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Digital Trade in Analogue Regime:

Liberalization of Digital Trade and the Role of Trade Agreements

아날로그 체제 하의 디지털무역:

디지털무역 자유화와 무역협정의 역할

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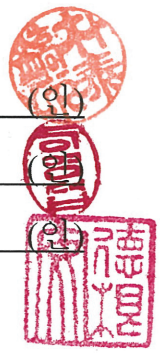

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ABSTRACT

The growing pervasiveness of Internet connectivity and the widespread use of information communication technologies have helped cross-border digital trade expand. However, as digital trade mushrooms, governments are naturally tempted to set up protectionist trade policies to protect public morals or to safeguard the domestic service industry. This is where international trade agreements come in to prevent countries from adopting discriminatory trade policies and bring heterogeneous domestic disciplines in compliance with international ones. This paper aims to examine what contribution multilateral trade agreements/negotiations, the WTO dispute settlement body, and bilateral or regional trade agreements have made to promote the liberalization of digital trade.

At the multilateral trade negotiation level, several rounds of negotiation on digital trade was held based on the WTO Work Program on E-Commerce. However, WTO Member countries have agreed only on the temporary expansion of duty-free moratorium on electronic transmissions, failing to draw any concrete agreement on other thorny issues because of different national interests in digital trade.

The WTO dispute settlement body have had a chance to clarify digital trade-related issues in two trade disputes: *US-Gambling* and *China-Publication*. One of the greatest progress made in *US – Gambling* is the confirmation that WTO rules are indeed applicable to e-commerce or electronically supplied services. It is also confirmed that GATS mode 1 (cross-border supply) commitments are applicable to cross-border electronic delivery of services. Yet in the two cases,

Panels and the Appellate Body avoid to make a ruling on the issue of likeness and technical neutrality.

With the Doha Round in stalemate, major players in international digital trade are relying on bilateral or regional trade agreements to establish new rules applicable to digital trade. Several achievements are witnessed: the duty-free moratorium on digital products becomes permanent; countries take a pragmatic approach toward the classification of digital products; the applicability of WTO rules to electronic commerce is confirmed; non-discriminatory treatment is applicable to digital products; deep digital trade rules start to appear. Yet WTO Member countries should make their best endeavor to make digital trade-relevant rules in bilateral or regional trade agreements compatible with one in the multilateral trading system.

Digital trade has become an integral part of multilateral trade negotiations and regional trade agreement negotiations. This study examines the liberalization movement of digital trade in three arenas: in WTO multilateral trade negotiations (WTO-led liberalization), in WTO dispute settlement body (DSB-led liberalization), and in regional trade agreements (RTA-led liberalization). Global trade environment surrounding digital trade, for the time being, is likely to be established through regional trade negotiations and common provisions in e-commerce chapters are expected to become a global trade norm. With few achievements so far, uncertainties about the future negotiation process make desire for global rules on digital trade nothing but swelling. Negotiation shall continue.

Keywords: **digital trade, e-commerce, electronic delivery of services, digital products, trade agreements**

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I. Introduction

A paradigm shift is under way in how we do business, manufacture goods, deliver services, and consume products in a digital age. With a near-ubiquity of Internet connectivity and the pervasive use of information and communication technologies (ICTs)[1], the landscape of international as well as domestic trade has drastically changed over the last two decades.

The Internet and information communication technologies have transformed the way most goods and services in the economy are produced and delivered across borders. Customs clearance by local authorities, followed by consequent duties and charges has been a matter of course for conventional goods imported into a country. However, some specific groups of items – music CDs, movie DVDs or cinematograph films, books, or software – are now being traded through digital network without any tangible properties[2], thus making customs authorities impossible to impose customs duties and place any border measures on them.

[1] The International Telecommunication Union estimates that by the end of 2014, the number of Internet users globally will reach almost three billion and that of global mobile-broadband subscriptions will increase to 2.3 billion, almost five times as many as just six years earlier. See ITU (2014).

[2] Some criticize Apple's iTunes, a legitimate online music download service, for

Changes in the service industry are even more impressive. In traditional international economics theory, services, unlike goods, have been considered non-tradable, and thus no international economics textbook has allocated a chapter for services trade. It was assumed that the fundamental character of service that consumers and providers should be in the same place at the same time in order for a transaction to take place made services ill-suited to be traded across national borders.[3] Now, with the advent of the Internet and the rapid development of ICTs, a myriad of service sectors have become tradable even with a trading partner on the other side of the planet. Digitally delivered services –video-on-demand streaming services, data management or storage services, on-line gaming services, on-line news agency services, to name a few – are the typical examples of cross-border services which were unheard of before the popular use of the Internet.

destroying the music industry, whereas others praise it as a new business model in the digital era. See Braga (2005).

[3] Think about conventional medical service. A patient should visit a clinic to purchase a medical service from a doctor. One could hardly consume a medical service from a doctor residing in a neighboring country or could not save one for later use.

The stunning development of ICTs and the ubiquitous access to broadband Internet services are viewed in the business community or academia as a tool to streamline digital trade flows or electronic cross-border delivery of services by facilitating flows of information. They are also expected to offer new opportunities for small-and-medium-sized enterprises (SMEs) to gain a solid footing on the global market by eliminating a physical distance barrier and reducing transportation costs. From a consumer's perspective, business experts and economists envisage that these innovations would make consumers better off by providing easy access to a variety of goods and services with much less costs. On the other hand, an increasing number of services can now be unbundled with the help of sophisticated ICTs. Just as global value chains (GVCs) in manufactured products, the unbundling of services has opened up niches that can be exploited by developing economies as well as advanced economies. For instance, business process outsourcing emerges as a new economic growth momentum for developing economies with well-educated abundant IT workforces like India and Pakistan.

However, the hope that the Internet would help approximate a textbook free trade model in services market may be deceived (Wunsch-Vincent 2001). As digital trade mushrooms, governments are naturally tempted to set up protectionist trade policies on electronically delivered cross-border services or on digital products for the purpose of protecting public morals or maintaining public order or the purpose of safeguarding the domestic service industry against services suppliers or services of foreign origin. In practice, regulatory policies do reflect societal values and in this context inevitable is friction across national jurisdictions (Braga 2005). This is where international trade agreements, namely the World Trade Organization (WTO) and bilateral or regional trade agreements (RTAs), come into play, preventing countries from adopting discriminatory trade policies and bringing heterogeneous domestic disciplines in compliance with international ones.

Against this backdrop, this study gives an account of what contribution multilateral trade agreements/negotiations, the WTO Dispute Settlement Body (DSB), and regional trade agreements have made to promote the expansion of

digital trade. Few, if any, studies have tried to provide a unified framework for understanding the liberalization of digital trade from a multidimensional perspective. This study examines in great detail the liberalization of digital trade not only from the perspectives of multilateral trade negotiations and dispute settlement body but also from the perspective of RTAs and draws policy implications for service trade negotiators.

It is necessary to define some terminology before scrutinizing the liberalization of digital trade and the role of trade agreements. The definition of digital trade is not made explicit in literature; but digital trade here refers to electronic cross-border trade flows of data, services, and digital products (Wunsch-Vincent 2008). Digital products can be defined as products, irrespective of their characteristics whether they are goods or services, which used to rely on physical media for cross-border delivery but today can be transported in digital form. Electronic commerce (e-commerce)[4] substitutes for digital trade in some context.

[4] The WTO Work Program on Electronic Commerce defines the term electronic commerce to mean the "production, distribution, marketing, sale or delivery of goods

This paper is structured as follows: Chapter II begins by exploring economic dimensions of digital trade. Chapter III, IV, and V, in sequence, examines the issues concerning the liberalization of digital trade in multilateral trade agreements context, in WTO dispute settlement context, and in regional trade agreements context. Chapter V presents policy implications based on findings and concludes.

and services by electronic means." WT/L/274, para. 1.3.

II. Economic Dimensions of Digital Trade

It comes as no surprise by now that digital trade is expected to bring a sea change in international exchange in physical goods or services. With the potential influence of digital trade on the real world in mind, it is worthwhile taking a descriptive look at how the landscape of international trade has been affected by digital trade. Digital trade may exert most powerful influences on two types of products: digitalized media products, a specific sub-sector of digital products, and digitally-enabled services.

1. Trade in Digitalized Media Products

Academic literature on the impact of distance on trade finds that the effects of distance have begun to decline, driven in large part by digitization (Riccaboni *et al.* 2013). One of the major product groups of which physical distance barrier fades away most by digitization is media products. A series of media products traditionally traded in a physical carrier medium can now be delivered over the Internet in electronic form. It is because these kinds of products are more easily converted into digitalized form than any other physical goods and in digitalized

Table 1 World Trade in Digitalized Media Products, 1990-2013[ab]

Commodities (incl. SITC code)		Years 1990 (in millions of US$)	1990 (in % of total)	2000 (in millions of US$)	2000 (in % of total)	2013 (in millions of US$)	2013 (in % of total)	Average Annual Growth Rate 1990-2013
Cinematograph film 883								
	Export	311.4	1.2%	367.1	0.7%	75.8	0.1%	-10.3%
	Import	309.9	1.0%	359.6	0.6%	77.8	0.1%	-10.1%
Printed matter 8921								
	Export	7,144.9	26.4%	10,748.3	20.5%	16,371.9	26.7%	6.6%
	Import	7,472.3	24.8%	11,706.4	20.4%	16,169.8	24.6%	6.1%
Newspapers, journals, etc... 8922								
	Export	3,287.1	12.1%	4,163.9	8.0%	5,239.5	8.5%	3.7%
	Import	3,514.0	11.7%	4,745.7	8.3%	5,402.7	8.2%	3.4%
Advertising material 89286								
	Export	2,798.2	10.3%	4,090.5	7.8%	5,905.7	9.6%	5.9%
	Import	3,021.6	10.0%	3,573.3	6.2%	5,022.2	7.7%	4.0%
Other printed matter Other 892								
	Export	2,990.2	11.0%	5,605.0	10.7%	11,832.7	19.3%	11.2%
	Import	2,899.2	9.6%	6,178.8	10.8%	12,208.4	18.6%	11.7%
Video games 89431								
	Export	506.0	1.9%	2,702.7	5.2%	10,080.8	16.4%	25.9%
	Import	2,673.6	8.9%	5,206.1	9.1%	14,519.8	22.1%	13.9%
Recorded magnetic tapes 8986*								
	Export	1,599.1	5.9%	1,348.5	2.6%	0.0	0.0%	-63.8%
	Import	1,619.3	5.4%	1,730.7	3.0%	0.1	0.0%	-53.5%
Other recorded media 8987* (CD, CD-ROMs, discs, etc..)	Export	5,443.5	20.1%	17,737.3	33.9%	1.8	0.0%	-46.1%
	Import	5,690.3	18.9%	17,797.2	31.0%	18.7	0.0%	-35.6%
Sub-total								
	Export	27,070.5	100.0%	52,368.4	100.0%	61,340.9	100.0%	6.5%
	Import	30,099.4	100.0%	57,476.7	100.0%	65,627.9	100.0%	6.2%
World Total Trade								
	Export	2,878,218.3	0.9%	6,052,320.2	0.9%	16,091,174.0	0.4%	14.2%
	Import	3,049,385.6	1.0%	6,495,935.5	0.9%	16,392,708.6	0.4%	13.8%

Note:
[a] Intra-EU trade included.
[b] Chinese Taipei not included.
[*] Recorded software support items have been reported by countries under both SITC codes 8986 and 8987 without further precision. Packaged software could therefore be included under either or both SITC codes.
Source: Adapted from Perez-Esteve and Schuknecht (1999) and modified by the author using data from UN Comtrade.

world the marginal cost of production and distribution of these digital products is virtually zero.

With the help of Table 1, one can identify the substantial impact of digital trade on digitalized media products. Table 1 provides the trend of possible digitalized media products trade in the years of 1990, 2000, and 2013 by sub-categories. Global trade in these products more than doubled over the last 23 years, from USD 57 billion in 1990 to USD 127 billion in 2013. On the contrary, their shares

in total world trade halved during the same period from 0.9% to 0.4%. Since a growing GDP is unlikely to accompany a diminishing demand on media products, it is reasonable to conclude that some other forms of international transactions, which are vastly different from conventional means of trade, are taking place. One of the possible new forms of transactions is licensing; an entrepreneur in home country may be licensed by a media content provider in a foreign country to produce CDs and DVDs and sell them to domestic consumers. This type of international transactions involves only international services, eluding conventional trade statistics and making it smaller than actual trade volume. Another possible explanation is the use of the Internet as a new way of transmission. Supposedly, a great share of media products, which used to be traded in physical form, is now being transmitted across borders electronically via the Internet without being captured by traditional trade statistics.

Taking a close look at the table, a significant drop in cinematograph film (SITC 883), recorded magnetic tapes (SITC 8986), and other recorded media (SITC 8987) is noteworthy. In 2013 there is virtually no cross-border trade in these

products in physical form; but, as mentioned above, it is too naïve to conclude that no international trade in these subgroups is taking place. There must be a vast amount of transaction going on over the digital networks in the form of bits and bytes and no appropriate statistical method has been developed to capture their trade flows. In the meantime, printed matter (SITC 8921) including printed books, pamphlets, maps, and globes still accounts for the lion's share among the product groups. It shows that, despite the recent introduction of various hand-carrying digital devices such as e-book readers and tablet PCs in the market, a significant portion of printed matter is still being traded in physical form, leaving great potential for digital trade in this sector.

2. Trade in Digitally-Enabled Services

Electronic delivery has been playing crucial role for the development of cross-border trade in services. Not only has it facilitated services trade flows across borders but also made the supply of certain cross-border services seemingly unfeasible possible. To illustrate, traditional news services, which once used to be transmitted via fax or telephone to a limited extent, are now being delivered

across borders and consumed by a larger audience with the help of the development of ICTs. In other example, ICTs also enabled cross-border trade in health-related services – it is still in its infancy, though – and business process outsourcing[5], which were virtually impossible to be traded.

Having said that, it is not easy to measure the exact amount of flows of services traded in digitalized form. Several attempts have been made to measure cross-border electronic services trade. The Organization for Economic Development and Co-operation (OECD) defines ICT services based on the Central Product Classification (CPC) version 2.0 in 2006. Its definition of ICT services, however, is inappropriate to examine trends in services trade flows in electronic form because the CPC is not used to capture trade in services statistics, which are mainly estimated using the International Monetary Fund (IMF)'s Balance of Payment classification. To fill this gap, the United Nations Conference on Trade

[5] Business process outsourcing (BPO) is the "delegation of one or more IT-intensive business processes to an external provider that in turn owns, administers and manages the selected processes based on defined and measurable performance criteria." (Wunsch-Vincent and McIntosh 2005). A primary example of BPO is the decision by a multinational headquartered in the U.S. to contract out call-center services to a firm located in India.

and Development (UNCTAD) has been using "ICT-enabled services" to analyze trade and investment flows (UNCTAD 2007).

