FIRM LEVEL PRODUCTIVITY IN IRELAND

Department of Finance Policy Conference, 8 March 2018

IGEES

Irish Government Economic & Evaluation Service

An Roinn Airgeadais
Department of Finance

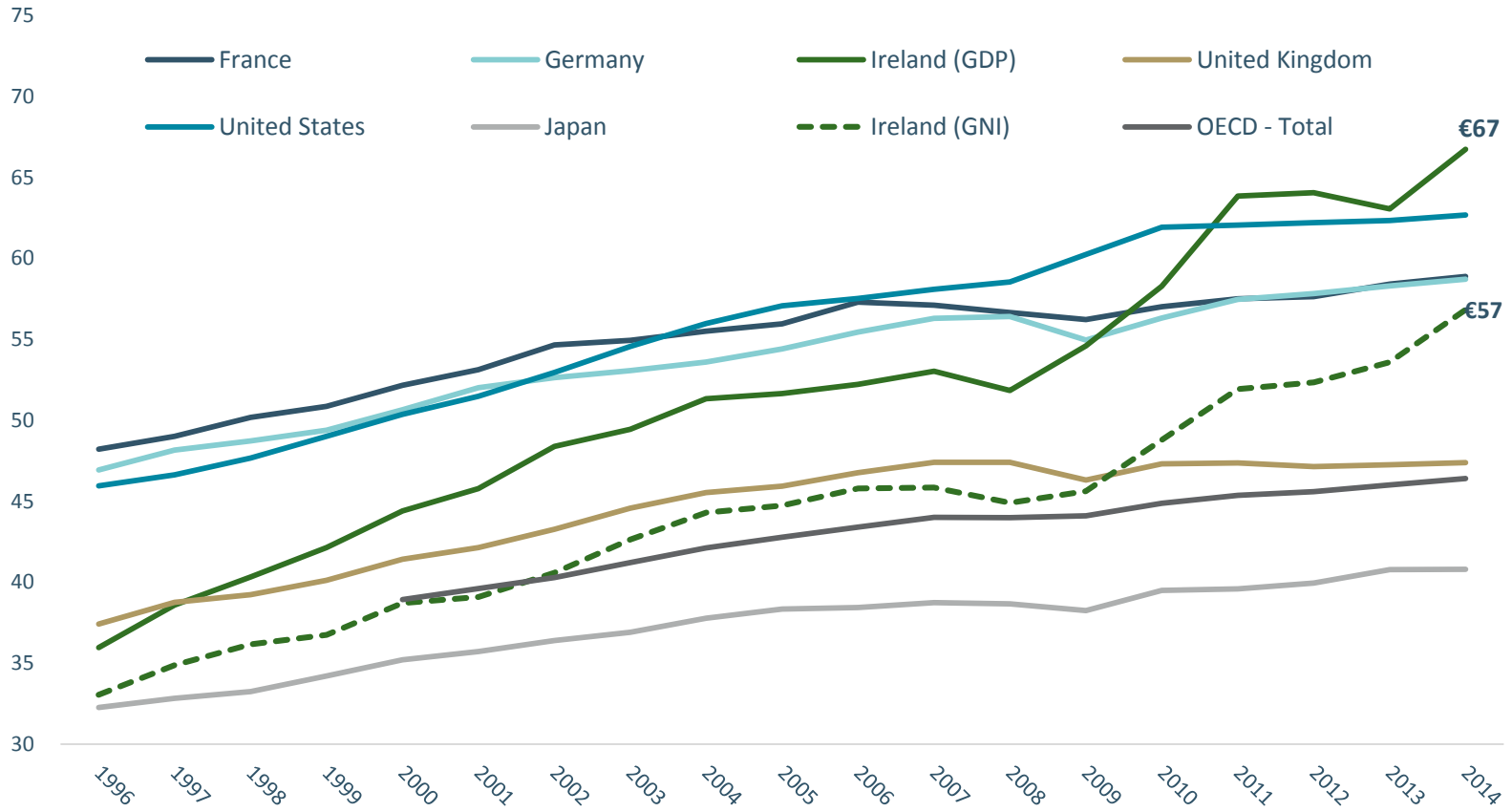
Outline

- High level macro picture
- Firm level analysis – OECD MultiProd model
- MultiProd Results (2006-2014)
  - Concentration measures
  - Productivity Distribution
  - Resource Allocation

High level of labour productivity

An Roinn Airgeadais
Department of Finance

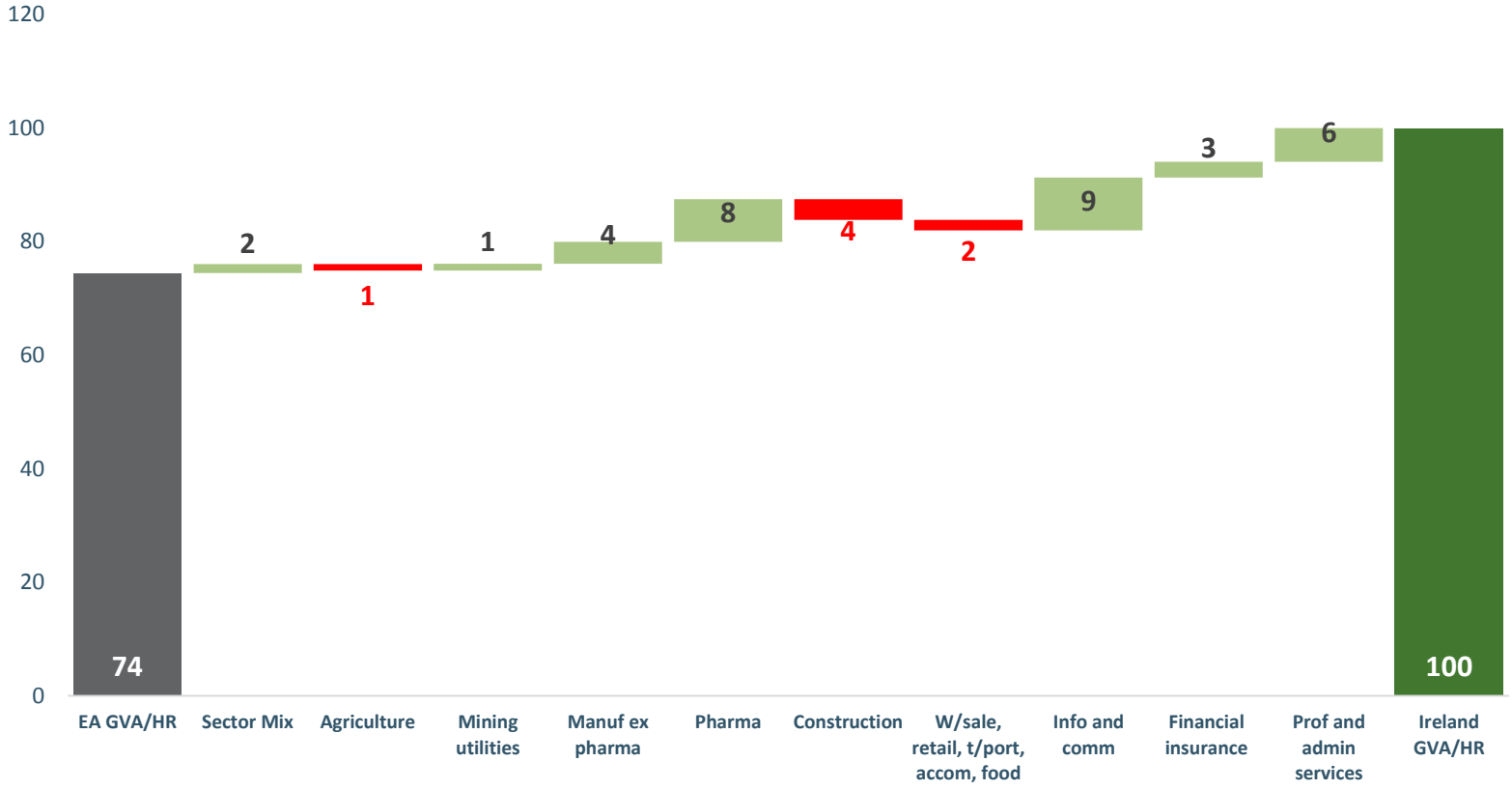
GDP and GNI per hour worked (2015 USD - 2011 PPPs)



