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**Trade, Technology and Mode 5 Services:
What is at Stake for Developing Countries?**

by

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The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.

Trade, technology and Mode 5 services: what is at stake for developing countries?

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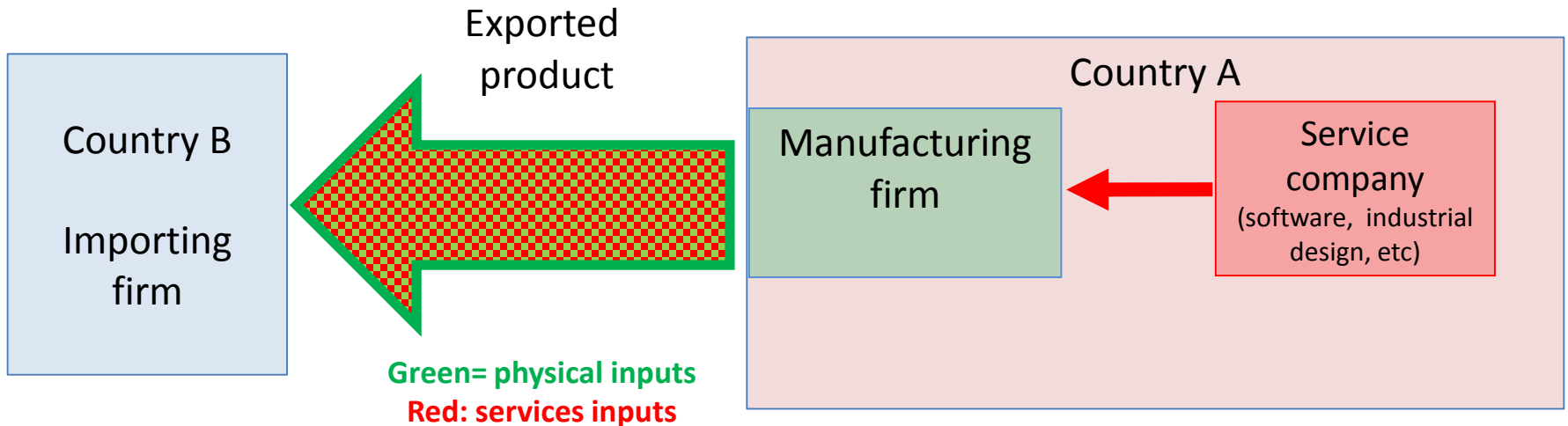
Background and rationale

- Technology and growing importance of services
- Services trade: GATS and mode 5
- The economic impact of a multilateral initiative on mode 5: CGE estimates
- Thinking ahead

What is Mode 5?

Basic definition:

Mode 5 = services exported **as part** of a good



Mode 5 = "Services in a box"

Industry 4.0, IoT, precision agriculture: Some **mode 5 services** examples

"The internet of farms" and "connected bananas"

- **Kenyan farms** are equipped with water tank sensors, soil moisture sensors and infrared light sensors (to monitor health of plants). The result is higher yields, lower farming costs, lower water consumption
- **Colombian farmers** get IoT technologies for:
 - harvesting projection
 - optimized water usage
 - plagues and disease prevention
 - Traceability and SPS compliance



From mining to "data mining"

Traditional mining equipment may require:

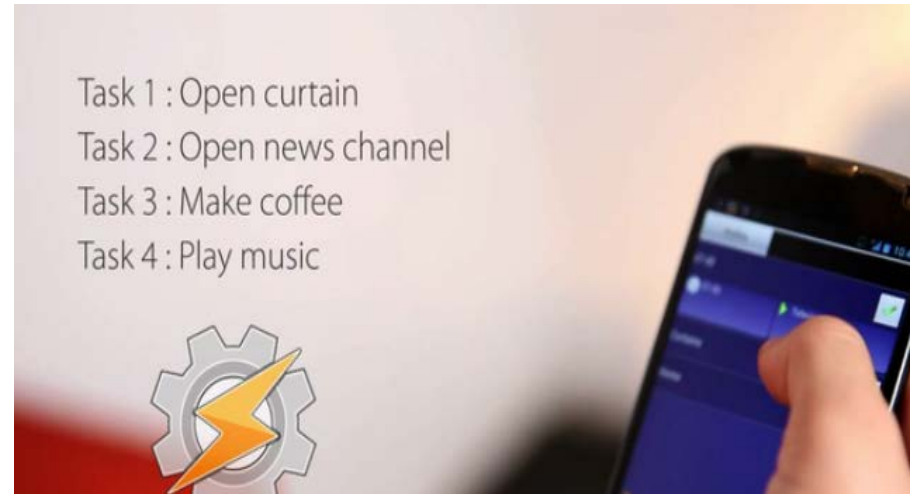
- 900 hours of downtime and \$650,000 in repairs
- With sensors and IoT technology this becomes less than 24 hours and only \$12,000.



