



Young Firm Growth

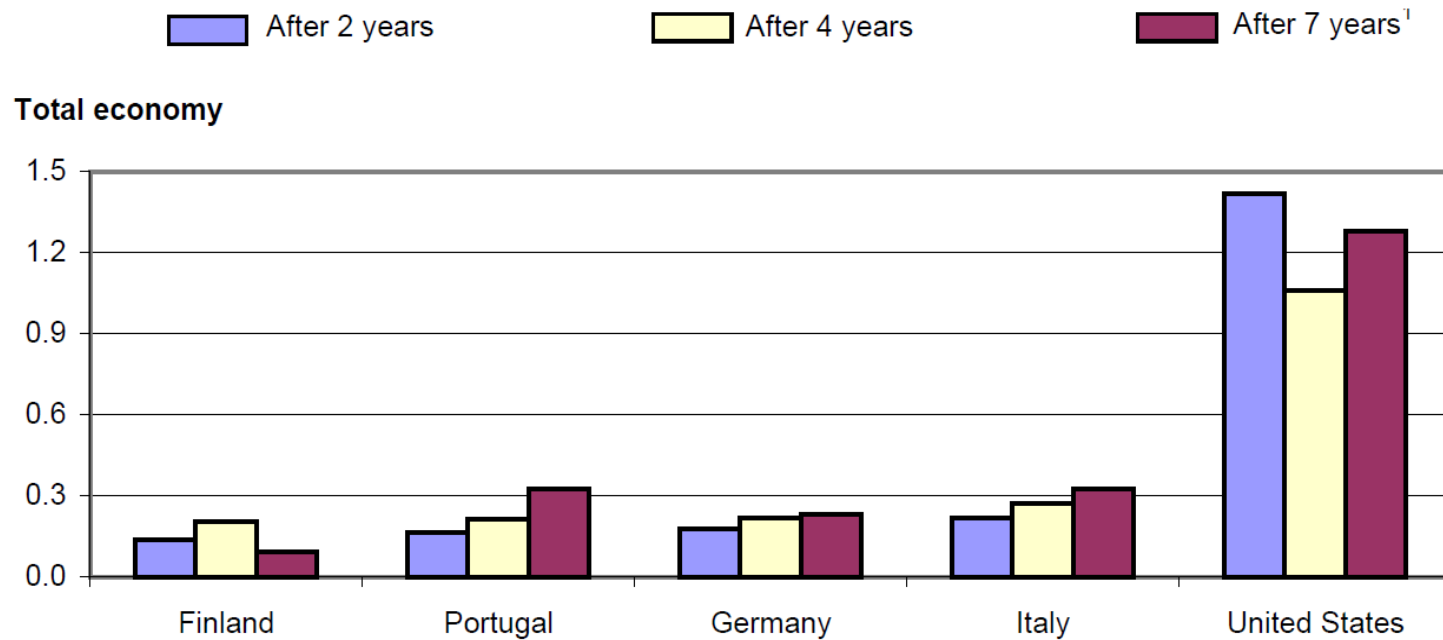
Europe's Scaling Up Problem

Erik Stam

Seventh IRIMA Workshop, on Innovation, Employment, Firm Growth and Job Creation
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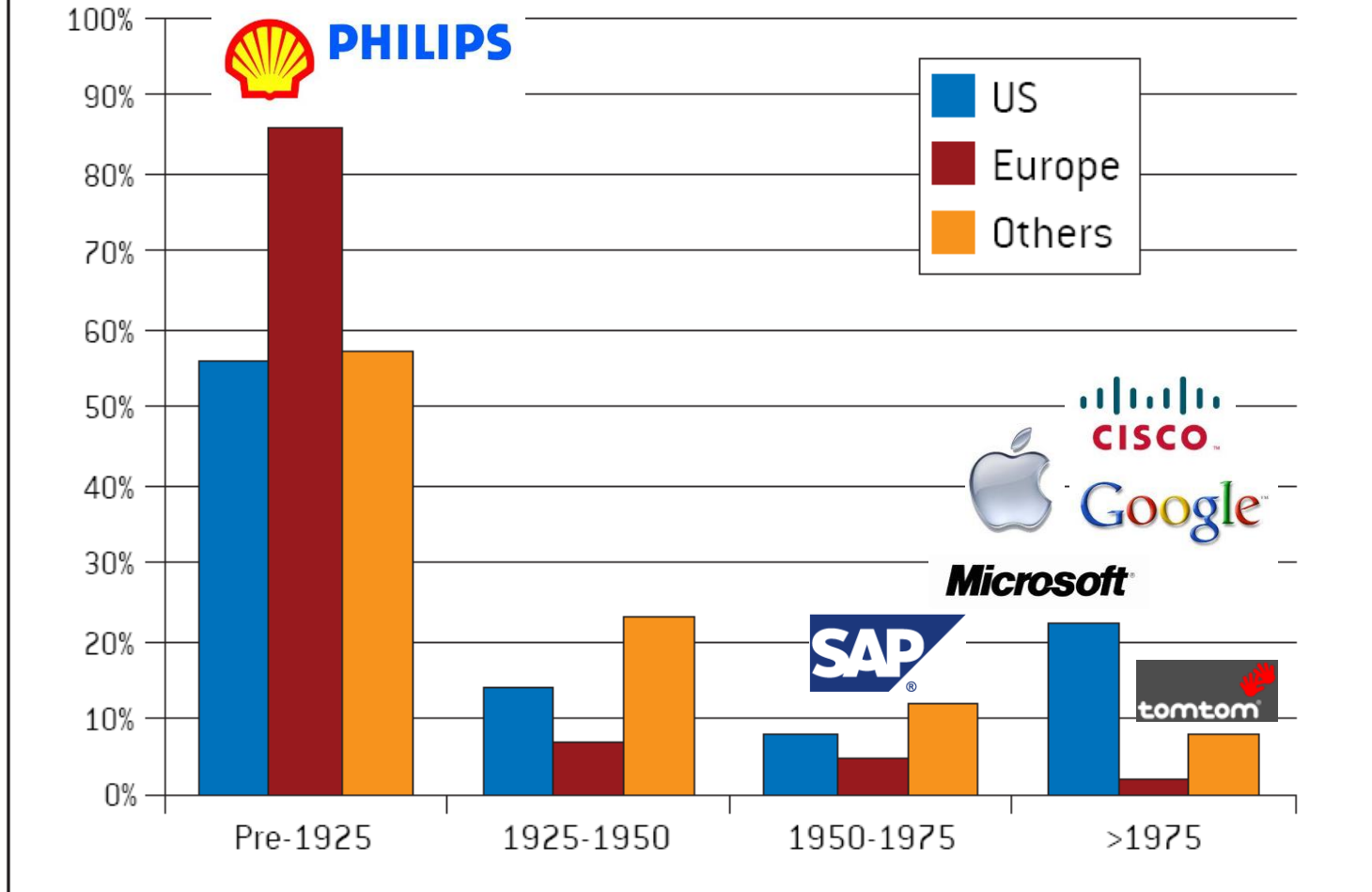


Figure 9. **Employment gains among surviving firms at different lifetimes**
(net gains as a ratio of initial employment)



Bartelsman et al. 2005

Figure 1: Share of leading innovators by age cohort



Source: author's calculations. Note: Figure based on a sample of 226 companies, obtained from matching firms in the FT Global 500 from 2007 with the 2007 EC-IPTS Top 1000 EU and non-EU R&D scoreboard companies. Leading innovators are thus defined both by their market capitalisation and R&D expenditures. The US has 80 companies in this sample, Europe 86 and other countries 60.



Aim of the session

EU's post-entry growth problem

Previous research has highlighted how European new firms have a **sluggish post-entry growth performance** compared to their US counterparts. Little is known about post-entry growth, however, because standard datasets have difficulties in observing firms in the years immediately after entry.

For the analysis of new small firms, and rapid post-entry growth, the use for EU R&D Scoreboard data is limited. Although Scoreboard data covers some SMEs, the coverage is rather low and other data sources are necessary to complement, such as ORBIS firm-level data or administrative datasets obtained from national statistical offices.

This session will deal in-depth with **empirical evidence** from different data sources on these firms and investigate barriers they encounter in the post-entry phase. Furthermore, the role of **regulatory and institutional frameworks** on firm's performances amongst EU Member States will be discussed to see whether there are different responses of employment to innovation.

OPEN DISCUSSION: Participants are invited to comment on the presented evidence on the **scaling up problem**



Good news: we have gone beyond inadequate measures of entrepreneurship

No robust evidence base that increasing # new firms, self-employment rate and # of SMEs positively affects macroeconomic performance

- Negative correlation between new firms / self-employment and innovation indicators (Stam 2013) / high-growth start-ups (Henrekson & Sanandaji 2014)



Bad news: rushing too quickly to a single alternative, *Scale-ups*

1. What do we mean with scale-ups?
 - Successful startup: young firm growth?

2. What are the macroeconomic effects?
 - Legitimate policy target:
 - Are they important for welfare?
 - Are they the best means to create welfare?
 - New value creation in established organizations...

