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DIGITAL ECONOMY REPORT 2021

Cross-border data flows and development: *For whom the data flow*

OVERVIEW

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Note

Within the UNCTAD Division on Technology and Logistics, the ICT Policy Section carries out policy-oriented analytical work on the development implications of information and communications technologies (ICTs) and e-commerce. It is responsible for the preparation of the *Digital Economy Report,* previously known as the Information Economy Report. The ICT Policy Section promotes international dialogue on issues related to ICTs for development, and contributes to building developing countries' capacities to measure e-commerce and the digital economy and to design and implement relevant policies and legal frameworks. The Section also manages the *eTrade for all* initiative.

In this Report, the terms country/economy refer, as appropriate, to territories or areas. The designations of country groups are intended solely for statistical or analytical convenience, and do not necessarily express a judgement about the stage of development reached by a particular country or area in the development process. Unless otherwise indicated, the major country groupings used in this Report follow the classification of the United Nations Statistical Office. These are:

Developed countries: the member countries of the Organisation for Economic Co-operation and Development (OECD) (other than Chile, Mexico, the Republic of Korea and Turkey), plus the European Union member countries that are not OECD members (Bulgaria, Croatia, Cyprus, Lithuania, Malta and Romania), plus Andorra, Liechtenstein, Monaco and San Marino. *Countries with economies in transition* refers to those in South-East Europe and the Commonwealth of Independent States. *Developing economies* in general are all the economies that are not specified above. For statistical purposes, the data for China do not include those for Hong Kong Special Administrative Region of China (Hong Kong, China), Macao Special Administrative Region of China (Macao, China) or Taiwan Province of China. An excel file with the main country groupings used can be downloaded from UNCTADstat at: http://unctadstat.unctad.org/EN/Classifications.html.

References to Latin America include the Caribbean countries, unless otherwise indicated.

References to sub-Saharan Africa include South Africa, unless otherwise indicated.

References to the United States are to the United States of America, and to the United Kingdom are to the United Kingdom of Great Britain and Northern Ireland.

The term "dollars" ($) refers to United States dollars, unless otherwise indicated.

The term "billion" signifies 1,000 million.

The following symbols may have been used in the tables:

Two dots (..) indicate that data are not available or are not separately reported.

Rows in tables have been omitted in those cases where no data are available for any of the elements in the row.

A dash (–) indicates that the item is equal to zero or its value is negligible.

A blank in a table indicates that the item is not applicable, unless otherwise indicated.

A slash (/) between dates representing years, e.g. 1994/95, indicates a financial year.

Use of an en dash (–) between dates representing years, e.g. 1994–1995, signifies the full period involved, including the beginning and end years.

Annual rates of growth or change, unless otherwise stated, refer to annual compound rates.

Details and percentages in tables do not necessarily add up to the totals because of rounding.

Preface

The COVID-19 pandemic has accelerated the process of digital transformation and added urgency for Governments to respond. A key challenge is how to govern and harness the surge in digital data for the global good. It has been estimated that global Internet traffic in 2022 will exceed all the Internet traffic up to 2016.

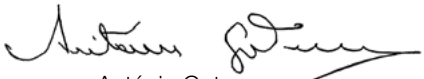
Data have become a key strategic asset for the creation of both private and social value. How these data are handled will greatly affect our ability to achieve the Sustainable Development Goals. Determining what is the best way forward will be difficult but necessary. Data are multidimensional, and their use has implications not just for trade and economic development but also for human rights, peace and security. Responses are also needed to mitigate the risk of abuse and misuse of data by States, non-State actors or the private sector.

Against this background, I welcome the *Digital Economy Report* of the United Nations Conference on Trade and Development, which examines the implications of growing cross-border data flows, especially for developing countries. It proposes to reframe and broaden the international policy debate with a view to building multilateral consensus.

It is more important than ever to embark on a new path for digital and data governance. The current fragmented data landscape risks us failing to capture value that could accrue from digital technologies and it may create more space for substantial harms related to privacy breaches, cyberattacks and other risks.

The Report calls for innovative approaches to governing data and data flows to ensure more equitable distribution of the gains from data flows while addressing risks and concerns. A holistic global policy approach has to reflect the multiple and interlinked dimensions of data and balance different interests and needs in a way that supports inclusive and sustainable development with the full involvement of countries trailing behind in digital readiness.

The United Nations offers a natural platform to advance this agenda with the involvement of all relevant stakeholders. This Report offers valuable insights and analyses, and I commend it to a wide global audience as we strive to close the digital divide and ensure that no one is left behind in the fast-evolving, data-driven digital economy.



