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The Digital Challenge to International Trade Law

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THE DIGITAL CHALLENGE TO INTERNATIONAL TRADE LAW

WENTONG ZHENG*

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The rise of the Internet and so-called digital trade has significantly transformed international trade. International trade law, however, has lagged behind in regulating the phenomenon. Decades-long negotiations at the World Trade Organization (WTO) over digital trade have largely stalled, while efforts to deal with the issue at the bilateral and regional levels have resulted in inconsistent and fragmented rules.

This article discusses the challenges posed by digital trade to international trade law and the best ways to meet those challenges. It contributes to the discourse on digital trade by advocating for a back-to-basics approach. It argues that instead of undertaking negotiations on controversial issues, the world trading community should focus on negotiating basic framework rules and applying widely accepted WTO legal principles to digital trade. This approach would best advance the WTO's digital trade agenda while preserving the legitimacy of its multilateral process.

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I. INTRODUCTION

The growth of the Internet has significantly transformed the modern economy.¹ The Internet contributes to higher productivities and lower trading costs in traditional industries.² More importantly, it provides a platform for a widening array of emerging industries, including cloud computing,³ the Internet of Things (IoT),⁴ big data,⁵ social media,⁶ and

1. See JAMES MANYIKA & CHARLES ROXBURGH, MCKINSEY GLOB. INST., *THE GREAT TRANSFORMER: THE IMPACT OF THE INTERNET ON ECONOMIC GROWTH AND PROSPERITY 1* (2011), https://www.mckinsey.com/~media/McKinsey/Industries/Technology%20Media%20and%20Telecommunications/High%20Tech/Our%20Insights/The%20great%20transformer/MGI_Impact_of_Internet_on_economic_growth.ashx (stating that “the Internet accounts for, on average, 3.4 percent of GDP across the large economies that make up 70 percent of global GDP”); *World Stats*, INTERNET WORLD STATS, <https://www.internetworldstats.com/stats.htm> (last visited Nov. 5, 2019) (estimating that there are roughly 4.5 billion global Internet users as of June 30, 2019, accounting for about fifty-nine percent of the world’s population).

2. According to one estimate, enhanced productivity and lower trading costs resulted in an increase of 3.4 to 4.8% in U.S. GDP. Digital Trade in the U.S. and Global Economies, Part 2, Inv. No. 332-540, USITC Pub. 4485, at 16 (Aug. 2014).

3. Cloud computing is “a way of providing [information technology] functions such as information storage, processing power and computer programmes as *services* over the internet, through the usage of external (often remote) servers”; some of the most common cloud services are e-mails, file-hosting services, and music and photo services. KOMMERSKOLLEGIUM [NATIONAL BOARD OF TRADE], *HOW BORDERLESS IS THE CLOUD?* 3 (2012).

4. See Stacy-Ann Elvy, *Contracting in the Age of the Internet of Things: Article 2 of the UCC and Beyond*, 44 HOFSTRA L. REV. 839, 840 (2016) (defining the IoT broadly as a network of connected devices that collect, store, communicate, and transmit information to each other and associated systems).

5. Big data refers to large and complex data sets that are “difficult to process using on-hand database management tools and traditional data processing applications.” Borko Furht & Flavio Villanustre, *Introduction to Big Data*, in *BIG DATA TECHNOLOGIES AND APPLICATIONS* 3, 3 (Borko Furht & Flavio Villanustre eds., 2016). Big data finds widespread applications in numerous industries, including media and entertainment, healthcare, life science, transportation, logistics, retails, utilities, and telecommunications. Furht & Villanustre, *supra* at 9.

6. The use of social media has exploded in recent years. For example, as of 2013, nine in ten Americans ages thirteen to seventeen used Facebook, making it the most popular social media site. *Social Media Explosion: Do Social Networking Sites Threaten Privacy Rights?*, 23 CQ RESEARCHER 81, 85 (2013).

app-based sharing services.⁷

Aside from its impact on the general economy, the Internet has revolutioned trade, especially trade across national borders. Firms increasingly use the Internet to facilitate sale transactions for goods or services that still need to be delivered physically.⁸ Certain goods or services that used to be delivered physically are now being delivered via the Internet, obviating the need for the physical movement of goods or service providers.⁹ The Internet has also transformed the production process, with digital data, instead of unfinished parts or products, moving across national borders.¹⁰ Finally, digital technologies have created demands for trade in digital goods or services that did not exist prior to the Internet.¹¹ In accordance with convention, this article defines all these forms of trade in which digital data plays a dominant role as *digital trade*.¹²

The rise of digital trade has elevated the importance of digital data to today's economy. According to one estimate, total cross-border data flow increased eighteen-fold from 2005 to

7. Smartphone-based apps such as Uber and Airbnb have spawned the "sharing economy," where providers and consumers of services are connected through Internet-based devices across the globe. See ARUN SUNDARARAJAN, *THE SHARING ECONOMY: THE END OF EMPLOYMENT AND THE RISE OF CROWD-BASED CAPITALISM* 2–3 (2016).

8. According to one survey, in 2012, firms in certain digitally intensive industries in the United States conducted \$638.8 billion worth of sales transactions for goods or services that are delivered physically or in person. Digital Trade in the U.S. and Global Economies, Part 2, *supra* note 2, at 39.

9. Examples of such goods or services include books and audio-visual products, which are increasingly delivered digitally. In 2012, about one-third of the online sales by firms in certain digitally intensive industries in the United States consisted of goods or services delivered over the internet. *Id.*

10. See *ClearCorrect Operating, LLC, v. Int'l Trade Comm'n*, 810 F.3d 1283, 1287 (Fed. Cir. 2015) (addressing a dispute in which the defendant transmitted digital models of patients' tooth positions from its subsidiary in Pakistan to the United States to manufacture tooth aligners).

11. An example of these new goods and services can be found in the IoT industry, wherein companies sell internet-enabled devices to consumers and routinely offer ongoing services to them. See Elvy, *supra* note 4, at 840–41, 845, 847 (describing examples of internet-enabled products that provide ongoing services).

12. The U.S. International Trade Commission defines digital trade as "U.S. domestic commerce and international trade in which the Internet and Internet-based technologies play a particularly significant role in ordering, producing, or delivering products and services." Digital Trade in the U.S. and Global Economies, Part 2, *supra* note 2, at 29.

2012.¹³ In 2014, data flows accounted for U.S. \$2.8 trillion of global GDP.¹⁴ Data is now considered to have replaced oil as “the world’s most valuable resource,”¹⁵ and has become “the lifeblood of the global information economy.”¹⁶

While digital trade has had a tremendous impact on international trade, international trade law has not been able to keep up with the emerging technology. The primary body of law governing international trade—the law of the World Trade Organization (WTO)—is still moored in a pre-digital setup that is becoming increasingly irrelevant to the digital economy.¹⁷ Since 1998, members of the WTO have been engaged in negotiations on digital trade (or “electronic commerce,” to use the official parlance) under the auspices of the Work Programme on Electronic Commerce (Work Programme).¹⁸ But the Work Programme has been bogged down by ideological and policy differences among WTO members over a number of issues, particularly the way in which certain digital products should be incorporated into the existing WTO legal framework.¹⁹ In January 2019, seventy-six WTO members, including all of the major trading nations and regions—the United States, the European Union, Japan, and China—

13. JAMES MANYIKA ET AL., MCKINSEY GLOB. INST., *GLOBAL FLOWS IN A DIGITAL AGE 1* (2014), <https://www.mckinsey.com/~media/mckinsey/featured%20insights/Globalization/Global%20flows%20in%20a%20digital%20age/MGI%20Global%20flows%20in%20a%20digital%20age%20Executive%20summary.ashx>.

14. JAMES MANYIKA ET AL., MCKINSEY GLOB. INST., *DIGITAL GLOBALIZATION: THE NEW ERA OF GLOBAL FLOWS 10* (2016), <https://www.mckinsey.com/~media/McKinsey/Business%20Functions/McKinsey%20Digital/Our%20Insights/Digital%20globalization%20The%20new%20era%20of%20global%20flows/MGI-Digital-globalization-Full-report.ashx>.

15. *The World’s Most Valuable Resource Is No Longer Oil, But Data*, *ECONOMIST* (May 6, 2017), <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data>.

16. William J. Drake, World Econ. Forum, *Background Paper for the Workshop on Data Localization and Barriers to Transborder Data Flows 2* (Sept. 14–15, 2016).

17. See *infra* Part I (discussing the challenges of adapting the WTO regime to digital trade).

18. See *infra* pp. 16–17.

19. See generally General Council, *Work Programme on Electronic Commerce*, WTO Doc. WT/L/274 (adopted Sept. 25, 1998) [hereinafter *Work Programme*] (allowing for ideological and policy differences to impact specific issues that are to be “examined”).

agreed to restart negotiations on a new framework for digital trade.²⁰ After two decades, the world trading community has made no meaningful progress on a legal framework for digital trade and is in desperate need of new ideas.

This article takes stock of the challenges that digital trade poses to international trade law and offers potential solutions to those challenges. The article proceeds in four parts. Part I discusses the difficulties, both conceptually and practically, with applying existing international trade law to digital trade. Part II reviews the current approaches to digital trade, including the WTO's kicking-the-can-down-the-road approach and the patchwork approach reflected in bilateral and regional free-trade agreements. Part III analyzes the world trading community's options in the ongoing digital trade negotiations and explains why now is not a good time for ambitious action on the issue. Part IV advocates for a back-to-basics approach to digital trade. It argues that instead of undertaking far-reaching negotiations on controversial issues, the world trading community should focus on negotiating basic framework rules and applying widely accepted, existing WTO legal principles to digital trade. This consensus-building approach would best advance the multilateral agenda on digital trade.

II. THE LEGAL CHALLENGES OF DIGITAL TRADE

Digital trade poses a number of challenges to the law that is supposed to regulate it. Such challenges can be grouped into two categories: conceptual and practical. Before proceeding, a discussion of these challenges is in order.

A. *Conceptual Challenges*

Digital trade creates a significant issue for international trade law in that it does not fit easily within the conceptual categories of the latter. International trade law, which consists primarily of the law of the WTO, operates within mutually ex-

20. Leika Kihara, *Nearly Half WTO Members Agree to Talks on New E-Commerce Rules*, REUTERS, Jan. 25, 2019, <https://www.reuters.com/article/davos-meeting-e-commerce/davos-nearly-half-wto-members-agree-to-talks-on-new-e-commerce-rules-idUSL3N1ZP329>.

clusive categories of “goods” and “services.”²¹ Under WTO law, trade in goods is governed by the General Agreement on Tariffs and Trade (GATT),²² which was updated in 1994 under Annex 1A to the umbrella Agreement Establishing the World Trade Organization (WTO Agreement) as one of the “Multilateral Agreements on Trade in Goods.”²³ By contrast, trade in services is governed by the General Agreement on Trade in Services (GATS),²⁴ which is the only agreement under a separate annex to the WTO Agreement.²⁵ The classification of a certain item as a good or service directly affects which WTO agreement applies and what legal protections are available.²⁶

But what exactly is it that distinguishes goods from services for WTO legal purposes? WTO law gives no helpful answers to this question. Although the distinction between goods and services is essential under WTO law, the relevant WTO agreements offer no definitions of the two terms. The GATT, while being categorized as an agreement on trade in goods, does not even use the term *goods* at all.²⁷ Instead, it uses the more neutral sounding term “product.”²⁸ Similarly, the GATS offers no definitions of the term “services,” other than stating, circularly, that “‘services’ includes any service in any sector ex-

21. Nivedita Sen, *Understanding the Role of the WTO in International Data Flows: Taking the Liberalization or the Regulatory Autonomy Path?*, 21 J. INT’L ECON. L. 323, 327 (2018).

22. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61. Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT].

23. Multilateral Agreements on Trade in Goods, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 187.

24. General Agreement on Trade in Services, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1B, 1869 U.N.T.S. 183 [hereinafter GATS].

25. For illustration of this, see generally Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, 1867 U.N.T.S. 154.

26. A goods classification would trigger all of the legal protections afforded by the GATT, while a service classification would only trigger legal protections for services for which member states have made specific commitments under the GATS. Stewart A. Baker et al., *E-Products and the WTO*, 35 INT’L LAW. 5, 7 (2001); Sam Fleuter, *The Role of Digital Products Under the WTO: A New Framework for GATT and GATS Classification*, 17 CHI. J. INT’L L. 153, 156 & n.9 (2016);.

27. For evidence of this, see generally GATT, *supra* note 22.

28. *See, e.g., id.* art. I:1 (“With respect to . . . any advantage, favour, privilege or immunity granted by any contracting party to any *product* originating in or destined for any other country”) (emphasis added).

cept services supplied in the exercise of governmental authority.”²⁹

The lack of formal definitions notwithstanding, common usage does provide some basic understandings of what are goods and what are services for WTO legal purposes. One distinction often applied is that goods are tangible while services are not.³⁰ In one dispute settlement proceeding, *Canada—Certain Measures Concerning Periodicals*, the WTO Appellate Body partially endorsed this distinction by holding that an excise tax by Canada on split-run editions of periodicals containing advertisements primarily directed at the Canadian market was not subject to the GATS because the editorial and advertising contents of the periodicals “combine to form a physical product—the periodical itself.”³¹

There are no easy ways, however, to fit digital products³² on the goods-services dichotomy on the basis of tangibility. On one hand, digital products are not tangible in the way traditional goods are. But on the other hand, the creation, transmission, and storage of digital products all require physical media or devices.³³ Digital products, therefore, are less tangible than traditional goods, but more tangible than traditional services. Further militating against a one-size-fits-all service classification for digital products is the fact that some digital products have physical counterparts—e.g., digital music, movies, and software that are or can be delivered on physical media, such as CDs. For these so-called “e-products,”³⁴ an illogical outcome would result if they were classified as services when

29. GATS, *supra* note 24, art. I:3(b).

30. See Baker et al., *supra* note 26, at 9 (discussing differing frameworks that both acknowledge that goods are tangible while services are not). This distinction is implicitly adopted by Article 2 of the Uniform Commercial Code, which defines goods as “all things . . . moveable.” U.C.C. § 2-105(1) (AM. LAW INST. & UNIF. LAW COMM’N 2002).

31. Appellate Body Report, *Canada—Certain Measures Concerning Periodicals*, at 17, WTO Doc. WT/DS31/AB/R (adopted July 30, 1997).

32. To avoid prejudgment, this article uses the neutral term *digital products* to refer to digital items that could be classified as either digital goods or digital services.