ICT-enabled services of the UNCTAD are composed of the following categories from the standard IMF balance of payments presentation[6]: communications services; insurance services; financial services; computer and information services; royalties and license fees; other business services; and personal, cultural, and recreational services. The United States Bureau of Economic Analysis (BEA) has also examined trends in "digitally-enabled trade in services" – corresponding to ICT-enabled services trade – based on BEA's published statistics on international trade in services.[7]

This paper also follows the rationale of the UNCTAD and BEA, defining digitally-enabled services or ICT-enabled services as "those for which digital information and communications technologies play an important role in

[6] The IMF publishes recommendations for compiling balance of payments statistics to ensure that the statistics keep pace with economic developments and to enhance international comparability. The most recent recommendations were published in the *Balance of Payments and International Investment position Manual, 6th edition*.
[7] US BEA. (3 September, 2012). Trade in Digitally Enabled Services Shows Strong Growth. Retrieved from http://blog.bea.gov/2012/09/03/digitally-enabled-services/ (Accessed 18 October 2014).

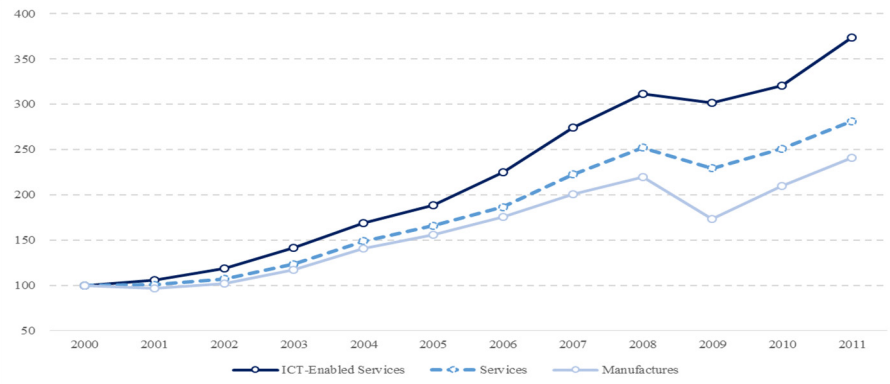
accelerating or easing cross-border trade in services (UNCTAD 2007; Borga and Koncz-Bruner 2012)." The paper also identifies the categories of digitally-enabled services in UN Service Trade database and OECD Statistics on International Trade in Services database as communication services; computer and information services; financial services; insurance services; royalties and license fees services; other business services; and personal/cultural/recreational services. Nevertheless, there is indeed no way to measure the amount of trade in these industries that actually takes place over digital networks, and the exact composition is available nowhere. To avoid this difficulty, a number of previous literature (UNCTAD 2007; US BEA 2012; US ITC 2013) examining global trade flows of digital services assume that all international transactions in such industries are digital, as does this paper.

A decade's trend of global trade in ICT-enabled services is represented in Figure 1 and Table 2. In 2000 world exports and imports of ICT-enabled services amounted to over USD 1 trillion, accounting for 35.4% of total world services trade. By the end of 2011, world ICT-enabled services trade reached almost

USD 4 trillion, recording an astounding 274% growth in a decade, much higher compared to a 182% growth of total services trade or a 177% growth of total goods trade. Among other categories, computer and information services have registered the most spectacular growth over the last 11 years, from USD 57 million in 2000 to USD 375 million in 2011, followed by insurance services (357%) and royalties and license fees (267%).

Since not many countries compile relevant statistics in satisfactory detail, it is not easy to compare trade in digitally-enabled services between countries in detailed level. In this light, OECD Statistics on International Trade in Services

Figure 1 Trends of Trade in Manufactures, Services, and ICT-Enabled Services, globally, 2000-2011 (index, 2000=100)



Source: Calculated by the author based on UNCTAD stat, UN Comtrade using WITS, and UN Service Trade Statistics Database

Table 2 Global Trade in ICT-Enabled Services, 2000-2011

	Trade						
	2000		2005		2011		% Growth
	in USD mil	% share	in USD mil	% share	in USD mil	% share	(2000-2011)
Communications	55,992.9	1.9%	99,548.3	2.0%	182,335.7	2.2%	225.6%
Insurance	59,613.5	2.0%	129,409.9	2.6%	272,397.9	3.3%	356.9%
Financial	129,509.3	4.4%	238,530.5	4.8%	430,797.0	5.2%	232.6%
Computer and information	57,332.8	1.9%	155,198.9	3.1%	375,086.3	4.5%	554.2%
Royalties and license fees	157,966.0	5.4%	295,689.1	5.9%	579,156.0	7.0%	266.6%
Other business	552,307.8	18.7%	1,002,076.2	20.1%	1,984,783.7	23.9%	259.4%
Personal/cultural/recreational	29,355.3	1.0%	41,000.8	0.8%	71,383.7	0.9%	143.2%
ICT-enabled services	1,042,077.6	35.4%	1,961,453.7	39.3%	3,895,940.4	47.0%	273.9%
Total Services	2,947,117.3	100.0%	4,990,523.5	100.0%	8,297,407.0	100.0%	181.5%

Source: Calculated by the author based on UN Service Trade Database

database serves as a useful dataset to look at flows of digitally-enabled trade in services because it collates comprehensive services trade data from OECD member countries and selected other countries. Not every country in the global service market is on the scope of the database[8]; nevertheless, as these data describe trends in all developed markets, it is highly likely that they capture the majority of information on trade in digital services globally (US ITC 2013). Table 3 gives an overview of digitally-enabled services trade flows in 2011 in

[8] The database includes (the following) 35 countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Russian Federation, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.

Table 3 Digitally-Enabled Services Trade, Selected Countries and Sectors in 2011 (in USD mil, %)

		Communication	Computer & Information	Financial	Insurance	Royalties & License Fees	Other Business Services	Personal/Cultural/ Recreational	Share of ICT-Enabled Services in Total Services	Total Services
EBOPS 2010 Classification										
Canada										
	Export	N/A	9,622.1	6,955.7	2,195.7	3,345.5	26,114.9	2,515.3	59.9%	84,737.2
	Import	N/A	4,972.0	5,214.8	5,919.7	10,409.4	19,769.9	2,033.5	44.9%	107,594.8
EBOPS 2002 Classification										
Belgium										
	Export	4,526.3	4,864.1	3,822.9	1,206.6	2,578.7	33,847.0	747.9	54.0%	95,481.4
	Import	3,494.8	3,656.1	2,285.4	1,305.3	2,624.6	27,710.9	891.1	46.0%	91,302.6
France										
	Export	6,377.9	4,189.9	6,525.3	5,322.8	15,704.3	71,819.9	4,137.0	50.8%	224,460.8
	Import	4,538.8	5,201.9	3,670.0	3,038.8	9,940.8	56,717.5	3,664.4	45.5%	190,783.4
Germany										
	Export	5,674.5	18,605.6	14,647.8	6,393.2	14,333.7	88,594.6	906.4	56.3%	264,728.8
	Import	7,690.2	16,331.3	9,501.6	4,554.1	13,161.8	77,657.1	2,714.9	44.4%	296,277.9
Ireland										
	Export	632.5	44,232.7	9,167.9	11,312.9	5,054.5	31,658.9	353.1	90.5%	113,223.7
	Import	1,495.8	945.3	6,635.1	8,336.6	40,621.1	48,162.6	207.1	91.9%	115,739.8
Japan										
	Export	760.1	1,198.2	4,110.7	1,657.8	29,058.2	45,366.6	159.3	56.6%	145,506.7
	Import	972.7	4,217.9	3,346.0	6,806.2	19,157.8	45,889.2	977.3	48.6%	167,579.9
Korea										
	Export	827.9	426.0	3,389.1	518.4	4,335.6	18,464.3	929.4	30.3%	95,257.2
	Import	1,540.1	558.5	894.4	686.2	7,294.5	34,679.1	1,023.4	46.2%	101,106.7
Netherlands										
	Export	5,934.3	6,297.7	1,567.9	712.5	30,850.0	42,555.2	790.6	64.2%	138,256.9
	Import	4,751.9	5,269.7	1,751.0	1,189.1	21,696.6	41,246.4	778.0	63.0%	121,636.7
Spain										
	Export	2,297.9	6,697.7	5,289.5	1,370.7	1,063.5	34,359.9	2,172.8	37.5%	142,099.5
	Import	2,823.4	3,100.0	5,005.9	2,063.0	2,780.3	33,648.2	2,113.0	54.5%	94,501.3
United Kingdom										
	Export	10,358.2	14,687.4	64,953.3	16,358.5	14,176.3	89,925.2	4,609.5	73.2%	293,789.4
	Import	7,536.8	6,397.6	12,295.3	3,520.0	10,661.1	48,460.2	1,025.4	49.7%	180,701.2
United States										
	Export	12,886.0	15,500.6	74,055.0	15,477.0	120,836.0	117,175.3	893.2	58.7%	607,742.7
	Import	8,057.0	24,537.7	16,207.0	56,620.0	36,620.0	78,191.8	564.5	51.4%	429,211.3

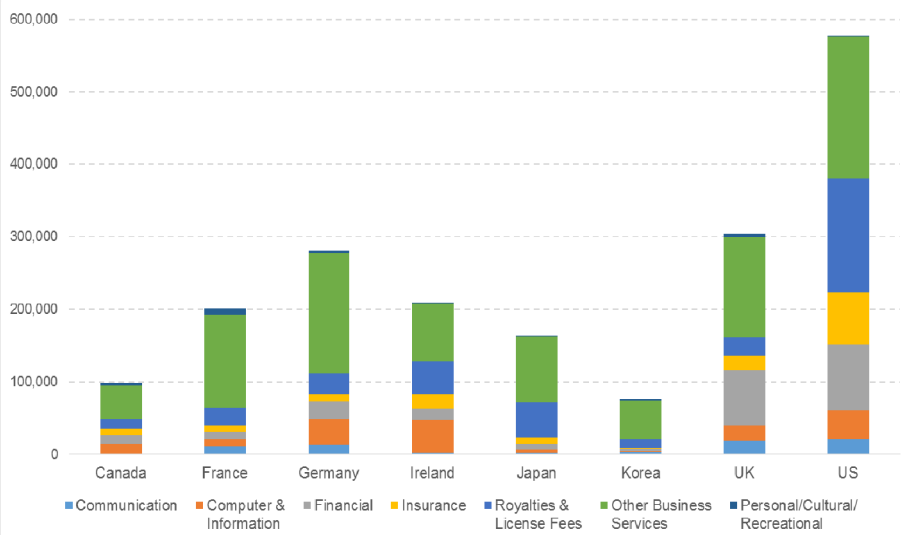
Note: Data of Canada are in EBOPS 2010 classification. Those of the rest of the countries are in EBOPS 2002 classification.
Data of computer & information services refer to Telecommunications, computer, and information services in EBOPS2010.
Communication services category is not available in EBOPS 2010.
Insurance services include Insurance and Pension services in 2010.
Data of Royalties & License Fees refer to charges for the use of intellectual property n.i.e. in EBOPS 2010.
Source: Calculated by the author based on OECD Statistics on International Trade in Services

selected countries[9] retrieved from the most recent statistics available in OECD Statistics on International Trade in Services. More than half of services exports and imports of each country are being transmitted via electronic network. In absolute terms, the United States is by far the most active player in global digital

[9] For data of more countries, see Annex 1.

services market, trading as much as USD 600 billion. However, of 11 countries Ireland and the United Kingdom are leading countries in using ICTs to deliver services across frontiers; exports of ICT-enabled services account for 90.5% and 73.2% of total services exports in Ireland and in the U.K., respectively. Considering the vast presence of global IT firms in their territories and their specialization in highly digitally enabled industry – for example, financial industry – the figures come as no surprise.

Figure 2 Components of ICT-Enabled Services in Selected Countries in 2011 (in USD mil)



Source: Calculated by the author based on OECD Statistics on International Trade in Services

ICT-enabled services category is broken down into sub-categories in Figure 2 to make a comparison among selected economies more noticeable. The most important services sector for cross-border trade in most of the countries is "Other Business Services," including, *inter alia*, legal services, accounting and auditing services, business and management consulting services, advertising services, R&D services, and architectural and engineering services. In the U.K. and the U.S. "Financial Services" accounts for a larger share of their ICT-enabled services than any other countries. The services trade structure of Ireland is peculiar; unlike other countries, Ireland exports more computer and information services (USD 44.2 billion) than other business services (USD 31.7 billion), while importing only less than USD 1 billion of computer and information services.[10]

Digital trade illustrated by digital media products trade or ICT-enabled services trade is expected to grow further and become more prevalent, making our life more enjoyable and bringing economic prosperity to developing economies as

[10] One cannot ignore the status of Ireland as a tax heaven for global IT companies, which operate their branches in the country to take advantage of its tax system.

well as advanced economies. The latter holds particularly true considering that cross-border trade in services are playing a crucial role in making global production networks possible and maximizing efficiency in manufacturing process.[11]

What must be guaranteed to this end, however, is a free flow of information and barrier-free market access for foreign digital products and electronically available services or service providers of foreign origin. Moreover, the fragmentation of regulatory disciplines on digital trade via heterogeneous domestic regulations should be avoided to meet expectations of global trading environment free of any trade barriers in a digital era. This can be done most effectively by governments committing themselves to global norms of international trade agreements.

[11] This is often referred to as the "servicification" of manufacturing (whereby distinction between services and manufacturing is becoming blurred), which is in line with the growth of ICT-enabled services trade. For more details, see WTO (2013).

III. Liberalization of Digital Trade and Multilateral Trade Agreements

International regulatory disciplines on digital trade liberalization are being pursued in three-fold: at the multilateral trade agreements level (WTO-led liberalization); at the WTO dispute settlement level (DSB-led liberalization); and at the regional trade agreement level (RTA-led liberalization). Digital trade embraces not only a large number of interest groups and academic scholars, but international institutions in setting up international rules; the UNCTAD is involved in researching the development aspect of digital trade; the OECD pays close attention to the economic impact and the taxation of digital trade[12]; and the World Intellectual Property Organization (WIPO) is committed to addressing the intellectual property rights aspect of digital trade. Yet among them, the WTO framework is often referred to as the most obvious institutional umbrella for multilateral commitments associated with digital trade issues (Braga 2005). It is because the WTO withholds in its membership a wide variety of economies, ranging from least-developed economies to most-advanced

[12] For more details, see Kim and Lee (1998).

economies; it is equipped with the world's most effective and active dispute settlement system – Dispute Settlement Body – to settle a trade dispute raised by Member countries; it maintains the most democratic decision-making process – a consensus-based approach, which gives great leverage to developing economies; and it *per se* is established for the purpose of serving as negotiation fora for any trade-related issue.

This section depicts to what extent WTO-led liberalization on digital trade, has been made to curtail the potential for regulatory frictions and to harmonize heterogeneous regulatory environments in current analogue trade regime.

1. Information Technology Agreement and Basic Telecommunications Agreement

In order to reap the benefits from rapidly growing digital trade, one should be guaranteed to get her hands on ICT products – computers, mobile phones, software, and telecommunication equipment, to name a few – and get access to telecommunications networks.[13] In this respect, it is noteworthy, from the

[13] These are the elements of physical infrastructure layer, one of the three modern communication system layers (the others are code layer and content layer). For a discussion of this concept of the layers of communication systems see, for instance,

perspective of digital trade, that a group of WTO Members – a limited number may it be – at the multilateral level have agreed to liberalize ICT products and open their telecommunications market to international competition. These agreements are the Information Technology Agreement and the Agreement on Basic Telecommunications Services, respectively.

