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*Sustaining Trade under Cloudy Prospects*

# Global Digital Economy: Headwinds Ahead

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## SYNOPSIS

*Although the digital economy holds much promise, challenges such as rising inequality and digitalisation's climate impact could stand in the way of realising a sustainable global digital economy. What role could international trade and the WTO play in alleviating these risks?*

## COMMENTARY

THE DIGITAL economy is moving full steam ahead in a post-COVID era, but this growth is not without downsides. Just as digitalisation carries the promise of economic growth and development, it can also bear the perils of rising inequality and environmental harm — factors which, if not tackled, could cast a long shadow over the digital economy's sustainability.

Currently, over 80 economies are negotiating a multilateral digital economy framework at the World Trade Organisation (WTO). How might international trade be useful in addressing these headwinds, and what role could the WTO play in fostering a more sustainable global digital economy?

### Dangerous Grounds: Data Divide & Climate Impacts

In some ways, the risks of inequality are inherent to the digital economy because it tends towards winner-takes-all outcomes. The biggest asset in the digital economy is data, but the value of data lies in the ownership, collection and processing of big datasets to derive meaningful insights from a sea of information.

Yet smaller businesses generally do not have these capabilities and resources. Rather, Internet platforms and Big Tech companies dominate these stages of the data value chain. The spoils of the digital economy can hence concentrate in the hands of a few market players, especially when bigger businesses buy out smaller competitors to improve their market advantage.

Consequently, there is an emerging data divide within countries and between them too, since developing countries mainly provide data or data storage centres while companies from developed countries dominate the higher rungs of the data value chain. This is on top of the digital divide that stems from poor access to the digital economy or poor digital skills.

Digitalisation's climate impact presents yet another challenge to the digital economy's sustainability.

It is true that technological advancements could alleviate environmental pressures. Still, this narrative elides how the production processes of vital digital technologies can be environmentally detrimental in itself. Semiconductors are a good example, owing to their resource-intensive manufacturing in terms of raw materials, water, and electricity.

The Taiwan Semiconductor Manufacturing Company (TSMC), for instance, uses 5% of Taiwan's electricity annually; last year, Taipei diverted water from irrigating 183,000 hectares of agricultural land to keep TSMC's operations going. With more economies seeking to produce semiconductors domestically to achieve post-COVID supply chain resilience, digital sovereignty and geopolitical imperatives, such duplication of technology supply chains could rack up hefty environmental costs.

**Supply Chain Resilience**

Manufacturing processes could become greener through using recycled materials, for instance, with such a transition to a circular digital economy having the added benefit of strengthening supply chain resilience.

Conflicts and crises such as the Ukraine invasion would have less impact on technology supply chains in the future, because the circular economy enables some diversification of critical raw material sources.

At this stage, however, the circular digital economy is still nascent. Around 57.4 million tonnes of electronic waste (e-waste) were generated in 2021, but less than 20% of e-waste is effectively recycled.

A significant amount of materials are not recovered, including precious metals valued at around US$57 billion, and some hazardous materials are dumped illegally in developing countries that have less capacity to tackle this waste.

**Course Correction**

International trade does not lie at the root of these risks. Nonetheless, it can be a useful tool in setting the course towards greater digital sustainability.

The link between trade and the data divide is perhaps the most straightforward. A WTO e-commerce multilateral agreement would avail a much needed set of global data rules. This could provide data governance templates for member economies lacking data laws, set guardrails against data dependencies and exploitation, and facilitate capacity-building to enable participation in the data-driven economy in exchange for market access.

Despite progress in tackling low-hanging fruit such as e-signatures, however, a multilateral agreement may not yet be on the cards. Major economies — particularly the United States and China — cannot agree on the contentious issues of cross-border data flows and source codes.

This does not mean that an agreement is impossible. There have been points of convergence between Washington's, Beijing's, and the European Union's digital governance models respectively. Going forward, regional trade agreements and minilaterals that can further minimise the gaps between models should be supported; China's application to the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) is a case in point.

In much the same vein, the US and China could also look into limiting their concessions to each other rather than invoking broad-brush national security exemptions that hold the agreement hostage.

Building in development-differentiated trade flexibilities may likewise be useful, as many developing economies do not feel ready to accept more ambitious provisions. Modelling negotiations after the 2013 Trade Facilitation Agreement could help build the consensus necessary to deliver a deal and close the data divide.

**Green Economy Futures**

Trade's critical role in coping with climate change is arguably in facilitating the movement of second-hand and repurposed materials across borders. This would complement the Basel Convention, which only regulates the import and export of hazardous trade.

Over the past few years, WTO members have ramped up discussions on sustainable trade. These talks have nevertheless so far focused on fossil fuel subsidies and plastics pollution, with the circular digital economy garnering less attention. This could be partly attributed to the lack of data on circular economy trade flows — particularly for e-waste — that can inform policymaking.

Supporting exploratory work at the WTO on this topic, such as by establishing working groups on secondary raw materials and remanufactured goods, may thus be more appropriate at this stage before moving towards harmonising standards on e-waste and circular economy regulations.

Overall, governments must shore up domestic support for trade and the WTO, given their significance to a more sustainable digital economy and economic multilateralism.

The benefits of trade — and even the digital economy — must be communicated

without over-valorising it, because this can lead to disappointment and weakened support for globalisation and digitalisation. To that end, managing expectations will be key to securing a sustainable digital economy alongside more technical solutions to its various ills.

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