



# Competition, Competitiveness and Industrial Policy: the role of State Aid policy

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7 June 2018



# Terminology and organisation

Competitiveness: following the Krugman critique best understood as referring to productivity (TFP)

Competition (enforcement) as a driver of productivity

Industrial policy often has multiple goals

Potential conflict; so question is how the two can be reconciled

EU State Aid policy as a framework to do this



# Competition and productivity: theory and evidence

## Empirics:

- Nickell (1996), Blundell, Griffith & Van Reenen (1999), Aghion & al. (2004, 2009): firm-level data shows that ***product market competition fosters productivity***

## Theory:

- Aghion & Schankerman (2004) show that ***competition-enhancing policies can improve productivity***



# Competition and productivity: Theory and Evidence

Theory predicts and empirical evidence confirms that competition fosters productivity growth

Through which mechanisms does this occur?

- 1- Within firm effect: Disciplining managers
- 2- Market dynamics: More efficient firms grow at the expense of less efficient firms (link with job creation)
- 3- Competition typically spurs innovation



# Competition and management practices

Empirical studies by Bloom & Van Reenen (2010, 2016): Around 30% of productivity difference with US explained by management quality

In turn, **management practices are shaped by competition**: more competitive markets are associated with higher quality management

# Competition and management practices

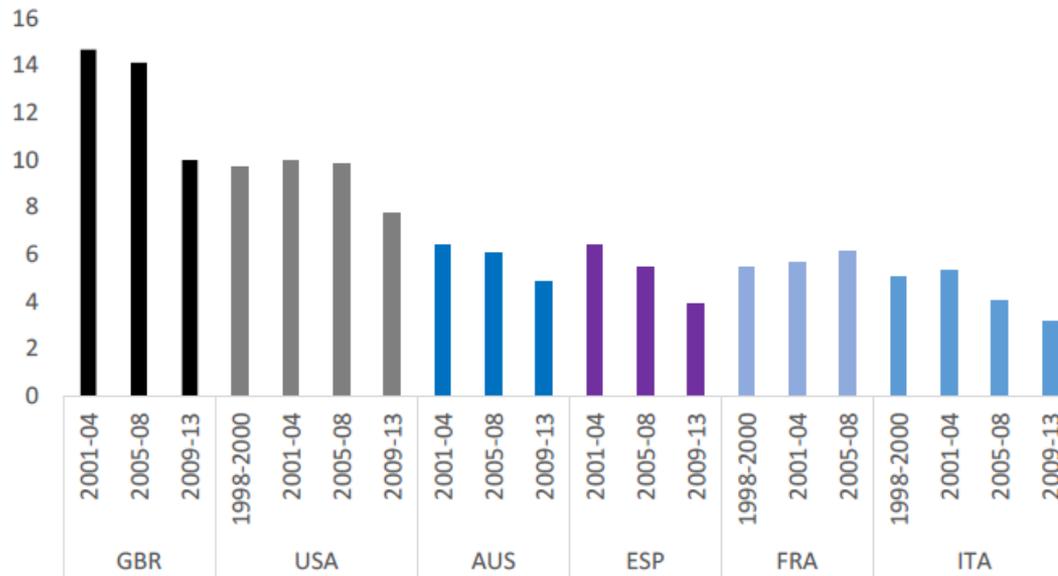
*Share of firms across management scores, worst (left) to best (right)*



The charts show the distribution of firm level management scores (1=worst practice, 5=best practice) within each country.