António Guterres
Secretary-General
United Nations

Foreword

Rapid digitalization is affecting all aspects of life – including the way we interact, work, shop and receive services – as well as how value is created and exchanged. In this process, data and cross-border data flows are becoming increasingly crucial to development.

Reflecting the wide differences in the readiness to harness data that exist between and within countries, the conventional, connectivity-related digital divide is being compounded by what can be called a data-related divide. Countries with limited capacities to turn data into digital intelligence and business opportunities, and use them for economic and social development, are at a clear disadvantage.

This *Digital Economy Report 2021* points to the complexities involved in governing data and data flows across borders in ways that can bring sustainable development benefits. It also stresses that the state of the international debate on how to regulate cross-border data flows is at an impasse, and positions tend to be polarized. The current regulatory landscape is patchy, reflecting starkly different approaches adopted by different countries, with strong influences from the major economic powers.

An international framework is urgently needed to address this situation. While the Report does not provide "the solution", its comprehensive, evidence-based analysis seeks to reframe and broaden the international policy debate. The increased interconnection and interdependence challenges in the global data economy call for moving away from the silo approach towards a more holistic, coordinated global approach. This may require new and innovative ways of global governance, as the old ways may not be well suited to respond to the new context. It may also necessitate the creation of a new international body that focuses on data-related governance, with the full involvement of developing countries and all stakeholders.

The Report reflects the commitment of UNCTAD to informing member States on how to engage in and benefit more from data and the digital economy. It will also feed into the much-needed global dialogue on how to set the rules of the game for a more inclusive outcome from digitalization. It is my hope that a holistic approach to global data governance will ultimately lead to enhanced sustainable development gains and economic benefits from the digital economy for people and businesses in countries at all levels of development.

Isabelle Durant
Acting Secretary-General
United Nations Conference on Trade and Development

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OVERVIEW

The *Digital Economy Report 2021* takes a deep dive into the development and policy implications of cross-border flows of digital data. Such data are core to all fast-evolving digital technologies, such as data analytics, artificial intelligence (AI), blockchain, Internet of Things (IoT), cloud computing and other Internet-based services. The topic is timely, as the expansion of data flows matters for the achievement of virtually all the Sustainable Development Goals, and countries around the world are struggling to determine how to deal with them from a policy perspective. The ultimate approach chosen at national and international levels will affect not only trade, innovation and economic progress, but also a range of issues related to the distribution of gains from digitalization, human rights, law enforcement and national security.

The present Report seeks to contribute to an enhanced understanding of these complex and interrelated factors, by providing a fresh and holistic view of this particular kind of international economic flow. Its analysis is based on a review of studies dealing with cross-border data flows from various perspectives, an overview of global developments and inequalities in the data-driven digital economy, and a discussion on the fundamental nature of data. The Report also looks at existing governance approaches at national, regional and multilateral levels, with a bearing on data flows. It concludes by calling for a more balanced approach to global data governance that could help ensure that data can flow across borders as freely as necessary and possible, while achieving an equitable distribution of benefits, within and across countries; and addressing risks related to human rights and national security.

Data flows are hard to measure, but growing fast

Measuring data traffic is difficult, but no matter which approach is used, the trend is steeply upwards. One forecast suggests that global Internet Protocol (IP) traffic in 2022 – domestic and international – will exceed all Internet traffic up to 2016. The COVID-19 pandemic had a dramatic impact on Internet traffic, as most activities increasingly took place online. Against this backdrop, global Internet bandwidth rose by 35 per cent in 2020, the largest one-year increase since 2013. It has been estimated that about 80 per cent of all Internet traffic relates to videos, social networking and gaming. Monthly global data traffic is expected to surge from 230 exabytes in 2020 to 780 exabytes by 2026.

Measuring *cross-border* data flows is even more challenging. In terms of volume, the most commonly used measure is that of total used capacity of international Internet bandwidth. This refers to the amount of data flowing in terms of bytes, but does not show the direction of the flows, nor anything about the nature and quality of the data. Available information also suggests that international bandwidth use accelerated during the pandemic, and that such traffic is geographically concentrated in two main routes: between North America and Europe, and between North America and Asia.

The data-driven digital economy is characterized by large imbalances...