Source: OECD

Productivity level driven by certain sectors

Decomposing the euro area (EA) - Ireland productivity gap into sectoral contributions (2014)



Source: EU KLEMS

Decline in growth rate

Source: CSO experimental estimates of productivity (forthcoming)

Need for firm-level productivity analysis

- Aggregate productivity statistics hide underlying drivers

- Three channels of aggregate productivity growth (OECD):
  i. Innovation at the frontier
  ii. Diffusion from frontier to laggard firms
  iii. Resource allocation

- … each of these factors may call for different policy responses.

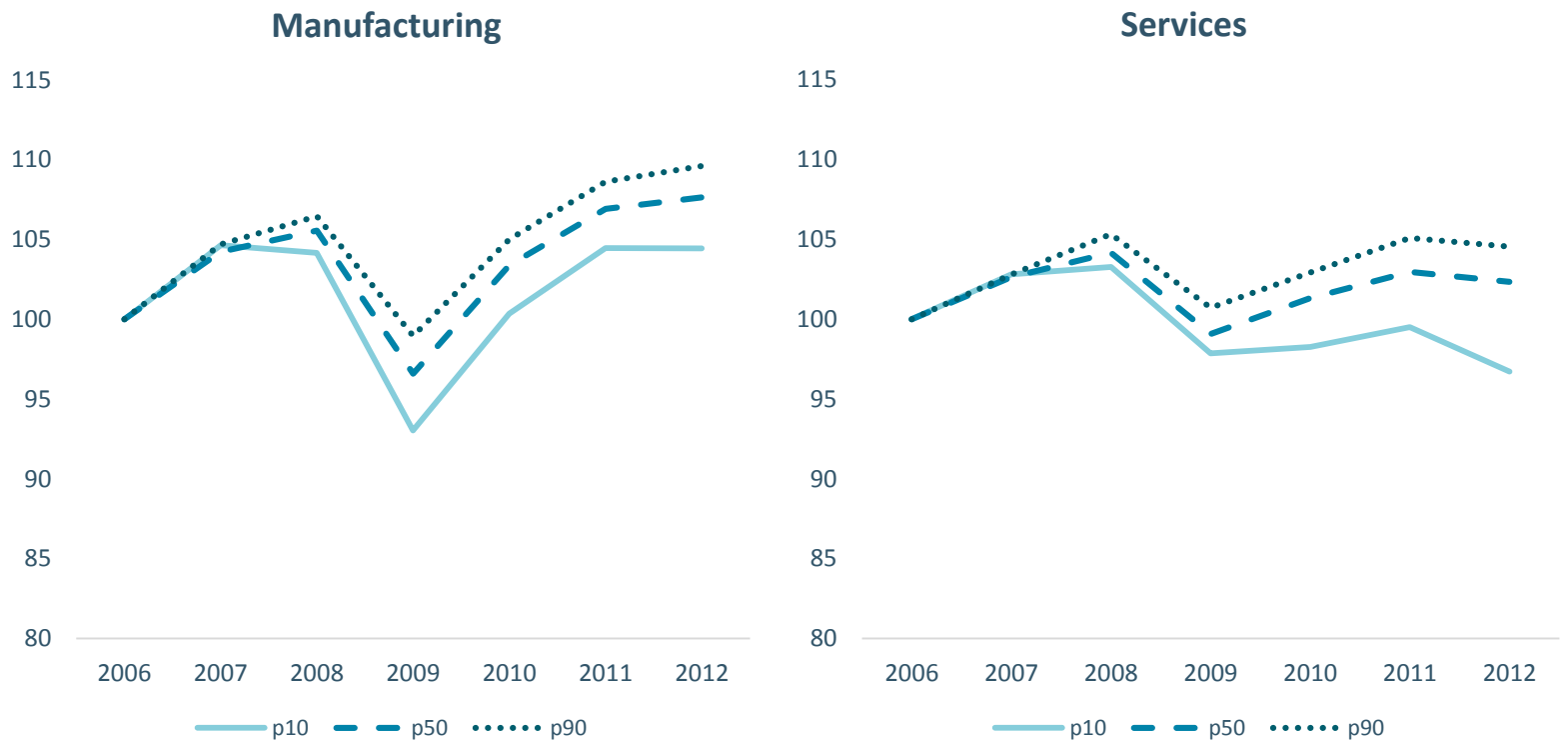
The MultiProd Model

- OECD MultiProd model uses confidential firm-level data to generate non-confidential aggregate statistics which can be used for cross country analysis

- Produces both labour productivity and MFP measures
  - Industry and sectoral statistics
  - Percentiles of distribution (10^{th}, 50^{th}, 90^{th}), age, size, ownership, etc.
  - Various measures of resource allocation

- Sample (panel): 2006 – 2014
  - Manufacturing: 2,500 firms (yearly average)
  - Services: 7,500 firms (yearly average)
  - Business Register – BR (whole population of firms)

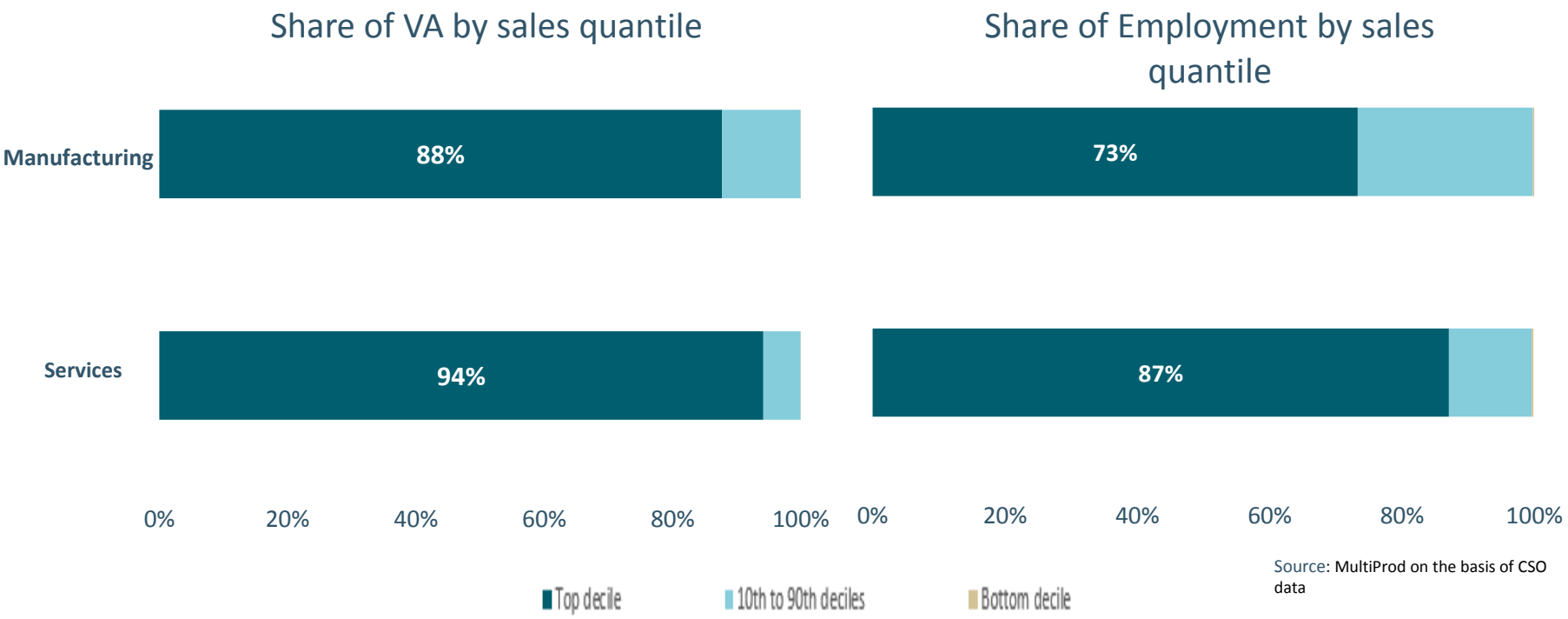
The MultiProd Model – cross country results



