

# Promoting Technology Transfer via FDI for Sustainable Development

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Palais des Nations  
Geneva, Switzerland

**James Zhan**

**Director**

**Division on Investment and Enterprise**

**UNCTAD**

## Objective of the meeting

- To assess the contribution of foreign direct investment (FDI) to the transfer and diffusion of technology for sustainable development in developing countries, especially least developed countries (LDCs).
- To discuss policy options and best practices to enhance the technological contributions of transnational corporations (TNCs).

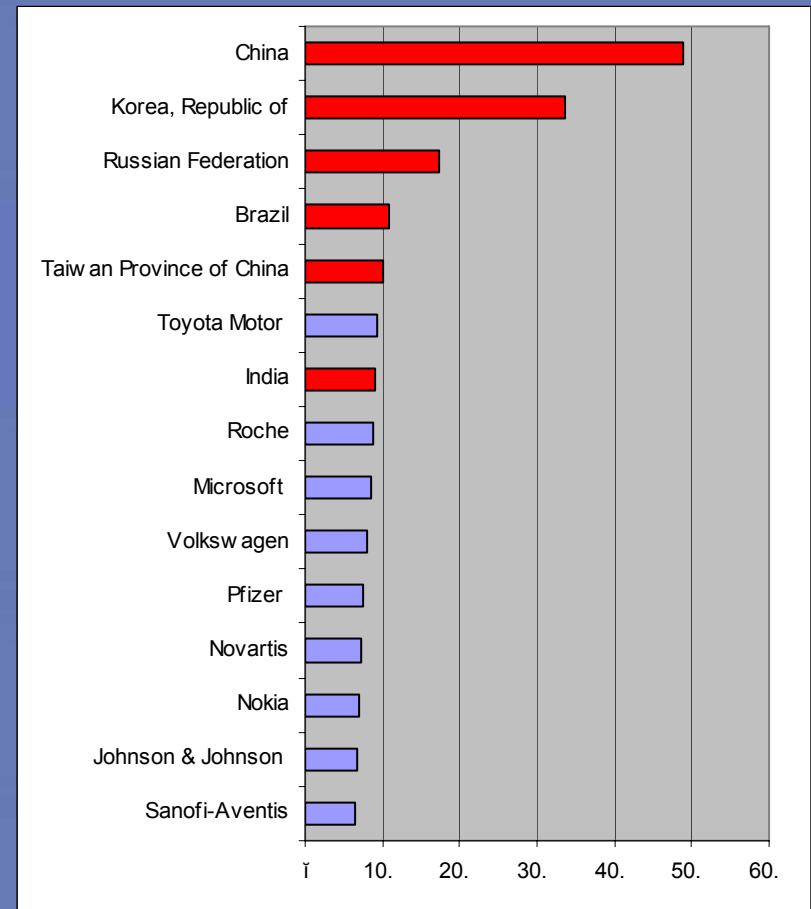
## Structure of the meeting

- **Session 1 (a.m. 16 Feb.):** TNCs and the transfer of technology: FDI and non-equity modalities
- **Session 2 (p.m. 16 Feb.):** TNCs and the diffusion of technology: linkages and spillovers
- **Session 3 (a.m. 17 Feb.):** Factors affecting technology transfer and diffusion: lessons from successful cases
- **Session 4 (p.m. 17 Feb.):** Innovation systems, technology transfer and innovation performance in developing countries
- **Session 5 (a.m. 18 Feb.):** Promoting technology transfer and diffusion: coherent policies matter

# TNCs play a major role in global technology generation

- TNCs account for about half of the world's total R&D expenditure.
- TNCs account for more than two-thirds of the world's business R&D.
- The R&D spending of some large TNCs is higher than that of many developing countries. →

Largest R&D expenditures by developing and transition economies and TNCs, the latest year, \$ billion



Source: UNCTAD.

# The rise of Southern companies in global R&D

- Five companies from developing countries are among the largest 100 R&D spenders.
- Some developing country TNCs spend more in R&D than average developed country TNCs.



**PetroChina**

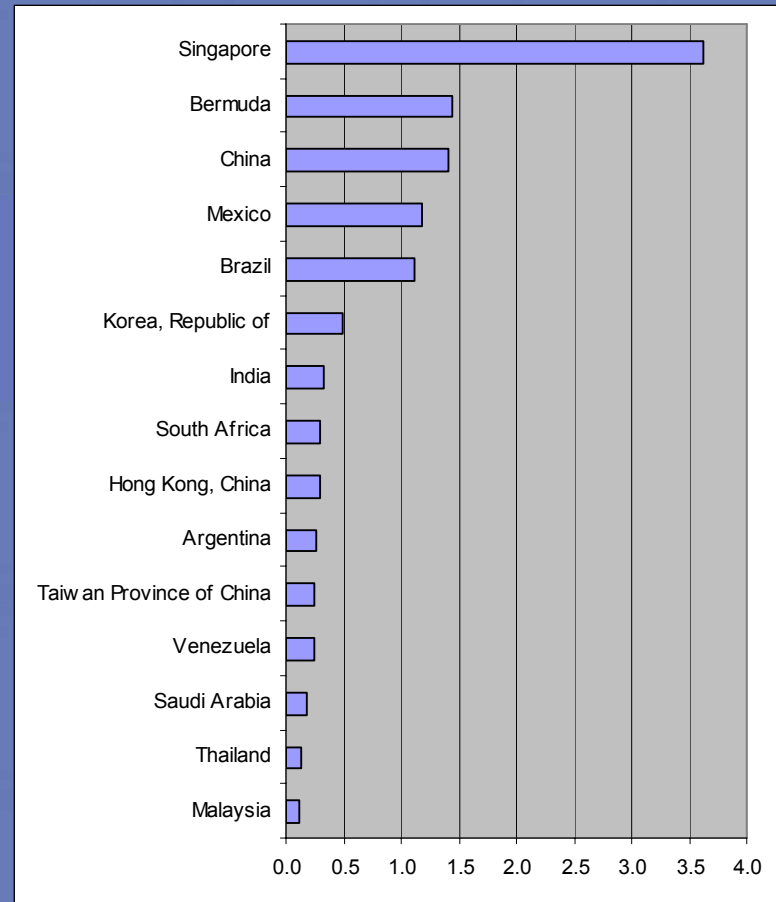
# How do TNCs transfer and diffuse technologies?

