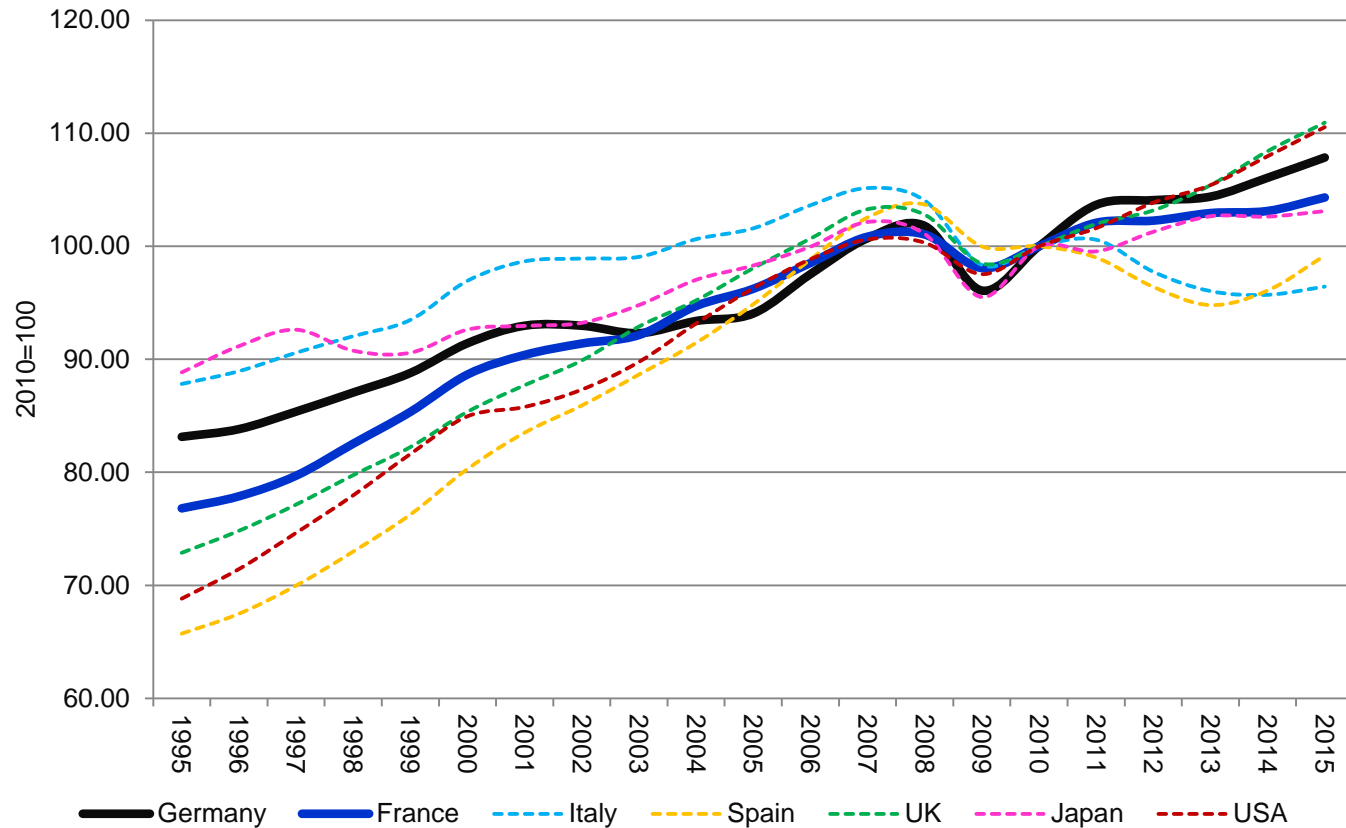

Productivity, Investment, and Growth – Where we stand, What we know

Alexander Schiersch & Martin Gornig

07.07.2016

Real GDP, 1995-2015



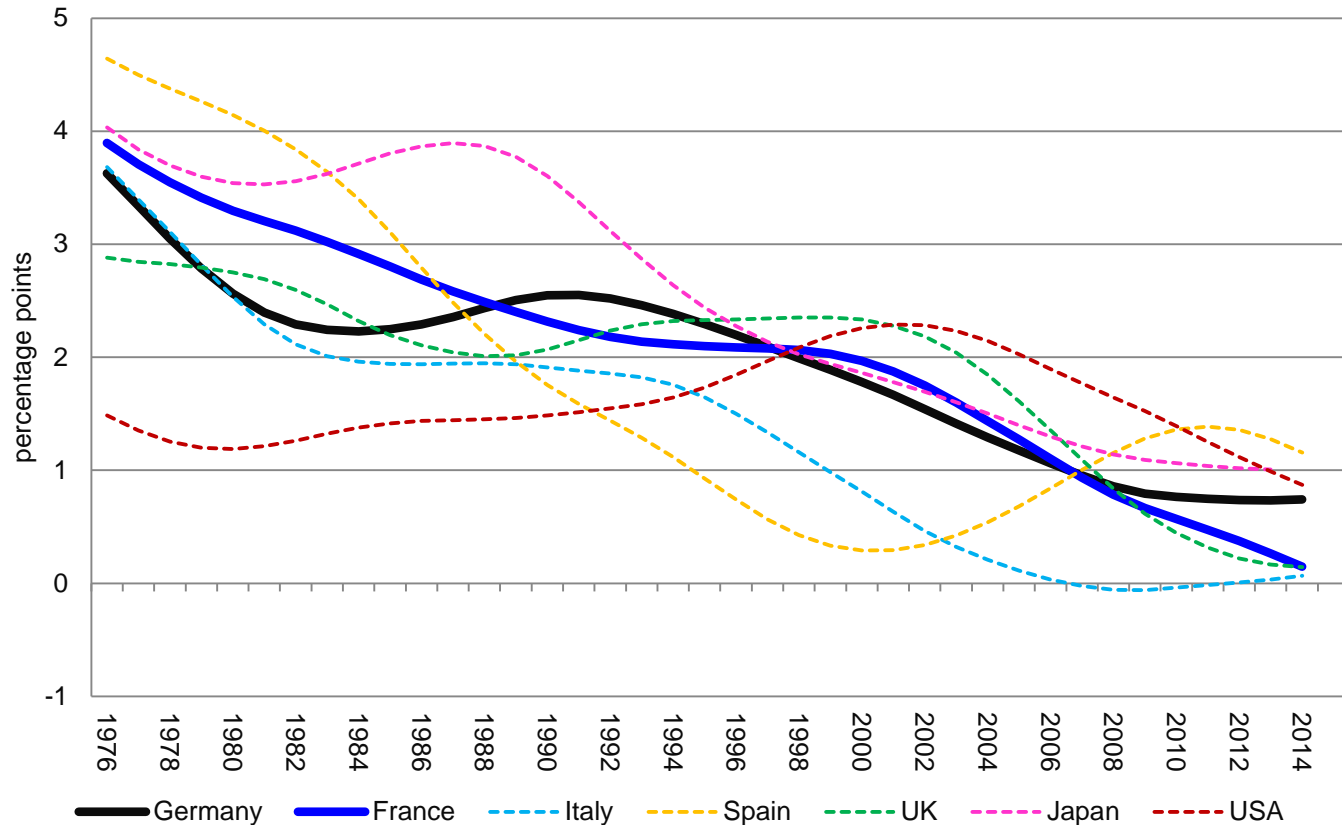
Source: AMECO database

“Productivity isn’t everything, but in the long run it is almost everything. A country’s ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker.”

Paul Krugman

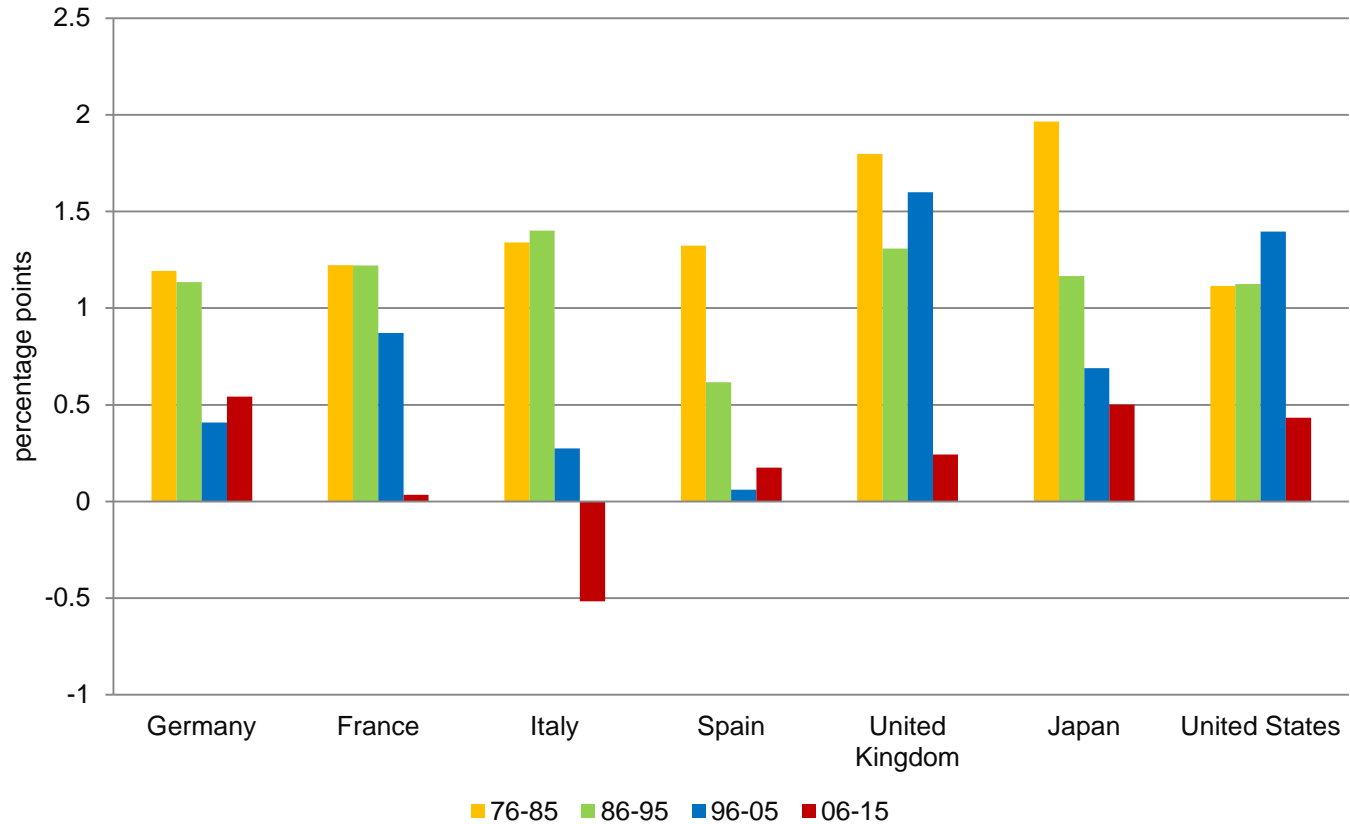
1. Trends in productivity
2. Private sector investments and development of capital stocks
3. Investment restraint in the public sector

Labour productivity, annual growth, 1976-2014



Source: SVR, 2015; HP-Filter, $\lambda = 100$

TFP growth, 10y averages, 1976-2015



Source: AMECO database



Some reasons for the slowdown of productivity growth:

- a. Structural change toward services and public sectors
(SVR, 2015)

Country	1995 – 2004			2005 – 2014			Share of manufacturing in total value added	
	Total LP growth	LP growth manufacturing	LP growth service sectors	Total LP growth	LP growth manufacturing	LP growth service sectors	1995	2014
Germany	1.9	3.1	1.3	0.8	1.6	0.6	22.8	22.6
France	1.8	4.4	1.2	0.8	2.4	0.7	16.2	11.2
Italy	0.5	0.9	0.3	0.1	1.0	- 0.3	20.9	15.4
Spain	0.0	1.1	0.0	1.6	2.0	1.0	17.6	13.2
UK	2.2	3.6	2.1	0.4	1.7	0.6	19.0	9.5
USA	2.3	5.9	1.2	0.9	2.3	0.4	15.9	12.0

