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Productivity: Improving the conditions for growth

German Productivity Report 2019

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GCEE and IMFS, Frankfurt

Workshop for the National Productivity Boards
Brussels, European Commission, November 14, 2019

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Overview

1. National productivity board
2. Productivity growth and investment in Germany
3. International comparison and convergence
4. Possible causes of the productivity slowdown
5. Policy implications

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1. National productivity board

European Commission: NPB Role & Mandate

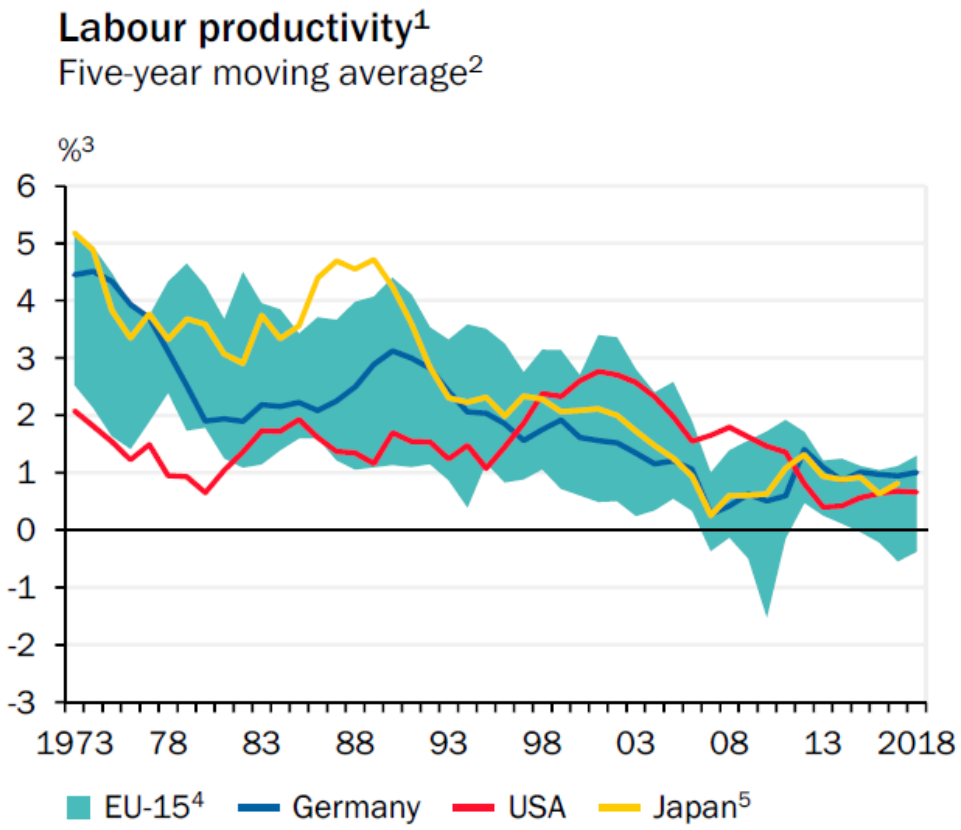
National Productivity Boards are independent institutions that help to analyse economic productivity and competitiveness developments and challenges.

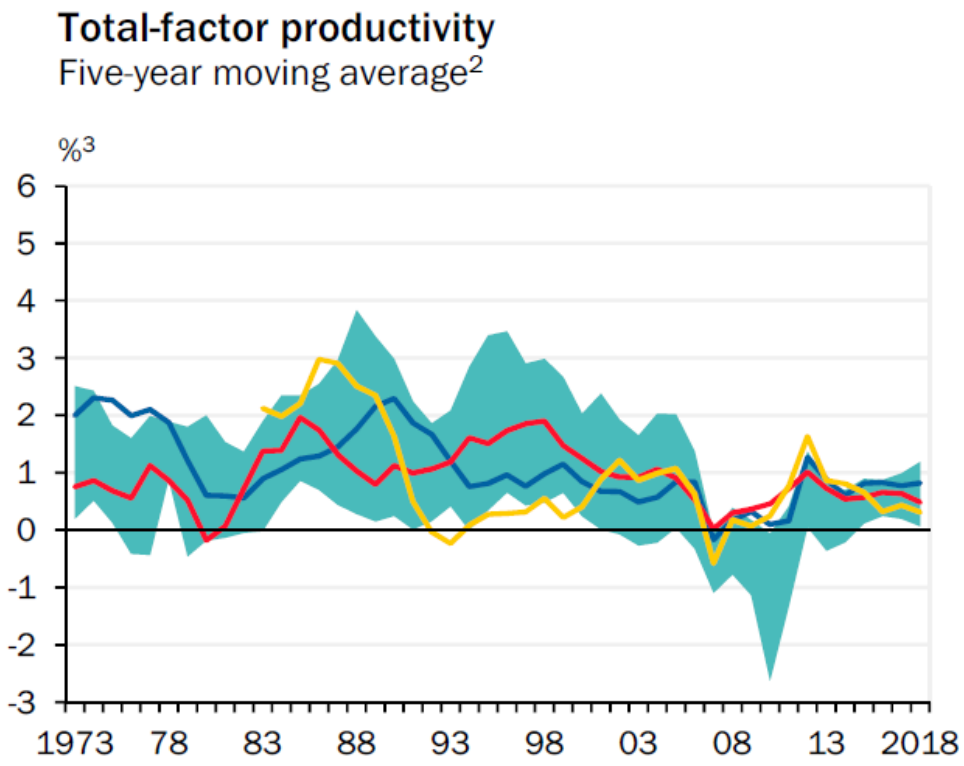
..

Potential economic growth in the euro area and in the EU as a whole has slowed considerably since the turn of the century. This trend is mainly due to a decline in total factor productivity growth but in recent years has also been affected by low investment.

Europe's future economic growth prospects will increasingly depend on its ability to raise productivity. This requires well-balanced policies to support innovation, increase skills, reduce labour and product market rigidities and allow a better allocation of resources.

Declining productivity growth: An international phenomenon





1 – GDP per hour worked. 2 – For Germany calculations by the GCEE, otherwise calculations by the European Commission. 3 – Year-on-year change. 4 – Range excluding highest and lowest values. 5 – Data available for labour productivity up to 2017 and for total-factor productivity from 1980 onwards.

GCEE appointed as NPB: 1st productivity report

Analyse driving factors of potential growth

- total factor productivity, capital intensity, investment, innovation, human capital and R&D.
- (re-)allocation of resources, rigidities, creative destruction and competition, institutions (rule of law, education, financial system).

Analyse how productivity and competitiveness hang together, i.e.

- non-price competitiveness, which includes how firms manage to compete globally with innovative products
- price competitiveness, which may decline if pay rises outpace productivity gains

GCEE appointed as NPB: 1st productivity report

Explore policies

- that help bring GDP to potential and raise potential
- promote institutions that create & distribute knowledge, a business environment conducive to innovation and entrepreneurship, and a broad approach to private and public investment, including human capital.

Such policies

- may also help drive current account closer to balance
- but current account balance is not a target in itself that should be pursued at the expense of lower potential growth or a wider output gap
- and policies are subject to regard for free collective wage bargaining.

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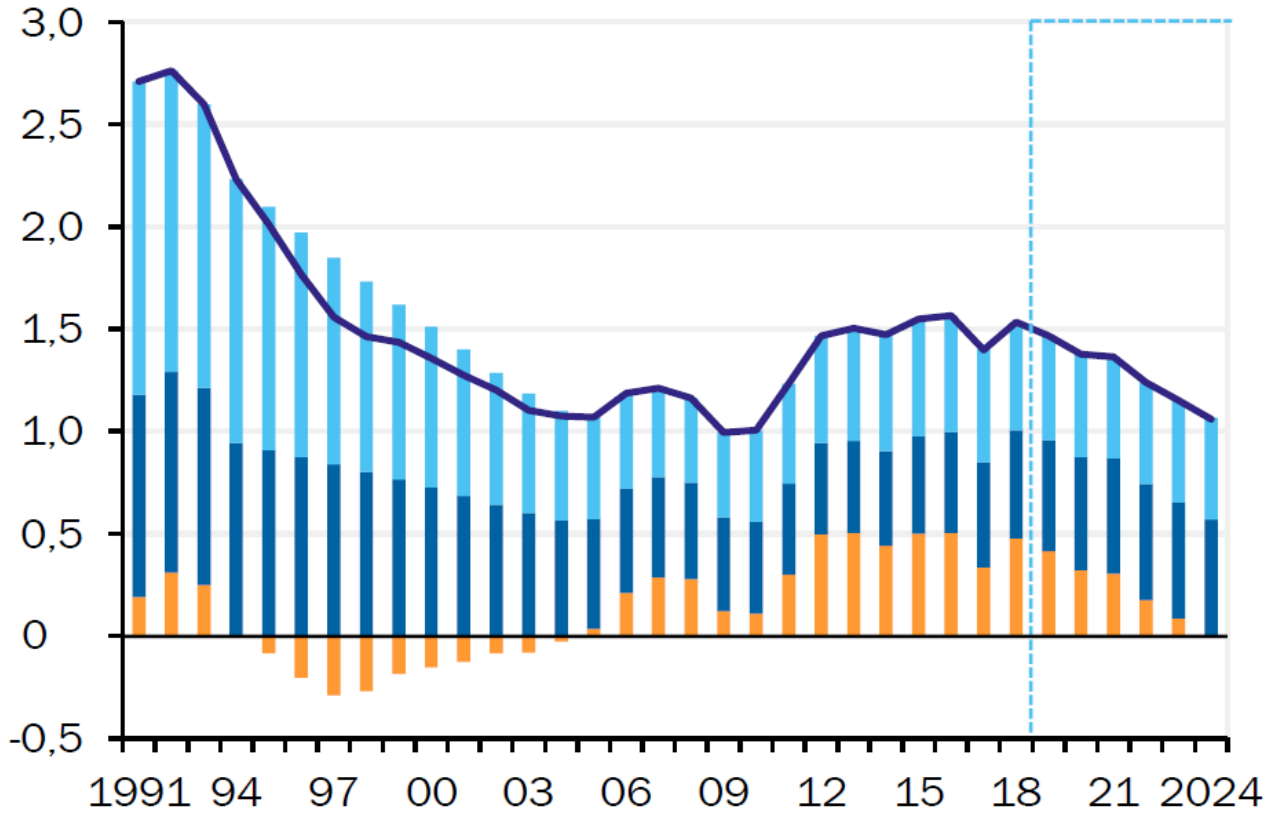
2. Productivity growth and investment in Germany

