

Discussion of:

The pre-great Recession Slowdown in Productivity

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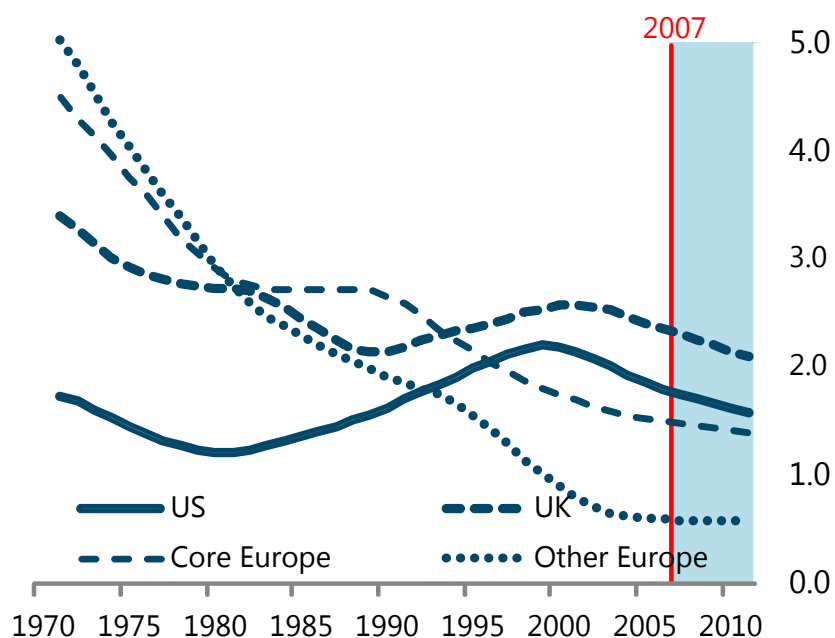
International Monetary Fund



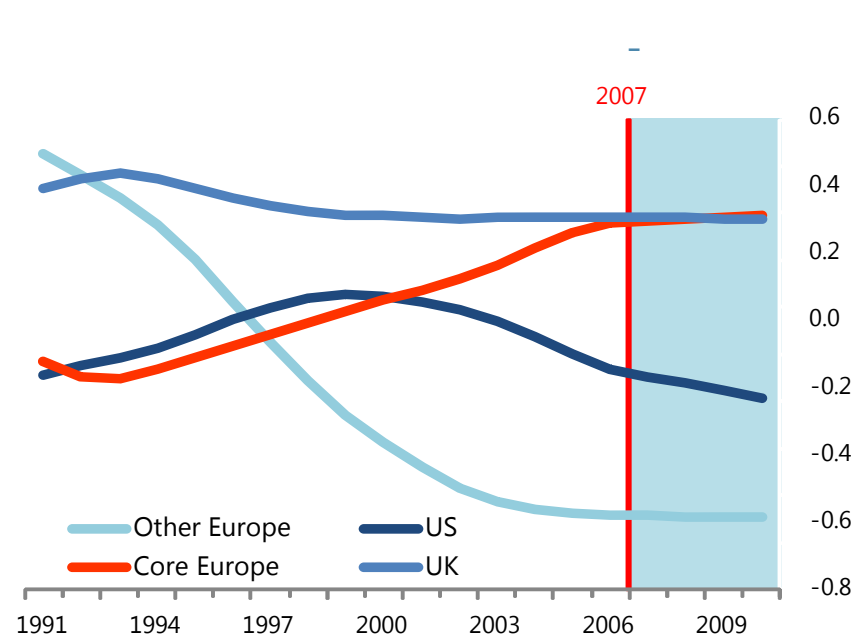
Brookings, Productivity Slowdown
September 2016

Pre-crisis decline in productivity in AEs

Labor Productivity Growth
(in percent, pre-crisis trend)



Total Factor Productivity Growth
(in percent, pre-crisis trend)



