**G24 Special Workshop on Growth and Reducing Inequality**

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**Session 2: Trade, technology and labour markets**

# Trade and Technology: Recent Developments and Distributional Effects in Developing Countries

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# Why do trade and technology developments matter?

- The Addis Agenda of Action (para. 82) and the 2030 Agenda for Sustainable Development (para. 68) recognize trade as an engine for inclusive economic growth and poverty reduction that contributes to the promotion of sustainable development
- Goal 9 of the 2030 Agenda for Sustainable Development links technological innovation and industrialization on the one hand and industrialization and sustainable development on the other
- Export-oriented manufacturing has driven economic catch-up in developing countries, most recently in China
- But manufacturing activity and employment have become concentrated in a small set of larger and richer countries
- How do trade and technology developments affect this tendency?

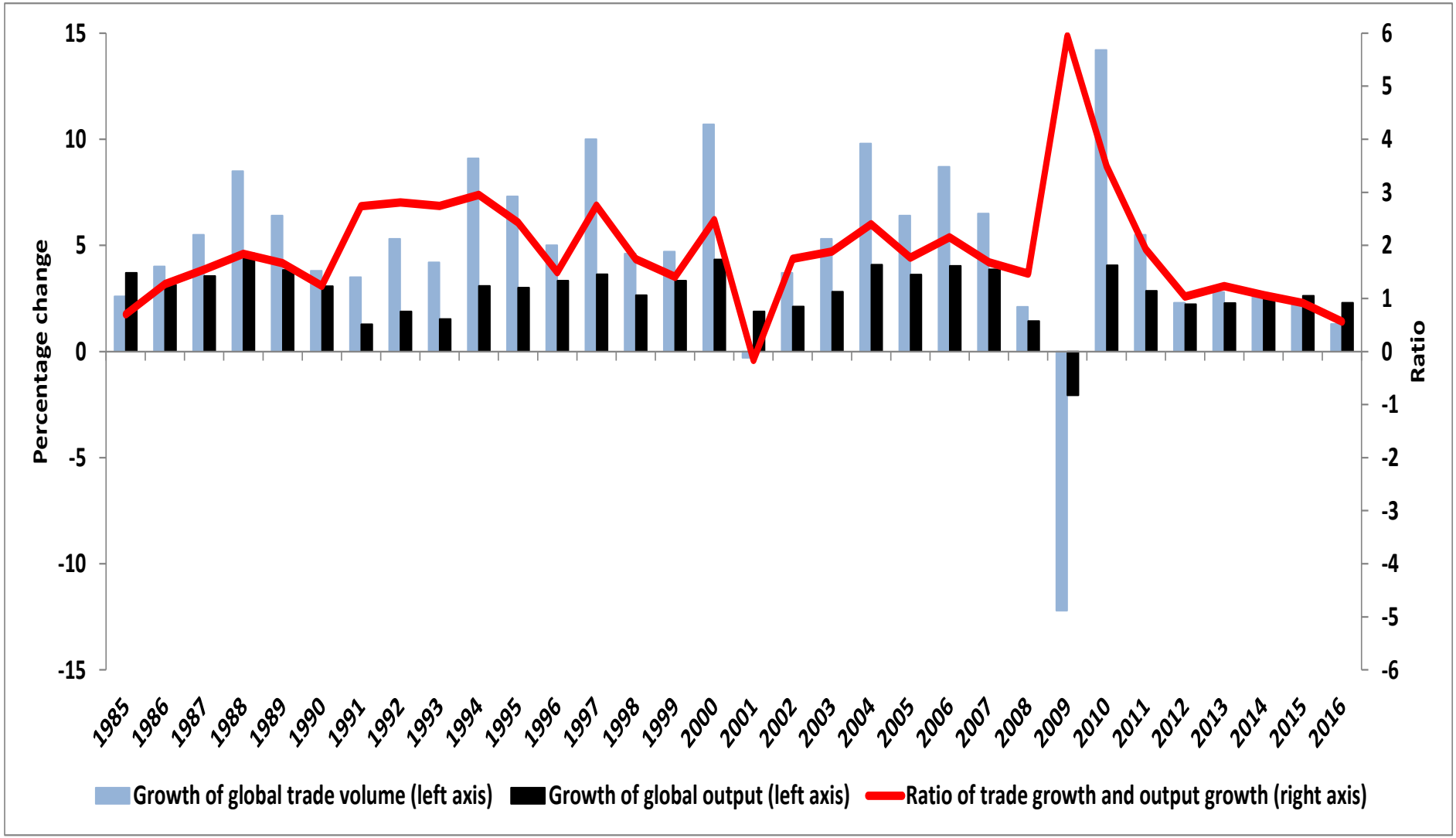
# Outline

1. Trade developments
   - The global trade slowdown: evidence, reasons and consequences
2. Technology developments
   - Industrial robots: impacts on jobs and industrialization strategies
3. Conclusions

