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Multilateralising Telecoms: A Step-Change in Need of a Step?

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Think Piece



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List of Abbreviations

AEC	ASEAN Economic Community
ASEAN	Association of Southeast Asian Nations
CARICOM	Caribbean Community
CIS	Commonwealth of Independent States
EAC	East African Community
EDGE	Enhanced Data rates for GSM Evolution
FTA	free trade agreement
FTAA	Free Trade Area of the Americas
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GCC	Gulf Cooperation Council
IoT	Internet of Things
IPv6	Internet Protocol 6
ISP	Internet service provider
KORUS	US-Korea Free Trade Agreement
MRA	Mutual Recognition Agreement
NAFTA	North American Free Trade Agreement
NGN	next generation network
NTB	non-tariff barrier
QUIC	Quick UDP Internet Connections
RP	Reference Paper
RTA	regional trade agreement
SADC	Southern African Development Community
SAFTA	South Asian Free Trade Area
SME	small and medium-sized enterprises
TCP/IP	Transmission Control Protocol/Internet Protocol
TiSA	Trade in Services Agreement
TPP	Trans-Pacific Partnership
TFA	Trade Facilitation Agreement
US	United States
USO	universal service obligation
WTO	World Trade Organization

Abstract

In the rapidly developing digital economy, where user-generated content is on the rise, and end-users are no longer just consuming content, but also developing, uploading, and networking content, there is an urgent need to put in place a reliable telecommunications infrastructure for all. In this context, the present paper identifies the main e-commerce related telecommunications disciplines found under regional trade agreements. It calls for greater harmonisation, in particular, through revisions to the World Trade Organization's Regulatory Reference Paper, to (i) amend the competition safeguards to include predation, discrimination, and margin squeezing; (ii) amend the interconnection provisions to include new conditions for Internet interconnection; (iii) add a new section on "information" to cover data localisation, data movement through publicly available telecom networks balanced with safeguards on protection of privacy of information; and (iv) strengthen the requirements for an independent regulator by providing a legal right for judicial review of regulatory decisions.

1. Introduction

Steve Jobs, one of the founders of Apple once said, “Technology is nothing. What’s important is that you have a faith in people, that they’re basically good and smart, and if you give them tools, they’ll do wonderful things with them.” There is wisdom here. The problem is with giving people the tools. To do that, we need to provide infrastructure, particularly in the rapidly developing digital economy, where user-generated content is on the rise, and end-users are no longer just consuming content, but also developing, uploading, and networking content. This is the case in both the developed and developing world, and sometimes in the latter case, far exceeding what we are seeing in the developed world. For this trend to continue, we need a good telecommunications infrastructure for all, and this no doubt requires financing, regulatory certainty, and to some extent, economies of scale. Regulatory certainty is built on rule of law and consistency of law across jurisdictions, and this requires enlightened rule-making in the agreements that governments make, whether at the domestic level, regionally through bilateral trade and investment agreements, or at the multilateral level through institutions, such as the World Trade Organization (WTO). Further, regulatory certainty provides investors with the necessary confidence to enable the effective rollout of infrastructure and ensures the protection of the content flowing over that infrastructure where the intellectual property enforcement framework is effective.

A question remains concerning how the WTO can build on legislative provisions in current and planned regional trade agreements (RTAs) to take account of the digital economy. The usual obstacles in moving forward with a digital economy agenda at the WTO remain, including: special and differential rights, agricultural trade, subsidies, etc. However, it is surprising to note the level of change seen in some bilateral and regional trade agreements on telecommunications and the fact that telecommunication operators, Internet service providers (ISPs), and large content providers have forged ahead in developing mechanisms for trade that are far

ahead of current law, for example, as expressed in WTO covered agreements on telecommunications either in Member State Schedules of Specific Commitments, the Annex on Telecommunications, or the Regulatory Reference Paper (RP).

