CATCHING-UP PROCESSES IN THE EURO AREA

AFONSO

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KEYWORDS

- Catching-up economies;
- Productivity;
- Convergence;
- Total factor productivity;
- Reforms;
- Capital misallocation,

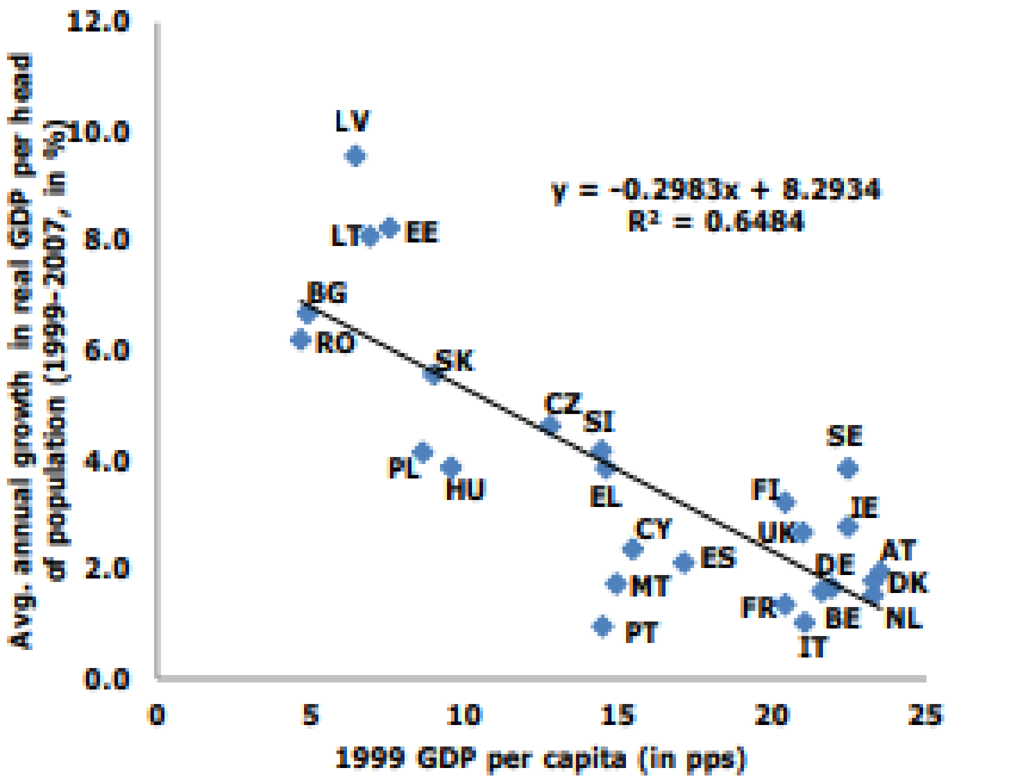
SECTIONS

1) Convergence patterns in the euro area
2) Productivity performance during the pre-crisis years
3) Capital (mis)allocation across sectors
4) Discussion of some key drivers of TFP and growth in converging economies
5) Convergence prospects in the aftermatch of the crisis
6) Conclusions

1) CONVERGENCE PATTERNS IN THE EURO AREA

- Strong negative correlation
- Beta-Convergence: countries with lower GDP per capita tend to grow faster than others.
- Several euro area catching-up countries grew less rapidly than their GDP per capita level would have suggested (below regression line)
- Catching-up economies: Greece (EL), Spain (ES) and Portugal (PT).

Graph I.1: GDP per capita in level and GDP growth, EU countries



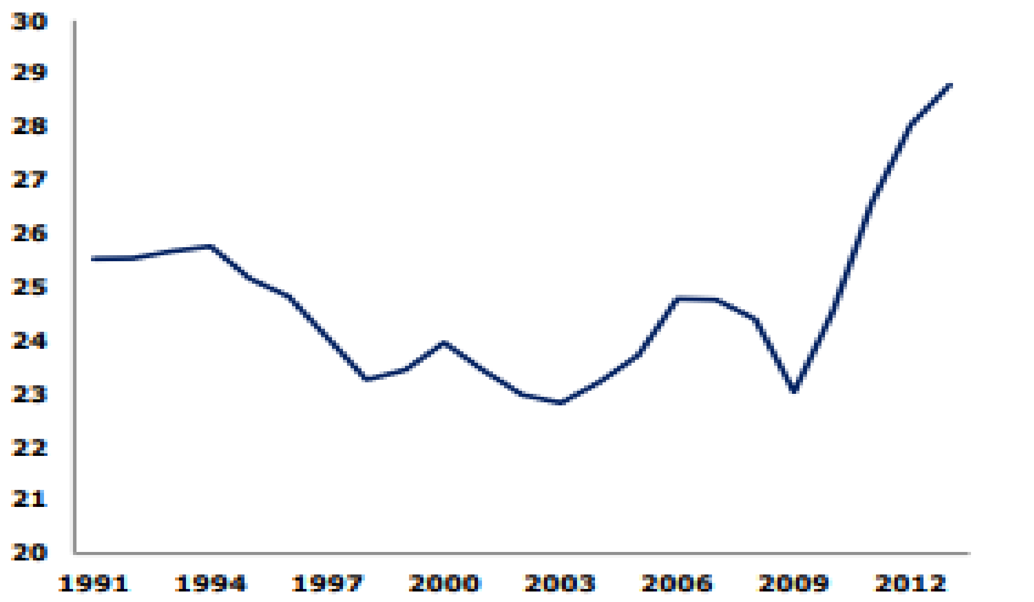
Source: AMECO.