And a few more examples...

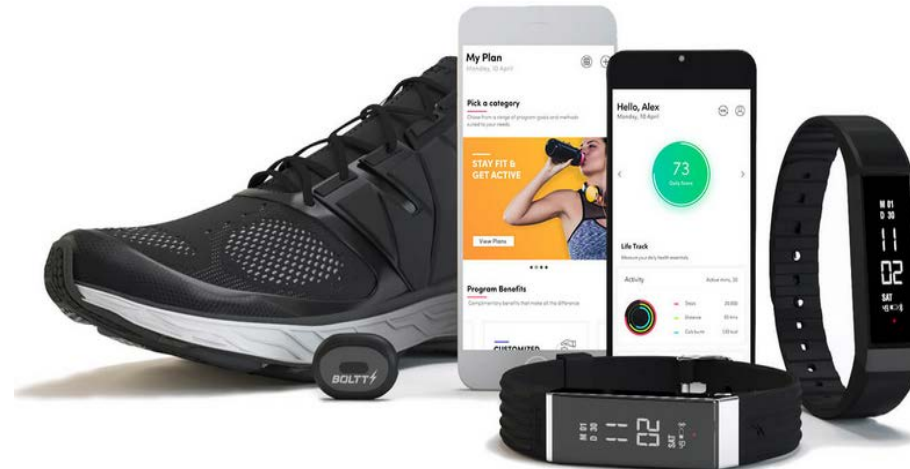
"Wake-up like an Egyptian"

A Cairo-based technology firm developed an IoT solution that can be integrated in day-to-day gadgets like fridges, TVs, coffee machines and remote controlled from your phone

