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Review of ASEAN Commitments in Telecommunication Services under AFAS 10 and RCEP

Notes

The terms country and/or economy as used in this study also refer, as appropriate, to territories or areas; the designations employed and the presentation of the material do not express any opinion whatsoever on the part of the ASEAN-Japan Centre concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The tables use the following symbols:

- Two dots (..) indicate that data are not available or are not separately reported.
- A dash (-) indicates that the item equals zero or its value is negligible.
- Use of an en-dash (–) between dates representing years, *e.g.*, 2015–2016, signifies the full period involved, including the beginning and end years.
- Reference to “dollars” (\$) means United States dollars, unless otherwise indicated.

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I. Introduction

Like professional services, telecommunication services are necessary for any industry and thus also an indispensable input into the economic activities of ASEAN. The General Agreement on Trade in Services administered by the World Trade Organization (WTO) lists¹ the following 15 job categories under “telecommunication services”:²

1. Voice telephone services
2. Packet-switched data transmission services
3. Circuit-switched data transmission services
4. Telex services
5. Telegraph services
6. Facsimile services
7. Private leased-circuit services
8. Electronic mail
9. Voicemail
10. Online information and database retrieval
11. Electronic data interchange (EDI)
12. Enhanced or value-added facsimile services, including store and forward and store and retrieve
13. Code and protocol conversion
14. Online information and/or data processing (including transaction processing)
15. Other.

Progress in communication technologies and telecommunication services, together with progress in logistics and transport services, has made globalization possible by reducing communication costs and improving service quality (e.g., speed of operation). Playing an important role in globalization and company growth, telecommunication services improve efficiency and allow digitization of the economy. In terms of trade, these services make non-tradable products tradable, thus enhancing cross-border supply (Mode 1).

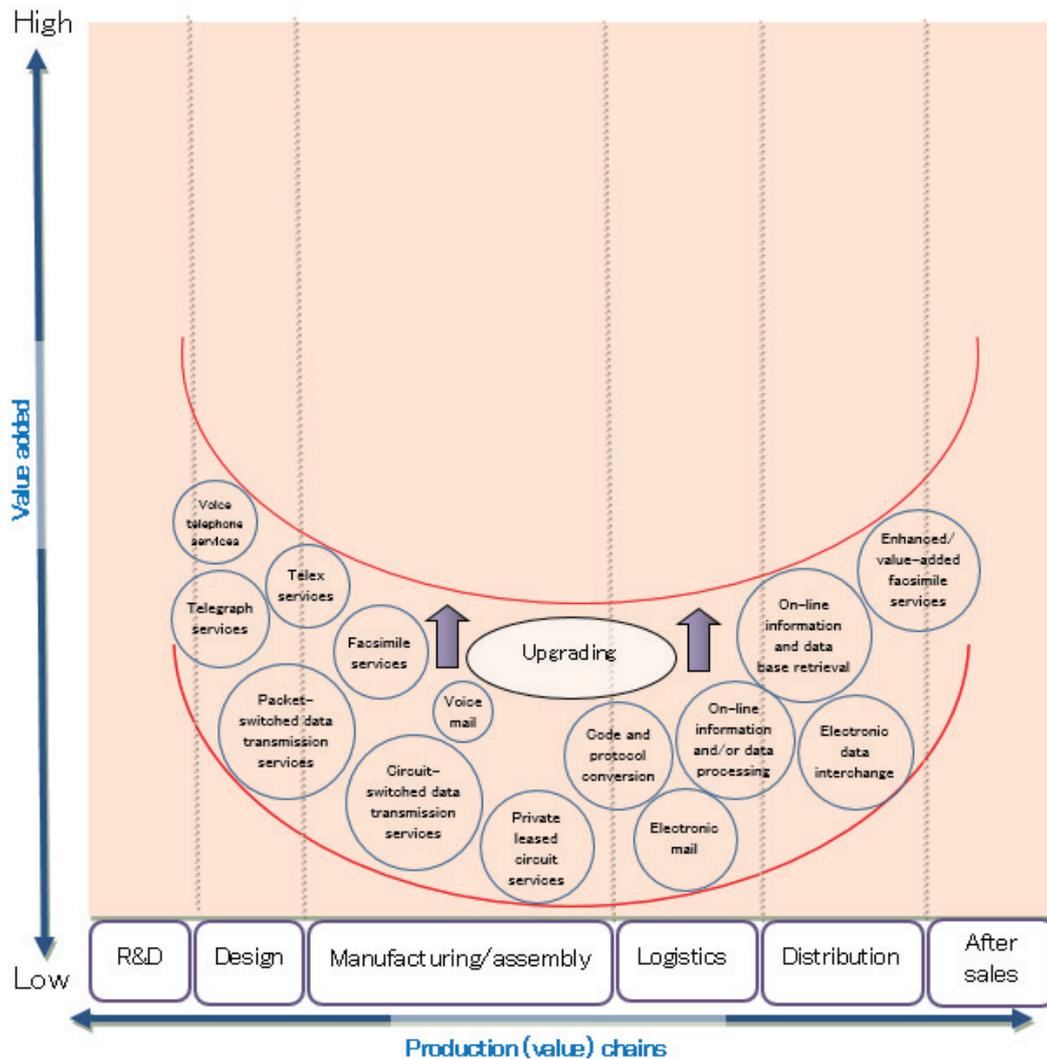
As with professional services, the position and role of telecommunication services in value-creating economic activities can be similarly displayed on the value chain curve (figure 1). The coverage (the shaded square in this figure) of these telecommunication services is wide, encompassing the whole production chain. Telecommunication services ensure smoother (in the horizontal direction, known as the “value chain”) and more efficient (in the vertical direction,

