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Digital technologies and new trends in globalization: opportunities and challenges for diversifying economies

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Outline

1. Digital technologies and the growing service content of exports: how to join and appropriate value in business services value chains
2. Different dimensions of digital technologies and their economic impact
3. Countries' position in the different dimensions
4. Policy discussion

Growing service content of exports: opportunities and challenges for emerging countries

Growing 'servicification' of manufacturing -> growing service content of exports

(Pilat 2005; Pilat et al. 2008; Lanz and Maurer 2015; Gereffi and Fernandez-Stark 2010; Hernández, et al. 2014; OECD, 2013, Kommerskollegium 2012).



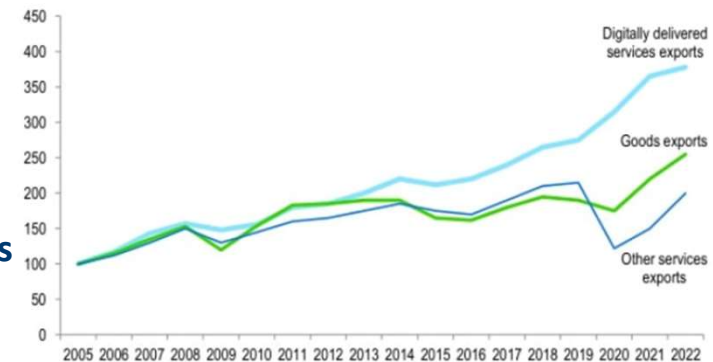
Developmental opportunities for peripheral countries to join Business Service GVCs (Gereffi and Fernandez-Stark 2010)



Participation in Business Services (BS) GVC:

- **can open up new opportunities for catching up in emerging countries** (Blinder 2006; Gereffi and Fernandez-Stark 2010; Hernández et al. 2014)
- **additional channel for technology transfer to occur**
- **provides opportunities for domestic technological upgrading**

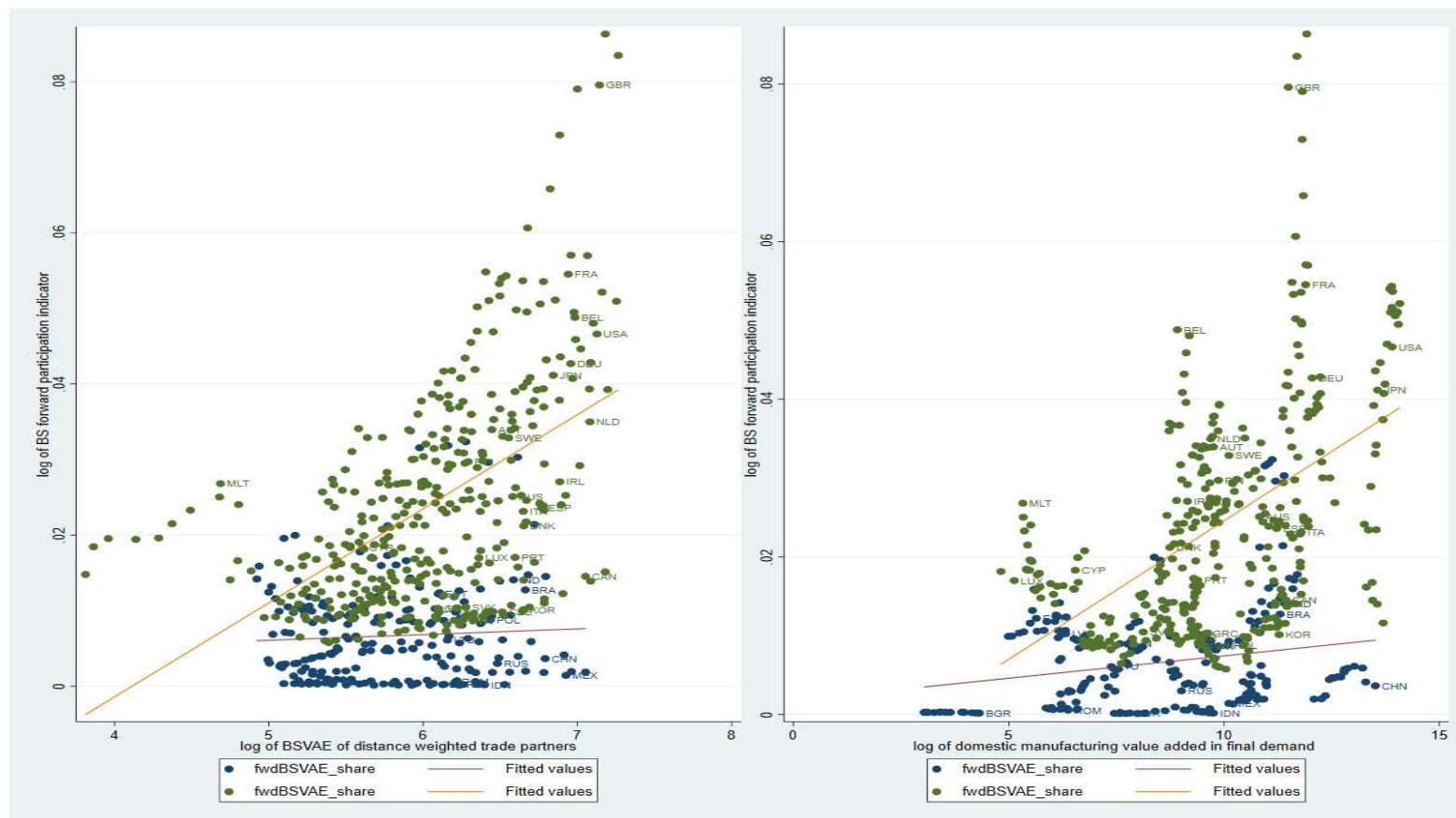
The share of Business Services (BS) value added in gross export has increased unlike that of manufacturing which has declined (Source: WIOD). Digitally delivered services have grown more than good exports (Source: WTO)