# 1. The global trade slowdown (1)

## Global trade growth has slowed down and the ratio of global trade to output growth has fallen sizeably since the financial crisis

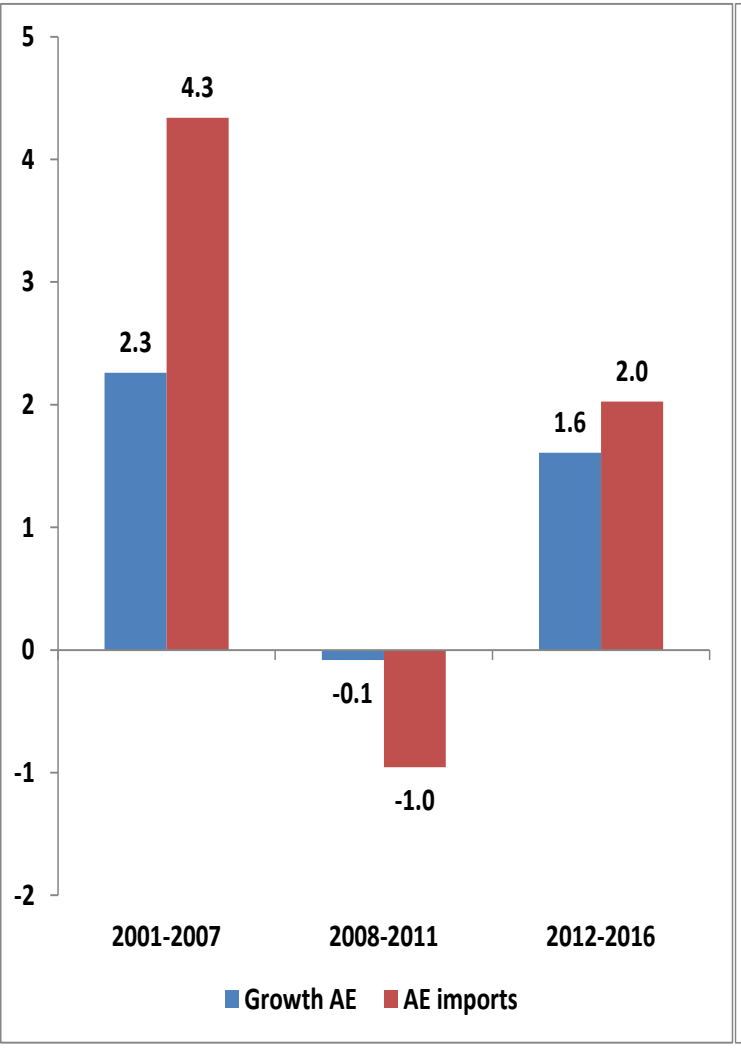
**World merchandise trade volume growth to world real output growth, 1985–2016**



