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Trading away tax sovereignty? How trade rules shape taxation of the digital economy in Africa

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ABSTRACT

The advent of digital and data-driven business models has heightened the risks of tax base erosion and evasion, adversely affecting revenue generation, economic recovery, and advancement of tax justice in African economies. We develop a framework examining how trade rules on services, electronic transmissions, and digital products shape the ability of African countries to tax their digital economies. We consider four types of taxation instruments: (i) corporate income tax; (ii) value-added tax; (iii) customs duties on electronic transmissions; and (iv) digital services tax. To illustrate the practical implications, we apply our framework to Kenya, Rwanda, and South Africa. These three case studies reveal that trade rules in services and electronic transmissions have a direct effect on the legal position of the country to tax its digital economy, whereas digital trade rules, such as those related to data flows, localization, and source code sharing, produce both indirect and administrative effects on tax measures. These rules can alter tax structures, taxation rights, data collection, and the capacity to monitor and implement tax measures.

INTRODUCTION

Digital technologies have rapidly changed the way businesses operate, produce, and sell their products across different sectors. Big multinational enterprises (MNEs) are at the forefront of this shift, selling both traditional and digital goods, as well as services like online advertising, algorithmic trading, and data mining. Effectively taxing this growing digital economy is critical for revenue generation and the post-pandemic economic recovery of developing economies

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as well as advancements in human rights through fair tax practices.[1] However, the advent of digital and data-driven business models has only heightened the risks of tax base erosion and evasion, with revenues from digital activities being channelled to low-tax jurisdictions.[2] Since traditional tax instruments, such as corporate income tax (CIT) and value-added tax (VAT), are no longer effective in accurately taxing the digital economy,[3] countries are contemplating additional taxation instruments, such as a digital services tax (DST) and customs duties on electronic transmissions (CDET).

The African continent is at a critical juncture, with negotiations being simultaneously conducted on taxation of the digital economy and digital trade. Twenty-seven African countries[4] are involved in the 'Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy' developed by The Organisation for Economic Co-operation and Development (OECD) and the Group of 20 (G20) in 2021.[5] They are also considering the United Nations General Assembly's (UNGA) tax resolution, aiming to enhance international tax cooperation.[6] In terms of international trade, in February 2024, the African Union (AU) Assembly of Heads of State and Government adopted a Digital Trade Protocol (DTP) as an Annex to the African Continental Free Trade Area (AfCFTA).[7] The AfCFTA DTP is an important legal instrument for harmonizing rules on promoting intra-African digital trade, defined in the protocol as 'digitally enabled transactions of trade in goods and services that can either be digitally or physically delivered, and that involve natural and juridical persons'.[8] Additionally, nine African countries are part of the Joint Statement Initiative on Electronic Commerce (E-Commerce JSI), showing a shared interest in discussing the 'trade-related aspects of electronic commerce' among 91 World Trade Organization (WTO) Members.[9] Meanwhile, some African countries have, or are pursuing, individual free trade agreements (FTAs), such as the US–Morocco FTA or the ongoing talks on the US–Kenya FTA.

In this article, we explore how trade rules critically affect a country's ability to tax its digital economy. We ask if, and how, trade rules on services, electronic transmissions (ET), and digital products affect four types of taxation instruments; (i) CIT; (ii) VAT; (iii) CDET; and (iv) DSTs. To illustrate what is at stake in practical terms, we use case studies of Kenya, South Africa, and Rwanda. Our rationale for choosing these countries is guided by three characteristics; firstly, these economies tend to be highly dependent on revenue generation. Tax revenue, as a share in GDP, stands at 27.1 per cent in South Africa, 16.5 per cent in Rwanda, and 16.8

[1] Olivier De Schutter, Nicholas J Lusiani and Sergio Chaparro, 'Re-Righting the International Tax Rules: Operationalising Human Rights in the Struggle to Tax Multinational Companies' (2020) 24(9) *International Journal of Human Rights* 1389; Philip Baker, 'Human Rights and the Two-Pillar Solution' (2022) 50 *Intertax* 575.

[2] Jane Kelsey and others, *How 'Digital Trade' Rules Would Impede Taxation of the Digitalised Economy in the Global South* (Third World Network 2020) 127; Cristian Óliver Lucas-Mas and Raúl Félix Junquera-Varela, *Tax Theory Applied to the Digital Economy: A Proposal for a Digital Data Tax and a Global Internet Tax Agency* (World Bank Publications, Washington, DC 2021) 4.

[3] Favourate Y Mpofu, 'Taxing the Digital Economy through Consumption Taxes (VAT) in African Countries: Possibilities, Constraints and Implications' (2022) 10(3) *International Journal of Financial Studies* 3; Craig Elliffe, *Taxing the Digital Economy: Theory, Policy and Practice* (Cambridge University Press, Cambridge 2021) 112.

[4] Angola, Benin, Botswana, Burkina Faso, Cabo Verde, Cameroon, Congo, Côte d'Ivoire, the Democratic Republic of Congo, Djibouti, Egypt, Eswatini, Gabon, Kenya, Liberia, Mauritania, Mauritius, Morocco, Namibia, Nigeria, Senegal, Seychelles, Sierra Leone, South Africa, Togo, Tunisia, and Zambia.

[5] Reuven Avi-Yonah, Young Ran Kim and Karen Sam, 'A New Framework for Digital Taxation' (2022) 63 *Harvard International Law Journal* 280; Ivan Ozai, 'Global Justice in the Reshaping of International Tax' (2025) *Journal of International Economic Law* 2.

[6] UNGA, *Promotion of Inclusive and Effective International Tax Cooperation at the United Nations: Resolution / Adopted by the General Assembly* (United Nations General Assembly, New York 30 December 2022) para 3; Luís Eduardo Schoueri and Pedro Guilherme Lindenberg Schoueri, 'Rethinking Taxing Rights' (2025) 27 *Journal of International Economic Law,* 5.

[7] AU, *Decision on the Draft Legal Instruments*, Assembly of the Union: Thirty-Seventh Ordinary Session 17–18 February 2024 (African Union, Addis Ababa, Ethiopia 2024) para 2.

[8] The definition of the Protocol does not include digital trade that involves governments; the Protocol does not apply to government procurement or information held or processed on behalf of the government.

[9] 'Joint Statement Initiative on E-Commerce' <https://www.wto.org/english/tratop_e/ecom_e/joint_statement_e.htm> accessed 14 January 2025.

per cent in Kenya.[10] Secondly, the negotiations on digital trade and tax are likely to have critical implications for African countries, given that trade in digitally deliverable services (DDS)[11] already accounts for a sizeable US$24 billion in Africa.[12] As fiscal pressures mount, it is imperative that African countries beware the implications of digital trade provisions for their ability to tax the digital economy. Thirdly, the varied involvement of the chosen African countries in the Two-Pillar negotiations, the AfCFTA DTP, and the e-commerce JSI makes for interesting comparative cases.

The rest of the article is organized as follows. The section on Taxation of the digital economy explores the evolving approaches to taxing the digital economy. The section on Trade rules and taxation of the digital economy develops a conceptual framework on trade rules and taxation of the digital economy, drawing on the existing literature. A handful of recent studies have explored the tax dimensions of digital trade policies, including the analysis of how proposed global e-commerce rules could impede taxation of the digital economy,[13] taxation of digital services in trade agreements,[14] the development implications of tax-related provisions of digital trade rules under negotiation,[15] and the legal issues on taxation of the digital economy under the General Agreement on Trade in Services (GATS).[16] Our study contributes to this nascent literature by examining how trade rules affect the ability to tax the digital economy. Further, we add a tax dimension to the growing literature on the development implications of digital trade rules.[17]

The section on Illustrative case-studies from Africa applies this framework to the cases of Kenya, Rwanda, and South Africa. Both Kenya and South Africa are major players in different regional economic communities, and while Rwanda is not far off from Kenya geographically, it adds a different perspective as a least developed country. The section on Conclusion summarizes the study by offering policy recommendations for the African continent, and for developing economies broadly.

TAXATION OF THE DIGITAL ECONOMY

Defining the digital economy

Given the multiple definitions of the 'digital economy', we do not adopt a rigid definition of this term in this paper, save for defining it such that it encompasses 'digital trade'. Some definitions appear to accept that digital trade is a broader concept that subsumes 'e-commerce'. The distinction is more than semantic in that there is an 'expanding focus of trade rules from digitally-enabled trade in analog assets to trade in digital assets', which covers fundamentally different transaction types, gives rise to distinct policy concerns, and is subject to different rules.[18] When

[10] OECD/AUC/ATAF, *Revenue Statistics in Africa 2024: Facilitation and Trust as Drivers of Voluntary Tax Compliance in Selected African Tax Administrations* (Organisation for Economic Co-operation and Development, Paris 2024) 98.

[11] As defined by UNCTAD (2015), DDS are typically an aggregation of insurance and pension services, financial services, charges for the use of intellectual property, telecommunications, computer and information services, other business services and audio-visual and related services. These are services that have the potential to be delivered over an ICT network.