- Evidence of widening gap between most and least productive firms

MultiProd Results for Ireland (2006-2014)

Concentration – the contribution of largest firms

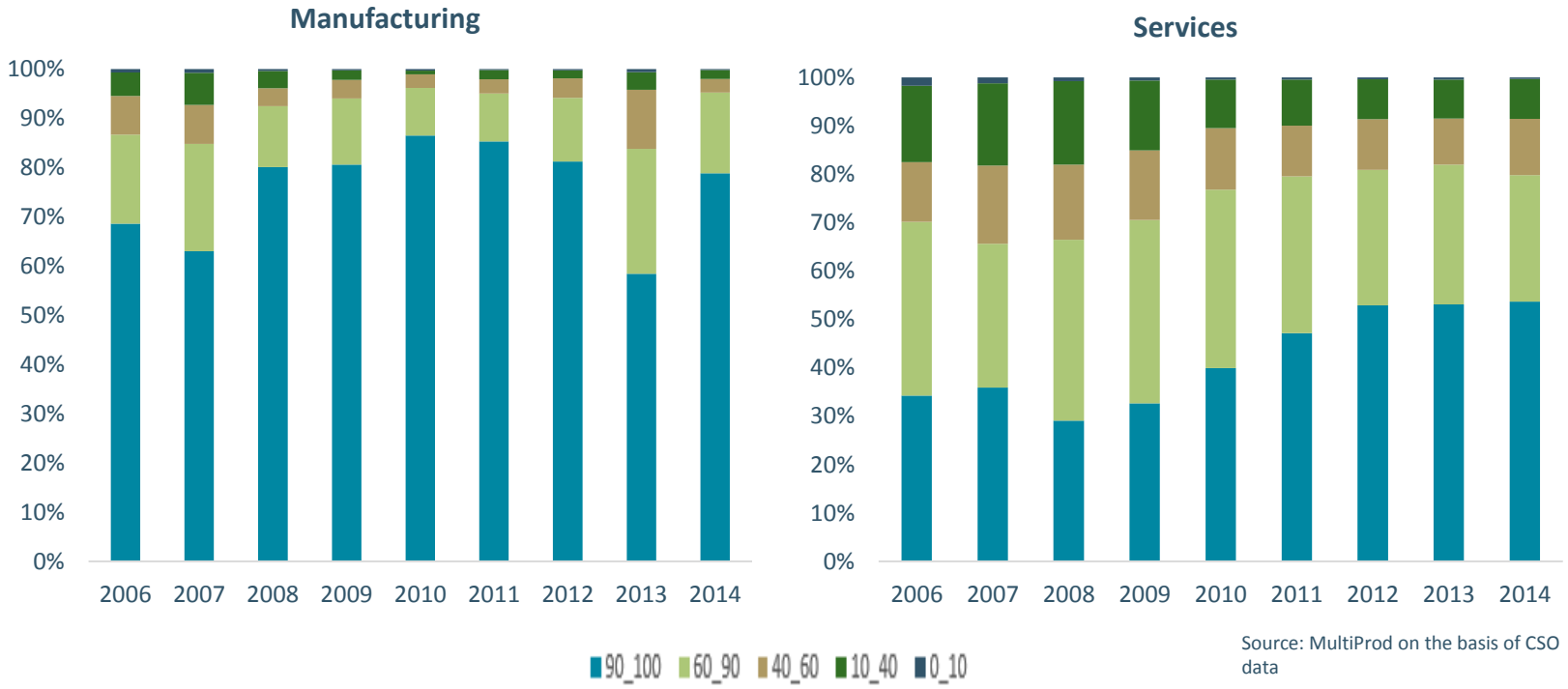


Source: MultiProd on the basis of CSO data

Irish results more concentrated than the cross-country MultiProd results

- Manufacturing: 80% of VA and 68% of employment in cross-country
- Services: 79% of VA and 66% of employment

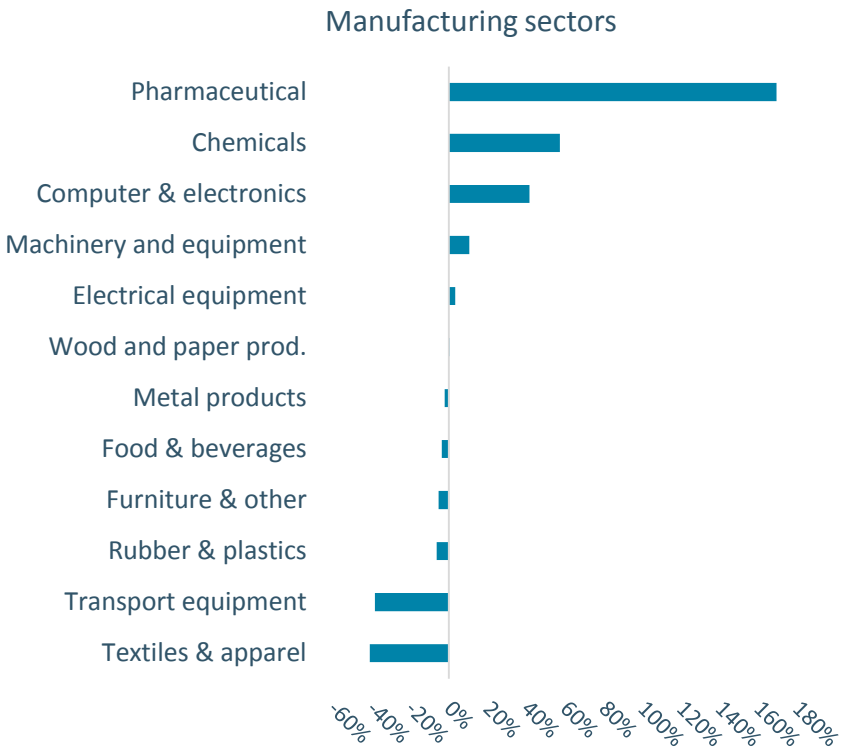
Concentration – the contribution of most productive firms