Domestic Business Services Value Added in Foreign Export: panel (a) the role of international spillovers; panel (b) the role of domestic GVC linkages

(a)

(b)



GVC in business services: empirical evidence

Empirical study on the relationship between participation in BS GVC and the internal manufacturing intermediate demand of BS (López González, Meliciani, & Savona, 2019)

- **BS GVC emerge mainly as a result of prior manufacturing intermediate demand** (Hirschman backward linkages)
- countries **specialised in BS highly-demanding sectors are more likely to participate in BS GVC**
- This pattern is **more evident for emerging countries**: developing domestic capabilities in sectors vertically integrated with BS is even more important for the participation in BS GVC



- the stronger **need for emerging countries to develop an internal final and intermediate demand for BS** to export such services (indirectly). Risks of “premature deindustrialization” also for diversifying towards high value added services.
- countries relying first and foremost, **let alone exclusively, on foreign demand**, while overlooking efforts to build capabilities by developing domestic backward-linked industries to BS, **might not result in gaining from GVC participation**, or even in lock-ins in low value added segments of GVCs.

The pervasive impact of digital technologies

Area of impact	Transmission mechanisms	Variables affected
Economic	<ul style="list-style-type: none"> - Change of consumption behaviours (in favour of services) - Development of new services Increased competition - Cost savings - Potential labour saving effects 	<ul style="list-style-type: none"> - Economic growth (especially services) - Total Factor Productivity - Employment growth (especially service industries)
Labour	<ul style="list-style-type: none"> - Better matching - Job flexibility (encouraging part-time) 	<ul style="list-style-type: none"> - Labour productivity - Employment and participation rates (also disadvantaged) - Employment growth - Inclusion
Educational	<ul style="list-style-type: none"> - Increases in human capital - Longlife learning - Cost savings 	<ul style="list-style-type: none"> - Labour productivity, employment growth - Employment rate of older and long-term unemployed - Inclusion
Health	<ul style="list-style-type: none"> - Cost savings - Potential labour saving effects 	<ul style="list-style-type: none"> - TFP - labour productivity
Government	<ul style="list-style-type: none"> - Cost savings, efficiency gains 	<ul style="list-style-type: none"> - TFP - labour productivity
Cultural, communicative and recreational	<ul style="list-style-type: none"> - Creation of new markets 	<ul style="list-style-type: none"> - Economic growth - Employment growth (especially services)