When assessing the development implications of data and cross-border data flows, some key digital divides and imbalances need to be considered. Only 20 per cent of people in least developed countries (LDCs) use the Internet; when they do, it is typically at relatively low download speeds and with a relatively high price tag attached. Moreover, the nature of use differs. For example, while up to 8 in 10 Internet users shop online in several developed countries, that figure is less than 1 in 10 in many LDCs. Further, within countries, there are significant divides between rural and urban areas, as well as between men and women. The largest gender divides are observed among LDCs and in the African region.

In terms of capacity to engage in and benefit from the data-driven digital economy, two countries stand out: the United States and China. Together, they account for half the world's hyperscale data centres, the highest rates of 5G adoption in the world, 94 per cent of all funding of AI start-ups in the past five years, 70 per cent of the world's top AI researchers, and almost 90 per cent of the market capitalization of the world's largest digital platforms. The largest such platforms – Apple, Microsoft, Amazon, Alphabet (Google), Facebook, Tencent and Alibaba – are increasingly investing in all parts of the global data value chain: data collection through the user-facing platform services; data transmissions through submarine cables and satellites; data storage (data centres); and data analysis, processing and use, for instance through AI. These companies have a competitive data advantage resulting from their platform component, but they are no longer just digital platforms. They have become global digital corporations with planetary reach; huge financial, market and technology power; and control over large swathes of data about their users. And they have seen their size, profits, market value and dominant positions strengthened during the pandemic, as digitalization has accelerated. For example, while the New York Stock Exchange Composite Index between October 2019 and January 2021 increased by

17 per cent, the stock prices of the top platforms rose by between 55 per cent (Facebook) and 144 per cent (Apple).

The traditional digital divide between developed and developing countries – understood in terms of Internet connectivity, access and use – remains high, and it is a recurrent challenge for development. Moreover, as the role of data as an economic resource, as well as that of cross-border data flows, has become more relevant, new dimensions of the digital divide have emerged, in connection with the "data value chain". This concept is key for the estimation of the value of data. Value emerges in the process of transformation of raw data – from data collection, through analysis and processing into digital intelligence – that can be monetized for commercial purposes or used for social objectives. Individual data are of no value unless they are aggregated and processed. And vice versa, there cannot be digital intelligence without the raw data. For value creation and capture, both raw data and capacities to process them into digital intelligence are needed. Adding value to data is what contributes to moving up in the development process.

As the data-driven digital economy has evolved, a data-related divide has compounded the digital divide. In this new configuration, developing countries may find themselves in subordinate positions, with data and their associated value capture being concentrated in a few global digital corporations and other multinational enterprises that control the data. They risk becoming mere providers of raw data to global digital platforms, while having to pay for the digital intelligence obtained from their data.

…and a common understanding of what data, and their flows across borders, are and can do is lacking

Despite the importance of data in the evolving digital economy, there is no universally agreed understanding of the concept of data, which may lead to confusion and increase complexity in analyses and policy debates. Data are a special resource, with specific characteristics that make them different from goods and services. They are intangible and non-rival, which means that many people can use the same data simultaneously, or over time, without depleting them. At the same time, access to data can be limited by technical or legal means, resulting in varying degrees of excludability. For example, data collected by major global platforms are not readily available for others to use, giving the platform owners a monopolistic position to benefit from the data. Moreover, aggregated value may often be greater than the sum of individual values, especially if combined with other, complementary data. There can also be considerable "option" value of raw data collected, as they

might become valuable if new issues that did not exist can be addressed on the basis of those data. The more detailed and granular the data, the more purposes they can be put to when filtered, aggregated and combined in different ways to provide different insights.

Moreover, data are of a multidimensional nature. From an economic perspective, they can provide not only private value for those who collect and control the data, but also social value for the whole economy. And the latter cannot be ensured by markets alone. Furthermore, the distribution of private income gains from data is highly unequal. As a result, there is a need for policymaking to support efficiency and equity objectives. However, there are also non-economic dimensions to consider, as data are closely related to privacy and other human rights, and national security issues, all of which need to be addressed.

Understanding data and their flows requires looking at them from different angles. First, there has always been *data and information associated with commercial transactions* – such as billing data, banking data, names and delivery addresses – which are mainly volunteered and rarely create policy-related issues, as long as new digital economy players work by the same rules as the conventional economy. Second, *raw data* gathered from individual activities, products, events and behaviours have no value in themselves, but can generate value once aggregated, processed and monetized, or used for social purposes. Third, the processing of raw data into digital intelligence – in the form of statistics, databases, insights, information, etc. – results in "*data products*", which may be considered as services in trade statistics when sold across borders.