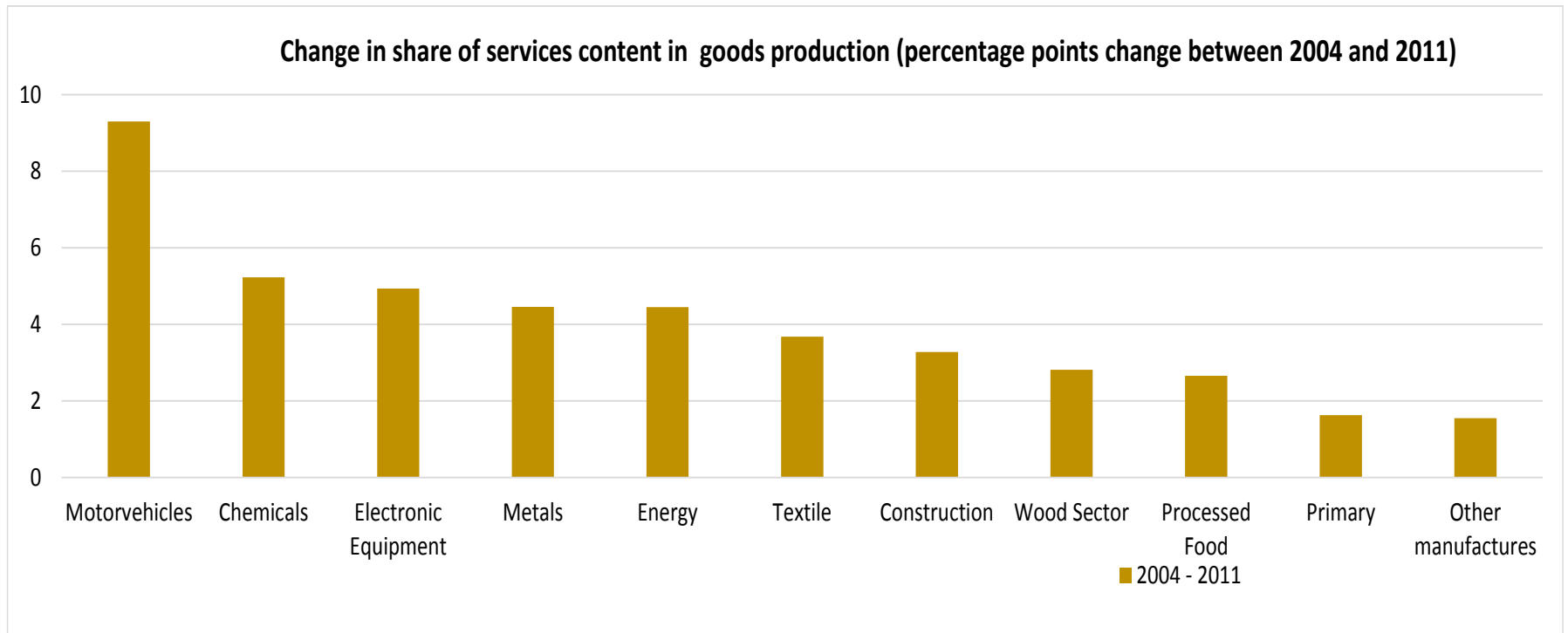


"Boltt Indian idea"

Boltt is an Indian start-up builds connected shoes, connected bands with AI software for sleep, fitness, nutrition and activity tracking.

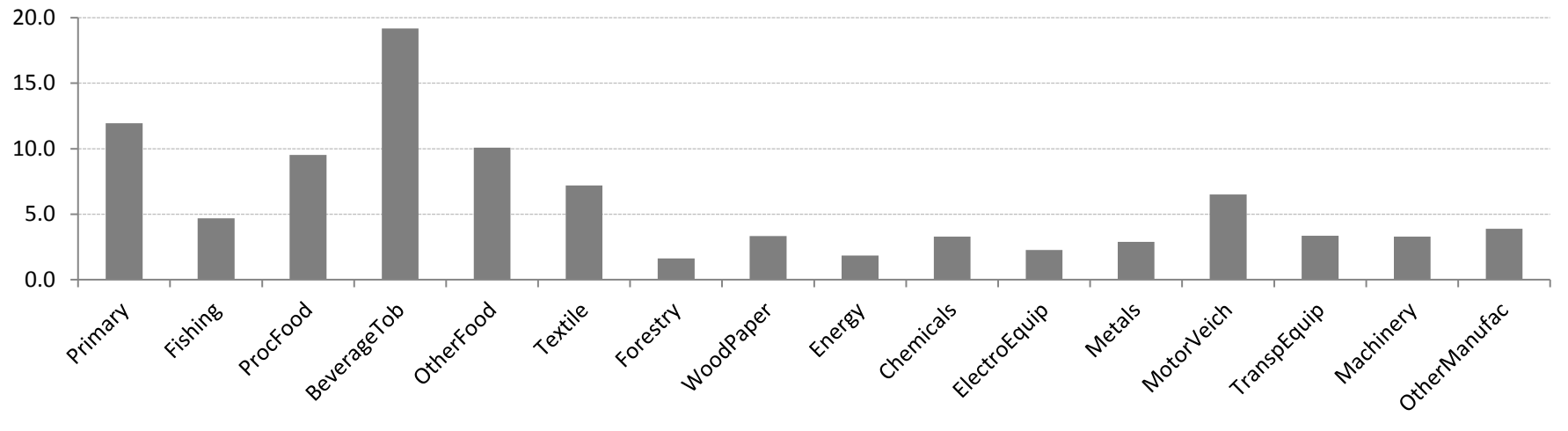


The growing importance of mode 5



Mode 5 services: what tariffs do they face?

Figure 5 - Average of tariffs applied on sectors (GTAP database)



A Mode 5 initiative: liberalization scenarios

Scenario 1

2022-2025:
Cuts on
tariffs (linked
to service's
content
shares by
country) and
trade
facilitation
for services

