

Every second job is taken by robots in 20 years

– is Norway prepared for
the challenge?

Stefan Fölster



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The industrial revolution's losers

- Many well trained craftsmen lost their jobs.
- No real wage growth 1770-1830 in Britain.



- **Extensive research on effects of globalization and automation...**
- **...finds automation polarises labour market.** (Autor & Dorn, 2013, Autor, Dorn, Hanson, 2013)
- **Less educated have lost.**

Macroeconomics in the “second machine age”

- **High profits.**
- **Low investments, (Karabarbounis&Neiman, 2013).**
- **Low interest rates, asset bubbles.**
- **Low inflation.**
- **Living standards rise faster than GDP.**

THE FUTURE OF EMPLOYMENT: HOW SUSCEPTIBLE ARE JOBS TO COMPUTERISATION?

* Carl Benedikt Frey[†] and Michael
A. Osborne[‡]

September 17, 2013

Oxford University, Oxford Martin
Programme on the Impacts of
Future Technology



What can humans do better than machines?

- Finger Dexterity
 - Manual Dexterity
 - Cramped Work Space
 - Originality
 - Fine Arts
 - Social Perceptiveness
 - Negotiation
 - Persuasion
 - Assisting and Caring for others
- Priest
Management
Politician
Child care

Darpa's new challenge – the robot handyman



Some results

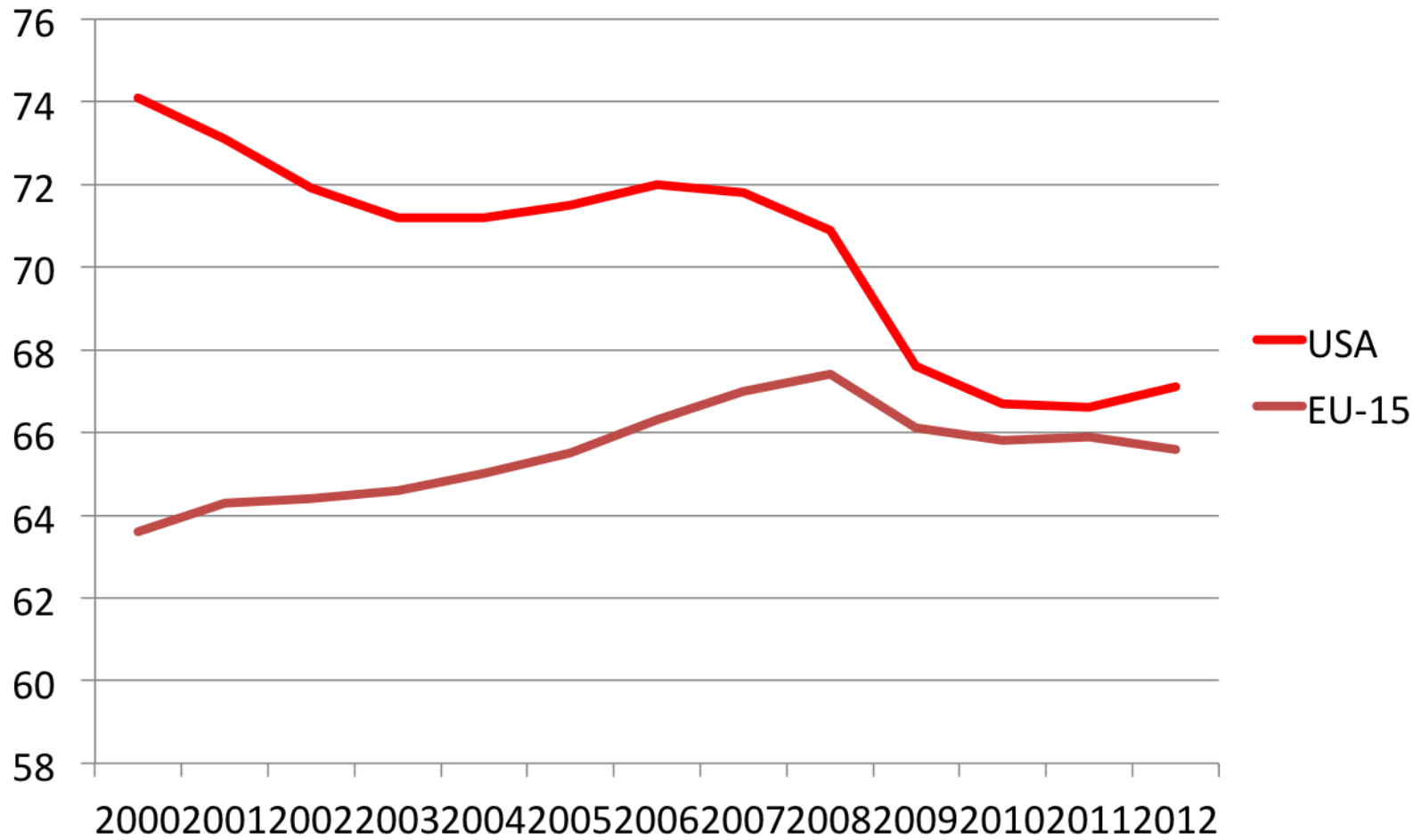
- 53% of Swedes (or Norwegians) work in professions that can be automated within 20 years.
- **Retail trade, industry, transport, customer relation services employ many in Norway.**
- Many white collar professions affected also.