33. See Sen, *supra* note 21, at 326 (describing the transmission of data across borders and associated restrictions).

34. See Baker et al., *supra* note 26, at 6 (defining e-products as “content-based products that formerly were delivered in tangible form but now can be delivered in electronic form via Internet download”).

their physical counterparts are classified as goods, as the two, in all likelihood, are “like products.”³⁵

The complexities surrounding digital products’ tangibility call for a more nuanced approach to their classification. For one, the WTO’s “Harmonized Commodity Description and Coding System” allows WTO member countries to classify electricity—which resembles digital products in form, or lack thereof—as an “intangible good.”³⁶ But consensus has been hard to reach for the classification of digital products, as is evident in the debates between the United States and the European Communities at the WTO on the proper classification of e-products.³⁷

If tangibility does not set goods apart from services, what does? Economist Peter Hill proposes an alternative “entity” theory for the goods-services distinction.³⁸ According to Hill, “[t]he essential characteristics of a good are that it is an entity

35. In determining whether products are “like,” WTO law requires consideration of the following factors: (i) physical properties of the products; (ii) the extent to which the products are capable of serving the same or similar end-uses; (iii) the extent to which the consumers perceive and treat the products as alternative means of performing particular functions in order to satisfy a particular want or demand; and (iv) the international classification of the products for tariff purposes. Appellate Body Report, *European Communities—Measures Affecting Asbestos and Asbestos-Containing Products*, ¶ 101, WTO Doc. WT/DS135/AB/R (adopted Apr. 5, 2001).

36. Sacha Wunsch-Vincent, Outstanding WTO Issues and Deliverables with Respect to the Electronic Cross-Border Trade of Digital Products 21 n.67, 23 (Oct. 19, 2002) (unpublished manuscript), <https://www.alexandria.unisg.ch/16160/1/WTO-DigProd.pdf>. The European Communities had insisted that electricity should be classified as a good for WTO law purposes. Wunsch-Vincent, *supra* at 20.

37. At the WTO Work Programme, the United States argued that a distinction should be made between the transmission of e-products, which is a service, and the e-products themselves, which are goods. Submission by the United States, *Work Programme on Electronic Commerce*, at 5, WTO Doc. WT/GC/16 (Feb. 12, 1999) [hereinafter *Work Programme Submission by the United States*]. The European Communities, however, argued that e-products should be classified as services. Communication from the European Communities and their Member States, *Preparation for the 1999 Ministerial Conference—WTO Work Programme on Electronic Commerce*, WTO Doc. WT/GC/W/306, ¶ 1 (Aug. 9, 1999).

38. See generally Peter Hill, *Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output*, 32 CAN. J. ECON. 426 (1999) (discussing the proposed distinction between goods and services based on their respective statuses as entities and their relationship to producers).

over which ownership rights may be established and from which its owner(s) derives some economic benefit.”³⁹ Specifically, “[a] good is an entity that exists independently of its owner and preserves its identity through time.”⁴⁰ These entities do not have to be tangible; there are intangible entities “originally produced as outputs by persons, or enterprises, engaged in creative or innovative activities of a literary, scientific, engineering, artistic or entertainment nature.”⁴¹ By contrast, “a service is not an entity that can exist independently of its producer or consumer.”⁴² Under this classification scheme, some digital products like e-products would be considered intangible goods, although the classification of many other digital products would remain unclear.⁴³

B. *Practical Challenges*

Besides posing challenges to the goods-services distinction, digital trade also creates practical difficulties for the application of international trade law. The two primary practical difficulties are the inadequacy of the GATS in dealing with trade in digitally delivered services, and the lack of specific legal provisions on various barriers to digital trade.

1. *GATS*

A major practical challenge that digital trade poses is that the WTO’s foundational agreement governing trade in services—the GATS—is ill equipped to deal with digitally delivered services. As Joshua Meltzer points out, “WTO rules were largely designed for a world where international trade was in

39. *Id.* at 437.

40. *Id.*

41. *Id.* at 438.

42. *Id.* at 441.

43. For example, it is not clear how videos on demand would be classified under Hill’s scheme. On one hand, the digital files of such videos are intangible entities that are capable of being owned, but on the other hand, the streaming of such videos is necessarily consumed in single use and cannot be stocked. Such products, therefore, have attributes of both goods and services as defined by Hill. *See* Baker et al., *supra* note 26, at 9 (“[E]-products that can be owned, including books, music, and video, constitute goods. Increasingly however, suppliers are offering e-products—such as the ability to watch video on demand—that look more like Hill’s services.”).

physical goods and services delivered in person.”⁴⁴ The failure of the Work Programme led to missed opportunities to adapt WTO rules, particularly the GATS, to services delivered on the Internet.

The mismatch between the GATS and digitally delivered services is due, first and foremost, to the very structure of the GATS. Unlike the GATT, whose obligations apply to all goods, the market access and national treatment obligations under the GATS apply only to service sectors specified in a WTO member’s “Schedule of Commitments,” the document in which members undertake specific commitments.⁴⁵ The classification of service sectors under the GATS is mutually exclusive, meaning that a service can be classified only under one sector.⁴⁶ But many digitally delivered services are multifunctional in nature. Take WeChat, a popular Chinese smartphone app, for example. It is an integrated platform that provides many different kinds of services: social media, instant messaging, payments, online shopping, and so on.⁴⁷ Take Google for another example. It combines Internet search services for users with online advertising services for advertisers.⁴⁸ Under the current structure of the GATS, a digital platform like WeChat or Google cannot be simultaneously classified under computer and related services, telecommunications services,

44. JOSHUA MELTZER, *THE INTERNET, CROSS-BORDER DATA FLOWS AND INTERNATIONAL TRADE* 13 (Brookings Inst., Issues in Tech. Innovation Ser. No. 22, 2013), <https://www.brookings.edu/wp-content/uploads/2016/06/inter-net-data-and-trade-meltzer.pdf>.

45. GATS, *supra* note 24, arts. XVI:1, XVII:1.

46. Appellate Body Report, *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, ¶ 172, WTO Doc. WT/DS285/AB/R (adopted Apr. 20, 2005) [hereinafter *AB Report in US—Gambling*]. This is the case because otherwise, the market access and national treatment commitments for each of the multiple service sectors that a service would be classified under might conflict with one another. *AB Report in US—Gambling, supra* at 61 n.219.

47. Mohit Mittal, *WeChat—The One App That Rules Them All*, HARV. BUS. SCH. DIGITAL INITIATIVE, <https://digital.hbs.edu/innovation-disruption/wechat%E2%80%8A-%E2%80%8Athe-one-app-rules> (last visited Nov. 12, 2019).

48. Sen, *supra* note 21, at 334; *see also* Giacomo Luchetta, *Is the Google Platform a Two-Sided Market?* 10 J. COMPETITION L. & ECON. 185, 186 (2014) (“[Google] leveraged a new search algorithm that delivered much more accurate results, the famous PageRank system, and a new business model based on advertising.”).

and advertising services categories, under all of which they rightly belong.⁴⁹ Furthermore, under the GATS, the supply of services in each service sector is categorized into four different modes: cross-border supply of services (mode one), consumption of services abroad (mode two), commercial presence (mode three), and movement of natural persons (mode four).⁵⁰ The market access and national treatment commitments for each mode of supply are typically different.⁵¹ But when a web user consumes a digital service by accessing a server located in a foreign country, is the service being delivered by the foreign service provider across the border, therefore falling under mode one, or is the web user virtually traveling abroad to consume the service, making this a mode two supply of services? Questions like this have no straightforward answers, as the distinctions between the modes of supply are quite “artificial” for digitally delivered services.⁵² In sum, “[a]s neither the internet nor data flows are always a ‘sector’ or a mode of delivery, current GATS architecture represents a systemic problem.”⁵³

Given that it is necessary to choose only one service sector for a specific service, the task of classifying digitally delivered services is made more difficult by the outdated nature of the classification system that the GATS uses. The preferred classification system of the GATS—commonly referred to by its official WTO document number, W/120—closely tracks the U.N. Provisional Central Product Classification (CPC).⁵⁴ This classi-

49. Andrew D. Mitchell & Neha Mishra, *Data at the Docks: Modernizing International Trade Law for the Digital Economy*, 20 VAND. J. ENT. & TECH. L. 1073, 1090 (2018).

50. *Id.* at 1088.

51. See, e.g., Aaditya Mattoo & Sacha Wunsch, *Pre-empting Protectionism in Services: The WTO and Outsourcing* 15 (World Bank, Policy Research Working Paper Series, Paper No. 3237, 2004), <http://documents.worldbank.org/curated/en/742751468761428347/pdf/WPS3237.pdf> (explaining that GATS commitments tend to be “more liberal” for services under mode two than those under mode one).

52. Susannah Hodson, *Applying WTO and FTA Disciplines to Data Localization Measures*, WORLD TRADE REV. 1, 11 (2018), <https://doi.org/10.1017/S1474745618000277>.

53. Hosuk Lee-Makiyama, *Cross-Border Data Flows in the Post-Bali Agenda*, in BUILDING ON BALI: A WORK PROGRAMME FOR THE WTO 163, 164 (Simon J. Evenett & Alejandro Jara eds., 2013).

54. See *AB Report in US—Gambling*, *supra* note 46, ¶ 172 (“The right column [of document W/120] is entitled ‘CORRESPONDING CPC’ and sets

fication system has not been updated for almost three decades and “does not adequately represent business sectors of a digital economy.”⁵⁵ Particularly, the CPC-based W/120 classification system “do[es] not include categories for new online services industries such as web search engines, mobile applications and cloud computing.”⁵⁶ As a result, it is not easy to identify the most appropriate service sectors in the W/120 system for such Internet-based services. For instance, are video streaming services “audiovisuals” or value-added “telecommunications”? Are cloud-computing services “telecommunications” or “data base services”?⁵⁷ Or are these services new sectors and thus outside of the scope of W/120 altogether?⁵⁸ These are not just technical questions, but political ones, as nations naturally prefer classifications that are favorable to their industries. The European Union, for example, takes the position that most digital services should be classified as “audiovisuals,” but that is largely because the European Union does not have substantial commitments with respect to audiovisual services.⁵⁹ There is also a development divide on these classification issues: “[D]eveloping countries tend to argue that ser-

out, for nearly every subsector listed in the left-hand column, a CPC number to which that subsector corresponds. It is not disputed that the reference in W/120 to ‘CPC’ is a reference to the United Nations’ Provisional Central Product Classification.”).

Although WTO members are not required to use W/120 in their GATS schedules, the structure and language of a GATS schedule is presumed to follow the W/120 and CPC nomenclature. See Panel Report, *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, ¶¶ 482, 484, WTO Doc. WT/DS285/R (adopted Apr. 20, 2005) [hereinafter *Panel Report in US—Gambling*] (stating that the United States was entitled to not refer to the CPC in its schedule, but finding that the terms of the U.S. Schedule “should be read in light of W/120, including the CPC references”).

55. Mitchell & Mishra, *supra* note 49, at 1090.

56. MELTZER, *supra* note 44, at 15.

57. Sen, *supra* note 21, at 333.

58. See ROLF H. WEBER & MIRA BURRI, CLASSIFICATION OF SERVICES IN THE DIGITAL ECONOMY 47 (2012) (“If a service is not listed [in a GATS schedule], it is not subject to either market access or national treatment commitments”); see also Lee Tuthill & Martin Roy, *GATS Classification Issues for Information and Communication Technology Services*, in TRADE GOVERNANCE IN THE DIGITAL AGE 157, 167 (Mira Burri & Thomas Cottier eds., 2012) (noting that “computer services” no longer appears in the CPC Version 2, and instead are “scattered across different sub-sectors of business”).

59. Sen, *supra* note 21, at 333.

vices such as Facebook or Google are ‘new services’ and outside the scope of the W/120, while most developed countries argue to the contrary.”⁶⁰

2. *Barriers to Digital Trade*

Another practical challenge that digital trade poses is that there are no specific legal provisions in the WTO agreements on the various barriers to digital trade. Barriers to digital trade take many forms, including both tariff and non-tariff barriers. Tariff barriers are less of an issue, for now, as the WTO has imposed a series of moratoriums on customs duties on cross-border electronic transmissions amid uncertainties about how the multilateral tariff rules would apply to such digital trade.⁶¹ The practicality of such moratoriums, however, is “questionable,” as it is difficult to distinguish between cross-border and domestic data transmissions.⁶² Indeed, this moratorium has already been violated by at least one country: Indonesia, which is “reportedly moving forward with plans to impose duties on digital products such as digital music, e-books, and apps.”⁶³

The more pervasive barriers to digital trade are non-tariff in nature.⁶⁴ Arguably, the most significant non-tariff barriers to digital trade are the so-called data localization measures, which “specifically limit or prohibit the transfer of data across country borders.”⁶⁵ According to one estimate, the number of data localization measures worldwide ballooned from one in 1960 to eighty-four in 2016.⁶⁶ There are different types of data localization measures, depending on the nature of restrictions that they impose. Some measures require local storage of data, forcing businesses to establish local data centers.⁶⁷ Some other

60. Mitchell & Mishra, *supra* note 49, at 1091.

61. See *infra* notes 92–93 and accompanying text.

62. Lee-Makiyama, *supra* note 53, at 163.

63. AMBASSADOR ROBERT E. LIGHTHIZER, OFFICE OF U.S. TRADE REPRESENTATIVE, 2018 NATIONAL TRADE ESTIMATE REPORT ON FOREIGN TRADE BARRIERS 256 (2018) [NATIONAL TRADE ESTIMATE].

64. See Mitchell & Mishra, *supra* note 49, at 1091 (“The majority of restrictions on Internet-based services are not customs duties but regulatory measures affecting data flows into and out of the borders of the country . . .”).

65. Global Digital Trade 1: Market Opportunities and Key Foreign Trade Restrictions, Inv. No. 332-561, USITC Pub. 4716, at 277 (2014).

66. *Id.* at 414–15.

67. For example, Indonesia “requires providers of a ‘public service’ to establish local data centers and disaster recovery centers in Indonesia.” NA-

measures require both storage and processing of data to be done locally.⁶⁸ Yet other measures specifically limit the export of data.⁶⁹ These data localization measures dramatically alter the fundamental architecture of the Internet by forcing businesses to make data decisions based not on efficiency, but on territorial boundaries.⁷⁰

Besides data localization measures, other non-tariff barriers to digital trade also restrict free flow of commerce on the Internet. These measures, primarily focused on data protection and privacy, restrict digital trade through increased administrative and compliance costs. Notable examples of such measures include the E.U. General Data Protection Regulation (GDPR)⁷¹ and the Asian-Pacific Economic Cooperation (APEC) Privacy Framework.⁷²

Due to the relative newness of digital trade, existing WTO rules are not well equipped to deal with these emerging barriers to digital trade. The current WTO framework, as embodied in the 1994 Uruguay Round agreements, was negotiated prior to the digital boom that redefined the world economy.⁷³ It is not surprising, therefore, that there are often no specific legal

TIONAL TRADE ESTIMATE, *supra* note 63, at 254. Nigeria requires “all foreign and domestic businesses to store all data concerning Nigerian citizens in Nigeria.” NATIONAL TRADE ESTIMATE, *supra* note 63, at 345.

68. China’s newly enacted Cybersecurity Law and its implementing regulations “impose local data storage and processing requirements on companies in ‘critical information infrastructure sectors.’” *Id.* at 105. Russian law “requires any company collecting personal data of Russian citizens through automated or computerized means to store and process the data on Russian territory.” *Id.* at 400.