1) CONVERGENCE PATTERNS IN THE EURO AREA

- Country dispersion of income per capita in the euro area
- General decrease in dispersion during the 90's
- Huge increase since 2008 crisis due to stronger rebound by the more advanced countries

Graph I.2: Country dispersion of real GNI per head of population, euro area

(Cross-country standard deviation in % of average)

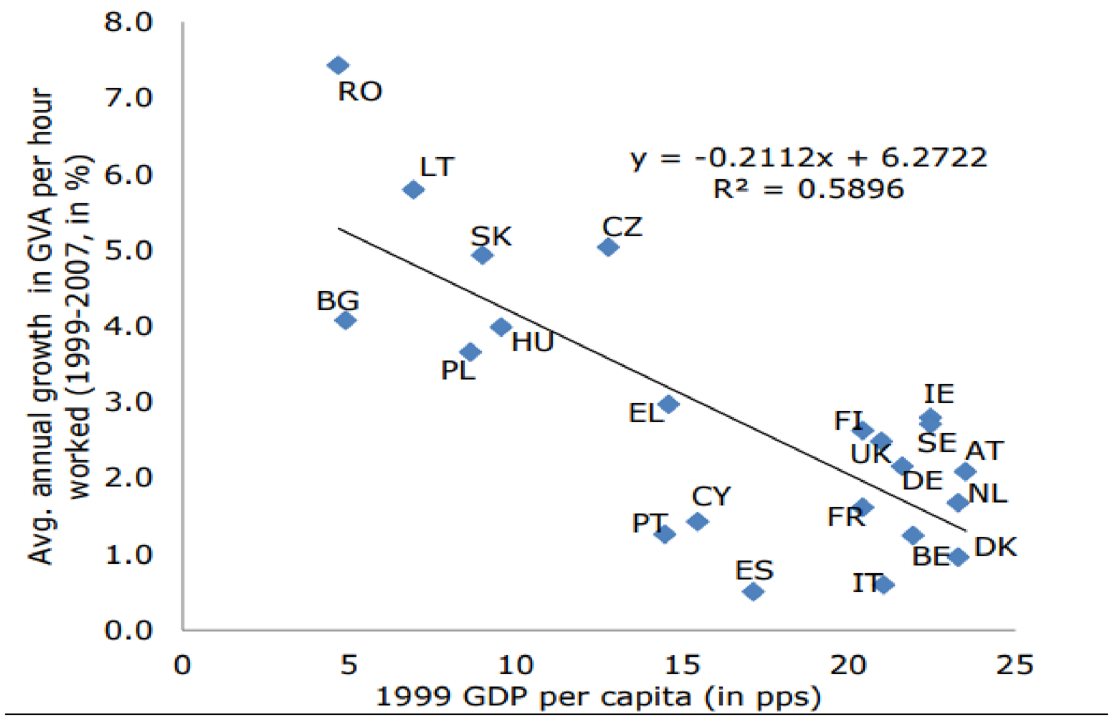


Source: DG ECFIN calculations based on AMECO.

2) PRODUCTIVITY PERFORMANCE DURING THE PRE-CRISIS YEARS

- EU Member States with lower GDP per capita have in general registered a faster growth in labour productivity
- Majority of euro-area catching-up countries (e.g. ES, PT) are located below the regression line, pointing to disappointing productivity performance.

