

Climate Smart Connectivity: Key Issues Raised in WRI's Presentation

Economic development in the Asia region has been greatly facilitated by flows of Foreign Direct Investments (FDIs) through robust global value chains (GVCs) and regional value chains. Currently, two thirds of trade take place through GVCs, with multinational enterprises playing an outsized role - whether it is for automotive parts from Thailand, garments from Bangladesh or agricultural commodities from throughout the region.

These trends have been driven by substantial investments in improved connectivity in various forms, such as:

- Policy reforms that reduced distortionary effects on markets for inputs, goods, and services.
- Physical access improvements that reduced transport and logistics costs for the movement of goods and populations.
- Digital access that lowered costs of services and information flows on a 24/7 basis, and
- Legal and regulatory standards that reduced transactions costs through predictable institutional processes compliant with global best practices.

In the past few years, Information and Communications Technology (ICT) innovations are disrupting some GVCs more than others. GVC 4.0 describes the current situation in which digitalization is having unpredictable long-term impacts on industrial organizations. For example, digital technology applications (such as 3D printing, machine learning, robotics) shorten value chains by onshoring or localizing production. Other technology innovations could end up downscaling production, providing sourcing flexibility while generating substantial cost savings for the firm. For example, automotive parts may be easier to onshore for electric cars than for gasoline or diesel vehicles. By contrast agricultural food and fiber commodities and forestry value chains are less likely to be radically disrupted – although these are the ones most likely to be disrupted by concerns related to climate change and environmental sustainability.

Digitalization enables effective tracking of GVC issues related to climate change, environmental sustainability, and even of labor practices gender discrimination, health, and safety conditions etc. It therefore enables greater market oversight on the extent to which all parts of the value chain are following sustainable practices.

Climate smart connectivity is best described as a package of policy innovations and infrastructure support that equips developing country participants in GVCs to benefit

from the digitalization process. Three pillars of climate smart connectivity could be recommended:

- Pillar 1 anticipates or adapts connectivity to expected climate change. Utilizing localized climate models and analysis from open platforms like WRI's Resource Watch and Aqueduct, climate resilient investments either safeguard existing global and regional commodity value chains or finance new infrastructure investments that enable communities build new commodity value chains. Support could include nature-based solutions to promote investment in or restoration of natural ecosystems in ways that protect the production of agricultural and forestry commodities in the face of climate change and potentially shifting land use.
- Pillar 2 could support GVCs reduce embedded carbon and water footprints that are likely to be of increasing concern to investors and consumers, given the rapidly growing weight of ESG in global markets. Financing infrastructure investments could target (i) lowering GHG footprints through energy efficiency interventions, expansion of renewable energy, promotion of low carbon transit etc., (ii) sustainably manage the water footprint through policies and investments leading to reductions in virtual water usage.
- Pillar 3 could support "Just Transitions", relevant when country level GVCs are disrupted by digitalization. The support could repurpose stranded assets (such as SEZs, urban infrastructure investments, warehousing facilities etc.) whenever they are no longer in productive use because of the disruptions caused by digitalization. In addition, project financing could support worker reskilling programs to enable them to compete for new jobs arising from digitalization.

A climate smart connectivity program of support will benefit by establishing an open digital platform with overlays of spatially referenced data (Examples: land use, climate risks, changes in productivity for agricultural crops and commodities, infrastructure networks, demographic, natural ecosystem information). Follow-up studies and apps could identify cross-industry and cross-country climate smart connectivity investments that will benefit developing countries.