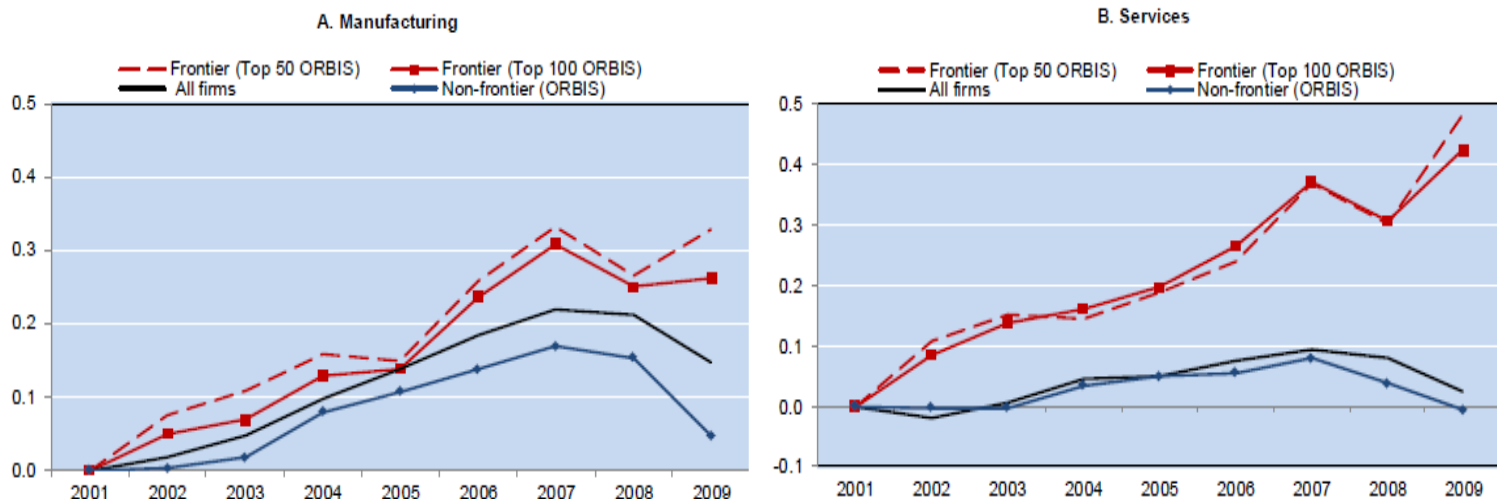
Source: SVR, 2015, Tab. 26

- b. End of productivity gains from outsourcing/reorganizing value chains; one of the main drivers of productivity between 1995 and 2005 (SVR, 2015)

Some reasons for the slowdown of productivity growth:

- c. Rising productivity gap between global frontier firms and laggard firms – hampered diffusion of technology (Andrews et al. 2015; OECD 2015)

Percentage difference in labour productivity levels from their 2001 values (2001=0)



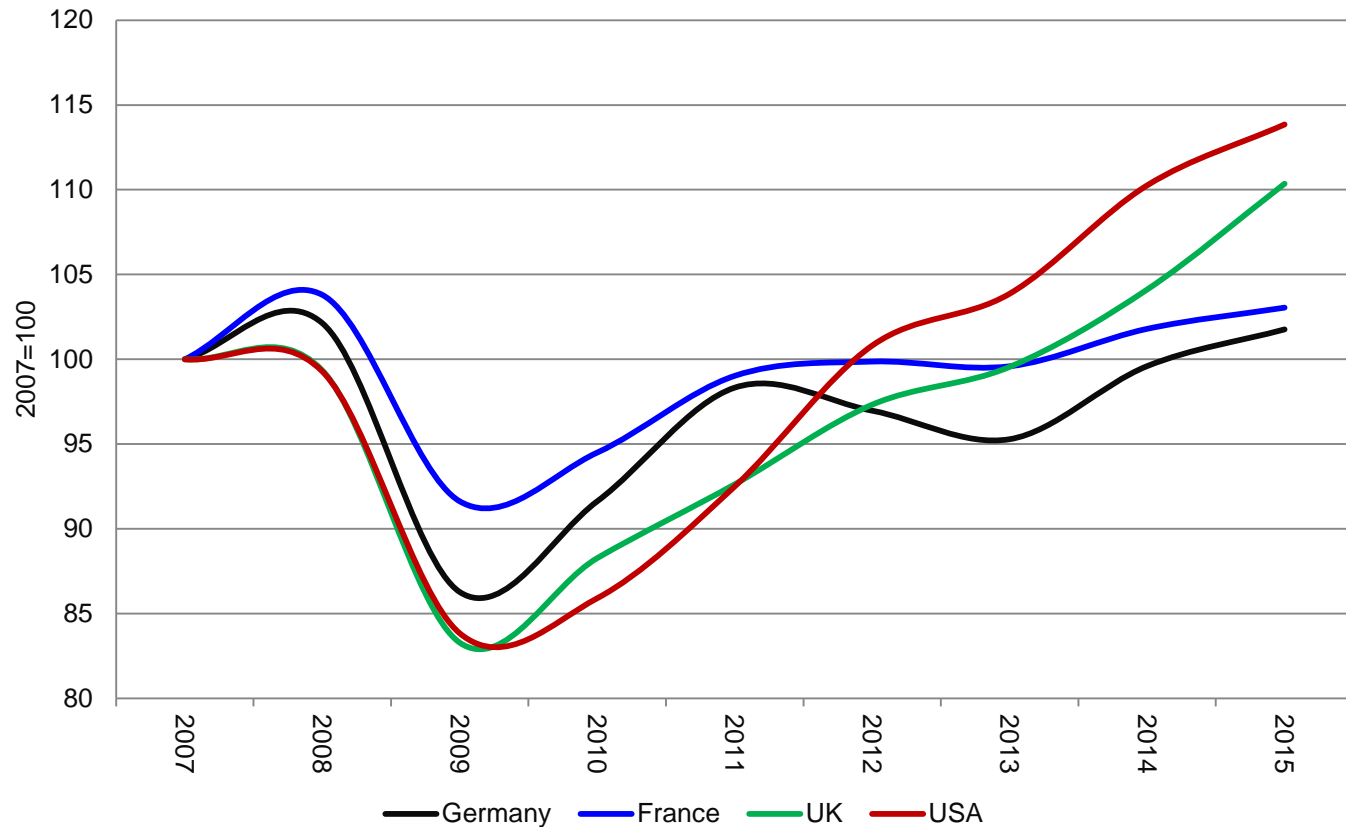
Source: Andrews et al., 2015, Fig.1

Some reasons for the slowdown of productivity growth:

- d. Increasing skill mismatch due to rigidities in labour markets (OECD, 2015)
- e. Hampered reallocation of resources from aging and less productive incumbents toward dynamic thriving new entrants (OECD, 2015)
- f. Time lag (up to 30 years) between path braking innovations and its widespread use (Brynjolfsson & Andrew, 2015)
- g. Rapid implementation of new technological innovations hampered by insufficient investment