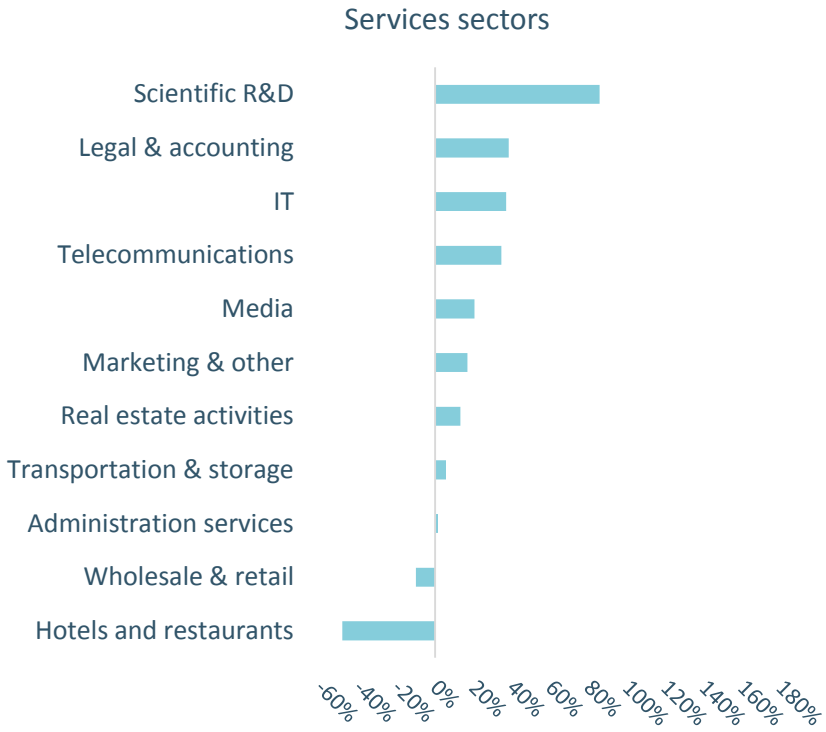


Source: MultiProd on the basis of CSO data

- Most productive firms in manufacturing account for 70 percent of aggregate productivity on average over 2006-2014
- 40 percent (on average) in services, although growing over the period