Over the past two years, the E15 Expert Group on the Digital Economy has reviewed a wide range of potential amendments to the WTO covered agreements needed to promote trade in the rapidly emerging sector of the digital economy.¹ What changes are required in the WTO covered agreements on telecoms to take into account the move to Internet Protocol 6 (IPv6); advanced telecommunications infrastructure, such as next generation networks (NGNs); and the movement of content closer to the customer through, for example, Enhanced Data rates for GSM Evolution (EDGE) networks? Operators, such as Google, have been innovating Internet platforms for more than a decade. Google now wishes to replace the ubiquitous Internet Transmission Control Protocol/Internet Protocol (TCP/IP) with a network transport layer protocol called Quick UDP Internet Connections (QUIC), claimed to be faster and more reliable than TCP/IP. Google has been developing QUIC since 2012. Now, the transnational aggregator is on the verge of rewriting the very DNA of the Internet, wanting to replace TCP/IP with a new standard for QUIC to improve latency rates (delays in packet delivery), and facilitate large file transfers for video and high-bandwidth applications. QUIC already accounts for increased global Internet traffic following widespread adoption over Google services and Android devices running the Chrome web browser (Murray et. al 2017). How this might play out in trade negotiations remains to be seen, for example, with issues, such as effective competition on Internet networks, where transparency of communications and network transactions are obscured, for example through the enhanced encryption that QUIC suggests. The need for enhanced transparency will be even more important as network transactions are increasingly influenced through algorithmic processes and automated agents

¹ For further information see <http://e15initiative.org/themes/digital-economy/>

powered by artificial intelligence (AI). Concern over the threat of anti-competitive algorithmic processes have been increasing in the last few years (Azrachi and Stucke 2016). However, despite these legitimate concerns, it is important to remember that the WTO's Annex on Telecommunications provides member states that have scheduled specific commitments for packet-switched data communication services to allow operators to use operating protocols of the service supplier's choice in providing scheduled services over public telecommunication networks.²

Many RTAs mirror existing commitments in the General Agreement on Trade in Services (GATS) Telecoms Annex and RP (discussed below). RTAs have adopted varying approaches to services liberalisation concerning the (i) range of provision of services; (ii) liberalisation modalities; (iii) scope and depth of commitments; and (iv) levels of regulatory cooperation whether through mutual recognition or at an institutional level. Liberalisation may be based on a staged approach with an implementation period, particularly for developing countries. With respect to sectoral coverage and modalities, existing RTAs mostly provide universal sectoral coverage, excluding at times sensitive sectors (air, transport, maritime, audiovisual services for example).

A negative list approach was used in EU-Mexico, North American Free Trade Agreement (NAFTA)-type RTAs (including the Caribbean Community, CARICOM). A positive list was used in agreements such as the Association of Southeast Asian Nations (ASEAN); Mercosur; EU-Chile; US-Jordan; and Japan-Singapore. South-South RTAs are often strategic tools in developing countries' development toolboxes that provide for increased globalisation and access to the world economy. The momentum to include services in South-South RTAs is rising.

In Asia, we are likely to see the establishment of the ASEAN Economic Community (AEC) by 2020 — that is, the free flow of goods and services as provided for

in the 2003 Bali Concord II. Most Asian RTAs adopt a GATS approach, with clauses on national treatment, market access, modes of delivery, and domestic regulation. But, there is also divergence from GATS. While the schedules of country-specific commitments in most Asian RTAs, such as ASEAN, follow a positive list approach, some Asian free trade agreements (FTAs) follow a negative list approach — such as, for example, FTAs between the Republic of Korea and Singapore and the Republic of Korea and Chile. Most bilateral agreements contain well-defined services provisions and separate chapters for key services sectors, such as telecoms. The India-Singapore agreement has separate investment and services chapters (annexes on financial services and telecommunications) with extensive coverage of the movement of professionals, air services, and e-commerce.

As a model template for the digital economy, Singapore accords substantial market access across its entire services regime, subject to very few exceptions. The US-Singapore FTA provides for non-discriminatory treatment through strong disciplines on both cross-border supply of services (whether delivered electronically or through mode 2 (consumption abroad) and mode 4 (movement of natural persons)) and the right to invest and establish a local services presence (commercial presence). Traditional market access to services includes effective provisions on regulatory transparency — regulatory authorities will use open and transparent administrative procedures; they will publish all regulations and consult with interested parties before issuing such regulations; and they will provide advance notice and comment periods for proposed rules.

