Why Did Europe’s Productivity Growth Catch-up Sputter Out? A Tale of Tigers and Tortoises

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The U. S. Accelerates, Europe Decelerates

The last half-decade has witnessed

- An explosion in U. S. productivity growth
- An explosion in research on the U. S. takeoff and Europe’s failure to match it
- Much of the research by Bart and his co-authors

The magnitude of the shift

- EU/US level of labor productivity (ALP)
  - 1979 1995 2004
  - 77% 94% 85%
Primary Attention in Past Research: The U. S. Revival

- Consensus view has formed: explanation is TFP growth in information and computer technology using industries

- TFP accounts for most of the ALP gap, capital-deepening relatively little
  - ICT Production TFP Explains a Relatively Small Share of EU-U.S. Difference
  - Most of the Difference is TFP in ICT-Using Industries
  - Of these the Most Important are:
    - Wholesale trade
    - Retail trade
    - Financial/securities
Complementary Research on Retailing

- Foster *et al.* on new retailing establishments and disappearance of old establishments
  - Not just the acceleration – all the growth
- Big boxes at freeway intersections
- Contrast to Europe:
  - Land-use planning restrictions
  - Protection of central-city pedestrian precincts
- McGuckin *et al.* on Europe: later and less complete deregulation of trucking, cross-border supply chain
This Paper: There is Another Half to the Puzzle

- The EU-U.S. turnaround is the 1995-2004 U.S. acceleration minus the EU deceleration
- Almost half of the turnaround represents Europe’s deceleration, the rest the U.S. Acceleration
- All the literature on ICT and retailing refers to only half the puzzle
- This paper is about the other half
Our Main Findings

- Almost half of the turnaround of ALP growth is happening in Europe, not in the U. S.
  - This applies both to ALP growth and TFP growth
- A simultaneous turnaround in capital deepening explains about 1/3 of turnaround, TFP the rest
- The divergence within Europe is just as interesting as the EU-US gap
  - And it has totally different causes
What We’re Working With:
EU and US ALP Growth
EU and US TFP Growth: Whose fault is it?
Components of ALP Gap

- Total Factor Productivity
- Capital Deepening
Trends in ALP

- Both capital deepening and TFP turn around in 1998
- Fully 1/3 of the 2% gap in ALP growth is due to capital deepening
- ALP gap is not just due to US acceleration, but also EU decline
How does ICT Factor in?

- **TFP:** Only 0.18 points of 1.33 are due to ICT producing industries
  - Consistent with standard retail and finance story
- **Capital deepening:** Only 0.09 points of 0.67 due to ICT production
  - Of the 0.67, 1/3 due to rise in US, 2/3 to fall in EU
  - Lots of factors influencing investment different ways
Defining Tigers and Tortoises

- **Tigers**: Ireland, Greece, Finland, Austria
  - Share: 8%  ALP: 3.42%

- **Middle**: Sweden, Portugal, UK, Germany, Denmark, France
  - Share: 58%  ALP: 1.87%

- **Tortoises**: Netherlands, Belgium, Luxembourg, Italy, Spain
  - Share: 36%  ALP: 0.72%
What Else Changed after 1995?

- Variance across countries rises
  - SD of ALP rises from 0.8 to 1.23
  - TFP goes from 0.7 to 1.04
    - *But*, SD decreases for TFP and capital deepening in ICT producing industries
    - So the distinctions must come from non-ICT producing industries

- Where has the non-ICT differential within Europe come from?
  - Same as EU-US gap, or different factors?
Contributions to EU-US ALP GAP

- retail/wholesale
- finance
- durables
- real estate
- services
- communications
- transportation
- farms/mining
- construction/utilities
- non-durables

Productivity Effect
Share Effect
Contributions to ALP Growth


- ICT Producing
- ICT Using
- Other
- Reallocation

Tiger, Middle, Tortoise, EU, US