3. How to stimulate / enable scale-ups?
 - Legitimate policy target: can government stimulate / enable them?



Young firm growth: stylized facts I

1. Entry is easy
2. Survival is difficult
 - 50% don't survive first 5 post-entry years
3. Growth is *rare*
 - 63% of young 'firms' (<10 years) remain solo self-employed
 - 69% of young firms never grow
 - 12% reach the size of 10 employees within 10 years
4. Firm growth is largely a random phenomenon (low R²)



Young firm growth: stylized facts II

5. High-growth is *exceptional*

- Only 5% of new firms (≥ 10 employees) with at least 20% annualized (employment or sales) growth over 3 years (Daunfeldt et al. 2012)
- Only 4% of a cohort of new firms is responsible for 50% of new job creation (Storey 1992; NESTA 2006; Henrekson & Johansson 2010; Stam et al. 2012)



Young firm growth: stylized facts III

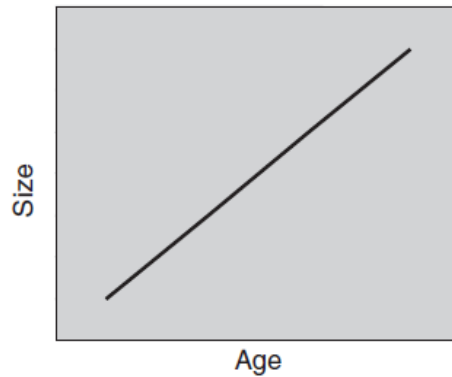
6. Continued growth is *highly* exceptional

- Are high growth firms one-hit wonders?
 - high-growth firms (top 1%) had declining growth rates in the previous 3-year period, and their probability of repeating high growth rates is very low (Daunfeldt & Halvarsson 2015)
- Growth is (almost) always accompanied with stagnation and setbacks (Garnsey, Stam & Heffernan 2006; Stam et al. 2008)

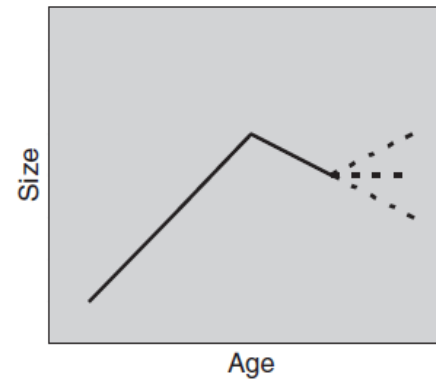


Young firm growth: stylized facts III

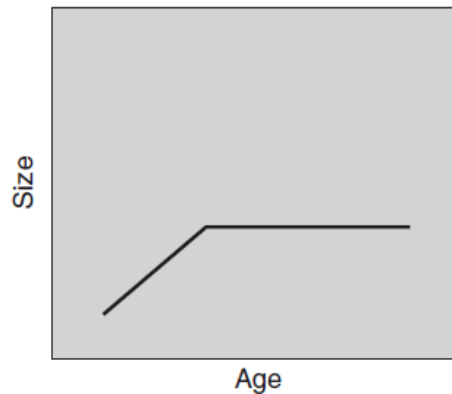
Continuous growth (0.3%)



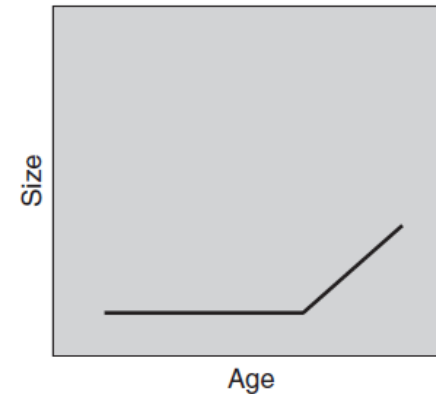
Growth setback (16.7%)



Early growth and (4.5%)
/ or plateau (68.6%)



Delayed growth (9.9%)





We need more micro and more macro research on young firm growth

- Micro
 - Beyond founder: insight into internal organization of the firm
 - How this relates to the external organization of the firm
 - Labour markets
 - Financial markets
 - Knowledge (markets)
 - Product markets: competition & cooperation
- Macro
 - Consequences
 - Conditions