Many recent RTAs have focused on the role of an independent regulator, with some agreements including provisions on judicial review to challenge regulatory decisions where principles of natural justice have been breached (correct application of law, fact, and due process). Market access commitments apply across a range of sectors.

Service sectors, such as telecommunications, need to be negotiated at a multilateral level, although as

² GATS Annex on Telecommunications Article 5(b)(iii).

mentioned above, there is a level of convergence in RTA provisions on telecoms, and particularly where provisions from the WTO's RP have been adopted wholesale, for example, on licensing, interconnection, and the independence of the regulator.

The rise of non-tariff barriers (NTBs) particularly in South-South RTAs has created barriers to intra-regional trade in regions, such as Africa. The Trade Facilitation Agreement (TFA) negotiated in Bali (2013) demonstrates there are advantages in simplifying trading procedures at the border and counteracting NTBs. Coming into force in February 2017 with the ratification of Rwanda, Oman, Chad, and Jordan, the TFA applies universally to trade in goods and provides for developing and least developing countries to schedule commitments according to their own capacities (Schedule A, B, and C commitments). Providing for more simplified customs protocols for the clearance of goods across borders, the TFA demonstrates what can be achieved at a multilateral level.

In terms of connected goods issues relevant to the digital economy, for example, in hardware and telecoms infrastructure, mutual recognition in telecommunication equipment standards plays an important role. For example, in the New Zealand-China and Switzerland-China agreements there is bilateral cooperation in standards development for electronic and electrical equipment. In the Switzerland-China bilateral, the parties have concluded a side agreement on cooperation in telecommunications equipment standardisation, while in China-Chile, the parties have established a Committee on Telecommunication Standards to oversee and accept testing done in the other country on equipment. China-Chile was the first FTA signed by China in the Latin American region. In November 2016, on the occasion of Chinese President Xi Jinping's visit to Chile, the countries announced an upgrade to the China-Chile FTA. According to China's Ministry of Commerce, trade volumes between the two countries have quadrupled since the signing of the first agreement in 2005 (MOFCOM 2015). Korea-India refers to Mutual Recognition Agreement (MRA) consultations agreed between parties on conformity testing of telecommunications. There is mention that India is

seeking an upgrade to the FTA with Korea, but since signing the FTA, India's trade deficit with South Korea has increased from about US\$5 billion to US\$8 billion (The Hindu 2017). The Singapore-Chinese Taipei RTA incorporates MRAs already negotiated between the two countries. In October 2017, China and Singapore held their fourth round of upgrade talks to include services trade, investment, rules of origin, customs procedures, and trade facilitation and remedies.

2. Main Challenges for the Digital Economy

As to services, clear progress has been made in telecommunications commitments in existing trade agreements, and some interesting commitments have been included in agreements that were never fully finalised, such as the Free Trade Area of the Americas (FTAA). Some of these commitments could be transposed as templates for further negotiations at the multilateral level, for example: new competition safeguards, such as discrimination, predatory pricing (NAFTA); collusion (Trans-Pacific Partnership, TPP); transparency of interconnection — not Internet but conventional circuit-switched (FTAA Telecoms Annex); unbundled network elements at cost-oriented rates (FTAA Telecoms Annex); the use of technology of operator's choice in rolling out new network infrastructures — whether facilities or services based competition in the TPP and the Trade in Services Agreement (TiSA); access to essential facilities (TPP, TiSA); use of leased circuits (Japan-EU Economic Partnership, US-Korea, FTAA Telecoms Annex); dissemination of new technology and joint research for the digital economy (Mercosur, TPP); the independence of the regulator and provisions for judicial review to challenge regulatory decisions (FTAA Telecoms Annex, US-Korea); and the movement and protection of data (TPP, NAFTA, TiSA, and some provisions agreed in FTAA negotiations). Of these, the most obvious candidates for inclusion in a multilateral round of negotiations, possibly as part of a revised RP, include new competition safeguards (important for improving effective network competition, for example, by