1) Information Technology Agreement (ITA)

At the close of the 1st Ministerial Conference in 1996 in Singapore, a total of 29 Members of the WTO[14] (including 15 EC member states) signed the Ministerial Declaration on Trade in Information Technology, so-called ITA.[15] At that moment they had already acknowledged the key role of trade in information technology products in the development of information industries and in the dynamic expansion of the world economy. Hoping that the agreement would encourage the continued technological development of the information technology industry on a world-wide basis, signatories agreed to bind and

Benkley (2000:562) and Braga (2005:542-543).

[14] They are Australia, Japan, Canada, Separate Customs Territory of Taiwan, Norway, European Communities, Singapore, Hong Kong, Switzerland-Liechtenstein customs union, Iceland, Turkey, Indonesia, and the United States.

[15] WT/MIN(96)/16. Adopted on 13 December 1996.

eliminate their customs duties and other duties and charges of any kind on a wide range of information technology products on a Most-Favored-Nation (MFN) basis.

Specific information technology products covered by the Agreement are listed in the attachment A and B. Customs duties and charges on semiconductor, semiconductor manufacturing and testing equipment, computers, flat panel displays, computer network equipment, computer software, telecommunications products, and scientific instruments are to be gradually brought down to zero no later than the year of 2005 depending upon each participants' stages of economic development.

The ITA is solely a tariff cutting mechanism without any binding commitments concerning non-tariff barriers. Any state or separate customs territory hoping for a membership on the Agreement must abide by three basic principles: all products listed in the Declaration must be covered; all must be reduced to a zero tariff level; and all other duties and charges must be bound at zero.[16]

[16] WTO. (n.d.). *Information Technology Agreement – Introduction*. Retrieved from

The commitments undertaken under the ITA are on an MFN basis, and thus benefits accrue to all other WTO Members, which makes a free-riding problem inevitable. In response to this problem, the Agreement introduces a critical mass approach, making the implementation of the Agreement contingent on expanding ITA participation to cover approximately 90% of world trade in information technology products by 1 April 1997. On 26 March 1997, participants agreed that this criterion had been met. A committee to carry out the provisions of the Declaration, was also established in accordance with the document on Implementation of the Ministerial Declaration on Trade in Information Technology Products ("Implementation" document[17]).

The Ministerial Declaration and the Implementation documents provide that participants will periodically review the product coverage (often termed ITA II negotiation) specified in the Attachments to the Declaration. Several subsequent meetings of the Committee were held to embrace emerging powerhouses in the IT sector – especially the People's Republic of China – and incorporate newly-

http://www.wto.org/english/tratop_e/inftec_e/itaintro_e.htm (Accessed 8 January 2015).
[17] G/L/160.

invented IT products. However, no agreement could yet to be reached and to date there has been no product added to the original coverage.

It is of much importance that the ITA is the first separate trade liberalization agreement successfully concluded on which negotiations were kicked off apart from the Built-in agenda in the wake of the Uruguay Round (Lee 2007). It is one of the major accomplishments of the multilateral trading system, which lays the foundation for the birth of digital trade. Had it not been for the ITA, the exponential growth of digital trade today would have much slowed down or been mediocre.

2) Agreement on Basic Telecommunications Services and Reference Paper

Internet connectivity is of the essence to the expansion of digital trade. In the same vein, access to the Internet and information heavily depends on the degree of liberalization undertaken by WTO Members in basic telecommunications services. Recognizing that basic telecommunications services are central to the smooth flow of trade in a large number of other services (Panagariya 2000),

GATS negotiators successfully brought the basic telecommunications negotiation to a successful conclusion, leading to the WTO Agreement on Basic Telecommunications Services (hereinafter, Basic Telecom Agreement) and Reference Paper.

The basic telecommunications negotiations have been held from May 1994 through February 1997 after the close of the Uruguay Round. Negotiation participants focused on opening telecommunications service markets and relaxing the rules on a request and offer basis. On 15 February 1997, 55 schedules of commitments representing 69 WTO member governments were agreed. These schedules were annexed to the Fourth Protocol to the GATS and the commitments entered into force in February 1998.

Taking into account the criticism on the modality of services trade liberalization of the GATS[18], participants in the negotiation reached a consensus that a set of regulatory principles, aimed at restraining the behavior of the major suppliers of

[18] The GATS sets out, contrary to specific commitments on market access (Article XVI) and national treatment (Article XVII), merely general obligations on domestic regulations (Article VI), monopolies and exclusive service suppliers (Article VIII), and business practices (Article IX), putting the GATS under criticism that it is of no effect in substantial liberalization of trade in services.

telecommunications services, were required. This was because there was the concern that large operators, capable of frustrating market access commitments, would dominate telecommunications markets. These regulatory principles are incorporated in the Reference Paper. The Paper *per se* contains no binding effect but once a member state puts it in additional commitments in its schedule, it becomes legally binding.

The regulatory principles in the Reference Paper encompass mainly obligations and responsibilities to major telecom suppliers and telecom regulatory bodies. Major suppliers are to provide interconnection on a nondiscriminatory basis; and they are also to provide services in sufficiently unbundled form that those seeking interconnections do not have to pay for unnecessary components and facilities.

It is noteworthy that not only the Basic Telecom Agreement and Reference Paper pave the way to easier access to information and knowledge in the globalized world, but they, for the first time in WTO negotiation history, aim to directly deal with domestic regulations in a specific sector. The Agreement may

serve as a good reference when negotiators seek to bring heterogeneous digital trade-related domestic regulations in each Member country into conformity with international norms.

Together with the ITA, the Basic Telecom Agreement greatly contributes to setting up ICT infrastructure with a view to proliferating cross-border transactions in digitalized form. Against this background, digital trade has emerged as a new way of international transactions and, at the same time, a number of countries have raised trade barriers against foreign digital products and digitalized services and/or digitalized service providers of foreign origin. Thus it is natural for the WTO to pay a close attention to the unprecedented but ever-burgeoning mode of trade and establishing regulatory disciplines in an effort to liberalize digital trade at the multilateral level.

2. WTO E-Commerce Work Program

At the multilateral level, several rounds of negotiations were convened to address cross-border digital trade issues. On the one hand, the ITA and Basic Telecom Agreement were concluded and indeed came into force, laying the

foundation of technological infrastructure for the growth of digital trade. On the other hand, the GATT and GATS negotiations, to a certain extent, have attempted to deal with much debated issues on electronic cross-border delivery of products and services. Among the multilateral negotiations/agreements, the WTO Electronic Commerce Work Program is of much interest to WTO Members. In this section, the study takes a brief look at the history of multilateral trade negotiations on e-commerce and examines issues and accomplishments under the WTO E-Commerce Work Program.

1) History of Trade Negotiations of E-Commerce

The onset of trade negotiation goes hand in hand with world history. Put another way, it is integral to have a solid knowledge on negotiation history in order to better understand issues and to gain a vantage point at a negotiation table. In this light, it is meaningful to overview historical records of negotiation rounds concerning e-commerce or digital trade in the WTO.

Inspired by its road map, "A Framework for Global Electronic Commerce[19]" prepared by the Clinton administration in July 1997, the delegation of the United States, in February 1998, proposed the international codification of duty-free on e-commerce to the WTO General Council. The WTO Committee for Trade and Development adopted the agenda suggested by the United States, including it to the WTO negotiation agenda.

In May 1998, a growing importance of electronic commerce in international trade and looming concerns on regulatory heterogeneity led WTO Members to adopt the "Declaration on Global Electronic Commerce[20]" at their Second Ministerial Conference in Geneva, Switzerland. The WTO General Council established a comprehensive work program to examine all trade-related issues of global e-commerce pursuant to the declaration. The declaration also included

[19] It suggests five principles for e-commerce: the private sector should lead; governments should avoid undue restrictions on e-commerce; where governmental involvement is needed, its aim should be to support and enforce a predictable, minimalist, consistent, and simple legal environment for commerce; governments should recognize the unique quality of the Internet; e-commerce over the Internet should be facilitated on a global basis. Retrieved from http://clinton4.nara.gov/WH/New/Commerce/read.html

[20] WT/MIN(98)/DEC/2, adopted on 20 May 1998.

a so-called moratorium, stating that "Members will continue their current practice of not imposing customs duties on electronic transmissions.[21]"

The "Work Program on Electronic Commerce[22]" was adopted by the General Council on 25 September 1998, directing the General Council to play a central role in the whole process and keep the work program under continuous review through a standing item on its agenda. The Work Program also defined electronic commerce to mean the "production, distribution, marketing, sale or delivery of goods and services by electronic means.[23]" Four working groups in the WTO – Council for Trade in Services, Council for Trade in Goods, Council for TRIPs, and Committee for Trade and Development – coordinated by the General Council were directed to examine issues in their area of expertise arising in connection with e-commerce.[24]

It may deserve a worthy of attention that the WTO sets a significant framework in dealing with e-commerce. WTO Members decide to make use of existing

[21] WT/MIN(98)/DEC/2.
[22] WT/L/274, adopted on 25 September 1998.
[23] WT/L/274.
[24] See *Table 4*.

trade agreements to address emerging e-commerce-related issues, which is in stark contrast that it has created new sectoral multilateral trade agreements – namely, the General Agreement on Trade in Services (GATS) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) – to encompass emerging trade-related issues into the WTO regime. It reflects that e-commerce is deemed new medium of transaction in existing business area rather than a separate area like trade in goods or trade in services (Lee 2007).

Table 4 Issues in WTO Councils and Committee

WTO Councils and Committee	Issues
Council for Trade in Services	Scope (including modes of supply), MFN, domestic regulation, market-access commitments on electronic supply of services, national treatment, customs duties, classification issues
Council for Trade in Goods	Market access for and access to products related to e-commerce, customs valuation, customs duties and other duties and charges, classification issues
Council for Trade-Related Aspects of Intellectual Properties Rights	Protection and enforcement of copyright and trademarks, new technologies and access to technology
Committee for Trade and Development	Effects of e-commerce on the trade and economic prospects of developing countries, challenges and ways of enhancing the participation of developing countries in e-commerce, use of information technology in the integration of developing countries in the multilateral trading system

Source: Rearranged by the author based on the Work Program on Electronic Commerce

On 31 March 1999, the Council for Trade in Services presented the "Interim Report[25]" to the General Council. A common understanding on issues appeared to be emerging among Members, which included: the electronic delivery of services falls within the scope of the GATS; the technological neutrality of the GATS would mean that electronic supply of services is permitted by specific commitment; and all GATS provisions are applicable to the supply of services through electronic means.[26] The discussions, however, have also identified a number of issues which require considerable further examination.[27]

Unfortunately, however, the Work Program has failed to draw any substantial results to date but a duty-free moratorium on electronic transmissions. The overall failure of the Third Seattle Ministerial Conference precluded any tangible action on e-commerce; WTO negotiators, at the Fourth Doha

[25] Interim Report to the General Council from the Council for Trade in Services (S/C/8).
[26] S/C/8, para. 4.
[27] S/C/8, para. 5. Those outstanding issues include: the need to clarify the distinction between modes 1 and 2 in situations where a service is being delivered electronically on a cross-border basis or through consumption abroad; the classification and scheduling of new services; whether certain products delivered electronically might be classified as goods or services; the question of likeness, particularly in relation to the MFN and national treatment principles, the implications of Article VI for domestic regulations affecting e-commerce; the application of customs duties on electronic transmissions, to name a few.

Ministerial Conference in November 2001, agreed nothing but to continue the Work Program and maintain the duty-free moratorium on electronic transmissions until its next session[28]; even worse, no agreement on moratorium was reached at the Fifth Ministerial Conference in Cancun, Mexico in 2004; the impasse at the negotiation table was reflected in the Hong Kong Ministerial Declaration of December 2005, stating that "the examination of issues under the Work Program is not yet complete. We agree to invigorate that work… We declare that Members will maintain their current practice of not imposing customs duties on electronic transmissions until our next session[29]"; the Ministerial Conference, on 2 December 2009, once again, ended without further progress, only reiterating the incompleteness of the Work Program and the determination of Members to intensively reinvigorate that work, and provisionally extending the duty-free moratorium on electronic transmissions.[30]

[28] Doha Ministerial Declaration (WT/MIN(01)/DEC/1) adopted on 14 November 2001, para. 34.
[29] Ministerial Declaration (WT/MIN(05)/DEC) adopted on 18 December 2005, para. 46.
[30] Decision of 2 December 2009 (WT/L/782).

To date, under the auspices of the WTO General Council, there have been five discussions dedicated to e-commerce; yet no substantial results have been drawn. Even duty-free moratorium, the only issue to which every Member country can consent, is tentative rather than permanent. This illustrates how difficult and controversial it is to incorporate a rapidly growing yet unprecedented type of international trade – digital trade – into the conventional multilateral trade regime.

2) Issues under the WTO E-Commerce Work Program

In this section, some of issues under the WTO E-Commerce Work Program are described in detail and the progress of digital trade liberalization is mapped out in the context of the multilateral trade negotiation.

i. Duty-Free Moratorium on Electronic Transmissions and their Contents

As examined above, the duty-free moratorium on electronic transmissions was extended several times at the Ministerial Conferences except for the Fifth Cancun Ministerial Conference. The moratorium is an important first step in the WTO's consideration of how the rule-based trading system should apply to e-

commerce (Wunsch-Vincent and McIntosh 2005); it still, however, bears a number of legal imperfections.

First of all, the moratorium is merely a political commitment by WTO Members. It is not legally enforceable at the WTO dispute settlement system. Thus, unlike tariff concessions in the GATT, with which every WTO Member is strongly bound, no other WTO Member can bring a lawsuit against a tariff-imposing Member country in violation of duty-free moratorium.

Second, the moratorium is only temporary not permanent. Although few WTO Members refuse to accede to the concept of moratorium in principle, developing countries have been reluctant to make it permanent in fear of losing their tax revenue. Schuknecht and Pérez-Esteve (1999) and Matoo and Schuknecht (2000) assert, however, that there is only a limited scope of revenue loss arising from a shift towards electronic delivery of digital products, and thus the fear of future loss in customs revenue is hardly warranted to oppose "duty-free cyberspace." Yet their argument seems too feeble to persuade deficit-ridden developing countries.

Third, it is still unclear what an "electronic transmission" means; it can mean, arguably, electronic transmissions, namely telecommunication services or transportation services which support e-commerce; it may also mean the content of the transmissions – e.g. music, books, movies, or construction blueprints – that are delivered from one Member nation to another in digitized form via the Internet; it can refer to electronically delivered cross-border services – e.g. legal services or accounting, auditing, and bookkeeping services; or the moratorium may imply that products that are duty-free in the offline world remain so in the online world. As long as the scope and definition of electronic transmissions remain ambiguous, making the moratorium permanent would contribute to the liberalization of digital trade to a limited extent. Even worse, it is likely to trigger another conflict or legal dispute over the term, "electronic transmission."

Fourth, the duty-free moratorium on electronic transmissions is inconsistent with the principle of "technological neutrality", which is examined in detail later in this section. Simply speaking, technological neutrality means that products shall not be treated differently based upon the means by which they are

transported, whether in a physical medium or in digitally-coded form. With a common understanding on the need of "technological neutrality" appearing in the field, the decision not to impose customs duties on products delivered electronically, which, otherwise, would be subject to tariffs when delivered in a physical medium, would bring about a greater complexity in digital trade negotiation.