Graph I.3: **GDP per capita in level and labour productivity growth, EU countries**

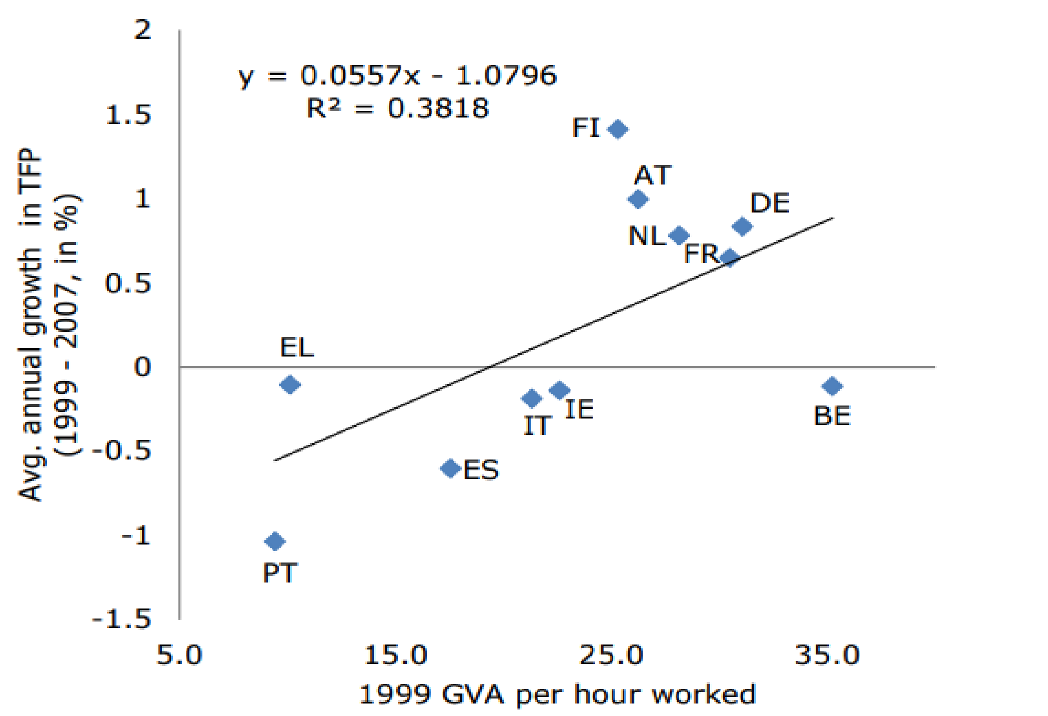


Source: AMECO.

2) PRODUCTIVITY PERFORMANCE DURING THE PRE-CRISIS YEARS

- Weak convergence in gross value added per hour worked was accompanied by a TFP divergence pattern
- **Total Factor Productivity** refers to how efficiently inputs are used in the production process excluding technological changes
- **TFP** is the main factor explaining the poor convergence in productivity in the euro area in pre-crisis years
- Atypical positive correlation

Graph I.4: **Total factor productivity, selected euro area countries**



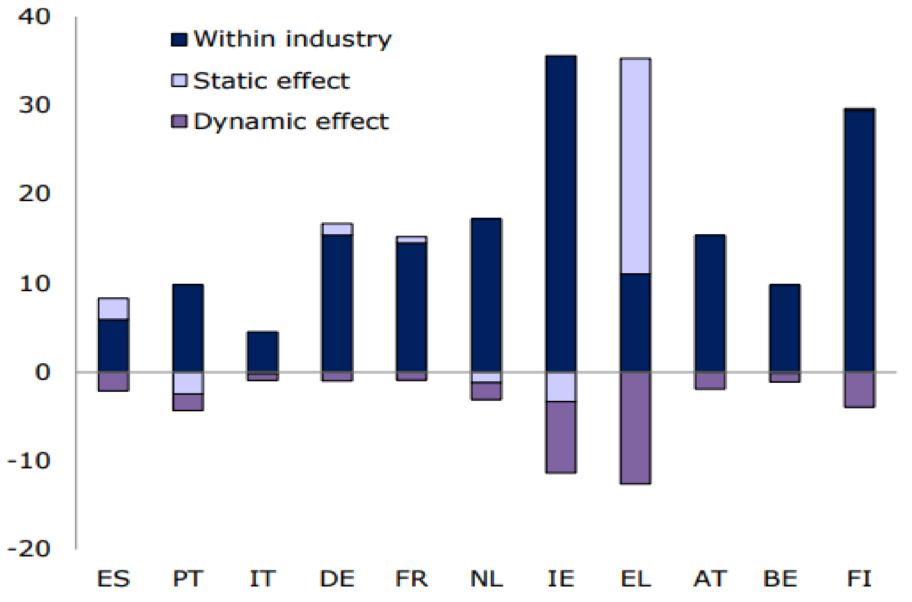
Source: DG ECFIN based on EU KLEMS.

2) PRODUCTIVITY PERFORMANCE DURING THE PRE-CRISIS YEARS

- Labor productivity growth is decomposed for each country into a within-industry effect and a structural effect (Static+Dynamic)
- In all euro-area countries, labor productivity was largely driven by productivity gains obtained in each industry (within-industry effect)
- The negative dynamic effect was generally more pronounced in the catching-up economies than in the rest of the euro-area.