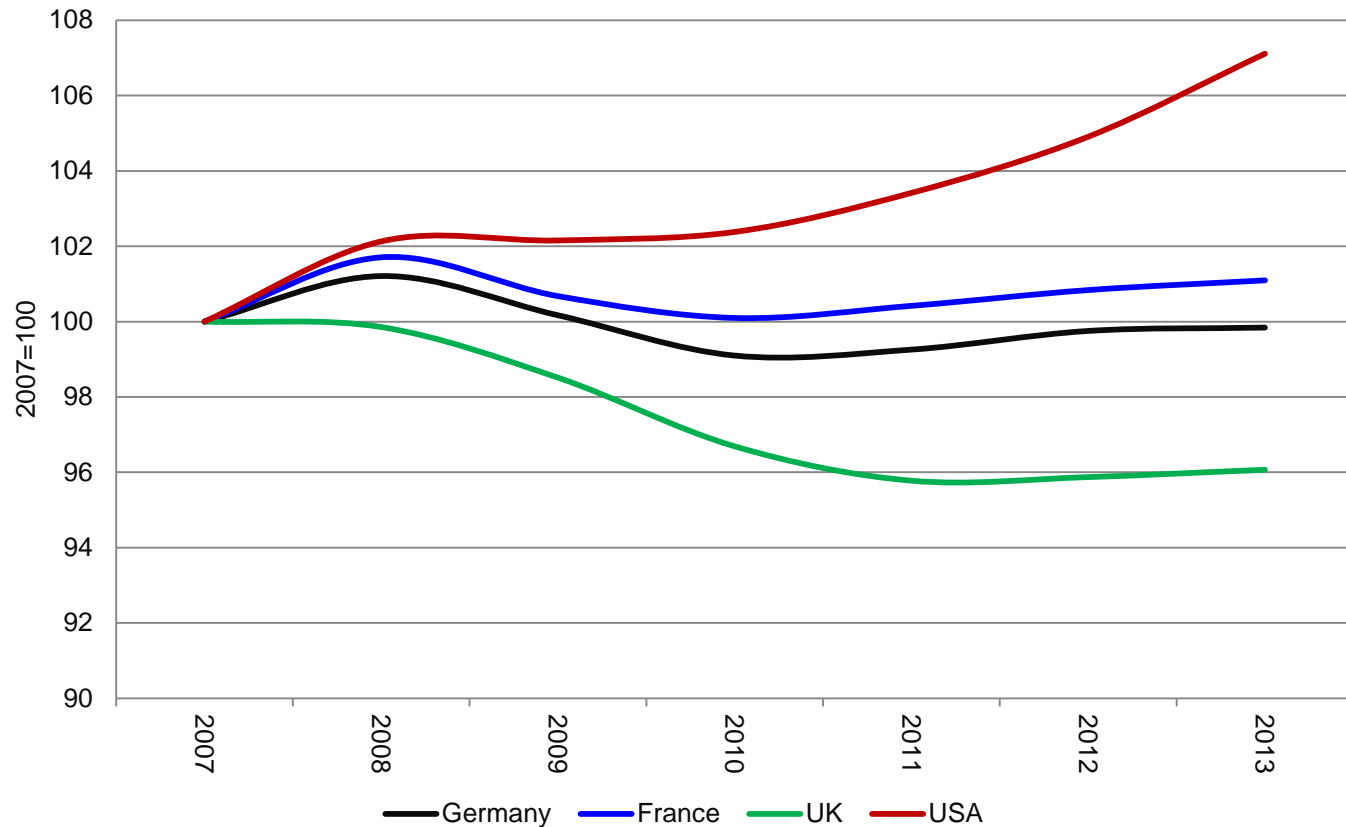
Private sector investments and capital stocks

Growth of private non-residential gross fixed capital formation (real)



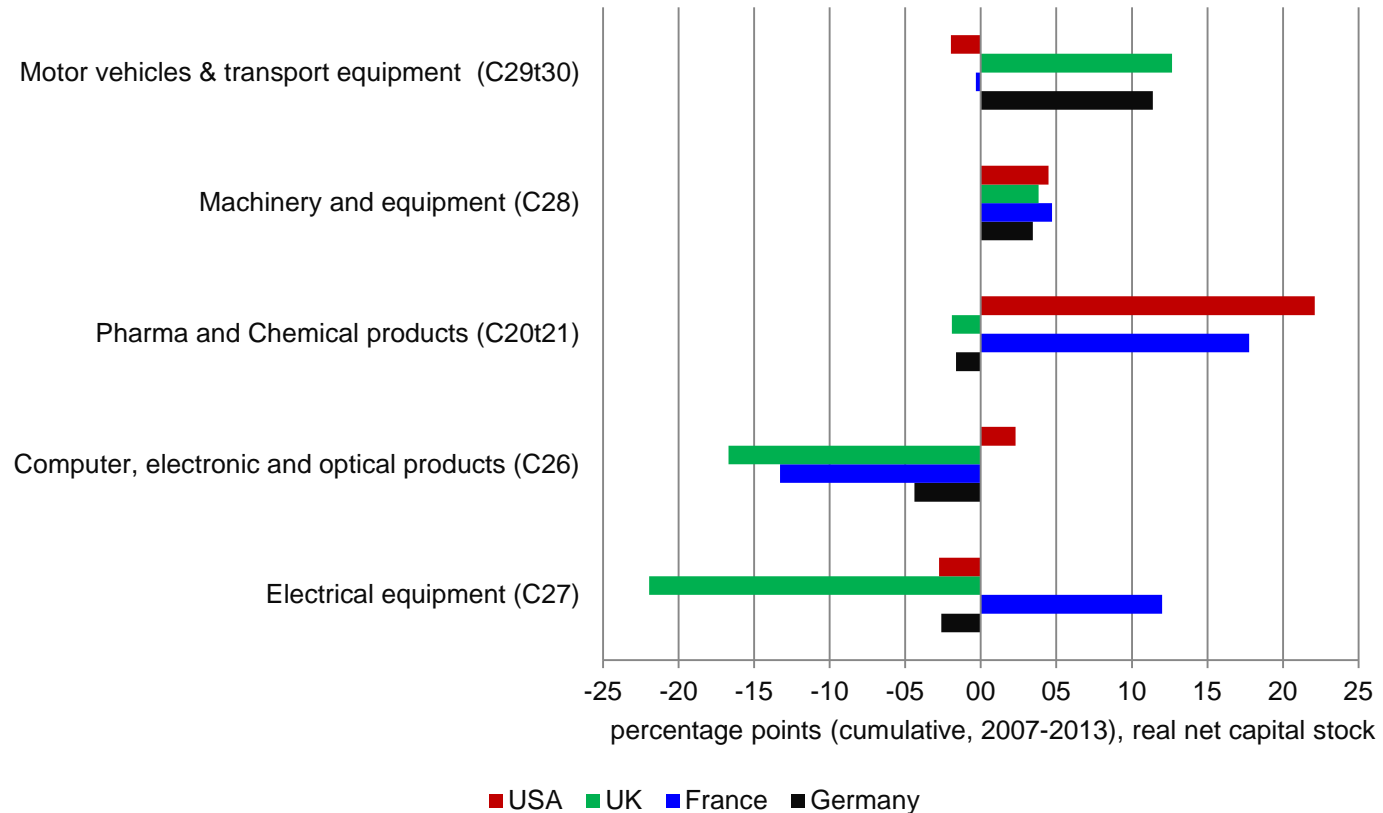
Source: OECD Economic Outlook 98 Database, Main Economic Indicator database