Matoo and Schuknecht (2000) contend that much of this debate over the duty-free moratorium on electronic transmissions misses the point. Since electronic delivery of services accounts for a majority of "electronic transmissions" and services trade is under discipline of the GATS, governments can still resort to discriminatory internal taxation or quotas, making the moratorium less meaningful. According to their rationale, it is more reasonable to expand the GATS specific commitments to ensure the effective liberalization of digital trade. However, this argument ignores an important legal issue. In order for electronic transmissions or digital products to fall within the coverage of GATS specific commitments, it must be agreed that they are not goods but "services".

As we will see in the next session, the question of whether digital products are services or goods is still unresolved. The idea of making more national treatment commitments has little value until the debate over the classification of digital products is settled.

ii. Classification of Digital Products

The issue of classification of digital products is the hottest potato in the ongoing Work Program. Digital products[31] – or soft goods – refer to books, music, movies, or software that derive their value from "content" produced by the information technology and the entertainment industries, and that were previously delivered on physical carrier like CDs or cassette tapes (Wunsch-Vincent 2003). More specifically speaking, they are digital products transmitted or delivered electronically; thus products which are ordered online and delivered in physical form are not the subject of matter in this discussion. This kind of trade pattern is still subject to the rules of the GATT just like any other goods trade.

[31] Products here are not used to distinguish goods from services; they contain both.

This issue is of great concern because it relates to the choice of a regulatory trade discipline, GATT or GATS, which will consequently determine the level of trade liberalization of digital products. The GATT, established in 1948 and incorporated in the WTO system in 1995, has been the backbone of rule-based international goods trade environment for more than 60 years and many GATT rules are well-developed; national treatment principle, MFN principle, and ban on quantitative restrictions are adopted as general obligations with few exceptions and sanitary and phytosanitary measures, technical barriers to trade measures, and trade remedies – namely, anti-dumping duties, countervailing duties, and safeguards measures – are allowed on a specific condition. On the contrary, the GATS makes national treatment and market access specific commitments in which the Members' discretion is allowed. In other words, under the GATS rule, unless a specific commitment is made by a country, digital products originating from other WTO Members are not accrued to national treatment and market access.

The US-led group and the EU-led group are expressing stark discord on this issue. The US-led group argues that digital products should be classified as goods, thus GATT rules apply to digital products. Its reasoning goes as follows: now that the extent of trade liberalization of the GATS is not as profound as that of the GATT, it would facilitate the cross-border trade of digital products to classify digital products as goods; technological neutrality should be maintained; under the GATT, electronically delivered services necessary for the production of goods – *e.g.,* cross-border transfer of text for the publication of books – have already been excluded from services classification; and electricity which has characteristics as close as to digital products is classified as goods not as services.[32]

On the other hand, the EU-led group disagrees with US-led group's proposal, claiming that digital products should be classified as services governed by

[32] The International Convention on The Harmonized Commodity Description and Coding System (HS Nomenclature) from the Customs Co-operation Council designated the code (heading) 2716 to Electricity energy. Electricity energy is thus considered to qualify as a good and by that subject to the rules of the WTO. Macedo, L. (n.d.). Electricity Energy and the WTO Customs Valuation Agreement. Retrieved from http://www.wto.org/english/res_e/publications_e/wtr10_forum_e/wtr10_2july10_e.htm#fntext1 (Accessed 5 September 2014).

GATS disciplines. Its rationale is as follows: from the legal perspective, it is not appropriate to apply technological neutrality among the WTO agreements, which accord equivalent treatment to goods and services; GATS rules are more favorable than GATT rules to trade liberalization in the long run; the GATT is not a proper framework to address content trade like software; and there is no way to register cross-border electronic transmissions with no reliance on tangible medium at the actual trade data under the GATT.

All in all, the United States, which has a comparative advantage in the digital product industry, is in pursuit of free market access and lax regulatory disciplines through GATT rules, whereas the European Union, which is usually more sensitive to a consumer right and public morals against foreign cultural goods, is apt to exert more discretion under GATS rules. Currently the gap is too wide to be bridged in the foreseeable future. The Interim Report of the Council for Trade in Services also identified the intricacy of the issue, asking for considerable further examination.[33]

[33] S/C/8, para.5.

Frustrated by tedious progress on negotiations over the classification of digital products at the multilateral level, several countries are taking a more pragmatic approach in regard to this issue when negotiating regional trade agreements with their trading partners. Separate e-commerce chapters in major RTAs define digital products in their own context and strive to develop international rules on digital products trade. It is to be discussed later in this paper in more comprehensive way.

iii. Applicability of Regulatory GATS Disciplines to the Electronic Delivery of Services

Unlike the GATT, the GATS disciplines consist of general obligations that apply to services within some narrow exceptions and specific commitments provided by Members in their national schedules. The general obligations include Most-Favored-Nation treatment (Article II of the GATS) and transparency (Article III of the GATS), by which every WTO Member must abide. Meanwhile, the specific commitments embrace market access (Article XVI of the GATS), and national treatment (Article XVII of the GATS), and additional commitments (Article XVIII of the GATS); market access and

national treatment only apply where Members have made specific commitments to such coverage in the schedules.[34]

It seems unambiguous that the GATT disciplines and GATS disciplines are separate and different. But having a separate rule is one thing and determining what falls within the scope of the rule is another; for instance, it is obvious that cross-border "services" delivered via the Internet[35] are subject to the GATS disciplines but it is still debatable whether these "electronically" delivered services are "goods" or "services." It is partly attributed to the fact that the GATT and GATS do not provide for any definition of goods and services; the GATS has failed to draw a conclusion on the clear definition of services in the context of international trade, only presenting four modes of supply of services, namely cross-border supply of services (mode 1), consumption abroad (mode 2), commercial presence (mode 3), and movement of natural persons (mode 4)

[34] These commitments may be either horizontal (across all sectors), specific (with respect to a particular sector), or none (in which case a Member lists itself as 'unbound' with respect to that mode of supply) (Trebilcock et al. 2012).

[35] The United Nations Conference on Trade and Development defines information and communications technologies(ICT)-enabled services as composed of communications services; insurance; financial services; computer and information services; royalties and license fees; other business services; and personal, cultural, and recreational services. See UNCTAD (2007) for more details.

in its agreement. Thus when a new trend of international trade - *i.e.,* electronic delivery of content – came into being, it was then not as easy as we think now to decide whether this kind of cross-border trade should be categorized as goods trade or services trade.

Through several negotiations and studies, there has been a general understanding among WTO Members that, irrespective of general obligations or specific commitments, GATS rules are applicable to electronically delivered services. In this light, the Interim Report of the Council for Trade in Services announces:

> "The electronic delivery of services falls within the scope of the GATS, since the Agreement applies to all services regardless of the means by which they are delivered, and electronic delivery can take place under any of the four modes of supply. Measures affecting the electronic delivery of services are measures affecting trade in services and would therefore be covered by GATS obligations.[36]"

[36] S/C/8, para. 4.

Unfortunately, however, there seems to be no legally enforceable agreement that explicitly makes GATS disciplines applicable to the electronic cross-border delivery of services. Rather, the issue is clarified by the WTO dispute settlement body in *US-Gambling*, which will be discussed in the next chapter in great detail.

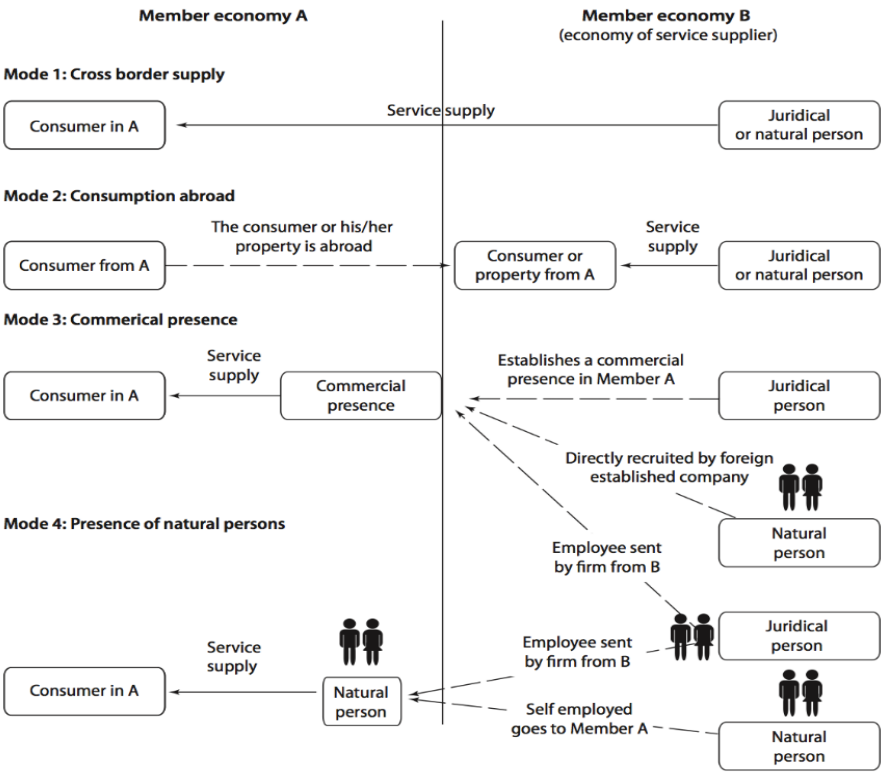
iv. Classification of Electronically Delivered Services

Set aside the issue of the applicability of GATS disciplines to electronically delivered services, the complex legal structure of the GATS makes the issue of electronic delivery of services unfinished in the multilateral trade negotiation context. The question of "in which mode of supply electronically traded services fall" still remains unanswered.

As briefly mentioned above, Uruguay Round negotiators were unable to define "services" in the context of international trade; but they identified the four modes of supply in Article I of the GATS: mode 1 (cross-border supply), mode 2 (consumption abroad), mode 3 (commercial presence), and mode 4 (presence or movement of natural persons). Figure 3 demonstrates the four modes of supply in the GATS in a graphic way. The basic criteria to distinguish the four

modes of supply is: whether service consumers and service providers are one nationals; whether service transactions are taking place in the territory of consumers; and where, at the moment of the delivery of services, both consumers and suppliers are locating. As electronically traded services, by its nature, are less likely to require the presence of a foreign corporation or a foreign

Figure 3 Synthetic View of Modes of Supply in the GATS



Source: Adapted from United Nations, International Monetary Fund, Organization for Economic Co-operation and Development, Statistical Office of the European Union, United Nations Conference on Trade and Development, World Tourism Organization, and World Trade Organization (2012), Figure II.1

individual in home country, they are highly likely to fall within either mode 1 or mode 2.

The issue of the distinction between modes 1 and 2 in situations where a service is being delivered electronically on a cross-border basis or through consumption abroad has been vigorously discussed at the Council for Trade in Services since the launch of the Work Program on E-Commerce. This discussion is as much imperative as the discussion on the classification of digital products because it relates to the degree of the liberalization of the delivery of electronic services. Since governments, at the moment of GATS negotiation in the Uruguay Round, thought that it was not possible to regulate their nationals traveling abroad and they were less likely to extend their regulatory power beyond their jurisdiction, the degree of market access commitments in mode 2, in general, is much higher than that in mode 1 (Lee 2007). Therefore, a government which wishes to hold on to its jurisdiction in trade policy with respect to electronically delivered services prefers a mode 1 approach; otherwise, a government prefers a mode 2 approach with a view to taking advantage of free trade in digitized services. So

far WTO Members have found it difficult to determine whether the electronic cross-border delivery of a service is a service supplied through GATS mode 1 or mode 2.[37] In *US-Gambling*, this issue lay at the heart of the legal debate and, to a limited extent, was seemingly settled.[38]

v. Classification and Scheduling of Newly Developed Electronically Delivered Services

The stunning development of information communication technologies and the rapidly changing economic activities over the last decade gave birth to a plethora of new services which can be delivered across national frontiers in digitized form. Most of these new services are virtually impossible to be traded across international borders in a conventional way or unthinkable in an analogue era: prime examples are online medical services, online betting and gambling services, web hosting services, on-demand Internet media streaming services, or cloud computing services.

[37] S/C/8, para. 5.
[38] See page 60 for more detail.

Since the end of the first GATS round in 1994, controversy has been going on over whether these new services are covered by existing specific GATS commitments or whether the GATS is sufficient to address emerging new services. In an effort to catch up with the evolution of service activities, there have been several updates to the Central Product Classification (CPC) prepared by the United Nations.[39] The latest version of the CPC – *i.e.* CPC 2.0 – contains many updates as regard to IT-related services.[40]

However, the ongoing Doha Round services negotiations are still based on the W/120[41] and the Provisional CPC which was drafted in 1989. Although it is inevitable to use the obsolete W/120 to avoid any impediment to transparency and predictability of the existing service schedules, it indeed costs quite a lot from the perspective of digital trade liberalization. The uncertainty as to whether

[39] The CPC was introduced in 1989 as a provisional CPC by the UN; in 1991 the GATT Secretariat produced the W/120 based on the Provisional CPC as a reference for service trade negotiators; in 1997 and 2002 the CPC 1.0 and CPC 1.1 were completed, respectively; The CPC 2.0 has been completed on 31 December 2008. For more information on the CPC, see Central Product Classification at http://unstats.un.org/unsd/iiss/Central-Product-Classification-CPC.ashx.

[40] To name a few, IT consulting and support services (8313), IT design and development services (8314), Hosting and IT infrastructure provisioning services (8315), and IT infrastructure and network management services (8416).

[41] The GATS Services Sectoral Classification List (MTN.GNS/W/120, often called W/120) adopted on 10 July 1991.

new digitally-traded services are captured by any existing specific commitment or whether no commitment is made to them makes global market participants hesitant to fully utilize new business opportunities in the digital economy.

The issue of the classification and scheduling of newly developed electronically delivered services is particularly complicated because of the unique nature of GATS negotiation modality. From the beginning of the UR, GATS negotiators have been adopting a *hybrid* of positive list and negative list approaches. Member countries are allowed to list sectors and sub-sectors of services which will be open to international competition and in any service sectors unlisted in the national schedule, countries are free to implement discriminatory measures against foreign services and service suppliers (positive list approach). Once a sector or sub-sector is listed, Member countries are to list discriminatory market access and national treatment measures by the four modes of supply. Countries are obliged to avoid any discriminatory measures not listed in limitations on market access and national treatment columns (negative list approach). Therefore, whenever a new type of service appear, it is debatable whether the

new service falls into the scope of an existing service committed to open or whether limitations on market access and national treatment are allowed. Yet no clear answer has been drawn; further negotiations and studies shall continue.

vi. "Likeness" and Technological Neutrality

In application of the MFN and national treatment rules, the two primary principles of multilateral trading system, the concept of "like product" is crucial. According to Article I: 1 of the GATT, for example, advantages accorded to one product must be accorded to another product only when the other product is a like product. Similarly, Article III: 2 of the GATT stipulates that internal taxes or charges of any kind in excess of those applied to domestic products shall not be imposed on like foreign products. As Horn and Mavroidis (2000: 15-16) note, "the legal consequence of establishing likeness is the requirement to treat goods in a non-discriminatory manner, unless the Member concerned can demonstrate that another GATT provision allows it to opt for discriminatory treatment."