Drivers of potential growth in Germany

Percentage points



Potential growth

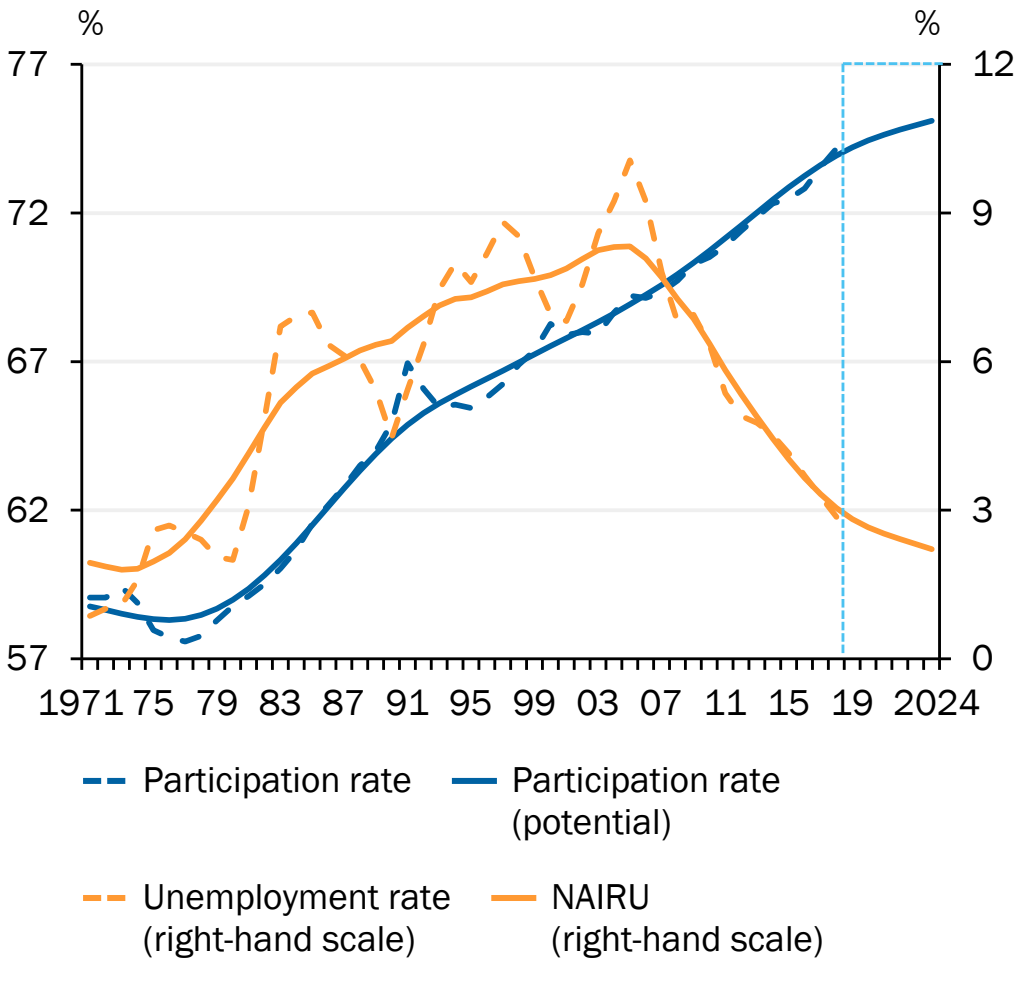
Contribution of labor volume

Contribution of capital

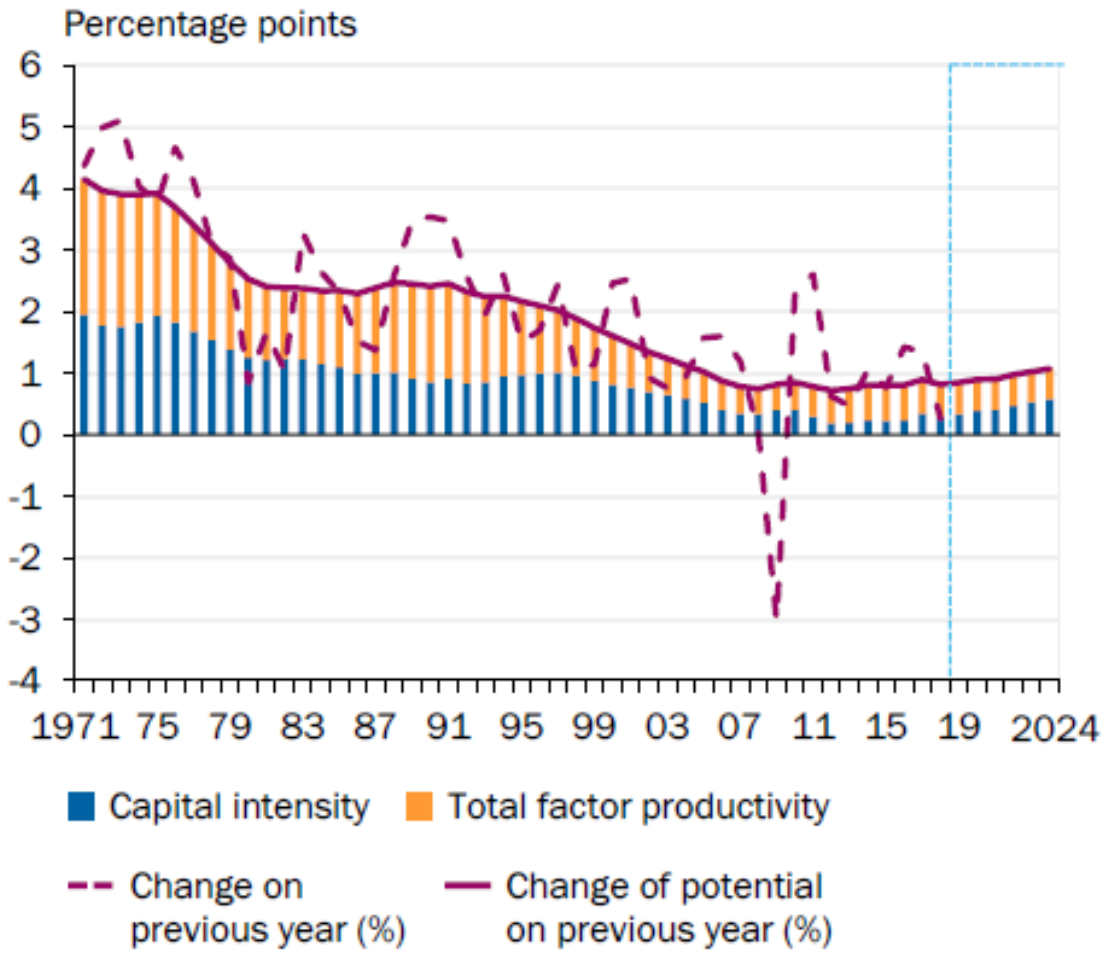
Total factor productivity

Demography weighs on growth prospects along with decline in productivity

Participation and unemployment rate

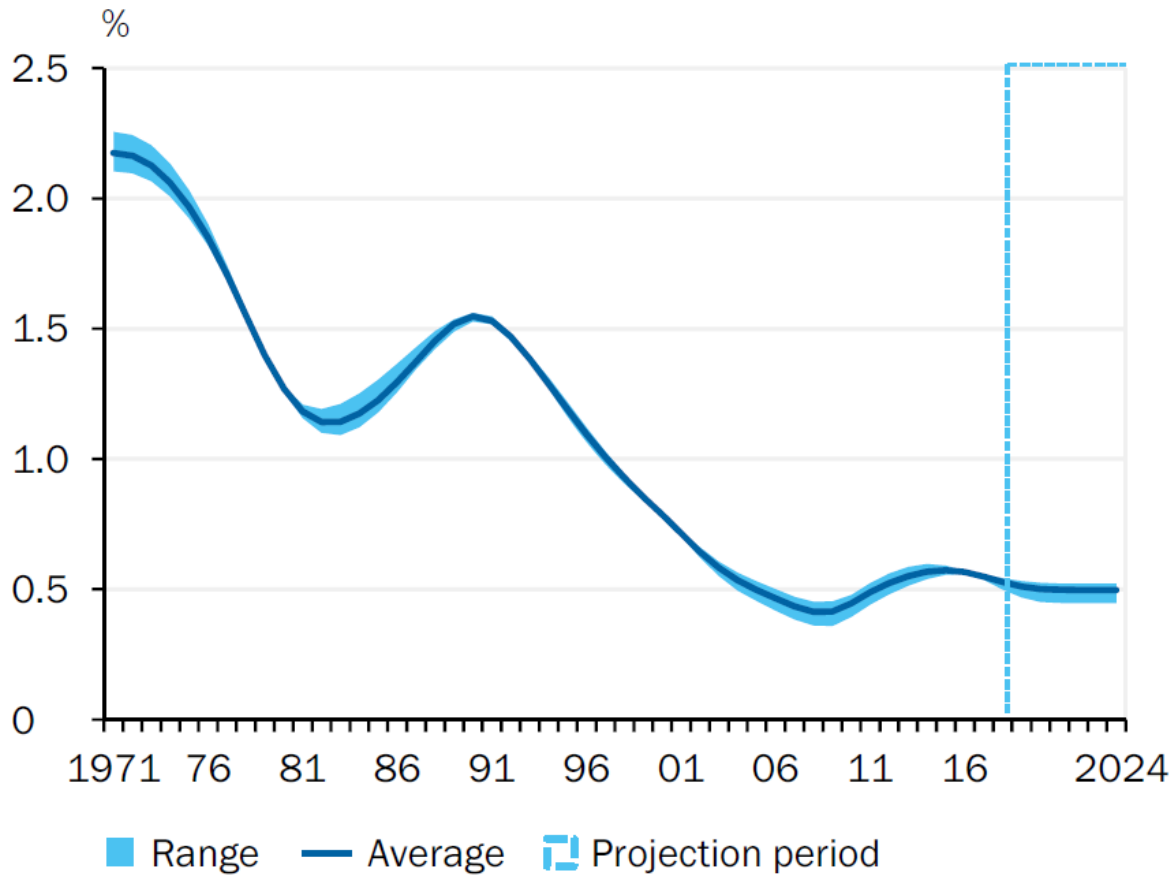


Growth of productivity per working hour



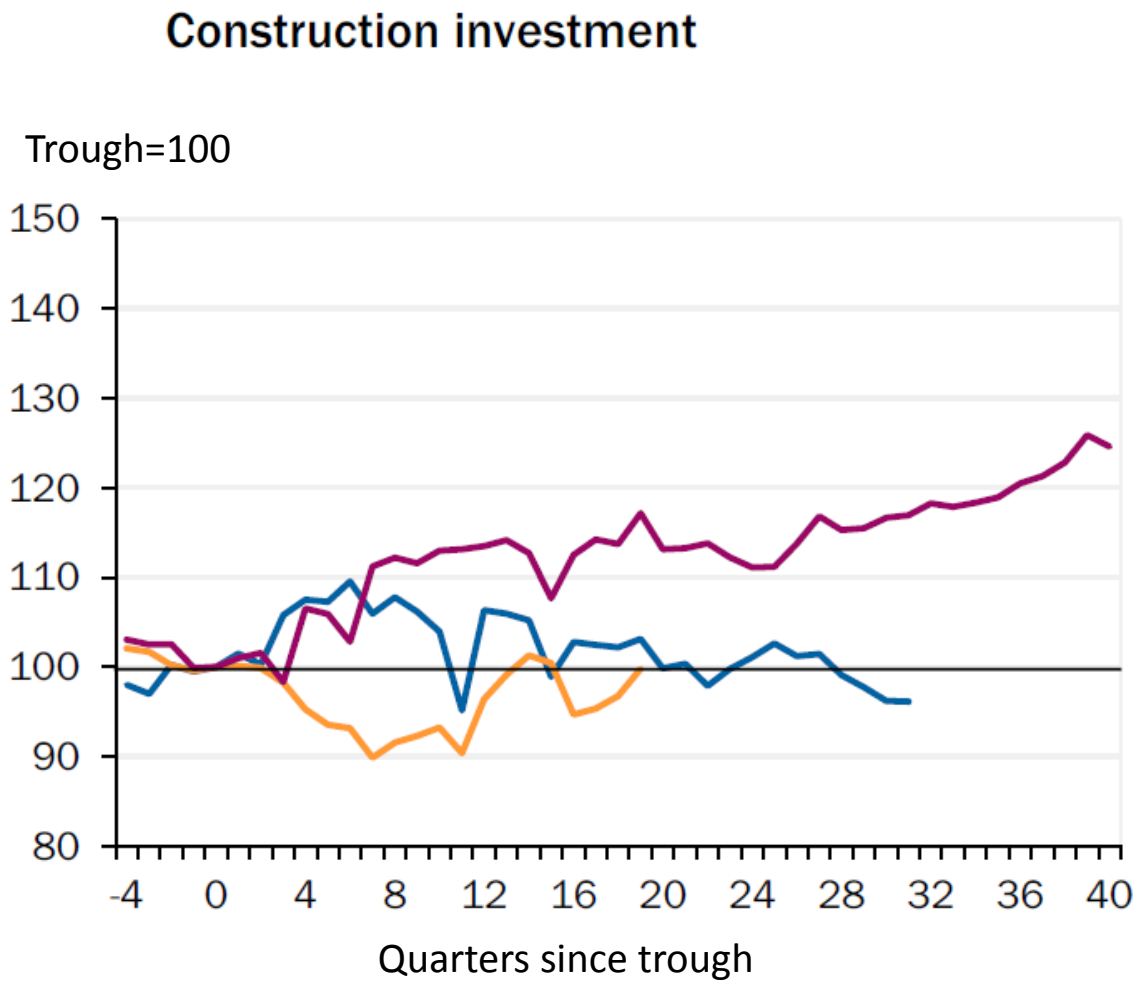
