Productivity developments in Europe and the OECD

Cross-country comparisons and key measurement issues

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BETTER POLICIES FOR BETTER LIVES

Outline

1. The OECD Productivity Database
2. Recent and longer-term productivity developments in Europe and the OECD
3. Key measurement issues
4. Concluding remarks and the way forward

1. The OECD Productivity Database

The *OECD Productivity Database*

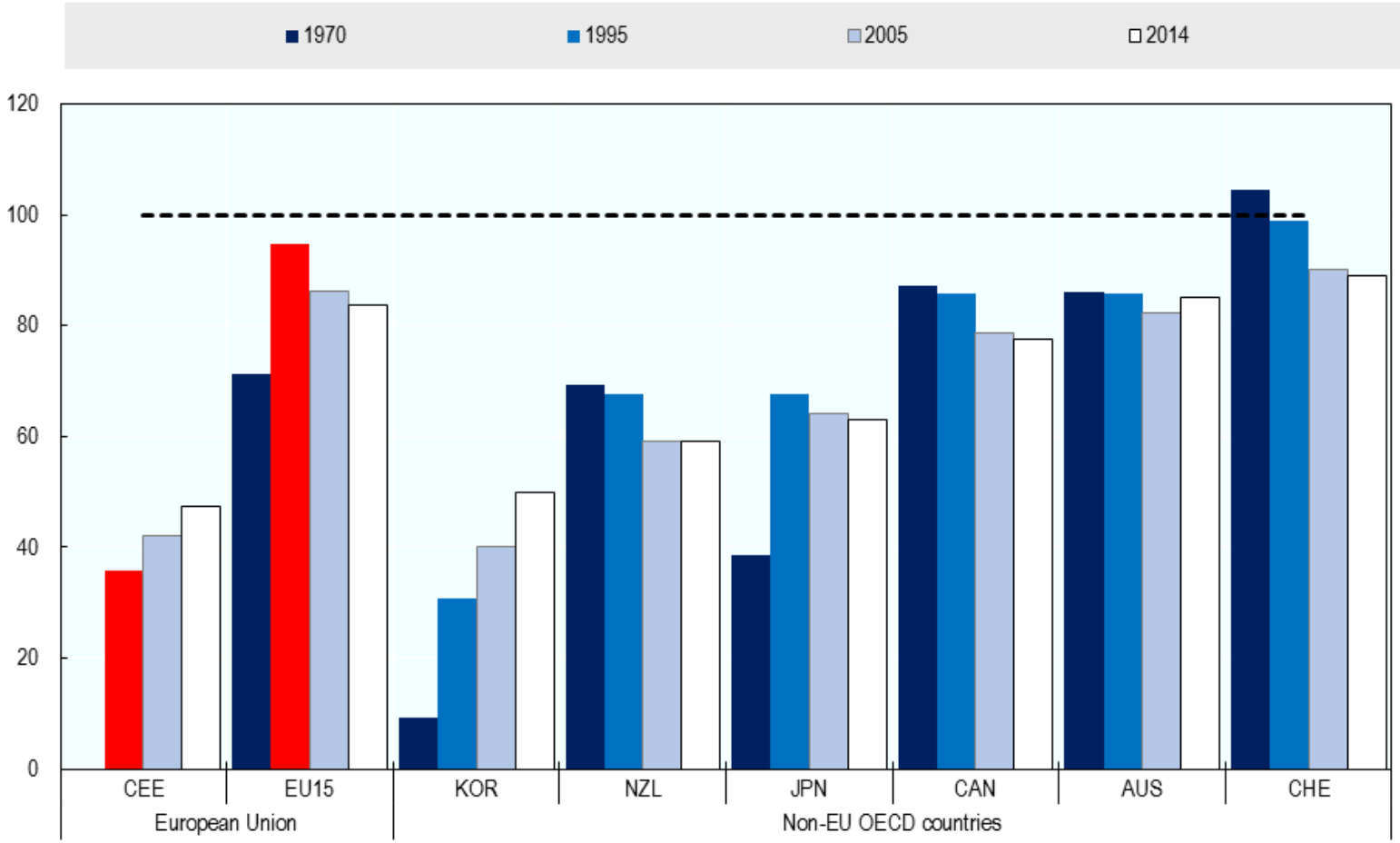
- Primarily based in national accounts (2008 SNA)
- Value added-based productivity measures
- Total economy: labour input, labour productivity, capital services, MFP, ULCs
- Main economic activities (ISIC Rev. 4): labour input, labour productivity, ULCs
- OECD countries, accession countries and OECD Key Partner economies (including BRIICS)
- Meets OECD data quality principles: coherence, timeliness, accessibility, interpretability
- Adherence to *OECD Productivity Manual* *(OECD, 2001)*

The OECD Productivity Database

2. Recent and longer-term productivity developments in Europe and the OECD

The convergence process of the EU15 towards the US went into reverse in the mid-1990s