¹ “Services Sectoral Classification List” (MTN.GNS/W/120, 10 July 1991).

² World Bank and ITU (2011) point out the merger of computer services and telecommunication services at the core of recent technological trends. As UNCTAD (2004, p. 150) notes, Internet-related services (or information and communication technology services) include the supply of the telecommunication service itself and the supply of content: a mix of business services, audiovisual services, and computer and related services. This paper addresses mainly the narrowly defined telecommunication services, *i.e.*, telephone-related services.

referred to as “value added”) operation of a country’s entire value-creating activities for whole industries.

Figure 1 . Value chains and telecommunication services



Source: ASEAN-Japan Centre.

Note: Positions of job categories are simply placed in a relevant specific place along the value chain and do not necessarily represent the most suitable place.

II. Telecommunication Infrastructure

Availability and affordability of telecommunication infrastructure in each ASEAN country largely dictate telecommunication service activities, including their supply (Modes 1–4). Telecommunication infrastructure is typically measured by the number of users of fixed and mobile phones and of the Internet. The spread and density of information networks depend on the existence of telecommunication companies, national and foreign and private and public, that provide such infrastructure. Today the presence of foreign telecommunication companies largely determine such spread and density (see later). Table 1 shows numbers of fixed telephone subscriptions. Singapore is at the top of these statistics; Myanmar is at the bottom. A salient feature of this category (fixed telephone) is an overall reduction in fixed telephone lines (especially in Singapore, Indonesia and Viet Nam) and their replacement with mobile phones, although these are also general trends worldwide. Seen from this perspective, the rather low ASEAN average of 6 per cent in 2019 (a decrease from 10 per cent from the 2005–2010 average) is not necessarily a negative observation. Interestingly, Lao People’s Democratic Republic and Malaysia data indicate an opposite movement, with an increase in fixed telephone lines.

Table 1. Fixed-line telephone subscriptions, 2005–2019 (per 100 people)