[12] Rashmi Banga and Karishma Banga, 'Scoping the Potential for a Digital Led Recovery from COVID-19 in Africa' (2022) 9(1–2) *Journal of African Trade* 131.

[13] Kelsey and others (n 2) 13.

[14] Chris Noonan and Victoria Plekhanova, 'Taxation of Digital Services under Trade Agreements' (2020) 23 *Journal of International Economic Law* 1018.

[15] Deborah James, 'Anti-Development Impacts of Tax-Related Provisions in Proposed Rules on Digital Trade in the WTO' (2019) 62 *Development* 60.

[16] Alice Pirlot and Henri Culot, 'When International Trade Law Meets Tax Policy: The Example of Digital Services Taxes'(2021) 55 *Journal of World Trade* 911.

[17] Shamel Azmeh, Christopher Foster and Jaime Echavarri, 'The International Trade Regime and the Quest for Free Digital Trade' (2020) 22 *International Studies Review* 681.

[18] Wolfgang Alschner, 'E-Commerce or Digital Trade? Why the Difference Should Matter to Trade Lawyers' in David Collins and Michael Geist (eds), *Research Handbook on Digital Trade* (Edward Elgar Publishing, London 2023) 54.

we use 'taxation of the digital economy', we generally mean the application of taxation instruments to that part of the digital economy that entails digital trade, specifically its *cross-border* forms, ie the types of digital trade that are, or would be, regulated by international trade rules.

Many of the terms used in this paper lack globally agreed upon definitions, as well as definitions within a particular legal or institutional setting. Therefore, we try not to ascribe definitions to terms where these need to be agreed upon by signatories to legal instruments or members of international organizations such as the WTO.

Evolving approaches to tax the digital economy

A common way of taxing digital trade has been to expand existing VAT to incorporate digital sales. This is an indirect or a consumption tax, in which burden of payment lies with the consumers of digital services. However, the collection of VAT in business-to-consumer (B2C) transactions has been a persistent issue in protecting tax revenue and levelling the playing field between foreign suppliers relative to domestic suppliers.[19] There are additional challenges to VAT collection given jurisdictional complexity; difficulties of applying VAT to intangibles and services; difficulties in tracking and regulating digital transactions; and resources for implementation.

There have also been significant developments in the domestic and international efforts to address the tax challenges through CIT frameworks. Some countries have adapted domestic CIT frameworks or clarified their definition of permanent establishment, while some others have adopted a withholding tax on certain digital services.[20] Such a tax, on gross basis, can address the tax challenge by treating income from some economic activities similarly to passive income (eg from royalties) rather than active income from business profits.[21] Internationally, the statement on a 'Two-Pillar Solution', backed by 138 countries through the OECD/G20's Base Erosion and Profit Shifting (BEPS) Project, signifies a collective recognition of the need for reforming CIT.[22] Pillar One of this statement aims to redistribute profits and taxing rights among countries, specifically targeting the largest multinational enterprises (MNEs), including digital companies.[23] Pillar Two imposes a minimum level of taxation on MNEs on the income arising in each of the jurisdictions where they operate through an anti-base erosion proposal.[24]

The OECD has asserted that 'Pillar One' of the statement will ensure a fairer distribution of profits and taxing rights among countries with respect to the largest MNEs,[25] including digital companies, that '[i]t would reallocate some taxing rights over MNEs from their home countries to the markets where they have business activities and earn profits, regardless of whether firms have a physical presence there', and that '[u]nder Pillar One, taxing rights on more than US$125 billions of profit are expected to be reallocated to market jurisdictions each year'.[26] However, concerns linger about the slow demolition of the Pillar One scope.[27] Earlier work showed an

[19] OECD, *Addressing the Tax Challenges of the Digital Economy*, OECD/G20 Base Erosion and Profit Shifting Project (Organisation for Economic Co-operation and Development 2014) 19.

[20] Kenya's Finance Act 2023 clarifies that the income paid to 'digital content creators' is subject to a withholding tax.

[21] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018 Inclusive Framework on BEPS*, OECD/G20 Base Erosion and Profit Shifting Project (Organisation for Economic Co-operation and Development 16 March 2018) 106.

[22] OECD, *Outcome Statement on the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy*, OECD/G20 Base Erosion and Profit Shifting Project (Organisation for Economic Co-operation and Development 11 July 2023) 2, 3; Afton Titus, 'The Role of the United Nations in Ensuring Equitable Tax Policies for Developing Countries' (2025) 27 *Journal of International Economic Law,* 3.

[23] Titus (n 22) 3.

[24] ibid 4.

[25] Schoueri and Schoueri (n 6) 3–4.

[26] Marcin Szczepański, *Taxing the Digital Economy New Developments and the Way Forward* (European Parliament October 2021) 6.

[27] Solomon Rukundo, *Addressing the Challenges of Taxation of the Digital Economy: Lessons for African Countries*, ICTD Working Paper (Institute of Development Studies, Brighton 2020), 2–3; Graeme S Cooper, 'Building on the Rubble of Pillar One' (2021) 75 *Bulletin for International Taxation* 9; Avi-Yonah, Kim and Sam (n 5) 300.

intention for Pillar One to be applicable to all automated digital services (ADSs) and consumer-facing businesses, whereas the statement now is only applicable to MNEs with global turnover in excess of €20 billion and profitability above 10 per cent and also excludes MNEs in the extractives and regulated financial services sectors.[28] As such, Pillar One would only apply to small parts of the profits—the so-called residual profits—of less than 100 MNEs worldwide.[29] Subsequently, there have been proposals for the adoption of a single global threshold rule to cover all MNEs that generate global sales revenue above a certain amount and the reallocation of profits as a portion of the MNE's total profits instead of residual profits.[30]

At the same time, April 2021 saw the approval of Article 12B of the United Nations' model tax convention between developed and developing countries (UN Model Convention), which eliminates the requirement of physical presence and expands the ability of market jurisdictions to tax income from ADSs.[31] There are no minimum thresholds for revenue or profitability, but it is technically a bilateral proposal, as it would need to be applied between two countries who aim to model this approach.[32] As such, it is heavily subject to power asymmetries in the ability to extract favourable terms through negotiation of treaties, putting less powerful countries at a disadvantage.[33]

While international negotiations have continued, several countries have resorted to applying individual DSTs,[34] which are transaction-based taxes imposed on revenue. At least 38 countries globally, including African countries of Nigeria, Kenya, Tanzania, and Congo, are now applying some form of a DST. They are based on a percentage of the revenue—typically in the 2–3 per cent range—derived from specifically defined revenue streams and are generally applicable to firms above a certain revenue threshold. DSTs are usually directed at one or more of four possible revenue streams; (i) sales of data gathered by an Internet provider; (ii) the provision of an Internet marketplace; (iii) the creation of a market between Internet users; and (iv) specific services marketed to advertisers employing the Internet.[35] However, OECD's Two-Pillar Solution requires parties who have unilateral DSTs to remove all DSTs and to not introduce such measures in the future.[36]

Another new, potential tax instrument is CDET, such as online streaming of movies (eg through Netflix), music (eg through Apple's iTunes), and e-books (eg through Amazon). A significant development has occurred in Indonesia, with the country issuing a new tariff heading for digital products in the Indonesia's Customs Tariff Book. Chapter 99 has been revised to include digital products, such as software, multi-media, and electronic data, delivered via electronic transmissions.[37]

[28] Avi-Yonah, Kim and Sam (n 5) 295.

[29] Vladimir Starkov and Alexis Jin, *A Tough Call? Comparing Tax Revenues to Be Raised by Developing Countries from the Amount A and the UN Model Treaty Article 12B Regimes*, Research Paper (South Centre, Geneva 2022) 13.

[30] ATAF, 'ATAF's Revised Pillar One Proposals to the Inclusive Framework Adds to G7 Deal to Stop Global Corporate Tax Avoidance' (*African Tax Administration Forum*, 7 June 2021) <https://www.ataftax.org/atafs-revised-pillar-one-proposals-to-the-inclusive-framework-adds-to-g7-deal-to-stop-global-corporate-tax-avoidance> accessed 15 September 2022.

[31] Para 5 of Art 12B of the UN Model Treaty defines an ADS as 'any service provided on the internet or an electronic network requiring minimal human involvement from the service provider' (UNDESA 2021: 25). Unlike DDS, it excludes payments of 'royalties' or 'fees for technical services'.

[32] Avi-Yonah, Kim and Sam (n 5) 334.

[33] Martin Hearson, 'When Do Developing Countries Negotiate Away Their Corporate Tax Base?' (2018) 30 *Journal of International Development* 240.

[34] Whether a DST is considered a direct or indirect tax depends largely on how it is formulated.

[35] JN Bush and R Thrasher, 'Taxing the Digital Economy: Options, Trade Considerations, and a Solution' (2020) 99 *Tax Notes* s II.B.

[36] OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy*, OECD/G20 Base Erosion and Profit Shifting Project (Organisation for Economic Co-operation and Development 8 October 2021) 3.

