



Tertiary Sector Economics

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**MULTILATERAL REGULATION
OF DIGITALIZATION PROCESSES**

Abstract

The article provides substantiation for the importance of multilateral regulation within the field of digitalization processes. The author has conducted an analysis of the current status, consequences, and shortcomings of liberalising international trade in key ICT products under the WTO's Information Technology Agreements (ITAs). The combined economic impact of these two ITAs has been estimated at approximately three trillion dollars annually. However, it is important to acknowledge that these agreements encompass fewer than half of the WTO's member countries. The study reveals that existing international regulation initiatives concerning the digital economy primarily operate on a voluntary basis, focusing on specific aspects of digitalization and involving only a limited number of countries. The author contends that the demand for comprehensive multilateral regulation in digitalization arises from potential global-scale issues and risks. Consequently, the following priorities for multilateral regulation in digitalization are delineated: establishing consensus on fundamental definitions of digital processes, terms of data access, the concept of digital data as a global public good, forms of data management, rights and principles pertaining to digital data, data standardization, and international cooperation in platform management. In conclusion, the author emphasizes the need for an integrated and balanced approach

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to support the inclusive and sustainable global economic development, as well as the potential for creating an international entity tasked with overseeing various aspects of digitalization.

Key words:

digital economy; digitalization; information and communication technologies; innovations; international organizations; multilateral regulation; world economy.

JEL: F53, O19, O30, O40.

1 figure, 35 references.

Problem Statement and Literature Review

The rapid advancement of digital technologies and cross-border data flows over the last decade has significantly shaped the new global digital economy. Issues and prospects related to digitalization's development and impact on national economies have gained prominence in multilateral discussions. According to Banga and te Velde (2020), digital technologies and the digital industry play an important role as stabilizers, moderators and accelerators of economic activity, playing a crucial role compared to the real economy. Gozgor and Lau (2021) argue that the digital economy was instrumental in mitigating economic losses and contributed to economic recovery during the 2019 coronavirus pandemic. Recent studies, such as Niu (2022), have shown that the digital economy has a positive effect on the mechanisms of social management, fostering conditions for sustainable development and the formation of a sustainable digital economy.

However, there also are negative aspects to consider. Some researchers, in particular Goos et al. (2014) and Katz (2017), have highlighted several adverse security and social effects, such as internet fraud, cybercrime, and job displacement due to robotics and artificial intelligence, which may intensify with further digitalization. According to Sturgeon (2021), the development of the digital econ-

omy raises new challenges, encompassing both social and environmental impacts of products and services sold online. Moreover, the issue of global economic disparities stemming from digital inequality between developed and developing countries has become evident (OECD, 2017).

In light of the fact that the development of digitalization transcends national borders, the primary regulatory responsibility should rest with multilateral institutions. These institutions should define the principles and policy directions for the global digital economy. While the digital economy offers inclusive and responsible business models, it also demands the establishment of clear rules and ethical criteria. Presently, the digital economy often arouses suspicion among consumers due to unresolved privacy and security issues in online transactions. These risks necessitate more active efforts in forming multilateral rules for the development of digitalization to benefit the global community.

The economic literature extensively addresses the issue of policy formation in regulation of digitization processes at the national level, focusing on topics such as the establishment of e-governments, workforce retraining, and mitigation of shocks in the labour market. However, the issue of multilateral regulation of digitization processes receives comparatively less attention in contemporary scholarly works.

The goal of this article is to highlight the evolution, challenges and prospects of multilateral regulation in the field of digitalization processes, with special focus placed on the initiatives of the World Trade Organization, the United Nations, the Organization for Economic Cooperation and Development, the G20, and others. Our objective is to provide solid rationale for the necessity to broaden multilateral regulation in the field of digitalization processes and to delineate the directions and priorities of this regulation.

Research Results

ICT trade liberalization under the WTO framework

The liberalization of international trade in information and communication technologies (ICT) plays an important role in the economic growth of countries during the era of digitalization. Within the framework of the World Trade Organization (WTO), the rules of multilateral trade have been established through two International Technologies Agreements (ITAs). These agreements were designed with the aim of eliminating tariffs on several hundred ICT-related product items, thus contributing to the digitalization of WTO member countries (WTO, n. d.). However, the effectiveness of ITAs in promoting digitalization is a topic of debate in economic literature. This is due to the fact that these ITAs do not apply to all

WTO members. Consequently, the economic effects of these agreements vary among participating countries, and the implementation of the agreements often involves certain delays. Let us delve into these questions in greater detail.