Graph I.5: **Labour productivity growth decomposition, selected euro area countries**

(in %, 1999-2007)



Source: DG ECFIN based on EU KLEMS.

3) CAPITAL (MIS)ALLOCATION ACROSS SECTORS

- Strong capital growth in catching-up economies, despite the slowdown in convergence process.

- Growth in capital services by less developed economies in pre-crisis years.

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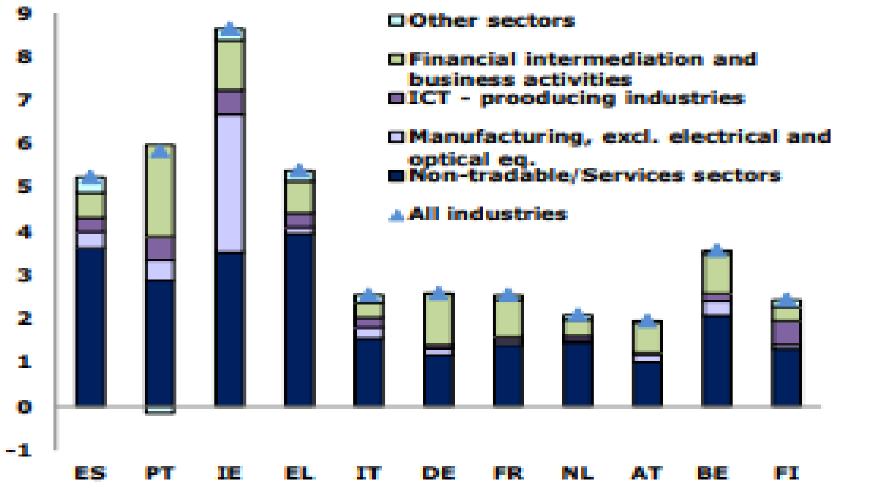
3.1. THE INVESTMENT PICTURE AT THE SECTORAL LEVEL

- Higher growth in catching-up economies.
- Big part of growth, in all economies, coming from non-tradable/Services sector.

Graph I.7: Decomposition of growth in capital services by main sector (1)

(avg. annual contributions in %, 1999-2007)



(1) ICT-producing ind.: electrical and optical eq., post and telecoms; Non-tradable/services: distribution, construction, hotels and restaurants, real estate, public utilities, public admin., education and health; Other sectors: other community, social and personal serv., agriculture, hunting and forestry, mining and quarry.

Source: DG ECFIN based on EU KLEMS.