Growth of (real) net capital stock in manufacturing



Source: destatis, BEA, ONS, INSEE; own calculations

Change in (real) net capital stock of R&D-intensive manufacturing industries, 2007-2013



Source: destatis, BEA, ONS, INSEE; own calculations

What can generally be done to stimulate private sector investments (OECD 2015):

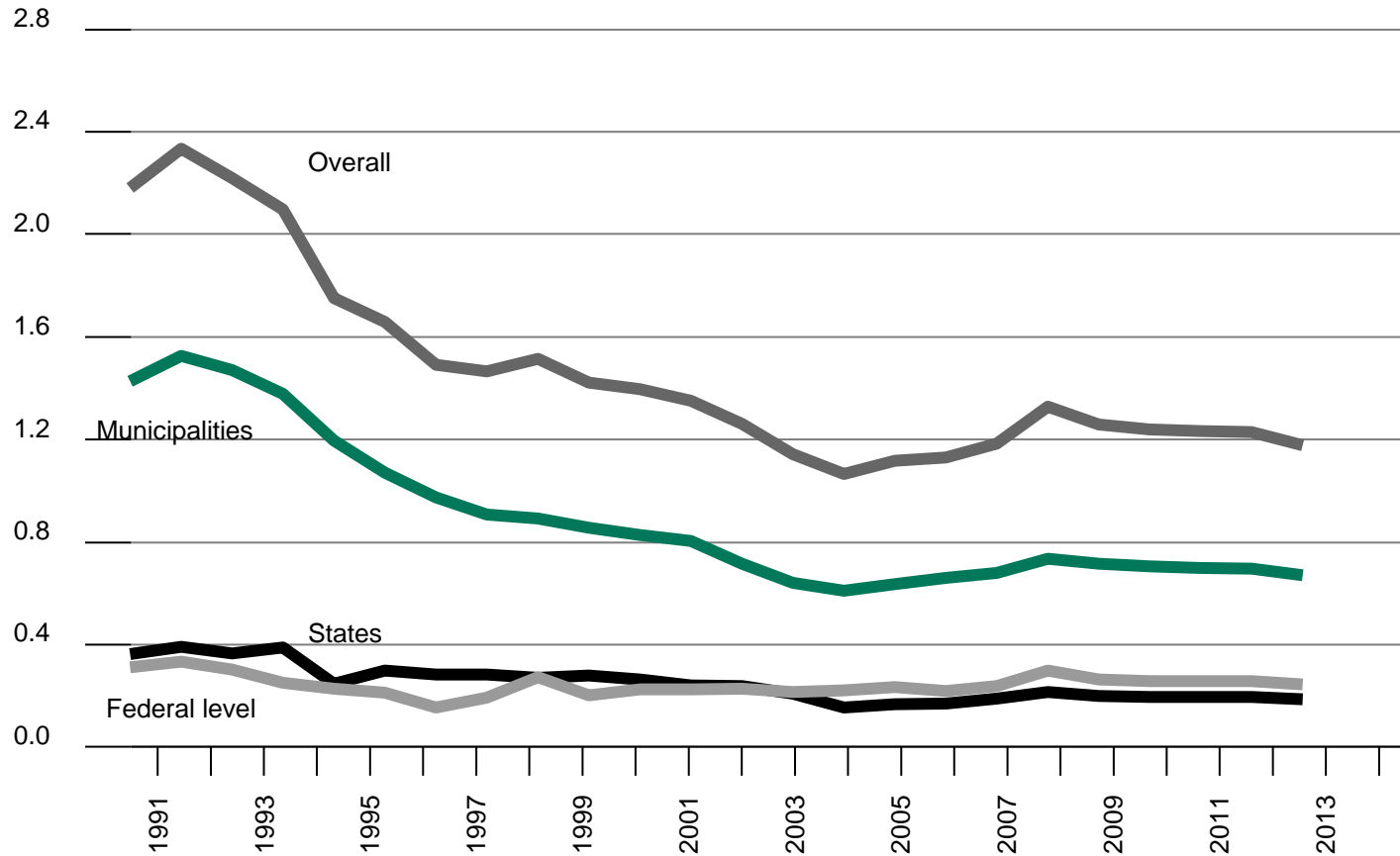
- a. Reduce political uncertainties
- b. Ease entry and exit
- c. Strengthen antitrust policy, enhancing competition

What can be done (from a German perspective):

- a. Reform depreciation methods (DIW, 2016a; DIW & HRI, 2014)
 - switch from linear to decreasing balance method of depreciation
 - overhaul of depreciation periods and depreciation factors (reform of Afa-Tables)
- b. Increase public sector investments to enhance demand and renew capital stock (DIW, 2016b)