# Firm dynamics: start up rates

Figure 6: Startup rates by country



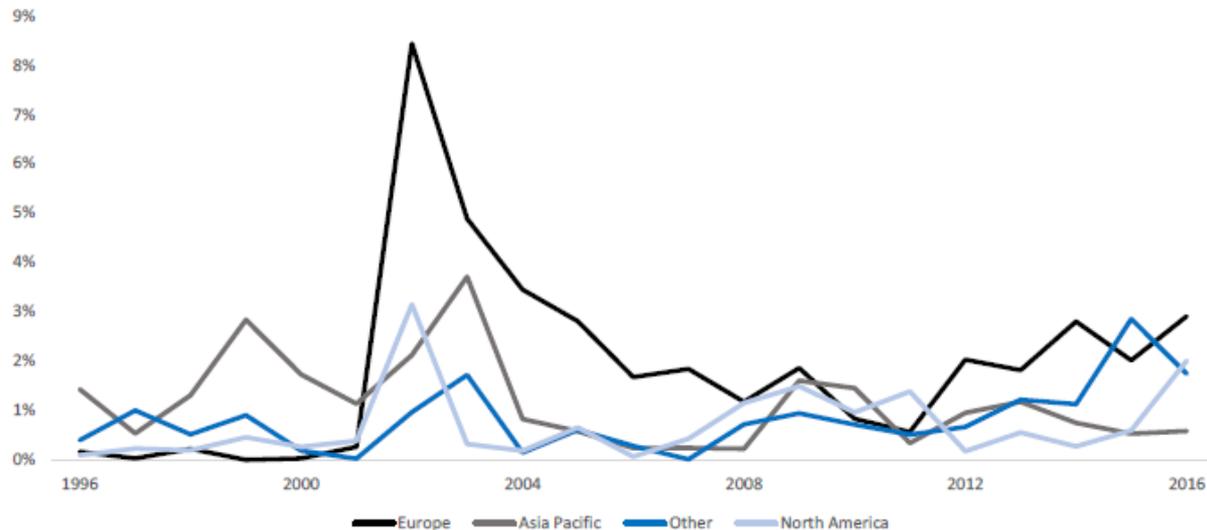
Source: OECD, Deutsche Bank



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# Firm dynamics: **Zombie firms in Europe**

Figure 2: Europe has the highest number of zombies as a share of its total capitalisation

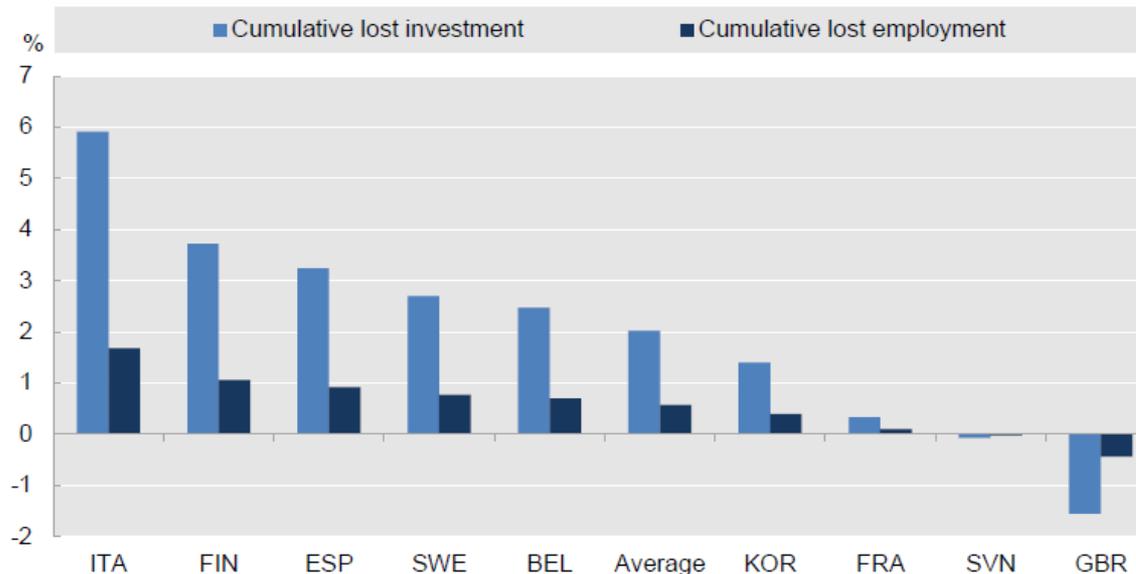


Source: Reuters; Deutsche Bank

# Firm dynamics: **Zombie firms in Europe**

Figure 9. Impact of zombie firms on non-zombie firm performance

Cumulative investment and employment loss of a typical non-zombie firm due to a rise in the zombie share after 2007