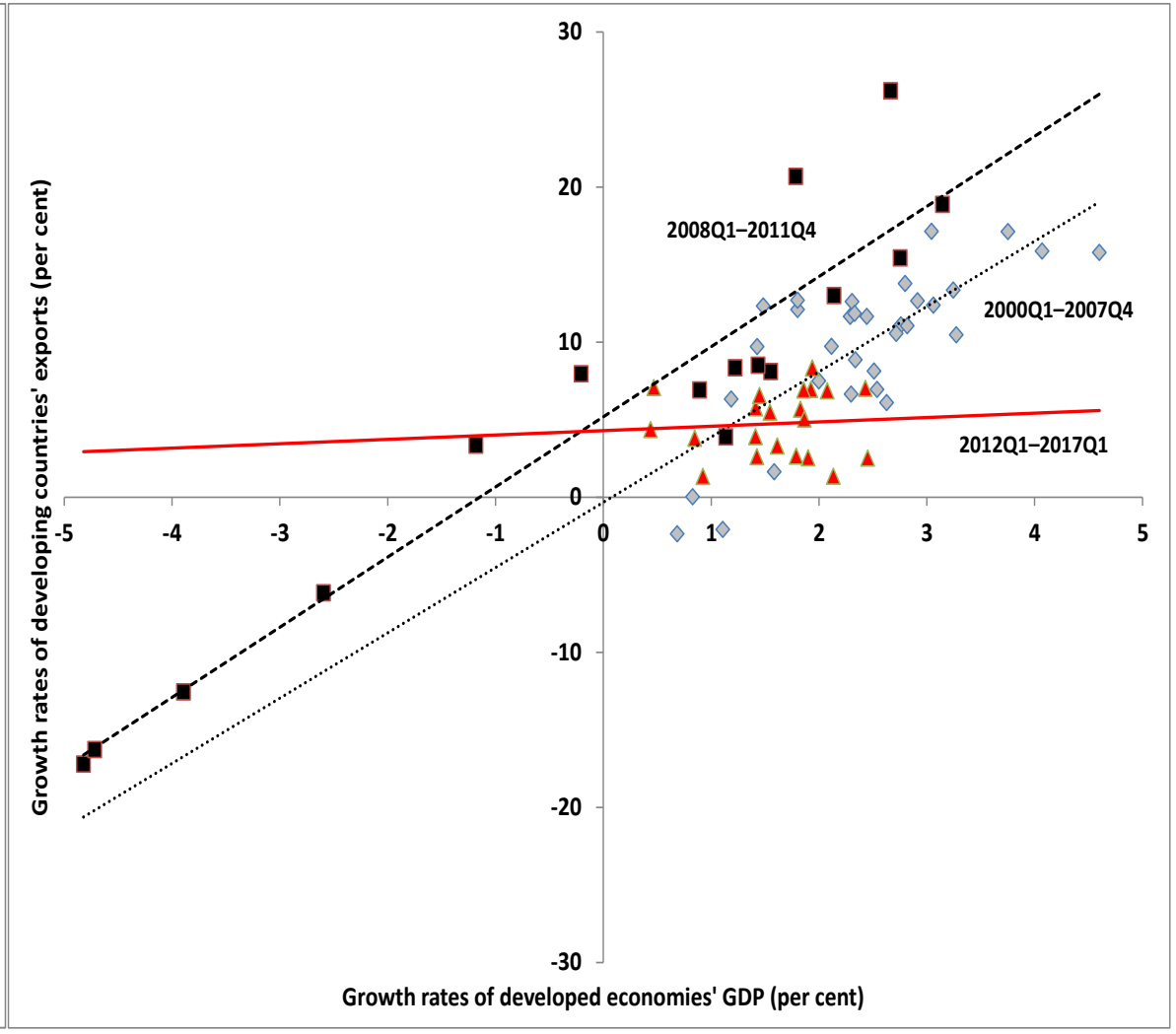
# 1. The global trade slowdown (2)

## Developed country growth has declined and in addition become much less supportive of developing country exports

GDP and import volume growth, advanced economies, 2001–2016 (annual average percentage change)




Developed economies' GDP growth and developing economies' export growth, 2001–2017 (Q1), per cent



# 1. The global trade slowdown (3)

- Debate around "structural" and "cyclical" reasons
  - Discussed "structural" factors include
    - Maturing of global value chains (benefits from ICT-innovation have been reaped and feeling that regulatory harmonization has insufficiently progressed)
    - stalling trade liberalization and (perceived) rise in protectionism: reported use of non-tariff measures (NTMs), but difficult to measure and reported increase may reflect increased attention
  - "Cyclical" factors include commodity price decline and global lack of demand (is latter more than "cyclical"?)
- Rising concerns: is free trade fair, safe and equitable?

# 1. The global trade slowdown (4)

- Need for global demand stimulus through real wage growth and expansionary fiscal push
- Strengthening of multilateral trading regime with due recognition of development agenda
- Has inequality impact of trade openness been exaggerated?
  - Employment losses and income polarization attributed to trade could also stem from technology in form of decline in price of capital goods (computers)

