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The Macroeconomic Policy Mix in the euro area

Coping with Macroeconomic Vulnerabilities and Spillovers

Tokyo, Japan, 7 November 2016

The views expressed in this presentation do not necessarily reflect those of the ECB.

Overview

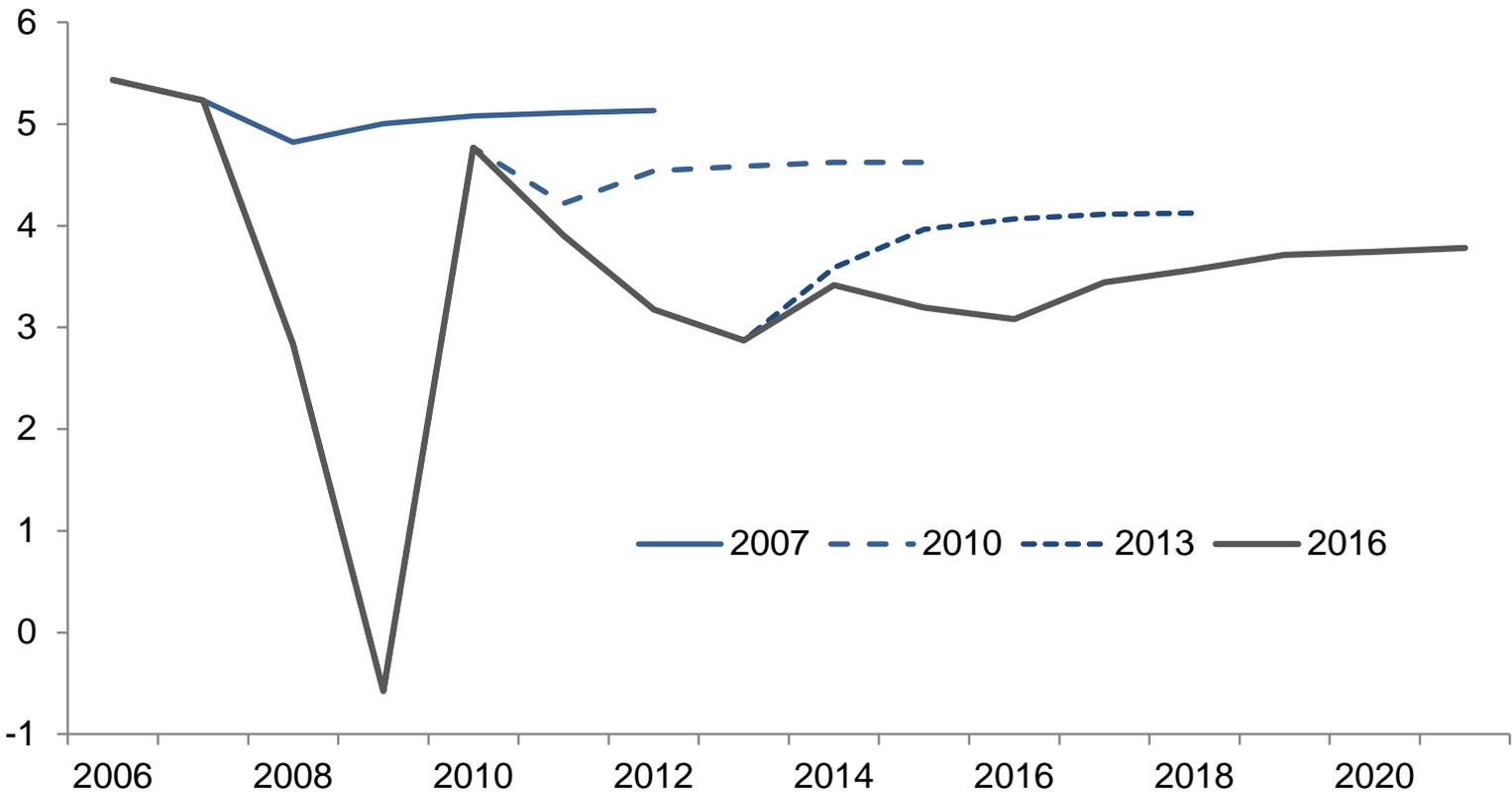|	
1	The new global context: low growth, low natural rate of interest
2	Monetary policy when the natural rate of interest is low
3	Other policies when the natural rate of interest is low

Overview

Real GDP growth - IMF projection vintages
(World, %)

Source: IMF; projections shown are the WEO fall vintage projections;
Data available: https://www.**imf**.org/external/pubs/ft/**weo**/**data**/**WEOhistorical**.xlsx

Developments started prior to the global financial crisis

GDP per hour worked, constant prices
(4 year moving average of annual growth)
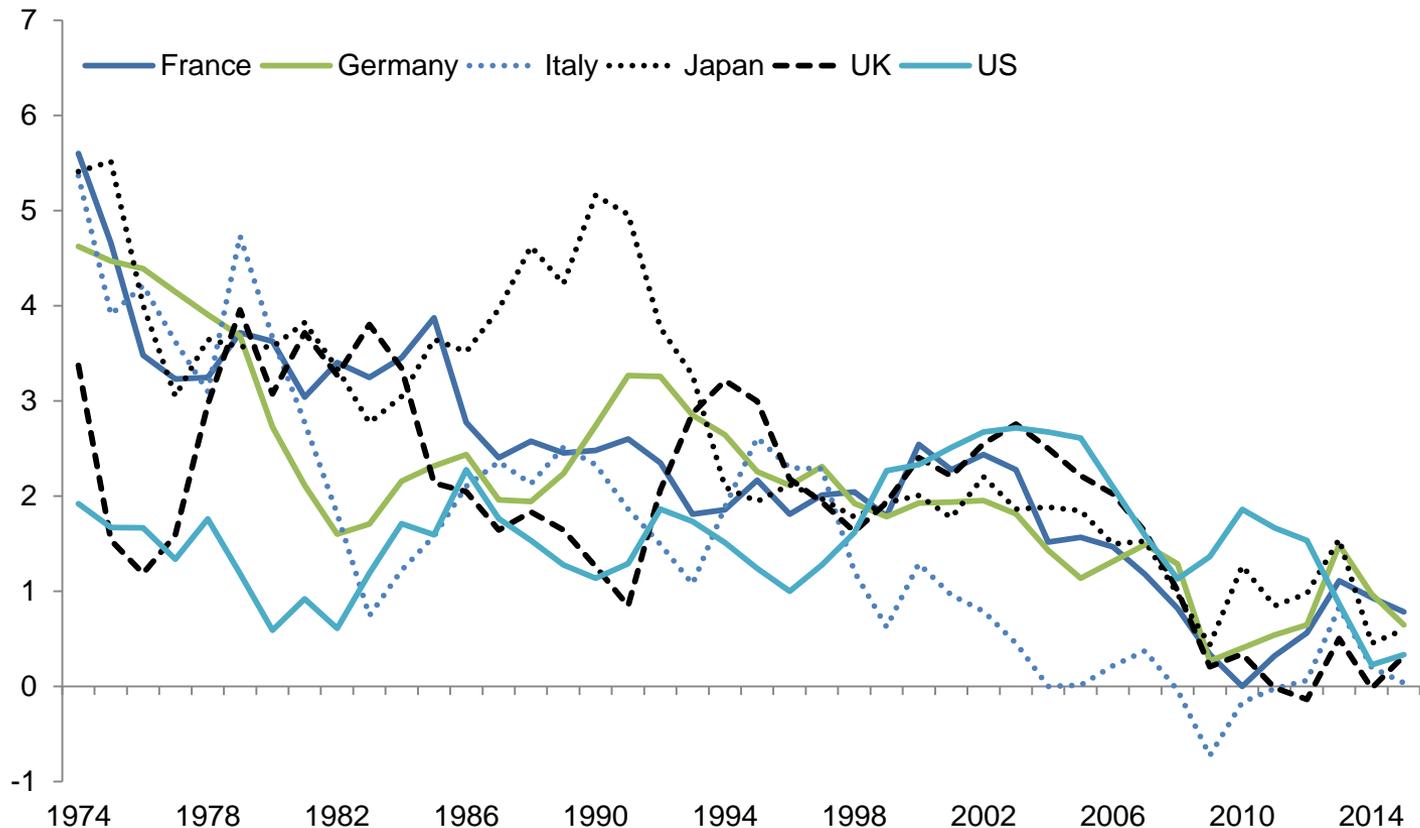
Legend: France, Germany, Italy, Japan, UK, US

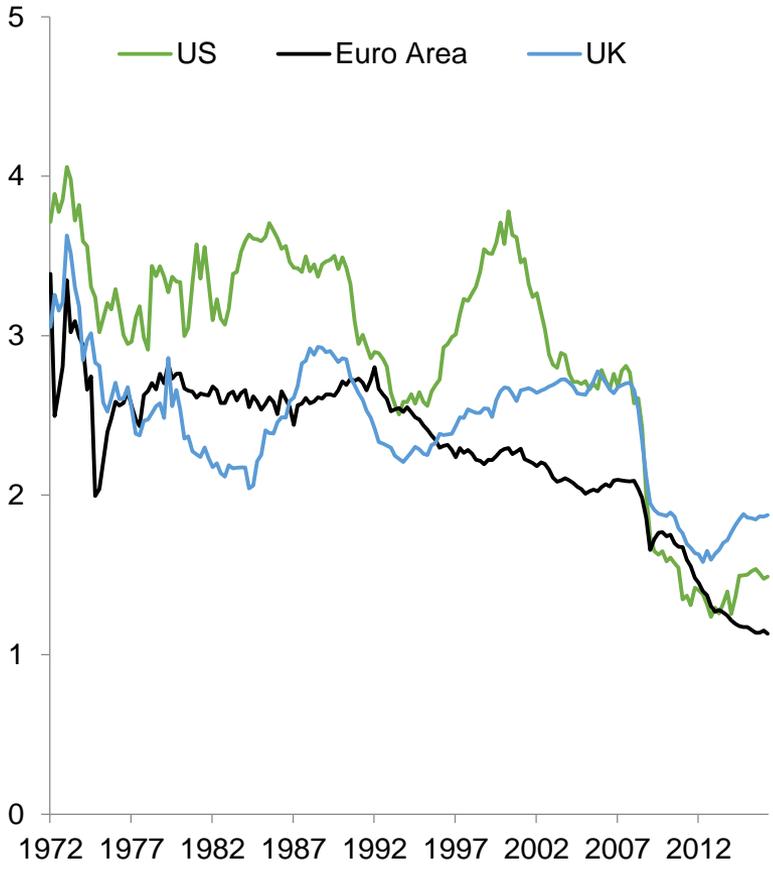# Significant decline in natural rate of interest