Digital technologies' effect on employment

POSITIVE IMPACT

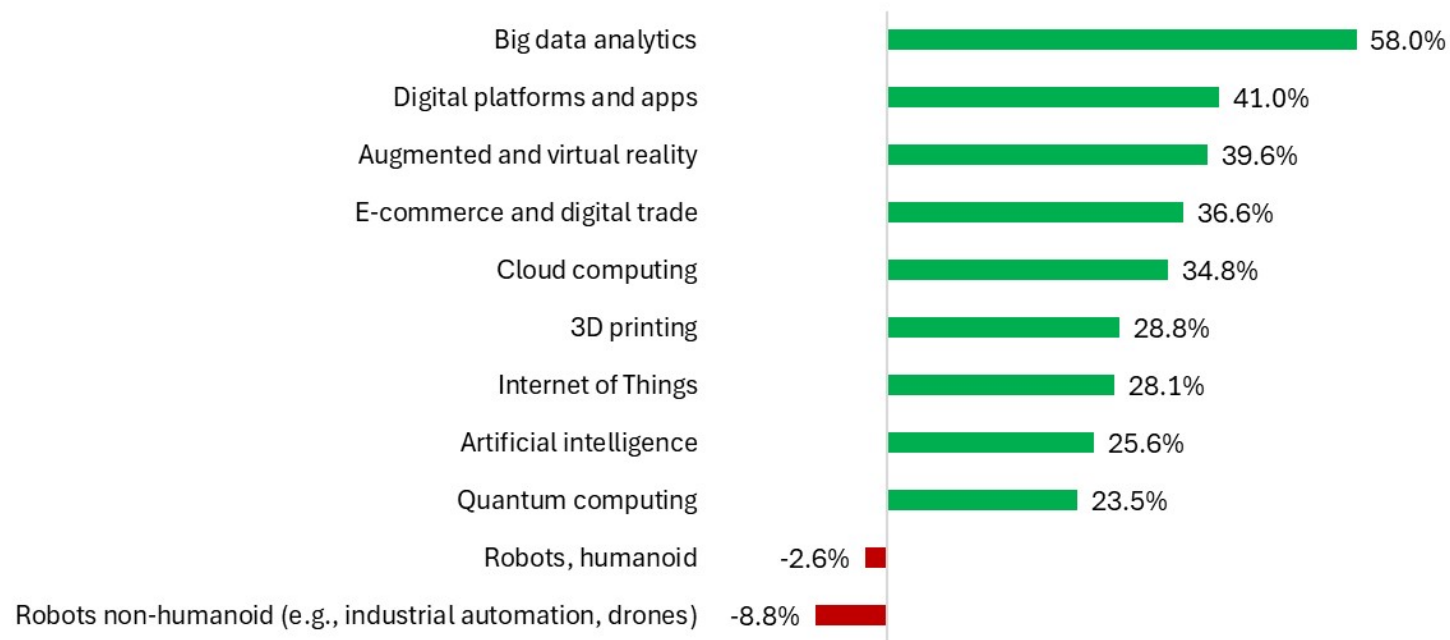
1. Increased labour market opportunities for highly qualified workers (technology experts, data analysts, etc.), also due to the combination of automation and artificial intelligence (AI)
2. New occupational profiles related to 3D printing, wearables and the internet of things (IoT)
3. Good working conditions for highly qualified workers
4. More job opportunities to women, people with disabilities, young people and migrant workers
5. Greater opportunities to engage in self-employment activities
6. Indirect job creation in the supply chain of digital technologies

NEGATIVE IMPACT

1. Decline in jobs with a high level of routine tasks (low-skilled, etc.)
2. Limited capabilities of workers and the education system to adapt to changing skills needs
3. Labour shortages in science, technology, engineering and mathematics (STEM)
4. Disappearance of some occupational profiles in the services sector in the event of increased spread of augmented reality (AR)
5. Increase in involuntary atypical employment
6. Decrease in contractual stability

Heterogeneity of digital technologies' effect on employment

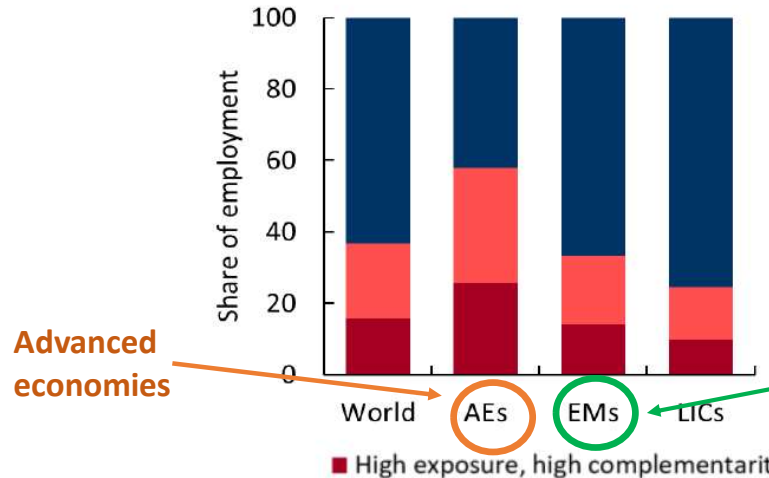
Expected impact of technology adoption on jobs, 2023–2027,
(difference between the share related to the statement of positive impact and
those of negative impact)