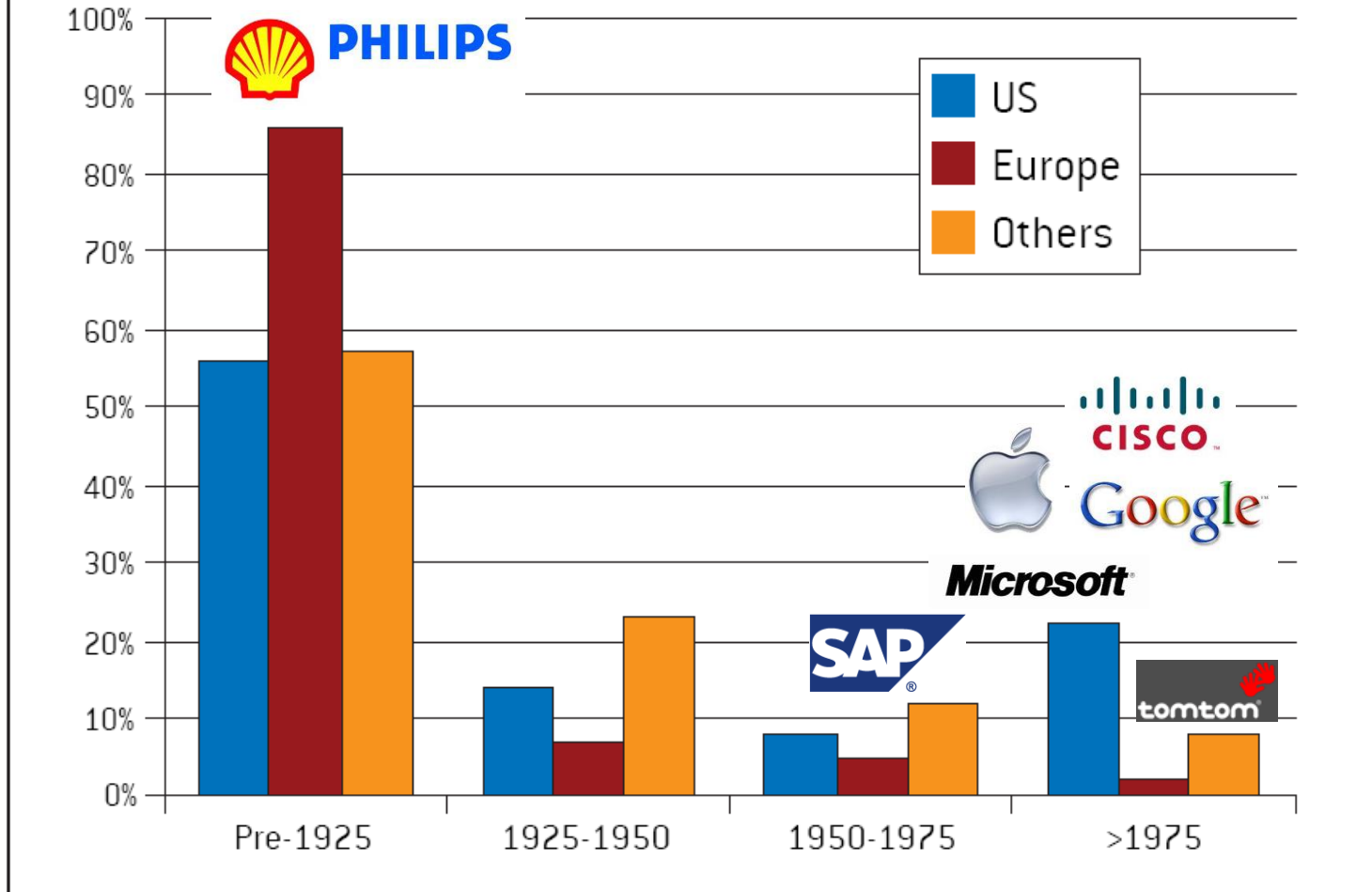
Key mechanisms behind young firm growth

- Human capital of founder(s)
 - Cognitive ability
 - Industry experience
 - Leadership experience
- Motivation
 - Growth ambition
 - Necessary but not sufficient condition (Stam et al. 2012)
- Team, employees
- Access to and use of finance
- Innovation / growth strategy
- Market demand