Natural real interest rate
(yield p.a.)
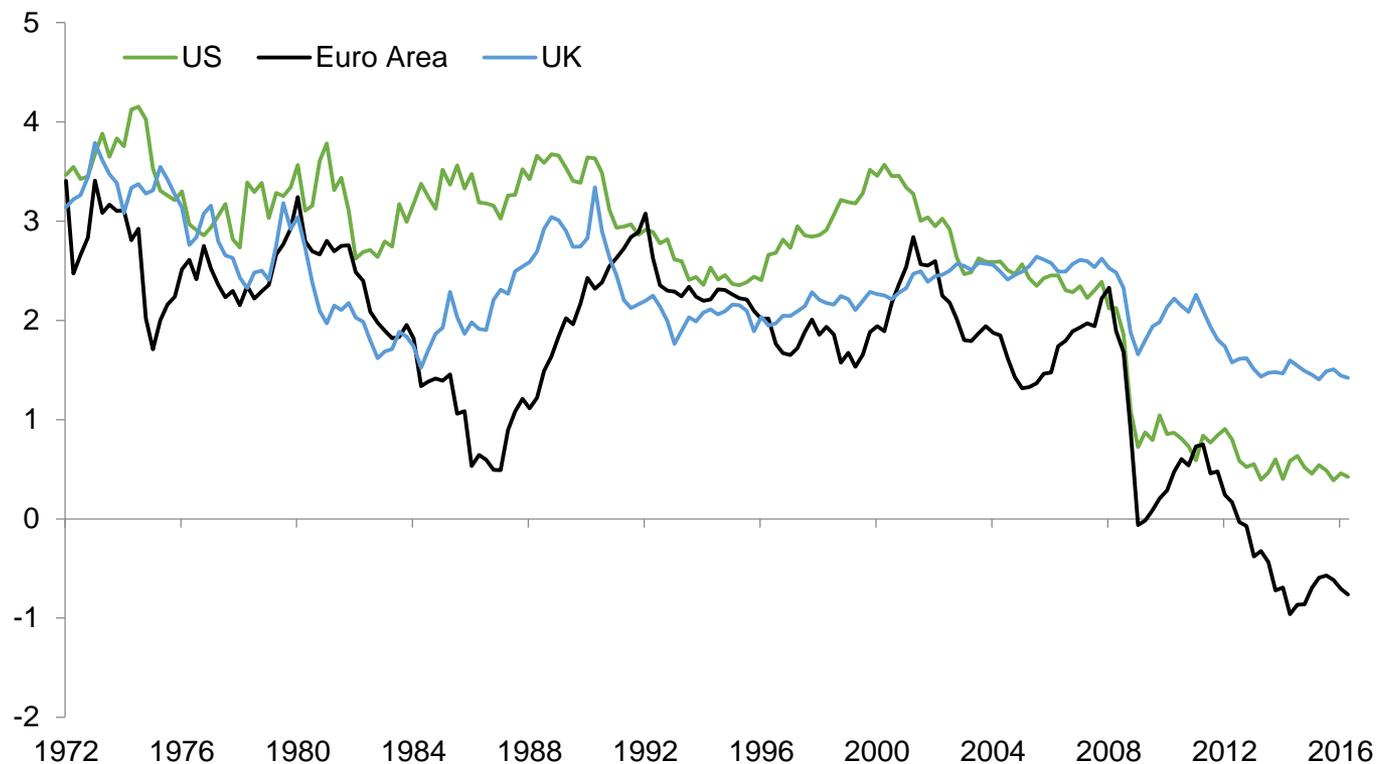
Note: Estimates from "Measuring the Natural Rate of Interest: International Trends and Determinants" Holston, Laubach and Williams, August 2016. Data available: http://www.frbsf.org/economic-research/economists/john-williams/
Last observation: 2016Q2 (quarterly data)

Components of Laubach/Williams natural rate estimates

Trend GDP growth
(contribution to natural rate)

Other determinants
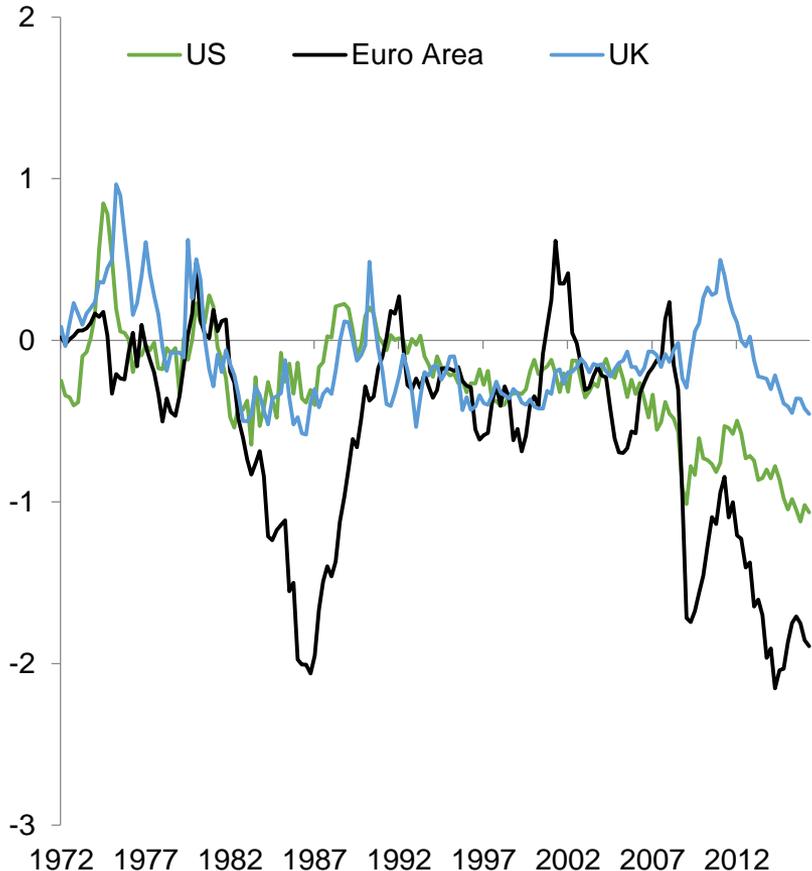*(contribution to natural rate)*

Note: Estimates from "Measuring the Natural Rate of Interest: International Trends and Determinants" Holston, Laubach and Williams, August 2016. Data available: http://www.frbsf.org/economic-research/economists/john-williams/
Last observation: 2016Q2 (quartelry data)

Overview

Policy rates in major economies hit ZLB: liquidity trap?

Policy interest rates
(yield p.a.)
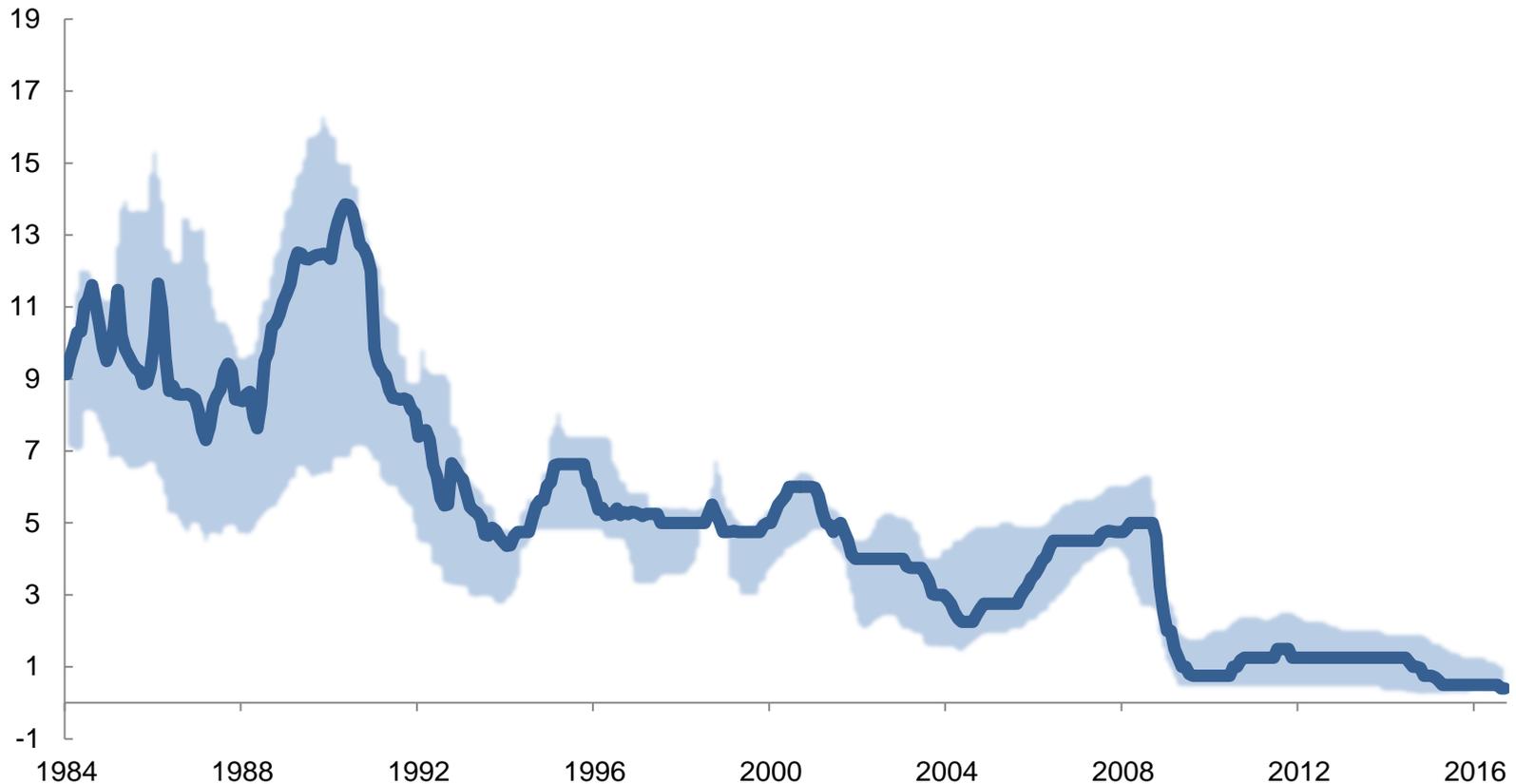
*Notes Median, first and third quartile across advanced economies: Australia, Canada, EA (since 1999), JP, New Zealand, Norway, Sweden, UK, US.
Source: Datastream. Last observation refers to: September 2016 (monthly data)*

Liquidity trap ignores unconventional monetary policy tools

- **Measures aimed at addressing the impairment of the monetary policy transmission channels**

  Measures aimed at overcoming the "zero" lower bound constraint

|	
Interest rate measures	Forward guidance on the future policy rate path
	Negative policy interest rates
Balance sheet measures	Credit easing measures (providing bank liquidity and/or stimulating bank lending)
	Asset Purchase Programmes (covering private and/or public sector securities)

The ECB's monetary policy measures since mid-2014

		Jun. 2014	Sep. 2014	Jan. 2015	Dec. 2015	Mar. 2016
	Negative policy rates	MRO: 0.15%: MLF: 0.40%; DRF: -0.10%	MRO: 0.05%: MLF: 0.30%; DRF: -0.20%		MRO: 0.05%: MLF: 0.30%; DRF: -0.30%	MRO: 0.00%: MLF: 0.25%; DRF: -0.40%
	TLTRO I & II	Fixed rate (MRO) Max. maturity: Sep. 2018 Uptake depends on net lending Mandatory early repayment				Fixed rate At MRO or below if lending > benchmark *(min. DFR)* No mandatory early repayment
APP	**Private asset purchases**		Broad portfolio of simple & transparent ABS and CBs		APP recalibration • Adjusted date-based leg (to Mar. 2017) • Reinvestment of principal payments	Purchase of inv.-grade NFC bonds … with high pass-through to real economy
	Public asset purchases			Purchases of EA sovereign bonds €60bn of monthly purchases "*until end-September 2016 and in any case until we see a sustained adjustment in the path of inflation which is consistent with our aim of achieving inflation rates below, but close to, 2% over the medium term.*"		APP recalibration • €80bn monthly purchases • Higher issue share limit for certain issuers

