# Industrial development and policy

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# Outline

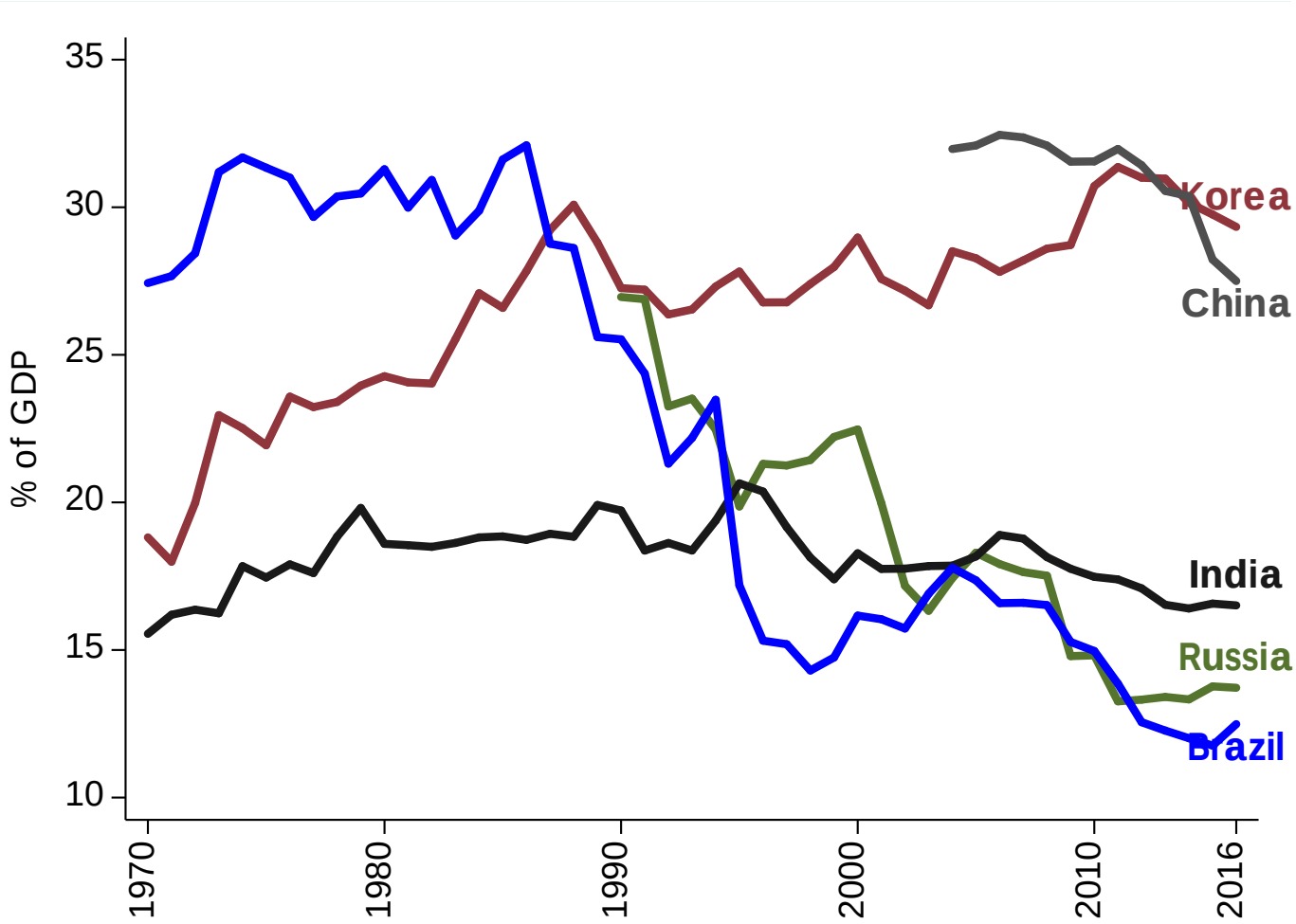
- Why manufacturing
- De- vs re-industrialisation
- Industrial development

# Why manufacturing?

- Driver of **technological change**
  - Corporate expenditures on RTD 4x higher than value added share (e.g., EU, USA, Japan, South Korea)
- **Productivity growth** is above average
- **Wages** are above average (for comparable levels of education)
- Carrier for indirect **trade of services**

# De- *vs* re-industrialisation

## BRICK




*Source*: UN National Accounts Main Aggregates Database, WIFO calculations.