Country	Average, 2005–2010	Average, 2011–2015	2016	2017	2018	2019
Brunei Darussalam	21.4	18.5	17.7	19.7	19.3	20.0
Cambodia	0.7	2.9	1.4	0.8	0.5	0.3
Indonesia	11.0	11.4	4.1	4.2	3.1	3.6
Lao PDR	1.7	9.6	18.5	16.2	21.0	20.8
Malaysia	16.5	15.3	15.8	21.2	23.6	23.3
Myanmar	1.0	1.0	1.0	1.0	1.0	..
Philippines	4.2	3.3	3.6	4.0	3.9	3.9
Singapore	40.4	36.7	35.3	34.9	34.8	32.9
Thailand	10.7	8.8	6.8	14.4	8.7	7.8
Viet Nam	15.4	8.9	6.0	4.6	4.5	3.8
ASEAN Average	9.7	8.8	5.3	6.2	5.3	5.6
Memorandum						
China	25.1	18.8	14.6	13.6	13.5	13.3
India	3.4	2.3	1.8	1.7	1.6	1.5
Japan	44.9	49.9	50.2	50.2	49.9	49.5
Korea, Rep. of	50.6	58.9	55.0	52.5	50.6	48.3
United States	53.3	42.3	37.6	35.8	33.8	32.7

Source: World Bank, World Bank Open Data (<http://data.worldbank.org/indicator/>).

Table 2 shows numbers of mobile cellular subscriptions. As compared with fixed telephone subscriptions, the trend is increasing overall in all ASEAN member states. This is clearly because of a substitution effect between fixed telephone lines and mobile telephones. Indeed, this “mobile revolution” is drastically changing the landscape of how to supply telecommunication services. As the initial fixed cost (at the societal level) of mobile phone subscription is considered to be significantly lower than the installment of fixed telephone lines, ASEAN member states could look to this mobile-based supply of telecommunication services as the main pillar.

Table 2. Mobile cellular subscriptions, 2005–2019 (per 100 people)

Country	Average, 2005–2010	Average, 2011–2015	2016	2017	2018	2019
Brunei Darussalam	94.9	113.6	124.7	128.3	131.9	132.7
Cambodia	29.0	125.7	126.3	116.0	119.5	129.9
Indonesia	51.3	119.9	147.4	164.4	119.3	126.1
Lao PDR	34.5	69.5	57.8	53.4	51.9	60.8
Malaysia	95.2	142.6	141.6	136.1	134.5	139.6
Myanmar	0.7	31.6	95.4	89.8	113.8	..
Philippines	66.9	106.9	115.9	114.1	126.2	154.8
Singapore	127.2	149.4	149.7	146.8	148.8	155.6
Thailand	81.2	134.0	173.5	175.6	180.2	186.2
Viet Nam	69.5	140.8	128.8	126.9	147.2	141.2
ASEAN Average	58.9	116.0	136.3	141.9	130.8	140.8
Memorandum						
China	45.0	84.9	96.5	103.4	115.5	121.8
India	29.6	71.7	85.1	87.3	86.9	84.3
Japan	84.8	115.4	130.6	135.5	141.4	147.0
Korea, Rep. of	90.7	110.1	120.2	124.6	129.7	134.5
United States	83.0	104.4	122.6	123.0	129.0	134.5

Source: World Bank, *World Bank Open Data* (<http://data.worldbank.org/indicator/>).

Table 3 shows the numbers of Internet users in ASEAN member states. All recorded a considerable increase throughout the period, and the ASEAN average in 2019 stands at 55.0 per 100 people, which is a bit higher than that of China (54.3) in 2017, the last year with available data. Observing data from 2017, the Lao People’s Democratic Republic and Myanmar recorded the lowest figures, 25.5 and 23.6, respectively, while Brunei Darussalam’s figure is the highest, at 94.9—higher than that of Japan (91.7) and close to the level of Republic of Korea (95.1).

Table 3. Internet users (per 100 people)

Country	Average, 2005–2010	Average, 2011–2015	2016	2017	2018	2019
Brunei Darussalam	45.3	64.3	90.0	94.9	95.0	95.0
Cambodia	0.6	7.1	32.4	32.9	40.5	..
Indonesia	6.7	16.2	25.4	32.3	39.9	47.7
Lao PDR	3.4	13.0	21.9	25.5
Malaysia	54.1	63.8	78.8	80.1	81.2	84.2
Myanmar	0.2	9.3	25.1	23.6
Philippines	9.7	39.9	55.5	60.1	..	43.0
Singapore	66.7	76.5	84.5	84.5	88.2	88.9
Thailand	18.8	30.7	47.5	52.9	56.8	66.7
Viet Nam	22.1	39.3	53.0	58.1	69.8	68.7
ASEAN Average	13.1	27.0	39.9	44.8	51.5	55.0
Memorandum						
China	20.2	44.9	53.2	54.3
India	4.4	15.2	22.0	32.0	20.1	..
Japan	73.6	85.4	93.2	91.7	91.3	..
Korea, Rep. of	79.5	86.0	92.8	95.1	96.0	96.2
United States	71.5	72.7	85.5	87.3	88.5	..