Technological progress has slowed down

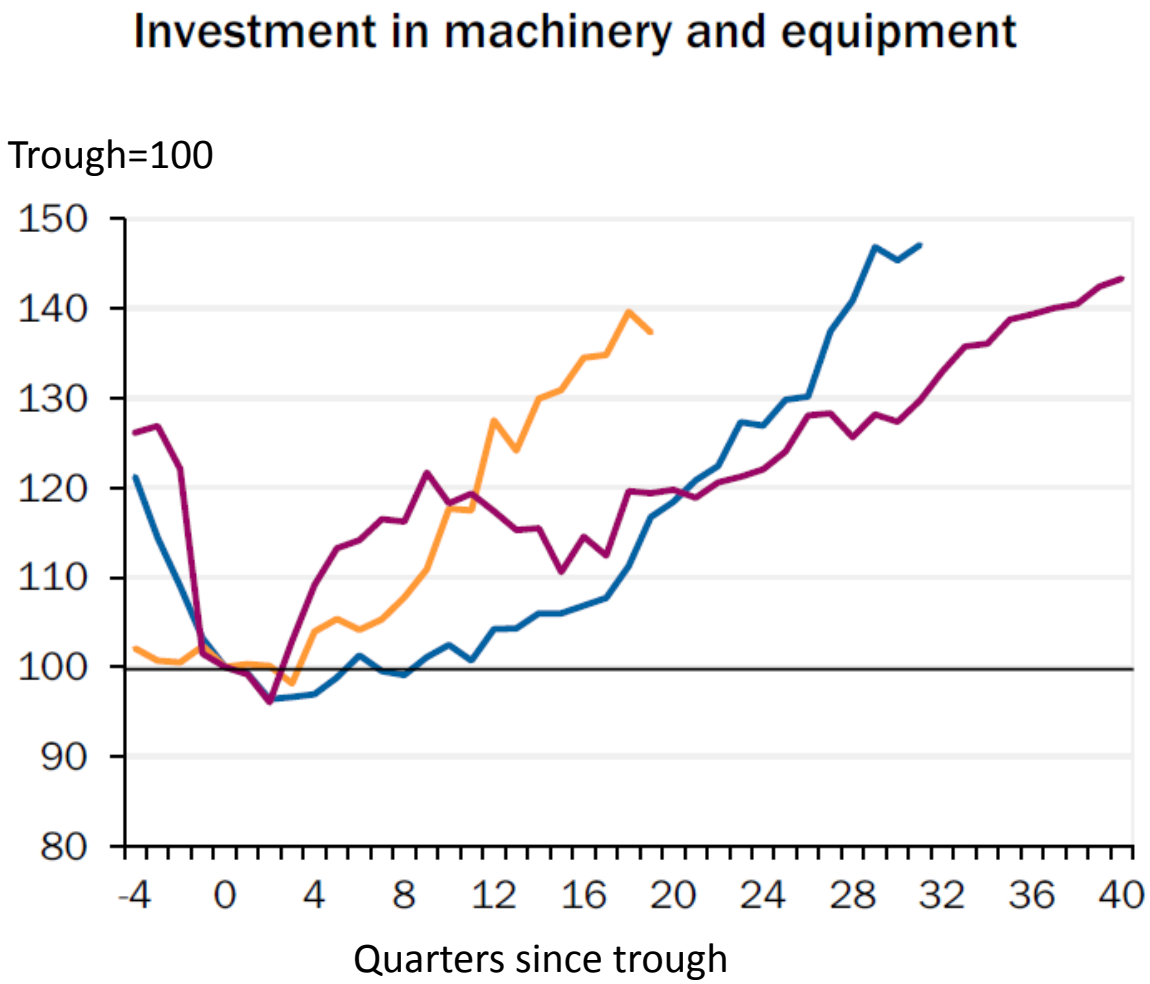
Trend growth in total factor productivity



- Complex interplay between investment and productivity
  - Higher capital intensity increases (labor) productivity
  - Higher productivity (TFP) increases return on capital
- Structural decomposition
  - Solow decomposition
  - DSGE model

Investment has risen more and partly faster following the 08/09 recession than preceding recessions