addressing margin squeezing, bundling, discrimination, refusal to supply, and degraded interconnection); technology of choice in new network rollout (important for addressing effective competition in the last mile of a network by providing greater end-user choice and thereby bringing down prices, and improving access to rural and mountain communities); access to essential facilities (important for increasing both services and facilities-based competition); provisions for regulatory challenge via judicial review (important for maintaining the independence of the regulator, ensuring effective telecommunication license conditions, and network competition); and crucially, the movement and protection of data (crucial to the bottom line of generating revenue and innovation through movement of information balanced with effective privacy controls).

Several significant challenges remain to be solved to ensure that current WTO jurisprudence remains in line with (at least) existing technology, let alone the move to IPv6; NGNs; the Internet of Things (IoT); and Cloud. It will be important for the WTO to keep abreast of these changes simply because neither the Annex on Telecoms nor the RP, nor the current classification frameworks of the General Agreement on Tariffs and Trade (GATT)/GATS fully cover new emerging transmission mechanisms as provided by the Cloud and the IoT. Some elements of these technologies are covered, such as data transmission and processing and protocol conversion, where specific commitments in these areas have been taken, or they are covered as part of provision of ancillary trade services, such as financial services taken as part of the member's Schedule of Specific Commitments and delivered over a telecoms network (supported by the Annex on Telecoms), but the regulatory position is uncertain with Cloud and IoT service delivery and where foreign service providers are pushing for increased market access in emerging services over these new network platforms and transmission technologies. ISPs and telecom operators will need greater certainty, for example, where new network and service rollout is envisaged in developing country markets. What then are the new challenges for the WTO, the kind of issues that are not clearly covered by existing commitments and are pressing for the WTO membership to address? These will include:

- **Interconnection in the Internet:** Internet interconnection in the network space remains largely unregulated across the world, and yet many of the services developed for delivery now involve point-to-multipoint packet-switched networks as opposed to point-to-point circuit-switched networks. Current WTO agreements do not fully address Internet interconnection.³ Cloud communication and the IoT are delivered exclusively through digital networks whether over private or public Internet networks.
- **Access to unbundled network elements:** we see provisions on unbundled network elements in negotiations for the FTAA (Article 4.4) and the US-Korea Free Trade Agreement (KORUS) (14.7), but we need to see provisions in the form of an additional commitments, for example, in an amended RP. The need for unbundled network access provision in some developing country markets could be questioned, for example, where other priorities challenge resources, such as access to a reliable power network and clean drinking water. These are difficult issues for developing countries and less-developed countries' administrations to address, but effective competition over the last mile of a network is essential for ensuring end-users receive competitively priced services and network capacity is sufficient for delivery of broadband services, whether over existing network infrastructure or new networks/services. Access to broadband is important in improving efficiency of communication and assisting with innovation. A competitive last mile will feed into trade commitments made in broadcasting and computer services (perhaps as a cluster of network-based trade commitments, for with such commitments, it is possible to ensure new business models in delivery of video-on-demand services and other media-rich services over conditional access systems such as set-top boxes). One can also imagine that with the move to IPv6 and the IoT, there will be opportunities for data mining and research applications subject to end-

³ For a more complete analysis of this point, see Kariyawasam 2008a.

user consent for sharing of data. This, in turn, could lead to increased trade in data mining industries for developing countries with more competitively priced services for export over network-based industries, and again, subject to effective trade commitments being in place.

