CROSS-BORDER DATA TRANSFERS &
ECONOMIC DEVELOPMENT

Access to Global Markets, Innovation, Finance, Food, and Healthcare

Cross-border data transfers and digital connectivity are critical to sustainable economic development. This primer–the first in this series–focuses on the role of cross-border data transfers and digital connectivity in ensuring access to global markets, innovation, finance, food, and healthcare.

ECONOMIC DEVELOPMENT BENEFITS OF CROSS-BORDER CONNECTIVITY AND DATA TRANSFERS

Cross-border access to data, which may embody knowledge, technological tools, and new business opportunities, is critical to enhancing living standards and promoting sustainable development. The ability to access technologies and transfer data across borders is critical to:

- helping micro-, small-, and medium-sized enterprises (MSMEs) and other enterprises access overseas markets and supply chains;

- improving innovation and competitiveness;

- building access to finance;

- growing agricultural sustainability and productivity; and

- improving population health and well-being.

Extending these benefits across populations depends, in part, upon ensuring cross-border access to technology, knowledge, and data; safeguarding the ability to transfer data seamlessly and responsibly across borders; and building digital connectivity and inclusiveness through computer literacy, access to the internet, and the availability of information technology (IT) equipment.[1] We address each of these points below.

> "Ensuring the free flow of data is an essential enabler for many online services, such as e-commerce, digital payments, and other cloud services, to work across borders."

World Bank, *A Single Digital Market for East Africa*, p. 9.

Improving Access to Global Markets

MSMEs and other developing country enterprises' access to global markets where they can offer and sell their services and products depends on cross-border access to information and cloud-enabled technologies. Cross-border access to marketplaces, purchasers, suppliers, and other commercial partners allows local MSMEs to engage in international transactions and create jobs at home. As USAID has explained,

> Digital ecosystems have the potential to equip informal merchants, women entrepreneurs, smallholder farmers, and MSMEs engaged in cross-border trade with access to markets, information, and finance. These diverse users require trustworthy services that reflect their needs....[D]igital trade that spans borders depends on free data flows, digitized customs, and innovations in trade finance made possible by new approaches to lending.[2]

Data transfer restrictions and data localization mandates impede access to foreign markets and trade financing.

REALIZING THE PROMISE OF THE DIGITAL ECONOMY FOR ALL

Realizing the promise of the digital economy depends on ensuring cross-border access to technology, knowledge, and data; safeguarding the ability to transfer data seamlessly and responsibly across borders; and building digital connectivity and inclusiveness through computer literacy, access to the internet, and the availability of ICT equipment.

2019 AlphaBeta Study estimates that digital tools helped MSMEs across Asia **reduce export costs by 82 percent and transaction times by 29 percent.**

AlphaBeta, Micro-Revolution: The New Stakeholders of Trade in APAC (2019).

A 2021 GSMA study conducted in three developing regions (in South America, SouthEast Asia and Africa) indicates that data localization measures on IoT applications and machine-to-machine data could result in:

- Loss of 59–68 percent of their productivity and revenue gains;
- Investment losses ranging from $4–5 billion;
- Job losses ranging from 182,000–372,000 jobs.

GSMA, Cross-border Data Flows – The Impact of Localisation on IOT (2021).

The World Bank's 2020 World Development Report found that, "restrictions on data flows have large negative consequences on the productivity of local companies using digital technologies and especially on trade in services."

"Countries would gain on average about 4.5 percent in productivity if they removed their restrictive data policies, whereas the benefits of reducing data restrictions on trade in services would on average be about 5 percent."

World Bank, World Development Report (2020).

A 2020 World Economic Forum study found that, "approximately half of crossborder [services] trade is enabled by digital connectivity [, which] …has allowed developing countries and micro, small and mediumsized enterprises (MSMEs) to export through greater visibility, easier market access and less costly distribution.

"Developing countries...accounted for 29.7% of services exports in 2019."

WEF, Paths Towards Free and Trusted Data Flows (2020).

Improving Access to Technology to Innovate and Compete

Cross-border access to technology and data transfers enhances the ability of all economies to innovate and compete in the 21st century. This includes the ability to access: (1) productivity-enhancing software solutions; (2) scientific, research, and other publications; and (3) manufacturing data, blueprints, and other operational information. To foster an environment that supports research and development (R&D) and investments in the design, production, and sale of products and services for domestic and export sales, it is important to increase the availability and affordability of IT products and services, and safeguard the ability to receive and transmit information across regional and global IT networks. Access to digital infrastructure is important for MSMEs and other local enterprises because access can increase resilience and the ability to respond to changes in changes in the global supply chain, as well as innovation and the diffusion of technologies in the local ecosystem.

Cross-border data transfers also enable the deployment of tools that facilitate teleworking, virtual collaboration, online training, and the remote delivery of services, including virtual healthcare solutions. These tools include cloud-based libraries and databases, video-conferencing applications, and interactive collaboration platforms.