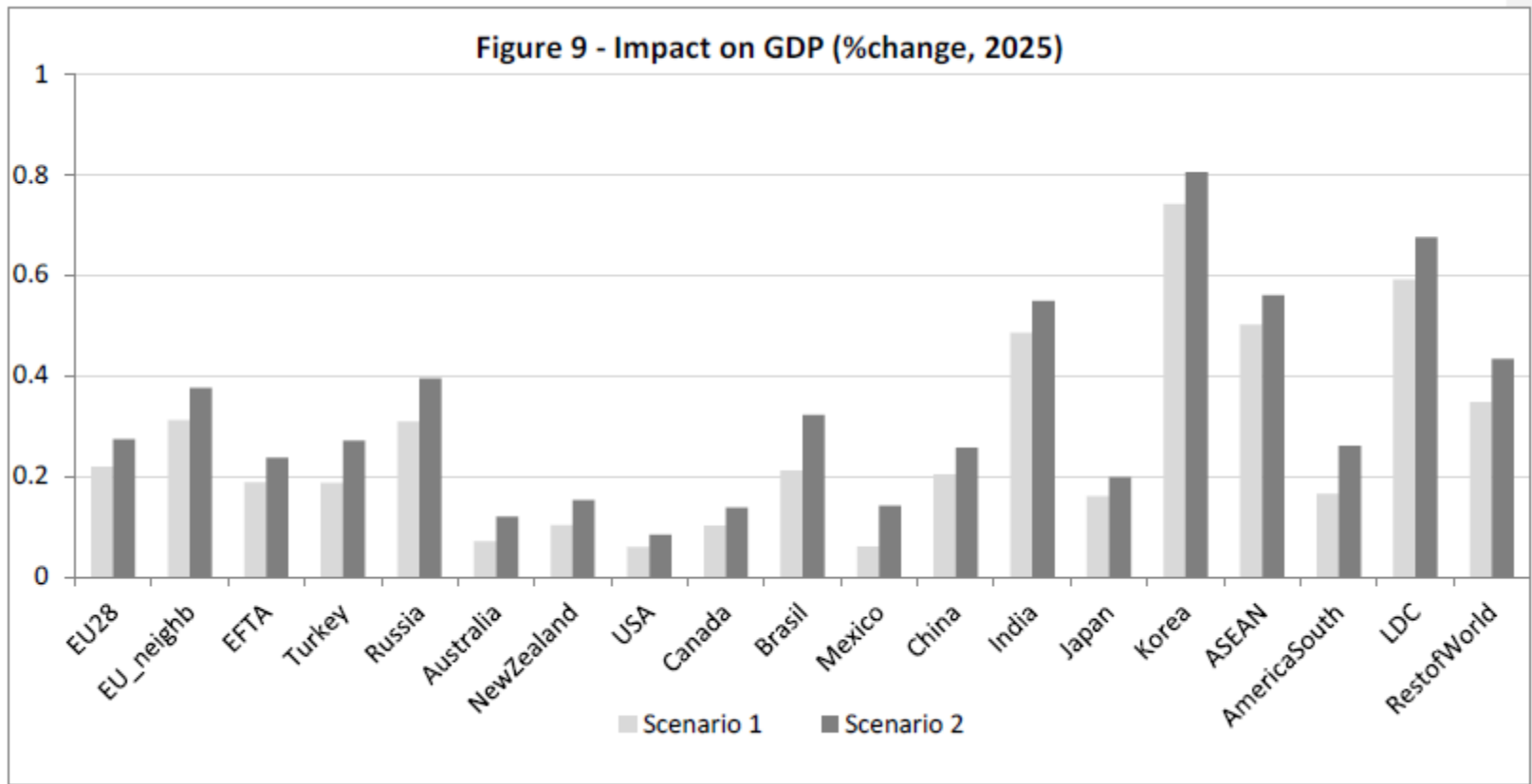
Scenario 2

Scenario 1
+ capital
productivity

Scenario 1: we define the size of the tariff cuts on goods based on the service's input share in goods production, in line with GTAP database