Other Europe: Italy, Spain, Portugal, Greece

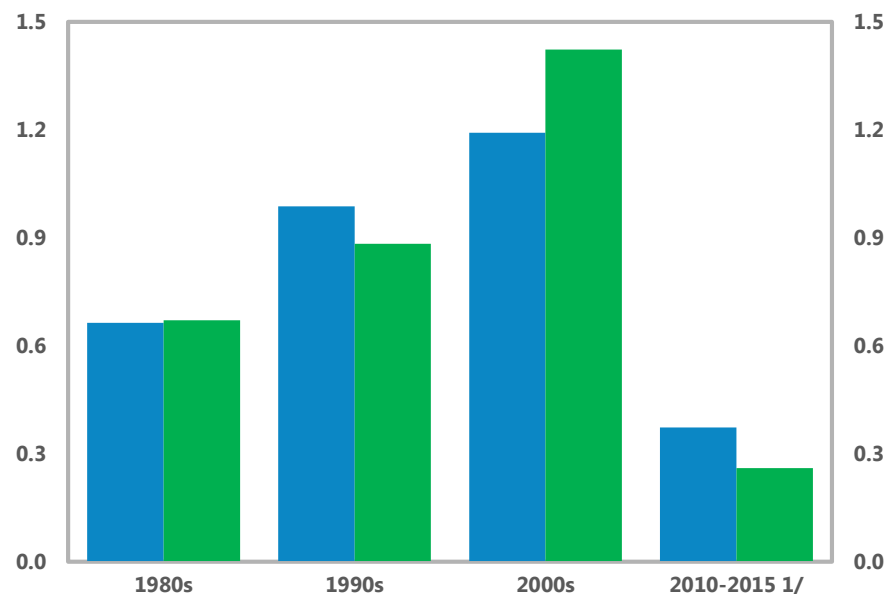
Trends were estimated with an HP filter on the pre-crisis (through 2007) sample.

Source: Dabla-Norris et al., (2015)

This paper

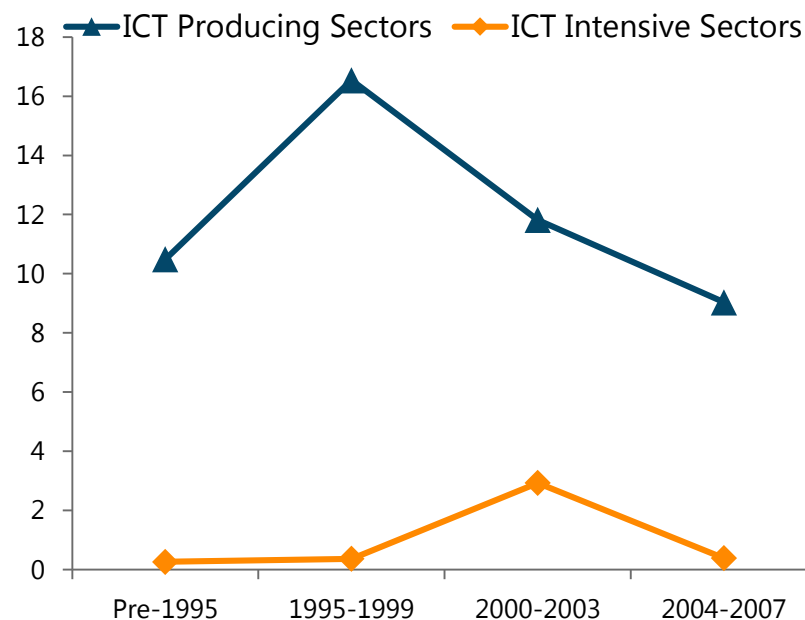
1. Waning productivity in the U.S. (the “frontier”)...

U.S. Average Total Factor Productivity Growth
(in percent, utilization adjusted)



Sources: BLS; FRB; Haver Analytics; and IMF staff calculations
1/ For multi-factor, 2011-2015. 2010 is included in 2000s