There are also different taxonomies that classify types of data according to various criteria. Important distinctions are related to whether data are collected for commercial or governmental purposes; are used by companies or the public sector; are instant or historic; are sensitive or non-sensitive; or are personal or non-personal. The categorization of data is important, as this may have implications for the kind of access that would need to be given to each type, both at national and international levels, as well as for how to handle the data and their flows across borders from a policy perspective.

Cross-border data flows are not trade and should be treated differently

The particular characteristics of data suggest that they need to be treated differently from conventional goods and services, including in their international transfers. In the new context of the data-driven digital economy,

concepts such as ownership and sovereignty are being challenged. Rather than trying to determine who "owns" the data, what matters is who has the right to access, control and use the data.

There are significant difficulties in reconciling the notion of national sovereignty traditionally associated with country territories and the borderless nature, globality and openness of the digital space in which data flow. Digital sovereignty is often associated with the need to store data within national borders, but the link between the geographic storage of data and development is not evident. Assigning territoriality to cross-border data flows is also a challenge. Data can be better understood as shared, rather than as traded or exchanged.

International trade governance is informed by statistics that rely on the types, values and locations of trade (including source and destination). Such approaches are challenging, if not impossible, when tracking cross-border data flows, for which no official statistics exist. Well-established approaches applied to international trade across different territories (for example, rules of origin) cannot be easily applied to data, given their nature. The flows of raw data that are not linked to a specific exchange of a good or service are not included in the concept of "digital trade", according to the Handbook on Measuring Digital Trade developed by several international organizations.

Beyond the technical challenges in identifying cross-border data flows, there are also political and cultural challenges. For many of the categorizations of data that can be outlined, globally agreed definitions are lacking. This sometimes makes it difficult to determine how data flows are to be dealt with. For example, varying definitions can lead to large differences in the volume of data flows that are categorized as personal data. Although data are strongly linked to trade, and they can provide strong competitive advantages to those capable of benefiting from them, cross-border data flows in themselves are neither e-commerce nor trade, and should not be regulated purely as such.

Command of data leads to information advantages, adding to the sources of potential market failure in economies built on data, including economies of scale and scope, as well as network effects. The information asymmetry inherent in the data economy seems irreducible, as there are no market solutions to correct for it. Additional trade-offs linked to the ethics of data are similarly important, including the relationship between creating value from data and data surveillance of populations, and the links between data filtering and censorship. As a consequence, the governance of data and data flows is crucial. However, while setting appropriate rules on cross-

border data flows at the right point can help to guarantee data rights, reduce structural challenges and support economic development, there is no consensus on the policy approach to take.

Important implications emerge from diverging approaches to governing data and cross-border data flows

Among the major economic and geopolitical players in the digital economy, the approaches for governing data flows – and the digital economy more broadly – vary considerably, and there is, with few exceptions, little consensus at the regional and international levels. Worldwide, three main governance approaches are of particular influence. Somewhat simplified, the approach of the United States focuses on control of the data by the private sector. The Chinese model emphasizes control of data by the Government, while the European Union favours control of data by individuals on the basis of fundamental rights and values. The current context is one of tensions among these areas, particularly between the United States and China. Moreover, global digital corporations are seeking to expand their own data ecosystems.

There is a race for leadership in technological developments, as the leader may gain an economic as well as a strategic advantage, by controlling the data and related technologies, particularly with regard to AI. In this context, there is a risk of fragmentation in the digital space and of the Internet. Overall, there is a risk that a silo-oriented, data-driven digital economy will emerge, which goes against the original spirit of the Internet as a free, decentralized and open network. This would be suboptimal in economic terms, as more gains are likely to be obtained from interoperability.

Fragmentation in the data-driven digital economy would hamper technological progress, reduce competition and enable oligopolistic market structures to emerge in some areas, and lead to more government influence in others. This might have significant negative impacts for most developing countries. Fragmentation would reduce business opportunities, as the access of users and companies to supply chains would become more complicated, and data flows across borders would be restricted. There would also be more obstacles for collaboration across jurisdictions.

In spite of the risk of fragmentation, there are some signs of possible convergence among the main data realms. For example, despite its free market focus, the United States has taken steps towards restricting some foreign data-driven companies from entering its market, and banning related domestic data outflows. Meanwhile, China is hinting towards some

openness to data flows. The final outcome is hard to predict, and depends on the will of policymakers worldwide to find a global solution that benefits all.