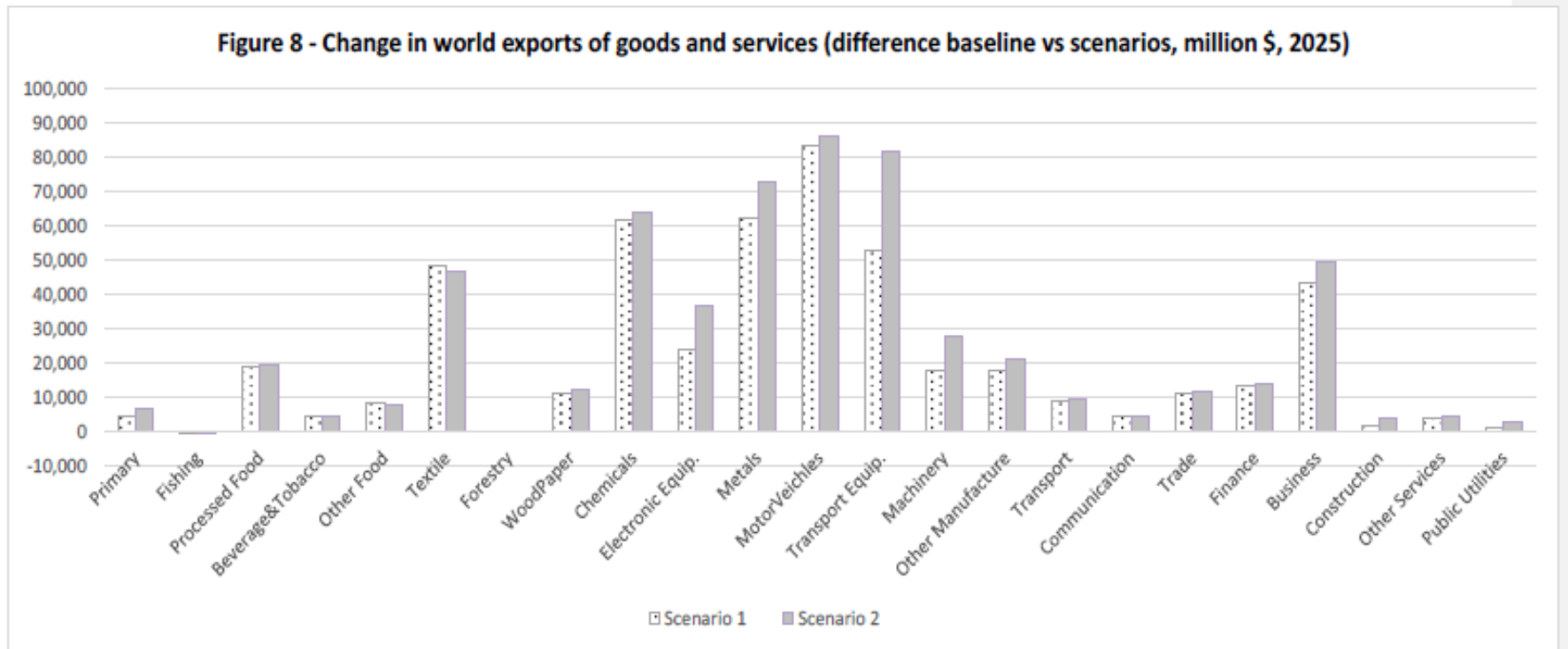
Scenario 2: tries to capture the growing role of technology & productivity gains expected from *servicification*