# Manufacturing share
in % of GDP

| Year | USA | EU28 | UK | Germany | Austria |
|---|---|---|---|---|---|
| 2000 | 15.2 | 18.8 | 15.7 | 23.0 | 20,5 |
| 2014 | 12.2 | 15.6 | 10.6 | 22.6 | 18,5 |

| Year | Poland | Czech Republic | Slovakia | Hungary | Romania |
|---|---|---|---|---|---|
| 2000 | 18,1 | 25,9 | 23,9 | 22,4 | 22,1 |
| 2014 | 19,7 | 26,6 | 20,9 | 23,5 | 22,2 |

| Year | Italy | Slovenia | Croatia | Greece | Bulgaria |
|---|---|---|---|---|---|
| 2000 | 19,7 | 25,0 | 17,8 | 10,7 | 13,8 |
| 2014 | 15,6 | 23,1 | 14,5 | 9,4 | 15,2 |

*Source*: WIOD, WIFO calculations

WIFO

TEVAS

# Trade effect on value added shares

| Year | USA | EU28 | UK | Germany | Austria |
|---|---|---|---|---|---|
| 2000 | +0.3 | +1.6 | -0.7 | +8.4 | +9.0 |
| 2014 | -1.2 | +3.1 | -9.1 | +15.7 | +13.2 |

| Year | Poland | Czech Republic | Slovakia | Hungary | Romania |
|---|---|---|---|---|---|
| 2000 | -6.8 | +3.5 | -4.0 | -15.7 | -6.7 |
| 2014 | -2.1 | +10.2 | -10.6 | -2.3 | -2.9 |

| Year | Italy | Slovenia | Croatia | Greece | Bulgaria |
|---|---|---|---|---|---|
| 2000 | +3.3 | +4.3 | -10.8 | -12.2 | -15.3 |
| 2014 | +7.0 | +14.5 | -9.1 | -6.8 | -13.5 |

*Source*: WIOD, WIFO calculations.

# Policy Paradox

- Since all countries aim for it, **industrial policy**
  - becomes necessary not to fall behind (*prisonner's dilemma*)
  - generates a further *productivity push* to manufacturing
  - relative prices decline even faster, which (for an income elasticity below unity) will further
  - reduce the share of manufacturing in global nominal income

➢ Meaningful (i.e., productivity enhancing) industrial policies will not reverse but **accelerate** global ***de*-industrialisation**

➢ IP still worth the effort, conditional on a **sound rationale** and choice of instruments!