- **Universal service:** broadband provision needs to be integrated into member state domestic law with specific universal service obligation (USO) definitions — some RTAs and bilateral agreements refer to USO but do not mention specifics other than a loose and general provision ensuring the state has the right to determine its own provision. Templates are being created for establishing broadband USO obligations. For example, in the UK and Europe, to ensure that “all European households” can get a minimum Internet download speed of 100Mbps (Megabits per second) by 2025. Such a provision would not be legally enforceable but a commitment, although there is discussion of making basic broadband a legally enforceable service for all in Europe (ISPreview 2016). Given the rise of network capacity, there would be increasing pressure on the WTO to ensure a model USO provision in a revised RP that takes into account the varying levels of network status in developing and least-developing economies.
- **Competition safeguards in dealing with monopolies:** most agreements refer to WTO standard definitions but only on cross-subsidisation and access to information on technical interfaces for interconnection (NAFTA goes further, however, in including predation and non-discrimination). There need to be more explicit provisions on the type of anti-competitive practices arising from network externalities in telecommunications, including but not limited to margin squeezing, anti-competitive bundling and discrimination, and refusal to supply. Effective network and service delivery competition is a significant issue in telecoms, particularly in developing country markets where the incumbent operator is all powerful. Building a wider range of competition safeguards into a revised RP is a top priority for trade negotiators, especially for Internet

networks where the scalability can easily lead to network externalities and competition concerns. This will be hugely significant in the decade ahead as increasing numbers of consumers across the world gain access to broadband provision and the scalability of networks leads to increasing reliance on algorithms built into business processes. As mentioned at the beginning of this article, anti-competitive processes driven by “algorithms by design” at various levels of the Internet protocol stack could prove to be a major obstacle in achieving effective competition in the network space. Trade negotiators need to be mindful of such practices when revising the anti-competition provisions of the RP.

- **Protection of end-user privacy:** TPP Article 13.4 provides an example of a new provision protecting end-user privacy. There is a similar provision in TiSA (Article 9). Both use forms of wording on protection to end-user privacy balanced with the requirement to prevent a disguised restriction of trade. This contrasts with the India-Japan bilateral, in which the Section 3 Telecoms Annex provides for intra-corporate access to databases or otherwise stored in machine-readable formats. Fundamentally, all three provisions (in the India-Japan bilateral, the TiSA, and the TPP) provide for the movement of data where information is contained in databases or is in machine-readable form, but the TPP/TiSA provisions provide for greater balance with end-user privacy in personal data (as opposed to public data). The different approaches highlight the subtle distinction between data protection (securing data against unauthorised access, essentially a technical issue about processing data) and privacy (authorised access to data, essentially a legal issue as to who has access to the relevant data and how this access is legally defined). The TPP/TiSA provisions on data movement would likely be more welcome — at least by the Quad countries of Japan; the United States; Canada; and the European Communities (EC) — as part of a revised RP provision (effectively reflecting the fact that effective movement of data is both a basic telecommunications provision as

well as a value-added service provision — currently only the WTO Annexes on Telecoms and Financial Services contain a reference to data movement and in connection to scheduled commitments in other service areas. Adding a data movement provision to the RP is likely to be met with resistance from those WTO member states wishing for stronger data localisation measures, such as Russia, China, and Brazil. A compromise might be reached on how data is defined in a revised RP, for example, including a provision encompassing traffic data only (data applicable to public telecommunication networks and services and therefore falling capture to the RP), but excluding personal data, or even data in the public domain (“public data”) where regulatory capture will be for enhanced or value-added services via the Annex on Telecoms (subject to trade commitments scheduled in a WTO member state’s relevant Schedule of Specific Commitments).

- **Enhancing cybersecurity:** a provision on cybersecurity is not included in many of the older RTA agreements, but specific references are made in the TPP (Article 14.16 Cooperation on Cybersecurity Matters) and the TiSA (e-commerce and digital trade sections). There was some concern that Chapter 8 of the TPP (Technical Barriers to Trade — Annex 8-B (A.3)) could prevent member states from requiring companies, such as Apple or Facebook, from delivering encryption keys for end-to-end communications, but Chapter 29 of the TPP provides robust exceptions for states to impose restrictions on any aspect of the agreement for national security reasons. We could see similar cybersecurity provisions in a revised RP that could sit alongside the privacy and data movement provisions mentioned above.
- **Allocation of scarce spectrum:** most agreements, such as the East African Community (EAC); the Gulf Cooperation Council (GCC); the South Asian Free Trade Area (SAFTA); the Commonwealth of Independent States (CIS); ASEAN-INDIA; the Southern African Development Community (SADC); CARICOM; and Mercosur adopt wording similar