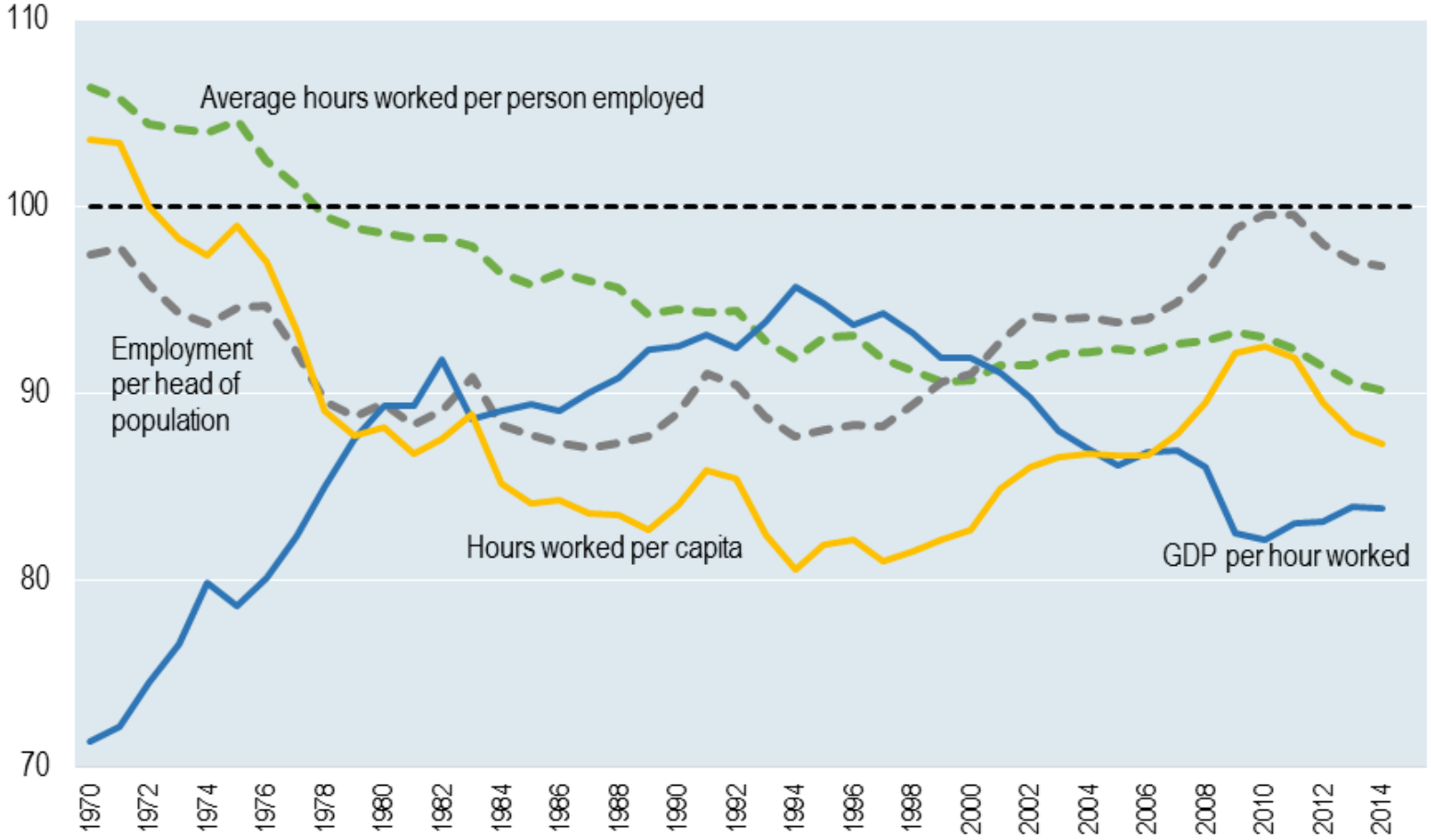
GDP per hour worked, USA=100



Source: OECD Productivity Database, April 2016.

Labour utilisation in the EU has been climbing back since the mid 1990s until the crisis

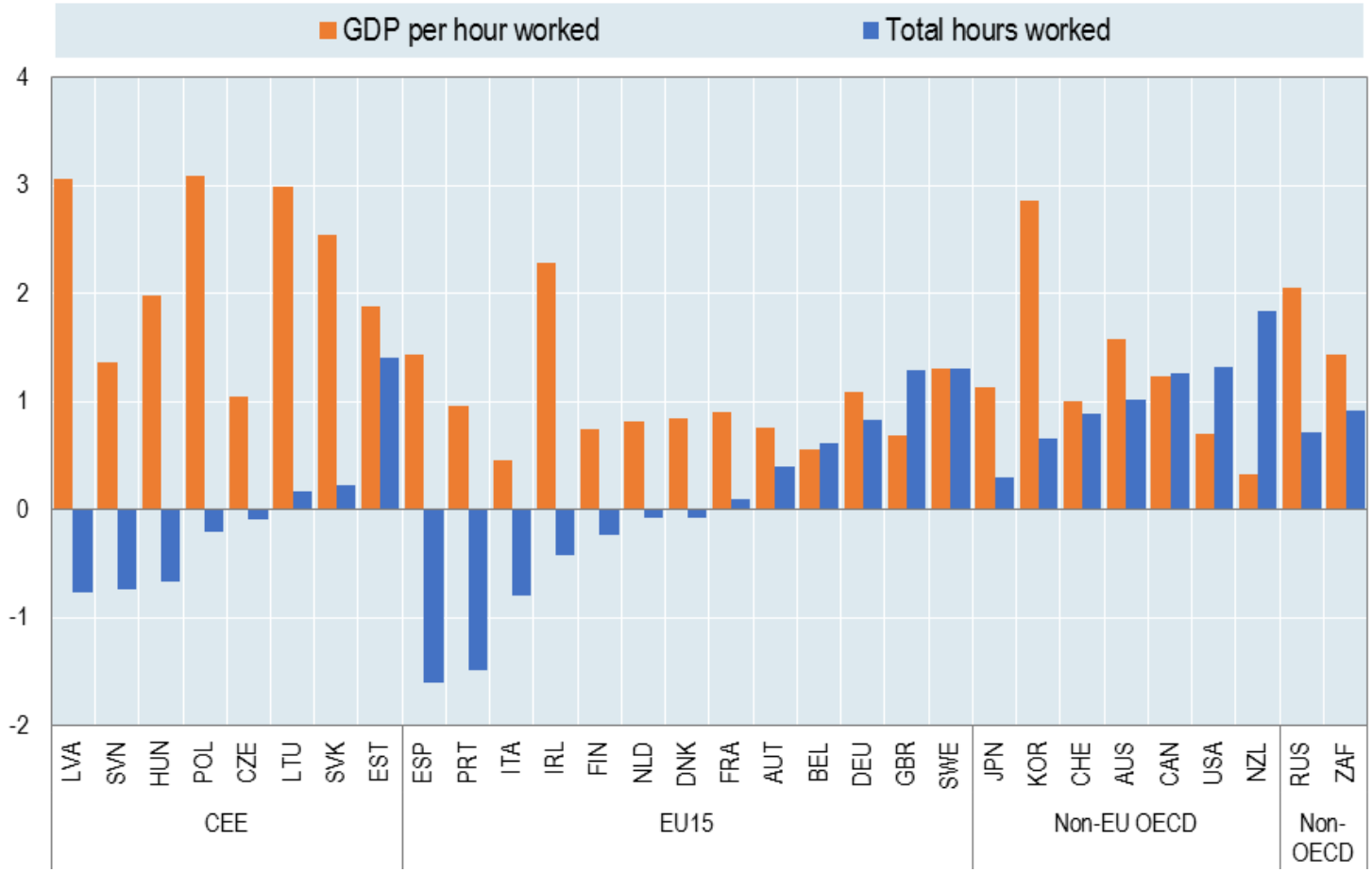
Labour productivity and labour utilisation in EU15, USA=100