[37] General Council, *Indonesia's Perspective on Customs Duties on Electronic Transmission: Communication from Indonesia*, WT/GC/W/859 (World Trade Organization 13 December 2022).

TRADE RULES AND TAXATION OF THE DIGITAL ECONOMY

In this section, we present a conceptual framework on trade rules and taxation of the digital economy based on a review of literature and analysis on how trade rules in services, electronic transmissions, and digital products affect the above-mentioned tax instruments.

Trade rules on services (WTO/FTAs)

All 166 WTO members are subject to trade rules on services under the GATS. The WTO Council for Trade in Services recognized in 1999 that 'the electronic delivery of services falls within the scope of the GATS, since the Agreement applies to all services regardless of the means by which they are delivered'[38]—a principle understood as 'technological neutrality'. In the *US gambling case*, the panel clarified on the technological neutrality principle by observing that a commitment to market access for Mode 1 implies that other members' suppliers have the right to provide a service by any delivery method, including mail, phone, Internet, etc.[39]

The GATS has general obligations that apply to the services sector of all members and specific obligations that apply only to the extent inscribed, ie to specific sectors in a member's schedule of commitments across modes of supply.[40] In understanding the impact of GATS on taxation of the digital economy, two non-discrimination obligations, ie the most-favoured-nation (MFN) and national treatment (NT) play a crucial role. Under the MFN obligation, if a country offers favourable conditions to a specific trading partner in a particular service sector, it must extend the same treatment to 'like services and services suppliers' of all other WTO members.[41] The MFN obligation is general and adopts a 'negative list' approach, prohibiting discrimination against 'like services or services suppliers' not inscribed in the schedule to ensure equal opportunities for all, irrespective of origin or nationality.[42] The NT obligation, on the other hand, stipulates that in the sectors inscribed in the schedule, once a foreign service has entered a WTO member's market, it must be treated no less favourably to domestic services in terms of regulations and laws affecting its provision or use.[43] The NT obligation, therefore, only applies to the extent that a member has committed to NT, under certain conditions and limitations in their schedule.[44] The NT and MFN obligations apply to both *de jure* discrimination and *de facto* discrimination.[45] In addition to GATS, countries are also party to bilateral and/or regional FTAs, which could involve commitment on trade in services. Generally, the services disciplines in FTAs tend to mirror WTO rules, but in various instances liberalize a greater proportion of services trade.[46]

Given the principles of technological neutrality, the stipulations of the MFN and NT obligations under GATS could limit the ability of countries to tax some aspects of their digital economy. Depending on the commitments under a services sector, countries may violate their

[38] Council for Trade in Services, *Work Programme on Electronic Commerce – Progress Report to the General Council Adopted by the Council for Trade in Services on 19 July 1999*, S/L/74 (World Trade Organization 27 July 1999) para 4.

[39] Dispute Settlement Body, *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services-Report of the Panel*, WT/DS58/R (World Trade Organization 10 November 2004) para VI.671.

[40] Mode 1 (cross-border: eg a Kenyan consumer buying an e-book from Amazon); Mode 2 (consumption abroad: eg Kenyan firm storing its data in an offshore server in the USA); Mode 3 (commercial presence: eg Kenyan firm purchasing digital services from an American subsidiary firm in Kenya); and Mode 4 (presence of natural persons: eg American engineer flying into Kenya for data processing services).

[41] Art II (1) GATS.

[42] Peter Van den Bossche and Werner Zdouc, *The Law and Policy of the World Trade Organization: Text, Cases, and Materials* (5th edn, Cambridge University Press, Cambridge 2021) 360.

[43] Art XVII (1) GATS.

[44] Van den Bossche and Zdouc (n 42) 438.

[45] While *de jure* discrimination is direct, based on the origin of a given service or services supplier, *de facto* discrimination is origin-neutral, covering measures that indirectly affect the commercial interests of a services provider even though their origin may not be identified. Gilles Muller, 'De Facto Discrimination Under GATS National Treatment: Has the Genie of Trade Liberalization Been Let Out of the Bottle?' (2017) 44(2) *Legal Issues of Economic Integration* 155.

[46] See, for example, the EU–Singapore FTA, Chapter 8, read with Appendixes 8-A and 8-B).

NT and MFN obligations if they impose CIT or VAT. For example, where a member has committed to non-discrimination under their schedule, a VAT on the cross-border supply of digital services not levied equally on the supply of services domestically can be challenged under GATS.[47] However, violation of market access, NT and MFN obligations with regard to CIT and VAT are unlikely since these taxes are applied to all services and services suppliers, without discriminating between foreign and domestic ones. Additionally, GATS can impact the imposition of CDET to the extent of a member's schedule of commitments if electronic transmissions are defined as a service.[48] The treatment of ET as goods or service, therefore, remains a key topic of debate.

The most significant impact of GATS is on a country's regulatory scope to impose and design a DST. A DST is also more relevant because it is likely to affect the Big Technology (Big Tech) firms that are concentrated among developed countries, especially in the USA, and some developing countries, such as China. This means that the imposition of a DST could still constitute *de facto* discrimination if it undermines the commercial interests of Big Tech who dominate the digital economy. The specific commitments made by a country under GATS, including non-discrimination between domestic and foreign suppliers, market access, and local presence, shape the legal constraints within which the country's tax authorities can operate. The extent to which a particular DST clashes with a given member's GATS commitments will depend on which services are taxed by the DST and whether these are considered to fall within a category of services included in each member's schedule of commitments.

Consider, for example, the case of France; in 2019, the country adopted a DST of 3 per cent on the revenues generated from online intermediation services and targeted online advertisement services in France, which it considers as digital services.[49] Companies with a digital global revenue of 750 million Euros and digital turnover of more than 25 million in France were targeted by this tax. However, since advertising is included in the EU's list of MFN and NT commitments under GATS, the US authorities contested France's DST.[50] They argued that the French DST targets foreign online advertising companies and gives them less favourable treatment as compared to 'like' services and service suppliers which advertise in newspapers, thus violating Article XVII of GATS. Here, the USA focused on the criterion of end-use for 'likeness' and a competitive relationship, irrespective of the medium of supply. The USA further argued that the high revenue thresholds of the French DST generated a *de facto* discrimination against US firms compared to European firms.[51] Under Section 301 of the Trade Act of 1974, the USA launched internal investigations into the French DST, which culminated in the United States Trade Representative (USTR) issuing a Federal Register Notice that deemed the French DST discriminatory and announced retaliatory duties of up to 100 per cent on certain French products. The USTR also announced intent to launch investigations into DSTs adopted in Austria, India, Italy, Spain, Turkey, and the UK.

The challenge of likeness arises in defining 'digital services', which have not been defined under the GATS framework. Service suppliers supplying similar services may not necessarily

[47] Miguel A Rodriguez Cuadros, 'The Non-Discrimination Principle and VAT: Rules of Thumb for Trade and Tax Policy-Makers' (2016) 11 *Global Trade and Customs Journal* 65.

[48] The General Agreement on Tariffs and Trade (GATT) 1994 only constrains the applicability of CIT and VAT if they are applied in a way that contravenes the NT and MFN obligations—for example, a member state applying CIT based on a threshold that excludes domestic firms or applying a VAT only aimed at large, foreign firms. The GATT 1994 regulates the imposition of customs duties in relation to products which may include 'electronic transmissions' if they are explicitly defined as a good.

[49] USTR, 'Section 301 Investigation Report on France's Digital Services Tax' (*Office of the United States Trade Representative*, 2 December 2019) <https://ustr.gov/sites/default/files/Report_On_France%27s_Digital_Services_Tax.pdf> accessed 4 December 2022.

[50] ibid.

[51] Gary Clyde Hufbauer and Zhiyao Lucy Lu, *Policy Brief 18-15: The European Union's Proposed Digital Services Tax: A De Facto Tariff*, Policy Brief (Peterson Institute for International Economics 2018) 8.

be considered 'like' service suppliers.[52] Notably, members have not been able to reach an agreement on whether various digital services that did not exist when GATS commitments were scheduled—such as search engines and cloud computing—are covered by the GATS. Moreover, Internet advertising is largely data-driven and personalized as opposed to much of the media advertising. As a result, Internet advertising in competition law proceedings[53] has generally been seen as a separate market from other forms of advertising. Additionally, it has been argued that if DSTs do not discriminate like services and services providers from different members on the *origin* of the services, they do not violate GATS.[54] A lack of consensus on the classification and mode of supply for certain services further complicates matters. For instance, Zoom could be a value-added telecommunications service or a computer and related service, which are distinct and mutually exclusive categories in services under GATS, and for which countries have taken different commitments. This is further complicated by debates on the moratorium, under which the definition of ET may or may not include services and further may or may not include the content of ETs. As the digital economy continues to evolve, the complexities of GATS and its impact on taxation, particularly in the realm of digital services, will remain central to international trade discussions.