69. For example, Korea imposes restrictions on the export of cartographic and other location-based data. *Id.* at 301. Turkey also “limits transfers of personal data out of Turkey.” *Id.* at 458.

70. See Gordon M. Goldstein, *The End of the Internet?*, ATLANTIC (July 2014). <https://www.theatlantic.com/magazine/archive/2014/07/the-end-of-the-internet/372301> (warning that data localization may lead to a fragmentation of the Web, and as a result, “the era of a global Internet may be passing.”).

71. Regulation (EU) 2016/679, of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data and Repealing Directive 95/46/EC (General Data Protection Regulation), 2016 O.J. (L 119/1).

72. For an introduction to the APEC Privacy Framework, see generally ASIA-PAC. ECON. COOPERATION, PRIVACY FRAMEWORK (2005).

73. Sen, *supra* note 21, at 331.

provisions on point when it comes to challenging a particular digital trade barrier. For example, there are no provisions in any of the WTO agreements that specifically address data localization, a major issue in digital trade.⁷⁴ Without new WTO agreements on this issue, any legal solutions will have to come from new interpretations of the existing rules. This will create “significant ambiguity” in the event of a dispute.⁷⁵

III. CURRENT APPROACHES TO DIGITAL TRADE

While digital trade has grown in leaps and bounds in the last two decades, international trade law has lagged behind. Despite efforts at the WTO to tackle digital trade since 1998, controversies, delays, and non-decisions have marred the multilateral process. More progress has been made on digital trade through bilateral and regional free-trade agreements (FTAs), but reliance on FTAs has led to inconsistent and fragmented rules.

A. *The Kicking-the-Can-Down-the-Road Approach*

The world trading community has recognized the importance of digital trade since it emerged. Unfortunately, decades later, it still has not figured out a coherent solution to the puzzle of how digital trade fits into the international legal framework governing world trade.

Dating back to as far as the 1970s, efforts were underway to study the potential impact of cross-border data flow. A major player that spearheaded such efforts was the Organization for Economic Cooperation and Development (OECD), which, in 1974, coined the term “transborder data flow” and raised the question of whether it “constituted a problem sufficiently important in its implications for national sovereignty for governments to propose regulatory action.”⁷⁶ The OECD then formed the “Working Party on Transborder Data Flows” to study the potential effects of corporate transborder data flows on the sovereignty of nation-states.⁷⁷ In 1980, the OECD

74. Hodson, *supra* note 52, at 5.

75. *Id.*

76. Hans-Peter Gassman & G. Russell Pipe, *Synthesis Report, in* POLICY ISSUES IN DATA PROTECTION AND PRIVACY 12, 27 (Org. for Econ. Cooperation & Dev., Informatics Studies No. 10, 1976).

77. Drake, *supra* note 16, at 5.

adopted “Guidelines on the Protection of Privacy and Transborder Flows of Personal Data,” which set out principles governing the collection and use of personal data.⁷⁸ These early efforts by the OECD, however, focused not on international trade, but on data protection and personal privacy.

In the early 1980s, the OECD began to shift its attention to the broader economic, legal, and social impact of transborder data flows; however, the global business community and key countries such as the United States pushed back and opposed aggressive interventionist measures.⁷⁹ In the end, OECD’s efforts to regulate transborder data flows were largely thwarted, with the publication of a 1985 document whose only accomplishment was the enunciation of certain minimalist, nonbinding goals.⁸⁰

The establishment of the WTO in 1994 did little to address the emerging digital trade issue. Only in a very limited fashion do the WTO agreements specifically address digital trade. For instance, the WTO Understanding on Commitments in Financial Services provides that “[n]o Member shall take measures that prevent transfers of information or the processing of financial information, including transfers of data by electronic means.”⁸¹ In addition, the GATS Annex on Telecommunications requires WTO member countries to ensure that “services suppliers of any other Member may use public telecommunications transport networks and services for the movement of information within and across borders . . . and for access to information contained in data bases or otherwise stored in machine-readable form in the territory of any Member.”⁸² These rules, however, only apply to their respective sectors: financial services and telecommunications.

78. *Id.* at 6.

79. *Id.* at 6–8.

80. *Id.* at 8. This document listed goals that included: avoidance of “creation of unjustified barriers to international exchange of data,” “transparency in regulations and policies relating to . . . transborder data flows,” and commitments to “[c]onsider possible implications for other countries when dealing with . . . transborder data flows.” *Id.* at 8.

81. Understanding on Commitments in Financial Services, art. B(8), Apr. 15, 1994, Legal Instruments—Results of the Uruguay Round, App. 4, 33 I.L.M. 1125.

82. GATS, *supra* note 24, Annex on Telecommunications, art. 5(c). The only exception to this requirement is that “a Member may take such measures as are necessary to ensure the security and confidentiality of messages,

It was not until 1998 that the world trading community attempted to tackle digital trade in a systematic manner. In 1998, the WTO General Council established the Work Programme on Electronic Commerce (Work Programme), a comprehensive work program examining “all trade-related issues relating to global electronic commerce.”⁸³ The Work Programme takes a broad view of electronic commerce⁸⁴ and charges four WTO entities—the Council on Trade in Goods, the Council on Trade in Services, the Trade Related Intellectual Property Rights Council, and the Committee on Trade and Development—to “explore the relationship between existing WTO agreements and e-commerce.”⁸⁵

Despite a promising start, ideological and political differences among WTO members have prevented meaningful progress at the Work Programme.⁸⁶ So far, five dedicated discussions on electronic commerce have been held under the auspices of the General Council.⁸⁷ The topics discussed at the dedicated discussions were wide ranging, including classification of e-products; fiscal implications of electronic commerce; the relationship between electronic commerce and traditional commerce; customs duties on electronic commerce; competition; jurisdiction; and applicable laws in electronic commerce.⁸⁸ Negotiations on the classification of e-products, however, deadlocked these five dedicated discussions.⁸⁹ Because of the diametrically opposed positions of the proponents of a

subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on trade in services.” GATS, *supra* note 24, Annex on Telecommunications, art. 5(d).

83. *Work Programme*, *supra* note 19, ¶ 1.1.

84. *See id.* at ¶ 1.3 (defining electronic commerce as “the production, distribution, marketing, sale or delivery of goods and services by electronic means”).

85. *MC11 in Brief: Electronic Commerce*, WORLD TRADE ORG., https://www.wto.org/english/thewto_e/minist_e/mc11_e/briefing_notes_e/bfecom_e.htm (last visited Nov. 14, 2019).

86. Mitchell & Mishra, *supra* note 49, at 1077–78.

87. *Electronic Commerce Work Continues on Issues Needing Clarification*, WORLD TRADE ORG., https://www.wto.org/english/thewto_e/minist_e/min03_e/brief_e/brief15_e.htm (last visited Nov. 14, 2019).

88. *Id.*

89. SACHA WUNSCH-VINCENT, *THE WTO, THE INTERNET AND TRADE IN DIGITAL PRODUCTS* 173 (2006). For background on e-products, see *supra* notes 34–35 and accompanying text.

GATT-like treatment of e-products and those favoring a GATS classification, there was “a clear gap in perceptions about exactly how the classification issue could be resolved.”⁹⁰ The impasse on classification negatively affected not only the Work Programme, but also market access negotiations in the Doha Development Agenda.⁹¹

To date, the only concrete outcome of the Work Programme was the postponement of a final decision on a key issue: customs duties on electronic transmissions. Amid controversies surrounding the classification of digital products, the WTO imposed a temporary moratorium on customs duties on electronic transmissions at the second WTO Ministerial Conference in Geneva in 1998.⁹² This moratorium was extended at every subsequent WTO ministerial conference, except one in Seattle in 1999.⁹³ It appears that the WTO is

90. Secretariat, *Fifth Dedicated Discussion on Electronic Commerce Under the Auspices of the General Council on 16 May and 11 July 2003*, at 9, WTO Doc. WT/GC/W/509 (July 31, 2003).

91. WUNSCH-VINCENT, *supra* note 89, at 173. Because of the uncertainty surrounding the classification of e-products, WTO member countries had to negotiate market access for both goods and services. WUNSCH-VINCENT, *supra* note 89, at 174.

92. *See* World Trade Organization, Declaration on Global Electronic Commerce of 20 May 1998, WTO Doc. WT/MIN(98)/DEC/2, *WTO Documents Online*, WORLD TRADE ORG., https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=4814,34856,20308&CurrentCatalogueIdIndex=1&FullTextHash= (last visited Nov. 13, 2019) (“[W]e also declare that Members will continue their current practice of not imposing customs duties on electronic transmissions.”).

93. For these extensions, see World Trade Organization, Ministerial Decision of 13 December 2017—Work Programme on Electronic Commerce, WTO Doc. WT/MIN(17)/65, *WTO Documents Online*, WORLD TRADE ORG., <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=Q:/WT/MIN17/65.pdf> (last visited Nov. 13, 2019); World Trade Organization, Ministerial Decision of 19 December 2015—Work Programme on Electronic Commerce, WTO Doc. WT/MIN(15)/42, *WTO Documents Online*, WORLD TRADE ORG., <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=Q:/WT/MIN15/42.pdf> (last visited Nov. 13, 2019); World Trade Organization, Ministerial Decision of 7 December 2013—Work Programme on Electronic Commerce, WTO Doc. WT/MIN(13)/32, *WTO Documents Online*, WORLD TRADE ORG., https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=225903,121378,44070,76446&CurrentCatalogueIdIndex=1&FullTextHash= (last visited Nov. 13, 2019); World Trade Organization, Decision of 17 December 2011—Work Programme on Electronic Commerce, WTO Doc. WT/L/843, *WTO Documents Online*, WORLD TRADE ORG., https://docs.wto.org/dol2fe/Pages/FE_Search

poised to continue kicking the can down the road on this issue.

B. *The Patchwork Approach*

While the WTO has failed to come up with a coherent set of rules on digital trade, specific countries have addressed digital trade through FTAs. This approach, however, has produced only patchwork results with no systemic benefits. As described below, the solutions that these FTAs offer are often contradictory with one another and with WTO rules, creating serious risks that digital trade will be fragmented, not facilitated.

A major driving force behind the efforts to use FTAs to expand digital trade was the United States, which, in the early 2000s, pursued a number of bilateral and regional FTAs out of concern that it was losing out in the FTA race.⁹⁴ A central goal of the United States in negotiating those FTAs was to “conclude trade agreements that anticipate and prevent the creation of new trade barriers that may surface in the digital trade environment.”⁹⁵ The U.S. digital trade agenda at the time included free trade in e-products and liberalization of services that could be delivered across borders electronically.⁹⁶ In the

/FE_S_S009-DP.aspx?language=CatalogueIdList=225903,121378,44070,76446&CurrentCatalogueIdIndex=2&FullTextHash= (last visited Nov. 13, 2019); World Trade Organization, Decision of 2 December 2009—Work Programme on Electronic Commerce, WTO Doc. WT/L/782, *WTO Documents Online*, WORLD TRADE ORG., https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=225903,121378,44070,76446&CurrentCatalogueIdIndex=3&FullTextHash= (last visited Nov. 13, 2019); World Trade Organization, Ministerial Declaration of 18 December 2005—Doha Work Programme, ¶ 46, WTO Doc. WT/MIN(05)/DEC, *WTO Documents Online*, WORLD TRADE ORG., https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=70196&CurrentCatalogueIdIndex=0&FullTextSearch= (last visited Nov. 13, 2019); World Trade Organization, Ministerial Declaration of 14 November 2001, ¶ 34, WTO Doc. WT/MIN(01)/DEC/1, 41 I.L.M. 746 (2002).

94. Sacha Wunsch-Vincent, *The Digital Trade Agenda of the U.S.: Parallel Tracks of Bilateral, Regional and Multilateral Liberalization*, 58 *AUSSENWIRTSCHAFT* [SWISS REV. INT’L ECON. RELATIONS] 7, 7–8 (2003).

95. *Id.* at 8.

96. *Id.* at 8–9.

end, U.S. efforts culminated in the entry into force of several FTAs that had a dedicated chapter on electronic commerce.⁹⁷

Besides the United States, other countries that have played important roles in tackling digital trade through FTAs include Australia, Japan, Singapore, and the member states of the European Union.⁹⁸ Over time, the inclusion of electronic commerce provisions in FTAs has become commonplace.⁹⁹ As of May 2017, there are seventy-five FTAs that contain explicit electronic commerce provisions.¹⁰⁰ Electronic commerce provisions are found not only in FTAs entered into by developed countries, but also in FTAs by and among developing countries.¹⁰¹ Electronic commerce provisions are also included in several high profile FTAs that were recently completed or proposed, including the renegotiated North American Free Trade Agreement,¹⁰² the renegotiated U.S.-Korea FTA,¹⁰³ the

97. These FTAs include the U.S.-Chile FTA, the U.S.-Singapore FTA, and the U.S.-Australia FTA. MARK WU, RTA EXCH., DIGITAL TRADE-RELATED PROVISIONS IN REGIONAL TRADE AGREEMENTS: EXISTING MODELS AND LESSONS FOR THE MULTILATERAL TRADE SYSTEM 6 (2017), <http://e15initiative.org/wp-content/uploads/2015/09/RTA-Exchange-Digital-Trade-Mark-Wu-Final-2.pdf>.

98. Mitchell & Mishra, *supra* note 49, at 1078. The very first FTA with a dedicated electronic commerce chapter was the Australia-Singapore FTA, which entered into force in 2003. WU, *supra* note 97, at 6.

99. For major electronic commerce provisions in FTAs, see Lior Herman, *Multilateralising Regionalism: The Case of E-Commerce* 12 tbl. 3 (Org. for Econ. Cooperation & Dev. Trade Policy Papers, Paper No. 99, 2009), <http://dx.doi.org/10.1787/5kmbjx6gw69x-en>.

100. José-Antonio Monteiro & Robert Teh, *Provisions on Electronic Commerce in Regional Trade Agreements* 4 (World Trade Org. Working Paper No. ERSD-2017-11, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3005148.

101. Fifteen countries classified as lower-income countries by the World Bank and thirteen countries classified as upper-middle-income countries have signed on to FTAs with electronic commerce provisions; additionally, several countries in Latin America have included electronic commerce provisions in FTAs. WU, *supra* note 97, at 7–8.

102. Agreement Between the United States of America, the United Mexican States, and Canada, ch. 19, Nov. 30, 2018, <https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement/agreement-between>.

103. The United States-Korea Free Trade Agreement, S. Kor.-U.S., ch. 15, June 30, 2007, <https://ustr.gov/trade-agreements/free-trade-agreements/korus-fta/final-text>.