Source: OECD Productivity Database, April 2016.

In some EU countries, patterns in total hours worked are the flip side of labour productivity developments…

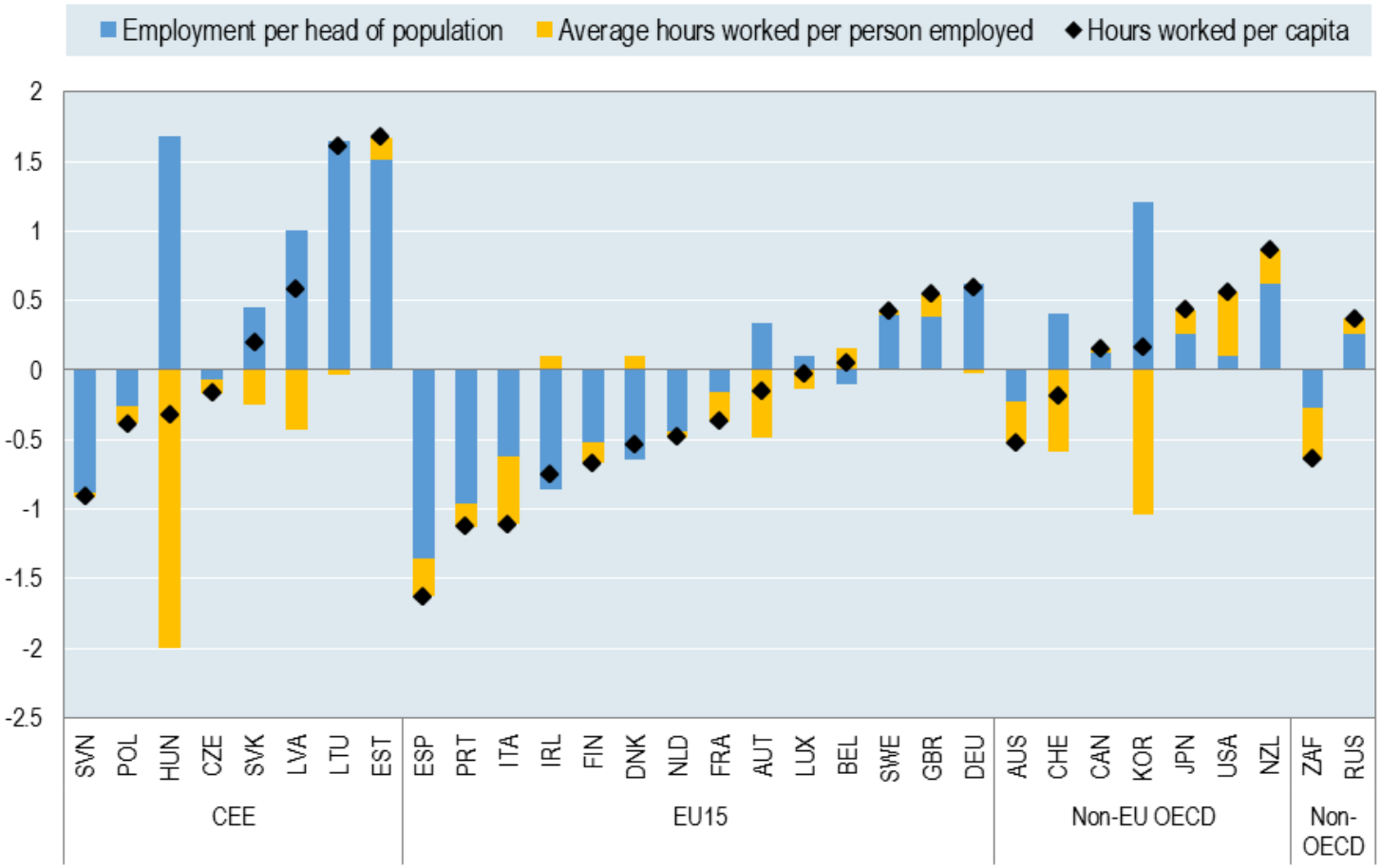
GDP per hour worked and total hours worked, average annual rate (%)
2009-2015 (or latest available year)



Source: OECD Productivity Database, April 2016.

… reflecting a declined in average hours worked per person, lower employment or both.