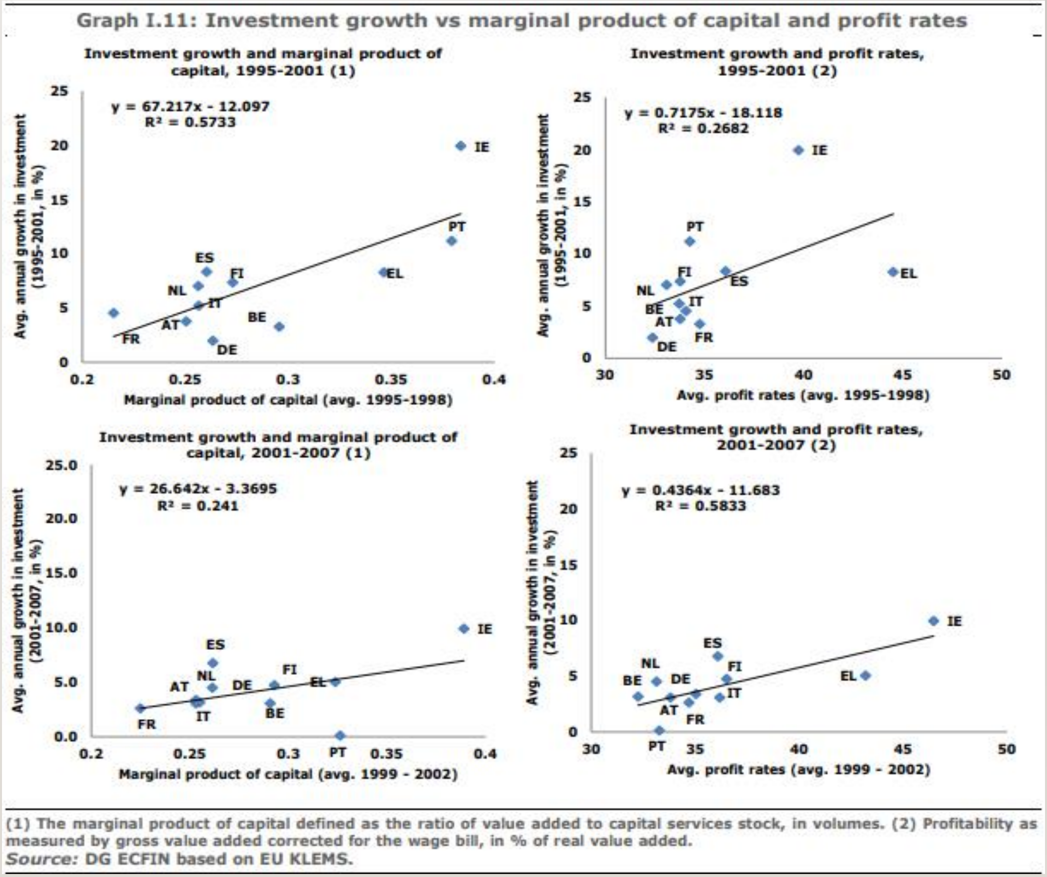
3.1. THE INVESTMENT PICTURE AT THE SECTORIAL LEVEL

- Large inflows of foreign capital onto converging economies.

- Bad allocation of that capital.

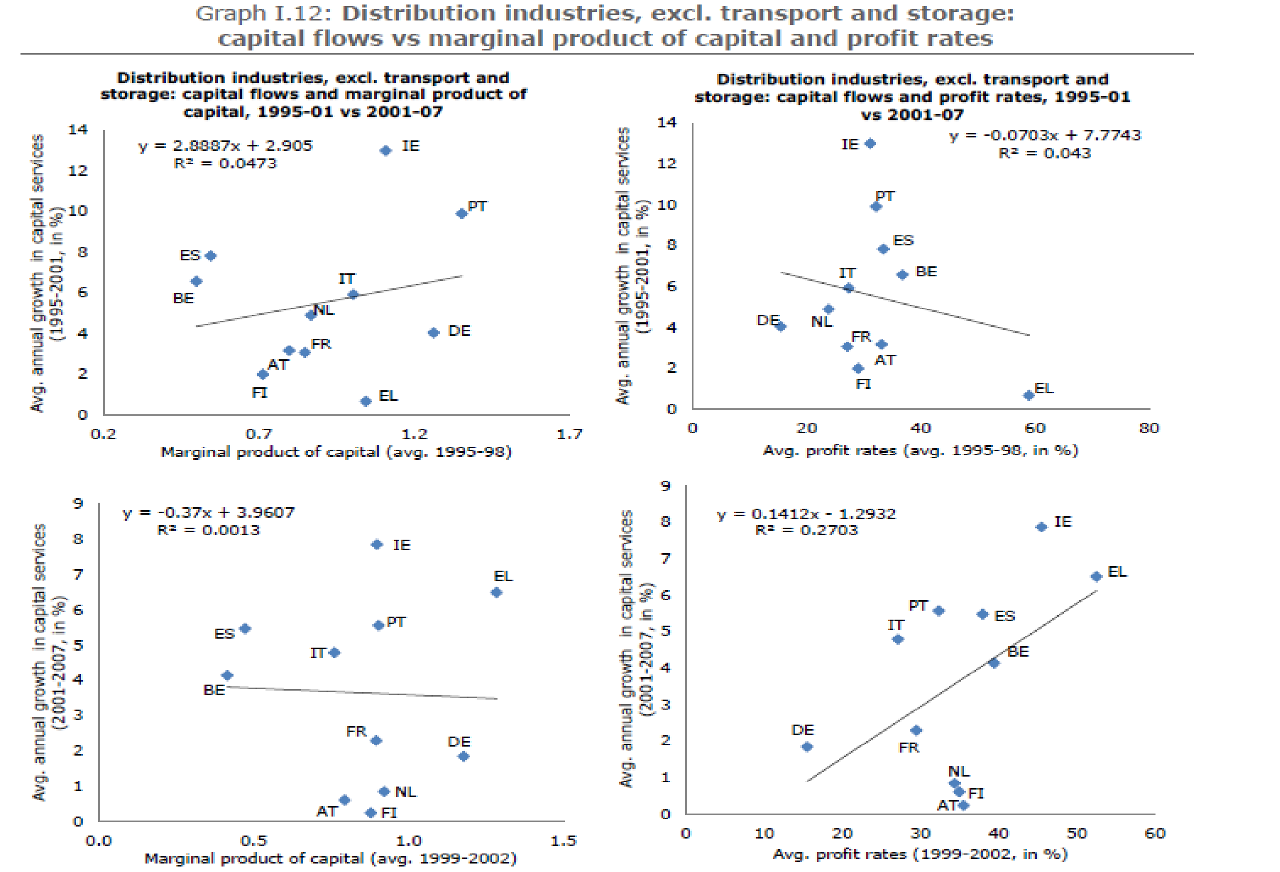
3.2. DRIVERS OF INVESTMENT DECISIONS

- In a first period, capital flows are motived by high marginal product of capital, high correlation.
- In a second one, investment is driven by profit rates.
- Capital flows always going towards converging economies.
- R-squared measures correlation. R-squared=1 means perfect correlation.