Trade rules on Electronic Transmissions (WTO/FTAs)

At its 1998 ministerial conference (MC) in Geneva, WTO members declared that they 'will continue their current practice of not imposing customs duties on electronic transmissions'.[55] This ban (the moratorium) has been extended on a temporary basis for two years at all subsequent MCs. The main argument for banning CDET is that duty-free electronic transmissions can help firms access new markets through the removal of transportation costs, which will create higher benefits than the potential tariff revenue lost because of countries not being able to tax ET.[56] In their official communications to the WTO, the USA, Japan, and other developed economies have proposed to make the moratorium permanent, while India and South Africa,[57] as well as Indonesia[58] have asked for its termination. The 13th WTO MC in February 2024 agreed to maintain the practice of not imposing CDET until the 14th session of the MC or 31 March 2026, whichever is earlier. The moratorium is set to expire on that date, unless there is a consensus to extend it.[59] However, several FTAs containing bans on the imposition of CDET are being concluded in an effort towards norm-setting. Of the total 184 FTAs with digital trade provisions analysed in 2020, 76 contained a provision banning CDET.[60] Such provisions appear to be more common in North–South FTAs than in South–South FTAs.[61]

[52] Appellate Body Report, *Argentina—Measures Relating to Trade in Goods and Services*, WT/DS453/AB/R, adopted 9 May 2016, para 6.29.

[53] The European Commission, for example, has repeatedly found that online advertising is in a different market to offline advertising: Decision of 11 March 2008, COMP/M.4731 *Google/DoubleClick*, paras 45, 46, and 51.

[54] Mutiara Elisabet and Yetty Komalasari Dewi, 'Digital Services Tax Regulation and WTO Non-Discrimination Principle: Is the Deck Stacked?' (2021) 19 *Indonesian Journal of International Law* 52.

[55] Ministerial Conference, *Declaration on Global Electronic Commerce Adopted on 20 May 1998*, WT/MIN(98)/DEC/2 (World Trade Organization 25 May 1998).

[56] OECD, *The Role of Digital Platforms in the Collection of VAT/GST on Online Sales* (Organisation for Economic Co-operation and Development, Paris 2019) 41.

[57] General Council, *Work Programme on Electronic Commerce the E-Commerce Moratorium: Scope and Impact: Communication from India and South Africa*, WT/GC/W/798 (World Trade Organization 11 March 2020) para 4.1.

[58] General Council, *Indonesia's Perspective on Customs Duties on Electronic Transmission* (n 37) para 3.6.

[59] Ministerial Conference, *Ministerial Decision Adopted on 2 March 2024*, WT/MIN(24)/38 WT/L/1193 (World Trade Organization 4 March 2024).

[60] Mira Burri and Rodrigo Polanco, 'Digital Trade Provisions in Preferential Trade Agreements: Introducing a New Dataset' (2020) 23 *Journal of International Economic Law* 198.

[61] Karishma Banga, Jamie Macleod and Max Mendez-Parra, *Digital Trade Provisions in the AfCFTA*, Working Paper Series, ODI Supporting Economic Transformation (SET) (ODI, London 2021).

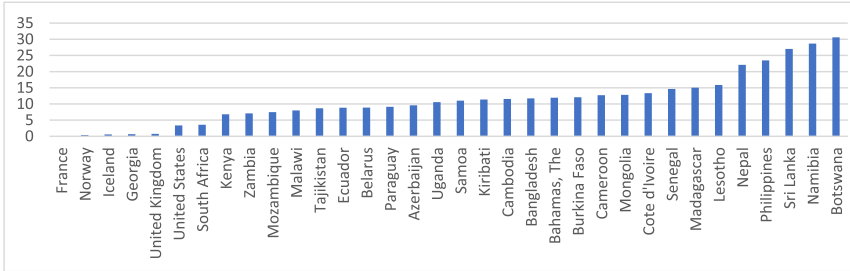

Figure 1. Custom and other import duties, as a per cent of total tax revenue, selected economies.
Source: Authors, constructed from World Bank Indicators, data is for 2021.

Questions arise on the extent to which defining 'electronic transmissions' affects the utility of the way 'customs duties' is defined.[62] Debates are centred around three questions. Firstly, does the term 'electronic transmissions' refer purely to the actual transmission itself, ie the *carrier* or also to the *content* of what is being transmitted?[63] The debate on the 'carrier' or 'content' is also closely related to the second question; does the moratorium cover only goods, both goods and services, or neither?[64] There has been a stalemate in the WTO on whether 'digital content' that is not fixed on carrier medium should be classified as a 'good' or a 'service'. The US advocates for ET to be defined as digital goods, subject to the GATT. In contrast, the EU is pushing for categorizing ET as services, to be disciplined under the services commitment of countries under GATS. The third question is whether the moratorium is inconsistent with the principle of 'technological neutrality'? If 'digital content' is subject to custom duties when delivered physically but subject to zero customs duties when delivered electronically, then the physical trade of these products is at a disadvantage, violating the principle of technological neutrality. With a lack of clarity and consensus on these questions, India and South Africa have asserted a 're-think' of the moratorium in their joint communications to other members, and both South Africa and Indonesia have called for the moratorium to not be extended.[65]

The moratorium constrains the ability of WTO members to generate revenues from CDET.[66] While this may not mean much revenue losses for developed economies, such as the USA, where custom duties account for roughly 3 per cent of tax revenue (Fig. 1), it could imply substantial revenue losses for developing economies with higher contributions of custom duties to tax revenue. As shown in Fig. 1, the share of custom duties in tax revenue is 10 times as much in Botswana (30.6 per cent) and more than double in Kenya (7 per cent) as compared to the USA (3.4 per cent). In fact, even using the most conservative estimates and the narrowest definition

[62] Ines Willemyns, *Digital Services in International Trade Law*, Cambridge International Trade and Economic Law (Cambridge University Press, Cambridge 2021) 80–81.

[63] Andrea Andrenelli and Javier López González, *Electronic Transmissions and International Trade-Shedding New Light on the Moratorium Debate*, Trade Policy Paper, OECD Trade Policy Papers (OECD 2019) 9; Willemyns (n 62) 80.

[64] If the definition of 'electronic transmissions' merely covers goods, then the definition of both DDS and ADS will not overlap with the definition of ET. If the definition of ET covers goods *and* services, then the extent of the overlap with DDS and ADS will hinge on whether ET is considered to merely cover the actual transmissions or whether it covers the *content* of the transmissions.

[65] General Council, *Indonesia's Perspective on Customs Duties on Electronic Transmission* (n 37) 3.6; General Council, *Work Programme on Electronic Commerce Challenges for Digital Industrialization in Developing Countries: Communication from South Africa*, WT/GC/W/910 (World Trade Organization 1 December 2023) 4.1; General Council, *Work Programme on Electronic Commerce Moratorium on Customs Duties on Electronic Transmissions: Need For a Re-Think: Communication from India and South Africa*, WT/GC/W/747 (World Trade Organization 13 July 2018) 2.3.

[66] With regard to other taxation measures, the moratorium does not appear to constrain the ability of members to impose CITs or VATs as it involves electronic services across borders while CITs/VATs are designed as internal measures. Regarding DSTs, certain definitions could view it as being applied to electronic transmissions, specifically if the ET definition includes both the services and the content of the ET. In such a case, there could be a GATS violation of non-discrimination obligations depending on the design of a particular DST and the facts surrounding a particular case.

of ET, developing countries are estimated to have lost tariff revenue worth US$48 billion during the period 2017–20 due to duty-free imports of just 49 physical products, including luxury items such as movies, music, and video games.[67]

Digital trade rules (JSI/FTAs)

After 5 years of formal negotiations, and expansion of negotiating members from 71 to 91, a 'stabilised' text of the e-commerce JSI was released on 26 July 2024.[68] Earlier phases of the JSI negotiations included contentious proposals by developed economies on free cross-border data flows, bans on data localization, and bans on source-code sharing. However, in the final stabilized text, such proposals were dropped, majorly due to the withdrawal of the USA in October 2023 from its own proposals of liberalizing digital trade in an effort at 'balancing the right to regulate in the public interest and the need to address anticompetitive behaviour in the digital economy'.[69] Nonetheless, digital trade rules on non-discrimination obligations for certain defined 'digital products',[70] as well as rules on data flows, particularly data storage, and source code and algorithms, are being pushed through bilateral and regional FTAs. Such rules are also likely to be part of future negotiations of more ambitious plurilateral arrangements. Therefore, understanding the relevance of such rules for taxation of the digital economy is critical.

Rules on cross-border data flows and the location of computing facilities

Provisions on cross-border data flows or data storage typically aim to regulate restrictions on the flow of data across borders.[71] A complementary rule contained in a number of FTAs restricts the extent to which governments are permitted to impose data localization requirements, ie requirements for data to be stored on computing facilities located within the physical boundaries of a particular party, or mandating that computing facilities be located within those physical boundaries.[72] Depending on the exact formulation of particular rules of this kind, governments may be restricted in their ability to adopt measures that require data or copies of data to be stored locally, measures that require data to be 'processed' locally, or outright bans on cross-border data transfers.