Mode 5 initiative: GDP impact



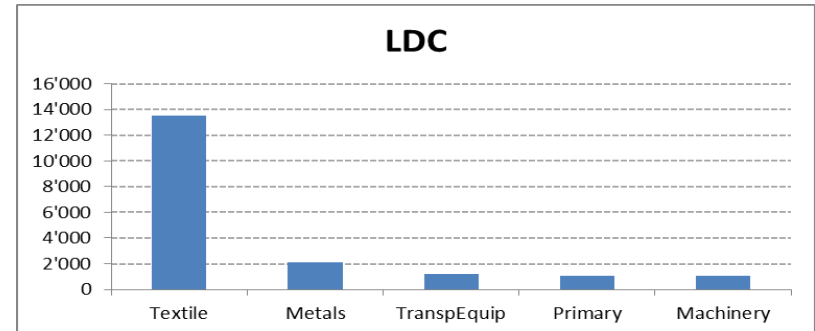
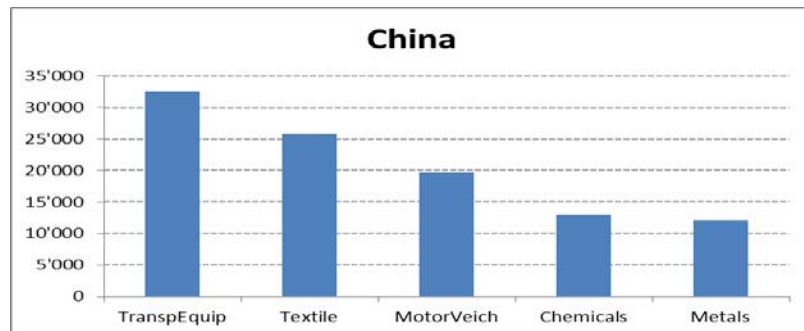
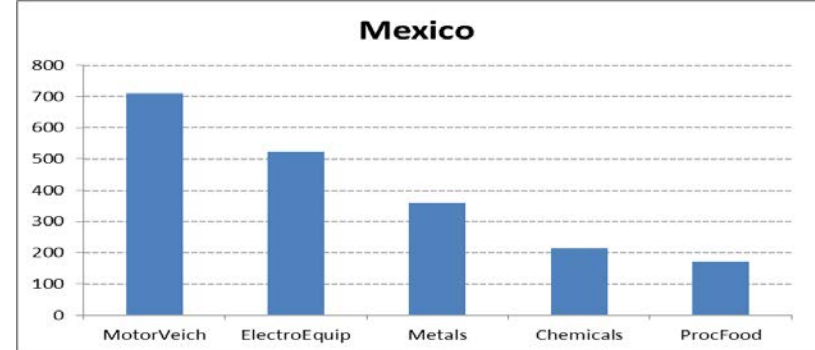
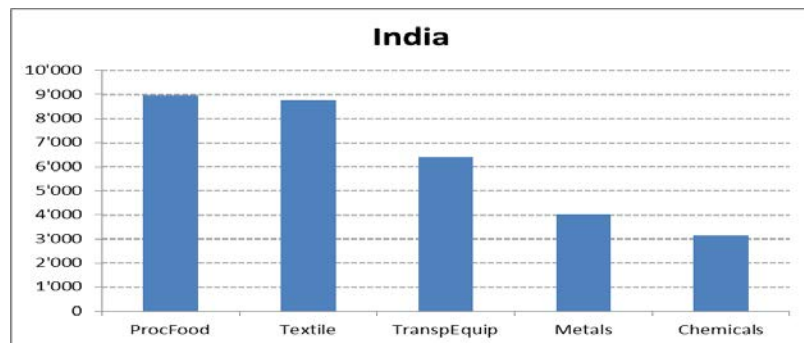
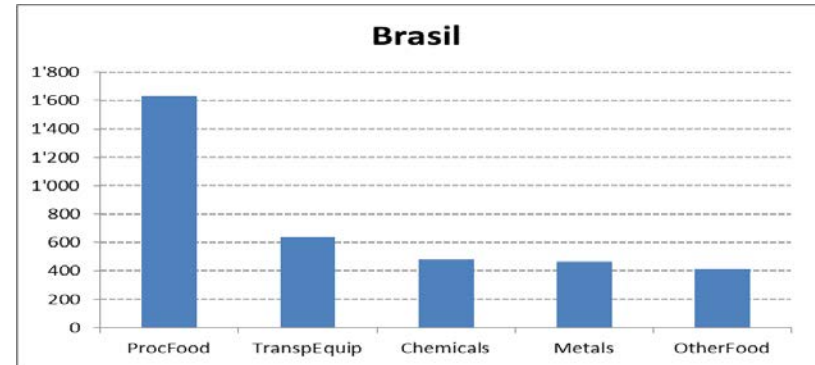
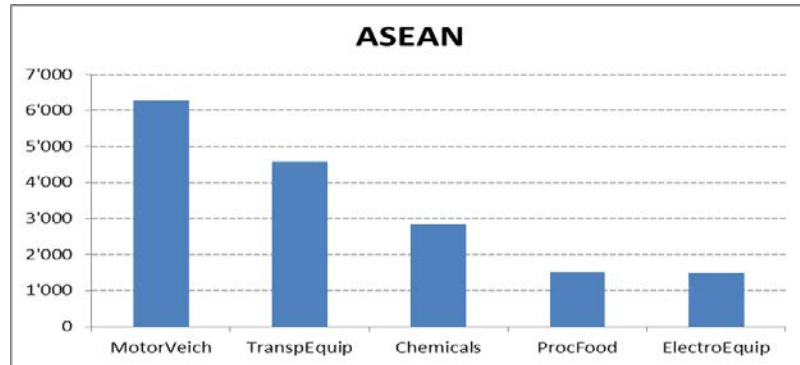
- World GDP would increase between **\$240-\$300 bn** per year
- Several developing countries expected to gain considerably