Investment restraint in the public sector

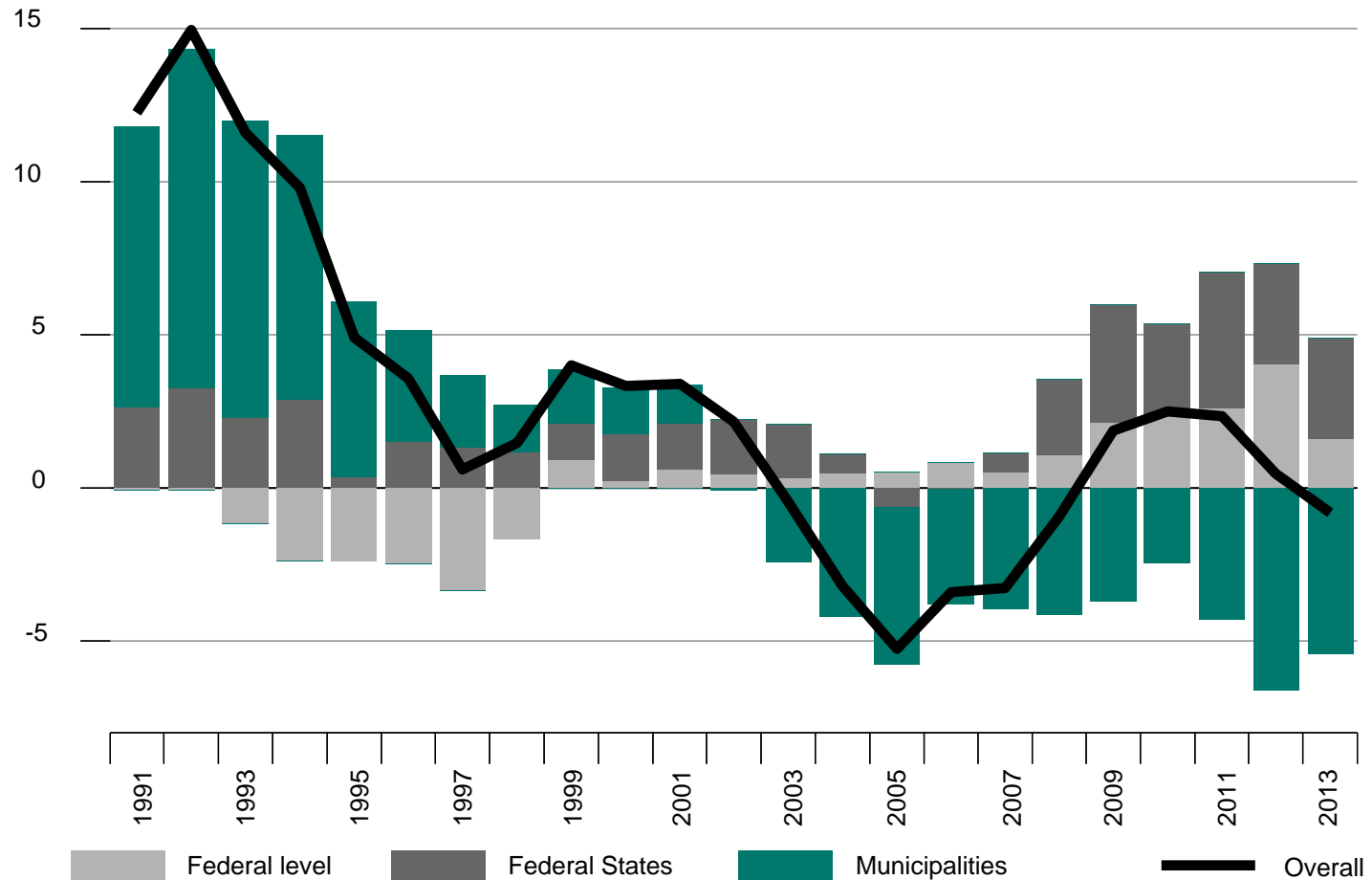
Investment ratios by public authorities
as percentage of gross domestic product, at current prices