Note: This figure shows the cumulative lost investment and employment between 2008 and 2013 due to the presence of zombie firms, using the results of Table 1. The counterfactual is to keep the zombie shares at their 2007 level for the period 2008 to 2013. The average refers to the unweighted average of the 9 countries in the sample. Figure A3 shows the cumulative investment and employment loss for two additional countries (Greece and Japan), which are not included in the empirical analysis due to lack of productivity data.

Source: OECD calculations based on ORBIS.



# Competition and innovation

## ▪ What we know

- Incentive to innovate driven by difference between (i) profit when an investment is made and (ii) profit if the investment is not made (the "profit gap")
- Arrow (1962). More *ex-ante* product market competition increases the incentive to innovate; Small firms have less profits to erode
- Schumpeter (1942). More *ex-post* product market competition lowers the incentive to innovate; Prospect of market power spurs innovation

## ▪ In the EU more competition would seem to generate more innovation"

- The economic literature has not produced a unified view on the relationship between competition and innovation. Aghion et al (2005) find an "inverse U-shape" relationship between competition and innovation
- NB: Aghion et al. (2013): Competition and IPRs are complementary in inducing innovation
- No evidence that markets are too competitive and erode possibility to innovate



# Competition and innovation

## Current research on the impact of mergers on innovation

- Several policy surveys discuss conditions under which a merger is likely to reduce innovation (**Gilbert 2006; Baker 2007; Shapiro 2012**)
- Recent formal work on the impact of mergers between competing innovators (**Federico et al 2017; Motta and Tarantino 2017**)

## Commission action to ensure competition in innovation is protected

*"A merger between two close and important rival innovators may significantly reduce future competition through a reduction in innovation efforts (discontinuation, delay) and/or through a lessening of product competition (reorientation, price increases) for future innovative products"*

See Dow/Dupont merger decision (2017), Bayer/Monsanto merger decision (2018)



# **Other examples of innovation relevant enforcement**

**Pay for delay cases in pharma;**

**Amazon eBooks (MFN)**

**Google shopping**

**Qualcomm**

# Competition and growth: link with enforcement

What about the evidence that competition policy – specifically – contributes to growth?

Cross country studies: challenging but it is done

- Positive link between competition policy and TFP: see Buccirossi & al. (2013)
- Petersen (2013) and Gutmann & Voigt (2014) look at impact of introducing competition law on productivity and growth: positive impact found on growth
- Hatta (2017) finds positive link between competition policy and growth in post-war Japan
- See Ilzovitz & Dierx (2015) for a literature review on ex-post evaluation of competition enforcement

# Competition and industrial policy reconciled?

- Recent work by Aghion et al. (American Economic Journal, 2015) concludes that competition and "suitably designed" industrial policies can foster innovation and productivity
- Delgado (2010), Aghion et al. (2011) identify circumstances where "industrial" policy can be competition-enhancing
  - *Purpose: Correct market failures (e.g. knowledge spillovers, incomplete capital markets, green investment)*
  - *Focus on activities with significant positive spillovers to the rest of the economy*

# When can state intervention be beneficial?

- State aid architecture typically geared towards public measures that are targeted to market failures (or equity concerns)
- ... whilst ensuring that competition is not unduly distorted (e.g. avoid crowding out, avoid duplication of unprofitable assets, limit interference with the churn process)
- NB: State aid control applies only to the extent trade is affected



# EU State aid: Common principles

The overall balance of the effects of an aid measure on the market is positive provided:

1. The aid is aimed at an objective of common interest (market failure, equity concern)
2. It is targeting a situation where it can bring a material improvement that the market cannot deliver itself
3. It is an appropriate policy instrument to address the objective of common interest
4. The aid must change the behaviour of the undertaking(s) concerned in such a way that it engages in additional activity that it would not carry out without the aid, or it would carry it out in a restricted or different manner or location (**Incentive effect**)



## EU State aid: Common principles (cont.)

5. The aid amount must be limited to the minimum needed to induce the additional investment or activity  
**(proportionality)**
6. Negative effects on competition and trade between Member States must remain sufficiently limited **(limited distortion)**
7. The relevant acts and pertinent information about aid awards must be **transparent** (public)
8. **Ex-post evaluation** also required for some types of measures



# EU State aid: R&D or IPCEI example

- State aid rules for R&D, Risk Finance and IPCEI recognize that innovation activities may be below social optimum due to market failures (technology spillovers, access to finance, ...) – These are good justifications for R&D subsidies
- But competition distortions should also be limited (no crowding out or subsidy wars)

# Rules in in line with economic findings

- Strict rules on rescue and restructuring aid
- Exemption (GBER) of "small" aid with more lenient caps for fundamental research (i.e. market failure more likely) and for small firms (i.e. market failure and limited distortion presumed)
- For large amounts of aid, the assessment focuses on market failure, incentive effect and the risk of crowding out of private investment (also location distortion, impact on market power)
- Aid intensities reflect potential for market failures (next slide)

## ANNEX II - MAXIMUM AID INTENSITIES

	Small enterprise	Medium-sized enterprise	Large enterprise
<b>Aid for R&amp;D projects</b>			
Fundamental research	100 %	100 %	100 %
Industrial research	70 % ↓	60 % ↓	50 % ↓
- subject to effective collaboration between undertakings (for large enterprises, cross-border or with at least one SME) or between an undertaking and a research organisation; or - subject to wide dissemination of results	80 %	75 %	65 %
Experimental development	↓ 45 %	↓ 35 %	↓ 25 %



# EU State aid in a global context: accommodating measures

- Extensive scope for approving aid measures supporting the competitiveness of EU industry, e.g. incentivising increased RDI investments /innovation, environmental advancements
- Most measures now (>95%) under GBER
- IPCEI's rules aim to facilitate large-scale, EU wide investments in strategic sectors such as Key Enabling Technologies, new modes/technologies on mobility, etc.
- Both R&D&I and IPCEI rules include '**matching clause**' addressing potential higher subsidies to competitors in third countries (clause never invoked until now)
- Regional aid rules also allow subsidies in third countries to be taken account in certain circumstances