Provisions on free cross-border data flows can undermine the ability of governments to track where data are being processed and monetiszd, which may in turn affect their ability to tax the digital economy and digital transactions involving persons within their jurisdictions. Moreover, data localization could be a (indirect) way to help ensure that enterprises with real interests but only a virtual presence in each country can be required to pay taxes that reflect the revenues of the economic activities they undertake within these countries.[73] Data localization measures can force firms to use local computing facilities, or even to set up local computing facilities, which then ensure that they have a substantial commercial presence to benefit from investment protection as preferred in emerging investment agreements.[74]

[67] Rashmi Banga, *Joint Statement Initiative on E-Commerce (JSI): Economic and Fiscal Implications for the South*, Research Paper, UNCTAD/SER.RP/2021/1 (United Nations Conference on Trade and Development, Geneva February 2021) 15.

[68] The text is referred to as 'stablised' rather than 'final' as 9 Members did not support the agreement, including the United States, Brazil, Indonesia, Colombia, Turkey, El Salvador, Guatemala, and Paraguay. Joint Statement on Electronic Commerce, *Agreement on E-Commerce*, INF/ECOM/87 (World Trade Organization 26 July 2024).

[69] David Lawder, 'US Drops Digital Trade Demands at WTO to Allow Room for Stronger Tech Regulation' (*Reuters*, 25 October 2023) s United States <https://www.reuters.com/world/us/us-drops-digital-trade-demands-wto-allow-room-stronger-tech-regulation-2023-10-25/> accessed 30 March 2024.

[70] The term 'digital product' refers to both digital goods and services and should be seen as legal term used in specific PTAs/FTAs.

[71] See, for example, United States–Mexico–Canada Agreement (USMCA), Art 19.11.

[72] See, for example, Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), Art 14.13.

[73] Jörg Mayer, *Digitalization and Industrialization: Friends or Foes*, UNCTAD Research Paper, UNCTAD/SER.RP/2018/7/Rev.1 (*United Nations Conference on Trade and Development* 2018) 25.

[74] UNCTAD, *Scope and Definition*, UNCTAD Series on International Investment Agreement II, UNCTAD/DIAE/IA/2010/2 (United Nations, Geneva 2011) 23.

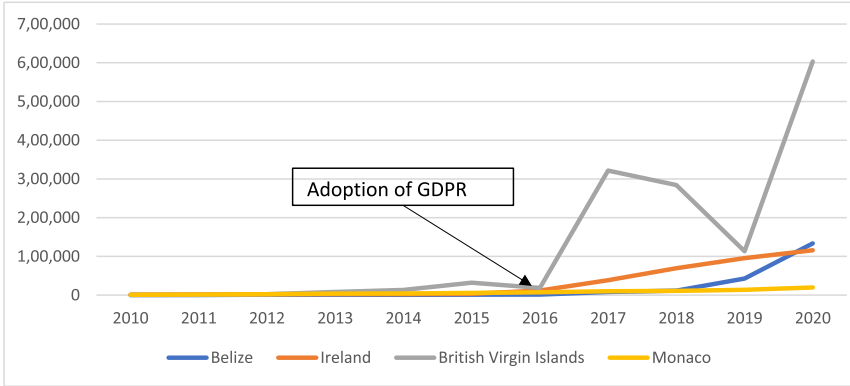

Figure 2. Internet server penetration in selected tax havens.
Source: World Bank Development Indicators. Note: Internet server penetration is the number of servers per 1 million people.

For data localization and protection, the regulatory capacity and enforcement of laws is a key challenge in both developed and developing economies. In the EU, it is the Lead Supervisory Authority—the jurisdiction where Internet giants put their European headquarters for tax purposes—that is responsible for coordinating investigations into breaches of digital trade laws. This jurisdiction hunt to find the friendliest data supervisor that has led to countries racing to the bottom, as they compete in the laxity of laws to gain more business.[75] Interestingly, Fig. 2 records a significant jump in Internet server penetration in known tax havens—British Virgin Islands, Ireland, and Belize—post 2016, when the EU adopted the General Data Protection Regulation. With such tax havens becoming data havens, access to information by tax authorities and other regulators will become increasingly difficult.[76]

Rules on source code and algorithms

There are rules in some FTAs (especially those to which the USA are a party), which restrict the ability of the governments to ask for access to, or disclosure of, or transfer of, the source code of software and/or algorithms. Such proposals were also part of the 2023 (leaked) consolidated negotiating text of the JSI under 'business trust'.[77]

Such bans on source code sharing will make it impossible for governments to access a combination of data and source code and/or algorithms, which determines 'value creation', curbing the effective taxation of the digital economy.[78] The contribution of 'user data' is central to this argument. The USA does not interpret user-generated value as relevant for taxation.[79] Some digitalized businesses posit that data hold little value—it must be processed, analysed, and monetized for value creation by the firm. The real value instead comes from the intangible assets, such as algorithms and coding, which are used to interpret the data and provide a revenue-generating service.[80] If the data are determined to be self-created by a firm, it would not be captured on

[75] Nick Shaxson, 'Data Havens: How to Tackle the New Digital Race to the Bottom' (*Tax Justice Network*, 21 December 2020) <https://taxjustice.net/2020/12/21/data-havens-how-to-tackle-the-new-digital-race-to-the-bottom/> accessed 5 November 2021.
[76] Kelsey and others (n 2) 26.
[77] Joint Statement on Electronic Commerce, *WTO Electronic Commerce Negotiations – Updated Consolidated Negotiating Text – November 2023 – Revision*, INF/ECOM/62/Rev.5 (World Trade Organization 15 November 2023) 23.
[78] James (n 15) 15.
[79] Eli Hadzhieva, *Impact of Digitalisation on International Tax Matters: Challenges and Remedies* (European Parliament, Luxembourg 2019) 20.
[80] Magdalena Słok-Wódkowska and Joanna Mazur, 'Secrecy by Default: How Regional Trade Agreements Reshape Protection of Source Code' (2022) 25 *Journal of International Economic Law* 91.

Trade rules	Scope of trade rules	Constraints to taxation instruments			
		CIT	VAT	DST	CDET
Trade rules on services	**WTO: GATS[85] FTA**	Only if violates MFN, and NT/MA commitments as per the schedule	Only if violates MFN, and NT/MA commitments as per the schedule	Legal ability/position of a country to impose a DST linked to scheduled commitments	If ETs include content and services
Trade rules on electronic transmissions	**WTO: moratorium FTA**	No apparent constraints	No apparent constraints	Depends on the design of DST	Bans CDET
Digital trade rules	**JSI FTA**	Cross-cutting effects Cross-border free flow of data constrains ability of governments to track where data is being processed and monetised. Data localisation increases the ability of tax authorities to review the data in case of any audit or requirement and serves as a policy instrument for indirect taxation. Ban on source code sharing constrains ability of governments to assess the value of commercial activities in their respective jurisdictions.			

Figure 3. A framework on trade rules and taxation of the digital economy.
Source: Authors' illustration.

standard balance sheets and would traditionally not be taxed.[81] Furthermore, the value of the data may not be intrinsically linked to the value of the business; it is what the company does with the data that makes it valuable. The *commercialization* of user data, therefore, needs to be taxed.[82]

However, a group of countries, including the EU, believes that value creation based on user data allows businesses to collect a large amount of data and contributes to network effects, which justifies taxation in the country where the users are located. As posited by the European Commission, '[v]alue creation in the digital economy is a combination of algorithms, user data, sales functions and knowledge'.[83] This is best exemplified in the case of the lawsuit by the US Federal Trade Commission against Amazon's 'Project Nessie' for using a secret algorithm from 2015 to 2019 that illegally inflated the prices offered by other online stores and resulted in $1 billion of excess profits for Amazon.[84] To effectively implement tax measures and assess the value of commercial activities, tax authorities must have the ability to access firms' data and data-based business models, source codes and the algorithms use to mine and utilize the data. Globally binding rules that restrict source-code sharing can, therefore, undermine taxation of the digital economy and are also premature as developing countries are still formulating their domestic regulatory frameworks on artificial intelligence.

Summary framework on trade rules and taxation of the digital economy

Based on the above discussion, we present a summary framework in Fig. 3 on how trade rules can encroach on the ability of governments to tax the digital economy.

[81] Marko Köthenbürger, *Taxation of Digital Platforms*, EconPol Working Paper (Leibniz Institute for Economic Research, University of Munich, Munich 2020) s 1.

[82] John Karangwa, Naomi Alexander and Joy Ndumbai, *Taxing Rwanda's Digital Economy: A Reflection Paper* (Rwanda Revenue Authority/International Centre for Tax and Development, Kigali and Brighton 2021) 16.

[83] European Commission, 'Questions and Answers on a Fair and Efficient Tax System in the EU for the Digital Single Market' (21 March 2018) <https://ec.europa.eu/commission/presscorner/detail/en/memo_18_2141> accessed 21 October 2021.