Source: German Federal Statistical Office; own calculations

Net fixed capital formation by level of government

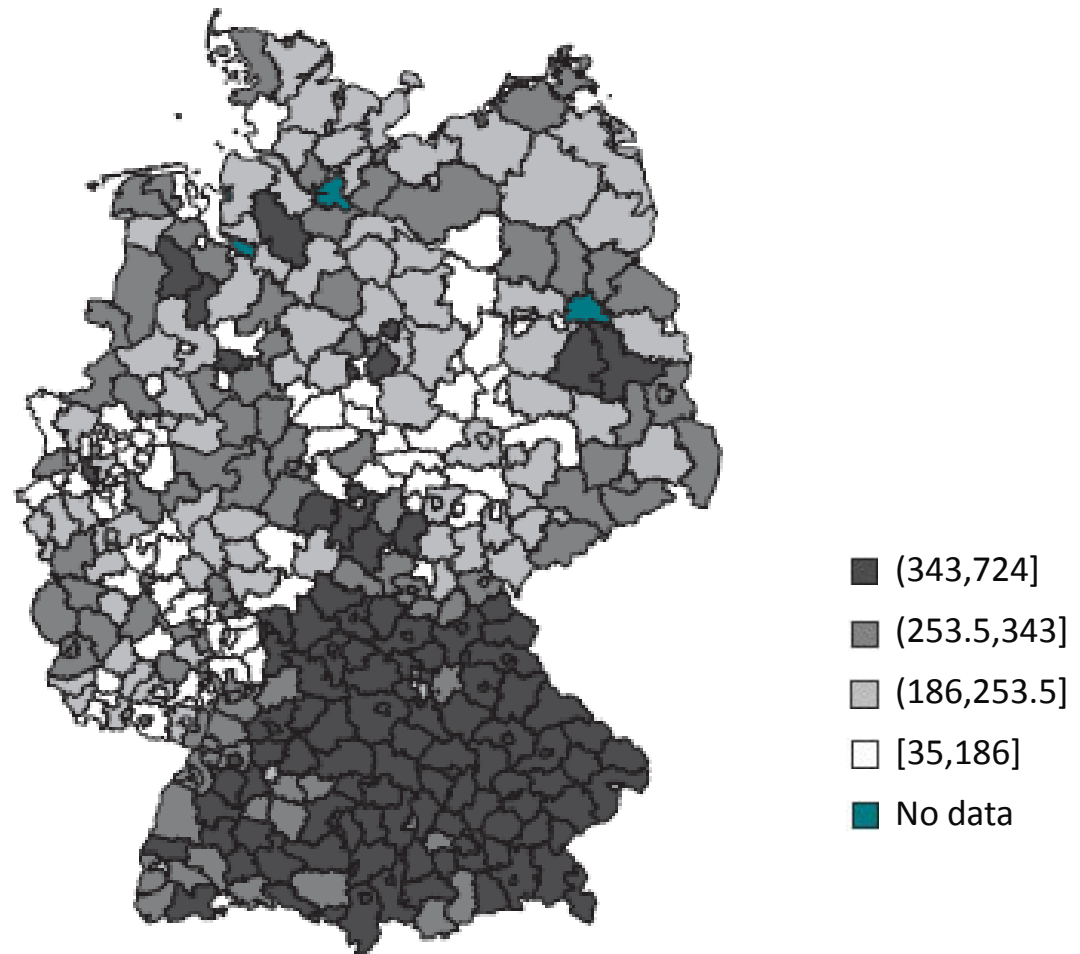
In billion euros, current prices



Source: German Federal Statistical Office; own calculations

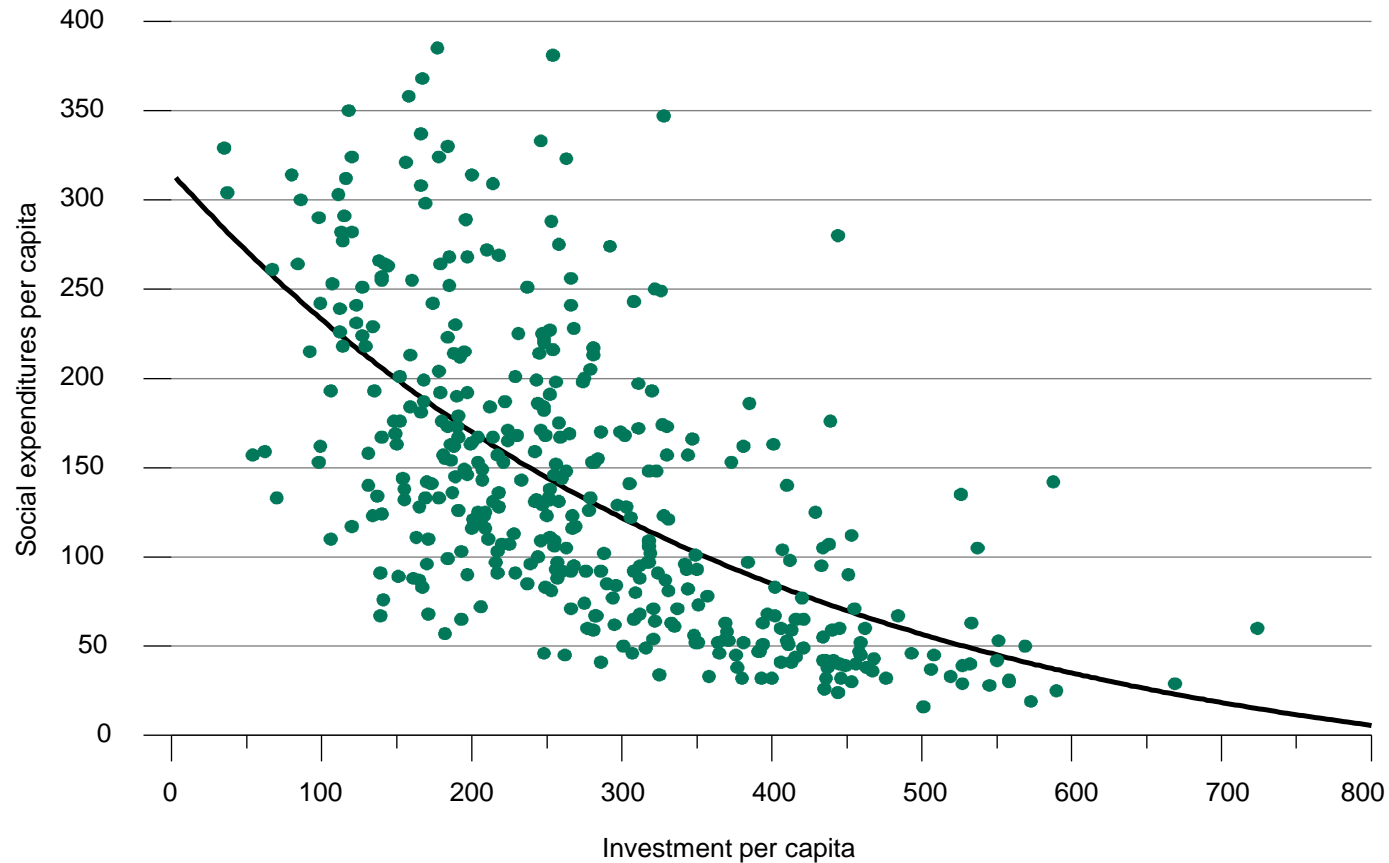
Investment at local levels

Euro per capita, 2013



Source: DIW, 2015b, Abb. 2

Correlation between social costs and public investments at municipality level Euro per capita, 2013



Source: DIW, 2015b, Abb. 5

Some suggestions for strengthening municipalities in the Germany:

a. Municipality's tax revenues:

- federal government has few options to directly support specific municipalities (GRW)
- support via states; this would require modifying the horizontal fiscal equalization scheme by fully including municipality tax income (Länderfinanzausgleich) (DIW, 2015a)

b. Municipality's expenditures: Reimbursement of (more) social expenditures by the federal level (DIW, 2015c)

Vielen Dank für Ihre Aufmerksamkeit.