# 2. Main challenges of robot-based automation?

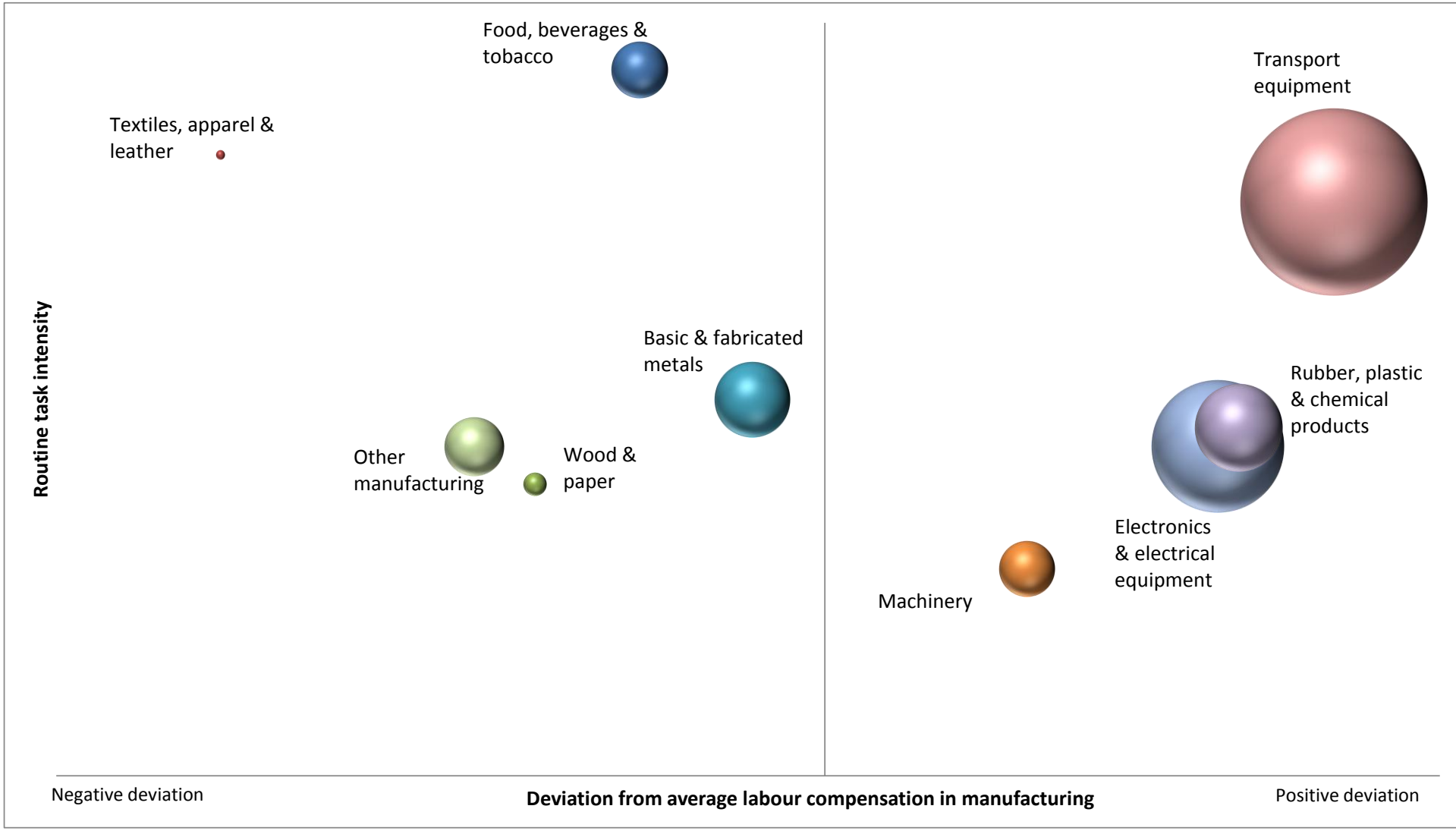
- Past technological breakthroughs caused substantial job losses and declining incomes for some sectors and workers in short run. These adverse effects were overcompensated in long term when product innovation allowed workers to move to new and better paid jobs
- But history may not be a good guide because robots are autonomous and (exponentially) getting smarter, more dexterous and cheaper: potential large-scale job displacement and wage erosion
- Robots replace routine tasks (those that can be codified and translated in software) rather than low-skilled manual work
- Key issue from development perspective: Does emerging greater scope and speed of automation reduce effectiveness of industrialization as a development strategy?
- Important to note that conventional mechanization continues to be the predominant form of automation in most developing countries

# The use of industrial robots remains low and concentrated in a few developed countries and relatively well-paying manufacturing sectors