The old continent
...is lagging behind

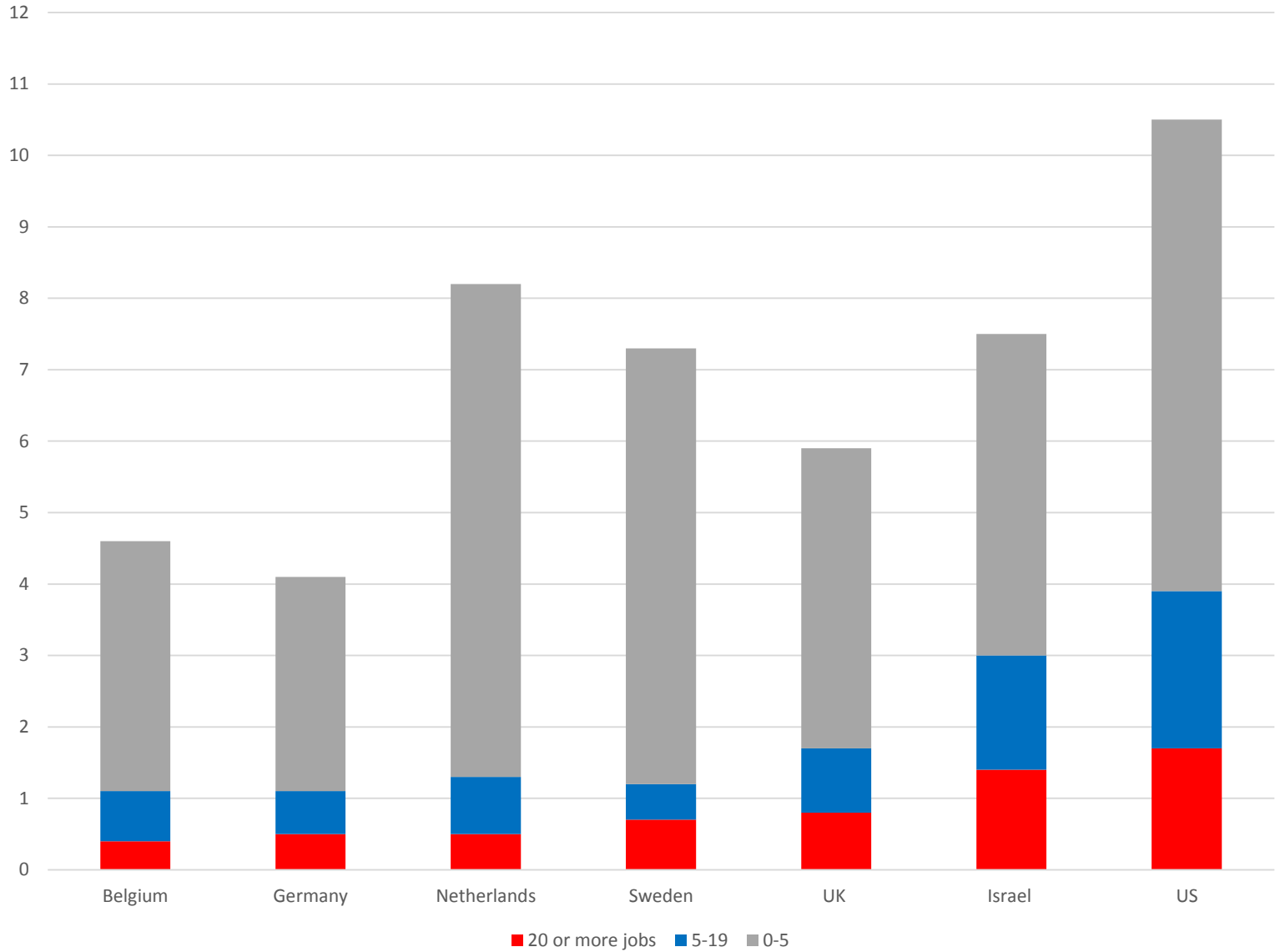
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Job growth ambitions start-ups (2013)

Share of the adult population





Europe's post-entry growth problem?

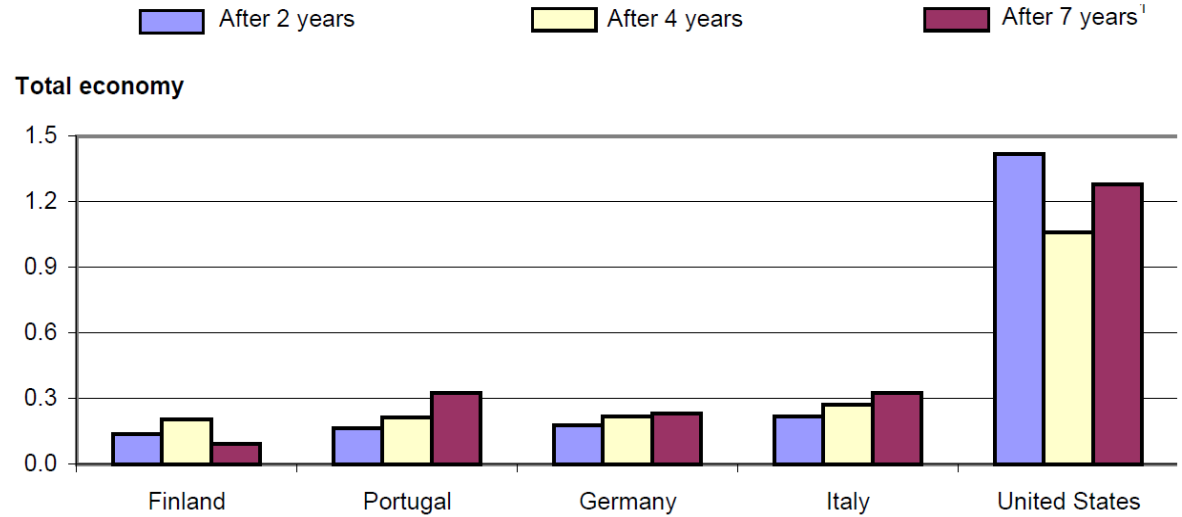
- Growth problem?
 - Lack of high-growth startups (gazelles, unicorns, scale-ups,)
 - Too many low-growth entrants / solo self-employed
 - Stagnating incumbents
 - ...
- R&D / innovation problem?



Europe's post-entry growth problem?

- Europe? (Bartelsman et al 2005 vs Bravo Biosca 2010; Dosi et al. 2005)
 - UK, Sweden, ...
 - Netherlands, Germany, ...
 - Greece, Portugal, ...
- US: California, Massachusetts vs South Carolina, Iowa, Michigan
- Decker, Haltiwanger, Jarmin, Miranda (2016 EER): decline of #young high-growth firms in the US since early 2000s....