CROSS-BORDER DATA TRANSFERS AND KENYA'S DIGITAL ECONOMY BLUEPRINT

Cross-border data flows and digital market access offer Kenya **"a leapfrogging opportunity on economic development"** in a digital economy where "goods, services and expertise…[are] accessible across borders," and "where citizens benefit from direct access to global markets."

Kenya 2019 Digital Economy Blueprint.[3]

Improving Access to Finance

Advances in financial inclusiveness, financial transparency, and financial security across developing countries also depend on cross-border access to data and cloud-enabled technologies. There remain more than 2.5 billion unbanked people worldwide, many living on remote and isolated locations lacking in banks or other on-the-ground financial service providers.[4] Technologies that leverage data transfers can increase access to financial services–particularly as 95 percent of the world's population is already covered by mobile broadband networks.[5] These include:

- **Microlending.** Microfinance institutions use technologies based on data transfers to allow them to provide better loans, achieve greater repayment rates, and lower interest rates for applicants. For example, in many developing countries, local financial institutions are able to offer micro-loans to citizens and businesses that would not otherwise have access to credit, using cloud-enabled data analytics to determine credit risk profiles and deliver loans through automated processes.[6]

- **Remittances to developing countries.** More than ever, remittances are of vital importance in developing countries. According to the World Bank, remittances to low- and middle-income countries reached a record high of $529 billion in 2018.[7] Financial institutions have reported savings between 40 and 70 percent in foreign exchange costs, and payment times averaging just a few seconds.[8]

- **Financial transparency, anti-corruption, and anti-money laundering.** As compared with cash-based transactions, increased use of "mobile transfers" and "mobile money," which often depend on cross-border access to cloud-based financial service platforms, allow for enhanced transparency in public sector spending; reduced "off the books" cash transactions; and increased predictability in the banking system.

By enabling digital financial services, the Gross Domestic Product (GDP) of emerging economies could increase by more than $3.5 trillion, or 6 percent, by 2025. E-commerce could increase international trade by up to $2.1 trillion by 2030.

USAID Digital Strategy, 2020–2024.

CROSS-BORDER DATA TRANSFERS AND DEVELOPING COUNTRY SERVICES TRADE

15%

Estimated increase in developing country share of global services, if developing countries fully adopt digital tools, including through cross-border access to cloud and software-enabled technologies.

$3.5 Trillion

Estimated GDP increase for developing countries that enable digital financial services, including via benefits of cross-border access to financial platforms, productivity benefits through transnational data analytics, and the seamless and responsible transfers of financial data across borders.

Manyika et al., "How Digital Finance Could Boost Growth in Emerging Economies," McKinsey Global Institute (2016).

Improving Agricultural Sustainability and Productivity

The World Bank estimates that agriculture accounts for up to 25 percent of GDP and 65 percent of the lower income population in some developing countries, and that growth in the agriculture sector is two to four times more effective in raising incomes among those populations.[9] Cross-border connectivity and access to cloud-enabled technologies can make these agricultural economies significantly more productive, promising widespread benefits to large portions of the populace.[10] Benefits include:

- Cross-border access to satellite and sensor-driven data that can help inform planting and harvesting decisions, including temperature, precipitation, and other environmental data;

- Cross-border access to information on cost-effective techniques for crop development and protection;

- Cross-border access to up-to-date, reliable information on export markets, pricing, insurance, and shipping options; and

- Cross-border access to sales opportunities, and to online marketplace information on sellers and buyers.

Cross-border access to technologies and information help small-scale agricultural producers mitigate crop risks (including losses from pests, disease, and weather-related events) and improve crop yields. They can also help farmers reduce transaction costs and arbitrage by middlemen, given that up to 70 percent of smallholder production value is captured by different intermediaries.[11] They can also promote greater sustainability, given that agriculture accounts for 70 percent of water use and given that one third of global food production is either lost or wasted.[12]
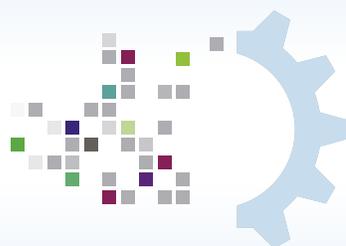
The OECD's Report on Trade in the Digital Era explains that, "[d]igitalisation is linked with greater trade openness, selling more products to more markets and in less concentrated export baskets. A 10% increase in 'bilateral digital connectivity' raises goods trade by nearly 2% and trade in services by over 3%."

OECD, Report on Trade in the Digital Era.