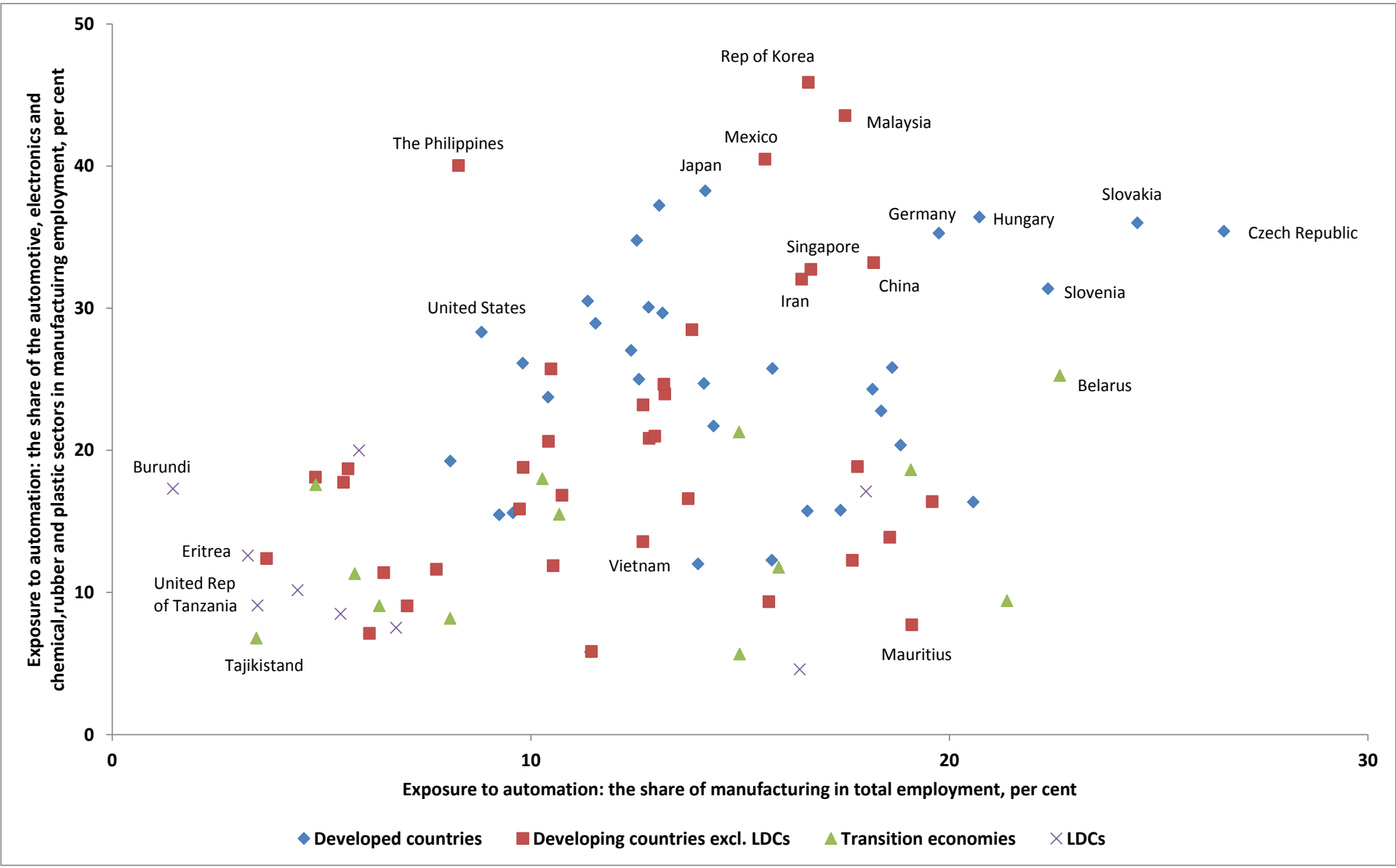
- Robot use has remained small: only 1.6 million units in 2015 – though expected to reach 2.5 million by 2019
- Germany, Japan and United States made up 43 per cent of global robot stock in 2015 …
- … but annual new robot deployment has grown most rapidly in developing countries, especially China
- Many robots in automotive and electronics sectors, very few in apparel sector
- Pattern of robot use points to sharpening of concentration of manufacturing activities in a small group of countries

# Alarmist account of world without world overdone: what is technically feasible to automate through robots is not necessarily also economically profitable

**Size of bullets reflects global use of robots**



# As of now, most developing countries are not overly threatened by robot-based automation



# 3. Conclusions

- Global trade flows less propitious to development and trading regime turning away from development issues
  - Strengthen multilateral system and global demand
- Robot-based "World without Work" argument is overdone
  - Novelty of robotics not only wider scope and faster speed of innovation, but also occurrence at time of subdued macroeconomic dynamism that holds back investment needed for new sectors where displaced workers can find improved employment opportunities
  - Likely further concentration of manufacturing activities harms inclusiveness at international level and poses significant challenges for developing countries to achieve structural transformation towards well-paying jobs in manufacturing
  - Increased investment that uses digitization to create new products and sectors with new job and income opportunities

# Thank you !

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