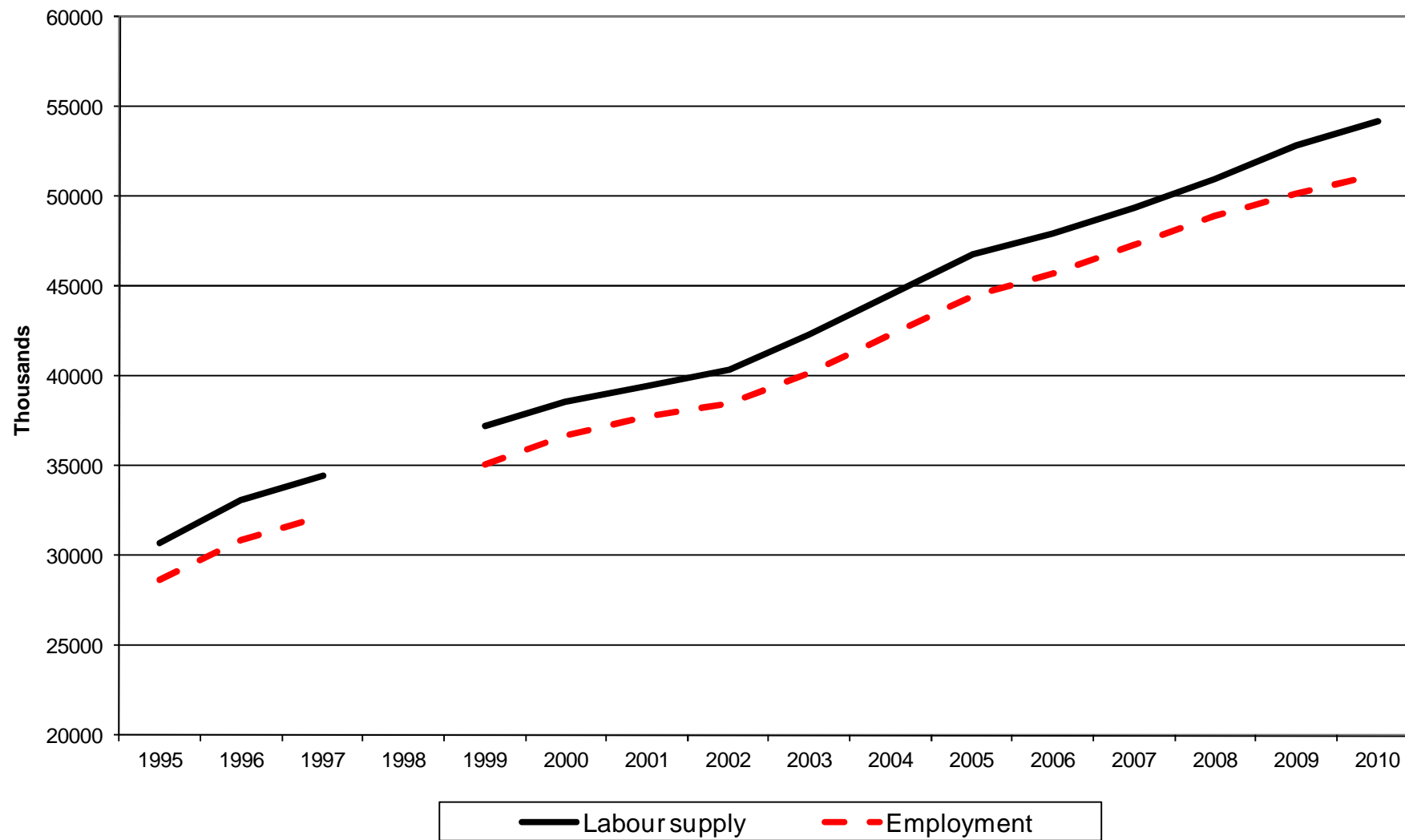
Unemployment by level of education, 2010



EU 15, Labour Market, Lower Secondary Education



EU15, Tertiary Education



Conclusions

- Ending the economic crisis in the EU
- Problem of domestic imbalances
 - Must growth await completion of adjustment?
- Growing the tradable sector in some countries
- There is upside potential due to human capital in some of the countries with big problems
 - Could result in higher growth after adjustment