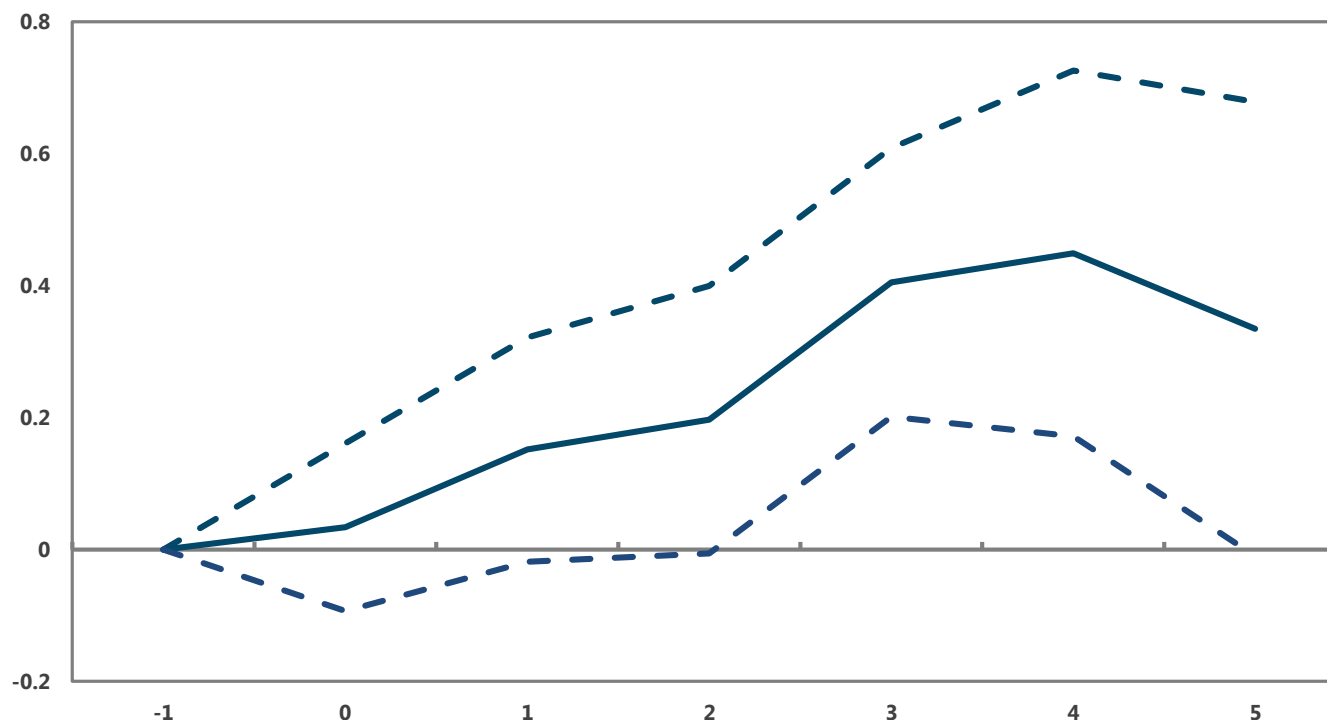
U.S. Total Factor Productivity by Subgroup



Source: Fernald, 2014.

...spilled-over to other advanced economies

U.S. Total Factor Productivity Spillovers to Other Advanced Economies
(percent points; years on x-axis)