# International subsidy policy

## Subsidies in multilateral organisations

- WTO: update ASCM?
- OECD, G7, G20: mainly sectoral focus

## FTAs: subsidy section in competition chapter:

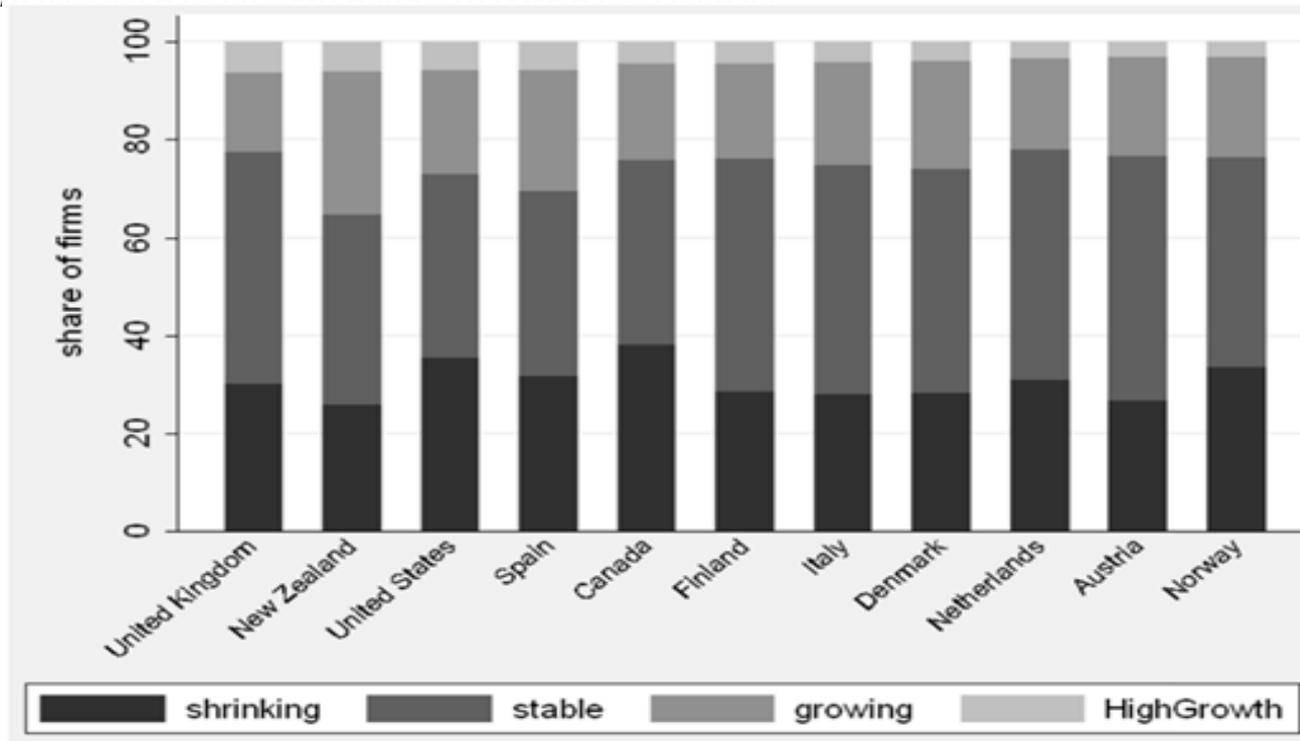
- Content: Transparency, consultations, prohibitions
- Coverage: goods and services sectors
- Examples: Japan, Ukraine, Canada