Source: World Bank, *World Bank Open Data* (<http://data.worldbank.org/indicator/>).

Table 4 shows the numbers of fixed broadband subscriptions. Figures in 2019 for ASEAN member states are considerably lower than those for China, Republic of Korea, Japan and United States. The lowest figures are recorded by Myanmar (0.2), the Lao People's Democratic Republic (1.1) and Cambodia (1.1), while the highest is recorded by Singapore (25.9). The ASEAN average in 2019 is 7.6. The table clearly indicates heterogeneity in the level of broadband access inside ASEAN and the necessity of improvements.

Table 4. Fixed broadband subscriptions, 2005–2019 (per 100 people)

Country	Average, 2005–2010	Average, 2011–2015	2016	2017	2018	2019
Brunei Darussalam	3.9	6.7	8.6	9.7	11.5	12.5
Cambodia	0.1	0.3	0.6	0.8	1.0	1.1
Indonesia	0.4	1.3	2.0	2.3	3.3	3.8
Lao PDR	0.0	0.2	0.4	0.4	0.6	1.1
Malaysia	4.5	9.8	8.9	8.6	8.6	9.3
Myanmar	0.0	0.1	0.2	0.2	0.2	..
Philippines	0.8	2.5	2.9	3.2	3.6	5.5
Singapore	21.4	26.8	28.2	25.9	25.9	25.9
Thailand	2.7	7.4	10.5	11.9	13.2	14.5
Viet Nam	2.1	6.0	9.7	11.9	13.6	15.3
ASEAN Average	1.4	3.5	4.5	5.2	6.0	7.6
Memorandum						
China	5.8	14.3	22.8	27.7	28.5	31.3
India	0.4	1.2	1.4	1.3	1.3	1.4
Japan	22.7	28.9	31.2	31.8	32.6	33.5
Korea, Rep. of	30.5	37.4	40.3	41.5	41.6	42.8
United States	23.4	30.2	32.7	33.3	33.9	34.7

Source: World Bank, *World Bank Open Data* (<http://data.worldbank.org/indicator/>).

III. Ascendancy of Telecommunication Services Trade

Data from 2015 indicate that the total supply of telecommunication services from ASEAN through all four modes accounted for 6 per cent of the total services supply to the world (table 5). Supply through commercial presence (Mode 3) is the largest. The dominance of this mode indicates that foreign direct investment (FDI) plays an important role in providing this service. Similarly, foreign firms operating in ASEAN provide the largest amount of services. The nature of the product enables telecommunication services to be supplied directly to users. Services supplied through cross-border trade (Mode 1), consumption abroad (Mode 2) and movement of natural persons (Mode 4) account for minor shares and are limited to, for example, international telephone, fax and online operations, maintenance and repair of infrastructure and person-to-person provision of technical services.

The fact that ASEAN's receipt of telecommunication services from the world is larger than its supply shows that in this subsector foreign countries have greater comparative advantages than ASEAN countries. The large presence of foreign firms in ASEAN means that member states may harness the technology and networks of such firms for their own development of this subsector.

Table 5. Estimated value and share of telecommunication services supply in ASEAN, by mode of supply, 2015

Mode of supply	(Billions of dollars and per cent)							
	Receipts from the world (imports)				Supply to the world (exports)			
	Telecommunication services		Total services		Telecommunication services		Total services	
	Value	Share	Value	Share	Value	Share	Value	Share
Mode 1	7 ^a	8	308	30	6 ^a	9	302	30
Mode 2	2 ^b	2	103	10	2 ^b	3	101	10
Mode 3	69 ^c	81	565	55	51 ^c	80	554	55
Mode 4	7 ^d	8	51	5	5 ^d	8	50	5
Total	85	100	1,027	100	64	100	1,007	100

Source: A.J.C, based on own estimates, UNCTAD for total services and the WTO for the mode shares of total services.