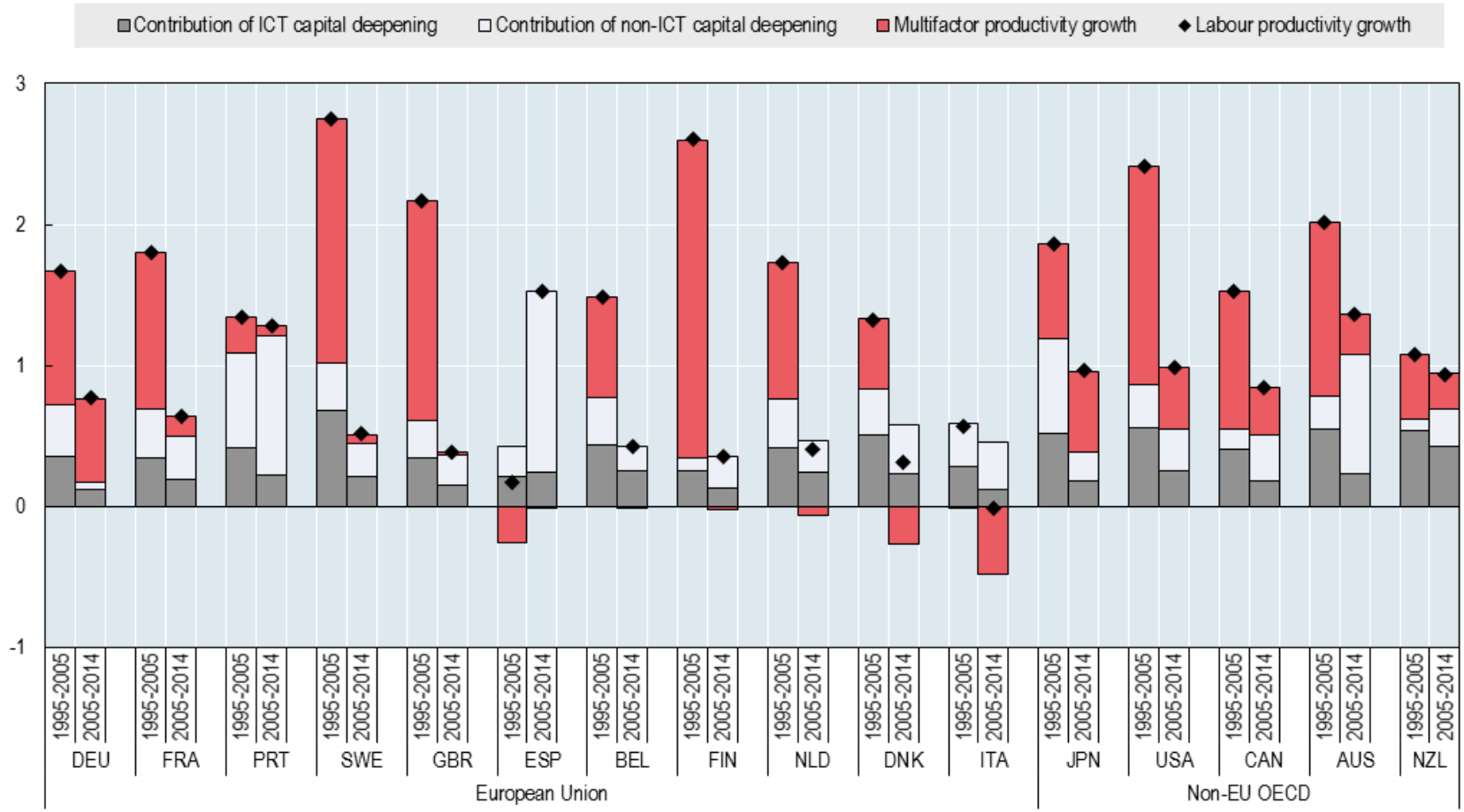
Growth in labour utilisation, average annual rate (%)
2009-2015 (or latest available year)



Source: OECD Productivity Database, April 2016.

MFP growth in the EU has been declining faster than in other OECD countries

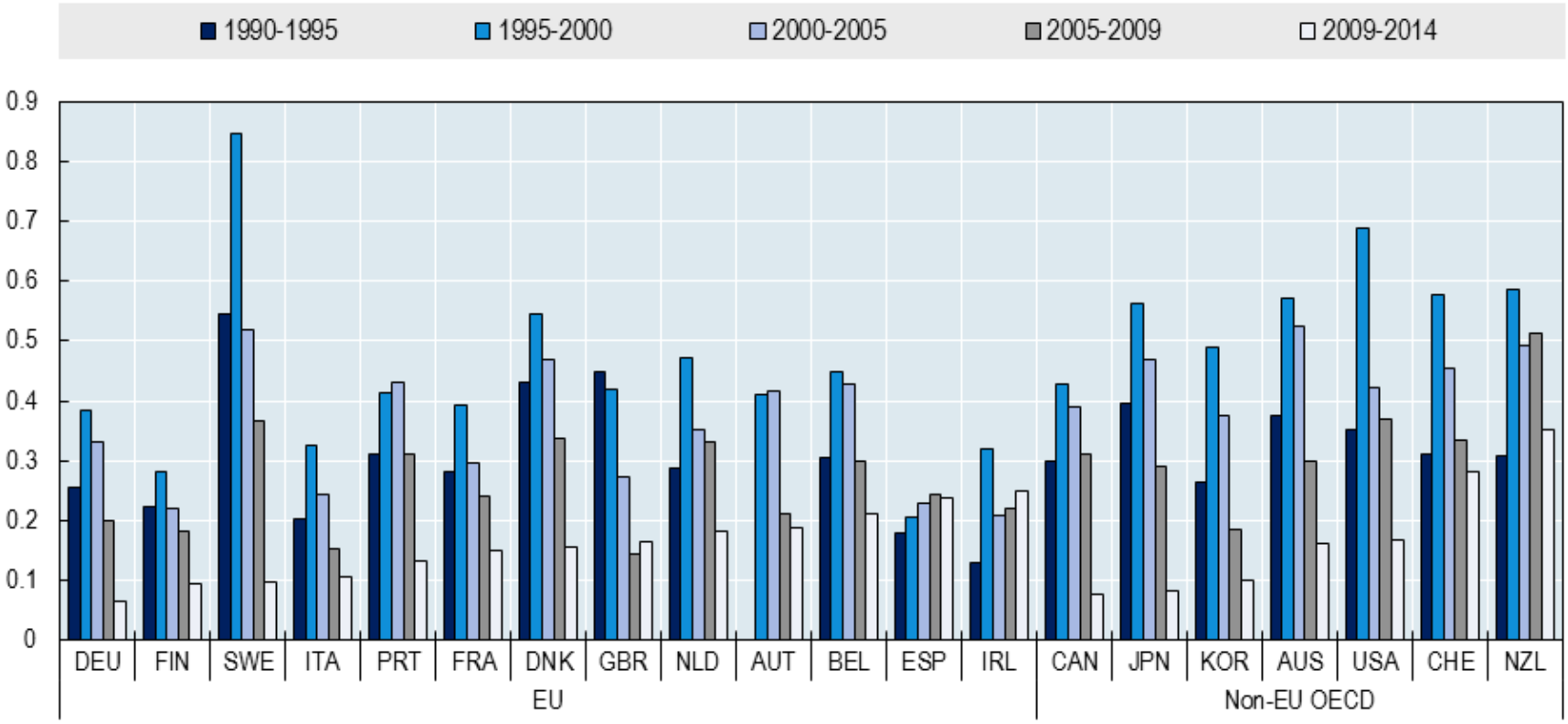
Multifactor productivity growth, average annual rate (%)