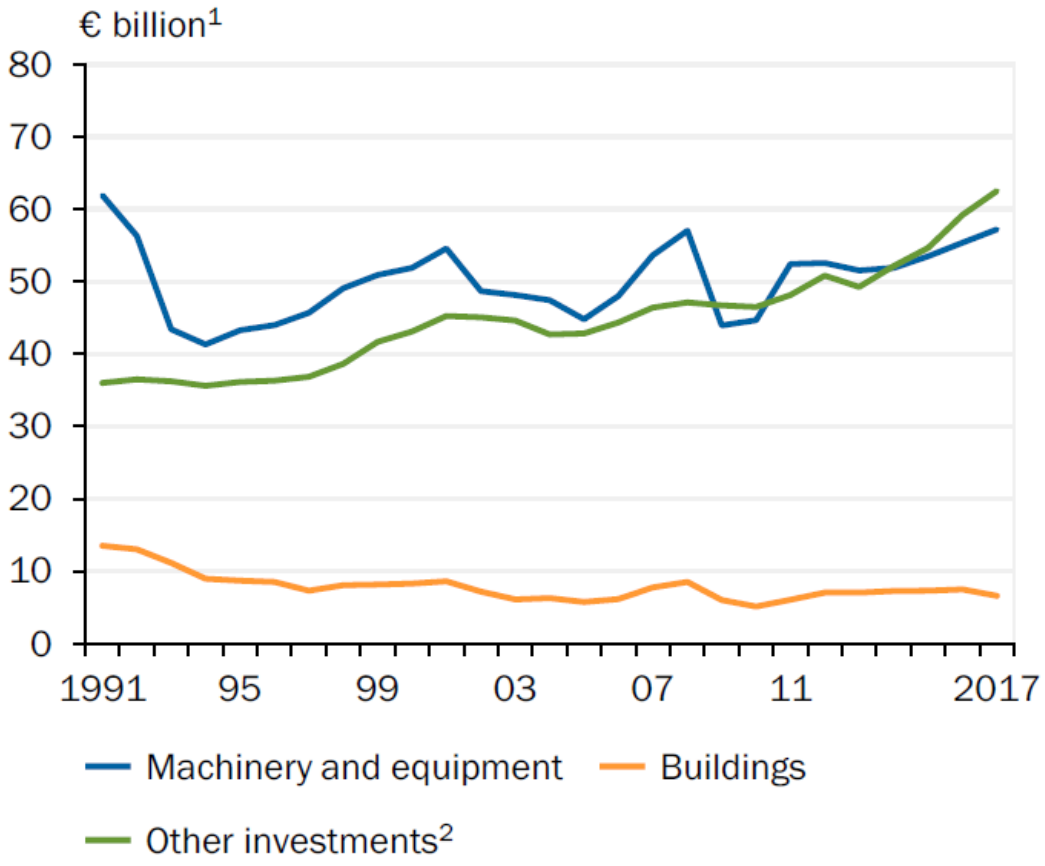




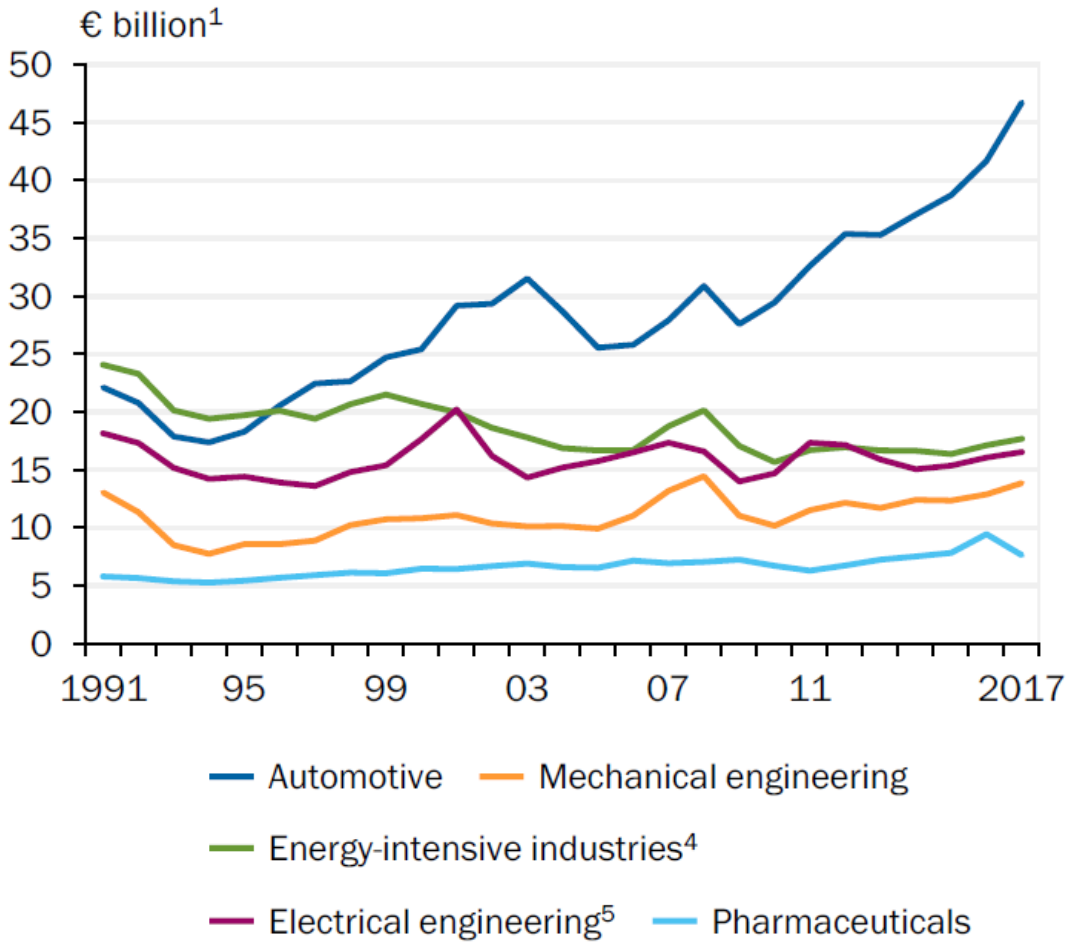
1993Q2 bis 2001Q1 2003Q2 bis 2008Q1 2009Q2 bis 2019Q2