to Article 6 of the WTO RP. We need to question whether this goes far enough for current wireless networking functions involving Cloud computing and the IoT, for example. If we can imagine a revised USO to include broadband provision, then with greater use being made of wireless spectrum in “domestic dwellings” for the IoT, demand for wireless spectrum will become increasingly contested. Again, clearer provision in a revised RP will provide greater certainty for telecom operators wishing to invest in wireless Internet in the last mile.

- **Transparency of licensing:** given the range of new licensing provisions in the TiSA and the TPP, is there scope for including a higher level of transparency in the RP provisions?
- **Mobile number portability:** the guarantee of roaming is as an example of a new provision in the TPP (Article 13.6).
- **Independent regulatory body:** a truly independent regulator needs to be arm’s length from both industry and government (for example, the India-Japan agreement guarantees only independence from industry in S.13 Telecoms Annex). Article 12.3 negotiations on the FTAA Telecoms Annex and Article 14.19 of KORUS provides for judicial review of regulatory body decisions. The wording seen in these agreements or draft agreements could usefully be imported into the regulatory RPs as a form of additional commitment.
- **Technology of choice:** (see TPP and TiSA): examples of new provisions on choosing protocol and technology of choice are listed in the TiSA (Article 13.23). This is an interesting provision and is likely to be contested by some developing countries. For example, when financing advanced networks, any such financing should allow the operator to use technologies that conform to its own public policy interests. This is a wide-ranging provision and would seem to allow for a high level of discretion in favour of investors. Such a provision could lead to a technology lock-in for the country in allowing the

operator to dictate the technology used, but to some extent this provision is balanced in the TiSA through Article 4, requiring governments to establish a rule-making process where market forces have not achieved their legitimate public policy objectives.

- **Fair competition:** new provisions in the TPP and the TiSA provide for access to poles and ducts and access to leased circuits. The digital economy can thrive only if there is open access to the very basic building blocks of networks: poles, ducts, leased-circuits for closed user group provision, or guaranteed quality of service on Internet routes. To some extent, these TPP and TiSA provisions provide for more effective competition in the last mile and will be significant in developed country markets, where there is a higher level of competition for more lucrative broadband end-user accounts; but, in less-developed markets, national state incumbents will need to see a return on investment in infrastructure where facilities-based competition is staged providing a necessary layer of protection from foreign competition. Legal protections might be built into regulatory frameworks in developing countries by allowing for national telecommunication incumbents to provide protected services (for example, services of a general economic interest) [Kariyawasam 2008b].
- **Cooperation for trade facilitation:** independent regulatory body, provisions on standards harmonisation, mutual recognition, and discussion of digital technology and platforms need to be taken into account. (EU-Mercosur Article 16 coordination around integrated services digital networks (ISDN), now replaced by TCP/IP, joint research in communications technologies).

There is optimism that in some of the deeper-level integration agreements and a selection of bilateral agreements there is a higher level of convergence in telecoms-related commitments that bodes well for the multilateralisation process, particularly on:

- general liberalisation: role and status of independent regulator, licensing;
- anticompetitive effects;
- interconnection (circuit-switched only — see comments packet-switched interconnection above);
- universal service; and
- movement of data (to some extent taking into account concerns from some member states over localisation of data).

The WTO's RP and Annex on Telecoms have enjoyed a measure of success throughout the world with a number of deeper-level integration RTA and bilateral commitments in telecommunications that reflect some of the provisions in these two pioneering WTO instruments. However, reform of the WTO RP is urgently required to take account of the movement to the IoT, decentralised network management by telecommunication operators, ISPs, and network providers for data centres, EDGE and NGN technology, and of course, the mass take-up of Cloud. The question has always been posed as to whether RTAs and bilaterals are more stumbling blocks than stepping stones to multilateralisation.