# Rationalities of failure *vs* **ability to evolve**

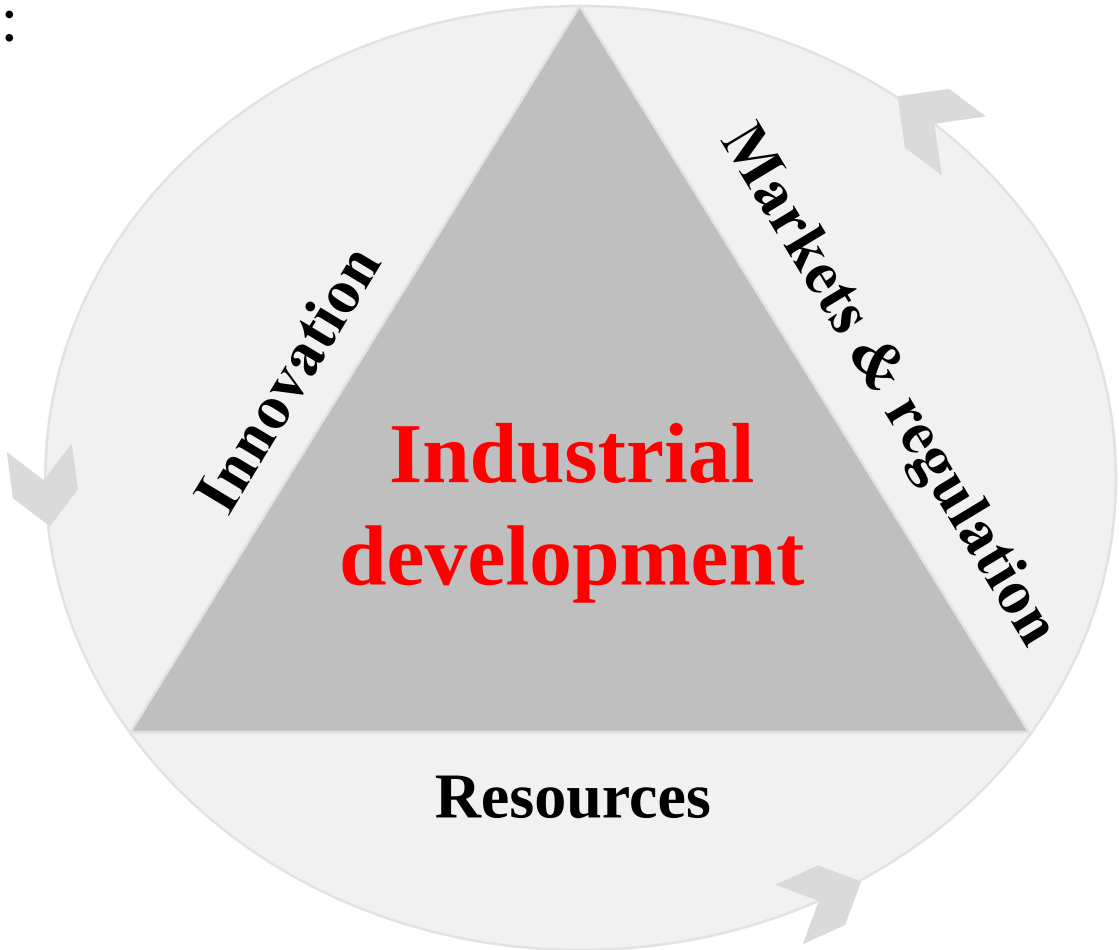
- Market **failure**, government **failure**, system **failure**, ... isn't this an odd way to warrant policy?
  - Strong belief in 'optimal' outcomes as benchmark
  - Valid and important constraints to policy choices and design, but rather not the constitutive objective of public intervention

- Goal of industrial **development** establishes an alternative dynamic logic of intervention:
  - Ability of an economic system to develop, i.e. to achieve high growth of **real income** and **qualitative change**, in a sustainable way, and in support of the overall goals of society

# Evolutionary change

Three **critical functions**:

- Novelty
- Selection
- Accumulation



# … fitting the pieces

| | Innovation | Resources | Markets & regulation |
|---|---|---|---|
| ***Micro*** | **Start-up** policy<br>**Innovation** policy | General **investment** policy; growth **finance** (e.g., VC) | Public **procurement**<br>Individual **antitrust** & merger control cases |
| ***Meso*** | **Technology** policy<br>(incl. ecol., social & other missions) | **Diffusion** policy<br>(targeted investments, awareness, etc.) | **Competition** policy<br>Sector **regulations**<br>**Trade** policy |
| ***Macro*** | **Research** policy | **Education**<br>Infrastructure<br>Fiscal/monetary policy | Single market; various **regulations (**ecolog., labour & social) |

# Conclusions

- Main cause of **de-industrialization** is the declining share of manufacturing in domestic final expenditures
- **Comparative advantage**, and hence industrial policy, matters via net exports but ...
- **Policy paradox**: industrial policies accelerate global de-industrialisation by fostering productivity growth and consequent decline of relative prices in manufacturing
- **Dynamic** industrial policy targets the system's ability to evolve through (i) innovation, (ii) **investment**, (iii) competition & regulation

# Sources and further reading


- Peneder M., Streicher G. (2018), De-industrialization and Comparative Advantage in the Global Value Chain, *Economic Systems Research* 30 (1), 85-104.
  - http://www.tandfonline.com/eprint/CFPrm8EAz34I4xtNj7Ca/full
- Peneder M. (2017), Competitiveness and Industrial Policy: From Rationalities of Failure Towards the Ability to Evolve, *Cambridge Journal of Economics* 41, 829–858.
  - https://academic.oup.com/cje/article/41/3/829/2625393/Competitiveness-and-industrial-policy-from?guestAccessKey=5adf14e0-c609-4e1d-b6fe-623edd321494