Issues for nordic welfare states

- **Demographic challenge changes.**
- **Many potential new jobs in tax financed sectors such as care and social service.**
- **Many new jobs compete with home production, which makes it harder to tax them.**

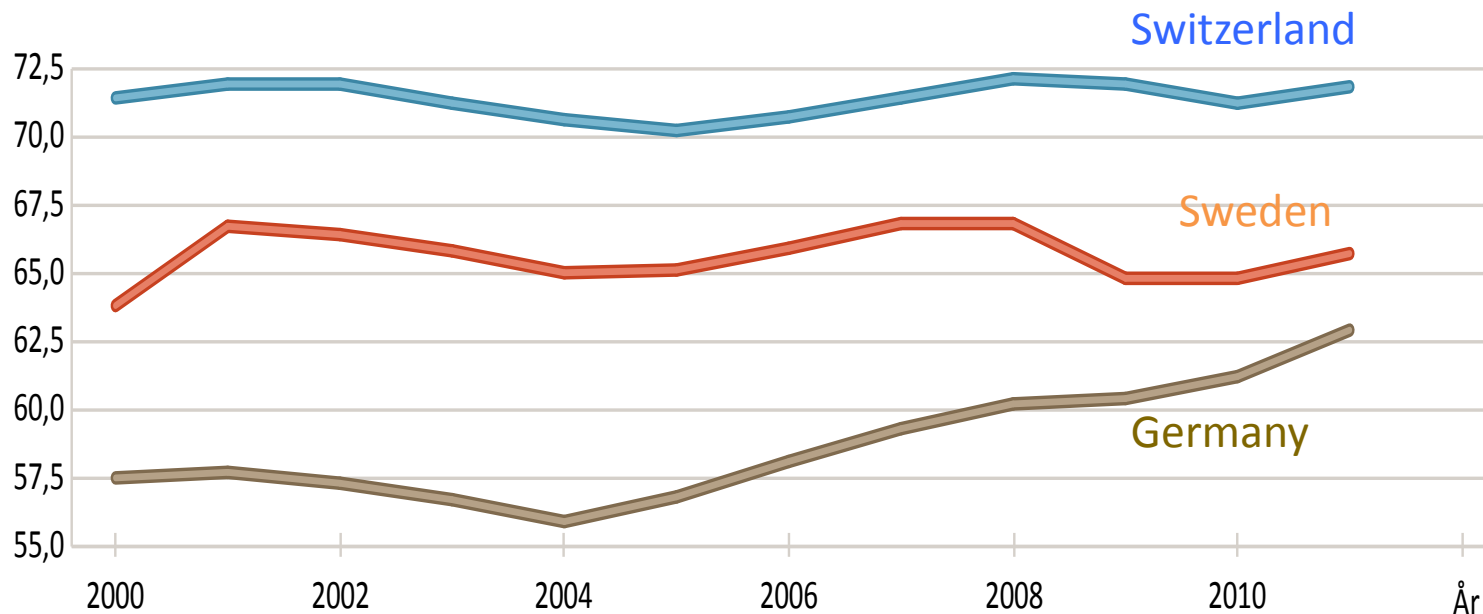
Is Europe next?