Trans-Pacific Partnership,¹⁰⁴ the Trade in Services Agreement,¹⁰⁵ and the Regional Comprehensive Economic Partnership.¹⁰⁶

The push for digital trade through FTAs, however, comes at a price: The digital trade provisions of the various FTAs differ in terms of coverage and requirements, creating a fragmented legal landscape for digital trade. Some FTAs take a barebone approach to digital trade, and go no further than prohibiting customs duties on electronic transactions and expressing a willingness to cooperate among regulatory authorities.¹⁰⁷ Some other FTAs, however, contain “deep integration” or “WTO plus” provisions that extend existing WTO rules to new trade areas or expand commitments in areas already covered by WTO agreements.¹⁰⁸ Variations exist among the FTAs of different countries due to different ideologies and policy preferences.¹⁰⁹ Particularly, FTAs initiated by the United States and Japan tend to be more liberalizing than those adopted by the European Union, and FTAs signed by China “tend to avoid complex regulatory issues such as cross-border data flows.”¹¹⁰ Variations also exist among the FTAs that the same countries adopt over time. The early FTAs that the United States signed, for example, “achieved minimal and geographically limited harmonization” and were “incapable of addressing the key digital trade challenges and of ensuring free digital flows globally.”¹¹¹ By contrast, the more recent FTAs that the United States negotiated have included a broader and deeper range of issues, such as data localization and cross-border data flows.¹¹²

104. Trans-Pacific Partnership, ch. 14, Feb. 4, 2016, <https://ustr.gov/trade-agreements/free-trade-agreements/trans-pacific-partnership/tpp-full-text>.

105. The negotiations of the Trade in Services Agreement demonstrate that demands for digital trade provisions have become common. Mitchell & Mishra, *supra* note 49, at 1078.

106. *Id.*

107. WU, *supra* note 97, at 6.

108. Herman, *supra* note 99, at 10.

109. Mitchell & Mishra, *supra* note 49, at 1086.

110. *Id.* at 1086–87.

111. Mira Burri, *Designing Future-Oriented Multilateral Rules for Digital Trade*, in RESEARCH HANDBOOK ON TRADE IN SERVICES 331, 347 (Pierre Sauvé & Martin Roy eds., 2016).

112. WU, *supra* note 97, at 8.

Regulating digital trade through bilateral or regional FTAs might, at least initially, be a “second-best option” given the divides that exist at the multilateral level.¹¹³ In new and controversial areas such as digital trade, FTAs can serve as “experimental laboratories,” providing “guidance and direction for the ways through which rule-making and liberalisation commitments can take place multilaterally.”¹¹⁴ Indeed, in many areas concerning digital trade, a de facto “convergence” of rules is emerging through FTAs.¹¹⁵

It is also obvious, however, that FTAs alone are not an adequate answer to the challenges for the global trade community in regards to digital trade. The patchwork fixes that the FTAs provide have to be supplemented by broader international solutions. Otherwise, “in the long run, the global framework for digital trade may become fragmented, thereby disrupting the seamless nature of a digital economy.”¹¹⁶ To the extent that multilateralization cannot be accomplished through the bottom-up process led by FTAs, there have to be efforts at the global level to nudge international trade law in the more uniform, coherent direction. The important question is what efforts will provide the best nudge given the political and institutional constraints under which international trade law operates.

IV. OPTIONS MOVING FORWARD

In recent years, there has been renewed interest in reviving stalled multilateral negotiations at the WTO. Following the conclusion of the five dedicated discussions on electronic com-

113. Herman, *supra* note 99, at 4.

114. *Id.* at 6. For instance, high-level principles proposed by the OECD and the APEC have informed several FTAs such as the Japan-Mongolia Economic Partnership Agreement, the Trans-Pacific Partnership Agreement, and the European Union-Korea FTA. Mitchell & Mishra, *supra* note 49, at 1108.

115. Herman, *supra* note 99, at 4. There are “surprisingly” many provisions that are common to a large number of FTAs; such common provisions address issues such as the definition of digital products, moratorium on customs duties on digital transmissions, a “voiding unnecessary regulatory barriers” to electronic commerce, and cooperation in electronic commerce and related areas. Herman, *supra* note 99, at 14–16.

116. Mitchell & Mishra, *supra* note 49, at 1107.

merce under the auspices of the WTO General Council,¹¹⁷ discussions on electronic commerce continued throughout 2016 and 2017 in the four WTO bodies charged with carrying out the Work Programme.¹¹⁸ Since mid-2016, twenty-five submissions have been made to the General Council and relevant WTO bodies.¹¹⁹ WTO member countries submitted “more focused” position papers in preparation for the 2017 WTO Ministerial Conference.¹²⁰

Those submissions on electronic commerce addressed a wide range of issues and featured vastly different approaches. Some submissions proposed to revisit the classification issue, the very issue that bogged down the agenda of the Work Programme.¹²¹ Some other submissions took a more pragmatic approach, and advocated for the elimination of customs duties for all digital products regardless of how they are classified.¹²² Yet other submissions raised doubts about whether the moratorium on customs duties on electronic transmissions should be renewed.¹²³ The United States and Japan, in keeping with their long-standing policy preferences on digital trade, pro-

117. See *supra* note 87 and accompanying text.

118. *MC11 in Brief: Electronic Commerce*, *supra* note 85.

119. *Id.*

120. *Id.*

121. See, e.g., Communication from the Russian Federation, *Work Programme on Electronic Commerce—Ways to Move Forward*, ¶ 4.4, WTO Doc. JOB/GC/131 (July 13, 2017) (suggesting that the Working Group on Electronic Commerce should discuss “basic terminology relating to e-commerce . . . in order to reach a common understanding”).

122. See, e.g., Non-Paper from the United States, *Work Programme on Electronic Commerce*, ¶ 2.1, WTO Doc. JOB/GC/94 (July 4, 2016) [hereinafter Non-Paper from the United States] (suggesting prohibition of digital customs duties as an example of “positive contributions to a flourishing digital economy”).

123. A submission by a group of African nations states that “in view of the revenue implications of the current moratorium on customs duties . . . the renewal of the moratorium should not be seen as automatic.” Communication from the African Group, *Work Programme on Electronic Commerce—Draft Ministerial Decision on Electronic Commerce*, WTO Doc. JOB/GC/155 (Nov. 20, 2017). Similarly, India proposed to condition its acceptance of the moratorium on the prohibition of non-violation and situation complaints under the TRIPs. Communication from India, *Work Programme on Electronic Commerce—Draft Ministerial Decision on Electronic Commerce*, WTO Doc. JOB/GC/153 (Nov. 20, 2017).

posed stringent rules regarding cross-border data flows.¹²⁴ Some other countries and regions, including the European Union and Canada, argued that commitments on cross-border data flows should be subject to appropriate public policy exceptions.¹²⁵ Submissions from China highlighted the importance of helping small businesses and vulnerable groups to “better participate in and benefit from international trade and global value chains.”¹²⁶

Because of the divergent views and policy positions that WTO member countries held, efforts to overhaul the multilateral rules on digital trade suffered a setback at the 2017 WTO Ministerial Conference in Buenos Aires, where member countries failed to consolidate the proposals previously submitted on electronic commerce.¹²⁷ After the failure at Buenos Aires, a group of seventy-one WTO member countries launched an initiative to start “exploratory work together toward future WTO negotiations on trade-related aspects of electronic commerce.”¹²⁸ In January 2019, a group of seventy-six countries

124. The United States argued in its submission that “[c]ompanies and consumers must be able to move data as they see fit.” Non-Paper from the United States, *supra* note 122, ¶ 2.3. Japan in its submission contended that “[t]he free flow of digitally encoded information, which enables both consumers and suppliers to gain the maximum benefits of the digital environment, should be allowed across borders, when this activity is for the conduct of business.” Non-Paper for the Discussions on Electronic Commerce/Digital Trade from Japan, *Work Programme on Electronic Commerce*, at 2, WTO Doc. JOB/GC/100 (July 21, 2016).

125. See Communication from Canada, Chile, Colombia, Côte d’Ivoire, the European Union, the Republic of Korea, Mexico, Paraguay and Singapore (Revision), *Work Programme on Electronic Commerce—Trade Policy, the WTO, and the Digital Economy*, at 5, WTO Doc. JOB/GC/97/Rev.1 (July 22, 2016) (“Building on existing WTO obligations, commitment to ensure that cross-border data flows is permitted, subject to appropriate public policy exceptions.”).

126. Communication from China, *E-Commerce Elements for MC11*, ¶ 6.1, WTO Doc. JOB/GC/142 (Oct. 19, 2017).

127. Luc Cohen & David Lawder, *Some WTO Members to Push for E-Commerce Rules as Broader Deal Fails*, REUTERS, Dec. 13, 2017, <https://www.reuters.com/article/us-trade-wto-digital/some-wto-members-to-push-for-e-commerce-rules-as-broader-deal-fails-idUSKBN1E72YV>.

128. World Trade Organization, Joint Statement on Electronic Commerce on 13 December 2017, WTO Doc. WT/MIN(17)/60, *WTO Documents Online*, WORLD TRADE ORG., https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=240862,240867,240868,240870,240871,240899,240875,240874,240878,240877&CurrentCatalogueIdIndex=

and organizations, including the United States, the European Union, Japan, and China, agreed to start negotiating a new framework for electronic commerce.¹²⁹

So, two decades after the launch of the Work Programme, the world trading community is again at a cross-roads on digital trade. While the broad agenda that the Work Programme called for has stalled, there is still some interest, as indicated by the recent push for new negotiations, in tackling digital trade at the multilateral level. The key question, though, is how to best advance the multilateral agenda on digital trade.

One potential way to channel the multilateral efforts on digital trade is to seize the renewed interest and use it to negotiate new, far-reaching multilateral rules. There have been plenty of calls from scholars and policymakers to do just that. For instance, Hosuk Lee-Makiyama argues that a new “horizontal discipline” should be developed for all trade-related aspects of data transfers, whether it relates to trade in goods or trade in services.¹³⁰ Andrew Mitchell and Neha Mishra advocate for a new WTO agreement on digital trade that adopts a “clear, technologically neutral definition of digital products,” makes the moratorium on customs duties on electronic transmissions permanent, and recognizes all aspects of digital trade.¹³¹ Ziyang Fan, the World Economic Forum’s head of digital trade, also calls for WTO member countries to agree on a new set of global electronic commerce guidelines.¹³²

However, given the circumstances under which the world trading system is currently operating, it is not realistic, and perhaps not worthwhile, for WTO member countries to expend precious institutional resources to negotiate new multilateral rules on highly controversial issues in digital trade. This conclusion stems primarily from mounting challenges that are already facing the WTO. As elaborated below, in the face of these challenges, attempts to enact sweeping rules on digital

4&FullTextHash=371857150&HasEnglishRecord=True&HasFrenchRecord=CT (last visited Nov. 13, 2019).

129. Kihara, *supra* note 20.

130. Lee-Makiyama, *supra* note 53, at 165.

131. Mitchell & Mishra, *supra* note 49, at 1127.

132. Karen Gilchrist, *WTO Risks Lagging Behind the Fast-Moving Digital Economy*, *World Economic Forum Official Says*, CNBC (Dec. 4, 2018), <https://www.cnbc.com/2018/11/29/wto-failed-on-lack-of-rules-for-global-e-commerce-digital-trade.html>.

trade are unlikely to yield meaningful results, and could further divide the already fractured world trading community.

First, it is worth noting that this is a particularly perilous time for the international trading system. The consensus on the importance and value of free trade, which was the foundation for the GATT and the WTO, appears to be unraveling. This unraveling was already underway during the WTO's Doha Development Round, which was aimed at lowering trade barriers, addressing unresolved issues from previous negotiating rounds, and enabling developing countries to share in the benefits of free trade.¹³³ Despite its lofty goals, the Doha Round turned out to be “the slowest development round of all times.”¹³⁴ Originally scheduled to conclude in 2005, the Doha Round negotiations “were paralyzed because neither developed economies like the United States and the European Union nor developing countries like China and India were willing or able to make fundamental concessions.”¹³⁵ After fourteen years of negotiations, trade ministers from more than one hundred and sixty WTO member countries failed to agree at the WTO's tenth Ministerial Conference in Nairobi, Kenya in December 2017 to continue the Doha Round negotiations, essentially declaring the end of the Doha Round.¹³⁶

Furthermore, recent attacks by the United States—a major pillar of the world trading system—on the WTO's dispute settlement mechanism have weakened the WTO's ability to enforce existing trade rules. Historically, the United States was a major player in international trade, and “dominated the negotiations leading to the WTO's establishment.”¹³⁷ Along with the European Union, the United States was “in the best posi-

133. Editorial, *Global Trade After the Failure of the Doha Round*, N.Y. Times (Jan. 1, 2016), <https://www.nytimes.com/2016/01/01/opinion/global-trade-after-the-failure-of-the-doha-round.html>.

134. ANNA E. RICHTER, DOHA DEVELOPMENT ROUND: WHY DID IT FAIL? 7 (2014).

135. *Global Trade After the Failure of the Doha Round*, *supra* note 133.

136. *Id.* Interestingly, the WTO's official statement on the outcomes of the Nairobi ministerial conference emphasizes the “historic” package the conference secured for Africa and the world. *WTO Members Secure “Historic” Nairobi Package for Africa and the World*, WORLD TRADE ORG., (Dec. 19, 2015), https://www.wto.org/english/news_e/news15_e/mc10_19dec15_e.htm.

137. Gregory Shaffer, *A Tragedy in the Making? The Decline of Law and the Return of Power in International Trade Relations*, 44 YALE J. INT'L L. ONLINE 1, 3 (2019).

tion to shape WTO jurisprudence” due to its “vast legal resources.”¹³⁸ However, as it began to lose important WTO cases involving trade remedy measures,¹³⁹ the United States became increasingly frustrated by the alleged “overreach” of the WTO Appellate Body.¹⁴⁰ Specifically, the United States was concerned that “the Appellate Body deviated from the treaty text to create its own standards.”¹⁴¹ This “growing habit of creating its own rules,” according to the United States, “would usurp the exclusive role of the sovereign states that had created the WTO to decide what obligations would apply among themselves.”¹⁴²

The United States has chosen to express its frustration with the Appellate Body by disrupting the process for selecting Appellate Body members. Under the Bush and Obama administrations, the United States twice refused to renominate an Appellate Body member from the United States and replaced each with a new member.¹⁴³ The United States then blocked the appointment of a member from Kenya and the reappointment of a member from Korea.¹⁴⁴ The Trump administration

138. *Id.* at 3.

139. For example, in 2000, the United States lost a high-stakes dispute in the *US—FSC* case, where the Appellate Body “rejected the US argument that the 1981 Understanding of the GATT Council—an understanding that paved the way for the FSC tax—constituted an authoritative interpretation of subsidy obligations under Article XVI:4 of the GATT.” TETYANA PAYOSOVA ET AL., PETERSON INST. FOR INT’L ECON., *THE DISPUTE SETTLEMENT CRISIS IN THE WORLD TRADE ORGANIZATION* 4 (2018). Another major loss that the United States suffered at the WTO in recent years was the WTO’s rejection of its “zeroing” practice in a series of cases; between 1998 and early 2010, nearly twenty disputes involving zeroing were adjudicated at the WTO, and at least twenty-two separate WTO dispute settlement panel and Appellate Body decisions found the practice of zeroing to be inconsistent with the WTO Antidumping Agreement. Chad P. Bown & Thomas J. Prusa, *U.S. Antidumping: Much Ado About Zeroing* 25–26 (World Bank Policy Research Working Papers, Paper No. 5352), <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5352>.