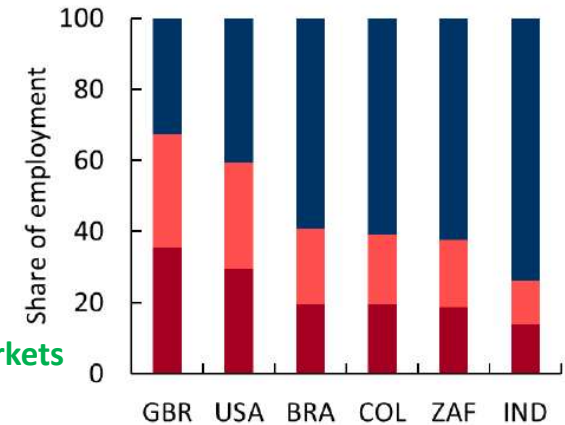
Digital technologies' effect on employment: a focus on AI

Employment shares by AI exposures and complementarity

1. Country Groups (Percent)



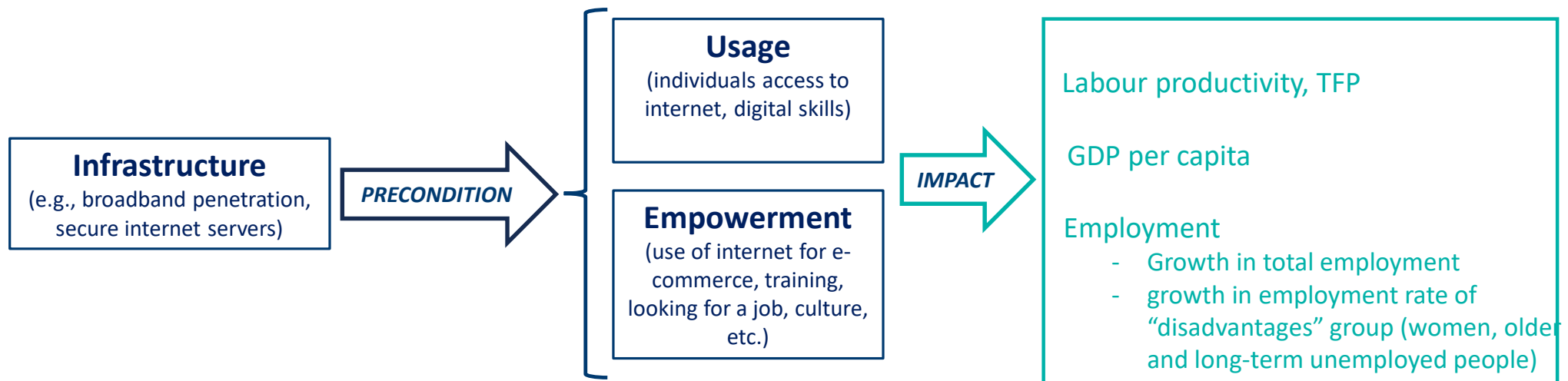
2. Selected Countries (Percent)



Sources: American Community Survey; Gran Encuesta Integrada de Hogares; India Periodic Labour Force Survey; International Labour Organization; Labour Market Dynamics in South Africa; Pesquisa Nacional por Amostra de Domicílios Contínua; UK Labour Force Survey; and IMF staff calculations.

Note: Country labels use International Organization for Standardization (ISO) country codes. AEs = advanced economies; EMs = emerging market economies; LICs = low-income countries; World = all countries in the sample. Share of employment within each country group is calculated as the working-age-population-weighted average.