Employment share of population in the USA and Europe



Countries that reform improve employment share in spite of automation, e.g. Switzerland Sweden and Germany

Antal sysselsatta i procent av befolkningen 15-74 år

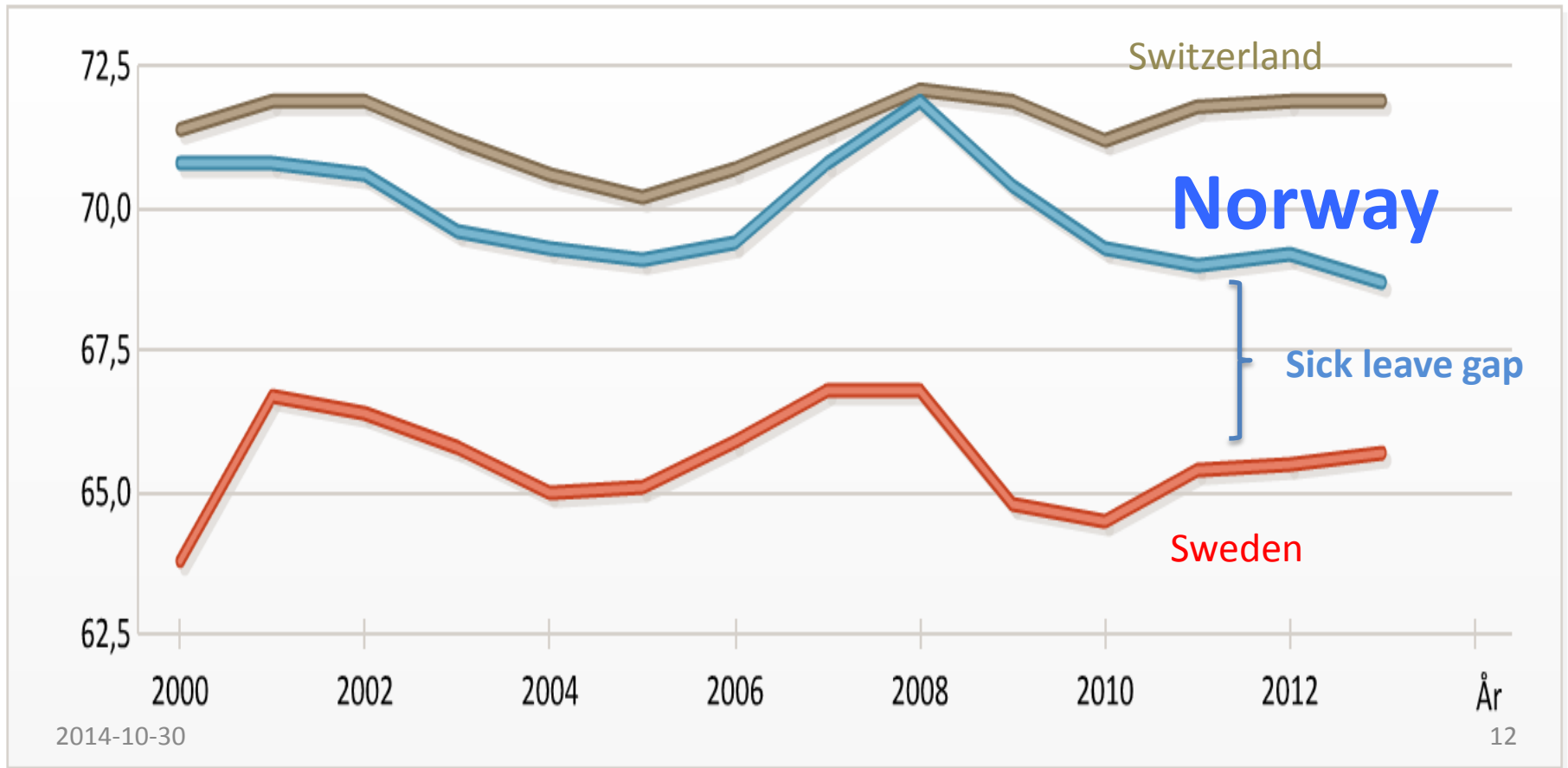


Källa: Eurostat

Not: Eurostat reviderar och uppdaterar sina siffror kontinuerligt.