140. PAYOSOVA ET AL., *supra* note 139, at 3.

141. Dispute Settlement Body, *Minutes of Meeting Held in the Centre William Rappard on 8 March 2002*, ¶ 35, WTO Doc. WT/DSB/M/121 (Apr. 3, 2002).

142. *Id.*

143. Shaffer, *supra* note 137, at 4.

144. *Id.* In selecting members of the Appellate Body, the WTO acts “by consensus.” Understanding on Rules and Procedures Governing the Settlement of Disputes art. 2(4), Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 U.N.T.S. 401 [hereinafter

has escalated the attacks on the Appellate Body by taking the unprecedented step of objecting to all motions to nominate or renew the term of Appellate Body members, potentially closing down the Appellate Body by December 2019.¹⁴⁵

Not only did the United States lead the charge against the Appellate Body, but it also took unilateral steps to impose tariffs on imports in clear circumvention of the multilateral dispute settlement process that the WTO rules envisioned. Notably, the Trump administration initiated a Section 301 investigation into China's alleged intellectual property abuses, triggering a tit-for-tat trade war with China.¹⁴⁶ The use of Section 301 by the United States was previously the subject of a WTO dispute settlement proceeding brought by the European Communities in 1998, and was found by a WTO dispute settlement panel to be consistent with WTO rules only because of promises from the United States that it would not take actions under Section 301 that were inconsistent with its WTO obligations.¹⁴⁷ This time around, when China challenged it before the WTO, the United States defended its Section 301 tariffs by claiming that "the tariffs fall outside the WTO's remit because they address trade issues that are not specifically covered under WTO rules."¹⁴⁸ This argument is curious at best, as the issue at the core of the Section 301 investigation—China's forced technology transfer—is indeed covered by China's WTO Accession Protocol¹⁴⁹ and is therefore challengeable

DSU]. Consensus is deemed to be present "if no Member, present at the meeting of the DSB when the decision is taken, formally objects to the proposed decision." DSU, *supra* art.2(4) n.1.

145. Rachel Brewster, *The Trump Administration and the Future of the WTO*, 44 YALE J. INT'L L. ONLINE 1, 3 (2018). As of October 1, 2018, only three members of the Appellate Body remained, and only one Appellate Body member will remain as of December 11, 2019. Shaffer, *supra* note 137, at 5.

146. Chad P. Bown et al., *Trump and China Formalize Tariffs on \$260 Billion of Imports and Look Ahead to Next Phase*, PETERSON INST. FOR INT'L ECON.: TRADE & INV. POL'Y WATCH (Sept. 20, 2018), <http://piie.com/blogs/trade-investment-policy-watch/trump-and-china-formalize-tariffs-260-billion-imports-and-look>.

147. Panel Report, *United States—Sections 301-310 of the Trade Act of 1974*, ¶ 8.1, WTO Doc. WT/DS152/R (adopted Jan. 27, 2000).

148. Bryce Baschuk, *Trump's China Tariffs Likely to Be Investigated by the WTO*, BLOOMBERG (Jan. 27, 2019), <https://www.bloomberg.com/news/articles/2019-01-27/trump-s-china-tariffs-likely-to-be-investigated-by-the-wto>.

149. See Ministerial Conference, *Decision of 10 November 2001: Accession of the People's Republic of China*, at 5, WTO Doc. WT/L/432 (Nov. 23, 2001)

before the WTO.¹⁵⁰ Using Section 301 in such circumstances arguably “represents a full-throated rejection of the WTO’s rule of law norms and a forceful return to the unilateralism that WTO structures were designed to prevent.”¹⁵¹ In addition, the Trump administration invoked national security as the justification for a series of tariffs on steel and aluminum imports, deviating from the restraint that WTO members, the United States included, had exercised on this issue throughout the WTO’s history.¹⁵² To make matters worse, the Trump administration’s tariffs prompted retaliatory tariffs on U.S. products, which were imposed without WTO authorization.¹⁵³

It is against this backdrop that calls for more multilateral negotiations on digital trade are being made. Referring to digital trade, WTO Director-General Roberto Azevedo once stated that “it was unacceptable that by 2018 . . . the WTO won’t have a deeper, more effective conversation about a phenomenon that is driving the global economy today.”¹⁵⁴ These calls, however, ignore a markedly changed reality compared to two decades ago when the Work Programme was first launched. As John Jackson has famously argued, the creation

(“Without prejudice to the relevant provisions of this Protocol, China shall ensure that . . . the right of . . . investment by national and sub-national authorities, is not conditioned on . . . performance requirements of any kind, such as . . . the transfer of technology . . .”).

150. The European Union indeed initiated a WTO dispute settlement proceeding against China’s forced technology transfer on June 1, 2018. Request for Consultations by the European Union, *China—Certain Measures on the Transfer of Technology*, WTO Doc. WT/DS549/1 (June 6, 2018).

151. Brewster, *supra* note 145, at 4–5.

152. *Id.* at 5.

153. Shaffer, *supra* note 137, at 6. Ironically, the United States has challenged the retaliatory tariffs imposed on U.S. products in response to its steel and aluminum tariffs before the WTO. For the U.S. complaints about the tariffs imposed by Canada, China, and the European Union, see Request for Consultations by the United States, *Canada—Additional Duties on Certain Products from the United States*, WTO Doc. WT/DS557/1 (July 19, 2018); Request for Consultations by the United States, *China—Additional Duties on Certain Products from the United States*, WTO Doc. WT/DS558/1 (July 19, 2018); Request for Consultations by the United States, *European Union—Additional Duties on Certain Products from the United States*, WTO Doc. WT/DS559/1 (July 19, 2018).

154. Leika Kihara, *China and U.S. Among 76 WTO Members Pushing for New E-Commerce Rules*, REUTERS, Jan. 25, 2019, <https://www.reuters.com/article/us-davos-meeting-ecommerce/china-and-u-s-among-76-wto-members-pushing-for-new-e-commerce-rules-idUSKCN1PJ0UK>.

of the WTO represented a transition from a “power-oriented” technique to a “rule-oriented” one in international economic relations.¹⁵⁵ This rule-oriented framework appears to be in serious jeopardy now. Amid the apparent return to power struggles in international economic relations, it may not be the best use of the world trading community’s resources to engage in difficult rulemaking on controversial digital trade issues. When the world’s major trading partners are locked in disputes that raise doubts about the long-term viability of the multilateral trading system, negotiations on more controversial rules for digital trade—or any controversial matters—are unlikely to yield meaningful results.¹⁵⁶ Furthermore, the differences in ideology and policy among the major nations are likely to be amplified in the negotiation process, and may cause further damage to the already fragile international trading system.

V. BACK TO BASICS

Given the challenges facing the WTO and the broader world trading community, this article contends that the best way to move forward on digital trade is to stay away from ambitious negotiations on controversial issues, and instead focus on negotiating basic framework rules and applying widely accepted WTO legal principles to digital trade. As discussed below, the goal of this approach is to seek the “greatest common divisor” among major trading nations, and to gradually build consensus towards a more comprehensive legal regime on digital trade.

155. JOHN H. JACKSON, *THE WORLD TRADING SYSTEM* 109–11 (2d ed. 1997).

156. It is likely that the new negotiations will lead to plurilateral agreements signed on by some, but not all, countries participating in the negotiations. See James Bacchus, *Was Buenos Aires the Beginning of the End or the End of the Beginning? The Future of the World Trade Organization*, CATO INST. (May 8, 2018), <https://www.cato.org/publications/policy-analysis/was-buenos-aires-beginning-end-or-end-beginning-future-world-trade> (noting that WTO members appear “ready to turn toward ‘plurilateral’ solutions on trade,” and describing these solutions as “agreements among some, but not yet all, WTO members”). Such an outcome, however, would hardly be an improvement over the current bilateral and regional FTAs. *But see* Bacchus, *supra* (suggesting that plurilateral agreements, which can be “gradually transform[ed] . . . into fully global agreements,” represent the “most promising path to multilateralism in the 21st century”).

International trade law is no stranger to the concept of using existing legal frameworks and principles to address new issues. This tendency can be seen in the WTO's treatment of the classification of digital products. As discussed earlier, whether digital products, particularly digitally delivered contents (i.e., e-products), should be classified as goods or services has been a challenging issue holding back the WTO's digital trade agenda.¹⁵⁷ In light of the difficulties with classifying digital products, some commentators have proposed abandoning the traditional dichotomy between goods and services and adopting a *sui generis* approach. For instance, Althaf Marsoof makes the case for treating software as neither goods nor services, but intellectual property products that are governed by the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.¹⁵⁸ Similarly, Hosuk Lee-Makiyama proposes that digital products be governed by an expanded Information Technology Agreement.¹⁵⁹ Proposals from WTO member countries reflect this *sui generis* approach.¹⁶⁰

Although the WTO has not arrived at a consensus on the classification issue, it has generally rejected this *sui generis* approach.¹⁶¹ The reason for this is not hard to understand. While it is obvious that the WTO's legal framework was not

157. See *supra* Part I(A) for discussion of the classification of e-products.

158. Althaf Marsoof, *A Case for Sui Generis Treatment of Software Under the WTO Regime*, 20 INT'L J. L. & INFO. TECH. 291, 306–07 (2012). Marsoof acknowledges, however, that the TRIPS Agreement does not contain market access disciplines, as it “[is] not seen as a forum for trade liberalization as in GATT and GATS.” Marsoof, *supra* at 307.

159. Hosuk Lee-Makiyama, *Future-Proofing World Trade in Technology: Turning the WTO IT Agreement (ITA) into the International Digital Economy Agreement (IDEA)* 7–10 (Eur. Ctr. for Int'l Political Econ. Working Paper No. 04/2011, 2011), https://www.wto.org/english/tratop_e/inftec_e/symp_may12_e/lee_makiyama_e.pdf.

160. See, e.g., Communication from Indonesia and Singapore, *Preparations for the 1999 Ministerial Conference—Work Programme on Electronic Commerce*, ¶ 14, WTO Doc. WT/GC/W/247 (July 9, 1999) [hereinafter Communication from Indonesia and Singapore] (proposing classification of certain digital products as intellectual property rights rather than goods or services).

161. See Baker et al., *supra* note 26, at 6 (citing Communication from Australia, *Work Programme on Electronic Commerce—Objectives for Treatment of Electronic Commerce*, at 2, WTO Doc. WT/GC/25 (July 5, 1999)) (“[I]t is generally agreed that in order to avoid the need to develop an entirely new trade regime, e-products should not be classified as something other than goods or services.”).

designed with digital trade in mind, discarding it altogether may not be the best way to address the digital trade issue. As Sam Fleuter argues, “considering the glacial pace of international negotiation and the amount of time spent developing the current regime of international trade law, it seems paradoxical to conclude that the best solution is for the WTO to write a whole new body of law.”¹⁶² Furthermore, the *sui generis* approach is unlikely to provide a long-term solution to an issue as ever-changing as digital trade. When the *sui generis* rules are once again outpaced by technology—which is inevitable given the fast-changing nature of technology—the old *sui generis* rules will have to be replaced by new *sui generis* rules to keep up with technological advancement.¹⁶³

Similarly, this article argues that efforts to advance digital trade at the multilateral level should focus on negotiating basic framework rules and applying widely accepted, existing rules to digital trade issues. This approach requires the world trading community to set aside certain issues, such as the classification of digital products and the moratorium on customs duties on digital transmissions, that are theoretically important but practically less so. It also requires WTO members to negotiate a new system for classifying services under the GATS and, less importantly, the market access and national treatment commitments that would go along with the new classification system. Finally, WTO members need to collectively agree on the best ways to apply basic WTO rules to significant non-tariff barriers to digital trade, such as data localization measures.

A. *The Classification of Digital Products*

Whether digital products should be classified as goods or services has been recognized as a “particularly contentious” issue.¹⁶⁴ Fortunately, the WTO can move forward on digital trade without solving the classification issue. Classification is not an issue for most digital products. For the one category of digital products for which classification is an issue—e-products—classification is the consequence, not the cause, of the

162. Fleuter, *supra* note 26, at 175.

163. *Id.*

164. MIRA BURRI, INT’L CTR. FOR TRADE & SUSTAINABLE DEV. & WORLD ECON. FORUM, SHOULD THERE BE NEW MULTILATERAL RULES FOR DIGITAL TRADE? 3 (2013).

real underlying problem. Instead of being distracted by the classification issue, the WTO should shift its resources to finding a negotiated solution to the underlying problem.

First, while the classification issue has been a focus of the WTO's digital trade agenda thus far,¹⁶⁵ classifying most digital products is relatively straightforward. There is a "broad consensus" that tangible goods ordered and paid for on the Internet should be treated as goods and subject to GATT rules.¹⁶⁶ Similarly, it is not controversial to classify services delivered on the Internet as services governed by the GATS, despite there being some disputes over which mode of supply under the GATS should apply.¹⁶⁷

The line between goods and services, however, starts to get blurred for certain new technologies. "Additive manufacturing" and 3D printing provide useful examples.¹⁶⁸ Additive manufacturing involves the transmission of an electronic file via the Internet to enable the manufacturing of a good at a remote location, sometimes across national borders.¹⁶⁹ The question arises whether the electronic file sent over the Internet should be treated as a good or a service. The answer to this question is less straightforward than in the cases of goods ordered online and services delivered electronically because "the transmission of data would substitute for the transportation of goods."¹⁷⁰ From the cross-border movement perspec-

165. See *infra* Part II(A) for discussion of how the classification issue stalled the progress of the Work Programme.

166. Baker et al., *supra* note 26, at 5–6.

167. *Id.*; see Fleuter, *supra* note 26, at 158 (noting that "there is little room for debate on the application of the GATT/GATS framework" to electronically delivered services or digital products delivered through the Internet). The WTO Council for Trade in Services noted that "[e]ven though it is clear that the delivery of services by electronic means may take place by any of the [listed] modes of delivery . . . , it is not always easy to specify whether a transaction takes place under mode 1 or mode 2." Council for Trade in Services, *Note by the Secretariat: The Work Programme on Electronic Commerce*, ¶ 7, WTO Doc. S/C/W/68 (Nov. 16, 1998) [hereinafter *Work Programme Note by the Secretariat*].

168. Additive manufacturing "operates by applying consecutive layers of a specific material onto a flat surface until those layers form a three-dimensional object." Fleuter, *supra* note 26, at 159.

169. *Id.* at 160.