Thus, the first Information Technologies Agreement was concluded by 29 countries in December 1996 at the WTO Ministerial Conference in Singapore. Subsequently, an additional 53 WTO members joined the ITA, bringing the total number of signatories to 82 WTO member countries. This group of countries collectively represents around 97% of global ICT trade, valued at nearly \$1.7 trillion per year (WTO, 2015). These participating nations committed to the complete elimination of tariffs on a wide range of ICT products.

The second, expanded ITA was signed in December 2015 at the Ministerial Conference in Nairobi, with participation from 54 WTO member countries. This agreement extended to include 201 additional ICT products, encompassing items such as next-generation integrated circuits, touch screens, GPS navigation equipment, medical equipment, and more. Collectively, these products account for roughly 10% of global merchandise trade, valued at over 1.3 trillion US dollars per year (WTO, n. d.).

Since the signing of these agreements, the ITAs have expanded access to high-technology goods and internet, creating new opportunities for innovation and participation in the global production network for enterprises and individuals in both developed and developing countries. The lowering of customs tariffs on ICT goods played a key role. According to Henn and Gnutzmann-Mkrtchyan (2015), each percentage point reduction in tariffs on ICT products on the ITA list can raise the value of ITA imports by 0.7% to 0.8%.

Many Asian countries, especially China, have joined the trade in ICT goods. Developing countries have benefited from their membership in the ITAs, with notable growth in their exports of ICT products. Thus, the share of developing countries participating in the ITAs within the world exports of ICT products rose from 26% in 1996 to 63% in 2015. Furthermore, their share in the overall world exports of goods increased from 27% to 43% during the same period (WTO, 2015).

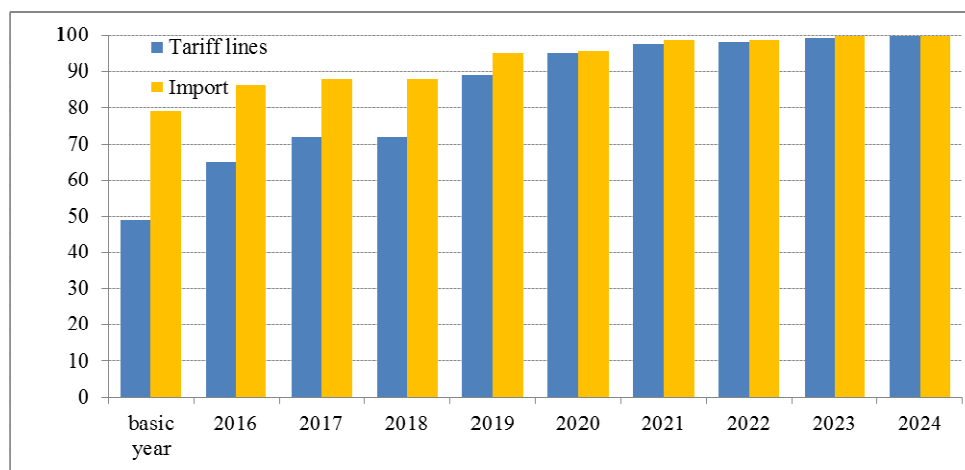
Zero tariffs on exports and imports under the ITAs have eliminated the administrative burden on customs and reduced border crossing times. By linking and eliminating tariffs and charges on ICT products in their Schedules of Tariff Commitments, ITAs extend duty-free treatment to all WTO members on a most-favoured-nation basis, thereby extending the benefits of these agreements to all WTO members. Henn and Gnutzmann-Mkrtchyan (2015) demonstrate that ITAs have non-tariff impacts on imports and exports that go beyond tariff reduction and elimination. Since the participants in the ITAs are obliged to bind and abolish duties and other charges, these obligations become legally binding on the WTO rules. As a result, the liberalization of ICT products is more difficult to reverse than if it had been implemented unilaterally. Accordingly, any increase in tariffs or the

application of other duties and charges on ICT products without following the necessary procedures for the review of concessions, as provided for in the GATT, is subject to disciplinary sanctions applied through the WTO's dispute settlement mechanism. This obviously increases the certainty and predictability of the trade policy of the countries participating in the ITAs, which gives an additional positive effect for these countries. In particular, foreign companies may decide to invest in these countries or enter multinational companies into their markets. Thus, the competitiveness and innovation ability of the ITA participants increases. In addition, the ITA membership may, over time, contribute to the convergence of ICT product standards, which may stimulate trade and innovation (Henn & Gnutzmann-Mkrtychyan, 2015).