- ❑ TNCs transfer and diffuse technology of many kinds:
  - Technologies embodied in capital goods
  - Production, organizational, managerial and other skills
  
- ❑ TNCs transfer and diffuse technology through various channels:
  - FDI projects
  - Non-equity activities
  - Linkages and spillovers (thanks to mechanisms such as demonstration, competition, and human resource mobility)
  
- ❑ Determinants of technology transfer and diffusion: a wide range of economic, strategic and policy factors ...

# Assessing the role of FDI in transferring technology to developing countries

- FDI has played a key role in transferring and diffusing technologies to developing countries in general.
- However, the acquisition of technology from TNCs is still largely confined to higher income developing countries. →
- The potential in LDCs is not yet being realized.

Largest developing-country contributors of royalties and license fees to US parents, 2009, \$ billion

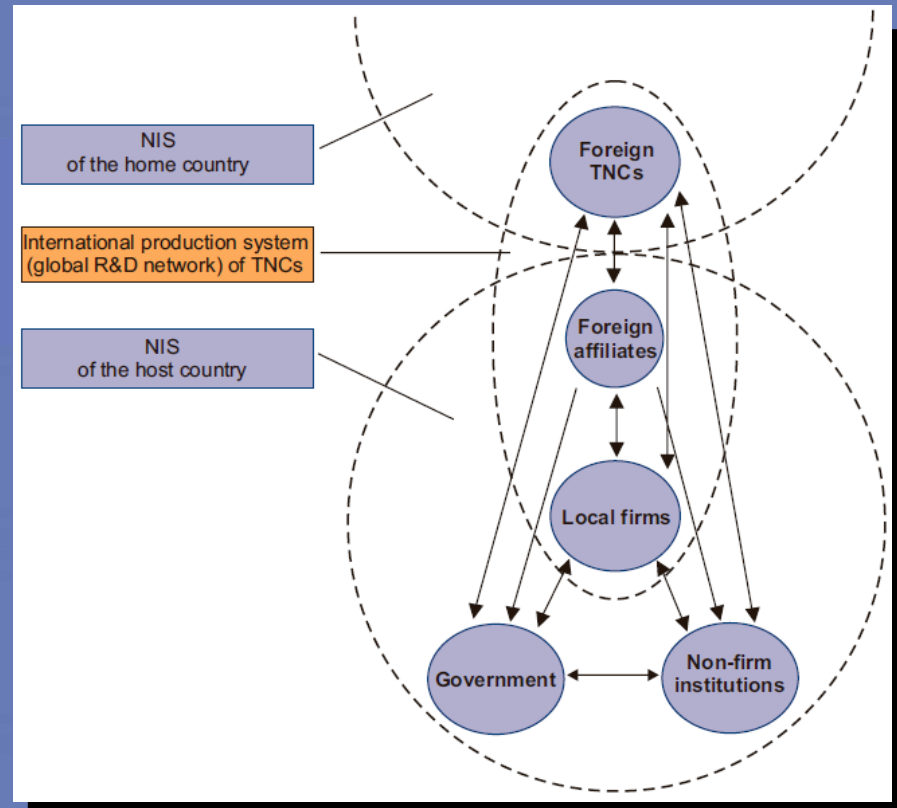


Source: UNCTAD.

# The internationalization of R&D by TNCs opens up new opportunities

- TNCs have been increasingly shifting R&D activities to the developing world.
- FDI in R&D interacts with the NIS of host countries in various ways.
- FDI in R&D can bring a wide range of benefits:
  - ✓ Promoting human resource development
  - ✓ Creating knowledge spillovers
  - ✓ Upgrading industrial competitiveness

NIS in the host country and FDI in R&D: a schematic diagram



Source: UNCTAD, *World Investment Report 2005*,  
adapted from Liang (2004), p. 171. 8



# Most LDCs are not yet participating in global R&D networks

- ❑ Relocation of R&D by TNCs is concentrated in a number of developing economies in Asia.
  
- ❑ Most LDCs are not participating in global research and development networks:
  - They lack a significant pool of low-cost research manpower, which is crucial for attracting *innovative R&D*
  - They also lack a big production base, to which *adaptive R&D* is closely related
  
- ❑ For LDCs, strengthening the basic institutional framework for innovation and human resource development is the crucial first step.

# How to promote technology transfer and diffusion from TNCs: policy matters

- ❑ Making the best use of TNC-mediated technology transfer and dissemination requires policy support
  - ... in both host and home countries
  - ... at both national and international levels
  
- ❑ Developing countries need to establish an effective enabling environment which:
  - ... provides an interface for technology-related TNC activity
  - ... supports the development of the absorptive capacities of domestic enterprises and their linkages with TNCs
  - ... provides a regulatory framework, including a balanced approach to intellectual property
  
- ❑ The coherence between FDI policy and other relevant policies is important



**Thank you!**