Source: OECD Productivity Database, April 2016.

The contribution of ICT capital deepening to labour productivity growth in the EU has been lower than in the US

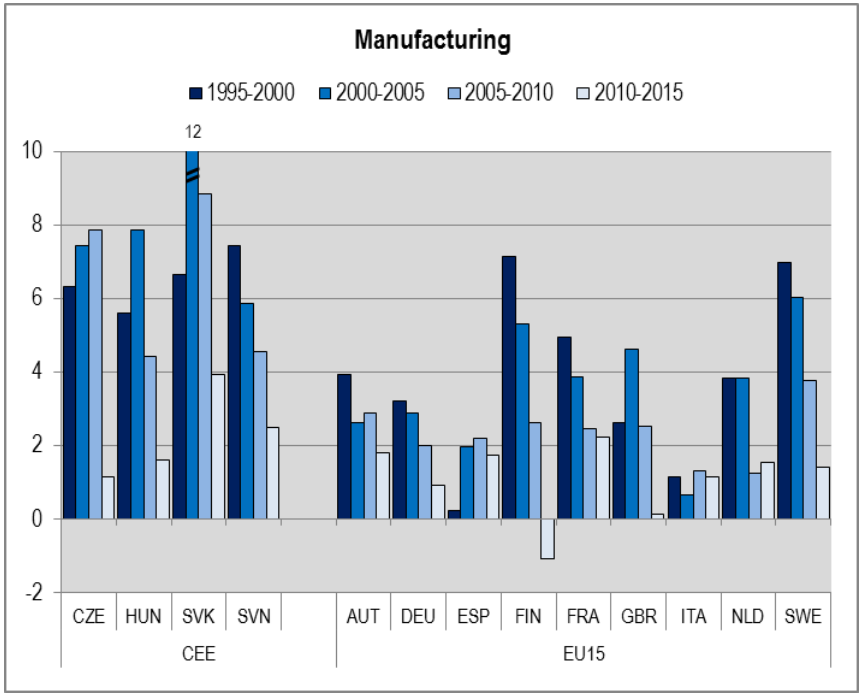
Contribution of ICT capital deepening to labour productivity growth
Average annual rate (%)

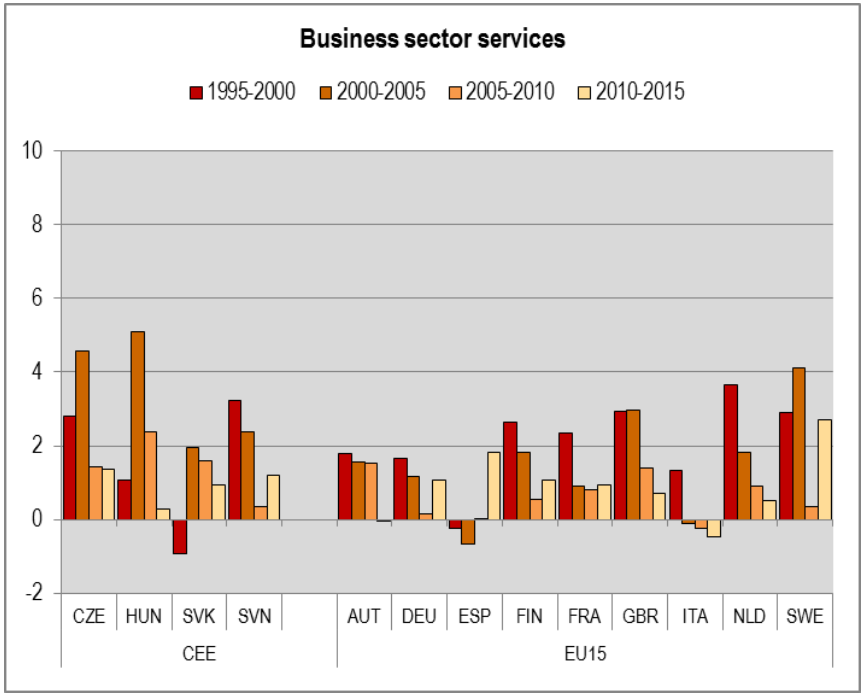


Source: OECD Productivity Database, April 2016.

The productivity slowdown is observed in both manufacturing and business sector services

Gross value added per hour worked, average annual rate (%)