Breakdown of investment in the manufacturing sector

Breakdown by capital goods

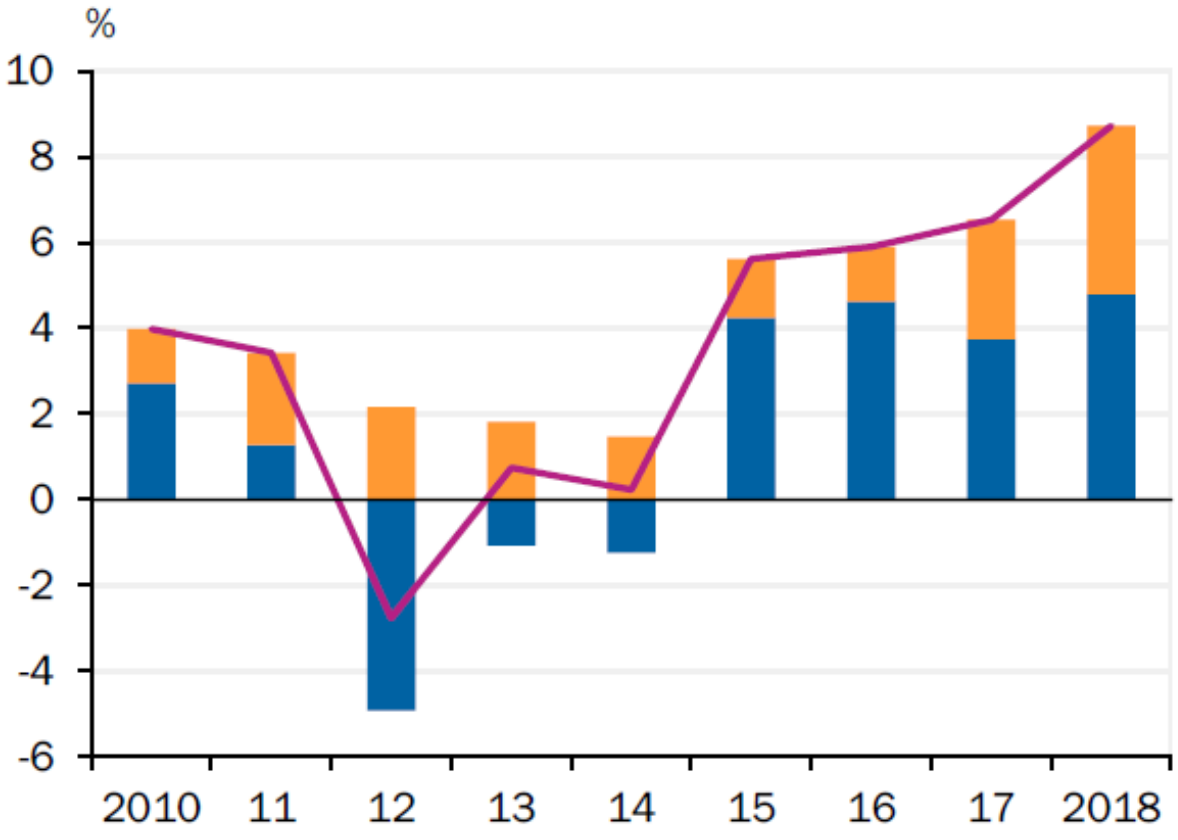


Breakdown by selected sectors



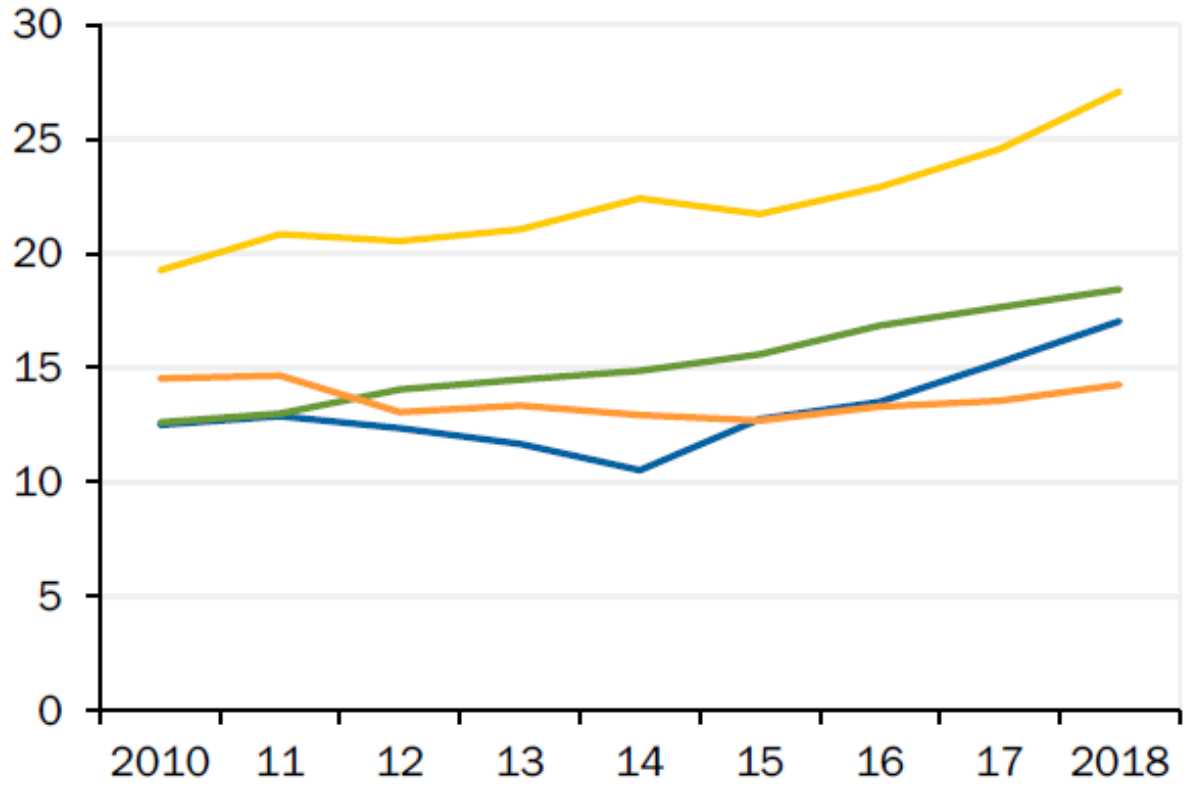
Public investment up substantially in recent years
…but constrained by excess capacity utilization in construction

Public Investment



In current prices Price adjusted Deflator

Public Investment by Category



R&D Equipment Building construction
Civil eng. & roadways construction

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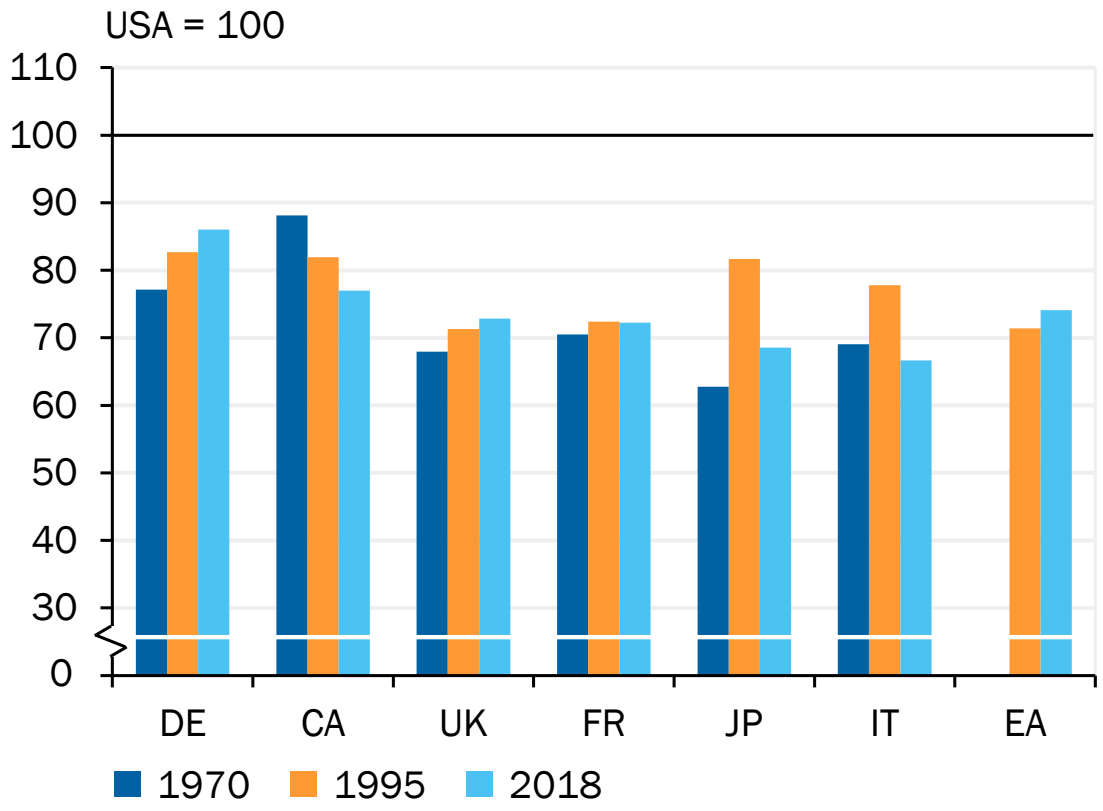
2. International comparison and convergence

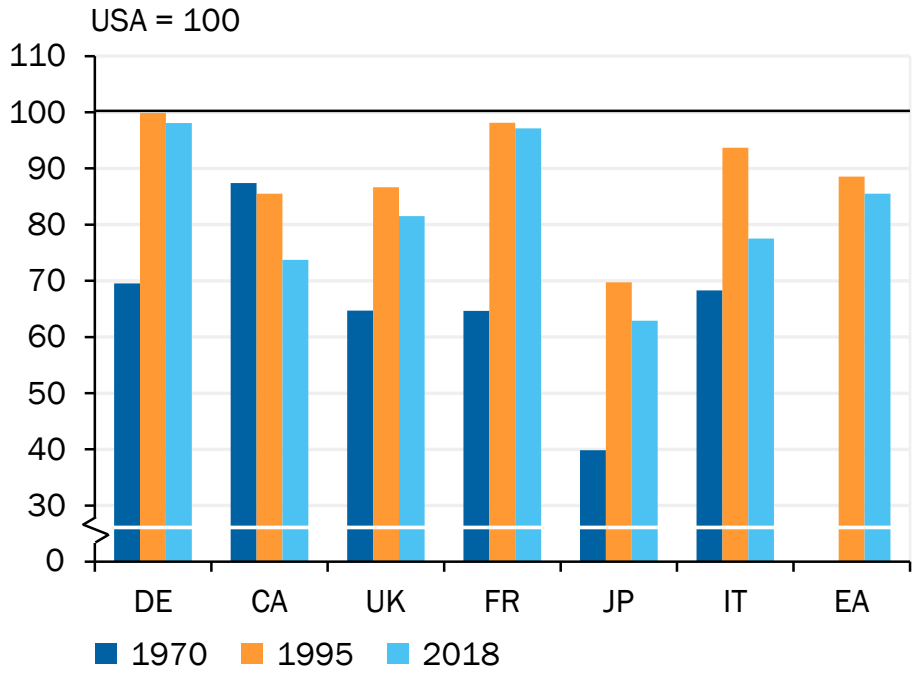
GDP per capita & hours worked: Some convergence but still substantial cross-country differences