A balance sheet expansion with different drivers

Evolution of the Eurosystem's balance sheet
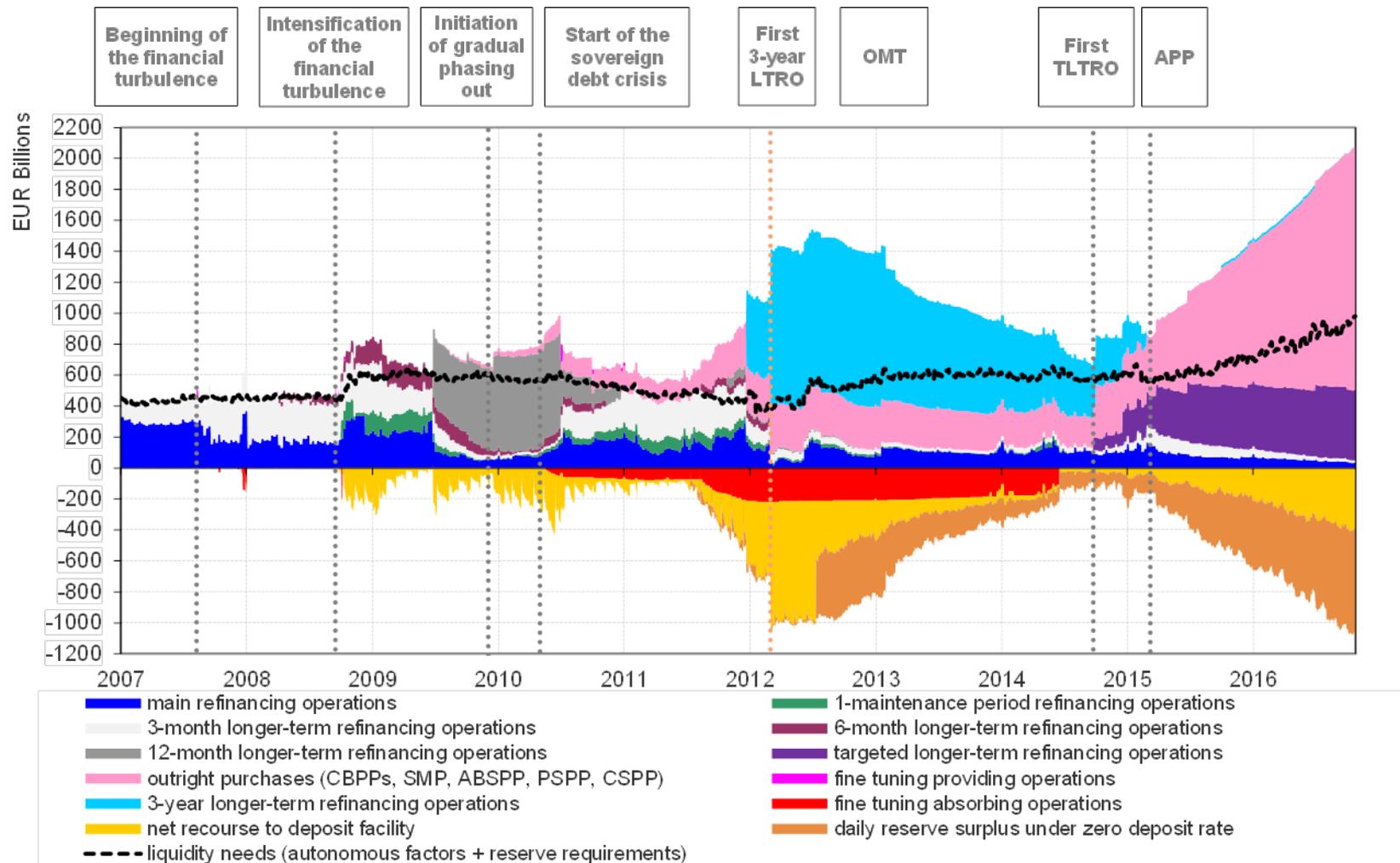
Source: ECB
Latest observation: 24 October 2016.

The net external spillovers of the ECB's UMP are positive

- Stabilisation of the euro area economy benefits the euro area's trading partners directly (expenditure boosting)

- Contractionary spillovers from expenditure switching in the euro area are not deemed to be large (the EUR has depreciated in effective terms only between April 2014 and April 2015)

- The financial spillover channel is relevant mostly for regions bordering the euro area in which euro area banks are active or in which the euro is being used, given its regional international currency status

- The ECB's UMP measures addressing the impairment of monetary policy transmission have now eliminated financial market fragmentation and boosted confidence in the euro area

- The ECB's UMP measures have helped to buttress euro area inflation expectations and hence avoided exporting a deflationary impact
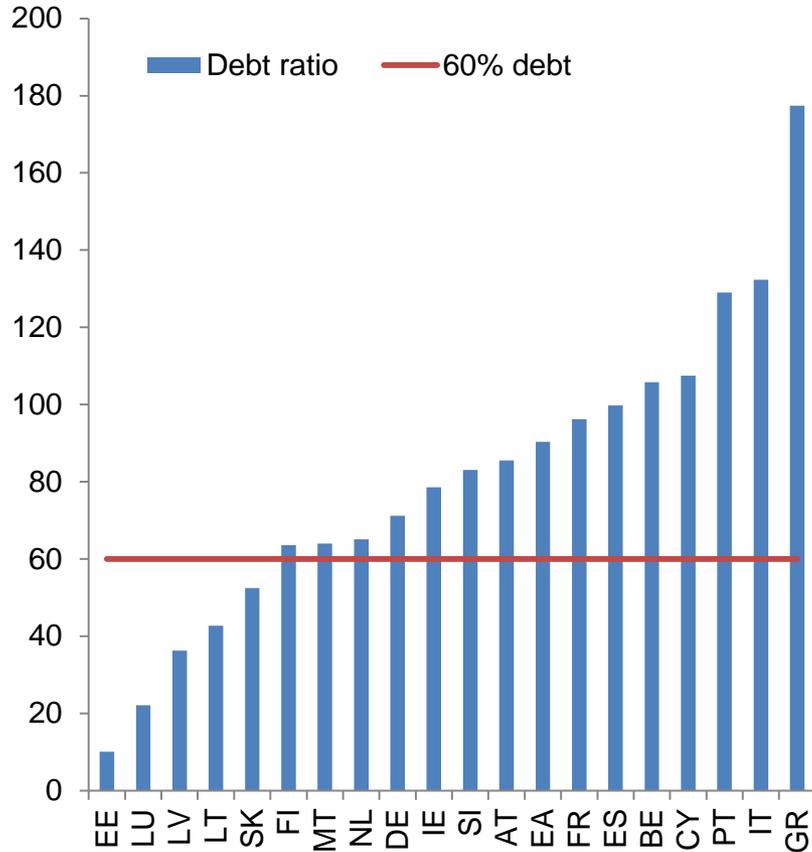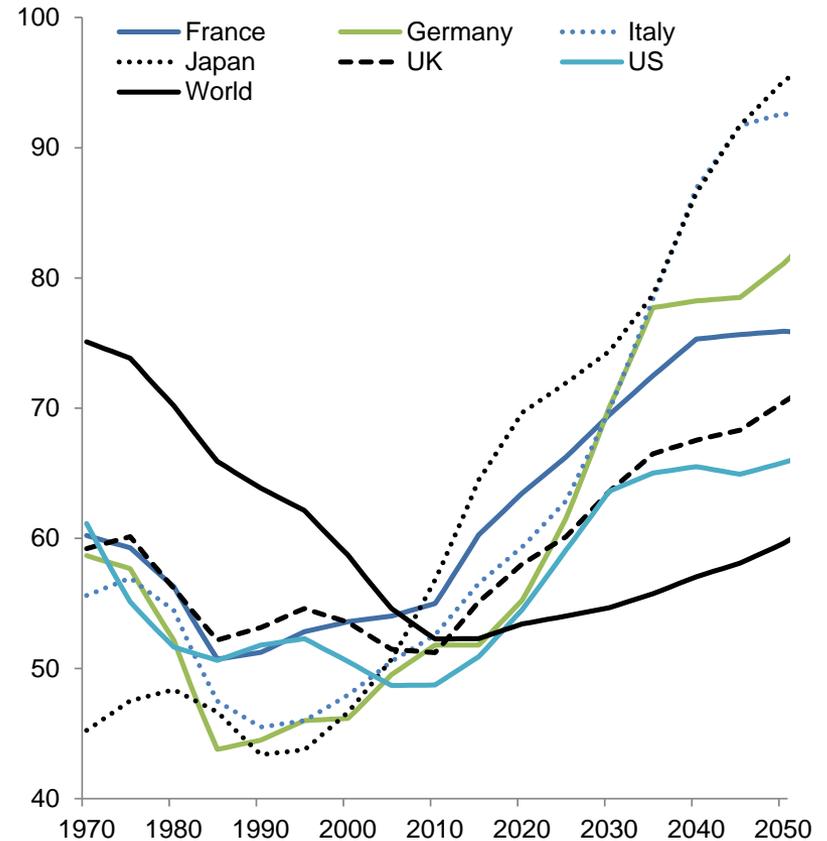
Overview

Public debt to GDP ratio
(2015 data; %)

Source: Eurostat.
Observation: 2015 (annual data)
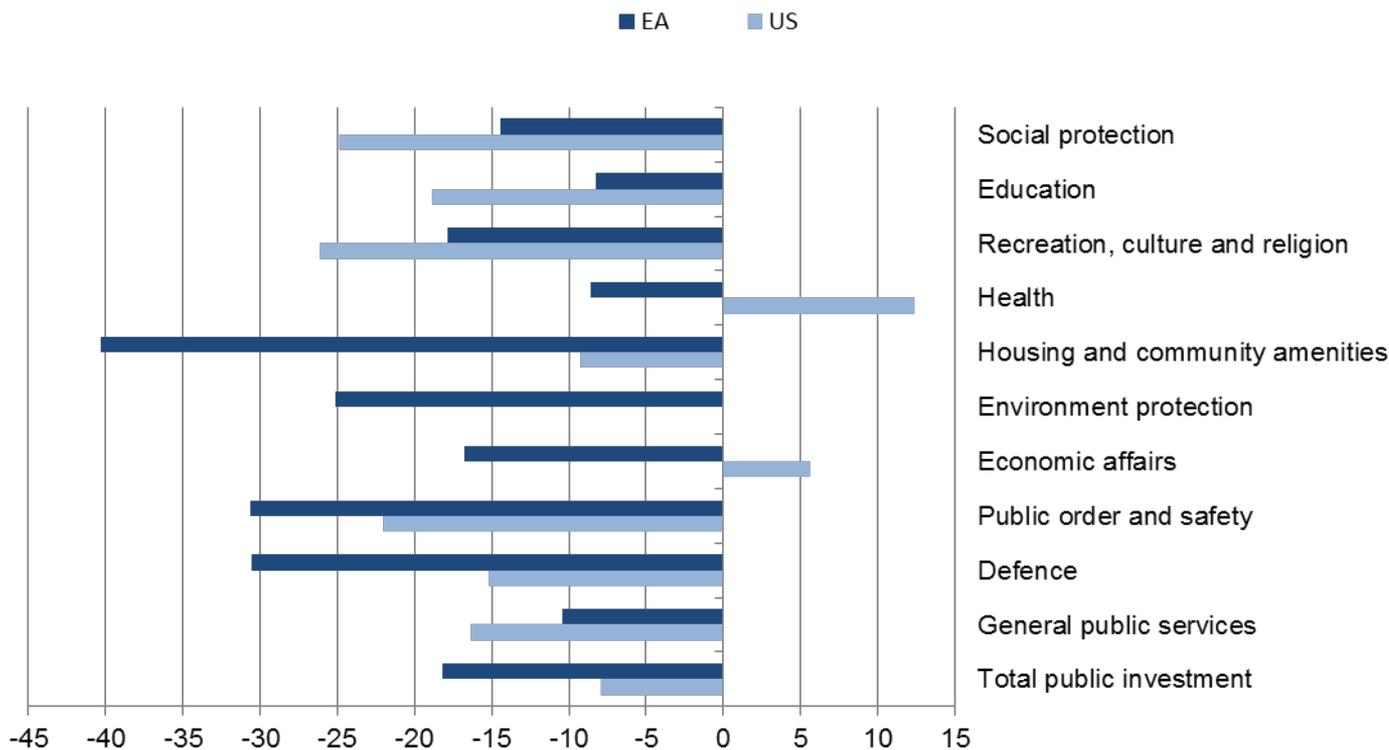
Dependency ratio
(Ratio of population age 0-14 and 65+ per hundred population age 15-64)

Source: Haver Analytics and UN population statistics, estimates up to 2015, projections as of 2016
Last observation: 2050 (annual data).