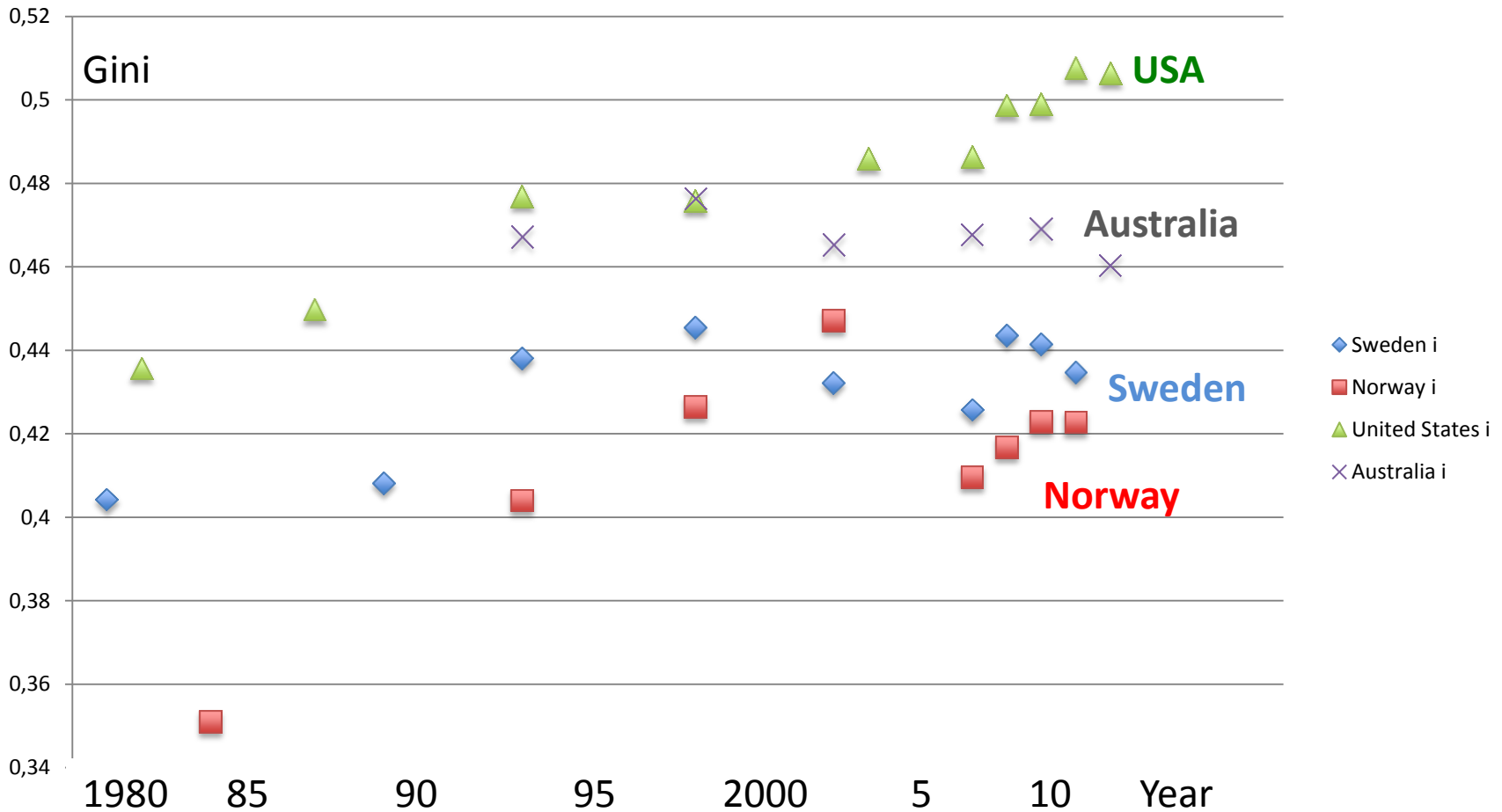
Hämtat: 2013-03-25

Norwegian employment - high but exposed



Wages have not become more unequal since 2000

Gini of income before taxes and transfers



Reforms that ease the challenge

- **Innovation policy for education.**
- **Better innovation policies can help Norway capture gains to viral innovations.**
- **Move the tax base from work or investment to consumption.**

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