In a similar vein, a number of scholars have been arguing that, for the MFN and NT principles to operate in defense of liberal digitally traded services, it is

necessary that products be deemed alike regardless of the means by which they are transported (Matoo and Schuknecht 2000); otherwise, the application of key GATS rules – market access, national treatment, and most-favored nation treatment – would be put into question, hampering free flow of digitally supplied services. Suppose, for instance, a Member allows news agency services to be provided via cross-border express mail delivery, but restricts the same services via electronic delivery. Unless identical products transported by different means of delivery were deemed like products in a legal sense, then such a policy would be deemed non-discriminatory.

This idea of "likeness" in digital trade builds on the concept of "technological neutrality." The principle of technological neutrality in the GATS is often praised as the single most important step necessary to ensure that the rules of the Agreement apply to digital trade (Matoo and Schuknecht 2000; Wunsch-Vincent 2001). Technological neutrality implies that Members agree not to make policy distinctions between products on the basis of the means of delivery. To put it another way, in which format products are delivered should not be

critical to determine the "likeness" of products. Considering conventional criteria of WTO panels to determine the likeness of goods such as tariff classification, physical characteristics, end-uses, and consumers' tastes and habits, it is more or less comparable to a case of garments transported by road or those by air (Matoo and Schuknecht 2000).

As regards likeness, two interpretations of the concept of technological neutrality were discussed under the WTO Work Program on E-Commerce: in the context of GATS market access and national treatment obligations, whether specific commitments for GATS mode 1 encompass the delivery of services through electronic means[42]; and in the context of GATS MFN and national treatment obligations, whether electronically delivered services and those delivered by conventional means should be deemed "like services." As for the first question, the Panel, in *US-Gambling*, confirms intra-modal technological neutrality, assessing that electronic delivery of services falls within GATS mode 1 (cross-border supply).[43] Meanwhile, as for the second question, the WTO

[42] Submission by the United States (WT/GC/16), 12 February 1999.
[43] For more details, see page 62.

Secretariat emphasizes that "likeness in the national treatment context depends in principle on attributes of the product or supplier *per se* rather than on the means by which the product is delivered.[44]" Yet, to date, no official consensus has been made on the likeness between electronic and non-electronic services and it still remains doubtful that technological neutrality in the context of the GATS has become a basic and ubiquitous principle.

vii. Applicability of GATS Article VI Relevant to Digital Trade

With cross-border trade in services ballooning, the rise of domestic regulations governing digital trade becomes an ever-important trade issue (Wunsch-Vincent 2008). When it comes to electronically traded services, border measures like tariffs are practically impossible to be imposed and by their nature the quality or content of services is difficult to be evaluated at the time of actual consumption. Thus governments eager to retain their regulatory power on digital trade tend to rely upon beyond-the-border measures such as local contents requirements or local residence requirements, which are hardly noticeable and

[44] S/C/W/68, para. 33.

have significant discriminatory effects against foreign services and/or foreign service suppliers.

During the debate in the WTO Work Program, negotiators agreed that the "future disciplines[45]" on domestic regulations applied to digital trade. On how to implement the future disciplines under Article VI, however, Members are divided into two distinct groups. One group of countries favors a digital trade-specific discipline with a view to avoiding a digital trade-related trade dispute from being taken to the dispute settlement body; the other group assumes that Article VI of the GATS is general and flexible enough to address digital trade-related issues. It is less likely that either approach would be adopted in the foreseeable future as the Working Party on Domestic Regulation under the Council of Trade in Services has made no progress on the GATS discipline on domestic regulation for more than a decade.

[45] "The Council for Trade in Services shall develop any necessary disciplines with a view to ensuring that measures relating to qualification requirements and procedures, technical standards and licensing requirements do not constitute unnecessary barriers to trade in services." (Article VI:4 of the GATS)

viii. Applicability of GATS Article XIV to Digital Trade

Similar to Article XX in the GATT, The GATS general exception provisions enumerate in an exhaustive manner several objectives that are broadly regarded as legitimate (Delimatsis 2011). Domestic measures to protect public morals, maintain public order or prevent fraud are identified as regulations likely to be permissible under Article XIV of the GATS, unless they constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on trade in services.[46] Whether the Article is sufficient to exempt a Member country which places a restriction on imported digital services in defense of public morals or public order from being found in violation of GATS obligation has been under discussion.

In the Work Program, the EU expressed its opinion that regulatory measures on online content in an effort to protect privacy, public morals, or public order or prevent deceptive practices or fraudulent practices would be justified under GATS Article XIV. Some Members raised an issue that Article XIV of the

[46] Article XIV of the GATS.

GATS is not flexible enough to address aforementioned exceptional situations; but others contended that Article XIV had to be interpreted narrowly and its scope should not be expanded to cover regulatory objectives other than those listed in the Article. It was also claimed that the scope of the Article should be clarified by the WTO judicial body.[47]

The issue still remains unresolved; further negotiations and research shall continue. Or one shall wait until a relevant case is brought to the WTO Dispute Settlement Body.

[47] S/C/8.

IV. Liberalization of Digital Trade and Dispute Settlement

The WTO dispute settlement system is one of the most frequently used and effective international judicial systems in the international community. By clarifying vague legal texts and retrieving negotiators' intention behind texts of trade agreements, the WTO adjudicating bodies – a panel and the Appellate Body – have played a pivotal role in liberalizing trade in goods and services.

In this section, this paper takes a look at the two most important trade disputes relating to the electronic supply of services – *US-Gambling* and *China-Publications*. As a multilateral trade agreement based on consensus decision-making procedure more often than not lags behind the development of a new form of international economic transactions, the WTO adjudicating bodies, through their rulings, interpretation, and *juris prudence,* serve as notable references in the current rule-based WTO regime to bridge the gap between norms and reality. The examination on the two dispute cases exhibit how much the WTO dispute settlement system contributes to expanding and facilitating digital trade.

1. *US – Gambling*

The *US-Gambling* case[48], in which a small Caribbean island country – Antigua and Barbuda – had accused the United States of prohibiting online betting and gambling services on a cross-border basis from foreign providers, marks the first WTO Dispute Settlement Body's judgment directly related to the Internet. Accordingly, it was expected that the judgment would bring clarity to the thorny issues, if not all questions raised in the aforementioned WTO Work Program on E-Commerce, and thus lead to its conclusion (Wunsch-Vincent 2006). It indeed addresses some legal issues concerning electronic cross-border trade in services and therefore maintains the relevance of the multilateral trade framework in a digital era.

1) Applicability of Regulatory GATS Disciplines to the Electronic Delivery of Services

One of the greatest progress made in *US – Gambling* is the confirmation that WTO rules are indeed applicable to e-commerce and/or to electronically

[48] *United States – Measures affecting the Cross-Border Supply of Gambling and Betting Services*, WT/DS285/R (circulated on 10 November 2004) and WT/DS285/AB/R (circulated on 7 April 2005).

supplied services. The Panel notes that whether or not the GATS is applicable to the measures at issue is whether those measures affect trade in services within the meaning of GATS Article I:1.[49] According to the Panel, the measures at issue identified above necessarily affect trade in services within the meaning of Article I:1 of the GATS because they entail prohibitions on the supply of gambling and betting services.[50] Furthermore, the Panel finds that the particular US regulations – *e.g.* the Wire Act – ban the use of at least one or potentially several means of delivery included in GATS mode 1, and that, accordingly, these regulations constitute a zero quota for, respectively, on, several or all of those means of delivery[51], constituting a limitation in the form of numerical quotas within the meaning of GATS Article XVI:2(a) and a limitation in the form of a quota within the meaning of GATS Article XVI:2(c).[52] This judgment was confirmed by the AB.[53]

[49] Article I:1 of the GATS stipulates that "This Agreement applies to measures by Members affecting trade in services." (GATS Article I:1)
[50] Panel Report, *US-Gambling*, paras. 6.250-255.
[51] Panel Report, *US-Gambling*, paras. 6.363, 367, and 370.
[52] Panel Report, *US-Gambling*, paras. 6.363, 367, and 370.
[53] AB Report, *US-Gambling*, para. 374.

This line of reasoning is consistent with the assertion of the Council for Trade in Services set forth in the Interim Report. In its Interim Report to the General Council, the Council for Trade in Services concludes that "measures affecting the electronic delivery of services are measures affecting trade in services and would therefore be covered by GATS obligations.[54]" Now that the WTO judiciary confirms that GATS disciplines are applicable to the electronic cross-border delivery of services, it becomes clear that current GATS disciplines are enough to regulate cross-border services in digital form and a new digital trade agreement is unnecessary.

2) Classification of Electronically Delivered Services

The Panel and AB rulings of the case imply that GATS mode 1 (cross-border supply) commitments are applicable to cross-border electronic delivery of services. The US government has argued that, in the case of online gambling services supplied over a foreign web page, a US customer effectively visits a foreign service supplier operating under a different legal regime and thus that

[54] S/C/8, para.4.

GATS mode 2 (consumption abroad) other than mode 1 is applicable. Nonetheless, the Panel limits its analysis under GATS Article XVI to the market access column mode 1, clearly stating that "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.[55] The AB has followed this line of reasoning, only examining the GATS mode 1 commitments of the United States.[56] However, Wunsch-Vincent (2006:326) expresses his concern that as neither the Panel nor the Appellate Body has been requested to pronounce themselves on the difference between mode 1 and mode 2, this important question may be less than fully settled.

3) "Likeness" and Technological Neutrality

The case touches upon the issue of intra-modal technological neutrality; the example of case III versus case IV in Figure 4 indicated by the vertical solid arrow. The Panel confirms the view that mode 1 under the GATS encompasses the delivery of services through electronic means, saying that "a market access

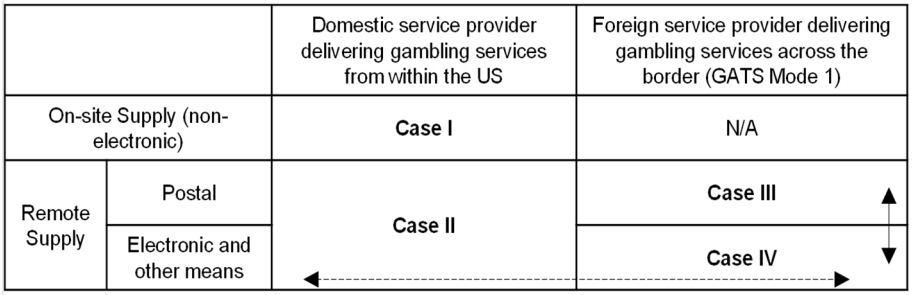
[55] Panel Report, *US-Gambling*, para. 6.29.
[56] AB Report, *US-Gambling*, para. 215.

commitment for mode 1 implies the right for other Members' suppliers to supply a service through all means of delivery.[57]" It also notes that this is in line with the principle of technological neutrality. It implies that, to a least extent, within a specific mode of supply in the GATS, technological neutrality is applicable and this idea of intra-modal technological neutrality seems to be largely shared among WTO Members. In short, cross-border services delivered in electronic means – over the Internet – and those in non-electronic means – by express mail or telephone – are not unlike.

The question of "likeness" arises when assessing the applicability of GATS MFN (Article III of the GATS) and national treatment obligations (Article XVII of the GATS) to electronically supplied services by foreign providers and those delivered by more traditional means; the example of case IV versus case I or case II indicated by the horizontal dotted arrow in Figure 4. In light of this, *US-Gambling* raises a fundamental question and argument surrounding the issue of likeness of cross-border electronically delivered versus non-electronically

[57] Panel Report, *US-Gambling*, para. 6.285.

Figure 4 Technological Neutrality and Likeness Issues in US-Gambling



Note: On-site supply can also entail the service supply by a foreign supplier under GATS Mode 3 and 4. Comparisons between Case III and IV refer to intra-modal technological neutrality indicated by the vertical solid arrow. Likeness comparisons take place between the two columns as indicated by the dotted arrow.
Source: Adapted from Wunsch-Vincent (2006) and modified by the author

delivered services. The issue of likeness was raised by both parties between the electronic cross-border supply of foreign gambling services (case IV) and gambling services supplied by domestic service providers; either via non-remote and non-electronic supply (case I) or via online delivery from US-based providers (case II). However, the question has not been resolved because, out of judicial economy, the Panel and the Appellate Body did not rule on the claims the parties had made under GATS Article XVII.[58]

Given the growing trend to broaden specific national treatment commitments and the expanding digital delivery of services, the uncertainty as to how to

[58] Panel Report, *US-Gambling*, paras. 6.425-6.

address the "likeness" of services comes as the most imminent and daunting task to the WTO DSB as well as GATS negotiators.

4) Applicability of GATS Article XIV to Digital Trade

US-Gambling constitutes the first occasion for a Member to invoke and clarify the GATS exemptions under Article XIV of the GATS in a WTO dispute (Wunsch-Vincent 2006). Despite Article XX of the GATT, which allows derogations from the general obligations under the GATT on specific conditions, GATS Article XIV had never been invoked to justify discriminatory domestic measures on services, not to mention on electronically delivered services before the *US-Gambling* case.

In *US-Gambling*, concerning United States' defense under Article XIV of the GATS, the Panel finds that the U.S. has failed to demonstrate that its laws were justified under Article XIV(a) and (c) of the GATS and consistent with the requirements of the *chapeau* of the same GATS article.[59] But the Appellate Body overturns the Panel's ruling, stating that the US gambling laws in question

[59] Panel Report, *US-Gambling*, paras. 6.535, 6.565, 6.607-608, 7.2.

fall under the public morals/public order exceptions of GATS Article XIV and the laws but for the Interstate Horseracing Act are compatible with the *chapeau* of the same GATS article.[60] It implies that WTO Members may – despite full specific GATS commitments – rely on this provision to exempt themselves from their GATS obligations when attempting to achieve certain public policy objectives under well-defined circumstances (Wunsch-Vincent 2006).

Even though *US-Gambling* confirms that a total prohibition on cross-border services in electronic form – online betting and gambling services in this case – conflicting with specific GATS commitments is allowed under GATS Article XIV, there still remains the question of whether the coverage of GATS Article XIV is sufficient for cross-border digital trade. Relevant literature suggestes that it would be useful to add an explicit exception for consumer protection to Article XIV (Drake and Nicolaidis 2002). In the Work Program, several suggestions were made by a series of countries but so far no conclusion has been drawn neither at the multilateral negotiation fora nor in the WTO adjudicating body.

[60] AB Report, *US-Gambling*, para.373.

Governmental regulatory authorities and digital service providers have no choice but to bear with this vague digital environment until the next dispute arises.