Focus on improving the composition of spending

Public investment across different functions in the euro area
(nominal % changes, 2009-2014)

Source: Eurostat, OECD.
The bars show the nominal growth rate of general government investment between 2009 and 2014 in total and for 9 different sub-categories (COFOG classifications). The most important sub-category of public investment is economic affairs, which comprises inter alia infrastructure, energy, commercial and labor affairs. As no data on the sub-category of environment is availability for the US, this is also not shown for the euro area

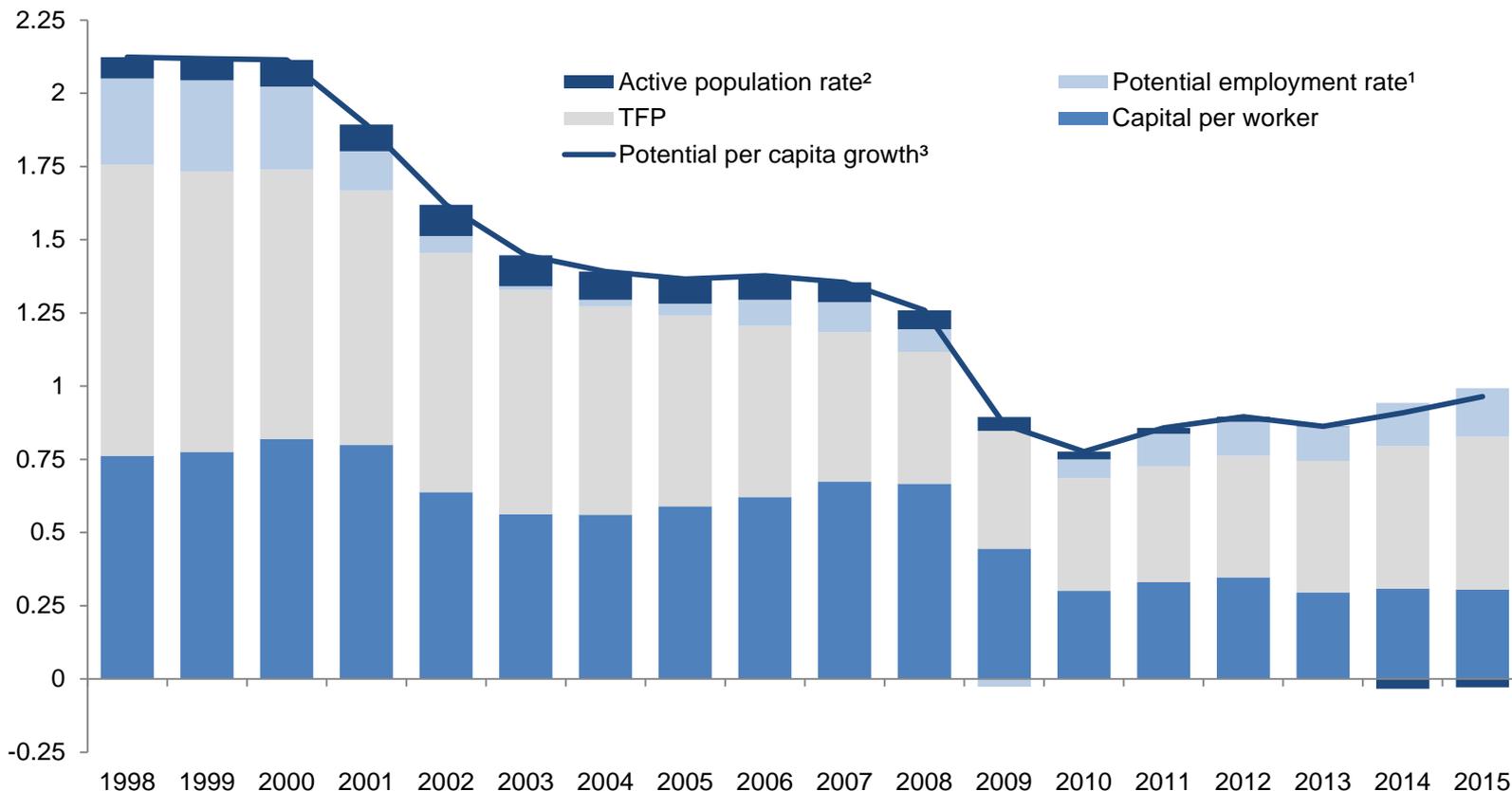| Area of Reforms	Normal Economic Conditions		Weak Economic Conditions		Strong Economic Conditions	
	Short Term	Medium Term	Short Term	Medium Term	Short Term	Medium Term
Product Market	+	++		+	+	++
Employment Protection Legislation			−	− −	+	++
Unemployment Benefits	+	++	−		+	++
Labor Tax Wedge	++	++	++	++		
Active Labor Market Policies	++	++	++	++		

Source: IMF staff estimates.

Note: The macroeconomic outcomes are output and/or employment; + (–) indicates postive (negative) effect; the number of + (–) signs denotes the strength of the effect. The effect of labor tax wedge decreases and spending increases on active labor market policies is smaller but remains positive when these measures are implemented in a budget-neutral way.

Contributions to potential per capita growth for OECD countries
(% points unless otherwise noted)

Legend:
- Active population rate[2]
- Potential employment rate[1]
- TFP
- Capital per worker
- Potential per capita growth[3]

Note: Assuming potential output (Y*) can be represented by a Cobb-Douglas production function in terms of potential employment (N*), the capital stock (K) and TFP (E*) then y* = a (n*+e*) + (1 - a) k, where lower case letters denote logs and a is the wage share. If P is the total population and PWA the population of working age (here taken to be aged 15-74), then the growth rate of potential GDP per capita (where growth rates are denoted by the first difference, d( ), of logged variables) can be decomposed into the four components depicted in the figure: d(y* - p) = a d(e*) + (1-a) d(k - n*) + d(n* - pwa) + d(pwa - p).

1. Potential employment rate refers to potential employment as a share of the working-age population (aged 15-74); 2. Active population rate refers to the share of the population of working age in the total population; 3. Percentage changes.

Source: OECD Economic Outlook 99 database. Data available:. http://dx.doi.org/10.1787/888933367317

Chronically slow productivity growth: three hypotheses

Three perspectives

- Chronic (mis)-measurement problem

- Productivity frontier is moving out slower: no new innovations

- Frontier is moving out, but many firms are not keeping pace with the frontier

Tangible and intangible real investment, EU v US
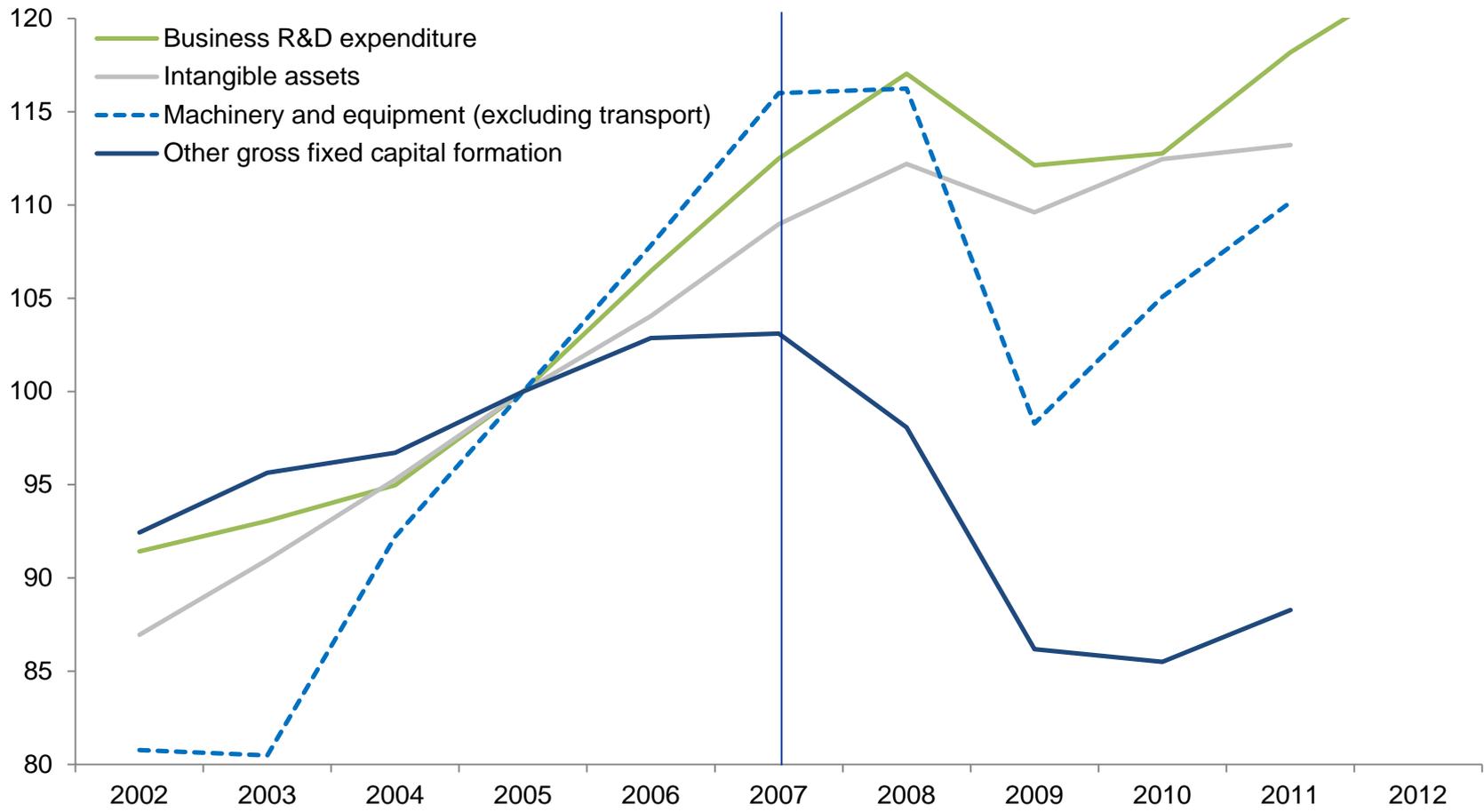Market sector, summed using PPPs, 2007=1
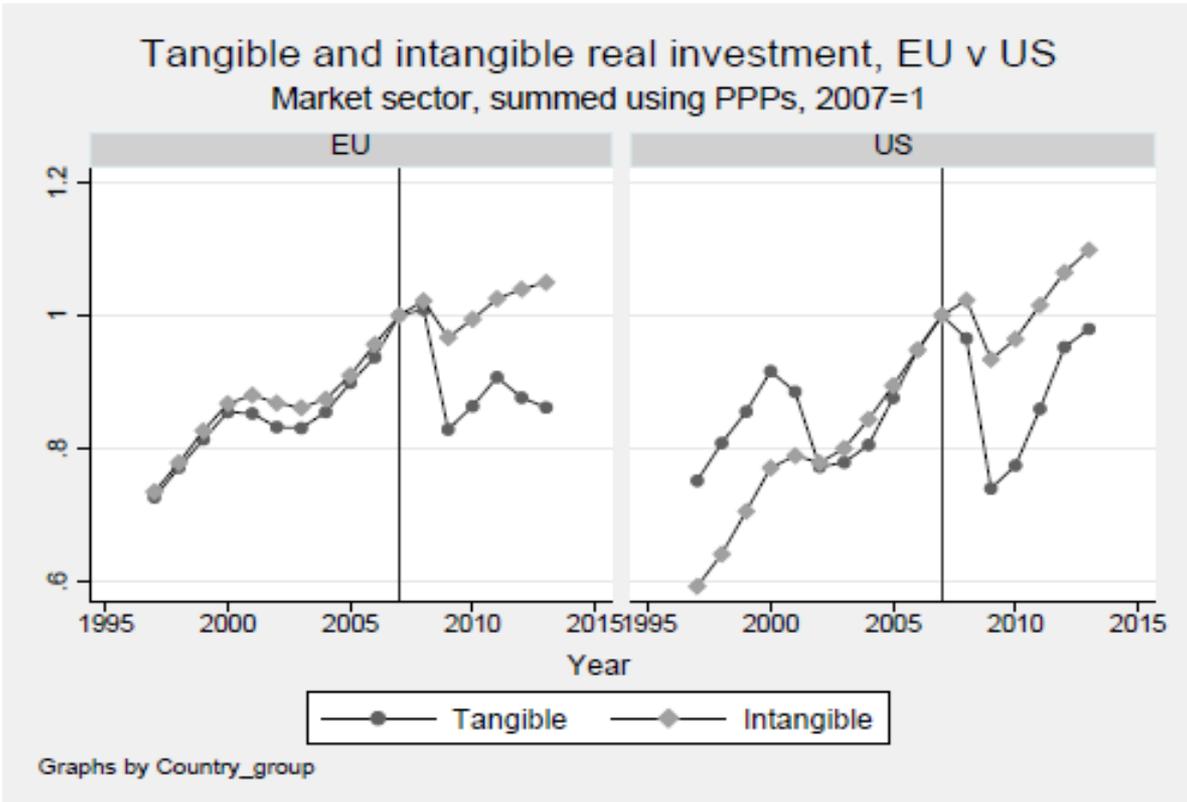
Note: Nonagricultural business sector excluding real estate.
Source: Preliminary update to INTAN-Invest based on 11 EU countries used in the EU/US growth accounting with intangibles (Corrado et al. (2016), forthcoming). Chart available: https://www.brookings.edu/wp-content/uploads/2016/08/corrado.pdf