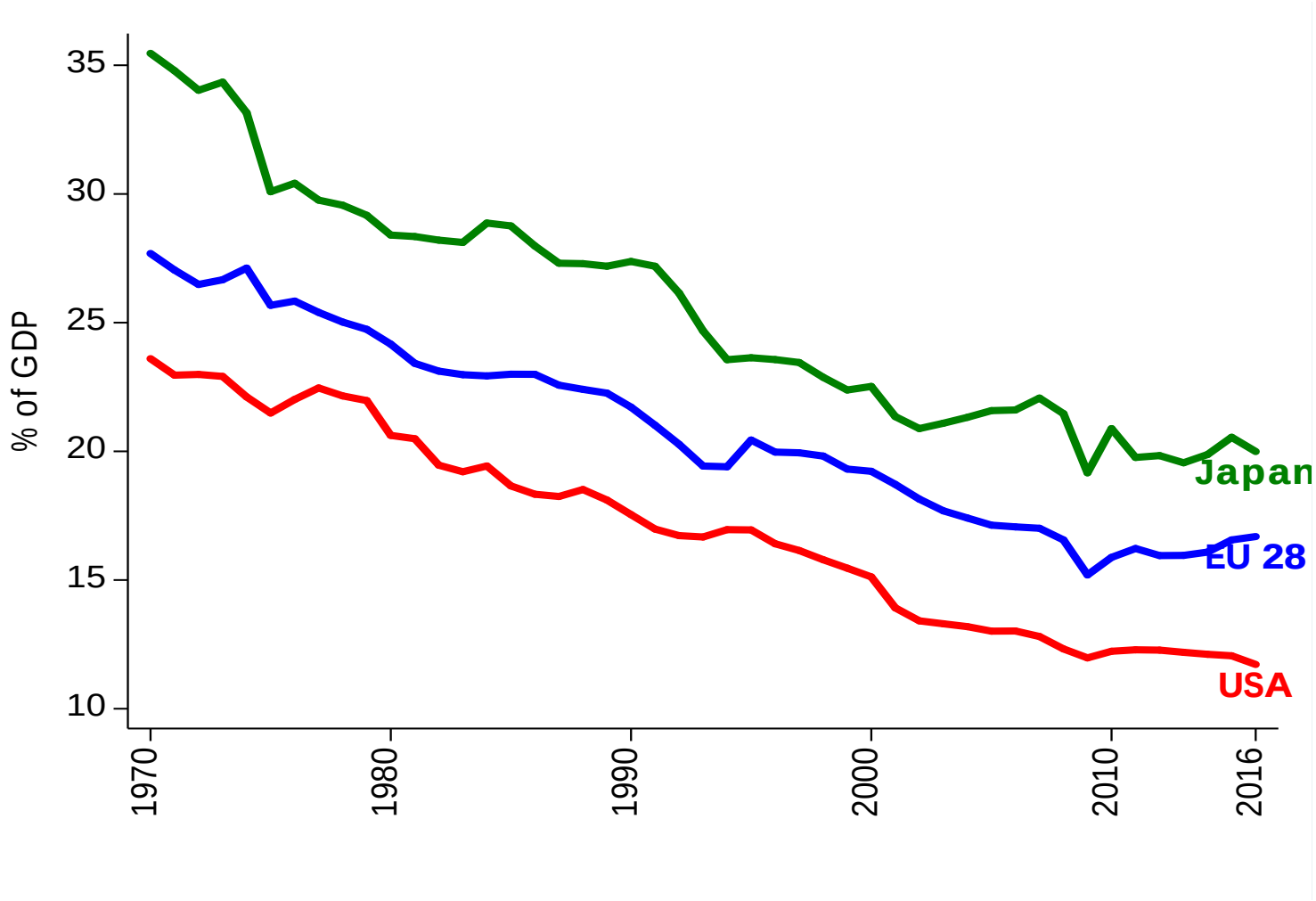

➢ **Thank you for your attention!**

# Annex

- **Supplementary Material**

# De- *vs* re-industrialisation