GDP per inhabitant relative to the US



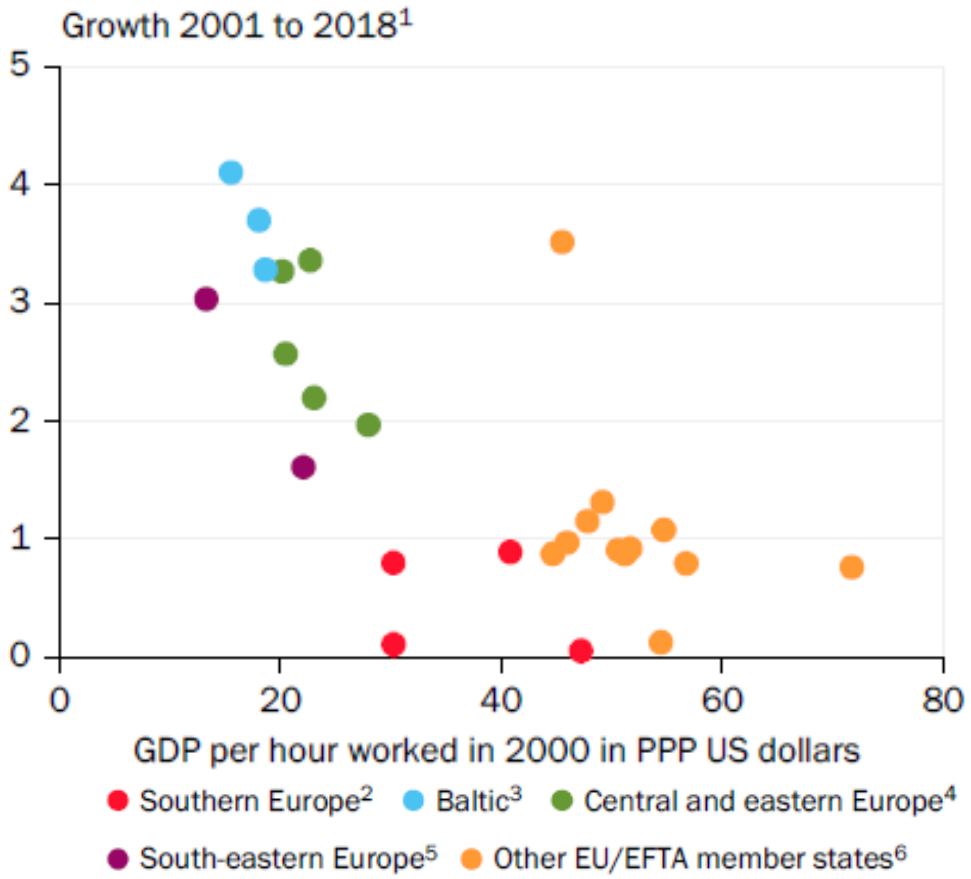
Source: OECD

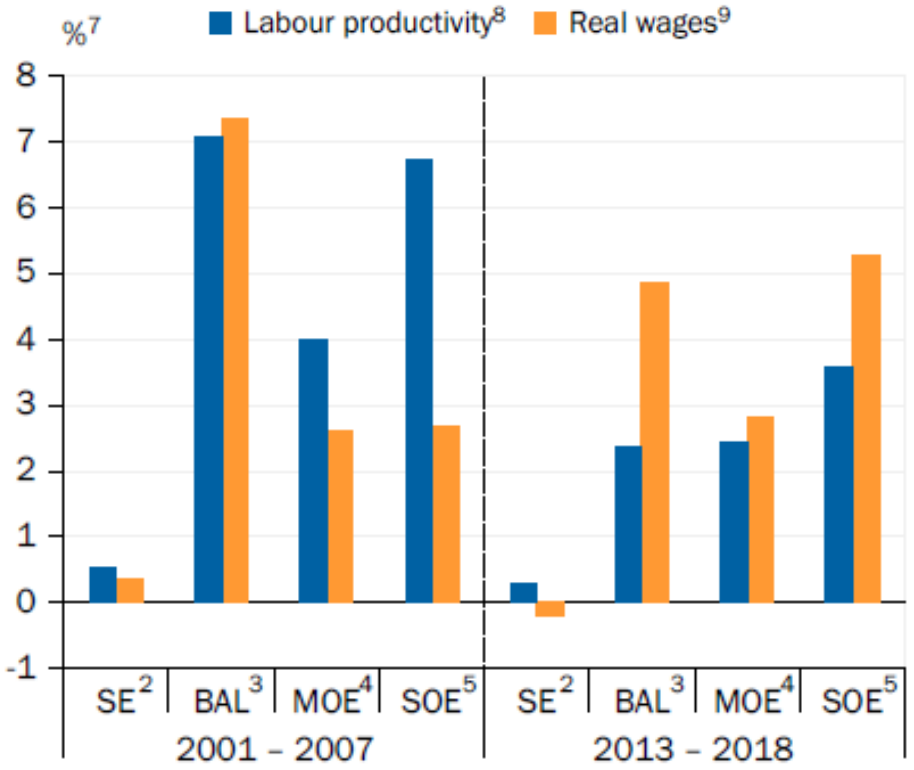
GDP per hour worked relative to the US



Source: OECD

Baltics, central and eastern Europe catching up, southern Europe falling behind

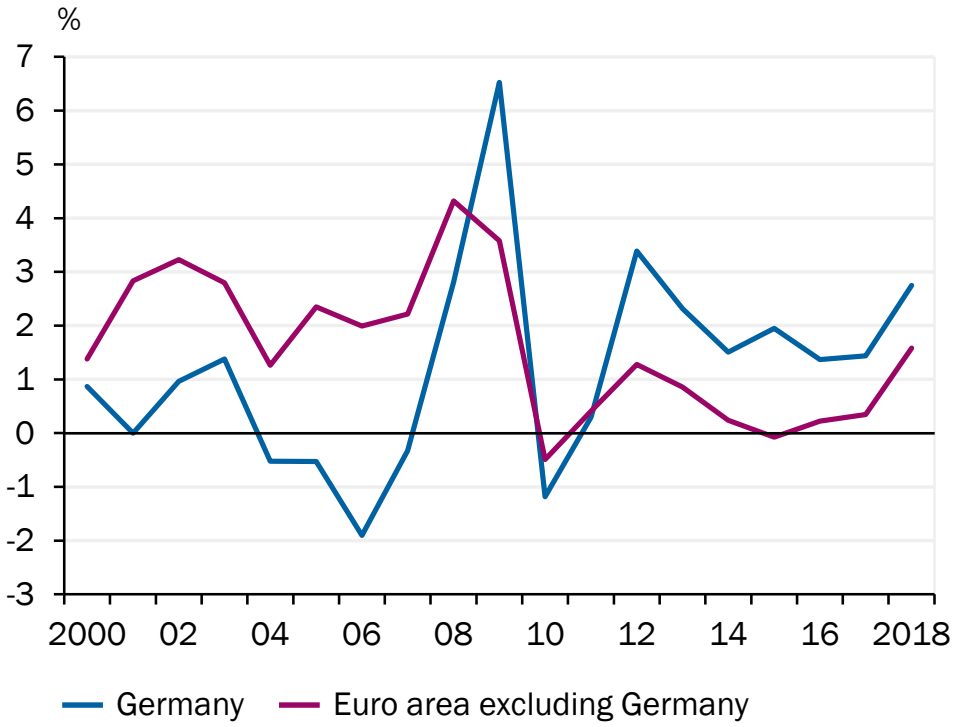




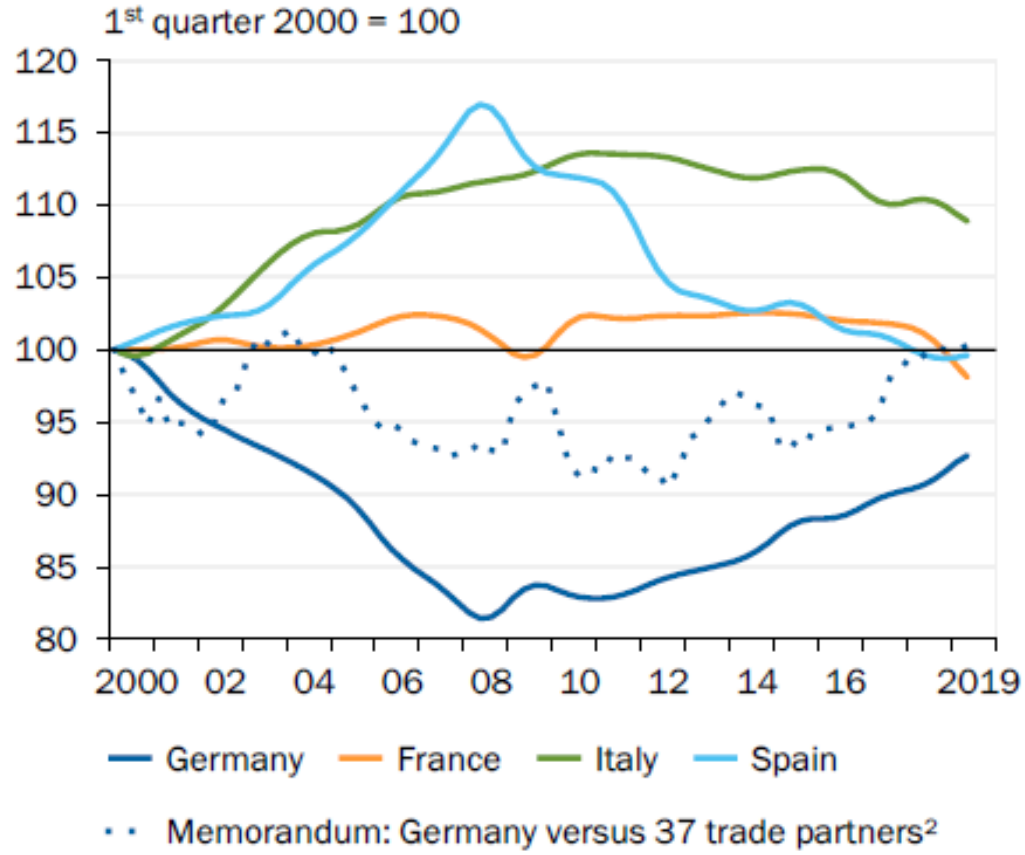
1 – Average annual growth in GDP per total hours worked in PPP US dollars. Countries with fewer than one million inhabitants have not been included. 2 – Greece, Italy, Portugal, Spain. 3 – Estonia, Latvia, Lithuania. 4 – Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia. 5 – Bulgaria, Croatia, Romania. 6 – Austria, Belgium, Denmark, Germany, Finland, France, Ireland, Netherlands, Norway, Sweden, Switzerland, United Kingdom. 8 – Average annual change. 9 – Real GDP per hour worked. Country groups weighted according to total hours worked. 10 – Compensation of employees deflated using the GDP deflator per hour worked (employees). Country groups weighted according to hours worked (employees).