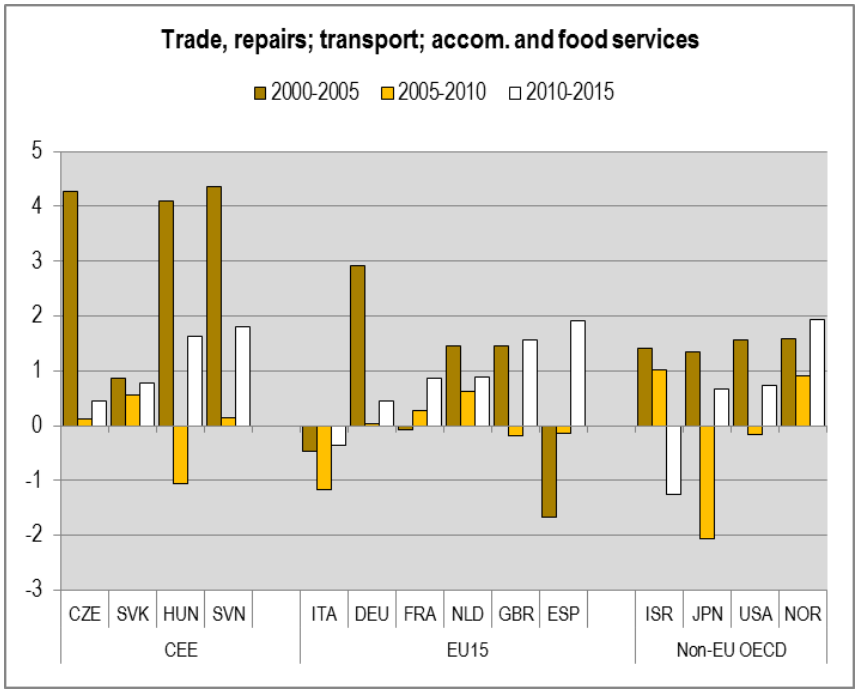


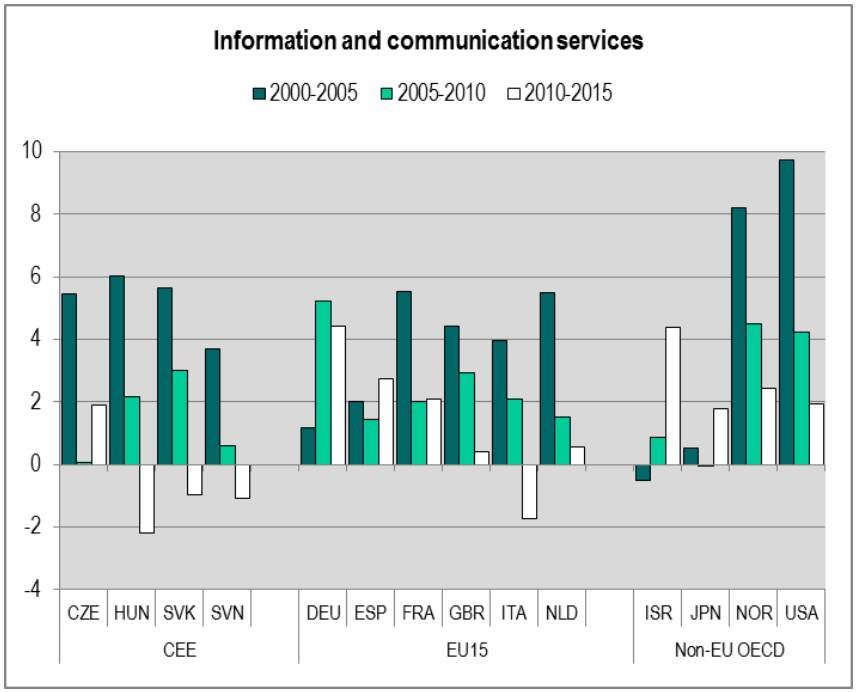


Source: OECD Productivity Database, April 2016. Data refer to 2010-2015 (or latest available year).

In the EU, labour productivity growth in some business sector services was below other OECD countries

Gross value added person employed, average annual rate (%)





Source: OECD Productivity Database, April 2016. Data refer to 2010-2015 (or latest available year).

3. Key measurement issues

Increasing number of NSOs computing official MFP statistics

	Country	Institution	MFP measure	Industry
EU	Denmark	Statistics Denmark	Value added based; KLEMS until 2013 (discontinued)	Market sector, non-farm market sector and more than 100 industries
	Finland	Statistics Finland	Value added based; KLEMS	Total economy and more than 80 industries
	France	INSEE (Working Paper in 2013)	Value added based	Total economy
	Italy	ISTAT	Value added based	Total economy and more than 40 industries (NACE Rev 2)
	Netherlands	Statistics Netherlands	Value added based; KLEMS	Market sector and 1 and 2 digit SIC 2008 sectors
	Sweden	Statistics Sweden	Value added based; KLEMS	Total economy and more than 50 industries (NACE Rev 2)
	United Kingdom	Office for National Statistics	Value added based	Market sector and 9 industries
Non-EU OECD	Australia	Australian Bureau of Statistics	Value added based	Market sector and 16 industries (ANZSIC06)
	Canada	Statistics Canada	Value added based; KLEMS	Aggregate business sector, major business sub-sectors and 100 industries (NAICS)
	Korea	Bank of Korea		
	Mexico	INEGI	KLEMS	Total economy and 67 industries (NAICS)
	New Zealand	Statistics New Zealand	Value added based	Measured sector (market sector) and more than 30 industries (ANZSIC06)
	Switzerland	Swiss Federal Statistics Office	Value added based	Total economy
	United States	Bureau of Labour Statistics	Value added based; KLEMS	Private business sector, Non-farm private business sector and 80 industries (NAICS)

The *OECD Productivity Database* and the introduction of new standards

Revisions in international standards help to account for new and emerging products and industries and organisational changes in production:

- From 1993 SNA to 2008 SNA
- From ISIC Rev. 3 to ISIC Rev. 4

However…

- Timing for implementation differ across countries
- Break in time series may be hard to mend

Measuring labour input for productivity analysis

- Most widely used measures:
  - Total hours worked
  - Total employment (head-counts or persons)
- Preferred source: national accounts
  - Consistency with output and compensation measures
  - Consistency between hours and employment measures
- Still…
  - National-accounts estimates are missing for some OECD countries and, in particular, for key partner economies
  - When available, differences in primary data sources require different adjustments that may affect cross-country comparability

Total employment and total hours worked measures in the *OECD Productivity Database*