Improving Access to Healthcare

Remote health services for medically underserved populations and the search for tomorrow's medical treatments also depend on cross-border access to data and cloud-enabled technologies. These technologies can improve health outcomes for remote and medically underserved populations as follows:

- Cross-border data transfers and digital connectivity enable online healthcare education efforts of international health and development agencies;

- Cross-border access to clinical testing and other biopharmaceutical R&D data aids in the study and treatment of diseases—not only globally prevalent, but also rare and neglected diseases;

- Cross-border consultations between remote providers in one country with specialists located at research facilities abroad can help improve health outcomes in non-routine cases;

- Cross-border consolidation of anonymized data sets from around the world allows for real-time statistical tracking, analytics, and monitoring of aggregated anonymized data—resulting in a better grasp and more rapid response to emerging epidemics or localized disease outbreaks; and

- Cross-border humanitarian assistance is also possible through "telemedicine networks [that]… deliver humanitarian services on a routine basis, many to low-income countries."[13]

CONCLUSION

Cross-border data transfers are a critical tool to facilitate developing country access to global markets, innovation, finance, food, and healthcare. Countries that adopt open and forward-looking cross-border data policies will be best positioned to ensure their access to these factors of economic opportunity in the digital 21st century.

Endnotes

1   In addition to a country's policy on cross-border data transfers, its performance in digital connectivity metrics–including cellular, internet. and broadband penetration levels; access to affordable and reliable ICT equipment; and levels of computer literacy–are important factors in enabling these benefits. WEF's Internet for All initiative in East Africa, the SMART Africa Alliance, and digital initiatives under the African Continental Free Trade Area are important fora to advance both connectivity and computer literacy priorities and inclusive cross-border data policies.

    See also, World Bank, *World Development Report* (2020), at: https://www.worldbank.org/en/publication/wdr2020; World Bank, *World Development Report – Data For Better Lives* (2021), at: https://openknowledge.worldbank.org/bitstream/handle/10986/35218/ 9781464816000.pdf.

2   USAID Digital Strategy, 2020–2024, https://www.usaid.gov/usaid-digital-strategy, p. 37.

3   *See also*, Kenya Information, Communication, Technology, Innovation and Youth Affairs, Draft Data Protection (General) Regulations 2021 (2021), at: https://www.odpc.go.ke/wp-content/uploads/2021/04/Data-Protection-General-regulations.pdf (stating that any cross-border data provisions shall *not* "arbitrarily or unjustifiably discriminate against any person; impose a restriction on trade; [or impose] … restrictions on transfers of personal data … greater than are required to achieve the objective.")

4   USAID, US Global Development Lab, https://www.usaid.gov/digital-development/digital-finance.

5   Ericsson, *Ericsson Mobility Report November 2019*, https://www.ericsson.com/49d1d9/assets/local/mobility-report/documents/2019/ ericsson-mobility-report-june-2019.pdf.

6   Cutting-edge technologies such as data analytics (to review available past data) and artificial intelligence (to anticipate future outcomes) play an important role in the expansion of credit channels available to these underserved customers. These technologies heavily rely on cross-border data flows. Oftentimes, the data used to enable the cloud-based service being delivered must travel across borders, even if the financial service provider and its customer are in the same country. For example, Tradeteq, a smart technology trade finance platform, uses a credit model based on artificial intelligence that goes beyond financial information, and includes socio-economic, geographic, and other information about the company that is used to base finance investment decisions. The algorithms used to power this tool also rely on a large amount of data collected, processed, and analyzed in various parts of the world. Tradeteq, *The AI-Driven Trade Finance Investment Platform*, https://www.finyear.com/Tradeteq-the-AI-driven-trade-finance-investment-platform_a40656.html.

7   World Bank, *Record High Remittances Sent Globally in 2018*, https://www.worldbank.org/en/news/press-release/2019/04/08/record-high-remittances-sent-globally-in-2018.

8   Rodrigo Mejia-Ricart, Camilo Tellez, and Marco Nicoli, *Paying across Borders: Can Distributed Ledgers Bring Us Closer Together?* (March 26, 2019), https://blogs.worldbank.org/psd/paying-across-borders-can-distributed-ledgers-bring-us-closer-together.

9   World Bank, *Agriculture and Food* (2020), https://www.worldbank.org/en/topic/agriculture/overview.

10 *See generally*, Every Sector Is a Software Sector: Agriculture, https://software.org/wp-content/uploads/Every_Sector_Software_Agriculture. pdf.

11 IDB Climate Smart Agriculture, *Thematic Paper: Climate-Smart Agriculture* (Revised Version), p. 5, http://www.iadb.org/document. cfm?id=EZSHARE-1914875107-52. The IDB explains the underlying challenge that cross-border access to technologies and export markets can help ameliorate: "Smallholders typically capture a low share of the final value of its products and encounter non-transparent commercialization markets and difficulties in buying inputs and selling their products at fair prices. On top of that, small farm holders typically face limited access to export to new markets and unfavorable prices in international trade, and they are particularly vulnerable to volatility in commodity prices."

12 World Bank, *Agriculture and Food* (2020), https://www.worldbank.org/en/topic/agriculture/overview.

13 World Health Organization, Long-Running Telemedicine Networks Delivering Humanitarian Services, Bulletin of the World Health Organization (2012), https://www.who.int/bulletin/volumes/90/5/11-099143.pdf