3. Conclusion: Policy Recommendations

The answer to the question posed above must be that bilateral negotiations have moved forward the possibility of greater convergence for renewed multilateral negotiations, at least in the telecommunications sector. The indication of telecoms is that commitments in both RTAs and bilaterals could be stepping stones to a multilateral process so long as the political will is there. The digital economy, more so than most other sectors, has the benefit of linking micro communities with the macro, achieved only through the scaling that interconnected digital networks can achieve. Effective interconnection of these networks likewise can only be achieved on a uniform basis through harmonised regulatory provisions across the different trading blocs either through actual harmonisation; a common regulatory instrument (such as the RP); or through mutual recognition of regulatory standards. Continuing to move ahead bilaterally across the different trading

blocs is likely to result in piecemeal outcomes. Nevertheless, the bilateral approach has paved the way to improved dialogue between sovereign states on enhanced competition, interconnection, network access, network security, regulatory independence, cybersecurity, and spectrum management. Efforts to open a dialogue on e-commerce (increasingly recognised alongside telecoms, broadcasting, and computer software as the “digital economy”) in bilateral negotiations have been much more successful than through the stalled e-commerce negotiations in the multilateral Doha and previous rounds. In this respect, credit should be given to the group of Quad countries. However, powerful e-commerce actors, such as Japan and the US, want to push further with increased commitments in cybersecurity, IP, competition, and telecoms among other sectors.

There is need for an improved RP. The “top hits” for new or amended provisions in such an instrument include: (i) amending the competition safeguards to include predation, discrimination, and margin squeezing; (ii) amending the interconnection provisions to include new conditions for Internet interconnection; (iii) including a new section on “information” to cover data localisation, data movement through publicly available telecom networks balanced with safeguards on protection of privacy of information; and (iv) strengthening the requirements for an independent regulator by providing a legal right for judicial review of regulatory decisions.

All these provisions really count in the digital economy sector. Most service and network platforms for the digital economy involve digital (packet-switched) networks as opposed to analogue (circuit-switched) networks that run over private or public Internet circuits. It is imperative that national regulatory authorities are able step in with mandatory Internet interconnection where required or mandate access when dealing with refusal to supply by large incumbents with dominance over those Internet circuits/routes. Internet interconnection conditions should work hand-in-hand with more effective competition provisions, as unlike circuit-switched connections, there is greater competitive threat for abuse of dominance in any of the

layers of the Internet protocol stack and the disguise of such abuse of dominance through enhanced encryption of communication protocols across end-to-end networks. As mentioned, this will become increasingly obvious with the power of algorithms to shape traffic at any layer of the internet protocol stack. Without effective network probes embedded in public telecommunication networks, the regulator is simply unable to see the effects of such dominance: the regulator is “blind.”

The digital economy is booming and end-users, small- and medium-sized enterprises (SMEs), and corporations are getting on with the job of innovating, generating new products, and making money. Will the law always play catch-up to the technology, or is it possible that with some vision and enlightened leadership, we could design a regulatory framework that is both advanced for its time and technologically neutral?

There is great opportunity now to push ahead for reform of the RP. This must happen to yield even greater benefits from the digital economy for developing and developed economies alike. The economic benefits to the developing world of pushing harder and deeper into the digital economy are now much better understood than ever before (Dahlman et al. 2016), but the regulatory conditions to enable this to happen are not as equally understood.⁴ Pushing ahead with reform of the RP must be a priority for the WTO.

⁴ For a more comprehensive discussion of the regulatory tools required to achieve better “reversed trade” from developing to developed economies in the digital economy, see Kariyawasam 2008c.

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Jointly implemented by the International Centre for Trade and Sustainable Development (ICTSD) and the Inter-American Development Bank (IDB), the RTA Exchange works in the interest of the sharing of ideas, experiences to date and best practices to harvest innovation from RTAs and leverage lessons learned towards progress at the multilateral level. Conceived in the context of the E15 Initiative, the RTA Exchange creates a space where stakeholders can access the collective international knowledge on RTAs and engage in dialogue on RTA-related policy issues.