There can be various legitimate public policy reasons for countries to regulate cross-border data flows, such as the protection of privacy and other human rights, national security, as well as economic development objectives. As long as there is no proper international system regulating these flows, some countries may not see any other option than to restrict data flows in order to meet certain policy objectives. However, data localization does not automatically result in domestic data value addition. The link between the location of data storage and value creation is not obvious – there are costs as well as benefits to consider. A review of national policies suggests that they tend to vary depending on the technological, economic, social, political, institutional and cultural conditions in each country.

With data and cross-border data flows growing more prominent in the world economy, the need for global governance is becoming more urgent. Unfortunately, diverging views and positions on their regulation have resulted in an impasse on the current state of the international debate. Despite a growing number of trade agreements addressing data flows, disagreements continue to exist among the main players in the digital economy. Among members of the G20, there are contrasting views, not only on substance (for example, regarding data localization measures), but also on process.

Meanwhile, extreme positions on cross-border data flows will not be helpful, as neither strict localization nor fully free data flows are likely to satisfy the needs of countries to meet various development objectives. Regulation in this area needs to be rethought to find the basis for a middle-ground solution. New regulations will need to consider all dimensions of data, both economic and non-economic. They need to go beyond trade, and address data flows in a holistic manner, taking into account possible implications for human rights, national security, trade, competition, taxation and overall Internet governance. This raises the question of what is the appropriate international forum in which to address data-related policies for development.

There are good reasons for global governance of data and cross-border data flows

There is a strong rationale for a global data governance framework that complements other levels of data governance. The main arguments and reasons can be summarized as follows:

- Global data governance would help enable global data-sharing, and develop public goods that could help address major global development challenges, such as poverty, health, hunger and climate change.
- Technical coordination across borders – ideally at the global level – is essential to avoid further fragmentation of the Internet infrastructure and the digital space.
- Global data governance becomes more important in light of the implementation of 5G and IoT, as well as the acceleration in digitization triggered by the COVID-19 pandemic. These trends broaden the scope for vast data collection and monetization globally. Without a coherent underlying global governance framework to create trust, this could lead to a backlash in terms of data-sharing. It would also amplify already existing concerns over the lack of transparency in the data value chain, and over the unequal distribution of benefits from data.
- The proliferation of national regulations on cross-border data flows creates uncertainty and elevates compliance costs, which can be particularly pernicious for micro and small enterprises, especially in developing countries. The interconnected nature and high degree of global interdependence in the data-driven digital economy means that national policies in this area have spillovers on other countries.
- In the absence of global governance of digital platforms, self-regulation has led to market structures defined by platforms that predominantly benefit themselves, with various development and policy implications. The increasingly global reach and influence of major platforms makes it even more difficult for any single country to address related policy challenges.
- There is a need to develop a comprehensive and coherent assessment of the risks, vulnerabilities and outcomes of the business models of the digital platforms, in particular social media platforms, against a background of rising online harm at the global level.
- A global approach to data governance is needed to prevent long-standing inequalities against developing countries from becoming amplified in the data-driven digital space. It is essential to ensure that their local knowledge, needs and viewpoints become adequately represented in global policy discussions.

- Given the interdependencies and the interconnected character of the global architecture of the Internet, the future of cross-border data flows should not be determined only by a small number of major countries.

Data-driven digitalization creates global opportunities as well as global challenges that require global solutions to harness the positive and mitigate the negative impacts. Effective global governance of data is a prerequisite for data to support the attainment of the economic, social and environmental objectives of the 2030 Agenda for Sustainable Development, with people at the centre.

Efforts to develop a global approach to the governance of data and cross-border data flows should address a number of key policy areas and priorities, including the following:

- Developing a common understanding about definitions of key data-related concepts;
- Establishing terms of access to data;
- Strengthening the measurement of the value of data and cross-border data flows;
- Dealing with data as a (global) public good;
- Exploring emerging forms of data governance;
- Agreeing on digital and data-related rights and principles;
- Developing data-related standards; and
- Increasing international cooperation related to platform governance, including with regard to competition policy and taxation in the digital economy.

A new institutional setup is needed to meet the global data governance challenge

Existing institutional frameworks at the international level are not fit for purpose to address the specific characteristics and needs of global data governance. For it to be effective, a new global institutional framework is most likely needed, with the appropriate mix of multilateral, multi-stakeholder and multidisciplinary engagement.

So far, global governance of data and digital technologies has taken place along different tracks. First, most issues related to Internet governance, as a communications network, have been dealt with in various multi-stakeholder

forums. A well-organized and globalized Internet community is deeply invested in approaches to coordinate Internet resources and making the network of networks function efficiently. These processes normally take place with peer-to-peer participation on an equal footing.