At the same time, not all participants of the ITAs receive the same benefits from the opening of trade in ICT products. The costs of tariff elimination and market opening must be offset by regulatory reforms and other policies aimed at improving productivity and enhancing innovation at the national level. It should also be noted that not all tariff positions of the ITAs are already zero, the average import customs rate for these ICT goods remains at the level of about 1% (Figure 1). In this respect, the ITAs members should intensify negotiations on the completion of the transition period for the abolition of all customs duties and the integration of all ICT products into a duty-free format.

Figure 1

Timeline for the implementation of the expanded ITA by tariff lines and the volume of ICT product imports, in %



Source: WTO (2015, p. 69).

ITAs can be considered as a means to help reduce the prices of ICT goods and the accessibility of these goods for consumers, which may lead to a wider use of new technologies. In particular, according to data of the WTO (2015), the import prices on computers and semiconductors were 66% lower in 2016 than when the ITA entered into force in 1997. The lower costs and greater availability of computers and smartphones can clearly increase the accessibility of the Internet and the growth of the digital economy, creating new opportunities for commerce. On the other hand, in countries that are not parties to the ITAs, import tariffs reach 87% on certain ICT goods (WTO, 2015). Research by Ahmed and Aldonas (2015) testifies that the high cost of ICT products due to the application of tariffs limits a firm's ability to effectively participate in global trade. In an interconnected world, the existence of trade barriers in the form of tariffs remains a significant barrier to ICT access and adoption. Ezell (2012) notes that «because ICT usage contributes greater benefits to economic growth, tariffs are particularly pernicious when applied to ICTs, hurting the nations that impose them by raising the cost of ICT goods and services, thus causing businesses (and individuals) to invest less in ICT, which lowers their productivity – and in the case of traded sectors – their competitiveness». According to the OECD and WTO study «Aid for Trade» (OECD & WTO, 2022), the high cost of ICT products and the cost of Internet communication devices (smartphones) are obstacles to the introduction and use of technologies. Similarly, a publication by the International Telecommunication Union (ITU, 2018) notes that among the main barriers to smartphone ownership are their high cost, which results in that an average of 20% of the population in developing countries still do not use a mobile connection, and in some large developing countries this percentage is even higher. In order to improve access to and benefits from technology, policies in developing and least developed countries should focus on reducing the cost of communication devices and thus the cost of ICT products. In this context, participation in the ITAs, which are aimed at reducing the cost of ICT products such as computers, servers and smartphones, can become a driving force for reforms on the path to digitalization (WTO, 2015).

International initiatives on regulation of digitalization processes

Let us consider the principal international agreements on regulation of digitalization processes beyond the WTO framework.

The G20 initiative. One noteworthy example of such an initiative is the G20's initiative for global data governance and free flow of data based on trust, which was proposed by Japan at the 2019 G20 summit in Osaka. The forum adopted a Declaration, which emphasizes the importance of data flows and high-

lights the challenges related to privacy, security, and data protection. The Declaration called for promoting free data flows while strengthening consumer and business confidence in the context of privacy (Hurst, 2019). The Declaration also reaffirmed the importance of the interaction between trade and the digital economy, namely e-commerce, and the importance of the e-commerce work program within the WTO. However, this initiative has not achieved full acceptance within the G20, as Indonesia, India, and South Africa still refuse to sign this Declaration, arguing that it limits the space for the development of the digital economy in developing countries (Kanth, 2019).

The G20 forum convened in Osaka in 2019 conducted a discussion on artificial intelligence (AI), which, in addition to its advantages, also presents certain challenges. During the forum, the G20 Principles of Artificial Intelligence were approved, outlining the principles for the development of AI (OECD, 2019a):

- 1) inclusive growth, sustainable development and well-being, which involves responsible management of trustworthy AI;
- 2) human-centred values and fairness, which implies respect for the rule of law, human rights and democratic values throughout the AI system lifecycle;
- 3) transparency and explainability, which implies an obligation to disclose responsibly the information regarding AI systems;
- 4) robustness, security and safety throughout the AI system lifecycle, which involves the ability to track data sets, processes and decisions made during the lifecycle of an AI system, and risk management for each phase of the lifecycle of an AI system on a continuous basis;
- 5) accountability, which involves responsibility for the proper functioning of AI systems and compliance with the above-mentioned principles.