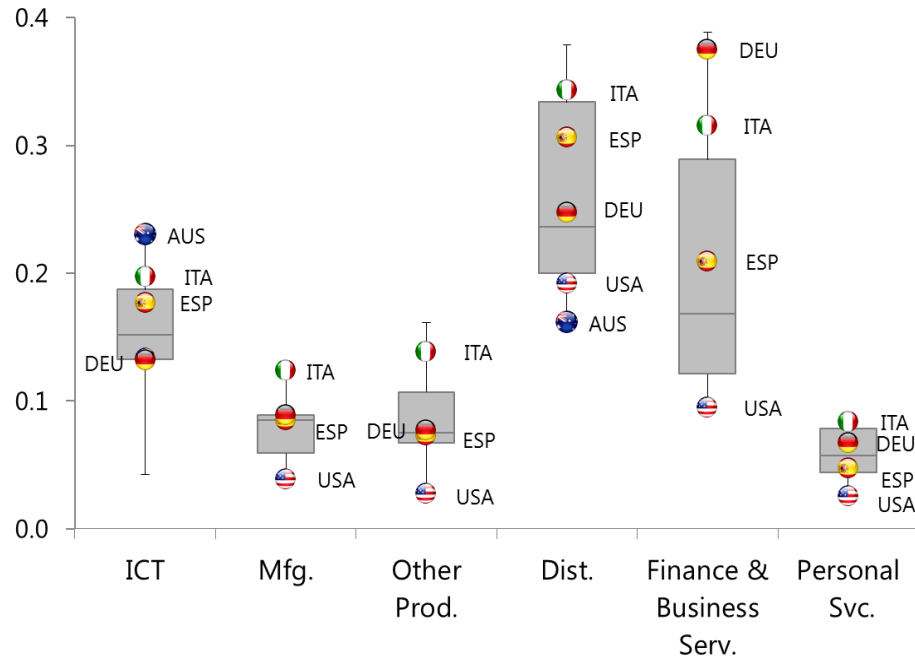


Source: WEO April, 2015

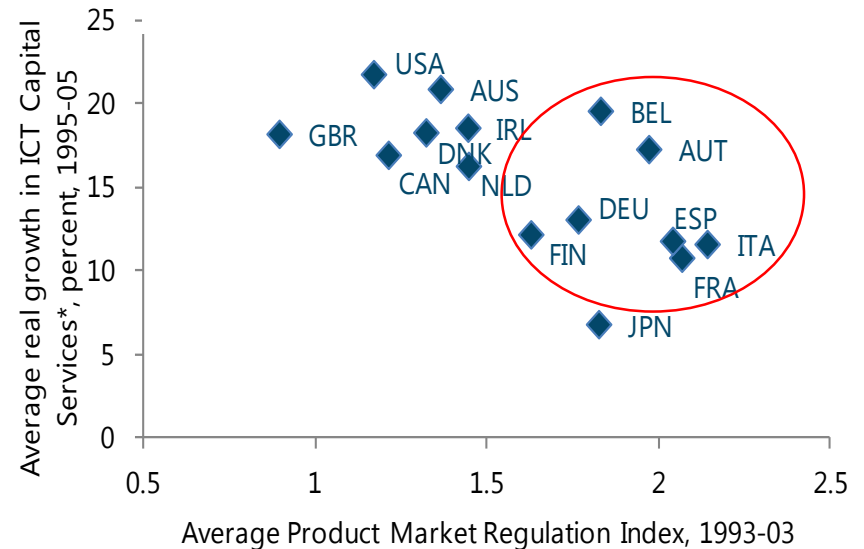
Note: $t=0$ is the year of the shock. Dashed lines denote 90 percent confidence intervals. Impulse response functions are estimated using local projections and bias correction following Teulings and Zubanov 2014 with an unbalanced sample between 1970 and 2007.

2. Structural rigidities impeded convergence in Europe

Higher Product Market Regulations Upstream product market regulation by sector



Slower Diffusion of ICT in Services ICT Use and product market regulation



RHS figure: value-added weighted average of distribution, finance and business, and personal services.

Source: Dabla-Norris et al. (2015)

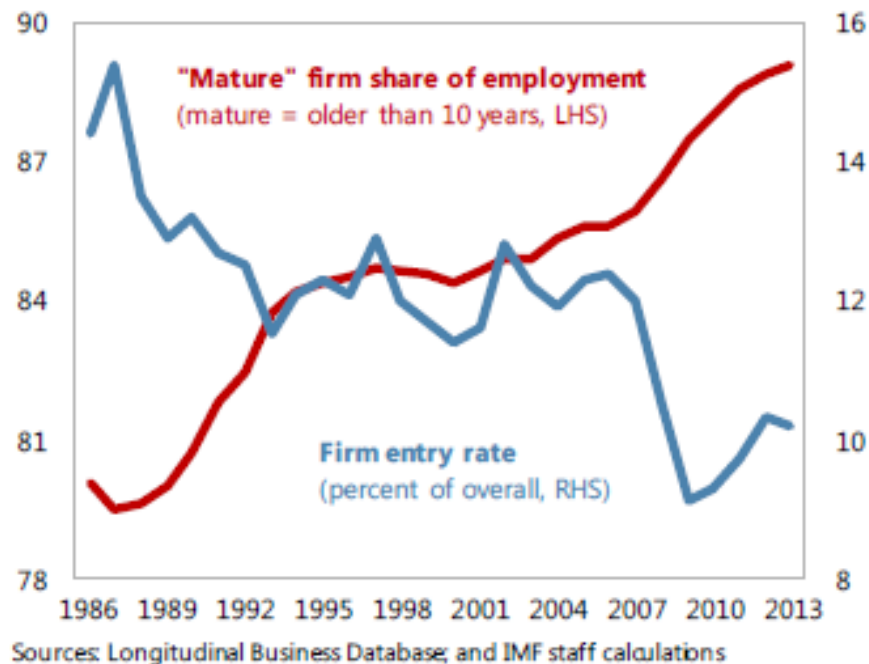
3. Rising resource misallocation in Southern Europe