Labour productivity distribution – across sectors

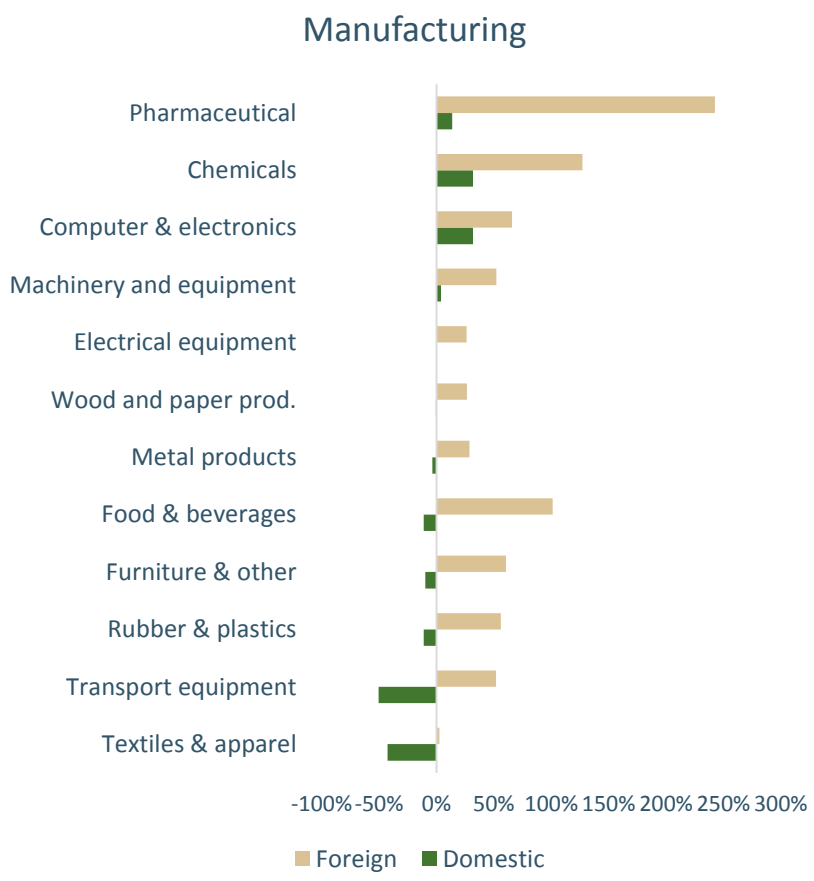


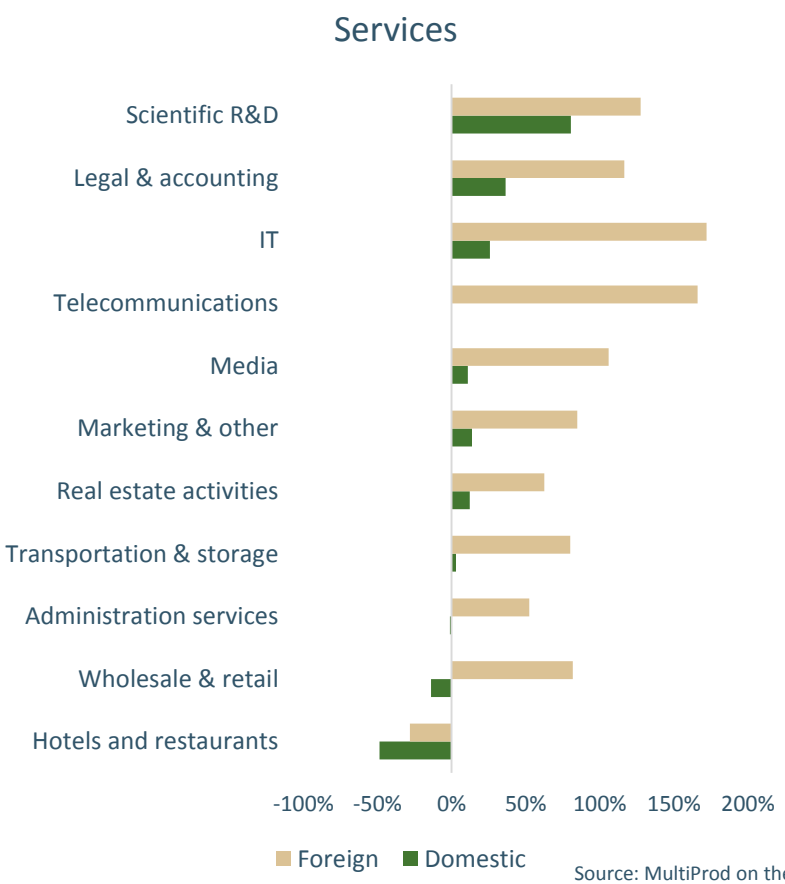


Source: MultiProd on the basis of CSO data

- Results broadly consistent with results of the MultiProd benchmark group

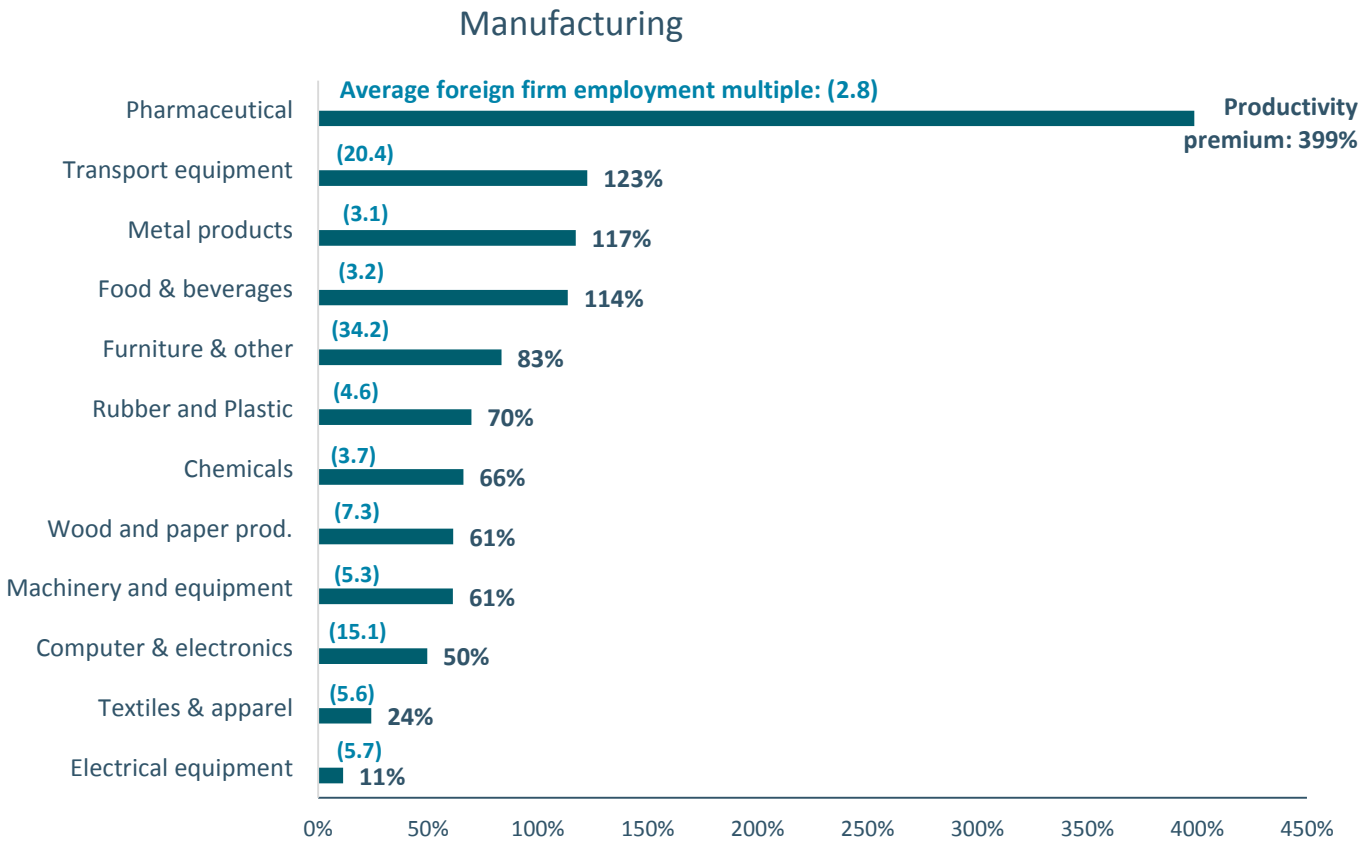
Labour productivity distribution – across sectors – foreign and domestic





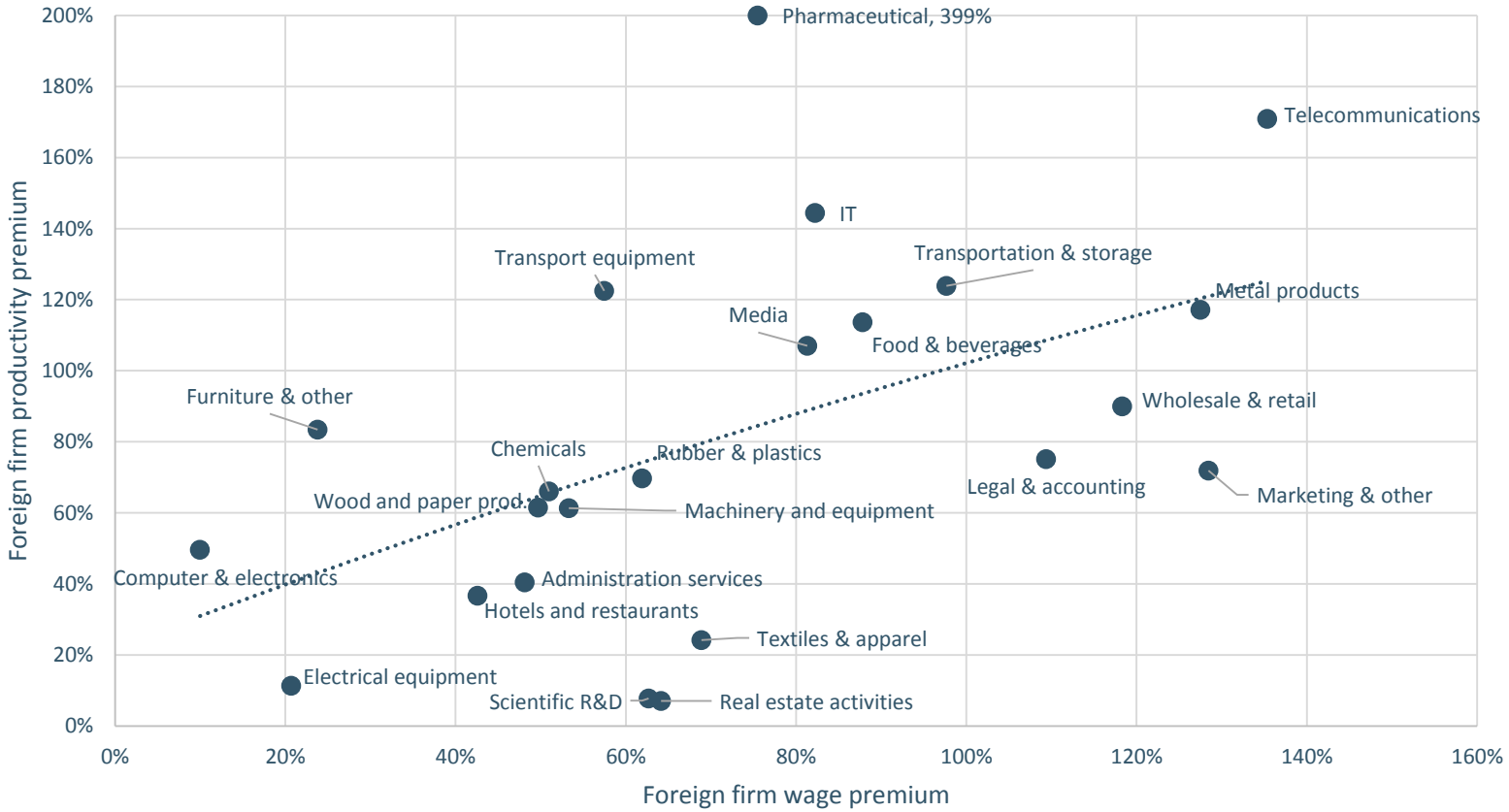
Source: MultiProd on the basis of CSO data