2. *China – Publications*

China-Publications[61], a trade dispute brought by the U.S. against China, is of significant relevance to the principle of technological neutrality (Peng 2009). The principle of technological neutrality is invoked by the U.S. to argue that "any practical differences that may exist between the supply of sound recordings in physical and non-physical form are simply differences with respect to the means of delivery.[62]" It continues to argue that since China did not schedule any limitations regarding delivery mechanisms, all forms of delivery under GATS mode 3 are covered by China's market access commitments. China, however, is of the view that the principle of technological neutrality, which has no legal

[61] *China – Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products*, WT/DS363/R (circulated on August 12, 2009) and WT/DS363/AB/R (circulated on December 21, 2009).
[62] Panel Report, *China-Publications*, para. 7.1248.

basis in the WTO legal framework, is far from being a principle generally agreed upon among WTO Members.[63]

The Panel and Appellate Body are given another chance to clarify the controversial issue of the likeness of services and the principle of technological neutrality in *China-Publications*. It is perplexing, however, that any comprehensive discussion on technological neutrality is made by either the Panel or the Appellate Body. Clearly, the issue of technological neutrality centers on the dispute, but the Panel avoids the issue, stating that:

> "…we have no need to invoke a principle of technological neutrality…The principle of technological neutrality might have come into play had we found that China's commitment covered distribution on physical media and that there was doubt about whether it also covered the distribution of content on non-physical media. But this was not the case here."

In the meantime, the Appellate Body tangentially acknowledges the principle when saying "in the absence of specific limitations, conditions, or qualifications,

[63] Panel Report, *China-Publications*, para. 7.1249.

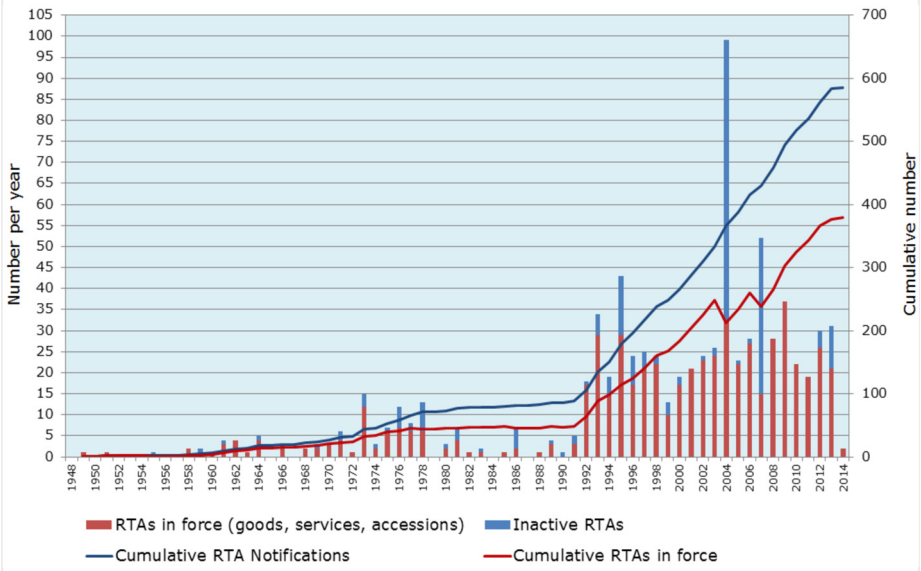
the meaning of 'Sound recording distribution services' is not limited to the physical delivery of sound recordings. Rather, this entry would encompass distribution in electronic form.[64]" But just as in the *US-Gambling* case, it makes no explicit reference to this principle; and thus it is still too early to tell that technological neutrality is a ubiquitous principle in the current multilateral trading system. The legal basis and its interpretation of the technological neutrality principle should be further examined and shed light in future dispute settlement proceedings.

[64] AB Report, *China-Publications*, para. 377.

V. Liberalization of Digital Trade and Regional Trade Agreements

The current impasse of the Doha Development Round has made WTO Members shift their attention to alternative trade liberalization mechanism. A regional trade agreement[65] – often referred to as a preferential trade agreement or a free trade agreement – is a primary option of choice. As of 15 June 2014, some 585

Figure 5 RTAs Notified to the GATT/WTO by Year of Entry into Force (1948-2014)



Source: WTO Secretariat

[65] In fact, it is an agreement for the formation of a customs union or free-trade area that is allowed under GATT Article XXIV and GATS Article V. However, economists, like Bhagwati prefer to use the term, preferential trade agreements or regional trade agreements, over free trade agreements, arguing that these economic integrations are actually to discriminate non-members of an agreement. Following Bhagwati's argument, in this paper, regional trade agreements are used to refer to agreements for the formation of free trade areas, regional trade blocs, or customs unions.

notifications of RTAs (counting goods, services and accessions separately) had been received by the GATT/WTO (see Figure 5). Of these, 412 notifications were made under Article XXIV of the GATT 1947 or GATT 1994; 39 under the Enabling Clause; and 134 under Article V of the GATS. Of these 585 RTAs, 379 are in force.

Many RTAs came into force in the early 2000s when no further trade liberalization progress was made in the Doha Round. The trend of WTO Members relying on RTAs as a tool for trade liberalization is expected to rule the day as many Members – developing economies as well as developed economies – continue to be involved in new RTA negotiations. However, a recent development of RTA negotiation is distinct from conventional RTA negotiation in two ways: more than three economies are involved in negotiation to form a regional agreement – *e.g.* Trans-Pacific Partnership (TPP), China-Japan-Korea FTA or Regional Comprehensive Economic Partnership (RCEP) – and mega-RTAs – a bilateral trade agreement between global economic superpowers (for instance, Transatlantic Trade and Investment Partnership

between the United States and European Union) – are under negotiation. Such "mega"-RTAs in terms of the number of participants or of participating economies' trade share of the world total trade, once in force, are anticipated to have the potential to alleviate the spaghetti bowl problem of existing RTAs and install a common global trade norm to be applied by all the parties to the agreements.

The proliferation of RTAs in a digital era led by major advanced economies have as much significance on digital trade as on other conventional trade in goods or services. A growing number of countries which have vast interests in digital trade have begun to rely on bilateral or regional trade agreements to establish a new global trade regime on digital trade. Since the dawn of the new millennium, the number of bilateral or regional trade agreements incorporating a separate chapter for electronic commerce along with traditional bilateral trade topics has soared. It is because modern regional trade agreements are designed not only for the market access through tariff-cuts but also in preparation for setting up tomorrow's multilateral trade agenda in the fragmented world (Horn

and Mavroidis 2010). The United States is at the center of this global phenomenon, especially when global digital trade is concerned. In this section, therefore, this study takes a glimpse of the digital trade policy of the United States and has an overview on how major regional trade agreements contribute to the liberalization of digital trade.

1. Digital Trade Policy of the United States

It is undoubtedly true that the United States is leading the global rule-making progress over digital trade. With the Doha Round in a stalemate, the US government shifted their attention away from multilateral negotiation to bilateral negotiation. Negotiations on digital trade are not exception. Acknowledging the United States' leading role in the ever-flourishing ICT services sectors and their great contribution to the growth of the US economy, the U.S. has sought to come up with a separate e-commerce chapter in its regional trade agreements.

The US digital trade agenda set by the former Bush administration has been a cornerstone of digital trade policy of the U.S. The US digital trade agenda is

tailored to the free trade of digital products, namely music, software, movies that derive their value from "content" produced by the information technology and entertainment industries, and that were previously – in the offline world – delivered on physical carrier medium like CDs or diskettes. It also aims at the liberalization of other services that can be delivered across borders electronically (Wunsch-Vincent 2003). Specific digital trade policy objectives set forth in the US digital trade agenda are summarized in Annex 2.

As the U.S. has embraced e-commerce in a separate chapter since the US-Singapore FTA, many other countries with a great interest in growing digital trade flows and a comparative advantage in ICTs followed suit; among them, Korea and the EU are the two active negotiators. By overviewing provisions of e-commerce chapters in six major RTAs, this study helps better understand current global trends of digital trade liberalization movement and draw policy implications for digital trade negotiators when setting up global regulatory disciplines for digital trade.

2. Assessing E-Commerce Chapters in Regional Trade Agreements

For the purpose of comparison and assessment on e-commerce chapters in current regional trade agreement, six major regional trade agreements are examined.[66] These agreements contain a separate e-commerce chapter along with conventional chapters such as chapters for goods, agriculture, trade remedies, investment, cross-border trade in services, financial services, and telecommunications services. Furthermore, all of RTAs under the scope of this research include most of major players in digital trade area as either party of the agreements – the U.S., EU, Australia, Singapore, and Korea.

1) Achievements by Regional Trade Agreements

i. Duty-Free Moratorium on Electronic Transmissions and Their Contents

Considering the importance of free trade of digital products without customs duties, all of six RTAs follow the decision made at the multilateral level,

[66] US-Singapore FTA (effective on 1 Jan 2004), US-Chile FTA (effective on 1 Jan 2004), US-Australia FTA (effective on 1 Jan 2005), Korea-Singapore FTA (effective on 2 March 2006), Korea-EU FTA (effective on 1 July 2011), Korea-US FTA (effective on 5 March 2012) in chronological order by their date of entry into force.

declaring the duty-free moratorium on "digital products" by electronic transmission in an explicit manner.[67] It is noteworthy that the agreements identify an electronic transmission as a means of delivery for digital products, confirming that digital products are the object of the duty-free moratorium. In WTO context, the moratorium is imposed on electronic transmissions[68], which are so vague from a legal perspective that many conflicts over its interpretation have arisen. However, the six agreements make it clear that the moratorium apply not to electronic transmissions but to digital products. The KORUS FTA, for instance, assesses electronic transmission as equivalent as a physical carrier medium for delivering digital products and stipulates that customs duties, fees, or other charges "on or in connection with the importation or exportation of" a digital product should not be imposed. It fundamentally obviates the need for squabbles over what constitutes electronic transmissions (Lee 2008).

[67] Article 14.3 para. 1 of US-Singapore FTA; Article 15.3 para of US-Chile FTA; Article 16.3 of US-Australia FTA; Article 14.4 para. 1 of Korea-Singapore FTA; Article 7.48 para.3 of Korea-EU FTA; Article 15.3 para.1 of KORUS FTA.

[68] For example, the 6th Hong Kong Ministerial Declaration declares that "Members will maintain their current practice of not imposing customs duties on *electronic transmissions* until the next Session. (italic added by the author)"

Moreover, it is assumed that the moratorium is made on a permanent rather than temporary basis to the limited extent that two trading parties are involved. One of the major legal imperfections regarding the duty-free moratorium at the WTO level is that the moratorium is maintained on a temporal basis, and thus it should be extended every negotiation round by consensus. WTO Member countries, even worse, have failed to draw a consensus in extending the moratorium at the Fifth Cancun Ministerial Conference. The legal status of the duty-free moratorium on electronic transmissions is still uncertain in the WTO. Yet none of the six agreements examined in the study sets forth the time span of the moratorium, which implies that countries which are the parties of the trade agreements consent to render the moratorium permanent.

On the other hand, there is a concern that agreeing to impose no customs duties on digital products may result in a change of countries' attitude toward the classification of digital products in GATS negotiation. To alleviate this concern, the Korea-EU FTA affirms that the inclusion of the provision is made without

prejudice to Korea's position on whether deliveries by electronic means should be categorized as trade in services or goods.[69]

ii. Classification of Digital Products

Most of the RTAs but the Korea-EU FTA examined in this study contain the definition of digital products. In the US-Chile, US-Singapore, US-Australia, Korea-Singapore, and KORUS FTAs, digital products mean "computer programs, text, video, images, sound recordings, and other products that are digitally encoded, regardless of whether they are fixed on a carrier medium or transmitted electronically.[70]" In the KORUS FTA, in particular, non-discriminatory treatment is accrued to digital products that are "produced for commercial sale or distribution." In other words, it is not an electronic transmission in abstract form but digital contents "produced for commercial sale or distribution" regardless of their means of delivery that fall within the scope of non-discriminatory treatment (Lee 2008).

[69] Footnote 39 of Korea-EU FTA.
[70] Article 14.4 para.2 of US-Singapore FTA; Article 15.6 of US-Chile FTA; Article 16.8 para.4 of US-Australia FTA; Article 14.1 of Korea-Singapore FTA.

It can be said that these five RTAs, influenced mainly by bilateral agreements of the United States, quit holding on to the classification issue, but take a pragmatic approach, limiting the scope of RTA disciplines to digital products. For example, the US-Australia and KORUS FTAs leave the question of "whether trade in digital products through electronic transmission should be categorized as trade in services or trade in goods[71]" to each Party. The Korea-EU FTA likewise does not intend to prejudge whether deliveries by electronic means should be categorized as goods or services.[72]

iii. Applicability of WTO Disciplines to E-Commerce

In their article for general provisions, the US-Singapore, US-Australia, Korea-Singapore, Korea-EU, and KORUS FTAs confirm the applicability of WTO rules to electronic commerce.[73] WTO rules here refer not only to existing rules but also to future rules which will be set out by the WTO; thus without any further agreement, both Parties are to be under regulation of new multilateral

[71] Footnote 16-4 of US-Australia FTA and footnote 4 of KORUS FTA.
[72] Footnote 39 of Korea-EU FTA.
[73] Article 14.1 of US-Singapore FTA; Article 16.1 of US-Australia FTA; Article 14.2 para. 1 of Korea-Singapore FTA; Article 7.48 para.1 of Korea-EU FTA; Article 15.1 of KORUS FTA.

rules agreed in the WTO. Lee (2008) posits that the inclusion of the provision in the bilateral trade agreements attempts to keep bilateral trade disciplines in line with multilateral trade disciplines. It is expected to help prevent one of the most challenging tasks to the multilateral trading system – the fragmentation of trade rules generated by the proliferation of bilateral or regional trade agreements.

iv. Applicability of Regulatory Trade Disciplines to the Electronic Supply of Services

Of six RTAs, five RTAs but the Korea-EU FTA affirm that measures affecting the supply of a service delivered electronically are subject to obligations contained in the relevant provisions of chapters of investment, cross-border trade in services, and financial services.[74] It indicates that any exceptions or non-confirming measures set forth in the chapters of investment, cross-border trade in services, and financial services are also applicable to the electronic supply of services.

[74] Article 14.3 of the Korea-Singapore FTA; Article 15.2 of the KORUS FTA; Article 16.2 of the US-Australia FTA; Article 15.2 of the US-Chile FTA; Article 14.2 of the US-Singapore FTA.

v. Applicability of Non-Discriminatory Treatment to Digital Products

Most of the RTAs on the coverage of this study contain non-discriminatory treatment – *i.e.* national treatment and MFN principle – on digital products.[75] However, the scope of national treatment varies by RTA; while the US-Singapore FTA, entered into force in 2004, adopts non-discriminatory treatment in a broad way[76], the recent KORUS FTA limits the scope of non-discriminatory treatment, stating that "neither party may accord less favorable treatment to some digital products than it accord to other like digital products on the basis that: (i) the digital products receiving less favorable treatment are created, produced, published, stored, transmitted, contracted for, commissioned, or first made available on commercial terms *in the territory of the other Party*, or (ii) the author, performer, producer, developer, distributor, or owner of such digital

[75] The Korea-EU FTA does not include provisions for non-discriminatory treatment. The Korea-Singapore FTA contains a national treatment provision but does not include a provision of MFN principle.

[76] Non-discriminatory treatment shall be accorded to other like digital products where "the digital products receiving less favorable treatment are created, produced, published, stored, transmitted, contracted for, commissioned, or first made available on commercial terms, *outside its territory*; or where the author, performer, producer, developer, or distributor of such digital products is a person of the other Party or *a non-Party* (italic added by the author)." Article 14.3.3 (a) of the US-Singapore FTA.

products is *a person of the other Party* (italic added).[77]" Besides, in an attempt to promote bilateral trade, the two Parties agree to accord national treatment solely to those digital products "created, produced, published, contracted for, or commissioned in the territory of the other Party, or digital products of which the author, performer, producer, developer, or owner is a person of the other Party.[78]" On the ground that a RTA is designed to grant privileges or favors to a specific trading partner or multiple partners in a region, it is appropriate to limit the scope of national treatment on digital products solely to the other Party or Parties.