Achievements of the OECD in the regulation of digitalization. The OECD is working on the Going Digital project to simplify cross-border data flows with a focus on privacy. In addition, in 2007, the organization's Council adopted guidelines on privacy protection and emphasized the need for a global and integrated approach to cooperation on privacy and data protection issues. The OECD Council issued several recommendations to its member nations in 2007 (OECD, 2007):

- Improve national privacy laws to enable cooperation between national and foreign authorities.
- Develop effective international mechanisms to promote cross-border privacy protection cooperation.
- Provide mutual assistance in enforcing privacy laws through processes like notification, referral of complaints, investigative assistance, and information sharing.

- Encourage relevant stakeholders to further cooperate in enforcing privacy laws.

In 2018, the OECD expanded the scope of discussions and decisions to include issues related to mitigating the adverse social manifestations of digitalization, ensuring consumer protection, as well as promoting best practices for digital governance, with special support for digital applications of e-government. Additionally, the OECD established policy priorities for fostering an inclusive digital economy (OECD, 2019b):

- Upgrading skills by enhancing the ability of primary education and training systems to provide cognitive, technical, and managerial knowledge that are crucial for success in the digital economy.
- Ensuring adequate access to high-speed internet by encouraging infrastructure investments to improve coverage in rural and remote areas and implementing reforms to promote competition in the telecommunications sectors in order to reduce prices.
- Promoting efficient labour and capital reallocation across and within firms by reducing administrative barriers, promoting employee mobility, and improving the efficiency of insolvency regimes.
- Dealing with emerging competition challenges, such as winner-takes-all dynamics on online platform markets, by encouraging cross-platform migration and creating a level playing field for different types of service providers.
- Reducing financial barriers in the financing of new innovative firms and eliminating the bias against equity financing, which is present in many tax regimes.
- Transitioning towards more digital government services by expanding the range of public services accessible online and making more government data available to the public.

The Council of Europe's Conventions 108 and 108+. The Council of Europe Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, also known as «Convention 108», is the sole legally binding multilateral instrument on protection of privacy and personal data that is open to participation by countries worldwide (Council of Europe, n.d.). Convention 108 was made available for signing in 1981 and has had a significant impact on various international, regional, and national privacy regulations. Presently, there are 55 signatories to the Convention, including 8 non-European nations. Furthermore, the Convention Committee has more than 25 observers, thus constituting a global forum of over 70 countries working together on data protection.

In October 2018, this Convention was amended to create Convention 108+, which aims to facilitate data flows and promote the respect for human dignity in

the digital age (Council of Europe, 2018). Convention 108+ stands as the only open and legally binding multilateral treaty concerning data protection. Recognizing its unique potential to become a global tool for data protection, the UN Special Rapporteur on privacy rights has recommended that all UN member states become parties to Convention 108+ (UNCTAD, 2021). The Convention establishes a global legal space for data privacy and protection, empowering individuals to know which data is collected, stored and processed, how and by whom; to correct their data and request its deletion; and also to use mechanisms of legal protection in case of rights violation (Council of Europe, 2018).

The Digital Economy Partnership Agreement. Since agreements between many countries are difficult to reach, a smaller circle of countries starts promoting their initiatives. So New Zealand, Chile and Singapore signed the Digital Economy Partnership Agreement in 2020. The agreement deals with cross-border data flows and data localization. Recognizing the importance of protecting personal information, the Agreement obliges each party to adopt a legal framework for protection of personal information, as well as promote compatibility and interaction between different regimes of personal information protection, transparency, and non-discrimination when adopting a legal framework for the protection of personal data (UNCTAD, 2021).

The Asia-Pacific Economic Cooperation. The debate on governance of the digital economy and cross-border data flows is taking place among 21 countries within the framework of the Asia-Pacific Economic Cooperation (APEC). Its first result was the adoption of the APEC Electronic Commerce Action Plan in 1998, followed by the establishment of the APEC Electronic Commerce Steering Group in 1999. This was followed by the adoption of the 2017 APEC Internet and Digital Economy Roadmap, which emphasized the promotion of the free flow of data within the APEC and the importance of promoting interoperability and regulatory cooperation in areas related to the digital economy. Another important initiative of the APEC is the adoption of the Privacy Agreement and the creation of the Cross-Border Privacy Rules (CBPRs). CBPR is a privacy certification system that companies can join to demonstrate data privacy compliance (CBPR, n.d.). These agreements ensure compliance with privacy laws by coordinating the activities of the APEC countries' privacy authorities and implement a mechanism for sharing information between these authorities. Thus, the APEC plays an important role in creating a regulatory framework for cross-border data flows. However, membership in these agreements and programmes remains voluntary, and member countries may join a specific agreement or program. For example, only nine APEC members are currently members of the CBPR system (CBPR, n. d.).