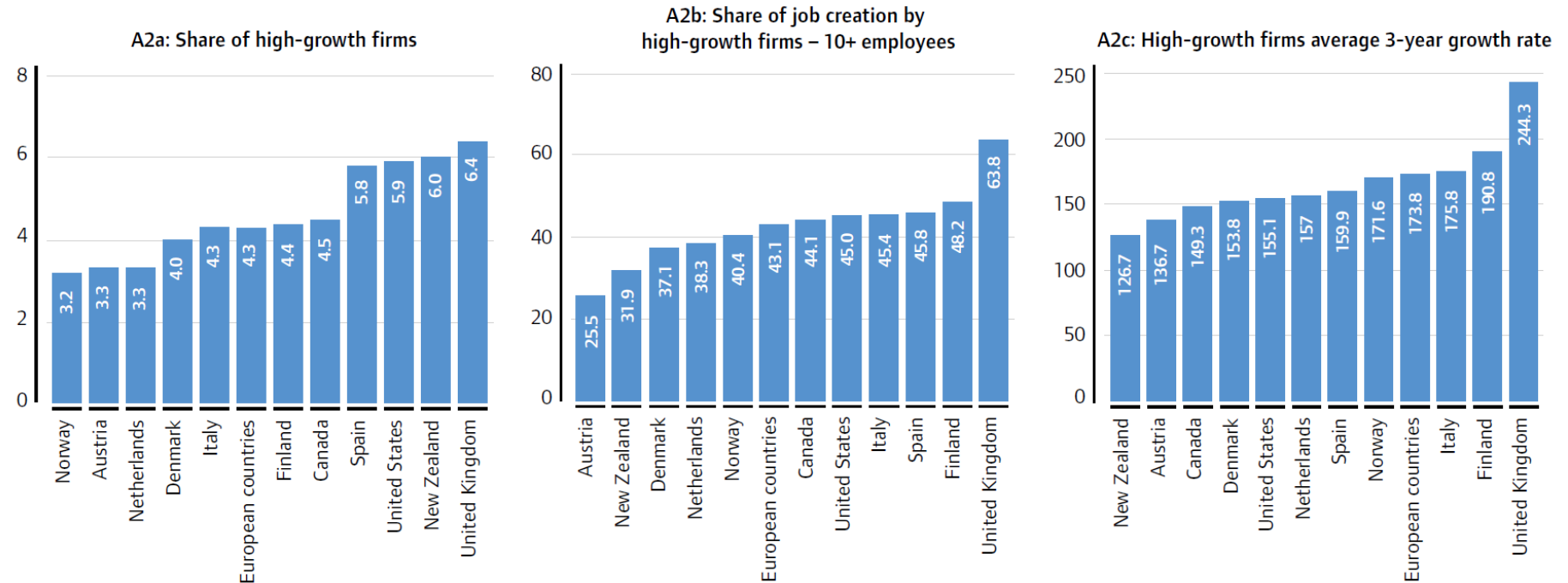
Figure 9. **Employment gains among surviving firms at different lifestimes**
 (net gains as a ratio of initial employment)



Bartelsman et al. 2005

Bravo Biasco 2010

Figure A2: High-growth firms and job creation





More Macro

- Macroeconomic growth problem?



Macroeconomic effects

- Evidence on positive macroeconomic effects of ambitious entrepreneurship (Stam et al. 2011)
 - Indication of new value creation potential of economy?
- Limited / no evidence on macroeconomic effects of high-growth firms (Stam et al. 2011; Bos & Stam 2014)
 - Too limited indicator of new value creation?
 - Intrapreneurship within incumbents
 - Unproductive entrepreneurship?
 - Sector: Growth in child day care centers
 - Mode of growth: Mergers and acquisitions
- Running into Scale-up policy fashion too quickly?
- Consulting entrepreneurs, industry associations: *what can we do to stimulate Scale-ups?*



Macro conditions

- Institutions
 - **Labour: e.g. labour market regulation**
 - Capital: e.g. capital market regulation (crowdfunding!)
 - Knowledge: e.g. science and education policy
 - Competition: e.g. competition policy
- Macroeconomic shocks....



How to enable / channel the best & the brightest to productive entrepreneurship?