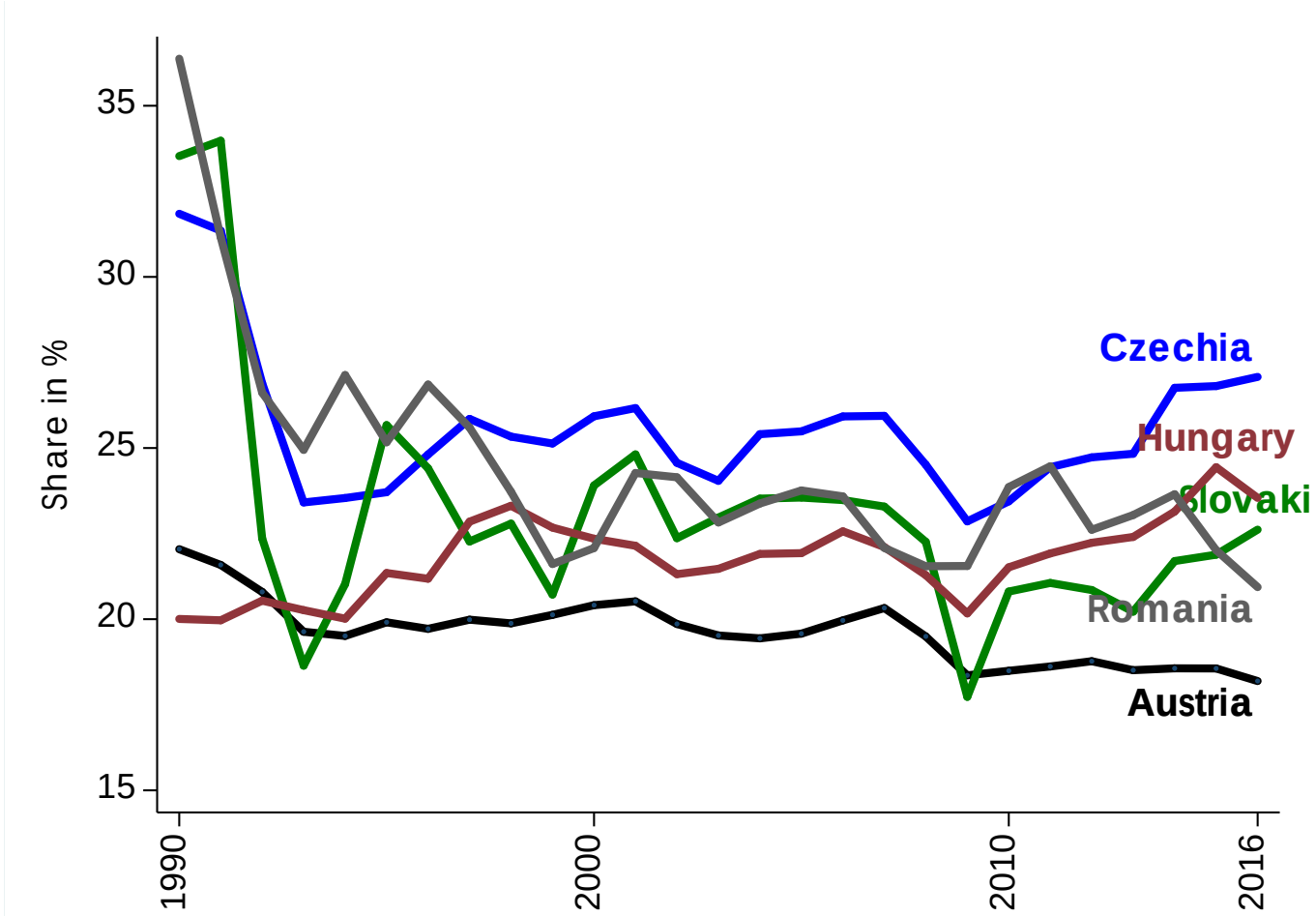
## Triade




*Source*: UN National Accounts Main Aggregates Database, WIFO calculations.