^a For Brunei Darussalam, data are available only for telecommunications, computer and information services. Therefore, the ratio of telecommunications services to this sector from the Philippines is applied to estimate the telecommunications services sector only. For 2015, data are available only for the services total. Therefore, first, the telecommunications, computer and information services are estimated by using the ratio to services total. Then the Philippines' ratio of telecommunications services is applied.

For Cambodia, Indonesia and Thailand, information services may be included.

For Lao People's Democratic Republic, data are available but include computer and/or information services. Therefore, Myanmar's average ratio of telecommunications services to this sector from 2014 and 2015 is applied to estimate the telecommunications services sector alone.

For Malaysia, data are available only for telecommunications, computer and information services for 2010 onward. Therefore, the ratio from telecommunications services to this sector in 2009 is applied to estimate the telecommunications services sector only for 2010 onward. Information services may be included.

For Myanmar, data for telecommunications, computer and information services available only for 2012 onward, which is the same as telecommunication services for 2012 and 2013. From 2014 onward telecommunication, computer and information services became available separately. Therefore the average ratio of services to this sector from 2014 onward is applied to estimate the telecommunication services sector for 2012 and 2013.

For Singapore, data are available only for telecommunications, computer and information services. Therefore, the average ratio of telecommunications services to this sector from Indonesia, Malaysia, the Philippines and Thailand was applied to estimate the telecommunications services sector alone.

For Viet Nam, data are available only for telecommunications, computer and information services. Therefore, Myanmar's average ratio of telecommunication services to this sector from 2014 and 2015 is applied to estimate the telecommunication services sector alone.

^b Estimated as one third of Mode 1.

^c See table 10.

^d Estimated as one tenth of Mode 3.

Note: For total services, each mode share estimated by the WTO for the global supply is applied to ASEAN. The basic data for estimates by mode are cross-border services (Mode 1) from UNCTAD; the WTO data on shares have been applied to the UNCTAD data to calculate the value of each mode.

1. Cross-border supply (Mode 1)

Tables 6 and 7 display the export and import statistics for telecommunication services, respectively, revealing significant differences. Whereas total exports from ASEAN (supply of telecommunication services to the world) have not changed much in the period analyzed, total imports to ASEAN (receipts of telecommunication services from the world) have increased considerably. By 2020, imports had almost doubled from the level in 2005–2010 (box 1). In terms of total trade, Singapore is the largest trader, followed by Malaysia and Indonesia, while Brunei Darussalam and Lao People's Democratic Republic are the smallest traders. For analytical purposes, table 8 shows past export trends and a possible future export path, and table 9 provides the export competitiveness index to measure the degree of a country's strength in trade in this particular services subsector. Some observations for individual member states:

- In Brunei Darussalam, export and import values remain low and the export competitiveness index is negative. The export slope is also negative, despite an increase in export values in 2020.

- Cambodian exports increased until the first half of the 2010s, followed by a period of decrease. However, imports increased during the period. The contraction in exports combined with increases in imports resulted in a negative export competitiveness index.
- The export figure of Indonesia is the third largest (after Singapore and Malaysia), yet the export trend (in terms of slope) is negative. Its export competitiveness index oscillated throughout the period. As the country transitions from fixed to mobile telecommunication service, Indonesia may need time to gain export momentum.
- In Lao People's Democratic Republic, the export figure is the second lowest among ASEAN member states; its export slope, however, is positive and higher than the ASEAN average. Its export competitiveness index is one of the highest among ASEAN member states because the country is rapidly embracing a high-level mobile telecommunication framework.
- In Malaysia, the export volume is one of the largest in ASEAN, while the export slope is slightly negative. It is also the second largest in import volumes, resulting in a negative export competitiveness index. This is mainly because the country is in the middle of the transition from a conventional fixed-line network to a mobile-oriented network.
- As for Myanmar, its export performance gained a remarkable momentum until the mid-2010s and then oscillated in the second half of the decade. Its export competitiveness index value is negative, reflecting the decrease in exports in the second half of the 2010s.