When it comes to MFN principle, the Korea-EU and Korea-Singapore FTAs do not explicitly confirm the principle in digital trade but the rest of the RTAs agree to apply MFN principle to digital trade in a similar scope. In the KORUS FTA, for instance, no less favorable treatment should be accorded to digital products "created, produced, published, contracted for, commissioned, or first made available on commercial terms in the territory of the other Party than it accord to like digital products created, produced, published, contracted for,

[77] Article 15.3.2 (a) of the KORUS FTA.
[78] Footnote 3 of the KORUS FTA

commissioned, or first made available on commercial terms in the territory of a non-Party; or whose author, performer, producer, developer, distributor, or owner is a person of the other Party than it accords to like digital products whose author, performer, producer, developer, distributor, or owner is a person of a non-Party.[79]" As it grants MFN treatment to digital products regardless of whether they are owned or controlled by a person or a firm of a non-Party, it takes a more liberal approach than it has toward national treatment. The language of MFN principle in other RTAs[80] is not so much different from that in the KORUS FTA.

With major RTAs confirming the applicability of non-discriminatory treatment to digital products, WTO Member countries begin to take a liberal approach with respect to digital trade. It is expected that liberal trends witnessed in regional trade agreements will help create a new trade environment favorable to digital trade.

[79] Article 15.3.3 (a) and (b) of the KORUS FTA
[80] Article 14.4.3 (b) of the Korea-Singapore FTA; Article 15.4.2 (a) and (b) of the US-Chile FTA; Article 16.4.2 (a) and (b) of the US-Australia FTA; Article 15.3.3 (a) and (b) of the KORUS FTA; Article 14.3.4 (a) and (b) of the US-Singapore FTA

On the other hand, it is also true that various exemptions from non-discriminatory treatment in regard to digital products are allowed in most RTAs. For example, in the US-Singapore FTA any measures inconsistent with cross-border trade in services and investment chapters are exempted from the non-discriminatory obligations set forth in e-commerce chapters.[81] The KORUS FTA also allows discriminatory treatment with respect to government subsidies and broadcasting services in spite of non-discriminatory obligations in the e-commerce chapter[82]. Despite some achievements of RTAs toward the liberalization of digital trade, prevalent exemptions from non-discriminatory treatment may set back the substantive liberalization process. It will be the next task for trade negotiators to eliminate the exemptions from non-discriminatory treatment in bilateral negotiations pertinent to e-commerce.

vi. Deep Digital Trade Rules

While the Korea-EU FTA focuses on bilateral cooperation in an e-commerce area and contains less substantial but endeavor provisions in a separate e-

[81] Article 14.3.5 of the US-Singapore FTA
[82] Article 14.3.4, 14.3.5, and 14.3.6 of the KORUS FTA

commerce chapter, the others, in general, touch upon many substantial issues; non-discriminatory treatment on digital products and definitions of digital products and electronic transmissions. It is noteworthy that the US-Australia and KORUS FTAs even introduce, so-called "deep" digital trade rules such as electronic authentication and electronic signature, online consumer protection, and paperless trading. Wunsch-vincent (2008) evaluates emerging deep digital trade rules by stating that a lack of alternative international agreements for these e-commerce specific-rules or aspirations that RTAs are to lead negotiations over digital trade liberalization in international fora have made countries address deep digital trade issues in bilateral agreements. So far deep digital trade provisions are introduced in only a limited number of RTAs; whether 'deep' digital trade rules are to become general in future RTAs should remain to be seen.

vii. Other Issues Concerning Digital Trade

The classification and scheduling of newly developed electronically delivered services were practical concerns to GATS negotiators during the last Doha

Round. Current GATS market opening modality based on a hybrid approach with obsolete W/120 and Provisional CPC only complicates the matter. Yet the KORUS FTA diminishes the complexity of the classification and scheduling of newly developed services transmitted via the Internet in a revolutionary way; the two Parties agree to have a negative list approach when opening their own service market to the other Party. In other words, sectors not listed in Annex I and II are, in principle, open to foreign competition and restrictive measures not listed in the both of Annexes are not allowed in the territory of the importing Party. Thus any new electronically delivered services arising with the development of ICTs are automatically committed to opening by the importing Party. The negative list approach in services sector is expected to greatly promote liberal digital trade.

The question of whether the derogation of non-discriminatory obligation of digital trade is allowed by general exception provision – Article XIV of the GATS – has been an issue during the previous negotiation rounds. Every six

RTAs examined in the paper makes explicit that GATT Article XIV is applicable to digital trade.[83]

Last but not least, it should also be noted that any violation of obligations stipulated in e-commerce chapters is subject to dispute settlement procedure. Some of obligations set forth in a regional trade agreement, more often than not, are exempt from being brought to dispute settlement procedure when an agreement denies the application of dispute settlement provisions to certain obligations. Nonetheless, all the six RTAs examined in the study affirm that digital trade-related obligations are legally enforceable. For instance, in the KORUS FTA, if the Parties and the Joint Committee fail to resolve a digital trade-related matter raised by either Party, the complaining Party may refer the matter to a dispute settlement panel by delivering written notification to the other Party.[84] The enforceability of obligations set forth in e-commerce chapters

[83] Article 21.1.2 of the US-Singapore FTA; Article 23.1.2 of the US-Chile FTA; Article 22.1.2 of the US-Australia FTA; Article 21.2.2 of the Korea-Singapore FTA; Article 7.50 of the Korea-EU FTA; and Article 23.1.2 of the KORUS FTA
[84] Article 22.4, 22.8, and 22.9 of the KORUS FTA

would reinforce the rule-based digital trade environment, improving certainty and predictability on its way to free flow of information and knowledge.

2) Summary and Evaluation on E-Commerce Chapters in RTAs

All in all, regional trade agreements are at the front of global liberalizing movement in regard to digital trade or e-commerce. There is an infinitesimal hope that GATS negotiations in the Doha Round will be successfully wrapped up in the foreseeable future; and the WTO judiciary seems to run away from its responsibility to clear up the thorny issues relevant to digital trade. Incorporating a separate e-commerce chapter in a bilateral or regional trade agreement is a great first step towards the liberalization of digital trade. It is because RTAs can best serve as a framework to form a digital trade environment in which the WTO fails to function properly. Furthermore, it seems that the United States has successfully formed a "like-minded group" through its bilateral trade agreements, paving a way to establish a global trade rule on digital trade based on the US digital trade agenda. The comparison of provisions in e-commerce chapter in each agreement is presented in Table 5.

Table 5 Comparisons between E-Commerce Provisions in Major RTAs

		US-Singapore	US-Chile	US-Australia	Korea-Singapore	Korea-EU	KORUS
Applicability of WTO Rules on E-Commerce		○	×	○	○	○	○
Electronic Supply of Services		○	○	○	○	×	○
Digital Products							
	Duty-Free Moratorium on Digital Products	○	○	○	○	○	○
	Customs Valuation of Carrier Media Bearing Digital Products	○	○[a]	○	In accordance with the Customs Valuation Agreement	×	○
Non-Discriminatory Treatment on Digital Products							
	National Treatment	○	○	○	○	×	○
	Most-Favored-Nation	×	○	○	○	×	○
	Exemptions from Non-Discriminatory Treatment	○[b]	○[c]	○[d]	○[e]	×	○[f]
Definitions		○	○	○	○	×	○
Electronic Authentication and Eelctronic Signature		×	×	○	×	×	○
Online Consumer Protection		×	×	○	×	×	○
Paperless Trading		×	×	○	×	×	○
Cooperation		×	○	×	×	○	○

Note:

[a] In the US-Chile FTA, determining the customs value of an imported carrier medium bearing a digital product is not included the E-Commerce Chapter but it is indeed embraced in Article 3.5 in Chapter 3. Paragraph 1, Article 3.5 stipulates that "for purposes of determining the customs value of carrier media bearing content, each Party shall base its determination on the cost or value of the carrier media alone."

[b] Excluding measures inconsistent with cross-border trade in services and investment chapters / broadcasting services

[c] Existing measures can be maintained for a year after the entry into force. The measures may be maintained thereafter.

[d] Excluding measures inconsistent with cross-border trade in services and investment / IPRs, government subsidies, and broadcasting services.

[e] Excluding broadcasting services.

[f] Excluding government subsidies and broadcasting services.

Source: Organized by the author based on articles of electronic commerce chapter in each agreement

Yet WTO Member countries should not be satisfied with current achievements.

What is urgently necessary is to make digital trade-relevant rules in bilateral or

regional trade agreements compatible with ones in the multilateral trading system. Few wants to see the cross-border flow of digital products and digitally delivered services stuck with regionally fragmented trade rules. To converge bilateral or regional trade rules into the global ones is not easier said than done in the current WTO decision-making process; but it is worth starting negotiating the convergence of regional regulatory disciplines on digital trade in order to facilitate the exchange of knowledge and information, boost production efficiency and improve the welfare of global consumer.

VI. Conclusion

Cross-border digital trade or electronic commerce is likely to grow at a much faster pace in the future than it has to date, stimulating delivery of services in electronic form and trade in digital media products. Considering a skyrocketing number of Internet users[85] and the mind-boggling development of ICTs, it is not very difficult to estimate growing trends of digital trade.

Fully aware of the potential of digital trade for economic growth and human development, the WTO took the initiative to address issues relevant to digital trade, launching the "Work Program on Electronic Commerce" in 1998. Ever since the launch of the Work Program, discussions over the liberalization of digital trade have unfolded in three arenas: in WTO multilateral trade negotiations (WTO-led liberalization), in WTO Dispute Settlement Body (DSB-led liberalization), and in regional trade agreements (RTA-led liberalization). The achievements made under the WTO Work Program on E-Commerce, the

[85] The number of Internet users globally will have tripled in 9 years, from 1 billion in 2005 to 3 billion in 2014 (ITU 2014).

WTO Dispute Settlement Body, and regional trade agreements are summarized in Table 6.

Table 6 Attempts to Liberalization Digital Trade under the WTO Work Program, Dispute Settlement Body, and Regional Trade Agreements

Trade Issues	WTO Work Program	WTO DSB	RTAs
Duty-free moratorium on electronic transmissions and their contents	○ (Provisional moratorium)	×	○ (Permanent moratorium on digital products)
Classification of digital products	×	×	×
Applicability of regulatory GATS disciplines to the electronic delivery of services	×	○	○
Classification of electronically delivered services	×	○	○
Classification and scheduling of newly developed electronically delivered services	×	×	○
"Likeness" and technical neutrality	×	×	×
Applicability of GATS Art. VI relevant to digital trade	Δ (Agreed in principle)	○	○
Applicability of GATS Art. XIV to digital trade	Δ (Agreed in principle)	○	○

Source: Organized by the author

Several legal issues were raised in WTO multilateral trade negotiation fora[86], but provisional extension of duty-free moratorium on electronic transmissions is the only tangible result in each negotiation. National interests in digital trade are so diverse depending upon participants' development status that no concrete agreement has been made on other issues. The WTO judiciary had an opportunity to clarify unresolved digital trade-related issues in two trade disputes – *US-Gambling* and *China-Publications*. Panels and the Appellate Body in both cases, however, were reluctant to show their opinions on the controversial issues like technological neutrality. Now, some of developed countries and upper-developing countries are relying on regional trade agreements as a new tool for the liberalization of digital trade. All of six major regional trade agreements on the scope of this study deal with e-commerce in a separate chapter. Global trade environment surrounding digital trade, for the time being, is likely to be established through bilateral or regional trade

[86] Namely, duty-free moratorium on electronic transmissions and their content, classification of digital products, applicability of regulatory GATS disciplines to the electronic delivery of services, classification of electronically traded services, classification and scheduling of new services arising in the context of e-commerce, likeness and technological neutrality, applicability of GATS Article V relevant to digital trade, and applicability of GATS Article XIV to digital trade.

negotiations and common provisions in e-commerce chapters are expected to become a global trade norm.

Digital trade has become an integral part of multilateral trade negotiations and regional trade agreement negotiations. It means that developing economies as well as advanced economies recognize the growing role of digital trade in global economy, that any necessary domestic restrictions on digital trade should comply with existing WTO rules, and that international cooperation is sorely needed in pursuit of a free flow of data, information, and digital trade. Countries should exert more effort to bring rules set forth in regional trade agreement into the multilateral context.

The findings that digital trade liberalization is being undertaken by three different ways – WTO-led liberalization, DSB-led liberalization, and RTA-led liberalization – and regional trade agreements are leading global movement towards the liberalization of digital trade draw several implications. A growing role of RTAs in expanding digital trade encourages WTO Member countries, which have a comparative and competitive advantage in digital trade, to

introduce a separate e-commerce chapter when negotiating a future RTA. With mega-RTA negotiations coming to a conclusion, non-participant countries also should keep a close eye on the development of digital trade disciplines in these mega-RTAs as they may serve as a reference for the future multilateral digital trade negotiation. At the same time, developing countries as a whole should actively participate in a multilateral negotiation for digital trade to raise their voices and make the best use of digital trade liberalization in development-friendly way.

This paper examines the liberalization of digital trade and the role of trade agreements. Yet, with few achievements so far, uncertainties about the future negotiation process make desire for global rules on digital trade nothing but swelling. Negotiation shall continue.