Association of South East Asian Nations. ASEAN is another Asian forum where regional cooperation in digitalization takes place. The ASEAN Economic Community Plan 2025 emphasizes the importance of e-commerce as a channel for cross-border trade and foreign investment. In addition, the 2019 Agreement on Electronic Commerce was adopted within the framework of

ASEAN. This agreement allows the cross-border flow of information for business purposes, subject to compliance with relevant laws and regulations (ASEAN, 2019). Member countries have agreed to promote cross-border electronic commerce by working to eliminate or minimize barriers to the flow of information across borders, subject to safeguards for information security and confidentiality, and when required by other legitimate public policy objectives. In 2021, the ASEAN Digital Ministers Meeting approved data management provisions and model contractual provisions for cross-border data flows, as well as the ASEAN Digital Master Plan 2025 (ASEAN, 2023).

The Malabo Convention. In 2014, the African Union Convention on Cyber Security and the Protection of Personal Data, commonly known as the Malabo Convention, was adopted, which aims to create a regulatory framework to regulate the collection and processing of personal data in African Union member states. As of May 2023, the Malabo Convention has been ratified by 12 African countries (Data Protection Africa, 2023).

Regional forums in Latin America. The Organization of American States (OAS) is actively engaged in the development of rules for managing the digital ecosystem. The Digital Agenda for Latin America and the Caribbean (eLAC) is a strategy that advocates for the utilization of digital technologies as tools for achieving sustainable development. This strategy focuses on promoting open standards and an interoperable regional environment through data sharing that can enable digital transformation; encourages the formation of a regional digital market strategy; facilitates cross-border e-commerce through the integration of digital infrastructure, regulatory harmonization and the free flow of data with trust; calls for coherence and harmonization of digital regulation, especially on data protection, cross-border data flows, cyber security, e-commerce and digital commerce, consumer protection and rights on online platforms (ECLAC, 2020).

Priorities for multilateral regulation of digitalization

The establishment of multilateral regulation for digitalization, one that encompasses a majority of the world's countries, is emerging as one of the most significant global challenges. Achieving multilateral consensus on this matter depends on the international community's ability to find common ground and expand the scope of discussions. The successful implementation of these agreements can ensure the balanced, secure, inclusive, and sustainable development of the digital economy.

Given the intricate interconnections between various facets of the digital economy, its beneficiaries, policies and involved countries, it is imperative to

adopt a systemic approach to constructing multilateral regulation. This regulation must take on an interdisciplinary nature, encompassing aspects related to technology, ethics, economics, development, politics, geopolitics, law, and other relevant domains. Furthermore, it should incorporate the majority of countries, including developing nations, to truly be considered global in scope. Representation at the government level is essential, as regulatory aspects of digitalization may affect various ministries. In essence, global data governance will necessitate a blend of policies at national, regional, and international levels.

We endeavour to articulate the main directions and priorities of such multilateral regulation in the field of digitalization:

1. Achieving agreement on fundamental definitions of digital processes. As noted by de la Chapelle and Porciuncula (2021), there is still a lack of common understanding of the basic concepts regarding data characteristics, their collection, processing, and usage. For international debates to be successful, it is important that the issues that are being discussed are clearly defined and the definitions agreed upon by the participants. The presence of different definitions or interpretations creates significant difficulties for finding a common language.

2. Establishing terms for data access. In this context, it is crucial to delineate which data should be retained within national boundaries and which can cross borders; who can collect different types of data, how it can be collected and for which purposes; who can access the data (access rights) and under which conditions (conditions for data exchange at the national or international level); as well as the liability for non-compliance with the terms of data collection, sharing, usage, or control (Coyle et al., 2020). Additionally, an institutional framework is needed for management, monitoring and enforcement of access conditions.

3. Formulating the concept of digital data as a global public good. The availability of digital data around the world is often limited due to strict data controls or because such data contain personal data that cannot be disclosed (UNCTAD, 2021). The notion of «data as a public good» can be an important approach to shaping the goals that will unite the countries of the world. Open government data, as well as open country-level company data, can become available to the global community. Particular attention can be paid to data openness in the field of education and science for the entire world.