Business investment in knowledge assets
(OECD, index 2005 = 100)

Legend:
- Business R&D expenditure
- Intangible assets
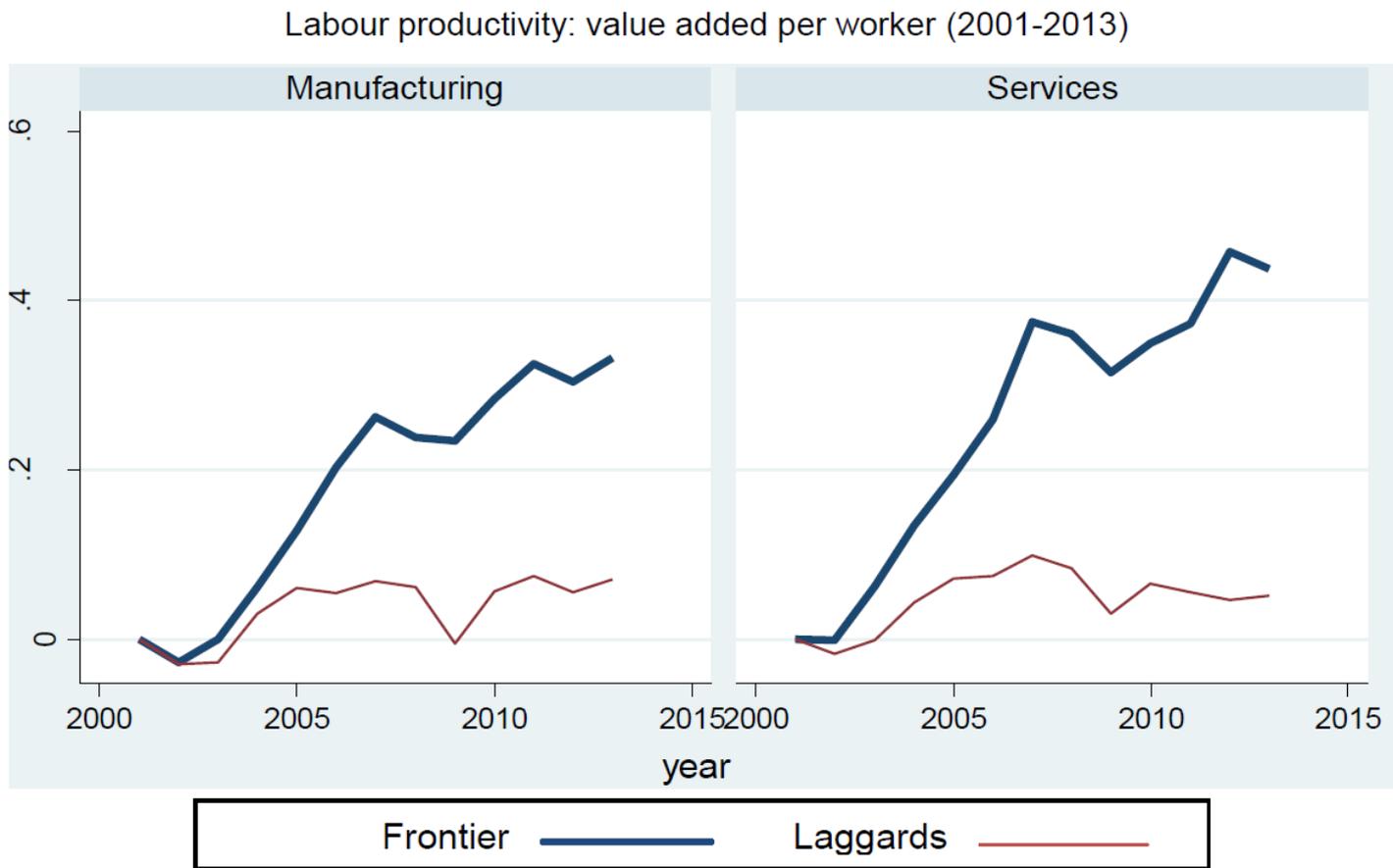- Machinery and equipment (excluding transport)
- Other gross fixed capital formation

Note: In national accounts, spending on R&D activities is treated as expenditures and not as investment, and is therefore not capitalised. Intangible fixed assets are non-financial produced fixed assets that mainly consist of mineral exploration, computer software, entertainment, literary or artistic originals intended for use for more than one year. Other gross fixed capital formation includes dwelling and transport investments.
Source: OECD., MSTI database, June 2014; OECD national accoutns Database, April 2014   Chart available: http://dx.doi.org/10.1787/888933151539

Labour productivity: value added per worker (2001-2013)

Source: Andrews et al. (2016), forthcoming. Notes: the global frontier is measured by the average of log labour productivity for the top 5% of companies with the highest productivity levels within each 2-digit industry. Laggards capture the average log productivity of all the other firms. Unweighted averages across 2-digit industries are shown for manufacturing and services, normalized to 0 in the starting year. The time period is 2001-2013. The vertical axes represent log-differences from the starting year: for instance, the frontier in manufacturing has a value of about 0.3 in the final year, which corresponds to approximately 30% higher in productivity in 2013 compared to 2001. Services refer to non-financial business sector services. See details in Section 3.3.
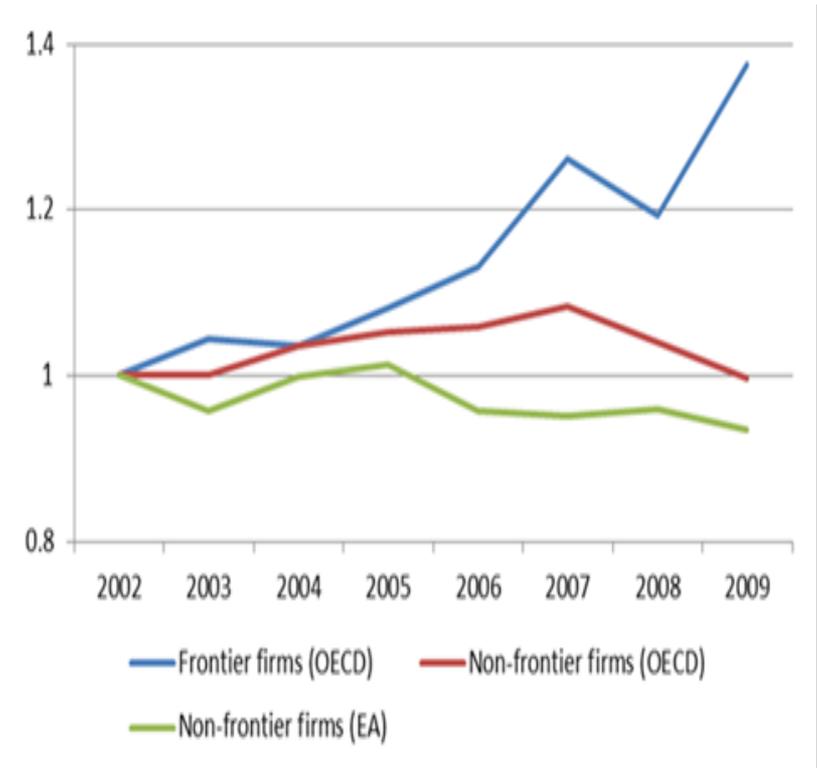Chart available: https://www.brookings.edu/wp-content/uploads/2016/08/andrews.pdf