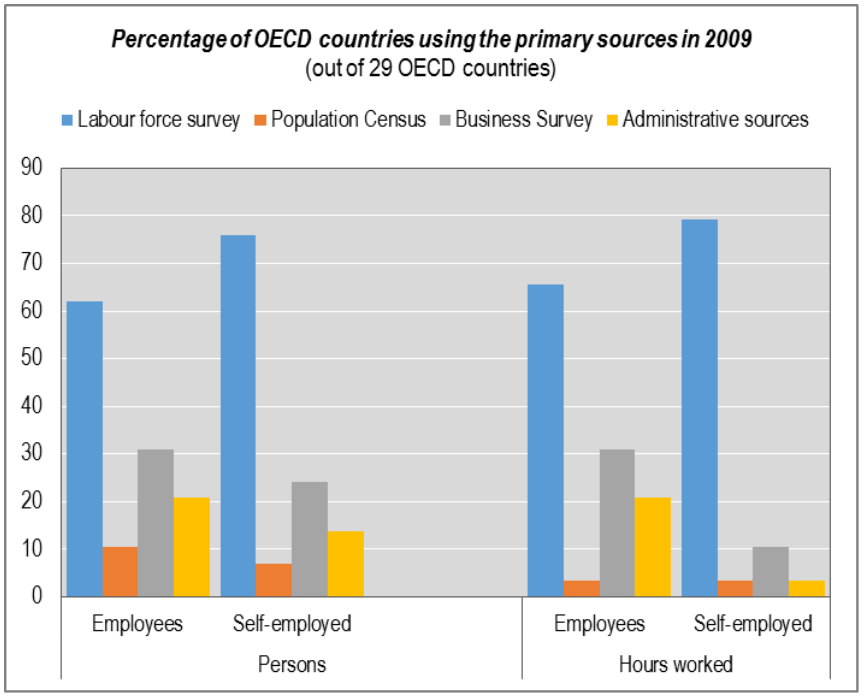
Key issues:

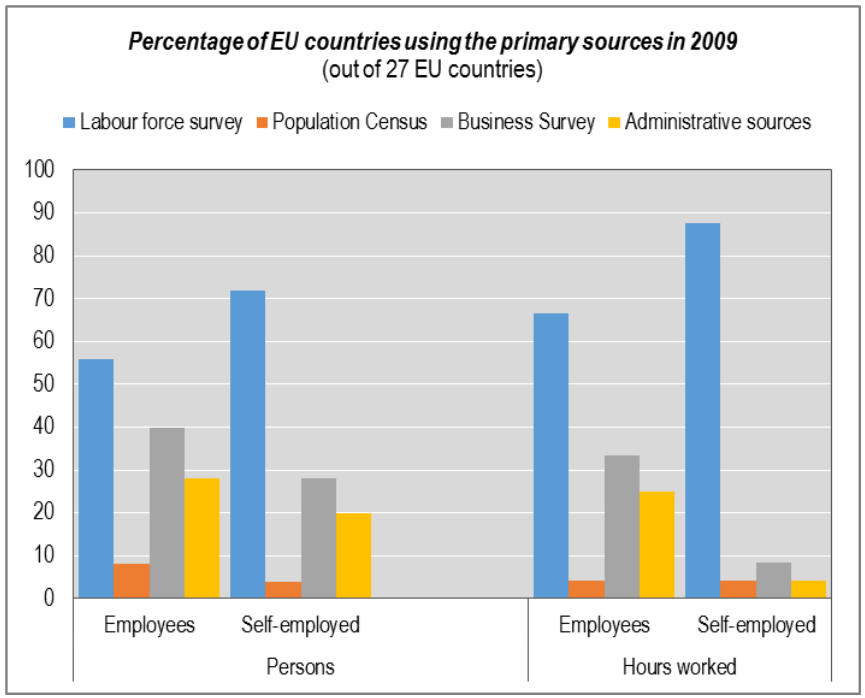
- Persons vs jobs
- Coverage of employee and self-employed jobs
- Industry coverage
- Domestic vs. national concept
- Lack of data availability, particularly, on hours worked at industry level
- Other issues: fiscal vs. calendar year reporting, changes in survey concepts and design

These measurement issues reflect the use of different primary data sources

Primary sources for employment and hours worked in OECD National Accounts

The 2009 survey





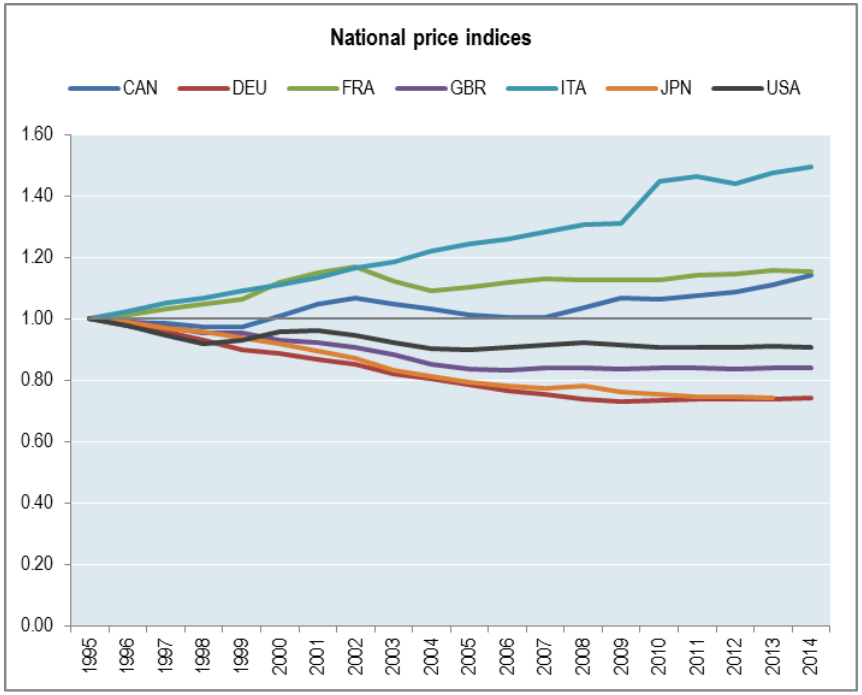
Source: Brunet and Hong, Comparability of labour input measure for productivity analysis, Working Party in National Accounts, October 2009 , STD/CSTAT/WPNA(2009)11.