Foreign firm Labour productivity and employment premium



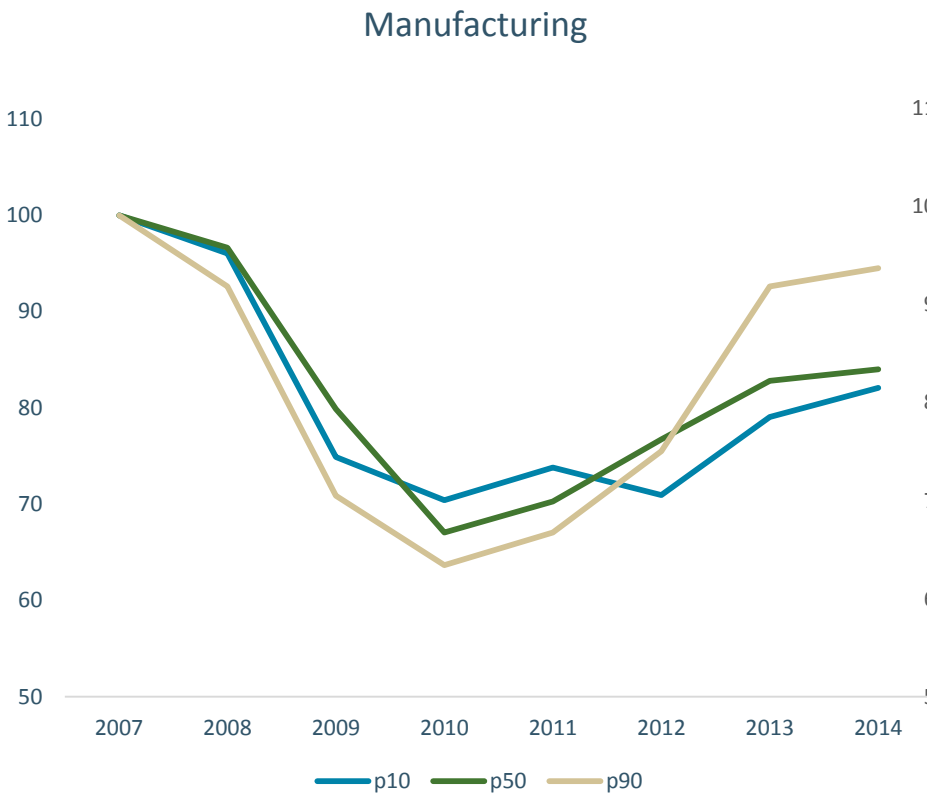
Source: MultiProd on the basis of CSO data

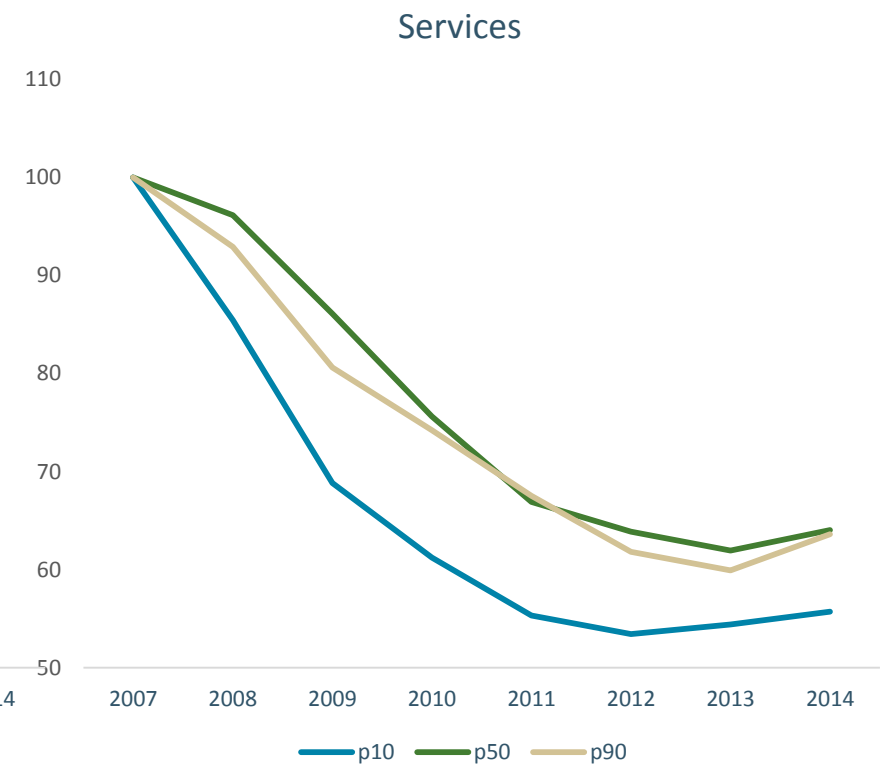
Foreign firm Labour productivity and wage premium



Source: MultiProd on the basis of CSO data

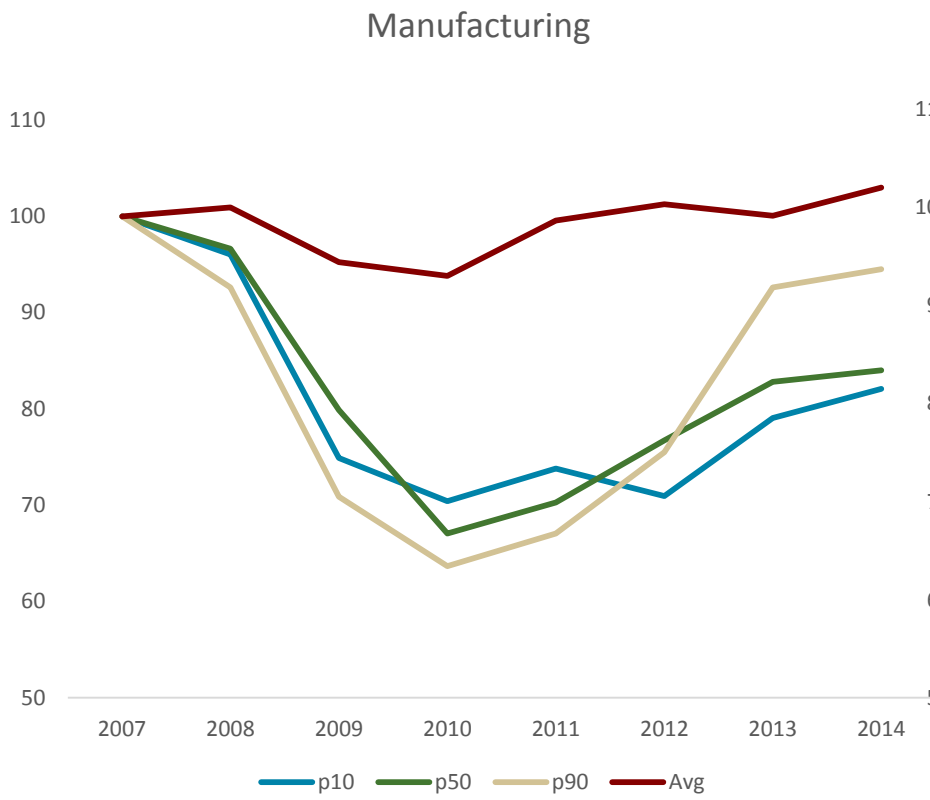
Productivity dispersion – labour productivity