Labor productivity growth in manufacturing
(2001-2009, 2002=1)
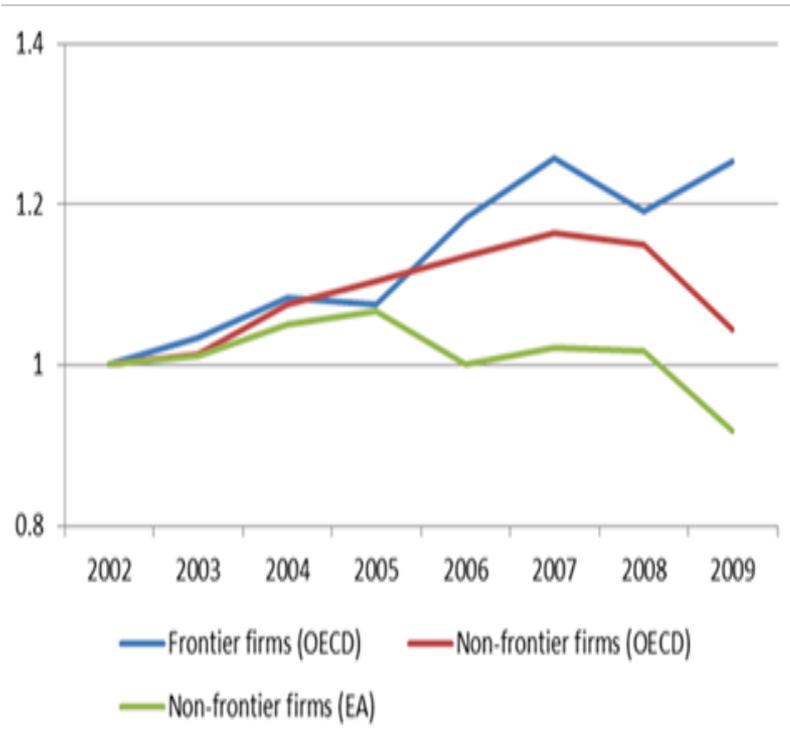
Labor productivity in services
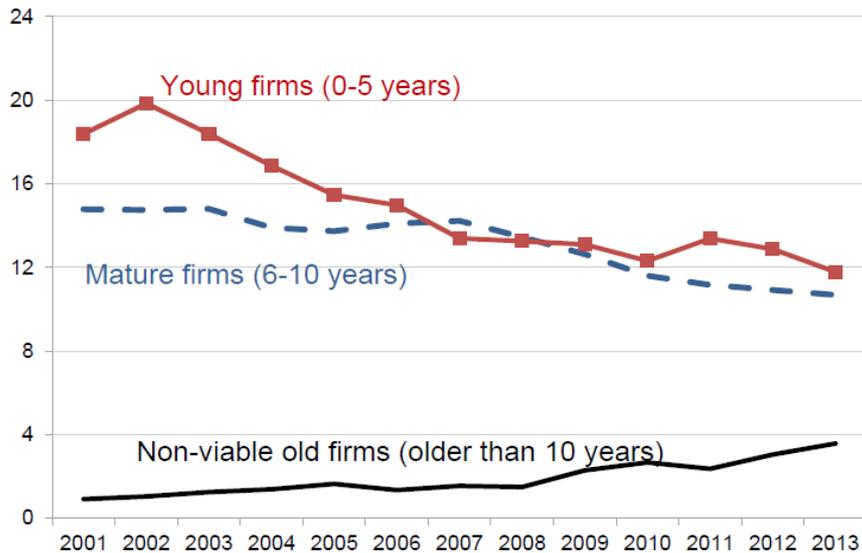*(2001-2009, 2002=1)*

Source: OECD (2014) and CompNet sample based on firms with 20 employees of more.
Notes: OECD global frontier firms are defined as the 100 most productive firms within an industry (defined at the 2 digit level according to NACE rev.2) and year. OECD non-frontier firms refer to the (weighted) average productivity growth of non-frontier firms in each of the 2-digit manufacturing industries, considering all OECD countries. Euro area countries covered are: Austria, Belgium, Finland, France, Germany, Italy Portugal and Spain.
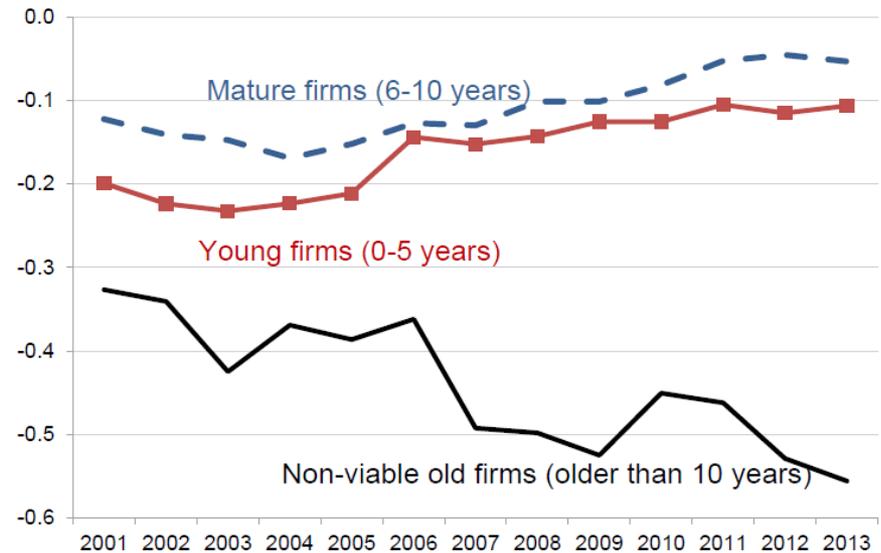
Frequency and productivity of firms by age and financial viability

A: Share of total firms

Young firms (0-5 years)

Mature firms (6-10 years)

Non-viable old firms (older than 10 years)

B: MFPR relative to viable firms old firms

Mature firms (6-10 years)

Young firms (0-5 years)

Non-viable old firms (older than 10 years)

Source: Andrews et al. (2016), forthcoming.
Notes: The figure shows the frequency and relative productivity of three groups of firms: firms aged 5 years or less (young firms), firms aged 6 to 10 years (mature firms) and firms older than 10 years that record negative profits over at least two consecutive years (non-viable old firms). The omitted group are firms older than 10 years that do not record negative profits over at least two consecutive years (viable old firms). The age of the firm is inferred from the incorporation date. The estimates are an unweighted averages across industries in the non-farm non-financial business sector.
Chart available: https://www.brookings.edu/wp-content/uploads/2016/08/andrews.pdf

Evidence in euro area points in the same direction

Firm births per 100,000 active population in the euro area
(6 euro area countries, 2007=100, non-normalised GDP weighted average)
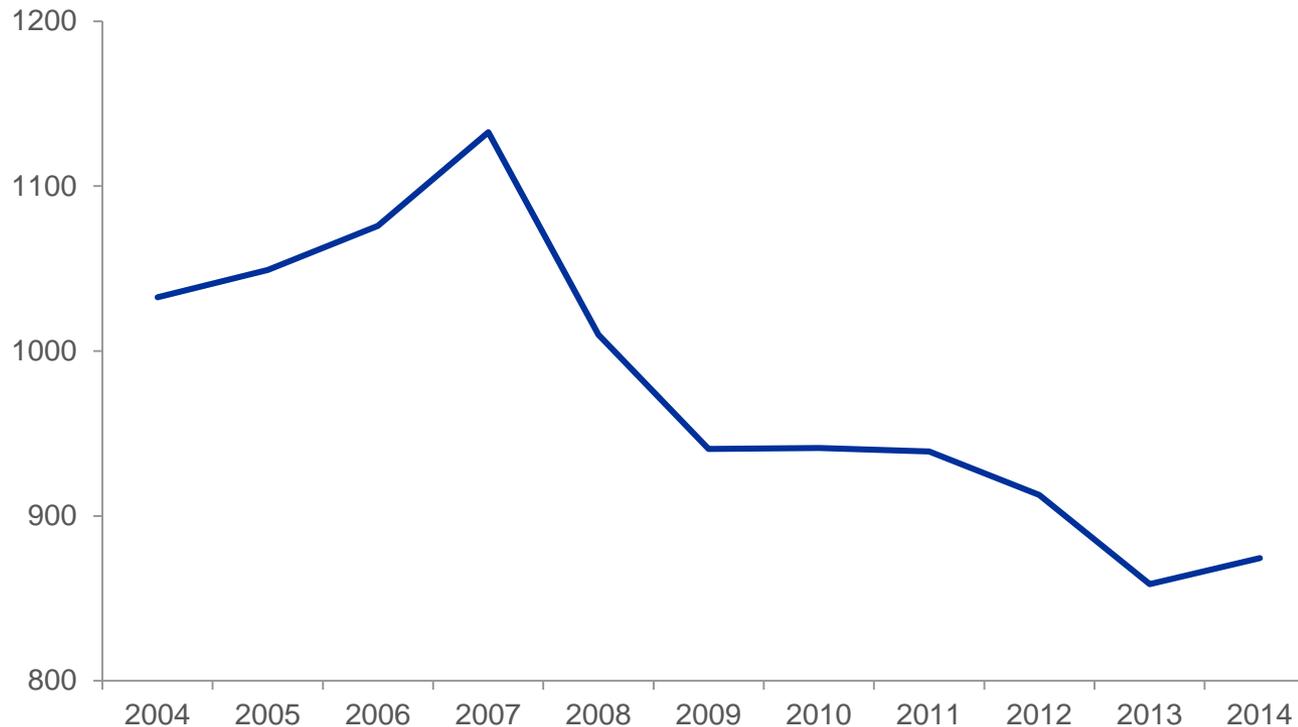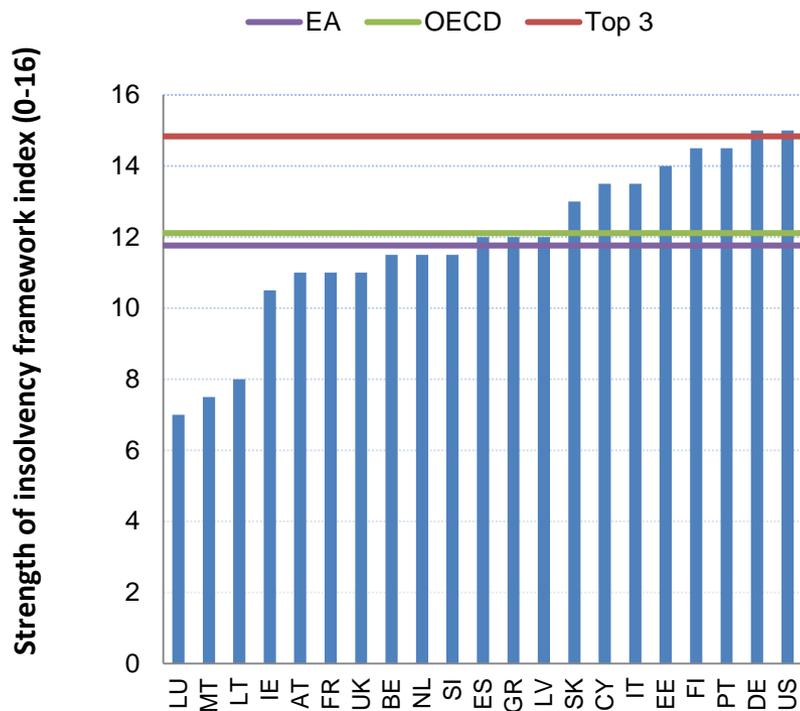
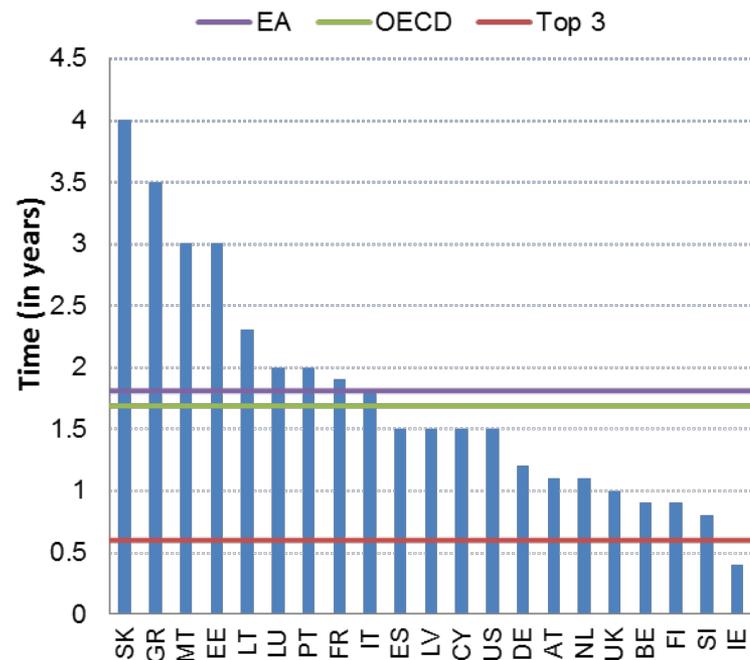Notes: Average for Austria, Germany, Spain, Finland, Italy and Portugal.
Source: Eurostat. Last observation: 2014 (annual data).

Which supply side policies could help?