- Founders *and* Entrepreneurial Employees

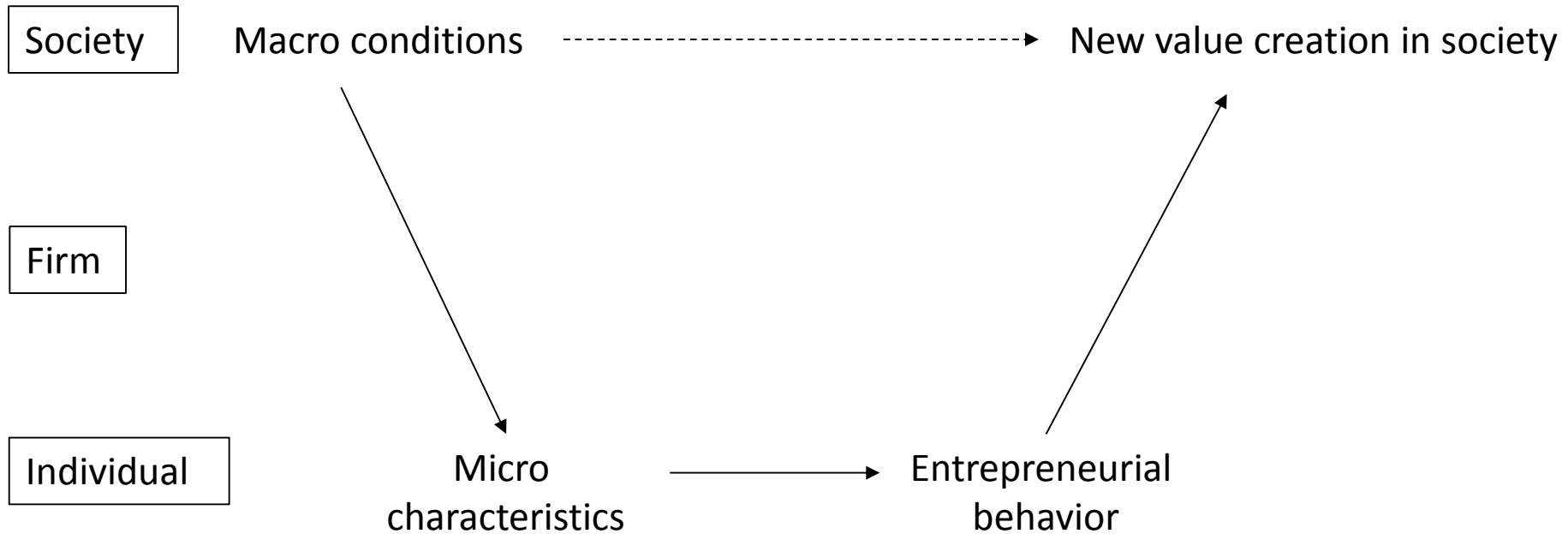


Labour Mobility meets Schumpeter





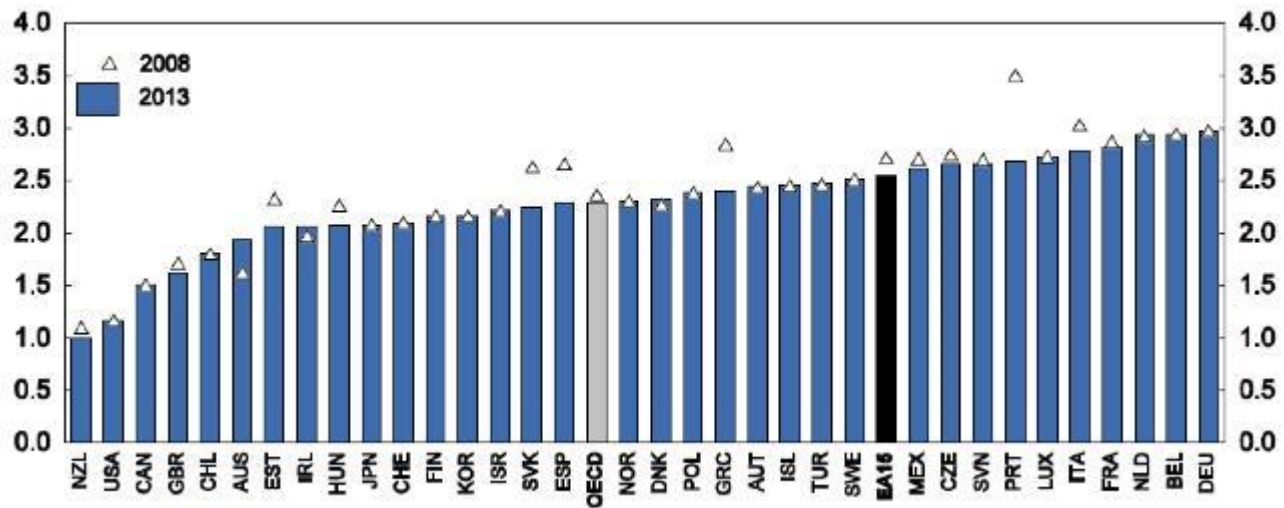
macro-micro-macro





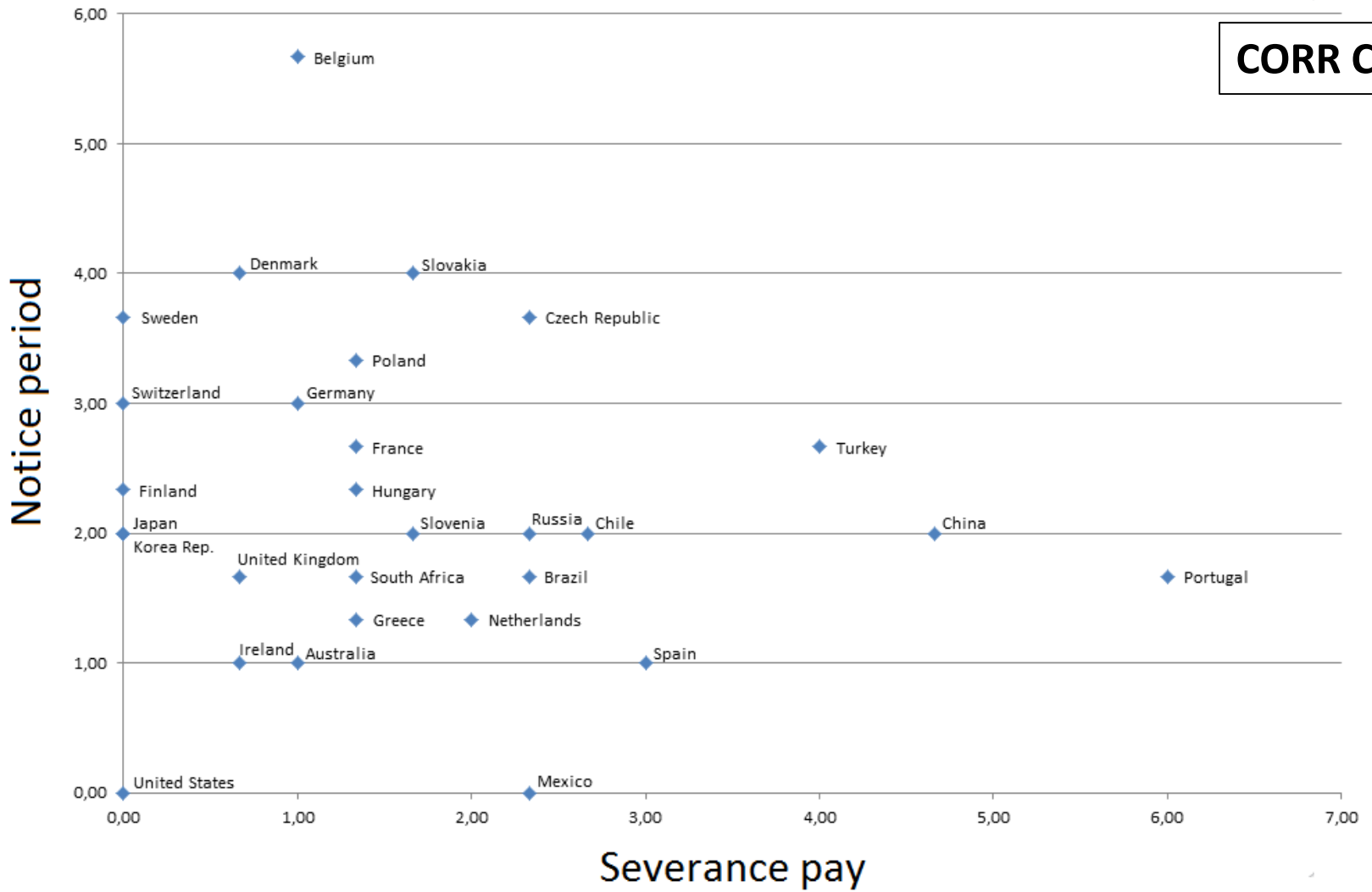
The sclerotic continent is lagging behind

Figure 21. Employment protection is relatively high in the euro area
 Index scale from 0 (least restrictive) to 6 (most restrictive)



Source: OECD, *Employment Protection Legislation database*.

CORR COEFF





Labour market regulation

- **Employment protection legislation**
 - Negative effect on self-employment (Robson 2003; Liebrechts & Stam 2016))
 - Negative effect on ambitious entrepreneurship (Bosma, Schutjens, Stam 2009; Autio 2011)
 - Negative effect (dismissal protection) on small firms' hirings (Bauernschuster 2013; Bornhall et al 2016)
 - Positive (!) effect on intrapreneurship (notice period; Liebrechts & Stam 2016)
- **Non-compete agreements:** negative effects on innovative startups (Stam 2015)



The Scaling Up Problem

- Stylized facts about young firm growth
 - Growth is rare, high-growth is exceptional, continued growth is highly exceptional
 - Few are called, even less are chosen...
 - Random process, but... chance favors the prepared entrepreneur (human capital, networks)



The Scaling Up Problem

- More micro research needed
 - Internal and external organization
 - Growth paths
 - Scaling up excellence / intrapreneurship within established organizations!
- More macro research needed
 - Consequences
 - Conditions: e.g. employment protection



The Scaling Up Problem

Implications for the policy process

- Develop academic evidence base on macro consequences, conditions & get the microfoundations right
- Start with policy experiments (changing macro conditions, affecting micro behavior) to create evidence base (also on subsequent macro effects)



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