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ANNEX

Annex 1 Digitally-Enabled Cross-Border Services Trade, Selected Sectors in 2011 (in USD mil)

	Communication	Computer & Information	Financial	Insurance	Royalties & License Fees	Other Business Services	Personal/Cultural/ Recreational	% of ICT-Enabled Services in Total Services	Total Services
EBOPS 2010 Classification									
Australia									
Export	N/A	1,739.1	1,362.6	416.7	1,049.0	7,441.2	876.8	24.9%	51,825.6
Import	N/A	1,965.0	907.7	793.2	4,092.0	7,864.1	1,648.3	28.3%	60,939.9
Canada									
Export	N/A	9,622.1	6,955.7	2,195.7	3,345.5	26,114.9	2,515.3	59.9%	84,737.2
Import	N/A	4,972.0	5,214.8	5,919.7	10,409.4	19,769.9	2,033.5	44.9%	107,594.8
Chile									
Export	N/A	384.8	N/A	378.5	75.2	2,288.7	26.3	24.0%	13,133.4
Import	N/A	594.6	N/A	1,363.7	773.6	2,188.7	20.2	31.4%	15,711.4
Russian Federation									
Export	N/A	3,101.5	1,102.5	334.2	555.8	14,742.6	492.9	35.0%	58,039.1
Import	N/A	4,946.3	2,428.9	1,245.2	5,830.3	18,565.3	1,058.5	37.2%	91,495.4
EBOPS 2002 Classification									
Austria									
Export	1,406.8	2,594.0	1,284.5	927.2	779.9	18,114.8	300.3	41.6%	61,113.1
Import	1,167.7	1,761.3	443.5	1,070.4	1,441.6	9,254.1	1,020.4	38.3%	42,137.7
Belgium									
Export	4,526.3	4,864.1	3,822.9	1,206.6	2,578.7	33,847.0	747.9	54.0%	95,481.4
Import	3,494.8	3,656.1	2,285.4	1,305.3	2,624.6	27,710.9	891.1	46.0%	91,302.6
Czech Republic									
Export	512.3	1,786.0	90.4	295.8	106.9	6,039.7	254.9	39.4%	23,078.5
Import	944.4	1,283.7	69.4	483.5	988.9	5,351.9	253.2	48.5%	19,330.8
Denmark									
Export	642.2	1,875.1	720.3	268.6	2,628.6	12,030.5	563.5	28.1%	66,653.6
Import	823.8	2,148.2	360.2	309.8	1,834.0	10,451.5	1,033.2	28.7%	59,044.2
Estonia									
Export	233.7	241.6	81.0	8.1	22.6	1,028.2	Confidential	29.8%	5,421.1
Import	226.2	143.7	42.4	4.3	74.1	796.6	Confidential	34.8%	3,698.4
Finland									
Export	368.6	6,686.7	685.2	116.9	3,223.9	9,534.9	Confidential	68.4%	30,121.3
Import	539.1	2,131.1	364.2	460.7	1,355.1	11,345.4	Confidential	54.6%	29,686.2
France									
Export	6,377.9	4,189.9	6,525.3	5,322.8	15,704.3	71,819.9	4,137.0	50.8%	224,460.8
Import	4,538.8	5,201.9	3,670.0	3,038.8	9,940.8	56,717.5	3,664.4	45.5%	190,783.4
Germany									
Export	5,674.5	18,605.6	14,647.8	6,393.2	14,333.7	88,594.6	906.4	56.3%	264,728.8
Import	7,690.2	16,331.3	9,501.6	4,554.1	13,161.8	77,657.1	2,714.9	44.4%	296,277.9
Greece									
Export	517.3	493.9	177.9	558.1	68.8	2,133.8	Confidential	9.9%	39,770.8
Import	551.1	497.4	445.5	1,487.5	556.2	1,902.1	Confidential	28.0%	19,433.5
Hungary									
Export	367.8	1,298.8	186.6	33.1	1,021.9	6,760.2	1,324.4	50.8%	21,635.0
Import	465.5	789.3	224.1	216.7	1,384.0	6,565.9	1,007.6	62.0%	17,181.9
Iceland									
Export	42.8	55.6	5.1	33.1	218.1	440.9	21.3	27.5%	2,969.0
Import	61.8	57.9	13.1	64.7	97.2	732.5	36.8	40.8%	2,610.3
Ireland									
Export	632.5	44,232.7	9,167.9	11,312.9	5,054.5	31,658.9	353.1	90.5%	113,223.7
Import	1,495.8	945.3	6,635.1	8,336.6	40,621.1	48,162.6	207.1	91.9%	115,739.8
Israel									
Export	389.5	3,751.7	526.0	25.4	799.9	N/A	211.6	21.3%	26,842.2
Import	346.5	747.5	256.9	513.0	399.6	N/A	164.6	12.5%	19,410.0
Italy									
Export	6,699.3	2,374.6	2,608.5	2,575.4	3,690.9	28,626.3	298.4	44.0%	106,645.5
Import	6,584.1	4,545.1	5,134.3	4,050.0	7,205.7	30,531.1	581.2	50.4%	116,353.3
Japan									
Export	760.1	1,198.2	4,110.7	1,657.8	29,058.2	45,366.6	159.3	56.6%	145,506.7
Import	972.7	4,217.9	3,346.0	6,806.2	19,157.8	45,889.2	977.3	48.6%	167,579.9
Korea									
Export	827.9	426.0	3,389.1	518.4	4,335.6	18,464.3	929.4	30.3%	95,257.2
Import	1,540.1	558.5	894.4	686.2	7,294.5	34,679.1	1,023.4	46.2%	101,106.7
Luxembourg									
Export	2,571.2	818.5	41,698.6	3,151.4	461.7	10,189.8	2,804.5	86.7%	71,181.7
Import	868.3	936.3	21,398.8	1,822.2	436.1	7,474.5	2,123.8	84.7%	41,417.0
Mexico									
Export	236.7	N/A	N/A	2,262.1	N/A	N/A	80.0	16.9%	15,297.7
Import	112.4	N/A	452.4	4,086.4	N/A	244.1	272.0	17.6%	29,390.9
Netherlands									
Export	5,934.3	6,297.7	1,567.9	712.5	30,850.0	42,555.2	790.6	64.2%	138,256.9
Import	4,751.9	5,269.7	1,751.0	1,189.1	21,696.6	41,246.4	778.0	63.0%	121,636.7
New Zealand									
Export	199.9	282.8	166.7	35.5	235.4	1,289.3	250.4	24.3%	10,124.4
Import	186.4	453.5	153.3	380.0	928.2	2,076.9	74.3	38.9%	10,930.2
Norway									
Export	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Import	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Poland									
Export	581.9	2,129.0	483.0	412.1	271.4	9,953.9	525.8	38.2%	37,541.9
Import	601.8	1,928.9	744.2	843.8	2,412.5	8,218.4	1,080.0	49.5%	31,967.2
Portugal									
Export	656.4	524.2	316.0	148.8	60.6	4,984.5	333.0	26.4%	26,633.5
Import	583.6	612.1	725.2	310.8	538.1	3,345.8	665.3	42.7%	15,867.4
Slovak Republic									
Export	111.9	572.9	33.1	25.5	3.9	985.5	84.8	27.5%	6,602.2
Import	179.6	242.4	204.5	337.3	149.4	993.9	150.6	31.7%	7,118.1
Slovenia									
Export	366.7	153.4	43.7	109.8	87.9	1,139.9	70.3	29.3%	6,727.2
Import	391.5	194.9	69.0	131.0	428.5	1,111.6	52.1	50.4%	4,721.5
Spain									
Export	2,297.9	6,697.7	5,289.5	1,370.7	1,063.5	34,359.9	2,172.8	37.5%	142,099.5
Import	2,823.4	3,100.0	5,005.9	2,063.0	2,780.3	33,648.2	2,113.0	54.5%	94,501.3
Sweden									
Export	2,173.9	8,737.1	1,518.6	911.4	6,230.7	28,014.5	620.6	64.7%	74,549.8
Import	2,427.6	3,431.4	612.8	433.2	1,829.2	19,815.7	375.8	52.7%	54,918.7
Switzerland									
Export	1,447.7	N/A	17,016.7	5,742.9	19,522.9	25,620.8	5.4	71.9%	96,418.6
Import	1,039.3	N/A	1,894.3	967.8	21,696.5	760.6	122.4	58.7%	45,103.4

(Continued)

Turkey										
	Export	526.0	18.0	531.0	834.0	-	300.0	1,267.0	8.5%	41,075.0
	Import	313.0	38.0	1,221.0	1,302.0	680.0	1,727.0	294.0	26.6%	20,945.0
United Kingdom										
	Export	10,358.2	14,687.4	64,953.3	16,358.5	14,176.3	89,925.2	4,609.5	73.2%	293,789.4
	Import	7,536.8	6,397.6	12,295.3	3,520.0	10,661.1	48,460.2	1,025.4	49.7%	180,701.2
United States										
	Export	12,886.0	15,500.6	74,055.0	15,477.0	120,836.0	117,175.3	893.2	58.7%	607,742.7
	Import	8,057.0	24,537.7	16,207.0	56,620.0	36,620.0	78,191.8	564.5	51.4%	429,211.3
Total										
	Export	70,328.2	165,941.3	265,123.2	82,130.9	282,452.3	791,541.7	28,626.8	54.4%	3,098,684.2
	Import	61,315.2	104,636.5	104,972.0	116,716.2	230,098.5	663,450.6	28,027.0	49.3%	2,655,847.9

Note: Data of Australia, Canada, Chile, and Russian Federation are in EBOPS 2010 classification. Those of the rest of the countries are in EBOPS 2002 classification.
Data of computer & information services refer to Telecommunications, computer, and information services in EBOPS2010.
Communication services category is not available in EBOPS 2010.
Insurance services include Insurance and Pension services in EBOPS2010.
Data of Royalties & License Fees refer to Charges for the use of intellectual property n.i.e. in EBOPS2010.
Source: Calculated by the author based on OECD Statistics on International Trade in Services

Annex 2 U.S. Digital Trade Policy Objectives

Trade Topic	Specific U.S. Digital Trade Policy Objectives
Trade in IT Goods	Ensure that trade partners accede to the WTO's Information Technology Agreement, that the ITA product coverage is extended, and that non-tariff trade barriers to IT goods are reduced or eliminated. For digital products delivered on physical carrier medium trade partners shall agree to base customs duties on the value of the carrier medium rather than the content.
Digital Service Trade (focus on Entertainment, Telecom and IT)	Ensure that, when possible, the most liberal form to schedule trade commitments (negative list approach) is used so that new services are automatically covered by old commitments, and ensure the absence of discrimination against electronic service delivery. **Audiovisual Services:** (A) Trade partners are not asked to dismantle existing financial support schemes for culture and content-production. The U.S. only requests the elimination of very trade-distorting subsidies and other financial support schemes. (B) Trade partners are not asked to eliminate existing regulations that discriminate against foreign content and that usually apply to traditional technologies like broadcasting or the cinema. Rather trade partners are asked to schedule their existing audiovisual regulations and thus freeze them at a particular level (50% local broadcasting content quota, for instance). (C) The U.S. is requesting commitments on new audiovisual services like video-on-demand, new forms of content distribution, etc. **Telecommunication Services and Computer and Related Services:** Deepen and broaden the commitments for basic telecommunications, for value-added telecommunications (like online information services, database retrieval, etc.) and for computer and related services. Ensure that evolving IT products (including entertainment games and software) are covered by these commitments. **Other Service Sectors that can be delivered electronically across borders:** Deepen and broaden the commitments for the cross-border trade in financial, business, professional, and other services.
E-Commerce / Trade in Digital Products	(A) Ensure that current obligations, rules, disciplines, and commitments under the WTO apply to e-commerce. (B) Ensure that electronically delivered goods and services receive no less favorable treatment under trade rules and commitments than like products delivered in physical form. Ensure that the classification of such goods and services ensures the most liberal trade treatment possible. (C) Ensure that governments refrain from implementing trade-related measures that impede e-commerce. Where legitimate policy objectives require domestic regulations that affect e-commerce, obtain commitments that any such regulations are the least restrictive on trade, non-discriminatory, and transparent, and promote an open market environment. (D) Extend the moratorium of the WTO on duties on electronic transmissions. (E) The importance of maintaining free flows of information should be explicitly acknowledged.
Intellectual Property Protection in the Digital Age	(A) Ensure accelerated and full implementation and enforcement of the TRIPs. (B) Ensure that any trade agreement governing intellectual property rights that is entered into by the U.S. reflects a standard protection similar to that found in the US law. (C) Provide strong protection for new and emerging technologies and new methods of transmitting and distributing products embodying intellectual property. Recommended adoption of the two new WIPO Internet treaties. (D) Ensure that standards of protection enforcement keep pace with technological developments, and in particular ensure that rightholders have the legal and technological means to control the use of their works through the Internet and other global communication media and to prevent the unauthorized use of their works.

Source: Adapted from Wunsch-Vincent (2003, 11-12)

ABSTRACT IN KOREAN

국문초록

아날로그 체제 하의 디지털무역: 디지털무역 자유화와 무역협정의 역할

급속도로 증가하는 인터넷 이용률과 정보통신기술의 광범위한 활용으로 인해 국경간 디지털무역이 확대되고 있다. 그러나 디지털무역이 증가함에 따라 각국 정부는 자연스럽게 보호주의적 무역정책을 채택하여 공중도덕을 보호하고 국내 서비스산업을 지키려는 유혹에 빠지게 된다. 이를 방지하기 위해 국제통상협정의 역할이 중요해지는데 통상협정은 국가들이 차별적인 무역정책을 사용하지 못하도록 방지하며 각 국마다 상이한 국내 규제를 국제 규제에 일치시키도록 만든다. 이 논문은 다자무역협정/협상, WTO 분쟁해결기구, 그리고 양자 또는 지역무역협정이 디지털무역의 자유화를 위해 어떠한 역할을 해왔는지를 살펴보고자한다.

다자무역협상 차원에서는 디지털무역에 관한 협상이 WTO Work Program on E-Commerce를 기반으로 여러 차례 이루어졌다. 그러나 WTO 회원국들은 단지 전자적 전송에 대한 일시적인 비관세 모라토리움에만 합의를 이끌어냈을 뿐, 디지털무역에 대한 서로 다른 이해관계로 인해 기타 핵심 쟁점에 대해서는 합의를 이끌어내는데 실패하였다.

WTO 분쟁해결기구는 미국-갬블링 사건과 중국-출판물 사건에서 디지털무역에 관련된 쟁점을 해결할 기회를 맞았다. 미국-갬블링 사건에서 이루어진 가장 큰 진전 중 하나는 WTO의 규율이 전자상거래 또는 전자

적으로 전송되는 서비스에 적용된다는 점이 명확해졌다는 사실이다. 또한 이 사건에서는 GATS mode 1(국경간 공급) 양허가 국경간에 전자적으로 전송되는 서비스에도 적용됨이 확인되었다. 그러나 이 두 사건에서 패널과 상소기구는 동종성과 기술적 중립성에 대한 쟁점에 대해서는 판결내리기를 유보하였다.

도하라운드가 정체상태에 빠지자 국제디지털무역을 이끌고 있는 주요 국가들은 양자 또는 지역무역협정을 통하여 디지털무역에 적용될 새로운 규율을 모색하고 있다. 주요 지역무역협정에서는 디지털상품에 대한 비관세 모라토리움이 영구화되었으며, 국가들은 디지털상품의 분류문제에 대해 실용적으로 접근하고 있으며, 비차별대우가 디지털상품에도 적용되며, 높은 수준의 디지털무역 규율이 시도되고 있는 등 몇 가지 성과들이 나타나고 있다. 그러나 WTO 회원국들은 이에 머물러서는 안되며 양자 또는 지역무역협정 내의 디지털무역 관련 규율이 다자무역체제 내에서의 규율들과 양립가능하도록 최선의 노력을 기울여야 한다.

디지털무역은 다자무역협상과 지역무역협정을 위한 협상에서 필수적인 부분이 되었다. 이 논문은 디지털무역의 자유화의 흐름을 다자무역협상 측면(WTO 주도의 자유화), 분쟁해결기구 측면(DSB 주도의 자유화), 그리고 지역무역협정 측면(RTA 주도의 자유화) 등 세가지 측면에서 살펴보았다. 디지털무역을 둘러싼 전세계 무역환경은 당분간 지역무역협정을 통해 이루어질 것으로 보이며 전자상거래 챕터에서 발견되는 공통 조항들은 모든 국가들에게 적용되는 다자무역규율로 발전될 것으로 예상된다. 지금까지의 성과도 미미한 상황이고 차후 협상 진행상황에 대한 불확실성으로 인해 디지털무역을 둘러싼 전세계적 규율에 대한 열망은 점차 커져만 갈 것이다. 협상은 계속될 것이다.

주제어: 디지털무역, 전자상거래, 전자적으로 전송되는 서비스, 디지털 상품, 무역협정, 자유화

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