3.2. DRIVERS OF INVESTMENT DECISIONS

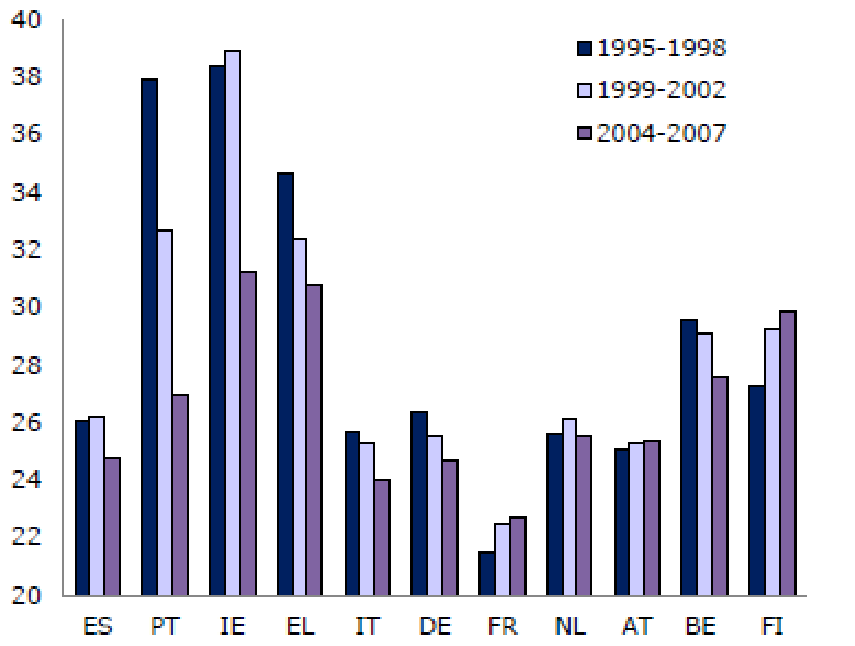
- Shift in the investment driver.



3.2. DRIVERS OF INVESTMENT DECISIONS

- Decreasing of marginal productivity of capital

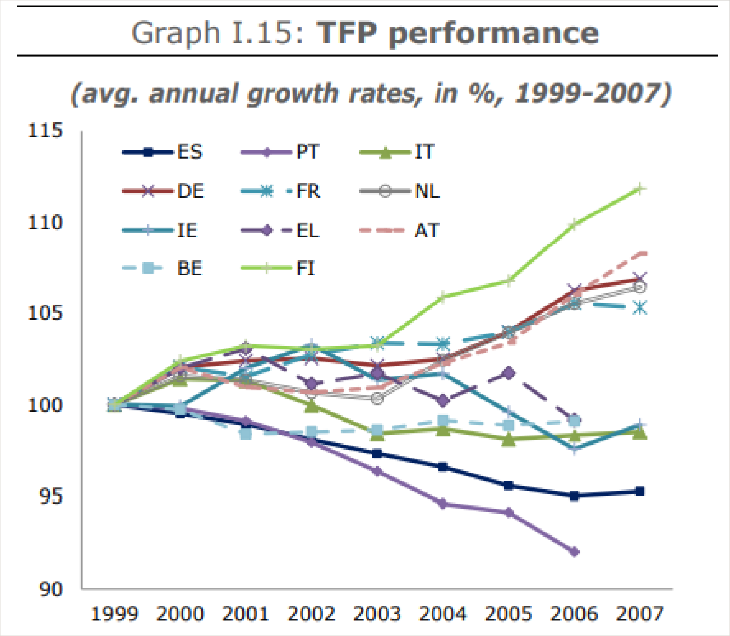
Graph I.13: **Marginal product of capital**



Source: EU KLEMS and WIOD (World Input-Output Database).