# De- *vs* re-industrialisation

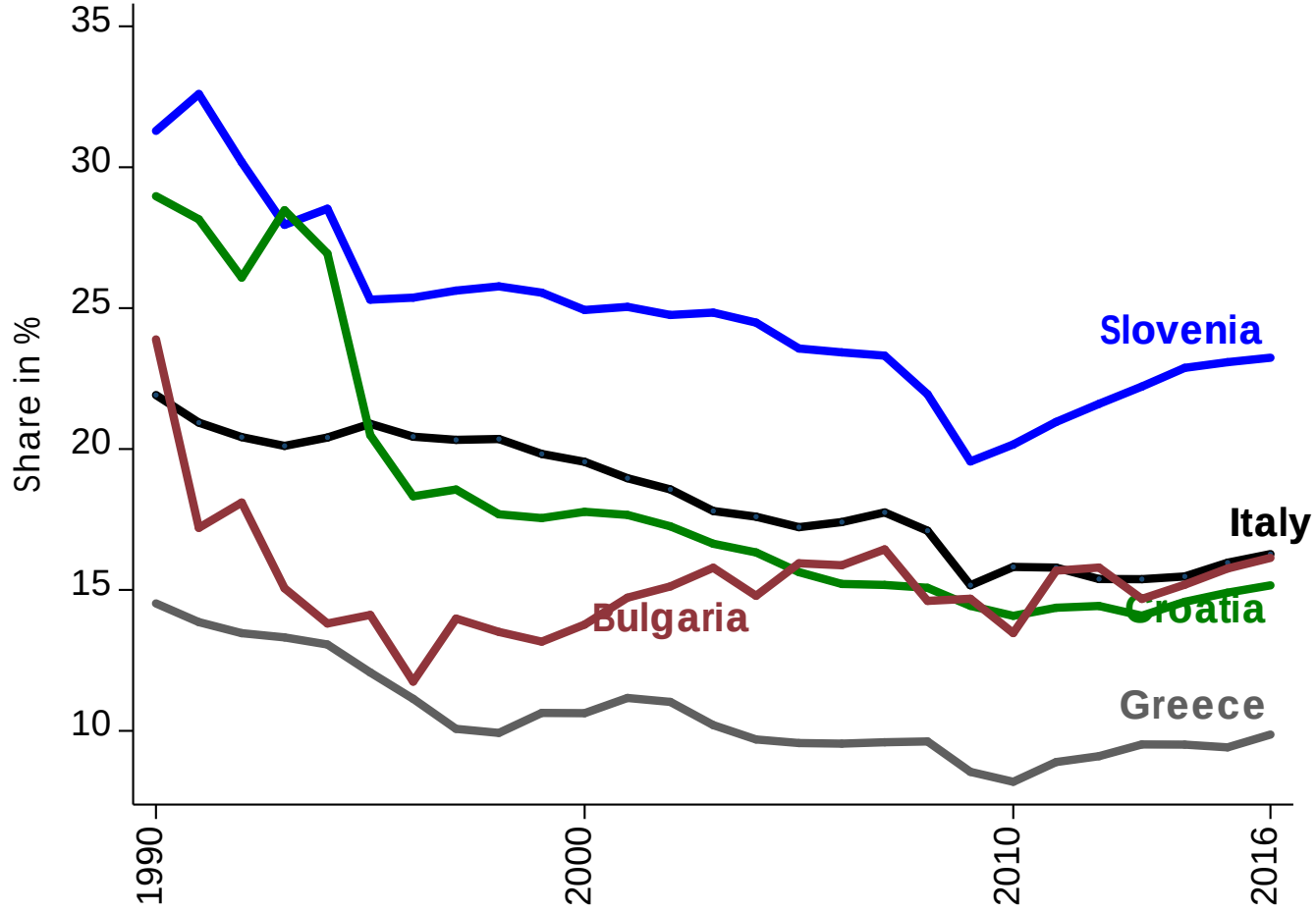
## CEE




*Source*: UN National Accounts Main Aggregates Database, WIFO calculations.

# De- *vs* re-industrialisation

## SEE




*Source*: UN National Accounts Main Aggregates Database, WIFO calculations.

# Drivers of structural change

- **Expenditure channel** (*Uy et al*, 2013)
  - **Income** effects (non-homothetic preferences)
  - **Price** effects (differential productivity growth)
  - **Outsourcing**
- **Net export channel** ("international competitiveness")
  - Comparative advantage & dynamic specialisation (economies of scale, learning, clusters)
- **Globalisation** tends to amplify these mechanisms

# EU – current priorities

EC COM(2017) 479

- **Deeper & fairer Single Market**
- **Digitalisation**
- **Low carbon & circular economy**
- **Industrial innovation**
- **Trade & FDI**
- **Partnership** (stakeholders, member states, regions)

  ➢ See Annex