Mode 5 initiative: sectoral trade results



- World exports would increase by over **\$500 bn** per year

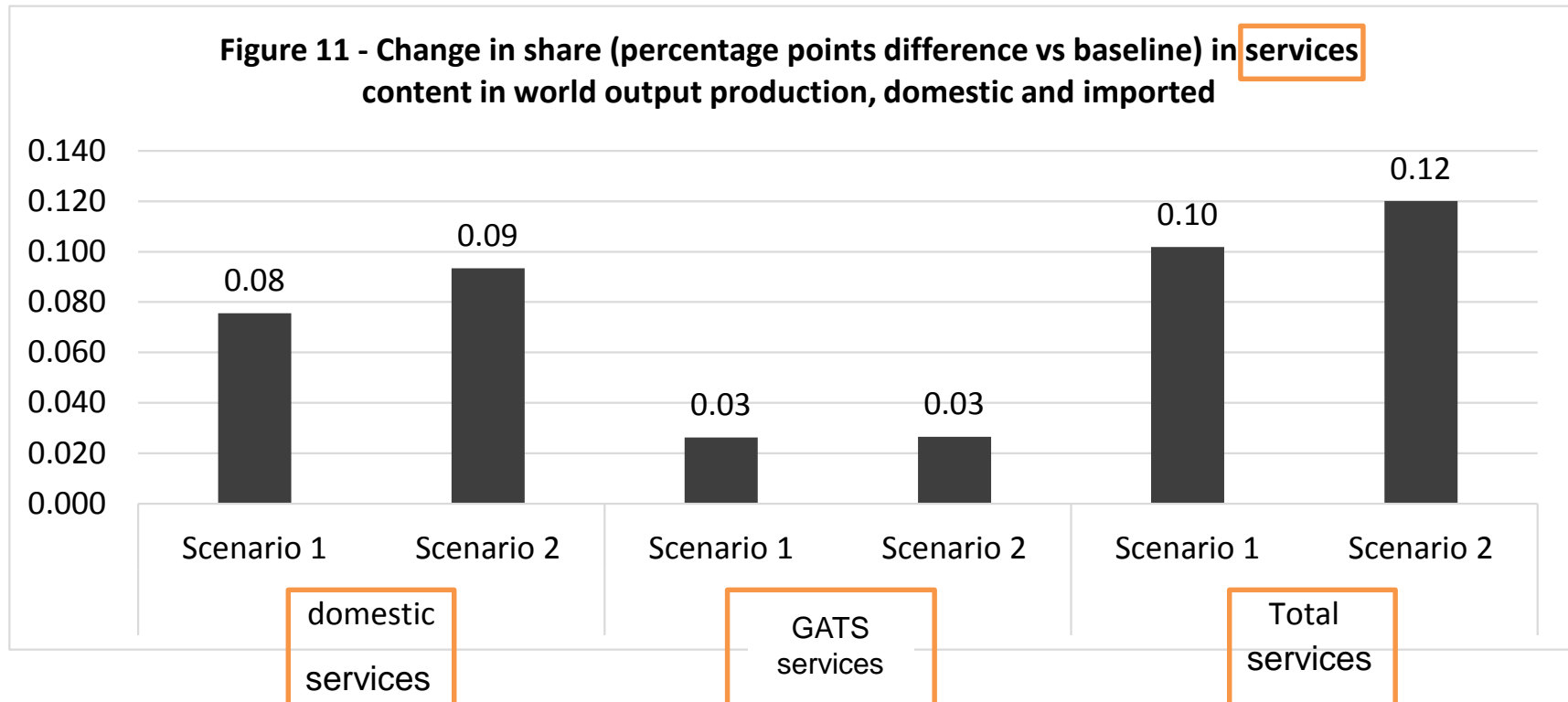
Selected developing countries and regions: Top 5 sectors with largest increase in export



Mode 5 and GATS services: Complements not substitutes!

Mode 5 – a triple win:

i) domestic firms; ii) services exporters; iii) manufacturers



Thinking ahead

- Mode 5 services will account for a growing share of global trade flows
- Trade rules may need to evolve to keep the pace with GVCs, technology and innovation
- Technology is key for the future of some economic sectors and mode 5 services may be the key for technological leapfrogging in developing countries
- The GATT-GATS interface affecting technology and new services will become more important
- The "*future is already here*" and may require adapting existing trade rules, e.g. customs valuation, RoO, big data.
- Mode 5 would be a meaningful candidate for both bilateral and multilateral initiatives