Table 6. Exports of telecommunication services and their share in total exports of services and in total exports of goods and services, 2005–2020 (millions of dollars and per cent)

Country	Annual average 2005–2010	Annual average 2011–2015	2016	2017	2018	2019	2020
Telecommunication service export							
Brunei Darussalam*	6	0	0	0	0	0	2
Cambodia	47	66	62	56	52	51	50
Indonesia	1,167	929	676	703	767	799	661
Lao PDR	19	34	27	21	23	28	-
Malaysia	630	587	580	511	585	589	717
Myanmar	-	157	192	85	37	110	25
Philippines	467	382	282	397	549	405	317
Singapore+	586	1,305	1,384	1,234	1,364	1,558	1,373
Thailand	350	453	437	360	471	412	265
Viet Nam	115	92	55	55	54	54	-
ASEAN total	3,388	3,973	3,695	3,423	3,901	4,006	3,408
Share in total exports of services							
Brunei Darussalam	0.8	0.0	0.0	0.0	0.0	0.0	0.6
Cambodia	3.0	2.0	1.7	1.4	1.1	1.0	3.0
Indonesia	8.1	4.3	3.2	3.1	2.8	3.0	5.3
Lao PDR	5.6	5.0	3.6	3.1	2.6	2.8	-
Malaysia	2.2	1.6	1.8	1.5	1.7	1.7	3.9
Myanmar	-	6.3	5.6	2.5	0.9	1.9	0.7
Philippines	3.5	1.7	1.0	1.3	1.6	1.1	1.2
Singapore	0.8	1.0	1.0	0.8	0.8	0.8	0.9
Thailand	1.2	1.0	0.8	0.6	0.7	0.6	1.0
Viet Nam	1.8	1.0	0.3	0.3	0.3	0.2	-
ASEAN total	2.0	1.4	1.2	1.0	1.0	1.0	1.3
Share in total exports of goods and services							
Brunei Darussalam	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Cambodia	0.8	0.7	0.5	0.4	0.3	0.3	0.3
Indonesia	0.8	0.5	0.4	0.4	0.4	0.5	0.4
Lao PDR	1.4	1.1	0.6	0.4	0.4	0.5	-
Malaysia	0.3	0.2	0.3	0.2	0.2	0.2	0.3
Myanmar	-	1.3	1.4	0.5	0.2	0.5	0.1
Philippines	0.8	0.5	0.3	0.4	0.6	0.4	0.4
Singapore	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Thailand	0.2	0.2	0.2	0.1	0.2	0.1	0.1
Viet Nam	0.2	0.1	0.0	0.0	0.0	0.0	-
ASEAN total	0.3	0.3	0.3	0.2	0.2	0.3	0.2

Source: AJC based on own data from UNCTAD and ASEANstats.

* Data are available only for telecommunications, computer and information services. Therefore, the ratio of telecommunication services to this sector from Malaysia is applied to estimate the telecommunication services sector only.

+ For the years 2005–2010 data are available only for telecommunications, computer and information services. Therefore, Singapore's ratio of telecommunication services to this sector from the year 2011 is applied to estimate the telecommunication services sector only.

Table 7. Imports of telecommunication services and their share in total imports of services and in total imports of goods and services, 2005–2020 (millions of dollars and per cent)