170. RICHARD BALDWIN, *THE GREAT CONVERGENCE: INFORMATION TECHNOLOGY AND THE NEW GLOBALIZATION* 291 (2016).

tive, it is not entirely nonsensical to conceive digital data used in additive manufacturing as goods.¹⁷¹

In one landmark case, *ClearCorrect Operating v. International Trade Commission*, a U.S. court dealt with the question of whether digital models of dental aligners sent over the Internet from Pakistan to the United States were goods subject to import restrictions under U.S. domestic law.¹⁷² The U.S. domestic law at issue in the case, the Tariff Act of 1930, authorizes the U.S. International Trade Commission (USITC) to remedy only “[u]nfair methods of competition and unfair acts in the importation of articles.”¹⁷³ In the initial administrative agency proceeding, the USITC found that “the term ‘article’ was understood at the time of the enactment of the Tariff Act to carry the meaning of an identifiable unit, item or thing, with examples indicating that such articles may be traded in commerce or used by consumers.”¹⁷⁴ This definition, according to the USITC, included digital data.¹⁷⁵ On appeal, the U.S. Court of Appeals for the Federal Circuit overruled the USITC, holding that dictionary definitions, the use of the same term in other sections of the statute, and the statute when understood in its entirety, all support the conclusion that the word “articles” means “material things,” and does not include digital data.¹⁷⁶ This holding, while grounded in pure statutory interpretation, is consistent with the assumption that digital data should not be classified as goods even when it takes the place of physical goods. From a policy point of view, this holding is arguably defensible because the digital data at issue serves different functions from those of the finished goods.¹⁷⁷ There-

171. In 1998—a time before the era of additive manufacturing—the WTO Secretariat stated that “of course it would be impossible to deliver a tangible product electronically.” *Work Programme Note by the Secretariat, supra* note 167, ¶ 37. This conclusion is less obvious today.

172. *ClearCorrect Operating, LLC, v. Int’l Trade Comm’n*, 810 F.3d 1283, 1286–87 (Fed. Cir. 2015).

173. 19 U.S.C. § 1337 (a) (1) (A) (2012).

174. In the Matter of Certain Digital Models, Digital Data, and Treatment Plans for Use in Making Incremental Dental Positioning Adjustment Appliances: Commission Opinion, Inv. No. 337-TA-833, USITC Pub. 4555, at 39 (Nov. 2017).

175. *Id.*

176. *ClearCorrect Operating*, 810 F.3d at 1287, 1290–91.

177. The electronic files transmitted on the internet in additive manufacturing serve the function of enabling the manufacturing the finished prod-

fore, although the line between goods and services gets blurred when it comes to additive manufacturing, it is still relatively uncontroversial to classify the digital data involved in additive manufacturing as services, not goods.¹⁷⁸

The only category of digital products for which classification is a real issue is e-products.¹⁷⁹ Debates over the classification of e-products have been ongoing at the WTO for more than two decades, with no solutions in sight.¹⁸⁰ Part of the reasons for this impasse is technical. Since e-products and their physical counterparts are all but identical except for the technology of delivery, classifying e-products as services simply because they are intangible would be inconsistent with the principle of technology neutrality.¹⁸¹ Part of the reasons for the impasse is also political. Two major players in the world trading system, the United States and the European Union, have been unwilling to retreat from deeply entrenched positions on e-products. The United States is in favor of a goods classification for e-products because of the “broader reach of WTO disciplines accorded by the GATT”¹⁸² By contrast, the European Union argues that “[e]lectronic deliveries consist of supplies of services which fall within the scope of the GATS.”¹⁸³ This stance would “ensure that music, films, and similar products delivered electronically fall within the [European Com-

ucts, and are not the finished products themselves. *See id.* at 1299 (distinguishing the contemporary definition of “merchandise” from the 1979 version, which included “finished goods”).

178. In *ClearCorrect Operating*, Congress could certainly amend the statute to make the Tariff Act of 1930 cover digital data involved in additive manufacturing. But that would not change the classification of such digital data as services. Such amendments would only mean that the Tariff Act of 1930 now covers both goods and services. *See id.* at 1291 (deciding that digital data is not properly defined as a “good” regardless of its absence from the Tariff Act); *see also id.* at 1310 (noting Congress has enacted legislation that specifically covers both goods and services).

179. *See supra* note 34 and accompanying text.

180. As discussed earlier, disputes over the classification of e-products held up the agenda of the WTO Work Programme. *See supra* notes 89–91 and accompanying text.

181. Baker et al., *supra* note 26, at 10.

182. Submission by the United States, *Work Programme on Electronic Commerce*, at 5, WTO Doc. WT/GC/16 (Feb. 12, 1999).

183. Communication from the European Communities and Their Member States, *Electronic Commerce Work Programme*, ¶ 6(a), WTO Doc. S/C/W/183 (Nov. 30, 2000).

munity's] effective exclusion of audiovisual services from GATS (through the [European Community's most-favored nation] exemptions and absence of national treatment and market access commitments for this sector) instead of being subject to GATT 1994."¹⁸⁴

Amid pessimisms on the part of WTO officials on how the classification issue could be resolved,¹⁸⁵ some commentators have proposed ways to break the logjam.¹⁸⁶ As a way to move forward on the classification issue, these proposals argue for the classification of e-products as services, in exchange for the elimination, to varying degrees, of the disparity between GATT and GATS protections for e-products. Specifically, Catherine Mann and Sarah Knight would classify e-products as services, on the condition that all such products be "subject to most favored nation and national treatment provisions."¹⁸⁷ Stewart Baker suggests that WTO members "negotiate a solution that allows nations to treat e-products as services in exchange for GATS commitments to give e-products trade benefits equivalent to comparable physical goods."¹⁸⁸ Tania Voon would go as far as "subject[ing] all audiovisual products under GATS to the requirements of national treatment and market access."¹⁸⁹

The above proposals correctly recognize that the source of difficulties with classifying e-products lies with the differential treatment e-products receive under the GATT and the GATS.¹⁹⁰ It is not clear, however, how the compromises that

184. Tania Voon, *A New Approach to Audiovisual Products in the WTO: Rebalancing GATT and GATS*, 14 *UCLA ENT. L. REV.* 1, 9 (2007).

185. See *supra* note 90 and accompanying text.

186. For examples of these proposals from commenters, see generally Catherine L. Mann & Sarah Cleland Knight, *Electronic Commerce in the WTO*, in *THE WTO AFTER SEATTLE* 253 (Jeffrey J. Schott ed., 2000); Baker et al., *supra* note 26; Voon, *supra* note 184.

187. Mann & Knight, *supra* note 186, at 259. Indonesia and Singapore made a similar proposal at the WTO. Communication from Indonesia and Singapore, *supra* note 160, ¶ 14.

188. Baker et al., *supra* note 26, at 10.

189. Voon, *supra* note 184, at 19.

190. See Baker et al., *supra* note 26, at 11 ("[T]he approach is premised on substantial elimination of the disparity between GATT and GATS protections for e-products—that is, exactly the disparity that has engendered the classification debate."); see also Voon, *supra* note 184, at 9 ("The failure of WTO Members to agree on how to classify digital products is thus symptomatic of a

these proposals suggest are indeed compromises. For instance, Stewart Baker thinks of his approach as a compromise that benefits both sides: The European Union gets a service classification for e-products, and the United States gets liberalization commitments under the GATS that are comparable to those that the GATT provides.¹⁹¹ But the European Union demands a service classification for e-products not just for the sake of a service classification. It wants a service classification so that it could take advantage of the lack of liberalization commitments provided under the GATS. If liberalization commitments were imposed under the GATS, as these proposals call for, a service classification would be meaningless to the European Union. These proposals, therefore, are indeed one-sided deals that the European Union is unlikely to accept.

While these proposals do not point to a viable path forward for the classification issue, they do make it clear that the classification issue is the wrong issue to focus on in future multilateral negotiations on digital trade. The classification issue is the consequence, not the cause, of the differential treatment that e-products receive under the GATT and the GATS. If there is political will for negotiations on e-products, the negotiations should focus on the question of the degree to which such differential treatment should be eliminated. If the classification issue is not amenable to negotiations under the current trade and political environments, then WTO members should set the classification issue aside and move on to other issues, instead of letting the classification issue hold back the rest of the digital trade agenda.

Those who are concerned about the prospect of leaving the classification issue unresolved may find solace in two mitigating factors. First, e-products are no longer among the most innovative products in the digital economy. With the rapid growth of digitally delivered services (such as social media) and products that combine both physical goods and digital ser-

larger difficulty, namely the starkly different treatment of audiovisual products under GATT 1994 and GATS.”).

191. Baker obviously believed that his proposal was a compromise proposal that would make it much easier for the parties to reach an agreement on the classification issue. *See* Baker et al., *supra* note 26, at 10–11 (“The clear benefits of the approach are that it would avoid both the practical difficulties . . . and the costs that would be associated with prolonged debate and dispute resolution regarding the classification of e-products.”).

vices (commonly called the Internet of Things (IoT)), the importance of traditional e-products should decline over time.¹⁹² So, even if the classification of e-products remains unresolved for a long period of time, any harm should be well contained. Second, what trade negotiators fail to resolve can be tackled through judicial interpretation. If and when disputes over the classification of e-products arise, WTO dispute settlement panels and the Appellate Body can weigh in on the issue. If handled properly, such judicial interpretation may lead to a set of commonly accepted principles that will facilitate the eventual resolution of the issue.¹⁹³

B. *Moratorium on Customs Duties on Digital Transmissions*

Another focal point in past negotiations on digital trade has been the moratorium on customs duties for digital transmissions. Declared at the second WTO Ministerial Conference and extended at every subsequent Ministerial Conference except in Seattle,¹⁹⁴ the moratorium remains a high priority for nations that are making renewed pushes for new multilateral negotiations on electronic commerce.¹⁹⁵ However, as dis-

192. Andrew Mitchell and Neha Mishra go as far as declaring that e-products are “practically irrelevant” in the digital age. Mitchell & Mishra, *supra* note 49, at 1111 (“Given that many recent digital innovations combine different kinds of digital content with both services and physical devices, the debate on the equivalence of physical products (e.g., books and CDs containing programs or music) and electronic products (e.g., downloadable e-books, music, or software) is practically irrelevant in the digital age.”).

193. In this respect, a recent WTO dispute settlement proceeding may have taken the first step in tackling the classification of e-products. In *Brazil—Certain Measures Concerning Taxation and Charges*, a WTO dispute settlement panel found that certain Brazilian tax measures favoring domestic information technology and automation products were inconsistent with paragraphs two and four of GATT Article III. See Panel Report, *Brazil—Certain Measures Concerning Taxation and Charges*, ¶¶ 7.61-7.70, WTO Doc. WT/DS472/R (adopted Jan. 11, 2019). The products at issue included not only physical information technology and automation goods, but also software, without distinguishing between software on physical media and digitally delivered software. *Brazil—Certain Measures Concerning Taxation and Charges*, *supra*, ¶ 2.46. The panel, therefore, implicitly held that digitally delivered software is subject to disciplines under the GATT.

194. See *supra* notes 92–93 and accompanying text.

195. See, e.g., General Council Chairman, *Item 4—Work Programme on Electronic Commerce—Review of Progress*, ¶ 1.8, WTO Doc. WT/GC/W/756 (Dec. 17, 2018) (“It is my hope that discussions [on the e-commerce moratorium]

cussed below, the moratorium is theoretically problematic, of limited practical significance, and ineffective in reigning in barriers to digital trade. It can, and should, be dispensed with if doing so would remove an obstacle to multilateral dialogues on digital trade.

Hailed as “an important first step in the WTO’s consideration of how the rules-based trading system should apply to electronic commerce,”¹⁹⁶ the moratorium has received wide support as a temporary measure. Commentators have called for making the moratorium permanent.¹⁹⁷ Some WTO members, however, are ambivalent about that idea. Among the major trading bodies, both the United States and the European Union support the moratorium, but the European Union is willing to make it permanent only on the condition that e-products be classified as services.¹⁹⁸ Some WTO members question the scope of the moratorium, particularly whether the moratorium applies to e-products.¹⁹⁹ Some developing countries fear a permanent loss of customs revenues if the moratorium is made permanent.²⁰⁰ Such concerns appear to

can continue in a transparent, inclusive and Member-driven manner, keeping in mind the need for a decision on the moratorium by the end of 2019.”).

196. SACHA WUNSCH-VINCENT, MARKLE FOUND., WTO, E-COMMERCE, AND INFORMATION TECHNOLOGIES: FROM THE URUGUAY ROUND THROUGH THE DOHA DEVELOPMENT AGENDA 140 (Joanna McIntosh ed., 2004).

197. See, e.g., BURRI, *supra* note 164, at 7 (“[T]he number one priority . . . will involve, at a minimum, . . . an extension of the duty-free moratorium or making it permanent.”).

198. Herman, *supra* note 99, at 9.

199. See Communication from the Chairman of the Council for Trade in Goods, *Interim Review of Progress in the Implementation of the Work Programme on Electronic Commerce*, ¶ 4.2, WTO Doc. WT/GC/24 (Apr. 12, 1999) (“There seemed to be agreement by delegations that goods that were sold or marketed by electronic means, but still delivered physically across borders, would be subject to the existing WTO commitments and provisions related to trade in goods, e.g. customs duties.”).

200. See Ambassador Alfredo Suescum—Friend of the Chair, *Item 4—Work Programme on Electronic Commerce—Review of Progress*, ¶ 1.6, WTO Doc. WT/GC/W/721, (Aug. 1, 2016) (“Regarding the moratorium, the positions of Members remained the same. Some had suggested making the moratorium permanent or extending it for a period longer than two years. Others were uncomfortable doing so, especially given the lack of data on the moratorium’s possible effects.”).

be primarily focused on the potential loss of customs revenues from e-products.²⁰¹

Fortunately, making the moratorium permanent, or simply continuing to extend it, is not necessary for the multilateral digital trade agenda. Several aspects of the moratorium, both theoretically and practically, cast doubt on the validity and relevance of the moratorium.

First, while the moratorium certainly has a simplistic appeal in banning customs duties on all electronic transmissions, it is inconsistent with the widely accepted principle of technology neutrality.²⁰² Under the moratorium, digital downloads of music, movies, and software are exempted from customs duties, while the same products when delivered in physical form are not. This is not just a theoretical concern, since suppliers of physical media products are disadvantaged vis-à-vis suppliers of online products.²⁰³

Second, the haggling between developing countries and developed countries over the fiscal implications of the moratorium is unnecessary. According to one estimate, “even if all delivery of digitizable media products moved online—an unlikely prospect—the revenue loss would be small.”²⁰⁴ And even

201. See Communication from India and South Africa, *Work Programme on Electronic Commerce—Moratorium on Customs Duties on Electronic Transmissions: Need for a Re-Think*, ¶ 2.2, WTO Doc. WT/GC/W/747 (July 12, 2018) (“[A] moratorium on customs duties on electronic transmissions could imply that customs duties are not imposed on products exported in digitalised form, even if the bound rate on the same product, if it is delivered in the physical form, is not zero. Thus, a moratorium on customs duties on electronic transmissions could in effect undermine the existing schedule of tariff concessions of WTO Members. Given the fact that the average bound tariffs of developing countries are considerably higher than those of developed countries, a moratorium on customs duties on electronic transmissions could significantly alter the negotiated balance of rights and obligations.”).