Strength of insolvency framework

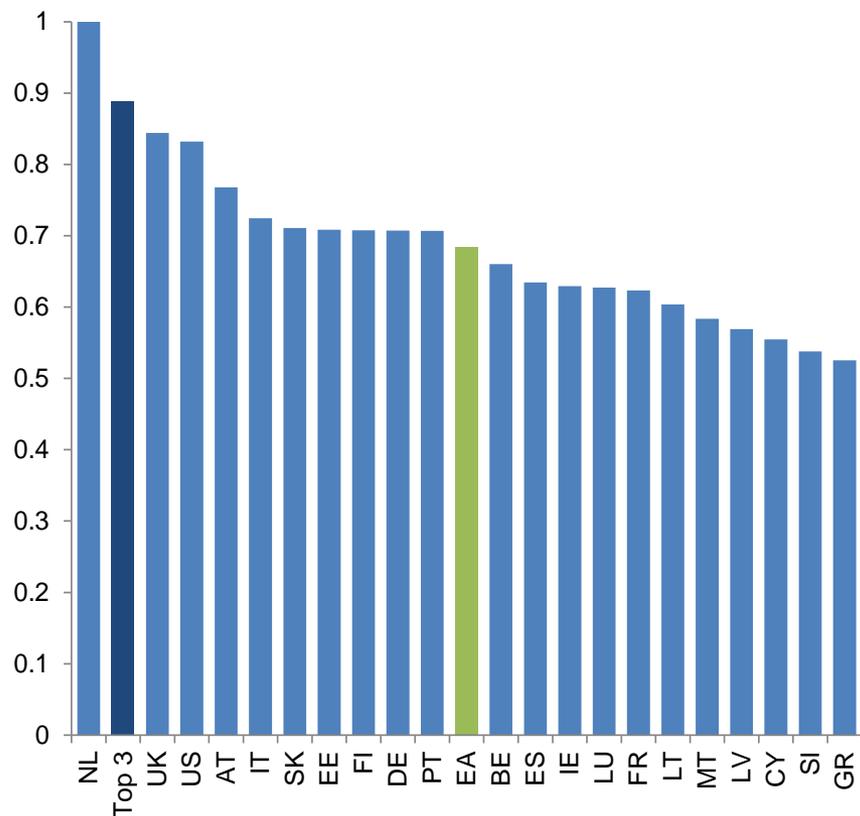*Source: 2017 Doing Business indicator. Top 3 are: Germany, United States, Finland and Portugal (sharing the third place) .*

Time (in years) to resolve an insolvency case

Source: 2017 Doing Business indicator. Top 3 are: Ireland, Japan and Canada

Euro area lagging behind in a number of areas

Product market regulation

Doing Business (2015)

Note: OECD Product Market Regulation Index (2013). Rescaled to rank between 0 and 1 (frontier). US and OECD Top 3 in red. Top 3 OECD are NL, GB, US. US is from 2008 (latest data). The OECD product market regulation index focuses on the legislative aspects of the regulatory environment related to economy-wide regulation (e.g. state control) and industry-level regulation (e.g. barriers to trade in manufacturing). .
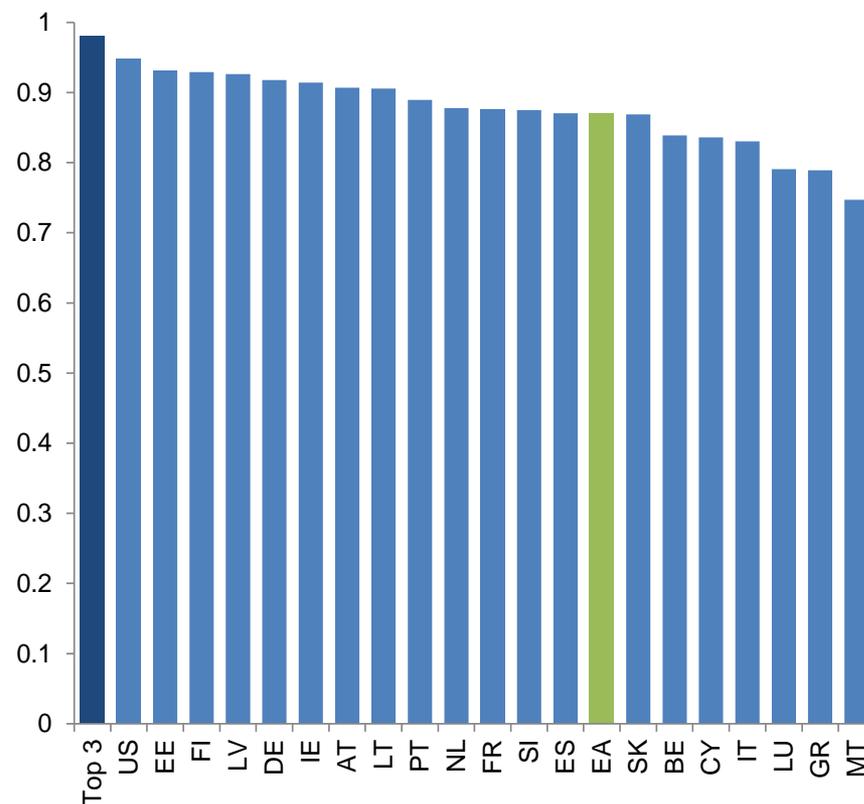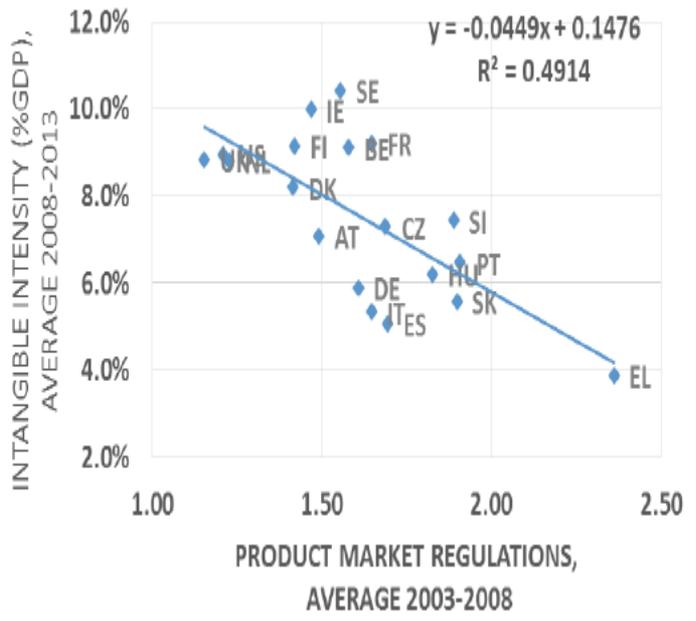
Note: World Bank Doing Business Indicator. Chart rescaled to rank between 0 and 1 (frontier). US and OECD Top 3 in red. Top 3 OECD are NZ, DK, KR. The World Bank Doing Business indicator focuses mainly on the implementation aspects of the cost of doing business.

Link between intangible investment and PMR

GDP impact of implementation of service directive

$y = -0.0449x + 0.1476$

$R^2 = 0.4914$


■ implemented reforms   ■ possible reforms
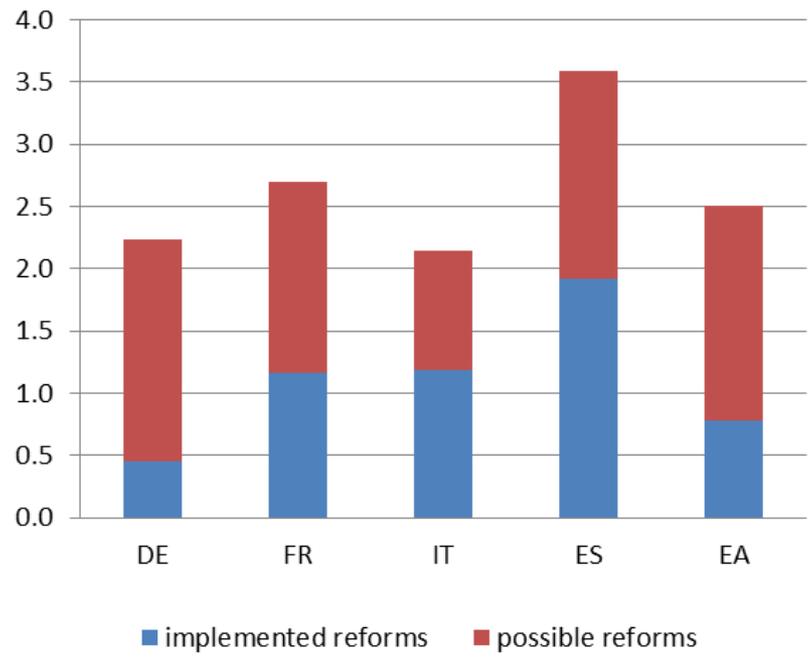
Note: Intangible investments are investments in software, R&D, artistic and entertainment originals, design and other NPD expenses, brand, organizational structure, and firm-specific human capital (as in Corrado, Hulten, and Sichel, 2005).
Source: Iommi et al. (forthcoming in EIB Papers), based on a preliminary update to INTAN-Invest. Chart available: https://www.brookings.edu/wp-content/uploads/2016/08/corrado.pdf

Source: Monteagudo et al. (2012), The economic impact of the Services Directive. European Economy Papers, and European Commission (2015), The euro area services sectors, Quarterly Report on the Euro Area, Vol 2..
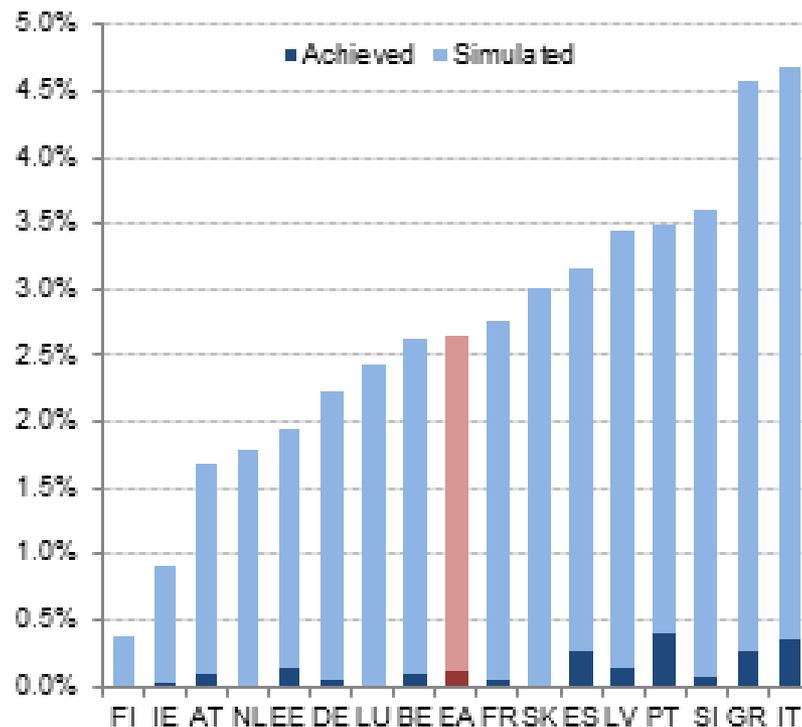
Evidence of link with TFP growth

Contributions to relative TFP levels
(%)