[84] Diane Bartz and others, 'Amazon Made $1 Billion through Secret Price Raising Algorithm -US FTC' (*Reuters*, 2 November 2023) s Legal <https://www.reuters.com/legal/new-details-ftc-antitrust-lawsuit-against-amazon-made-public-2023-11-02/> accessed 5 March 2024.

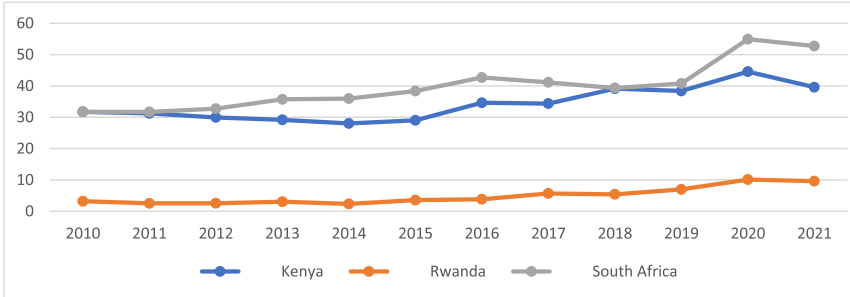

Figure 4. DDS imports, as a per cent of total services trade.
Source: Authors, constructed from UNCTADstat. Note: See Footnote 11 for definition of DDS.

Our framework shows that trade rules have the capacity to impact the ability to tax the digital economy in at least three broad ways, ie through: (i) a direct effect on the legal ability of governments to tax the digital economy due to commitments in trade agreements; (ii) an indirect effect via changes to business structure and taxation rights through data localization rules; and (iii) administrative effects on data collection and capacity to monitor and implement measures through digital trade rules. The framework is illustrative and not exhaustive; there could be other rules, for example, on trade in goods and de-minimis tariff-free importation, which may affect the taxation of the digital economy. However, these are beyond the scope of our study, which deals primarily with digital trade.

ILLUSTRATIVE CASE-STUDIES FROM AFRICA

In this section, we apply the framework to Kenya, South Africa, and Rwanda. All three countries are signatories of the AfCFTA DTP, with Kenya signatory to the stabilized JSI text, and Kenya and South Africa both part of the OECD BEPS Two-Pillar Solution statement. Figure 4 shows how DDS imports have evolved in these economies.

Kenya

Kenya has not taken commitments on NT and market access in 'Computer and Computer-related services' (CRS) under GATS (Appendix 1). Therefore, GATS has limited effects on Kenya's ability to tax its digital economy. As per the Finance Act of 2023, Kenya charges a VAT rate of 16 per cent on B2C sales via digital marketplaces and websites, including digital advertising services, as well as on telecommunications services, including calls and Internet data.[85] Both domestic and imported digital services are subject to VAT. If the VAT rate is applied to imports of all DDSs, our estimates suggest that Kenya could generate US$125 million in revenue (Table 1), approximately 3.5 per cent of its total VAT revenue.[86]

With no market access and NT commitments on CRS, GATS cannot constrain Kenya's regulatory scope to impose a DST. Under the Finance Act of 2020, Kenya introduced a DST of 1.5 per cent, applicable to income derived from Internet-based or electronic businesses, including those conducted through digital marketplaces.[87] Effective 1 July 2021, the DST excluded non-residents with a permanent establishment in the country. Kenya has, however, taken on

[85] Republic of Kenya, 'The Finance Act, 2023' (2023) para 35.
[86] Authors' calculations are based on exchange rate data from Google, and revenue data from the Kenya Revenue Authority (KRA)'s Annual Revenue Performance Report for 2017/18.
[87] Republic of Kenya, 'The Finance Act, 2020' (2023) s 4.

Table 1. Revenue generation under the VAT system.

	Imports of DDS via Mode 1 (online), 2017	VAT rate	Potential revenue (USD mil.) through full-scale implementation
Kenya	781.96	16%	125
Rwanda	65.59	18%	11
South Africa	4764.59	15%	714

Source: Authors.
Note: Estimates calculated using TisMOS data and the PWC global tax summary for 2017 (the latest year that reports modes of supply). These estimates represent an upper threshold of gains from VAT since the classification of digital services subject to VAT differs across Kenya, Rwanda, and South Africa. We have adopted the harmonized and broad definition of DDS by UNCTAD.

commitments under GATS on audio-visual services for the supply of motion picture production and projection services, as well as commitments on communication services (Appendix 1). Therefore, Kenya's commitments on audio-visual services and communication services under GATS potentially limit the country's ability to impose a DST on these services. This could explain why Kenya's DST covers a broad range of services but excludes communication services and digital advertising.[88]

Kenya is engaged in bilateral talks with the USA and concluded the opening round of negotiations on the Science, Technology, and Innovation Partnership (STIP) in 2023, addressing digital trade among other aspects.[89] During these negotiations, the USA opposed the imposition of Kenya's 1.5 per cent DST, considering its laws discriminatory against American companies operating in Kenya. In response, Kenya announced plans in March of 2023 to adopt the OECD/G20 Two-Pillar approach,[90] signalling a repeal of the DST if it comes into force. Kenya's net gains from the OECD approach are estimated to be US$5.6 million,[91] but it will forgo approximately US$1–1.6 million from the removal of the DST.[92] It has been reported that Kenya's initial failure to adopt the OECD/G20 approach was a stumbling block in the ongoing US–Kenya STIP negotiations, and that this is why Kenya changed course.[93] The Tax Laws (Amendment) Bill of 2024 further cements Kenya's move away from DST to Significant Economic Presence tax.[94]

As a WTO member, Kenya observes the moratorium on CDET. Even if the general moratorium expires in 2026, Kenya is signatory to the stabilized e-commerce JSI text, which places a permanent moratorium on custom duties among Parties, with an initial 5-year review period and subsequent periodic reviews.[95] Kenya is also a signatory to the AfCFTA; as per the recent draft of the AfCFTA DTP, Kenya cannot impose CDET originating from other State Parties (Article 6). The AfCFTA DTP's Annex on Rules of Origin can ensure that liberalization commitments

[88] These excluded services are instead subject to VAT, with digital advertising further subject to a withholding tax. Deloitte, 'Digital Services Tax in Africa – The Journey so Far' (6 August 2020) <https://www.deloitte.com/za/en/services/tax/analysis/digital-services-tax-in-africa-the-journey-so-far.html> accessed 5 December 2020.

[89] USTR, 'United States and Kenya Conclude Opening Round Under the U.S.-Kenya Strategic Trade and Investment Partnership' (*United States Trade Representative*, 10 February 2023) <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2023/february/united-states-and-kenya-conclude-opening-round-under-us-kenya-strategic-trade-and-investment> accessed 12 August 2023.

[90] Orbitax, 'Kenya Shifts to Adoption of Two-Pillar Solution; Mulls More Investor-Friendly Measure' (2023) <https://orbitax.com//news/archive.php/Kenya-Shifts-to-Adoption-of-Tw-52400> accessed 5 January 2024.

[91] Mona Barake and Elvin Le Pouhaër, 'Tax Revenue from Pillar One Amount A: Country-by-Country Estimates' Halshs-04039288 (*HAL Open Science*, 2023) 14.

[92] Kane Borders and others, 'Digital Service Taxes' Halshs-04174657 (*HAL Open Science*, 2023); Dominic Omondi, 'New Digital Tax Mechanism Promises Kenya Windfall' (*Business Daily*, 2 April 2023) <https://www.businessdailyafrica.com/bd/economy/new-digital-tax-mechanism-promises-kenya-windfall—4182284> accessed 10 May 2023.

[93] Kepha Muiruri, 'President Ruto Drops Digital Services Tax against Multinationals' (*Business Daily*, 30 March 2023) <https://www.businessdailyafrica.com/bd/economy/ruto-drops-digital-service-tax-against-multinationals—4179322> accessed 10 May 2023.

[94] Ernst & Young, 'Kenya Enacts Changes under the Tax Laws (Amendment) Act, 2024 and Other Legislation' (14 January 2025) <https://globaltaxnews.ey.com> accessed 15 January 2025.

[95] Art 11.3. Joint Statement on Electronic Commerce (n 68).

are only applicable to enterprises owned by Africans, and digital platforms and content from Africa,[96] allowing Kenya and other State Parties to impose CDET on third parties. However, the US–Kenya FTA negotiating text seeks to secure commitments from Kenya against imposing customs duties on digital products.[97]

At the international level, Kenya is a signatory to the e-commerce JSI. On this basis, Kenya could be pushed in the future for signing more ambitious plurilateral digital trade agreements with free cross-border data flows, prohibition of data localization, and bans on source code sharing. As a signatory to the AfCFTA DTP at the continental level, Article 20 requires Kenya to allow free cross-border flow of data, including personal data, electronically for digital trade activities conducted by entities from other African Member States.[98] Kenya also cannot mandate the use or location of computing facilities within its territories as a condition for engaging in digital trade with another Member State.[99] Further, as per Article 24 of the AfCFTA DTP, Kenya cannot require access to source code or to an algorithm expressed in the source code as a condition of digital trade with another Member State.