Digital technologies: different dimensions and economic impact



Empirical studies* found positive impacts

Usage -> Labour productivity, employment rate of the older people

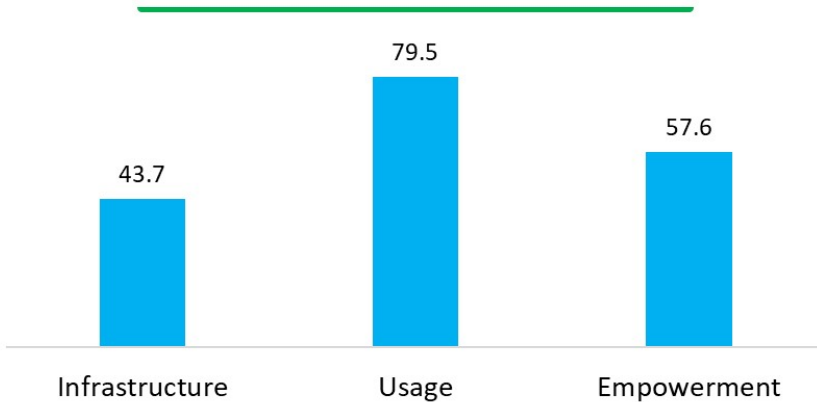
Empowerment -> GDP per capita growth, Employment growth, Female employment rate, Long-term unemployment (-)

Countries' position in the different dimensions

Digital technologies level of Developing countries compared to Advanced countries

(Advanced countries = 100)

Advanced countries = 100



Infrastructure: Fixed-broadband subscriptions per 100 people

Usage: proportion of households with Internet access at home

Empowerment: proportion of individuals using the Internet who undertook activities for private (non-work) purposes (sending/receiving mails)

Developing countries: 45 countries with data available for all the three indicators

Advanced countries: G7 countries

Disentangling Developing countries by macro regions

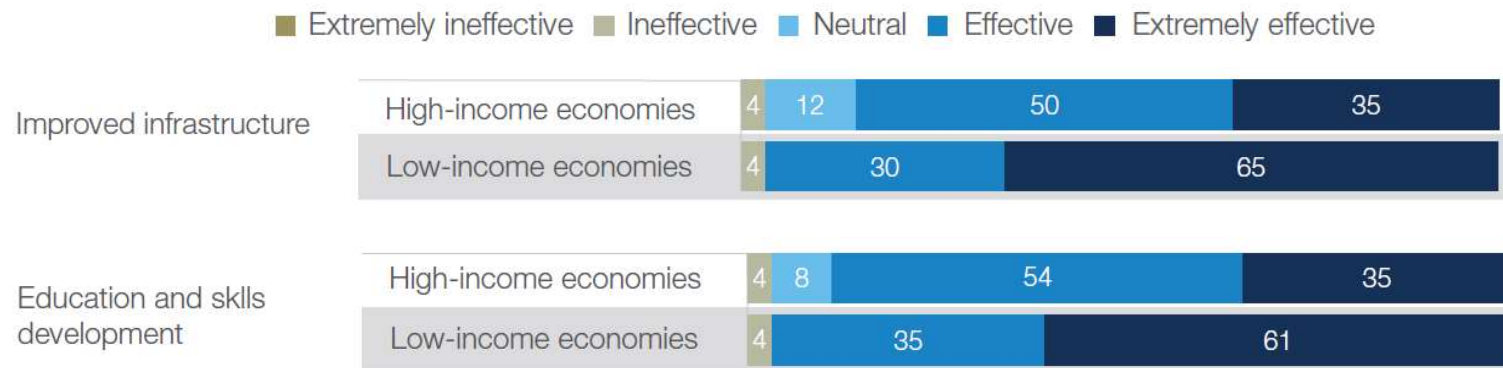
(Advanced countries = 100)

	Infrastructure	Usage	Empowerment
Europe			
Middle east and Central Asia			
Asia			
Latin America			
Sub Saharian Africa			

Infrastructure and skills priorities for developing countries

Growth policy levers: a focus on infrastructure and skills

Looking at the next five years, which policy levers are likely to be most effective for boosting economic growth?



Policy discussion

- Digitalization and AI reduce the demand for unskilled labour, favouring manufacturing reshoring and questioning export-led development strategies. Increasing role of the service sector and KIBS for developing countries. Digital technologies increase productivity and tradability of services. But how to enter BS global value chains? Role of domestic demand and intersectoral linkages.
- Diversification strategy based on sectoral (rather than industrial) policies, inter-sectoral linkages (proximity in the supply chain) and a related digital strategy (pervasive effects of digital technologies, new products and services, new jobs).
- Digitalization may create monopoly power and winner takes all dynamics. Promote adoption of labour using technologies and active labour market policies. Need for a digital regulatory framework conducive to innovation and preventing concentration. Digital taxation.
- Larger role for governments to create the conditions for benefiting from digitalization: investment in infrastructure to reduce the digital divide and allow leapfrogging older technologies. Role of education, digital literacy, digital inclusion, lifelong learning, skill matching.
- Increasing role of public-private partnerships and international cooperation. Mutually beneficial agreements. Reforming Intellectual Property Rights.