4. Determining the forms of data management. Alternative forms of data management are emerging that allow data to be exchanged in the interests of society around the world. Large digital corporations oftentimes extract, control, and thus, appropriate a lot of data. However, the sources of these data are often private and public individuals and organizations. Therefore, the appropriation of these data is not ethical. Data management needs to be reworked for the benefit of the global community. Recently, new data governance models have started to emerge enabling different actors to collaborate and aggregate data, which contributes to increased social value of data. Data collaboration, as a new form of

partnership, also has a huge potential to improve artificial intelligence, making it more reliable, accurate and responsive. Partnerships between different organizations, including government agencies, are increasingly being established in order to join efforts in collecting, aggregating, and sharing data (Gagnon-Turcotte et al., 2021). Many practical applications have already been implemented in various areas related to health, environment, scientific research, agriculture and food, and economic development. New data management practices were presented, for example, in Data Collaboratives Explorer by GovLab (GovLab, n.d.) and in the Data for Empowerment project by Mozilla Data Futures Lab (Mozilla Insights, n.d.).

5. Formulating the rights and principles pertaining to digital data. Digital and data-related rights must be properly defined. In recent years, a large number of declarations, charters or manifestos on digital rights and ethics have appeared at various levels (Digital Future Society, 2019). One early example is the 2011 Internet Charter of Human Rights and Principles adopted by the UN Internet Governance Forum (Internet Governance Forum, 2021). These and other examples show that there is a need to define and recognize rights in the new context of the digital economy. Existing declarations of rights and principles do not imply any obligations. However, they can be useful in shaping the binding rights pertaining to data at the global level.

6. Data standardization. The standardization of data can facilitate international movement of data, improve interoperability and cross-border data flow, instil trust in digitalization processes, and set guidelines for data governance. International data standards can encompass both technical aspects and privacy concerns. Equally important is the development of international open data standards that can provide guidance to both the private and public sectors on providing open access to data while maintaining confidentiality (Girard, 2020).

7. International cooperation in platform management. A current challenge lies in the imbalance of market power resulting from the dominance of global digital corporations and their adeptness at tax optimization. Platform management can encompass both competition and tax policies. While these policies are generally enforced at the national level, there is a pressing need to establish international regulations as digital platforms operate in the global market. Addressing the challenges posed by large digital corporations is a task beyond the scope of any single country's competition or tax authority. Even developed countries and country groups such as the United States and the European Union encounter difficulties in tackling these issues (UNCTAD, 2021).

Conclusions

The findings of the performed research on multilateral regulation of digitalization processes allow us to draw the following conclusions.

Firstly, significant progress has been achieved in the liberalization of trade in key ICT products thanks to the adoption of two ITAs within the WTO framework. The elimination of tariffs can facilitate access to ICT and generate economic and social benefits for the countries participating in the ITAs. The overall economic effect of these two ITAs is estimated at approximately three trillion dollars annually. However, these agreements apply to fewer than half of the WTO member countries. The accession of other countries to the ITA Agreements can become a driver for digitalization in those countries.

Secondly, in summarizing the existing international initiatives in the regulation of digitalization processes, it becomes evident that these efforts are primarily concentrated in developed countries and some Asian developing countries. They operate on a voluntary basis, concentrating their attention on specific aspects of digitalization, such as electronic commerce, privacy, and data protection. Additionally, their geographic scope is rather limited. A coherent international regulatory system for the cross-border flow of digital data is yet to be developed. The pressing need for comprehensive multilateral regulation of digitalization processes stems from the recognition that the digital economy, despite its significant advantages, can give rise to serious challenges and risks on a global scale.

Thirdly, we can outline the following priorities for multilateral regulation of the digitalization processes: reaching consensus on fundamental definitions of digital processes, establishing terms for data access, articulating the concept of digital data as a global public good, outlining various forms of data management, formulating rights and principles pertaining to digital data, standardizing data, and fostering international cooperation in platform management.

Finally, a global, broad approach is needed to address the multifaceted and interconnected dimensions of digitalization, in order to support the inclusive and sustainable development of the global economy. The goal of international data governance should be to ensure the fair distribution of data flow profits within and between countries, while mitigating potential risks and challenges. Achieving this goal will necessitate intensified policy dialogues involving all relevant actors, facilitating the development of the necessary regulatory framework and suitable institutional structures. Successful arrangements could pave the way for the establishment of a new international body focused on data governance and other aspects of digitalization, potentially within the framework of the United Nations.

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Received: August 4, 2023.

Reviewed: August 8, 2023.

Accepted: August 26, 2023.