Second, and similarly, Convention 108 of the Council of Europe includes a forum where national Governments, regulators, private sector stakeholders and civil society representatives can all receive information and share insights on the promotion and improvement of the Convention.

Third, with the expansion of cross-border flows of data, Governments have sought to integrate their governance within international trade rules. These processes involve the negotiation of a set of rules between signatories, which may include dispute resolution mechanisms. In comparison with the other two tracks mentioned above, trade agreements are characterized by limited transparency, as negotiations tend to take place in closed processes, with little involvement of non-State stakeholders.

As an alternative to building upon existing organizations, growing calls have been made to develop a coordinating institution focused on, and with the skills for, assessing and developing comprehensive global digital and data governance. It would recognize that current global institutions were built for a different world, that the new digital world is dominated by intangibles, and that new governance structures are needed.

Achieving common ground and global solutions will not be easy. Indeed, in this age of populism, anti-globalization and competing vested interests associated with the capture of rents from the use of digital technologies and data, it may seem self-defeating to propose a new international body. Yet all of these factors make it more essential than ever to embark on a new global path for digital and data governance.

A reinforcement of the data realms or a splintering into multiple spheres would make a chaotic situation even more confusing. It would substantially diminish the value that can accrue from these technologies and the associated data, in addition to creating the space for substantial harms related to privacy, cybersecurity and other risks.

For global debates on the governance of data and cross-border data flows to be fully inclusive, they should ideally take place under the auspices of the United Nations, the most inclusive international forum in terms of country representation. Currently, developing countries tend to be underrepresented in global and regional initiatives, implying a risk of neglecting their needs, local knowledge and the cultural context in the global policy discussions, which results in increasing inequality. There are already various initiatives at

the United Nations that are relevant to data governance, including by the United Nations Commission on Science and Technology for Development; the Office of the United Nations High Commissioner for Human Rights; the United Nations Commission on International Trade Law; the United Nations Educational, Scientific and Cultural Organization; the Internet Governance Forum; and the International Telecommunication Union. UNCTAD is also contributing through its three pillars of work, through research, consensus-building activities and its technical cooperation work. For the United Nations to be able to fulfil its role in this context, it will need to ensure effective links to other ongoing processes and initiatives led by civil society, academia and the private sector.

Making data flow for the benefit of all requires greater efforts to bridge the divides

Any efforts towards harnessing data and cross-border data flows will require adequate attention to the current divides that characterize the global digital economy. They can be seen not only between countries, but also between stakeholders. For example, the lack of appropriate skill sets in government directly results in insufficient representation of technical and analytical expertise in legislative and regulatory framework development processes. This in turn limits the chances of Governments to identify both the opportunities that could be afforded by digital technologies and the potential risks and threats that could emerge, as well as ways to regulate them. This risks translating into increased public dependency on the profit-driven private sector, with democratic values and individual human rights significantly undermined. Less-developed countries also suffer from losing their top talent to developed countries, and have smaller representation in setting up the global policy discussion – contributing further to the growing global inequality.

Any international framework for governing cross-border data flows needs to complement and be coherent with national policies for making the data-driven digital economy work for development. It will need to be flexible, so that countries with different levels of readiness and capacities to benefit from data have the necessary policy space when designing and implementing their development strategies in the data-driven digital economy. At the same time, national policies or strategies for development in this context are likely to fail if they do not keep the global perspective in mind.

While all countries will need to allocate more domestic resources to the development of their capacities to create and capture the value of data domestically, financial, technical and other resources may in many countries

fall short of meeting those needs. This is especially true in LDCs. While the COVID-19 pandemic and its impact on government revenues have further reduced the availability of public funds, they have also made Governments and other stakeholders more aware of the need to improve their readiness to engage in and benefit from the evolving data-driven digital economy. This underscores the need for international support.

In the context of cross-border data flows, international support may focus on a range of areas. First, it can assist in terms of formulating relevant legal and regulatory frameworks. For example, less than half of all LDCs have data protection and privacy legislation in place. Second, many countries need to formulate national strategies for dealing with data and cross-border data flows in ways that can help reap economic development gains, while at the same time respecting human rights and various security concerns. Third, capacity-building activities may be needed to raise awareness of data-related issues and their development implications. Finally, in order to achieve inclusive outcomes of regional and global dialogues in this area, developing countries need to have a place at the table, as well as the means required to participate effectively in relevant processes and meetings.

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