## Mapping subsidy practices to inform these policies – working group of MS Competition and Trade experts

# BACKGROUND SLIDES

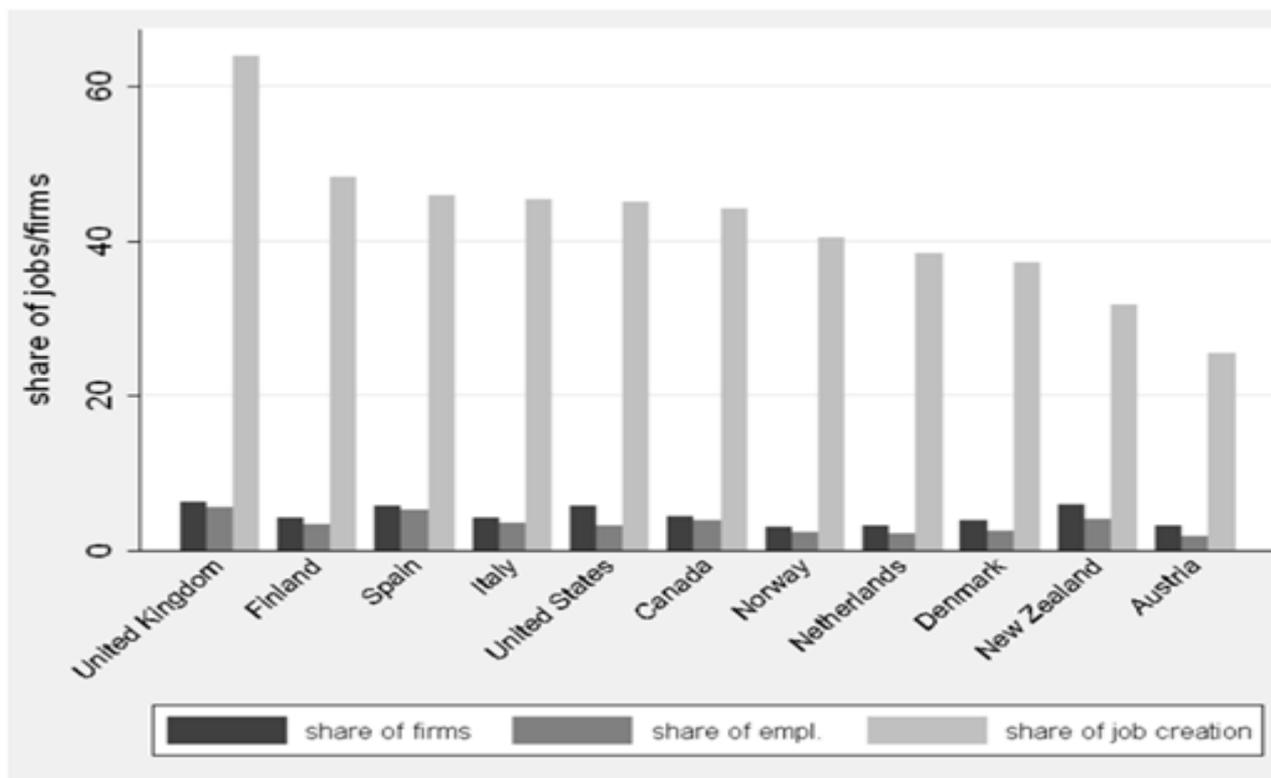
# Firm dynamics

*Countries ranked from left to right: Countries with lowest share of HGFs (high growth firms) – high share of "stable" firms in Europe*



# Firm dynamics: link with job creation

*HGFs have a significant contribution to job creation relative to their share in jobs and number of firms*





# Competition and growth: beyond the EU

World Bank report of 2016 quantifies the impact of tackling cartels, anti-competitive practices and removing barriers to entry could lift large portions of population out of poverty

*(Breaking down barriers : unlocking Africa's potential through vigorous competition policy, 2016)*