However, under the AfCFTA DTP, Kenya appears to be free to impose restrictions on cross-border data flows and data localization under certain conditions; (i) when non-State parties are involved;[100] (ii) when data are not related to digital trade activities, such as cross-border data transfers related to social media content;[101] and (iii) when necessary to accomplish 'legitimate public policy goals' or safeguard national security interests. The provision on source-code, for example, does not preclude a regulatory body, such as a tax authority, of a State Party from requiring access to source code for specific investigations or when required for legitimate and legal public interest reasons.[102]

If concluded, the US–Kenya STIP is likely to contain provisions on digital trade, which are part of the negotiating agenda. At present, Kenya's existing domestic laws and regulations follow a *conditional* approach to the transfer of personal data outside Kenya. For certain purposes, particular types of personal data must be processed through a server and data centre located in Kenya *or* at least one serving copy of the concerned personal data must be stored in a data centre located in Kenya.[103] In 2021, the Office of the Data Commissioner issued draft regulations proposing that data processed for 'actualising a public good' shall be processed in a server and data centre based in Kenya, including data on public revenue administration. For the enforcement of a DST, the KRA could require access to data on Internet protocol and billing addresses registered in Kenya to non-residents.[104] Such data localization could potentially enhance revenue collection in Kenya but has emerged as a key issue in the US–Kenya bilateral FTA negotiations. US firms, relying on a combination of the DTP and the STIP, may use Kenya as a regional hub to reach other digital markets on the continent unimpeded, which would have significant tax implications for the other AfCFTA State Parties.

[96] Art 5 AfCFTA DTP.

[97] USTR, *Summary of Specific Negotiating Objectives for the Initiation of United States-Kenya Negotiations* (Office of the United States Trade Representative May 2020) 6.

[98] This is subject to the Annex on Cross-Border Data Transfers (Art 20:1).

[99] Art 22 AfCFTA DTP.

[100] Franziska Sucker and Alexander Beyleveld, 'African Rules on Cross-Border Data Flows: The Significance of Regulatory Convergence and the AfCFTA Digital Trade Protocol's Potential Contribution' in M Hennemann (ed), *Under Review for Global Data Law III: Comparative Data Law* (Springer 28 February 2024) 11.

[101] John Stuart, 'The AfCFTA Digital Trade Protocol – Clarification of Key Issues – Tralac Trade Law Centre' (*Trade Law Centre* (blog), 25 February 2024) 2 <https://www.tralac.org/blog/article/16325-the-afcfta-digital-trade-protocol-clarification-of-key-issues.html> accessed 25 February 2024.

[102] Art 24 AfCFTA DTP.

[103] KDPA Regulations 2021, regulation 26(1)(a) and (b).

[104] Malcolm Kijirah and Elaine Wangari Thuo, *Data Protection and Data Localisation in Kenya: Potential Economic Impact and Effect on Kenya's Commitments in Various Regional Treaty Frameworks*, Policy Brief (University of the Witwatersrand, Mandela Institute 2021) 9.

Rwanda

Rwanda has no market access or NT commitments on computer-related services, audio-visual services, or telecommunication services under the GATS (Appendix 1), and therefore GATS cannot constrain Rwanda's ability to tax the digital economy through VAT, CIT, or DSTs. Rwanda is neither involved in the OECD/G20 Two-Pillar Solution nor has a DST in place but introduced a VAT rate of 18 per cent in 2023, adding 'online suppliers'[105] into the ambit of taxation. There are no thresholds on VAT, indicating that all digital businesses, regardless of their annual turnovers, in which transactions are performed via an online marketplace, are liable to pay VAT. As per our estimates, Rwanda stands to gain around $11 million per year if VAT was to be applied to all DDS imports (Table 1), which would account to approximately 2.2 per cent of VAT revenues collected in 2017.[106]

The potential tariff revenue lost (using applied duties) by Rwanda from the WTO moratorium on ET between the period 2017 and 2020 was approximately $45 million.[107] By charging custom duties on ET, Rwanda could generate an additional $14 million in revenue annually,[108] which amounts to around 12 per cent of total import duties collected in 2020.[109] A joint paper by the Rwanda Revenue Authority (RRA) and the ICTD references the Africa Group's position at the WTO opposing the moratorium and other proposed rules, seeking to 'preserve their right to regulate e-commerce' and calling for 'a thorough examination of the opportunities and risks associated with digital transformation and e-commerce'.[110] Since Rwanda is not part of the e-commerce JSI but is part of the AfCFTA DTP, the potential expiry of the WTO moratorium in 2026 means policy space for Rwanda to apply custom duties on ET originating from non-AfCFTA signatories.

Apart from the AfCFTA DTP, which focuses on intra-African digital trade, Rwanda has not signed any other FTAs that include digital trade rules. As per the 2017 Data Revolution Policy, Rwanda follows a 'data sovereignty' approach; it has exclusive sovereignty over national data, but such data can be hosted on the cloud or in a collocated environment in data centres within or outside the country, under agreed terms. In 2021, Rwanda adopted a general Law relating to Protection of Personal Data and Privacy (Rwanda DPL), with Articles 48–50 regulating the conditions under which personal data may be transferred outside of Rwanda, including obtaining consent from the data subject, entering a written contract with third-party hosting the data, and storage of personal data within Rwanda. Unless appropriately crafted exceptions are included in Rwanda's future FTAs, the provisions of the Rwanda DPL may be found to be inconsistent with digital trade provisions that ban data localization, which means that they may have to amend to bring them in line with Rwanda's international obligations. This is particularly noteworthy given that the RRA maintains that user data are the main income-generating asset for platform owners, although tax authorities remain blind to the contents of the data and to how the value is made.[111]

[105] Ernst & Young, 'Rwanda Gazettes New Law on Value Added Tax' (13 October 2023) <https://www.ey.com/en_gl/technical/tax-alerts/rwanda-gazettes-new-law-on-value-added-tax> accessed 28 October 2023.

[106] Authors' calculations are based on exchange rate data from Google, and revenue data from the OECD Revenue Statistics in Africa Report for 2020.

[107] Rashmi Banga, *WTO Moratorium on Customs Duties on Electronic Transmissions: How Much Tariff Revenue Have Developing Countries Lost?*, Research Paper (South Centre, Geneva 3 June 2022) 157.

[108] ibid 10.

[109] Authors' calculations are based on exchange rate data from Google, and revenue data from the OECD Revenue Statistics in Africa Report for 2022.

[110] Karangwa, Alexander and Ndumbai (n 82) 18.

[111] ibid 16.

South Africa

South Africa currently charges a 15 per cent VAT (to both B2B and B2C transactions) on the domestic consumption of electronic services, when the supply exceeds 1 million South African Rand in any consecutive 12-month period. If the VAT rate is applied to all DDS imports, our estimates suggest that South Africa could raise US$714 million (Table 1), approximately 3 per cent of total VAT revenue collected in 2017.[112] Like Kenya, it is involved in the OECD/G20's Two-Pillar Solution and therefore, until at least 1 January 2024, it could not impose a DST unless the Multilateral Convention is concluded.

Since 2020, the National Treasury has mentioned the possibility of establishing a DST in all its annual budget reviews.[113] Unlike Kenya and Rwanda, South Africa has taken market access and NT commitments on the online supply of CRS under GATS (Appendix 1) and is, therefore, constrained in its ability to tax the digital economy. CRS includes sub-sectors related to consultancy services related to the installation of computer hardware, software implementation services, data processing services, and database and maintenance services for ICT equipment. If South Africa were to impose a DST covering these services, it could violate its market access and NT obligations under GATS as it would likely affect MNEs more compared to domestic actors, constituting to *de facto* discrimination. However, South Africa could make use of certain exceptions for taxation purposes related to direct taxes on income or capital under GATS, making the categorization of digital taxes very important.

As a WTO member, South Africa observes the moratorium on CDET. However, in conjunction with India, South Africa has expressed concerns about the moratorium's revenue implications;[114] the lack of clarity on the scope and definition of electronic transmissions;[115] the technical feasibility of imposing CDET;[116] the impact on small firms[117]; and the growth of the domestic infant digital industry in developing countries.[118] The moratorium on CDET has resulted in an estimated tariff revenue loss of over $161 million for South Africa between 2017 and 2020.[119] Just in 2020, South Africa lost around US$44 million by not imposing customs duties on ET,[120] approximately 1.2 per cent of total customs revenue for the year 2020.[121] Contrary to Kenya, South Africa is not signatory to the e-commerce JSI. In fact, along with India and Namibia, it has vocalized its reservations about the legal status of the e-commerce JSI and its outcomes.[122] Therefore, with the potential expiry of the WTO moratorium in 2026, South Africa will gain policy space to apply custom duties on ETs from other countries. However, as a signatory to the AfCFTA, South Africa will not be able to apply CDET originating from Member States.