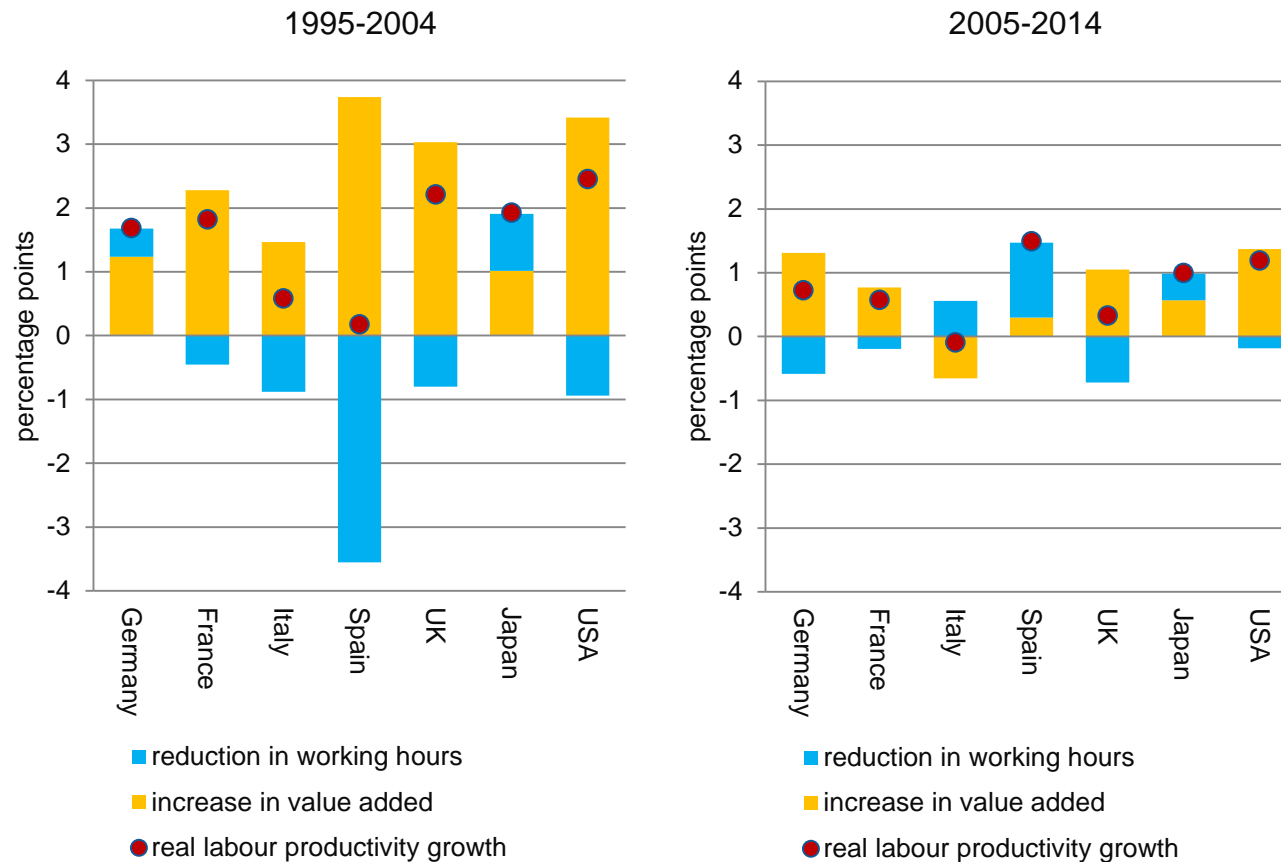


**DIW Berlin — Deutsches Institut
für Wirtschaftsforschung e.V.**
Mohrenstraße 58, 10117 Berlin
www.diw.de

Redaktion
Dr. Alexander Schiersch, aschiersch@diw.de

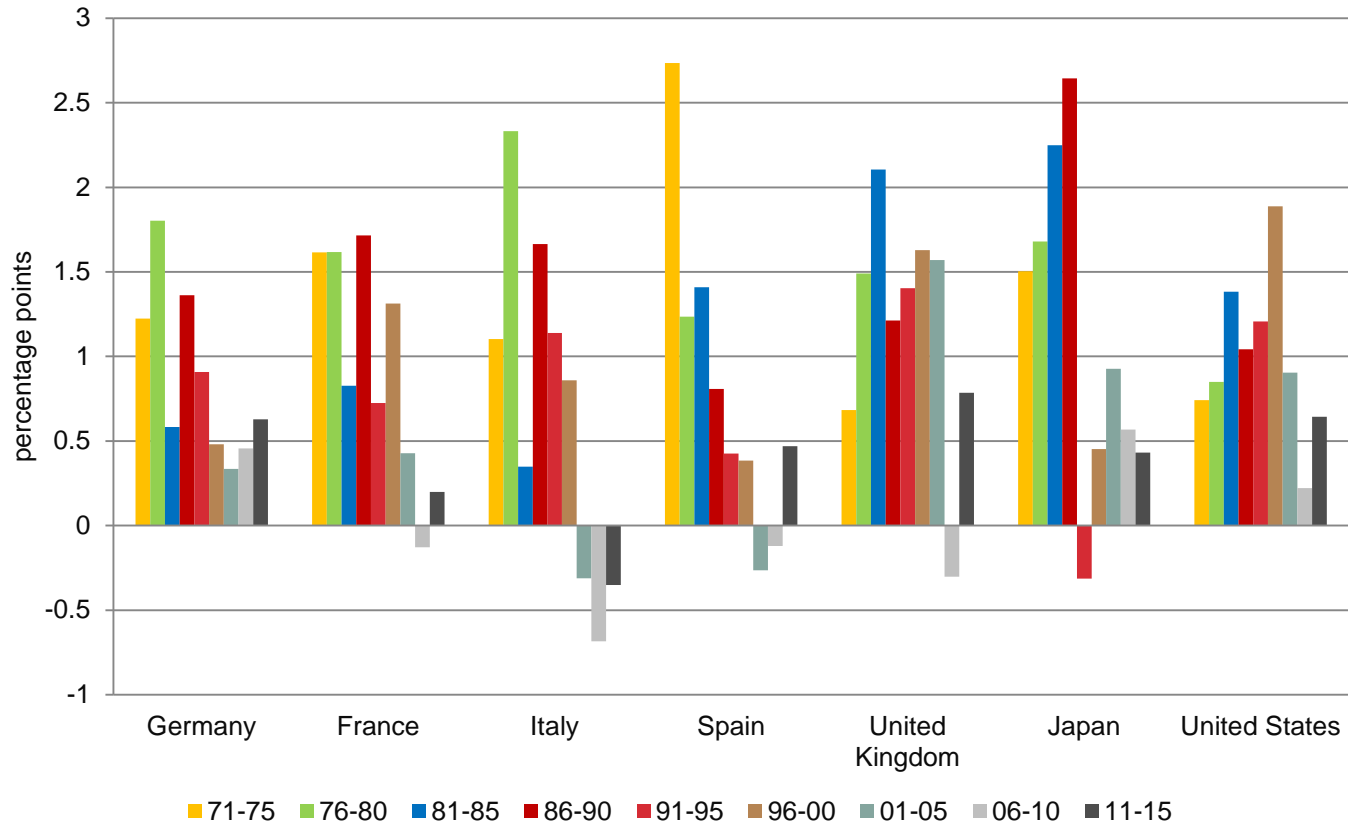
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Components of labour productivity change



Source: SVR, 2015, Abb. 90

TFP growth, 5y averages, 1976-2015



Source: AMECO database