202. Marsoof, *supra* note 158, at 298.

203. According to one study, the imposition of customs duties resulted in a “significant decrease in the purchases of CDs from the United States.” Jean-Pierre Le Gall, *Trading on Internet: Tax Aspects*, 1998 INT’L BUS. L.J. 357, 365 (1998).

204. Aaditya Mattoo & Ludger Schuknecht, *Trade Policies for Electronic Commerce* 10 (World Bank Policy Research Working Papers, Paper No. 2380, 2000), <https://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-2380>. The same estimate states that India, as an example, “would lose only 0.4 per cent of tariff revenue and 0.1 per cent of total revenue” if such a shift happened. Mattoo & Schuknecht, *supra* at 10.

if the potential revenue losses were significant, a moratorium would still be unnecessary because it is “nearly impossible to reliably enforce customs duties on e-products.”²⁰⁵ To levy customs duties on electronic transmissions, customs officials would need to be “able to trace and establish the value” of electronic transactions, a highly complex and costly process.²⁰⁶ “[T]echnological limitations” may stop WTO members from imposing customs duties on electronic transmissions “for some time.”²⁰⁷ In fact, “the current customs duty moratorium on electronic transmissions is probably in large part motivated by this reality.”²⁰⁸ Thus, the moratorium is binding only “because of the practical difficulties in actually trying to assess duties on electronic transmissions.”²⁰⁹ Therefore, countries would not be able to rush to levy customs duties on electronic transmissions if the moratorium were lifted today.

Finally, the limited scope of the moratorium makes it ineffective in curbing trade barriers to electronic transmissions. The moratorium only applies to customs duties, just one category of the tariff and non-tariff barriers to digital trade. A moratorium on customs duties would not preclude WTO members from resorting to other—arguably more costly—policy instruments, such as quotas or discriminatory taxes, to prevent digital transactions.²¹⁰ One notable example of the moratorium’s limited applicability is its inability to prevent WTO members from pursuing initiatives to levy digital services taxes. In March 2018, the European Commission proposed a digital services tax that “would tax the part of a digital firm’s revenues attributed to European member states” if the firm meets certain revenue requirements.²¹¹ In March 2019, the French government

205. Baker et al., *supra* note 26, at 10.

206. Wunsch-Vincent, *supra* note 36, at 10.

207. Voon, *supra* note 184, at 18.

208. Baker et al., *supra* note 26, at 10.

209. *U.S. Looks for WTO Guidelines on E-Commerce by Cancun Ministerial*, 20 INSIDE U.S. TRADE, no. 38, Sept. 20, 2002.

210. *See Work Programme Note by the Secretariat*, *supra* note 167, ¶ 35 (noting that commitments on customs duties do not apply to “border measures like tariffs and quotas”); *see also* Wunsch-Vincent, *supra* note 36, at 9–10 (discussing other policy options available for regulation of e-commerce).

211. GARY CLYDE HUFBAUER & ZHIYAO (LUCY) LU, *THE EUROPEAN UNION’S PROPOSED DIGITAL SERVICES TAX 1* (2018). The revenues requirements are global revenues exceeding _750 million and E.U. revenues exceeding _50 million in a financial year. HUFBAUER & LU, *supra* at 1.

unveiled plans to impose a three percent tax on the French revenues of digital companies that meet certain revenue requirements.²¹² In July 2019, France officially approved the digital services tax, applying the tax retroactively from early 2019.²¹³ While some argue that the digital services tax acts as a de facto tariff because the firms that would be subject to it are overwhelmingly from the United States,²¹⁴ as a formal matter, such a tax is an internal tax levied on corporate revenues, so the customs duty moratorium would not be implicated.²¹⁵ Indeed, the customs duty moratorium would actually incentivize WTO members to pursue non-tariff measures with identical or similar effects.

While the moratorium on customs duties for electronic transmissions is not necessary for the multilateral digital trade agenda, it does serve a signaling function—it is a signal that the WTO is “in favor of barrier-free electronic trade.”²¹⁶ But the question is at what cost should this signal be preserved. If the moratorium risks further splintering the world trading community, then it should be dropped from the multilateral negotiating agenda. At this delicate junction, it is simply not worthwhile to dedicate the institutional resources of the WTO to a matter that has only limited significance and effectiveness.

212. *Why Amazon, Facebook and Google Will Be Hit with an Extra 3% Tax*, MARKETWATCH (Mar. 7, 2019), https://www.marketwatch.com/story/french-government-to-tax-digital-giants-like-amazon-google-and-facebook-2019-03-06?mod=MW_latestnews. The revenues requirements are global revenues exceeding _750 million and French revenues exceeding _25 million. *Why Amazon, Facebook and Google Will Be Hit with an Extra 3% Tax*, *supra*.

213. *France Passes Tax on Tech Giants Despite US Threats*, BBC NEWS (July 11, 2019), <https://www.bbc.com/news/world-europe-48947922>.

214. For an example of this argument, see HUFBAUER & LU, *supra* note 211, at 8–9. The revenues requirements are “designed to capture Google, Facebook, Amazon, eBay, Uber, Airbnb,” and other U.S. digital firms. HUFBAUER & LU, *supra* at 8.

215. Note that it could be argued that the digital services tax violates the spirit, if not the letter, of the customs duty moratorium. *See id.* at 8 (“While the ministerial declaration is not a binding obligation, the European Union cannot, in the same breath, claim to honor the declaration and enact the [digital services tax].”).

216. Wunsch-Vincent, *supra* note 36, at 10.

C. GATS

Yet another issue that is central to the multilateral efforts on digital trade is the GATS. Due to the outdated nature of the GATS, WTO dispute settlement panels and the Appellate Body have been resorting to judicial interpretations to try to fit digital trade into the existing GATS framework. Those judicial interpretations, however, may not reflect what WTO members had in mind when negotiating the GATS, lending to charges of judicial activism that undermine the WTO's legitimacy. A top priority of any future negotiations on digital trade, therefore, should be to negotiate basic framework rules aimed at retrofitting the GATS for the digital age.

As discussed above, major gaps in the GATS make it difficult to determine what market access and national treatment commitments are applicable to specific services, particularly digitally delivered services.²¹⁷ To fill those gaps, WTO dispute settlement panels and the Appellate Body adopted “evolutionary” interpretations of the GATS in an effort to accommodate new technologies and new services within the existing legal framework.²¹⁸

In *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, a WTO dispute settlement panel and the WTO Appellate Body analyzed online gambling services under mode one of the GATS (cross-border supply of services).²¹⁹ Prior to that case, the principle of technology neutrality was widely considered to dictate that GATS commitments apply to services “provided through any means of technology.”²²⁰ But there had been disagreements among WTO members as to whether services delivered on the Internet, a technology not in existence when the GATS was

217. See *supra* Part I(B)(1).

218. Hodson, *supra* note 52, at 18.

219. See *AB Report in US—Gambling*, *supra* note 46, ¶ 215 (“In this case, the relevant entry for mode 1 supply in the market access column . . . of the United States’ Schedule reads ‘None.’”); *Panel Report in US—Gambling*, *supra* note 54, ¶ 415 (“This dispute concerns one of the four modes of supply under the GATS, that is, the so-called ‘cross-border supply’ of gambling and betting services . . .”).

220. Group on Basic Telecommunications, *Note by the Chairman (Revision): Notes for Scheduling Basic Telecom Services Commitments*, ¶ 1(c), WTO Doc. S/GBT/W/2/Rev. 1 (Jan. 16, 1997).

adopted, were nonetheless within the scope of the GATS.²²¹ The panel in *US—Gambling* took a more restrictive view of the concept of technology neutrality and found that “a market access commitment for mode 1 [under the GATS] implies the right for other Members’ suppliers to supply a service through all means of delivery, whether by mail, telephone, Internet etc., unless otherwise specified in a Member’s Schedule.”²²² In reaching this conclusion, the panel partially relied on the United States’ own statement that “there should be no question that where market access and national treatment commitments exist, they encompass the delivery of the service through electronic means, in keeping with the principle of technological neutrality.”²²³ The panel concluded that “where a full market access commitment has been made for mode 1, a prohibition on one, several or all means of delivery included in this mode 1 would be a limitation on market access for the mode.”²²⁴

Five years later, a WTO dispute settlement panel and the WTO Appellate Body revisited the principle established in *US—Gambling*, and reached essentially the same result, albeit on different grounds. One question at issue in *China—Publications and Audiovisual Products* was whether China’s market access commitments on “sound recording distribution services” included the “distribution of sound recordings through elec-

221. Some WTO members argued that new, specific commitments under the GATS were needed for such electronically delivered services. See, e.g., Committee on Trade in Financial Services, *Note by the Secretariat: Report of the Meeting Held on 9 May 2001*, ¶ 11, WTO Doc. S/FIN/M/31 (June 1, 2001) (“India’s preliminary view was that given the bottom-up approach of the GATS, the commitments for new services delivered through new technologies would have to be taken afresh and existing commitments would not apply to them.”). Some other WTO members argued that Internet-delivered services are covered by the GATS. See, e.g., Council for Trade in Services, *Note by the Secretariat: Report of the Meeting Held on 28 June and 2 July 2004*, WTO Doc. TN/S/M/11 (Sept. 8, 2004) (stating that the representative of Hong Kong, China was open to discussion on how electronic delivery of services should be treated under the GATS, but did not “rule out [pursuing] a common understanding . . . as to how services could be treated in the current scheduling approach”).

222. *Panel Report in US—Gambling*, *supra* note 54, ¶ 671.

223. *Id.* at 202 n.836 (quoting *Work Programme Submission by the United States*, *supra* note 37, at 3).

224. *Id.* ¶ 671.

tronic means.”²²⁵ The United States invoked the principle of technology neutrality and argued that “the GATS is sufficiently dynamic so that Members need not renegotiate the Agreement or their commitments in the face of ever-changing technology.”²²⁶ China countered that “the principle of ‘technological neutrality’ is irrelevant . . . because network music services are a service distinct from the distribution of sound recordings in physical form, and cannot be considered as a mere means of delivery of sound recording distribution services.”²²⁷ Ruling in favor of the United States, the panel avoided the issue of technology neutrality and instead “examined the ordinary meaning of the terms of China’s commitment.”²²⁸ According to the panel, since China had the opportunity to specify desired qualifications to the scope of inscribed services, but chose not to, the core meaning of China’s commitment on sound recording distribution services had to be interpreted to cover the distribution of audio content in nonphysical form.²²⁹ On appeal, the Appellate Body upheld the panel’s finding.²³⁰ Specifically, the Appellate Body noted that “the terms used in China’s GATS Schedule (‘sound recording’ and ‘distribution’) are sufficiently generic that what they apply to may change over time.”²³¹

In another dispute settlement proceeding, *China—Electronic Payment Services*, a WTO dispute settlement panel disposed of the question of whether China’s market access commitment on “[a]ll payment and money transmission services” applied to electronic payment services for payment card transactions, even though the application to electronic payment services for payment card transactions was not specified in

225. Panel Report, *China—Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products*, ¶ 7.1154, WTO Doc. WT/DS363/R (adopted Jan. 19, 2010) [hereinafter *China—Publications and Audiovisual Products*].

226. *Id.* ¶ 7.1160.

227. *Id.* ¶ 7.1166.

228. *Id.* ¶ 7.1253.

229. *Id.* ¶¶ 7.1254–1255.

230. Appellate Body Report, *China—Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products*, ¶ 412, WTO Doc. WT/DS363/AB/R (adopted Jan. 19, 2010).

231. *Id.* ¶ 396.

China's GATS schedule.²³² The panel examined the ordinary meaning of the relevant terms used to describe the services contained in China's schedule, the context of those terms, and the object and purpose of the GATS and the WTO Agreement.²³³ Based on this analysis, the panel concluded that the scope of China's schedule included the services at issue.²³⁴ The panel noted that "a 'sector' may include 'any service activity that falls within the scope of the definition of that sector,' whether or not these activities are explicitly enumerated in the definition of that sector or subsector."²³⁵ According to the panel, "there cannot be any 'payment service' and 'money transmission service' if the payment is not effected and the money not transferred from the customer's account to the merchant's account."²³⁶ Electronic payment services, therefore, "are necessarily included within the scope of the definition of that subsector because they must operate together for the payment and money transmission service to be supplied."²³⁷

These findings by WTO panels and the Appellate Body might be well reasoned, but a major problem with them is that they ignore WTO members' original intent in determining whether to include a specific service in the member's GATS schedule. Under these findings, whether a WTO member intended to schedule a market access or national treatment commitment for a specific service does not matter; what matters is whether such a commitment can be attributed to the WTO member under the criteria established by the panels and Appellate Body.²³⁸

232. Request for Consultation by the United States, *China—Certain Measures Affecting Electronic Payment Services*, at 1–2, WTO Doc. WT/DS413/1 (Sept. 15, 2010).

233. Panel Report, *China—Certain Measures Affecting Electronic Payment Services*, ¶ 7.74, WTO Doc. WT/DS413/R, (adopted Aug. 31, 2012).

234. *Id.* ¶ 7.204.

235. *Id.* ¶ 7.179.

236. *Id.* ¶ 7.180.

237. *Id.*

238. The United States made the same argument in *China—Publications and Audiovisual Products*. There, the United States argued that whether China intended to make a market access commitment on the electronic distribution of sound recordings did not matter, because "[i]n *US—Gambling*, the panel made clear that a Member's intent is not relevant in discerning whether the Member has a commitment with respect to a particular means

Failure to take account of WTO members' intent regarding their GATS commitments is certainly concerning. According to an official WTO document, "[t]he GATS is a very flexible agreement that allows each Member to adjust the conditions of market entry and participation to its sector-specific objectives and constraints."²³⁹ Such objectives and constraints, however, may vary not only from sector to sector, but also from technology to technology. When new technologies change the way services are delivered, new industries invariably emerge around the new technologies. Even if the new industries may, from a philosophical point of view, be said to provide the same services as previously existing industries,²⁴⁰ the market conditions and regulatory policies for the new industries cannot be assumed to be the same. Consequently, the factors that may have led a country to liberalize one industry delivering a certain service via one technology may not always be present in another industry delivering the service via a different technology. This is particularly the case when the new industry did not exist and could not have been foreseen when the GATS commitments were initially made. One example of a different market and regulatory parameters for industries furnishing the same services using different technologies is the telecommunications and Internet industries, which provide overlapping services. GATS commitments for telecommunications services tend to be "less liberal" than for computer and related services (which encompass Internet-related services), because telecommunications are "a sensitive sector which is often monopolized by an incumbent state-owned enterprise."²⁴¹ By contrast, WTO members have made far-reaching commitments to liberalize computer and related services, because when the GATS was negotiated in the Uruguay Round, "computer and related services were a fairly new sector . . . and thus largely devoid of

of delivery." *China—Publications and Audiovisual Products*, *supra* note 225, ¶ 7.1159.