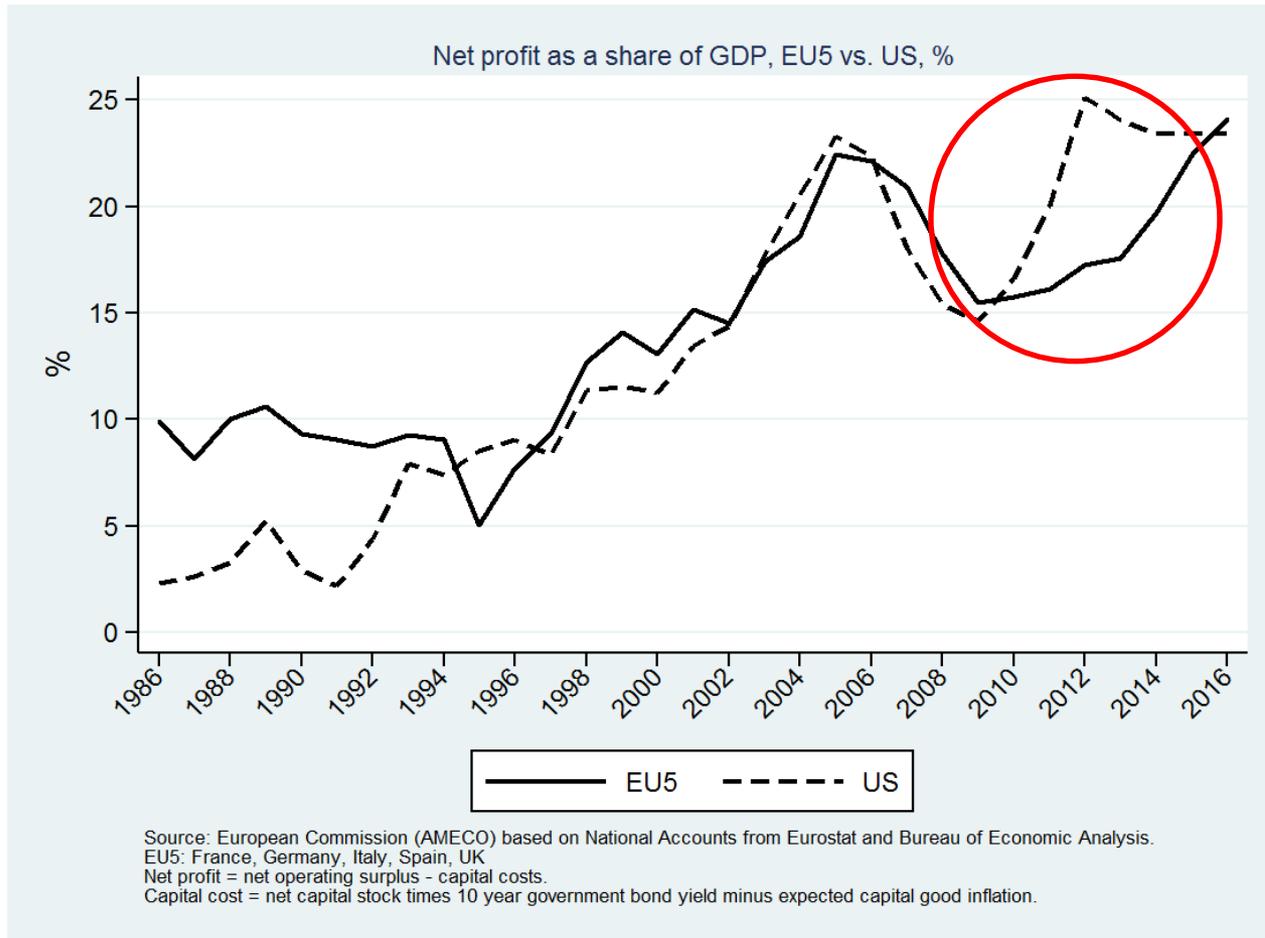
# Recent research on concentration trends

**Observation:** Increasing concentration and increasing margins (US work mostly at this stage)

The causes are unclear but some have argued (in the US – e.g. Barkai (2017), Guttierrez & Philippon (2017)) that lenient competition enforcement may be an explanatory factor (the rise of superstar firms is another)

See work by Valletti & Zenger (2018) on the impact of higher margins on merger enforcement

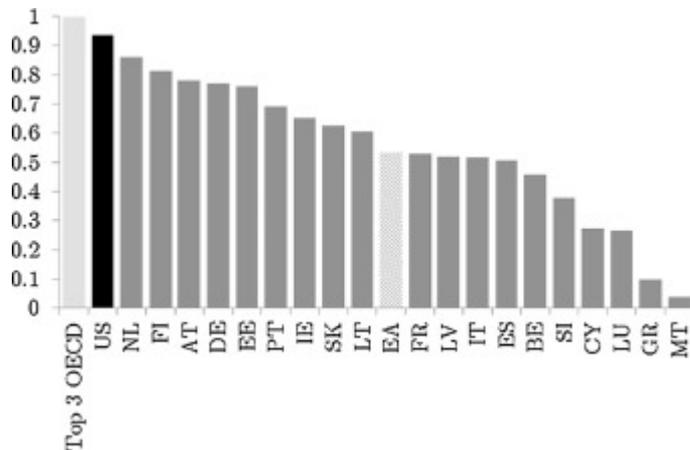
# US and EU: Profit share of GDP is increasing



# Competition and economic resilience

Recent evidence in Sonderman (2018) on the impact of well-functioning markets – including competition policies – in fostering **economic resilience**

*Firm's distance to frontier in terms of product market regulation (OECD PMR index)*



*In particular, rigidities in labour markets, **limited competition in product markets**, framework conditions which impede the entrance of new firms and complicate daily business of existing firms, as well as the quality of government services (e.g. rule of law, absence of corruption) are often argued to be the main obstacles to a higher shock absorption capacity.*