4. A CLOSER LOOK AT THE DRIVERS OF TFP AND GROWTH IN CONVERGING ECONOMIES

- Surge in investment in in pre-crisis years was not followed by faster TFP growth
- All catching-up economies saw their TFP performance deteriorating between the launch of the euro and the crisis
- TFP performance particularly disappointing in manufacturing, network and distribution industries
- Converge in TFP only in financial intermediation, a sector where some of the technological leaders did not perform very well

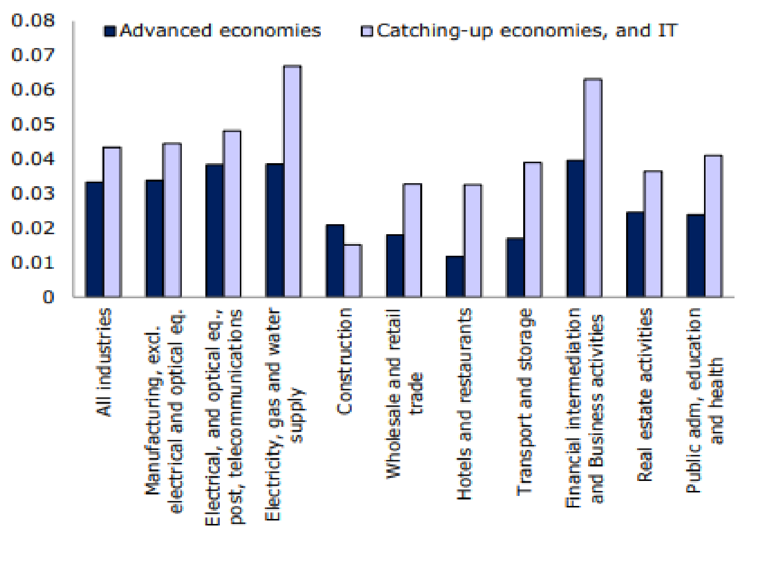


4. A CLOSER LOOK AT THE DRIVERS OF TFP AND GROWTH IN CONVERGING ECONOMIES

- Change in the average share of high-skill hours worked between the periods 1995-2001 and 2001-2007
- Increase in overall share of high-skill hours worked

Graph I.16: **Change in the overall share of high-skill hours worked, between 1995-01 and 2001-07**

(in pp.)



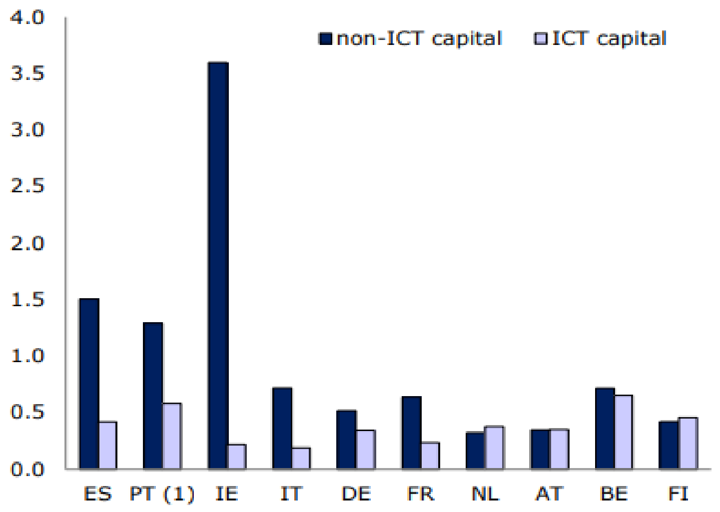
Source: DG ECFIN based on WIOD.

4. A CLOSER LOOK AT THE DRIVERS OF TFP AND GROWTH IN CONVERGING ECONOMIES

- ICT capital: Capital directed to information and communication technologies
- Relative contribution to value added of the non-ICT component of capital is much greater in the catching up member states than the rest of the euro-area

Graph I.17: **Contribution to value added growth of non-ICT and ICT capital**

(in pp., 2000-2007)



(1) Portugal: 2000-2005.
Source: EU KLEMS.

4. A CLOSER LOOK AT THE DRIVERS OF TFP AND GROWTH IN CONVERGING ECONOMIES

- Large capital inflows witnessed by the converging economies have not succeeded in increasing the relative contribution to growth of the ICT component of capital relative to its non-ICT component
- Large capital flows in certain network industries and non-tradable sectors were driven by arbitrage opportunities in terms of profit rates rather than productivity of capital could have been detrimental to innovation and consequently, further hindered TFP performance