- *Conjuncture*: low real interest rates following euro adoption lowered allocative efficiency.
 - Capital misallocation and financial frictions (Gopinath et al, 2015); credit growth and productivity (Borio et al., 2015)
- *Tentative empirical evidence*:
 - VAR to examine impact of interest rate shocks on aggregate productivity; effect larger for Spain and Italy.
 - Panel fixed effects regressions of country-specific real interest rates on industry-level productivity shows correlation between the two.

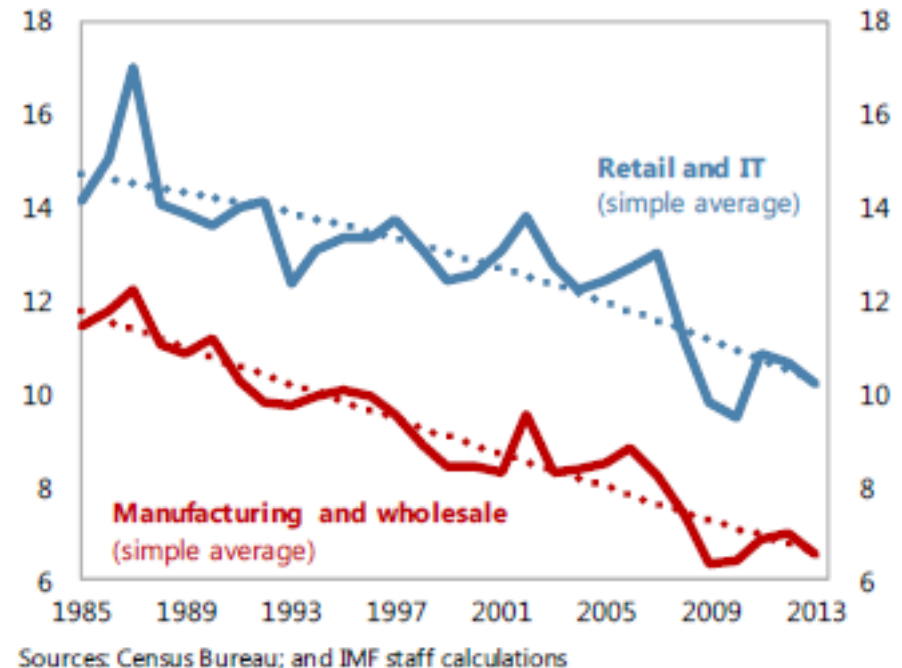
What's **missing** from this picture

1. Not just a technology story: declining dynamism in the U.S.

Dynamism
(in percent)



Firm Entry Rates Across Sectors
(in percent)



2. Why convergence stalled? Need to better disentangle drivers

- Role of structural change; waning productivity gains from structural transformation in Southern Europe.
- Misallocation across sectors: significantly higher in services vs. manufacturing (Dias et al., 2016 for Portugal).
- Relative contribution of labor/product market rigidities, market structure, size-dependent policies, financial frictions and credit conditions?
 - Interactions between policy distortions? Within-firm/sector vs. across firm effects?

3. Empirical evidence on link between real interest rates and productivity not fully convincing

- Does empirical strategy *really* capture misallocation?
 - Did lower real interest rates lead to reallocation of resources to less productive sectors or increase in within sector misallocation?
 - Was misallocation higher in sectors that are less or more financially dependent?
- Causality (TFP growth \rightarrow real interest rates)?
- Identification, omitted variables, and robustness?
 - Other business cycle and global factors (trade-induced changes in market shares) that affect real interest rates and TFP growth.
 - VAR specifications; productivity measurement (cyclically-adjusted?);
 - Pre- vs. post-crisis impact.
 - Effect on services vs. manufacturing in panel regressions not consistent with micro-evidence on higher misallocation in services.
- How to think of capital inflows to U.S. over the same period? Differences due to initial conditions or average productivity growth?