Price competitiveness: In Germany wage moderation in early 2000s, robust wage growth since financial crisis

Unit labour costs in Germany and in the euro area

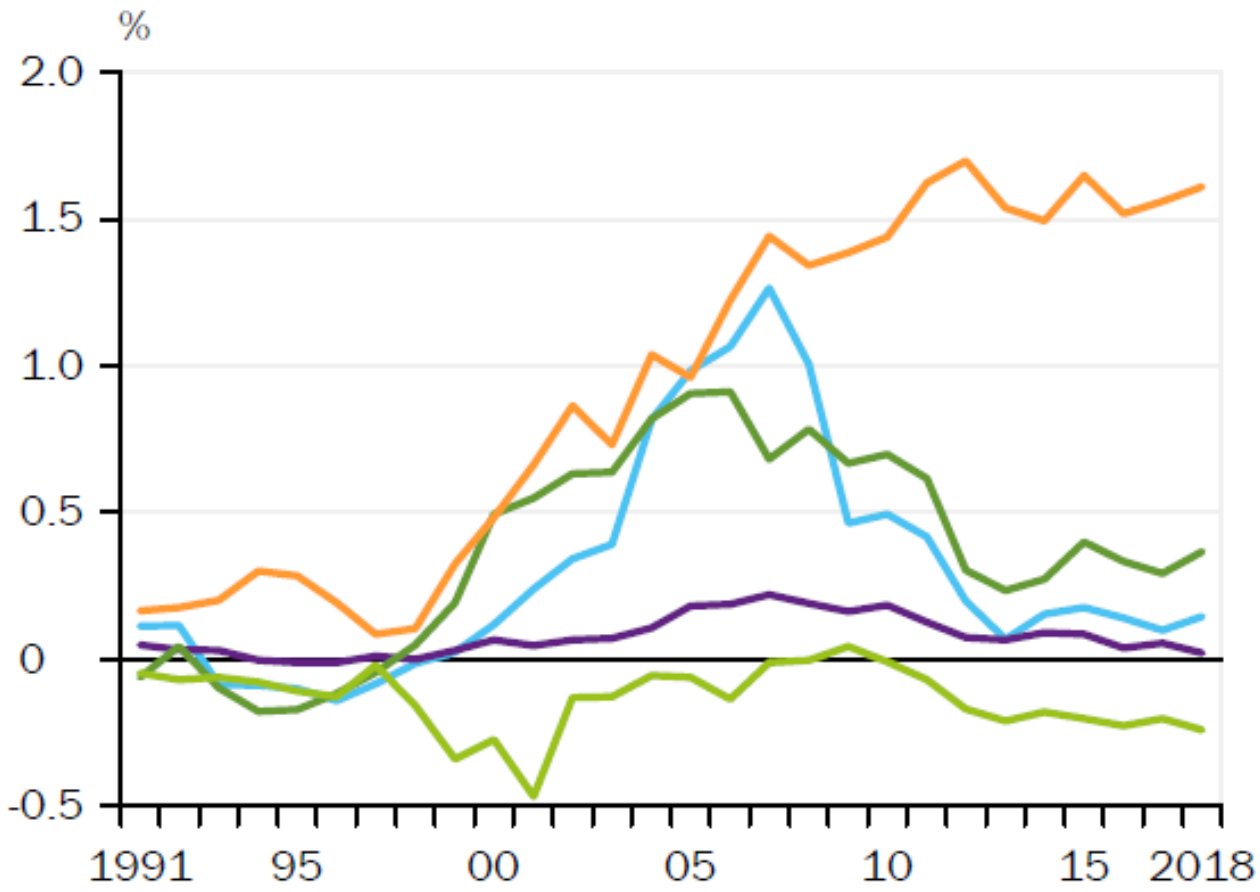


Real effective exchange rate[1]
versus the euro area



Sources: Eurostat, own calculations

German current account vs selected euro area countries: Balancing except vs France



France

Italy

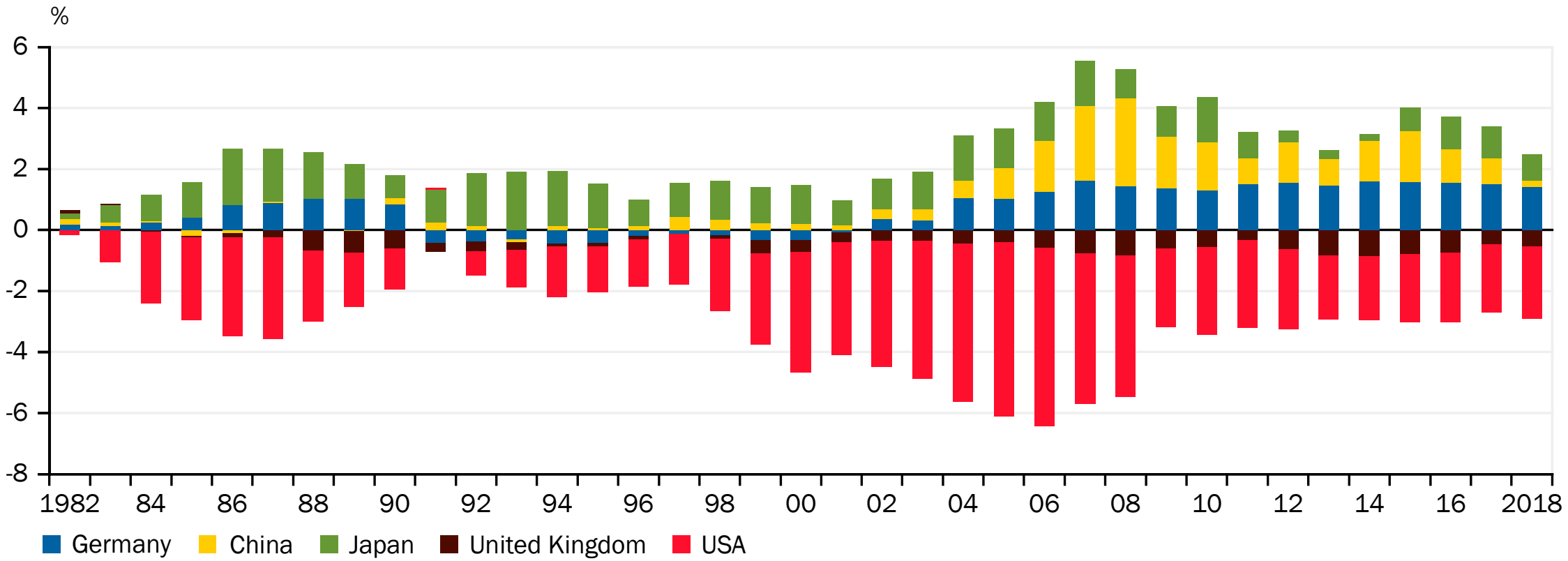
Portugal

Spain

Ireland

Current account: An international perspective

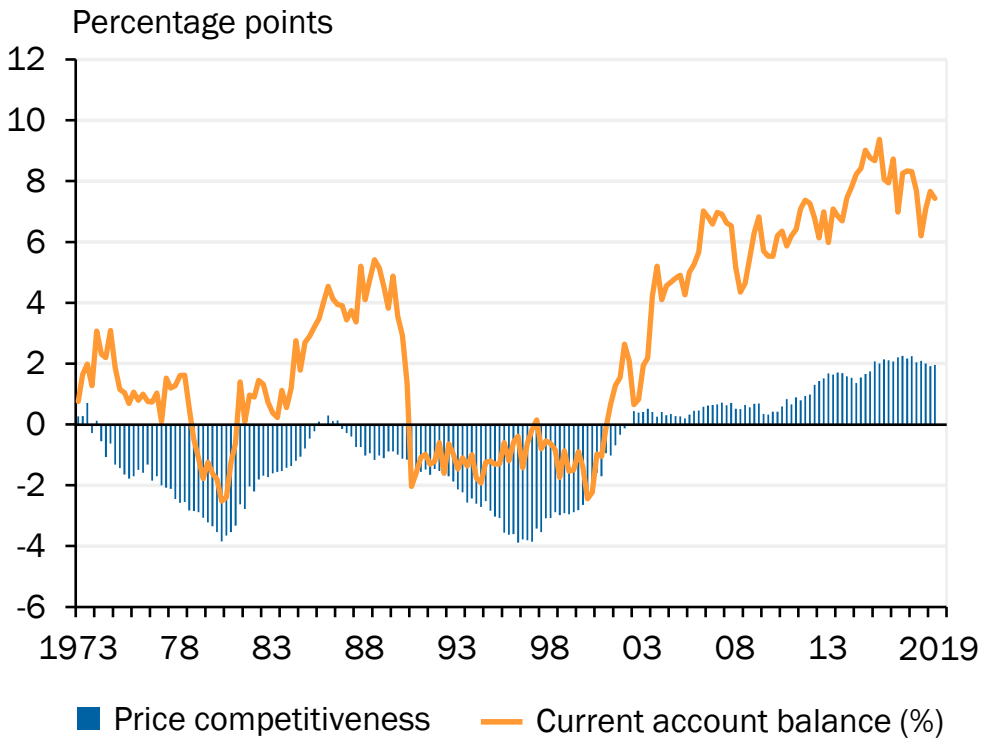
Long-term comparison of the current account balances of selected countries



Sources: IMF, own calculations

German current account only partially explained by price competitiveness

Contribution of price competitiveness to the current account balance



- Many factors behind current account
  - Demography
  - Wage bargaining
  - Exchange rate
  - Increase in corporate savings, foreign investment in global value chains
  - Decline in government borrowing
  - Conditions outside the euro area

Source: own calculations

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4. Possible causes for productivity slowdown