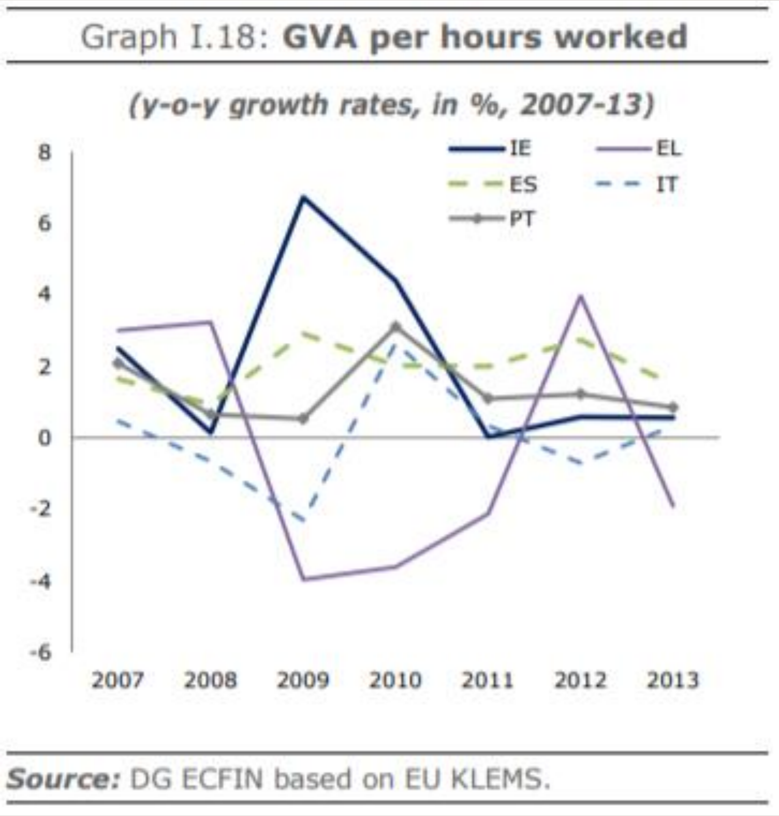
could have been detrimental to innovation and consequently, further hindered TFP performance

5) CONVERGENCE PROSPECTS IN THE AFTERMATH OF THE CRISIS

- The crisis has temporarily increased growth divergence forces. However, there are some reasons for medium-term optimism:

- Signs of increasing labour productivity

- Adoption of structural reforms in most catching-up economies which are likely to foster competition in product and service markets.



5) CONVERGENCE PROSPECTS IN THE AFTERMATH OF THE CRISIS

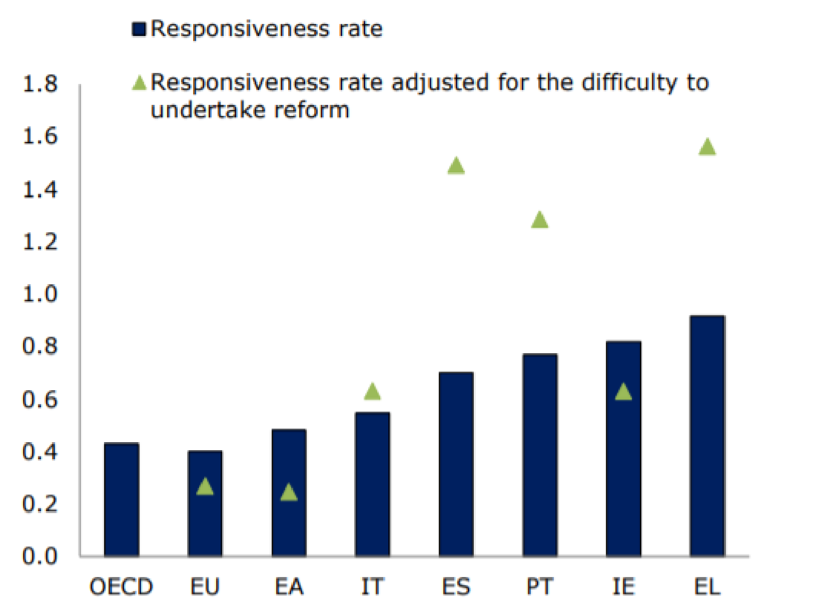
- Structural reforms:

- Removal of barriers to competition and opening important market segments in the service sector.
- Measures that enhance transparency and improve market functioning in distinct network industries, specially through the gradual liberalisation of prices in the energy sector in some catching-up countries
- Measures that tried to achieve administrative simplification and delicencing, improve SME's access to finance, modernise the public administration, promote the digilitasation of the economy and improve civil justice efficiency.

5) CONVERGENCE PROSPECTS IN THE AFTERMATH OF THE CRISIS

- These reforms are likely to increase productivity and potential growth as well as limiting the risk of capital misallocation.
- They were undertaken with more intensity in catching-up economies.

Graph I.19: **Reform intensity, 2011-12**



Source: OECD, Going for Growth 2013.

6) CONCLUSION

- Catching-up economies showed disappointing growth rates on GDP per capita and TFP (Total Factor Productivity) in the pre-crisis period, despite the availability of capital.
- These economies had large inflows of capital, which were misallocated. In the 1995-2001 period, capital seemed to flow to industries where marginal productivity of capital was low. In the 2001-2007 period, the main driver of investment became profit rates.
- In order to address these problems, structural reforms were undertaken in most catching-up economies that aim to improve competitiveness and reduce barriers to entry in some markets and to increase the overall efficiency and independence of the public institutions.