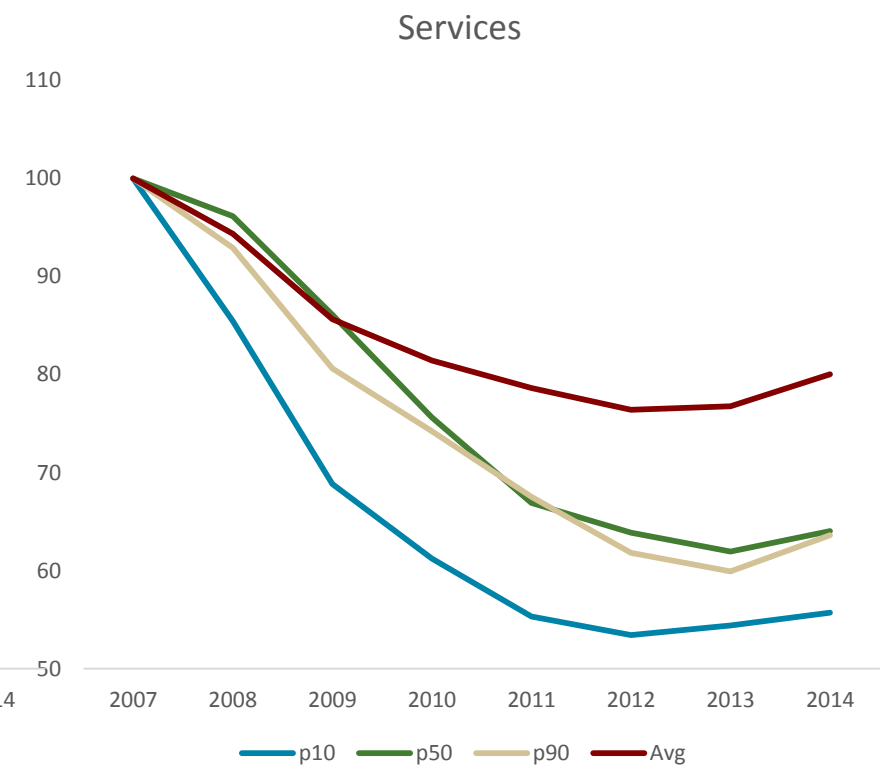




Source: MultiProd on the basis of CSO data

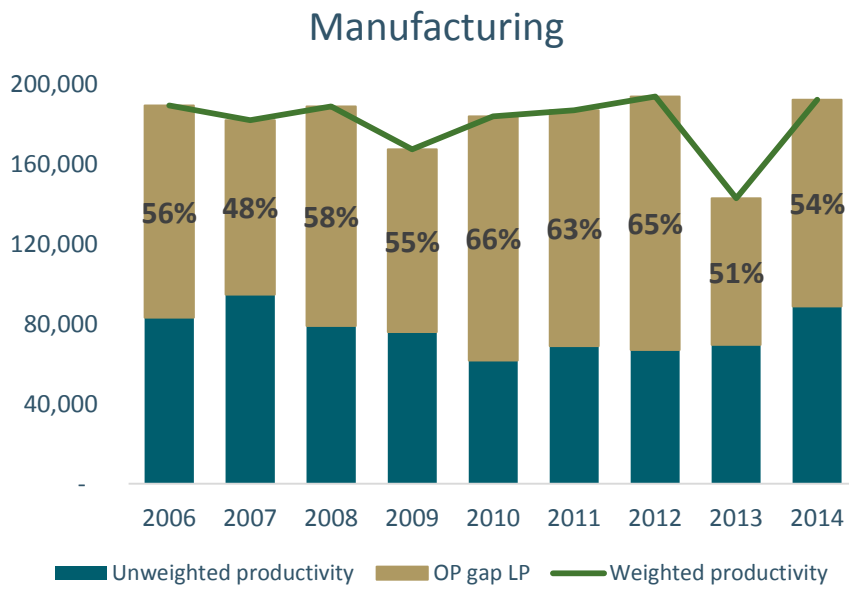
Productivity dispersion – labour productivity