Policy implications

Where do we go from here

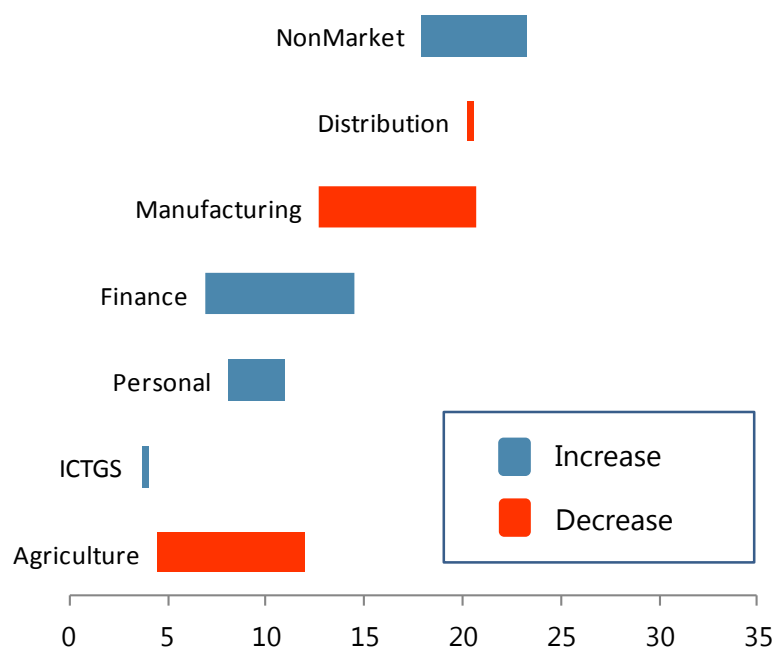
- Tackle financial legacies from the GFC but need to understand whether misallocation has increased in current low interest environment, particularly in countries with weak financial systems.
- Product and labor market reforms to boost frontier productivity and foster convergence (IMF, WEO 2016; Dabla-Norris et al. 2015) but need to better understand reform sequencing and associated fiscal-costs.
- Investing in knowledge capital and innovation. Three pillars of innovation: R&D, facilitating technology transfer, and entrepreneurship, but policies vary across countries (IMF Fiscal Monitor, 2016).

Thank you

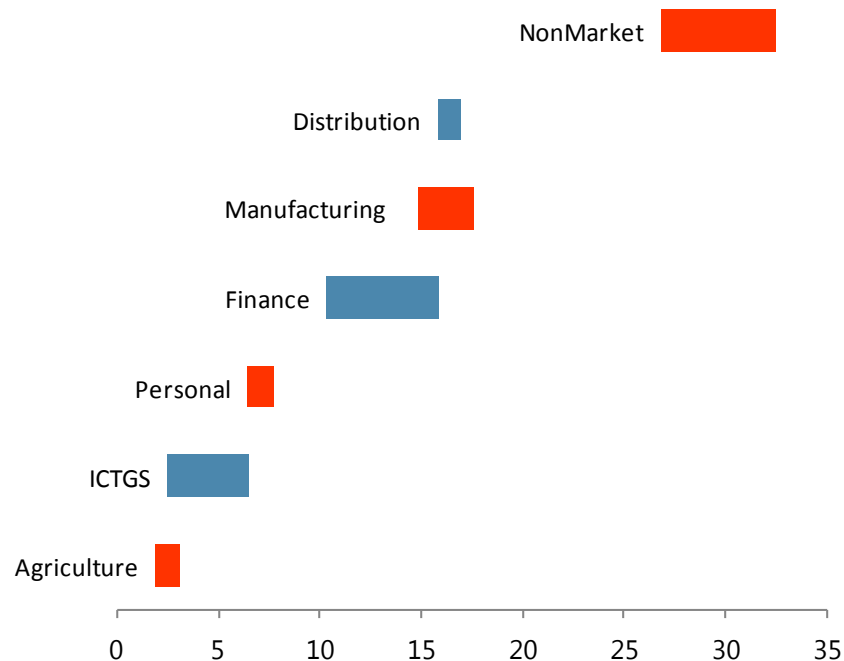
Structural Shift into Services Sectors

Change in Employment and Value Added, 1980-2007 (in percent, purchasing power parity weighted)

Percentage of total hours worked



Percentage of real value added (2005 LCU)



Sources: EU KLEMS database, World KLEMS database; and IMF staff calculations.

Note: ICTGS = information communication technology goods and services; LCU = local currency unit.