Productivity paradox of digitalization

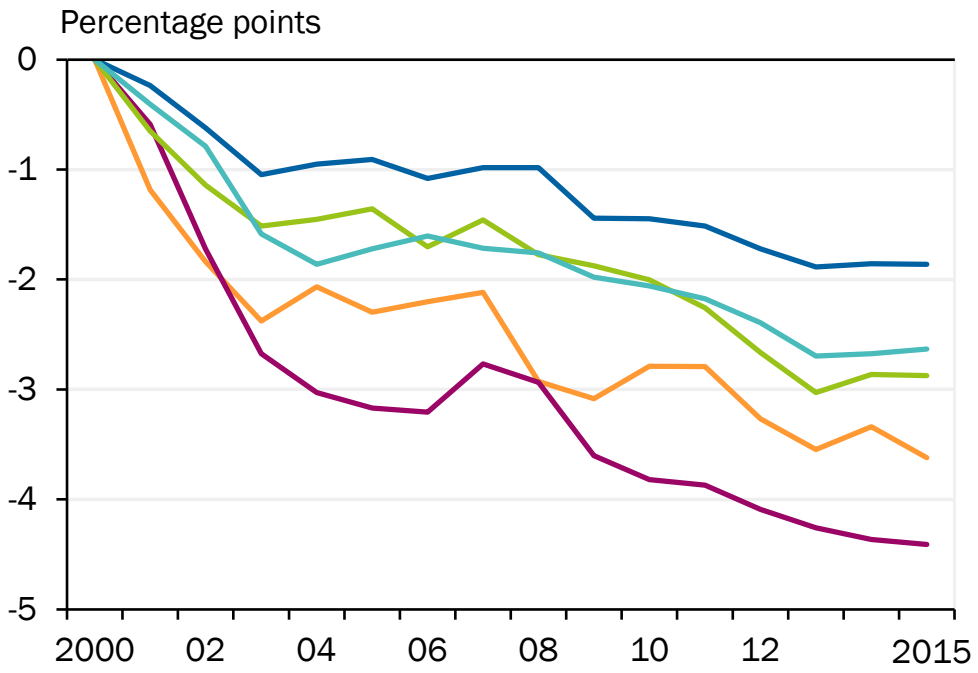
- Slowdown of productivity growth despite new information and communication technologies
- Explanations
  - Lags in technology adaption
  - Potential of new technologies and digitalization overestimated
  - Measurement problems concerning productivity growth

Weak business dynamics

- Aggregate productivity depends on efficient allocation of production factors
- Directing production factors to more efficient firms is an important driver of productivity growth
- Firm entry and exit rates have declined in Germany since 2000
  - Across business sectors
  - Positive link between business dynamics and productivity growth at regional level

Broad-based decline in business dynamics

Start-up rate

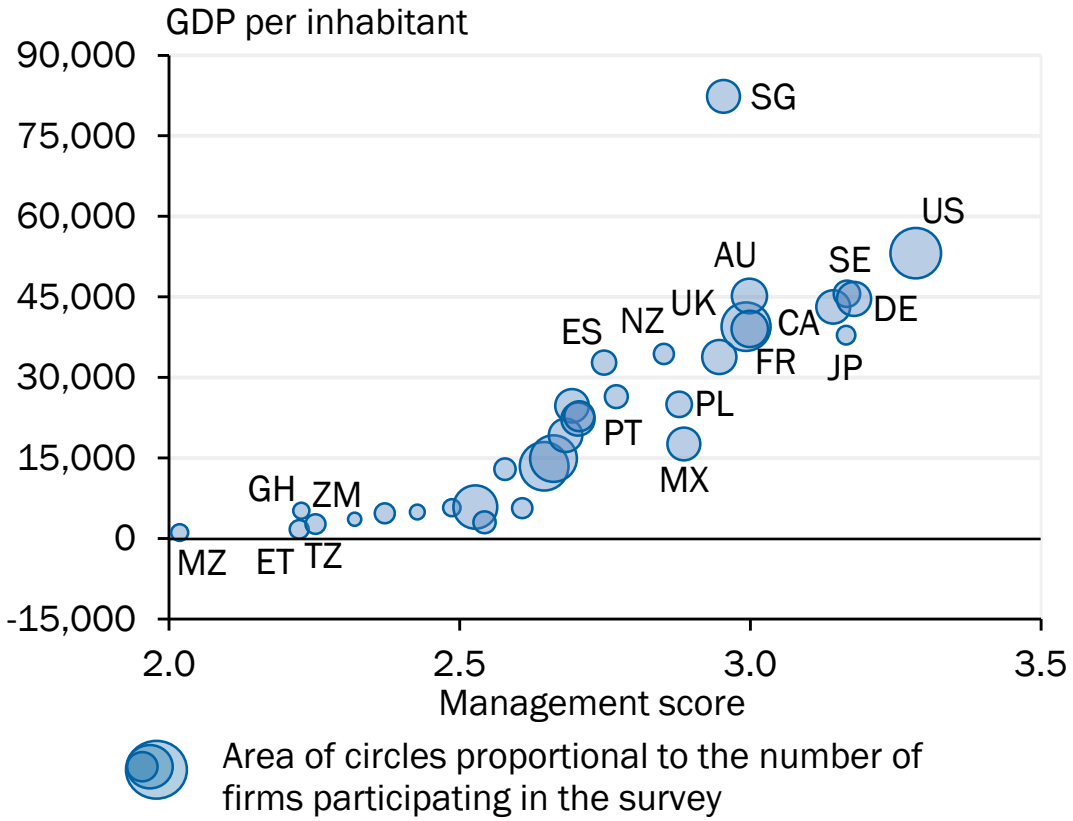


Manufacturing, construction, trade& hospitality & telecom, finance & consulting services, public & other services

- Possible explanations
  - Weaker competition policy
  - Production and labor market regulation
  - Low interest rate environment / "zombification" of firms
  - Demography
- International phenomenon

Management skills as a factor behind productivity

Management and GDP per inhabitant in 2015

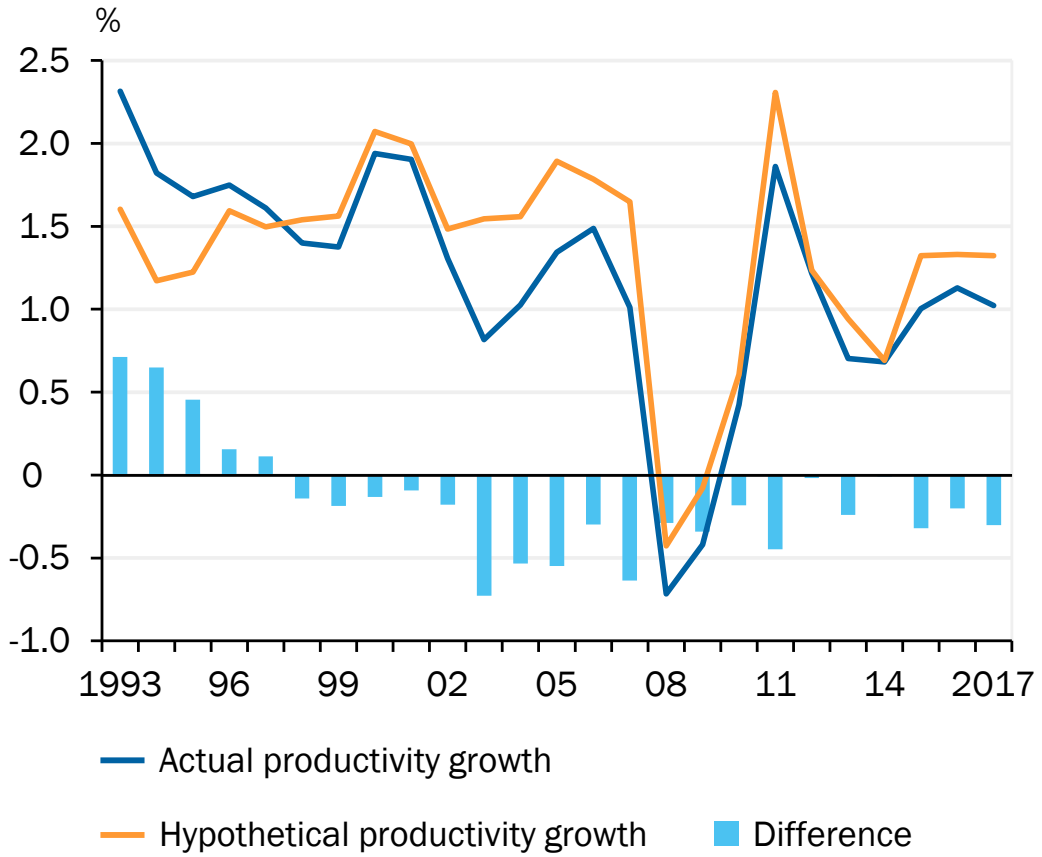


Sources: IMF, World Management Survey, own calculations

- One explanation for productivity differences
  - Development and adaption of new technologies
  - Protection of intellectual property (patents / complex designs)
- Positive spillovers from efficient firms (knowledge diffusion)
- Germany relatively strong (hidden champions)

Various composition effects

Counterfactual growth comparison



Sources: Federal Statistical Office, own calculations

- Sectors with low productivity growth become more important
- Integration of low-qualified workers
- Demographic composition
- Outsourcing / Offshoring

Productivity enhancing investments

- Capital is not a homogenous factor
  - Construction responsible for earlier decline in capital intensity, probably little effect on productivity relative to R&D and information technology
  - Human capital investment, and intellectual property increasingly important, Germany strong in manufacturing but less in knowledge-based services
- Additional factors
  - Business environment, including bureaucracy / regulation / costs,
  - Tax policy, infrastructure
- Demography / productivity

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IV. Policy implications

Economic policy: Need to address multiple challenges to improve growth potential

- Weaker business dynamics
  - Remove barriers to market entry
  - Address deficits at provision of private venture capital
- Demographic change
  - Lift unused labor market potential / Increase incentives to work
  - Life-long learning / Early childhood education
- Investment weakness
  - Make Germany a more attractive place for businesses
  - Identify and prioritize growth-friendly expenditure
- Productivity slowdown international phenomenon
  - Strengthen European competition policy
  - Strengthen multilateral trade system

Current account

- Level of current account not in itself a target for economic policy at the expense of wider output gap, but guard against risks
- Effects of fiscal policy on current account moderate
- Creating favorable conditions for investment in Germany
  - Expected returns for investors apparently too low
  - Competitive tax system / Reliable regulation policy
  - Reduce barriers to entry in services
- No national monetary policy in a currency union
  - Stabilization through national fiscal policy even more important
  - Additional focus on current account may be counterproductive

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