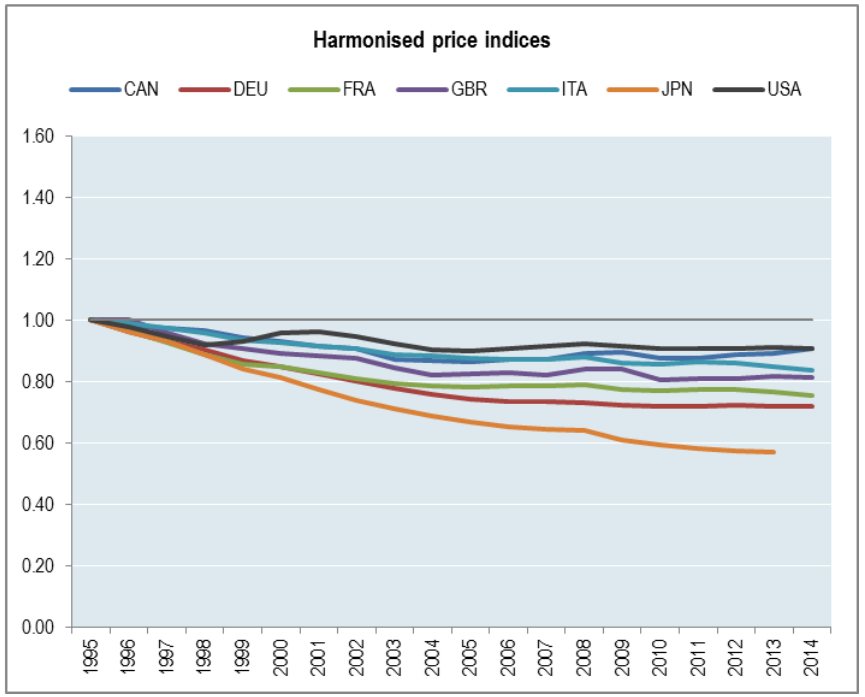
Capital services in the *OECD Productivity Database*

- Since 2014, capital services are computed for 8 types of assets (in line with 2008 SNA), of which 3 ICT assets:
  - Computer hardware
  - Telecommunication equipment
  - Transport equipment
  - Other machinery and equipment and weapons systems
  - Non-residential construction
  - Computer software and databases
  - Research and development
  - Other intellectual property products
- Currently, only available **for 22 OECD countries (of which 15 are EU15)**→ need for *long* national accounts GFCF series, *in current prices and volumes*, *by asset type*
- **Harmonised deflators for ICT assets** → change in the US ratio *ICT asset price/Non-ICT asset prices* used as benchmark

International comparisons of volume changes in ICT investment are still challenging

Price indices for investment in computer software, 1995=1





Source: OECD Productivity Database, April 2016.

4. Concluding remarks and the way forward

Concluding remarks

Productivity developments in the EU

- Declining labour productivity growth was underway prior to the crisis, in both manufacturing and business sector services
- Growth accounts suggest that flat-lining or even negative MFP growth over the last 10 years is the main driver for the weak labour productivity performance
- Lower ICT led gains in the EU play also a role
- Recent declines in labour utilisation rates in many EU countries due to higher unemployment and/or higher incidence of involuntary part-time work may erode sources of long-term growth (e.g. skills)

OECD Productivity Database: the way forward

- Labour productivity indicators at industry level
  - Increase country coverage
  - Longer time series
  - Improve timeliness

- Increase country coverage for capital services and MFP measures at the total economy level

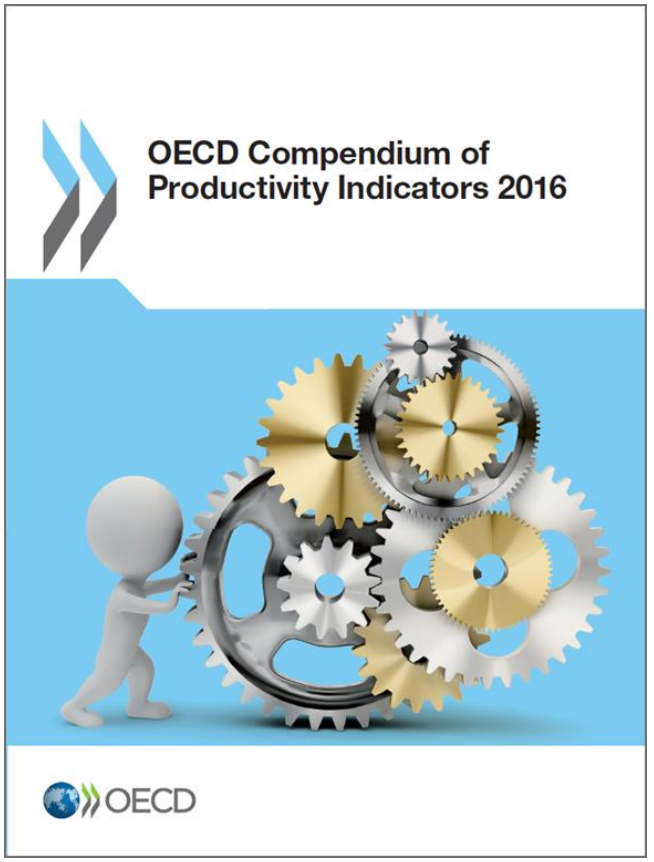
How?

- Working closely with the OECD National Accounts team
- Statistics on NSO websites, NSO publications and documents
- STAN database → to fill eventual gaps in National Accounts officially reported to OECD, in particular, by finding mappings between industrical classifications

More on productivity developments and key measurement issues…

What is new?

- The productivity paradox
- Productivity in emerging economies
- The role of business dynamism
- Productivity by firm size
- Current challenges in measuring productivity



OECD (2016), *OECD Compendium of Productivity Indicators 2016*, OECD Publishing, Paris, http://dx.doi.org/10.1787/pdtvy-2016-en