As discussed above, the AfCFTA DTP aims to liberalize intra-African digital trade. Given that South Africa is one of the largest economies in Africa, this may be to the benefit of its own firms. However, any benefits of this kind would have to be weighed against the possibility that other State Parties may negotiate FTAs with other larger economies outside of the continent that are

[112] Authors' calculations are based on exchange rate data from Google, and revenue data from the South Africa Revenue Service for 2017.

[113] Nils Deeg and Tania Pierotic, 'DPA Digital Digest: South Africa', Digital Policy Alert (*St. Gallen Endowment for Prosperity Through Trade* 2024) <https://digitalpolicyalert.org/digest/dpa-digital-digest-south-africa> accessed 20 December 2024.

[114] General Council, *Work Programme on Electronic Commerce the E-Commerce Moratorium* (n 57) para 2.2.

[115] ibid, para 1.2(a) and 1.3.

[116] ibid, para 2.12.

[117] ibid, para 2.1.

[118] ibid, para 2.6.

[119] Banga, *WTO Moratorium on Customs Duties on Electronic Transmissions* (n 107) 157.

[120] Banga, *Joint Statement Initiative on E-Commerce (JSI)* (n 67).

[121] Authors' calculations are based on exchange rate data from Google, and revenue data from the South Africa Revenue Service for 2020.

[122] General Council, *The Legal Status of "Joint Statement Initiatives" and Their Negotiated Outcomes*, WT/GC/W/819/Rev.1 (World Trade Organization 30 April 2021) paras 3, 4, and 5.

deleterious to South Africa's ability to tax the digital economy, as the US–Kenya STIP negotiations referred above make abundantly clear. Outside of the recent adoption of the AfCFTA DTP, South Africa is currently not party to any other FTA with digital trade provisions and, therefore, faces no apparent additional constraints on its ability to tax the digital economy through existing agreements.

The country maintains sectoral data localization policies, mandating that tax data must be kept within South Africa and cannot be transferred outside the country without prior approval from a senior SARS official.[123] The Protection of Personal Information Act of 2013 (POPIA), under Section 72, specifies conditions which, if satisfied, allow for personal information to be transferred out of South Africa. These conditions include obtaining the consent of the data subject or ensuring that the jurisdiction to which the data are being transferred provides an adequate level of data protection.[124] Such a jurisdiction must also ensure an adequate level of protection in relation to further cross-border transfers to other jurisdictions cannot find pages.[125] However, Section 72 does not cover situations where SARS or another government entity requires access to personal data for tax assessments. In March 2024, South Africa adopted the National Policy on Data and Cloud, in which Article 15.4.2 states 'Government data that incorporates content pertaining to the protection and preservation of national security and sovereignty of the Republic shall be stored only in digital infrastructure located within the borders of South Africa.'[126]

Generally, South Africa seems to be in support of free and open-source software use as well as technology transfer for economic development, especially in relation to science and technology. The Department of Public Service and Administration mandates the disclosure of source code for government projects, aligning with a broader support for technology transfer outlined in the Department of Science and Technology's White Paper in 2019.[127]

CONCLUSION

Our article demonstrated that trade rules affect the taxation of the digital economy, highlighting the need to breakdown silos in negotiations on the taxation of the digital economy and digital trade. Firstly, there is a direct effect of trade rules on the regulatory scope of a country to tax its digital economy. Rules on trade in services can constrain the ability of a country to adopt a DST, as well as the design of the DST, through the NT and market access obligations, for example, on CRS, under GATS at the WTO. Since GATS applies when a WTO member commits to specific sectors and modes of supply, the legality of DSTs hinges on case-specific evaluations, considering trade agreements, classification nuances of digital services, and the scope of GATS commitments. Beyond GATS, commitments in bilateral or regional digital trade agreements may further constrain the ability of African countries to tax the digital economy. Whether a DST breaches commitments will ultimately depend on the design of the tax and the specific drafting of non-discrimination provisions in the services and digital trade chapters, as well as the nature of general exceptions, particularly those on tax.[128]

[123] Art 4.2. South African Revenue Service, 'Electronic Form of Record Keeping in Terms of Section 30 (1) (b) of the Tax Administration Act, 2011 (Act No. 28 of 2011)' (Pretoria, 1 October 2012).

[124] POPIA, s 72(b) and POPIA, s 72(a)(i).

[125] POPIA, s 72(a)(ii).

[126] Republic of South Africa, *National Policy on Data and Cloud* (Department of Communications and Digital Technologies, Pretoria 31 May 2024) 27.

[127] Rutendo Tavengerwei, Valary Mumbo and Beatriz Kira, *What to Consider Ahead of the AfCFTA Phase II Negotiations: Focus on Digital Trade Policy Issues in Four Sub-Saharan African Countries*, Paper Series, Digital Pathways at Oxford (University of Oxford, Oxford, UK January 2022) 22.

[128] Emily Jones and others, *The UK and Digital Trade: Which Way Forward*, BSG Working Paper Series (Blavatnik School of Government, Oxford 2021) 48.

There is also a direct effect of trade rules on the revenue-generating potential of countries in the digital economy. The WTO moratorium and the e-commerce JSI constrain developing countries from levying custom duties on ET. Given that developing countries generally tend to be net importers of ET, they should preserve policy space for charging custom duties on ET. This will become increasingly important as the digital economy evolves, with more physical goods expected to be transmitted digitally in the future.

Secondly, there is an indirect effect of digital trade rules on business structures and taxation rights through policies on storage and flow of data. Data localization policies can be used as an indirect taxation instrument for countries, like South Africa, who have taken commitments on CRS under GATS but have yet to sign any bilateral FTAs with digital provisions. Asking foreign firms to set up servers within the country could establish a taxable local presence. Thirdly, there is an administrative effect of digital trade rules across all taxation instruments. Rules on free cross-border data flows, bans on data localizations, and bans on source-code sharing can curtail the ability of tax authorities to collect data and other pertinent information, thereby reducing their capacity to monitor and implement tax measures aimed at the digital economy.

Overall, our findings caution developing countries from entering binding trade rules, especially on digital trade, source codes and algorithms, without carefully considering their tax implications.[129] Countries could instead benefit from adopting a digital industrial policy,[130] which aligns the trade, tax, and digital policies to foster economic development. While there are certain exceptions for taxation purposes related to direct taxes on income or capital under GATS, these exceptions may not apply to DSTs conflicting with MFN and NT disciplines, leading to limitations, inconsistencies, and legal uncertainties.[131] Future FTAs could learn from the Digital Economy Partnership Agreement, which explicitly and categorically exempts taxes and taxation measures while preserving rights and obligations under tax conventions.

Much work needs to be done in this area going forward, particularly given the significant lack of definitional and conceptual clarity in this area. Defining 'taxes' and 'taxation measures' emerge as a critical aspect in assessing constraints on taxing the digital economy within trade agreements. Moreover, the interaction of tax and trade rules is a complex area with definitional challenges and potential policy trade-offs, such as double taxation, which needs further exploration. Further, countries may need to adopt a balanced approach and carefully consider the broader development implications of digital trade rules. Such an evaluation of the trade-offs makes for an interesting topic for future research.

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CONFLICT OF INTEREST STATEMENT

The authors have no competing interests to declare.

[129] Sol Picciotto, *The Contested Shaping of International Tax Rules: The Growth of Services and the Revival of Fractional Apportionment* (Institute of Development Studies, Brighton 2021) 21; Irene Musselli and Elisabeth Bürgi Bonanomi, 'Countering Commodity Trade Mispricing in Low-Income Countries: A Prescriptive Approach' (2022) 25 *Journal of International Economic Law* 450.

[130] Christopher Foster and Shamel Azmeh, 'Latecomer Economies and National Digital Policy: An Industrial Policy Perspective' (2020) 56 *The Journal of Development Studies* 1251.

[131] Kelsey and others (n 2) 4.

APPENDIX

Table A1. GATS commitments in digital relevant sectors.

Sector	Kenya (GATS)	Rwanda (GATS)	South Africa (GATS)
Business services			
Computer and related services			
Consultancy services related to the installation of computer hardware			X
Software implementation services			X
Data processing services			X
Database services			X
Other			X
Communication services			
Telecommunication services			
Voice telephone services	X		X
Packet-switched data transmission services	X		X
Circuit-switched data transmission services	X		X
Telex services	X		X
Telegraph services	X		
Facsimile services	X		X
Private leased circuit services	X		X
Electronic mail	X		X
Voice mail	X		X
Online information and database retrieval	X		X
Electronic data interchange	X		X
Enhanced/value-added facsimile services, incl. store and forward, store and retrieve	X		X
Code and protocol conversion	X		X
Online information and/or data processing (incl. transaction processing)	X		X
Other	X		X
Audio-visual services			
Motion picture and video tape production and distribution services	X		
Motion picture projection service	X		
Radio and television services			
Radio and television transmission services			
Sound recording			
Other			
Total	17		19

Source: WTO GATS commitments, available from https://www.wto.org/english/tratop_e/serv_e/serv_commitments_e.htm.

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