239. 1.7 *Conditional Granting of Market Access and National Treatment*, WORLD TRADE ORG.: GATS TRAINING MODULE, https://www.wto.org/english/tratop_e/serv_e/cbt_course_e/c1s7p1_e.htm (last visited Nov. 14, 2019).

240. In *China—Publications and Audiovisual Products*, parties disputed whether network music services are the same services as the distribution of sound recordings in physical form. *See supra* note 225 and accompanying text.

241. Hodson, *supra* note 52, at 12.

domestic regulation and trade barriers.”²⁴² In part because of these different markets and regulatory conditions, it has not been resolved in WTO negotiations whether GATS commitments on basic telecommunication services include Internet services.²⁴³

Thus, a strong argument could be made that applying the principle of technology neutrality to the GATS would be misguided. Instead of achieving “progressive liberalization” as envisioned under the Preamble and Article XIX of the GATS,²⁴⁴ the principle of technology neutrality would force WTO members to commit, once and for all, to all service industries delivering the same service using different technologies, whether or not the technologies exist or are foreseeable. Such a drastic approach would further undermine the WTO’s legitimacy and prolong the multilateral rulemaking process on digitally delivered services.

Although the approaches that the WTO dispute settlement panels and the Appellate Body developed in these particular instances were misguided, that is not to say that the WTO dispute settlement mechanism does not play an important role in the overall WTO rulemaking process. When there are ambiguities and uncertainties in WTO law, as is the case with the GATS, initial solutions obtained through the dispute settlement process may not be sound, but serve as important reference points for future debates and negotiations. Ideally, there should be a feedback mechanism that translates, either affirmatively or negatively, findings by dispute settlement panels and the Appellate Body on binding statutory rules that reflect con-

242. Mira Burri, *The Governance of Data and Data Flows in Trade Agreements: The Pitfalls of Legal Adaptation*, 51 U.C. DAVIS L. REV. 65, 84 (2017). In China, for example, private firms have a tendency to beat out incumbent state-owned enterprises in new sectors because of the lack of state capture by the incumbents. Curtis J. Milhaupt & Wentong Zheng, *Beyond Ownership: State Capitalism and the Chinese Firm*, 103 GEO. L.J. 665, 699 (2015).

243. Hodson, *supra* note 52, at 12.

244. See GATS, *supra* note 24, pmbl. (“Wishing to establish a multilateral framework of principles and rules for trade in services with a view to the expansion of such trade under conditions of transparency and progressive liberalization”); GATS, *supra* note 24, art. XIX:1 (“In pursuance of the objectives of this Agreement, Members shall enter into successive rounds of negotiations, beginning not later than five years from the date of entry into force of the WTO Agreement and periodically thereafter, with a view to achieving a progressively higher level of liberalization.”).

sensus among WTO members. The only way this could happen is through multilateral negotiations that build on judicial findings by dispute settlement panels and the Appellate Body.

This analysis points to the direction in which multilateral efforts on the GATS, as it relates to digital trade, should proceed. Instead of trying to enact fundamental changes to the GATS, as commentators who propose a “negative list” approach for the GATS suggest,²⁴⁵ WTO members should focus on negotiating a better service classification system, as well as new market access and national treatment commitments that go with a new classification system. This approach would not necessarily lead to further liberalization, but would make the GATS better able to respond to the emergence of digital trade.

Specifically, the top priority of trade negotiators in the ongoing multilateral negotiations on digital trade should be to update the preferred service classification system of the GATS, the W/120. As discussed earlier, W/120 was developed based on the U.N. Provisional CPC in force in 1990.²⁴⁶ Since then, the U.N. CPC system has been updated several times, while the GATS system remains “pre-digital.”²⁴⁷ It is of paramount importance, therefore, to adopt a classification system that accounts for the digital economy.²⁴⁸ Furthermore, since the

245. See, e.g., MELTZER, *supra* note 44, at 16 (“For a dynamic and fast changing sector like the Internet economy, over time a negative list approach leads to greater trade liberalization as it automatically captures further liberalizing changes to countries laws and regulations, whereas a positive list freezes the level of commitments at the time they were negotiated and updating these rules requires further negotiations, with all the transaction costs this entails.”); Tuthill & Roy, *supra* note 58, at 159 (suggesting that negative list agreements “can minimise . . . the uncertainties that may arise regarding scope and coverage”). Under the negative list approach, anything not excluded from the list of market access and national treatment commitments is covered. Ines Willemyns, *GATS Classification of Digital Services—Does the “Cloud” Have a Silver Lining?*, 53 J. WORLD TRADE 59, 66 (2019). The negative list approach “is considered as the next step in the liberalization of services trade, as it would automatically include new or unforeseen services.” Willemyns, *supra* at 66.

246. See *supra* note 54 and accompanying text.

247. Sen, *supra* note 21, at 341.

248. The updated U.N. CPC list makes it easier to classify digitally delivered services. *Id.* at 342. The new classification system under the GATS, however, does not have to reference the U.N. CPC system. See *id.* at 342 (implying that the GATS is not limited by the U.N. CPC system by discussing the options it provides.)

question of how services should be classified is a purely technical one, starting off with the classification system would provide an area for agreement and consensus in the multilateral negotiations on digital trade.

Once a new system for classifying services is in place, the next step should be to open negotiations on market access and national treatment commitments in light of the new classification system. This step would be more politically sensitive and controversial, as it would impact WTO members' obligations under the GATS. It is also possible that some WTO members may choose lower levels of commitment than those that the dispute settlement proceedings discussed above currently require. Even if countries took that approach, it would still be a better outcome than liberalization imposed by WTO dispute settlement panels and the Appellate Body. Such high-handed liberalization threatens the long-term legitimacy of the WTO.

D. *Data Localization Measures*

Finally, a major task for the world trading community is to collectively agree on the best ways to tackle the the most common non-tariff barriers to digital trade: data localization measures.

To reign in data localization measures, the best solution would be to reach a multilateral agreement on their use. Indeed, some limited progress has been made on this front. The revamped Trans-Pacific Partnership, for example, contains stringent provisions on data localization measures that go beyond the typical market access and national treatment requirements of the GATS.²⁴⁹ But this limited progress has not been replicated at the WTO level. Under the Work Programme, WTO members have sharply disagreed on the regulation of the Internet and Internet-based services.²⁵⁰ Specifically, developing countries from Africa have expressed strong support for

249. Hodson, *supra* note 52, at 4. The revamped Trans-Pacific Partnership does include an exception that would allow a member to restrict data flows for legitimate public policy purposes. Hodson, *supra* note 52, at 4–5.

250. See Mitchell & Mishra, *supra* note 49, at 1084–86 (describing the different approaches to regulating the digital economy among WTO member states).

the use of “digital industrial policy,” an important component of which is data localization measures.²⁵¹

Since multilateral agreements on data localization measures are not realistic at this time, the WTO needs to find other solutions. Many commentators have proposed using existing WTO rules to do just that.²⁵² Among others, Daniel Crosby suggests challenging data localization measures as violations of a WTO member’s commitments for the “[d]ata processing services” and “[d]ata base services” subsectors.²⁵³ Lee Tuthill argues that data localization measures should be attacked as violations of the national treatment and local content commitments under mode three of the relevant sectors.²⁵⁴ Susannah Hodson argues that “a data localization measure could breach a Member’s market access and national treatment commitments for the subsectors of data processing

251. See Communication from the African Group, *Work Programme on Electronic Commerce—Report of Panel Discussion on “Digital Industrial Policy and Development,”* ¶ 1.7, WTO Doc. JOB/GC/133 (July 20, 2017) (“[D]igital integration needs to be preceded by building national capabilities through what may be termed digital industrial policy. . . . For instance, it was highlighted that some countries have used policy tools such as data localization requirements, internet filtering, and technology transfer requirements (i.e. disclosure of source code) to promote domestic digital firms and allow them to catch-up with the leading multinational firms.”).

252. See, e.g., DANIEL CROSBY, INT’L CTR. FOR TRADE & SUSTAINABLE DEV. & WORLD ECON. FORUM, ANALYSIS OF DATA LOCALIZATION MEASURES UNDER WTO SERVICES TRADE RULES AND COMMITMENTS 5–6 (2016), <http://e15initiative.org/wp-content/uploads/2015/09/E15-Policy-Brief-Crosby-Final.pdf> (suggesting that data localization measures could violate member commitments to “data services” subsectors); L. Lee Tuthill, *Cross-Border Data Flows: What Role for Trade Rules?*, in RESEARCH HANDBOOK ON TRADE IN SERVICES, *supra* note 11, at 357, 359, 371 (arguing that data localization measures could violate member commitments to national treatment and local content); Andrew D. Mitchell & Jarrod Hepburn, *Don’t Fence Me In: Reforming Trade and Investment Law to Better Facilitate Cross-Border Data Transfer*, 19 YALE J. L. & TECH. 182, 200–01 (2017) (suggesting that restrictive data transfer measures could breach market access obligations); Hodson, *supra* note 52, at 5 (finding that “the GATS does provide a baseline of protection against measures which restrict the cross-border transfer and storage of data”); Mitchell & Mishra, *supra* note 49, at 1126–27 (suggesting different options for a solution under the existing GATS structure).

253. CROSBY, *supra* note 252, at 5–6.

254. Tuthill, *supra* note 252, at 371.

services . . . , database services . . . , and data preparation services.”²⁵⁵

One common theme in these proposals is that they all tie the illegality of data localization measures to the GATS. That, however, would require a judicial determination of the appropriate service sector and mode of supply for the digitally delivered service at issue, which, as discussed above, is no easy matter.²⁵⁶ Even if such judicial determinations were well reasoned, there would always be doubts about the extent to which they comport with WTO members’ original intent in making GATS commitments. As Andrew Mitchell and Neha Minshra point out, “the lack of horizontal commitment on cross-border data flows under the GATS, coupled with the complexity in classification of digital services, makes the nature of legal commitments on cross-border data flows uncertain.”²⁵⁷

Therefore, for the sake of avoiding controversies and preserving the WTO’s legitimacy, a better course of action on data localization measures would be to stay away from legal challenges predicated upon WTO members’ market access and national treatment commitments under the GATS. Instead, WTO members should seek consensus-based solutions that preserve WTO members’ policy space in data regulation. Under the GATS, one such option is to challenge data localization measures as violations of WTO members’ horizontal, most-favored-nation obligations, which do not depend on the classification of service sectors or the choice of mode of supply.²⁵⁸ Another potential option is to seek a negotiated outcome that would allow WTO members to restrict the cross-border transfer of certain types of data, such as personal and social data.²⁵⁹

In addition, there might be legal avenues outside of the GATS for challenging data localization measures. All of the existing proposals on data localization measures are based on the assumption that data localization measures are to be handled

255. Hodson, *supra* note 52, at 11.

256. *See supra* Part I(B)(1).

257. Mitchell & Mishra, *supra* note 49, at 1093.

258. For example, the “adequacy” test under the E.U. GDPR is susceptible to most-favored nation challenges: Under the adequacy test, data can only be transferred to certain third countries. Sen, *supra* note 21, at 335.

259. *See id.* at 346–47 (suggesting a “data differentiated approach” to combating data localization measures).

under the GATS, not the GATT, because data is usually transferred “without requiring any transfer of physical commodities.”²⁶⁰ However, for at least one product category—IoT—the transfer of service data does require the transfer of physical devices.²⁶¹ This points to a potential way to challenge data localization measures under the GATT. Since data localization measures make it more costly for businesses to operate IoT services, an indispensable supplement to the physical IoT devices,²⁶² a strong argument could be made that they constitute less favorable treatment than that accorded to similar domestic products by discouraging the sale of foreign IoT devices. This would be a potential violation of paragraph 4 of Article III of the GATT, which requires foreign products to be accorded “treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use.”²⁶³ Of course, whether a specific data localization measure indeed violates GATT Article III:4 will depend on whether it could be excepted under Article XX of the GATT, which provides defenses to a violation of Article III:4 based on legitimate policy objectives.²⁶⁴ Since the facts and circumstances of every data localization measure differ, the legality of data localization measures should be determined through case-by-case analysis.

Using Article III of the GATT to discipline data localization measures has some advantages. First, there is plenty of precedent for challenging discriminatory regulations on services as less favorable treatment for the sale of underlying

260. Mitchell & Hepburn, *supra* note 252, at 196; *see also* Hodson, *supra* note 52, at 7 (“As most digital trade does not involve the transfer of physical goods, the most relevant WTO Agreement for addressing data localization restrictions is the GATS.”).

261. This is so because physical IoT devices have to be sold and transferred across the border first for IoT services to commence. *See* Sen, *supra* note 21, at 327 (explaining the connection between IoT and the “surge” of electronic products).

262. Indeed, it could be argued that consumers buy IoT devices primarily for the services, not for the physical devices *per se*. *See id.* (arguing it is the “services” embedded in a “smart” product that “confer true value to the product”).

263. GATT, *supra* note 22, art. III:4.

264. *Id.* art. XX.

goods under Article III of the GATT.²⁶⁵ Putting data localization measures under similar disciplines will benefit from ample guidance provided by case law, as well as wide acceptance by WTO members of the legitimacy of the practice. Second, prohibiting data localization measures that constitute less favorable treatment for the sale of physical goods strikes a good balance between ensuring free flow of data and preserving WTO members' policy space in regulating digital trade. It provides relief against the most outrageous forms of data localization measures, but still gives WTO members freedom to regulate data flows in areas that do not concern trade in goods.²⁶⁶

VI. CONCLUSION

International trade law clearly did not anticipate the digital world in which trade is now taking place, and as a result, needs to play catch-up. But the question is: How? This article argues that the world trading community should take heed of the failures and impasses in past negotiations on digital trade. Instead of continuing to haggle over conceptually challenging yet practically insignificant issues, the world trading community should focus on negotiating basic framework rules to make multilateral rules fit better with digital trade. It should also focus on the most significant non-tariff barriers to digital trade. Unless and until this happens, the WTO will continue to be at risk of becoming increasingly irrelevant in the digital age.

265. See, e.g., Appellate Body Report, *Korea—Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, ¶¶ 178, 185, WTO Doc. WT/DS161/AB/R (adopted Jan. 10, 2001) (finding that Korea's dual retail system for beef accorded less favorable treatment to imported beef than the treatment given to like domestic beef in violation of Article III:4 of the GATT).

266. The WTO Agreement on Trade-Related Investment Measures (TRIM) serves as a successful model for this kind of compromise. The TRIM does not encroach upon WTO members' policy prerogatives in regulating foreign investment, but does outlaw foreign investment restrictions that constitute less favorable treatment for the sale of imported goods. Agreement on Trade-Related Investment Measures, annex, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1868 U.N.T.S. 186.