TFP increase: achievement and potential
(potential based on move towards best performers)
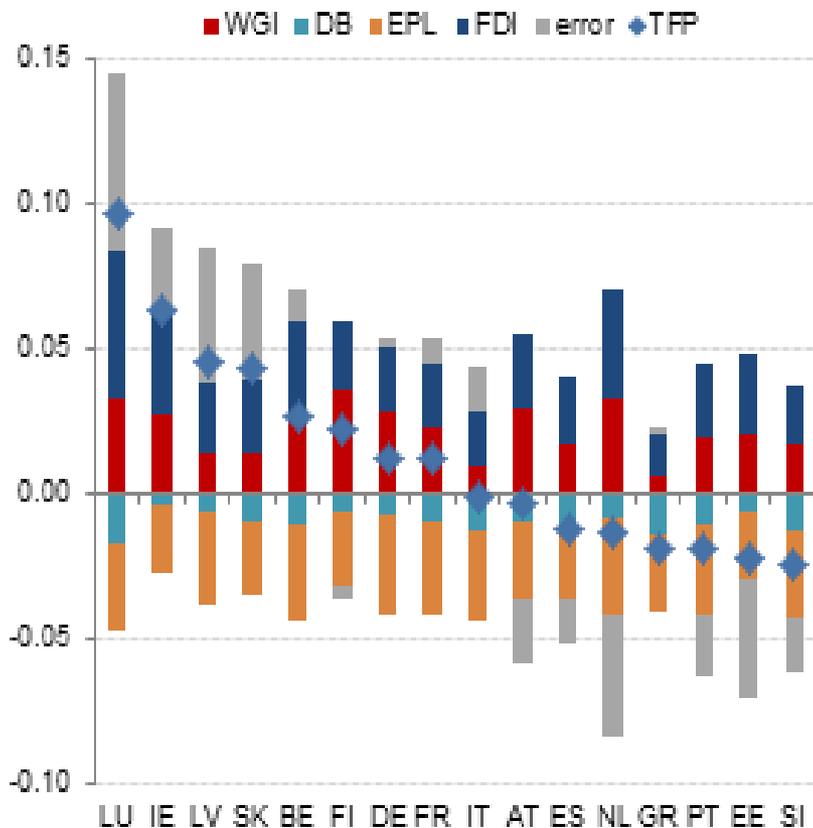
Source: Angelini and Pierluigi (2016), forthcoming.
Note: Variables are in log deviation from the mean and the time trend..
WGI = average of rule of law, control of corruption, government effectiveness, regulatory quality, political instability and voice and accountability (Source: World Bank). DB = average of starting a business, getting credit, trading across borders (Source Word Bank, Doing Business). EPL= employment protection legislation (Source OECD).
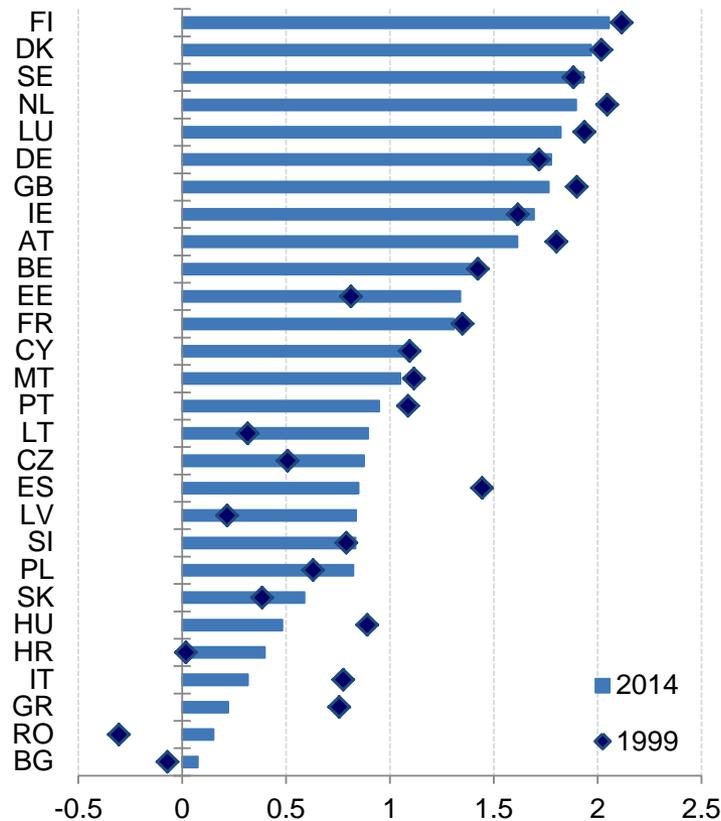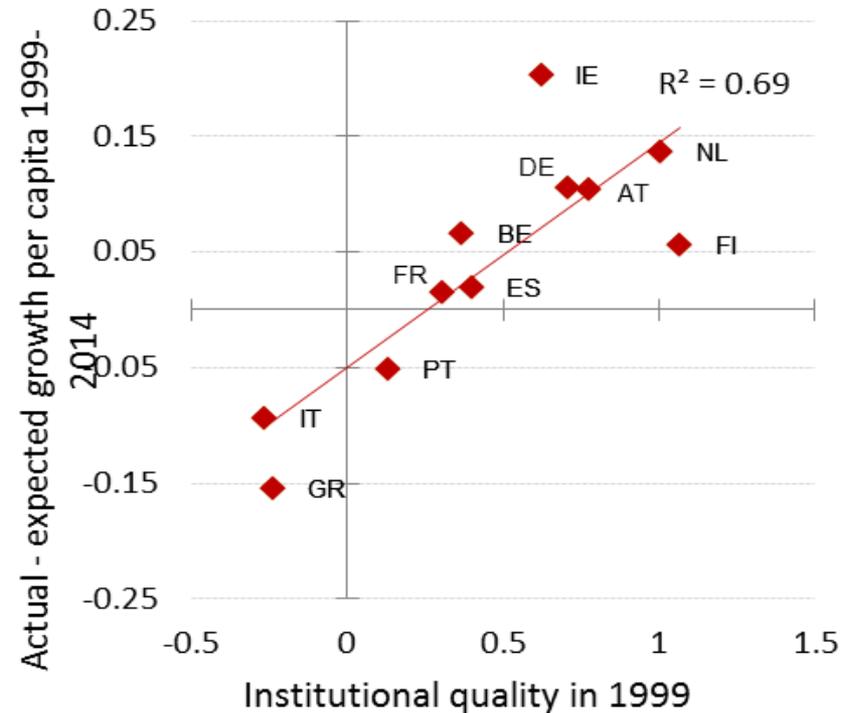
Source: Angelini and Pierluigi (2016), forthcoming
Note: Best performers are: Ireland on doing business, Finland on governance, Estonia on employment protection

The case of improving institutional quality in the euro area

Quality of institutions
(2001-2009, 2002=1)

Quality of institutions and LT growth
(2001-2009, 2002=1)

Note: Latest World Bank World Wide Governance Indicators (WGI delivery indicators: government effectiveness, rule of law, regulatory quality, absence of corruption), EA countries in red. On well-being see Helliwell et al. (2014), Good governance and well-being, OECD.
*Source: Masuch, Moshammer, Pierluigi (2016), Institutions and growth in Europe, CEPS WP No. 421.*

Note: Expected growth performance is measured by catching-up potential in 1999. Countries with lower GDP/capita level in 1999 had a higher expected potential GDP per capita growth. Negative (positive) values mean that the country grew less (more) than the GDP per capita level (and thus catching up potential) in 1999 would have suggested. For definition of institutional quality, see chart on LHS. Institutional quality centred at EU average.
Source: Masuch, Moshammer, Pierluigi (2016), Institutions and growth in Europe, CEPS WP No. 421.

… would also help to improve business investment

Business investment in a historical comparison

Impact of improving institutions on investment
(pp)
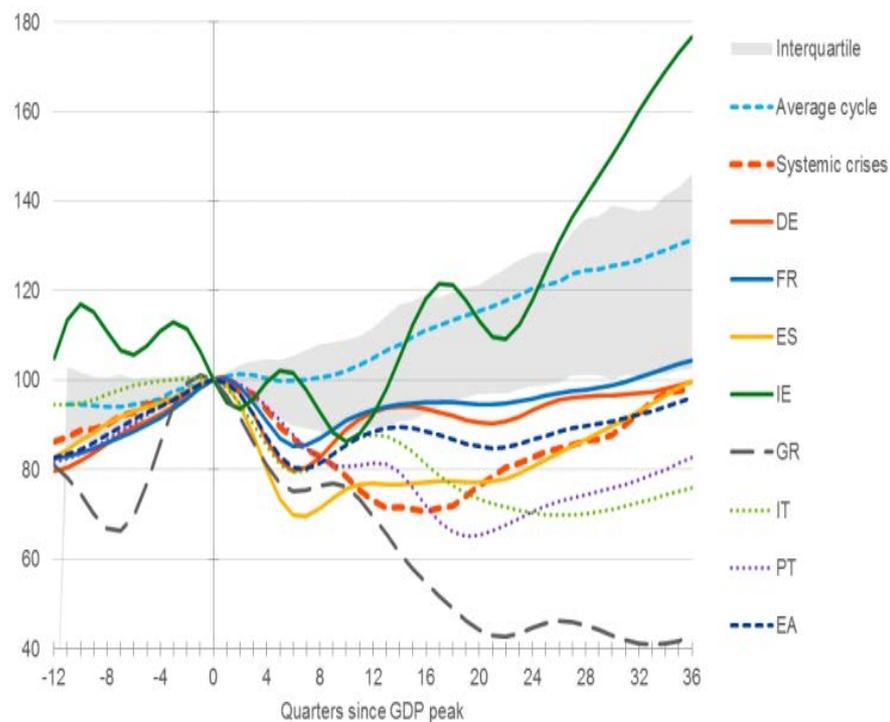
Source: Source: OECD, March 2016 MPE, ECB computations. Average cycle = Average profile across cycles in 20 advanced economies from 1970a onwards, with associated interquartile range shaded. Systemic crises = Average profile of 5 systemic crises in advanced economies (Spain, 1977, Norway, 1987, Finland, 1991, Sweden, 1991, Japan, 1992). Current T=0 is 2008Q1.
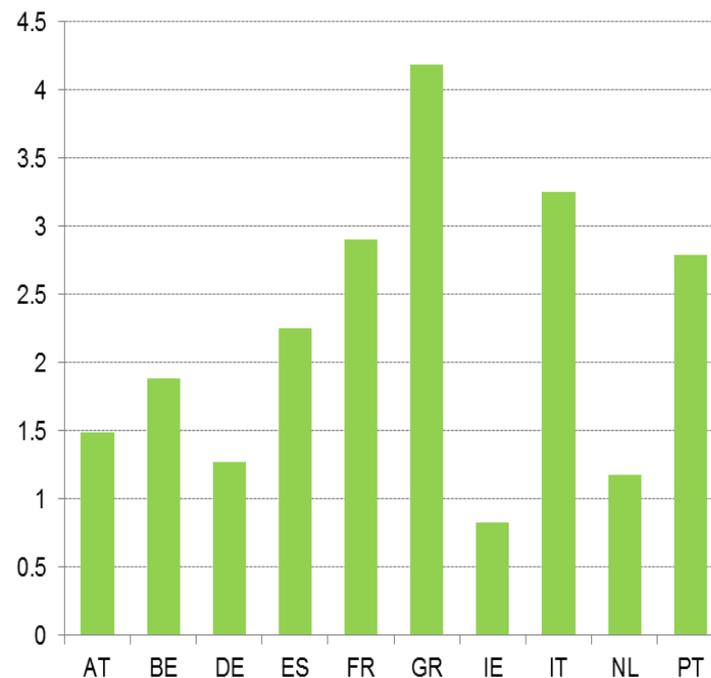
Source: Consolo et al. (2016), forthcoming. In the calculations, an instant closing of half of the gap to the three OECD best-performers is assumed using the Economic Freedom indicator as a proxy (best performers are Australia, New Zealand and Switzerland).

Thank you for your attention