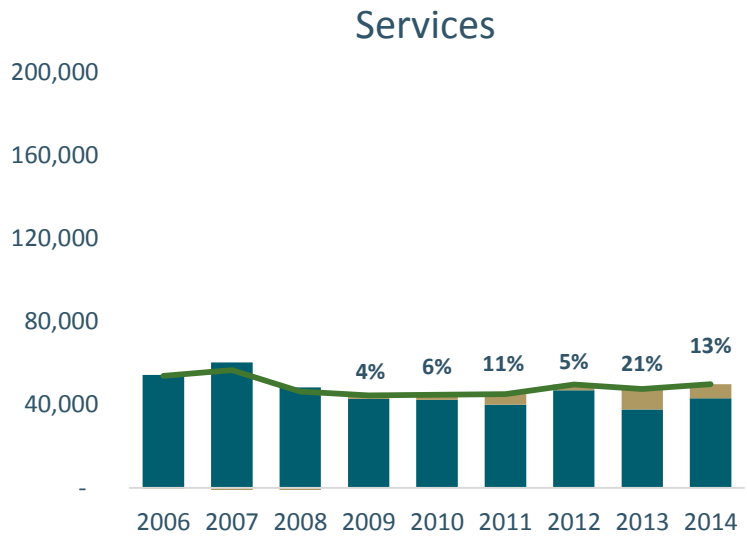




Source: MultiProd on the basis of CSO data

Efficiency of Resource Allocation – Olley Pakes Method

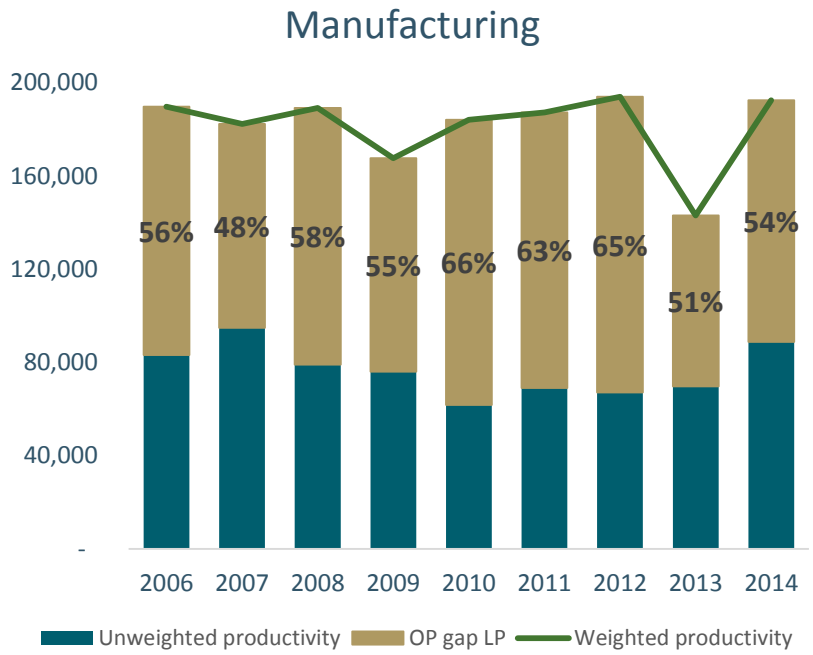


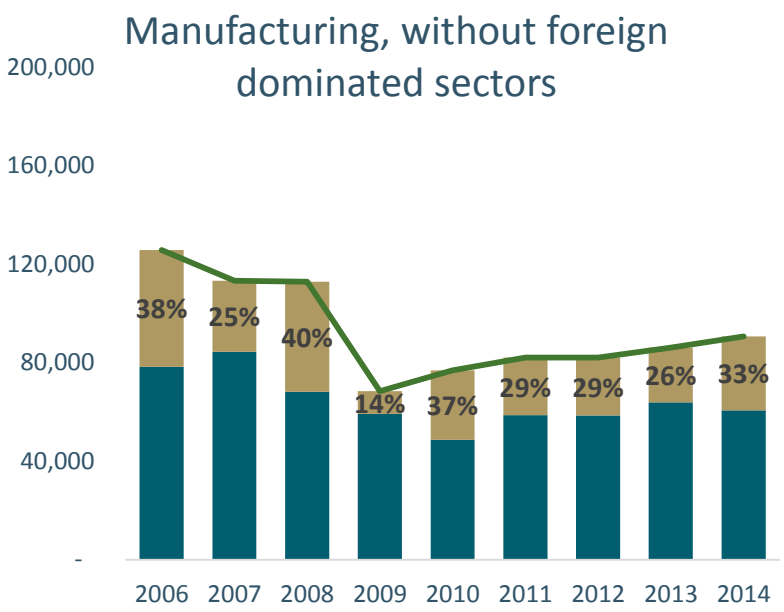


Source: MultiProd on the basis of CSO data

- Aggregate productivity can be decomposed into contribution from efficiency of resource allocation (the OP gap) and “within firm” productivity (unweighted productivity)
- Efficiency of resource allocation high in manufacturing (large OP Gap)
- Low for services

Efficiency of Resource Allocation – FDI impact





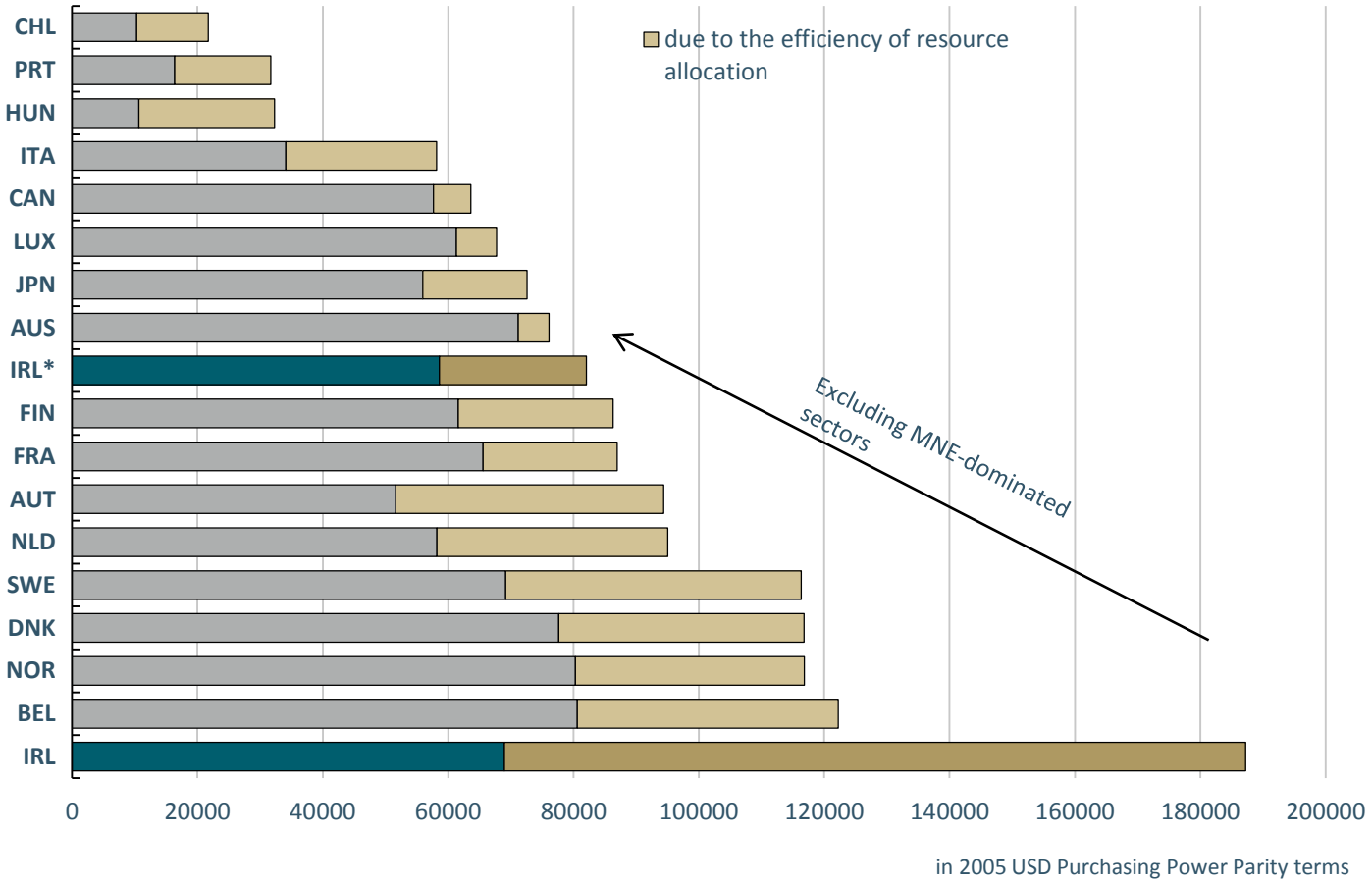
- Foreign dominated sectors drive outcome in manufacturing

Conclusions

- Aggregate productivity levels comparatively high (and driven by foreign dominated sectors), but growth rate declining
- Skewed distributions
  - Large firms dominate value add and employment
  - Most productive firms dominate aggregate productivity
  - Foreign firm productivity, size and wage premium
- Productivity dispersion (i.e. 'the gap') is widening
- Efficiency of resource allocation in manufacturing driven by foreign firms (in specific sectors)
- FDI Spillovers (ESRI): limited evidence, some in services, (enhancing) the absorptive capacity is of Irish owned firms is key

Appendix

Efficiency of Resource Allocation – cross country results



Productivity Spillovers from Multinationals to Irish-owned Firms

Mattia Di Ubaldo, Martina Lawless, Iulia Siedschlag

Economic and Social Research Institute (ESRI)

Spillovers from FDI (ESRI)

- Productivity spillovers from multinational enterprises could arise from different channels:
  - *Demonstration effects*
  - Competition effects
  - *Supply chain linkages*
  - *Labour mobility*

Productivity Spillovers from FDI (ESRI)

- Only limited evidence of spillovers linked to the presence of foreign-owned firms in the same industry or in the same region
  - Evidence of positive intra-industry spillovers in services, and more so to R&D intensive services firms
- Evidence of both negative and positive spillovers through supply chain linkages
  - On average, negative or no spillovers from forward and backward linkages
  - But positive spillovers to R&D intensive firms which supply multinationals
- Indigenous firms' absorptive capacity is key to benefiting from multinationals' advanced knowledge and technologies

Department of Finance
Government Buildings
Upper Merrion Street
Dublin 2
Ireland
www.finance.gov.ie
@IRLDeptFinance