Country	Annual average 2005–2010	Annual average 2011–2015	2016	2017	2018	2019	2020
Telecommunication service import							
Brunei Darussalam*	8	29	19	13	17	26	45
Cambodia	38	51	55	55	100	83	101
Indonesia	606	672	655	629	623	560	676
Lao PDR	4	12	15	15	17	14	-
Malaysia	806	1,124	1,166	981	872	963	1,137
Myanmar	-	59	131	90	106	115	74
Philippines	119	255	248	379	320	519	681
Singapore+	587	1,390	1,346	1,319	1,306	1,422	1,536
Thailand	235	458	397	386	436	631	471
Viet Nam	51	42	34	33	35	36	-
ASEAN total	2,454	4,080	4,066	3,900	3,832	4,368	4,720
Share in total imports of services							
Brunei Darussalam	0.6	1.4	1.3	1.2	1.3	1.7	4.4
Cambodia	4.4	3.0	2.5	2.3	3.8	3.0	5.8
Indonesia	2.4	2.2	2.4	2.2	1.9	1.7	3.3
Lao PDR	4.0	1.5	1.6	1.5	1.6	1.3	-
Malaysia	2.8	2.8	3.2	2.6	2.3	2.6	4.1
Myanmar	-	3.1	5.7	3.5	3.5	3.7	2.5
Philippines	1.3	1.6	1.1	1.6	1.4	2.2	4.4
Singapore	0.7	1.0	0.9	0.8	0.8	0.8	1.1
Thailand	0.6	1.1	1.0	0.9	0.9	1.3	1.2
Viet Nam	0.7	0.3	0.2	0.2	0.2	0.2	-
ASEAN total	1.3	1.4	1.4	1.2	1.1	1.3	1.8
Share in total imports of goods and services							
Brunei Darussalam	0.2	0.5	0.5	0.3	0.3	0.4	0.9
Cambodia	0.6	0.4	0.4	0.4	0.6	0.4	0.6
Indonesia	0.5	0.3	0.4	0.4	0.3	0.3	0.5
Lao PDR	0.3	0.3	0.3	0.2	0.3	0.2	-
Malaysia	0.5	0.5	0.6	0.5	0.4	0.5	0.6
Myanmar	-	0.4	0.8	0.5	0.5	0.6	0.4
Philippines	0.2	0.3	0.2	0.3	0.3	0.4	0.7
Singapore	0.2	0.3	0.3	0.3	0.3	0.3	0.4
Thailand	0.1	0.2	0.2	0.2	0.2	0.3	0.2
Viet Nam	0.1	0.0	0.0	0.0	0.0	0.0	-
ASEAN total	0.2	0.3	0.3	0.3	0.2	0.3	0.4

Source: AJC based on own data from UNCTAD and ASEANstats.

* Data are available only for telecommunications, computer and information services. Therefore, the ratio of telecommunication services to this sector from Malaysia is applied to estimate the telecommunication services sector only.

+ For the years 2005–2010 data are available only for telecommunications, computer and information services. Therefore, Singapore's ratio of telecommunication services to this sector from the year 2011 is applied to estimate the telecommunication services sector only.

Table 8. Export trend line for telecommunication services

Country	Slope (in log)
Brunei Darussalam	-0.377
Cambodia	0.023
Indonesia	-0.047
Lao PDR	0.069
Malaysia	-0.006
Myanmar	-0.123
Philippines	-0.025
Singapore	0.092
Thailand	0.015
Viet Nam	-0.072
ASEAN average	-0.045

Source: Calculated from tables 6 and 7

Table 9. Export competitiveness index of telecommunication services, 2005–2020

Country	Annual average 2005–2010	Annual average 2011–2015	2016	2017	2018	2019	2020
Brunei Darussalam	-0.15	-1.00	-1.00	-1.00	-0.98	-0.99	-0.93
Cambodia	0.10	0.13	0.07	0.01	-0.32	-0.23	-0.34
Indonesia	0.32	0.16	0.02	0.06	0.10	0.18	-0.01
Lao PDR	0.64	0.46	0.28	0.18	0.15	0.33	-
Malaysia	-0.12	-0.31	-0.34	-0.32	-0.20	-0.24	-0.23
Myanmar	-	0.46	0.19	-0.03	-0.48	-0.02	-0.49
Philippines	0.59	0.20	0.06	0.02	0.26	-0.12	-0.37
Singapore	0.00	-0.03	0.01	-0.03	0.02	0.05	-0.06
Thailand	0.20	-0.01	0.05	-0.03	0.04	-0.21	-0.28
Vietnam	0.39	0.38	0.24	0.25	0.22	0.20	-
ASEAN average	0.22	0.04	-0.04	-0.09	-0.12	-0.11	-0.34

Source: Calculated from tables 6 and 7

Note: The export competitiveness index is defined as (Exports - Imports) / (Exports + Imports).

- Philippines' export performance is rather flat or even declining a bit; the export slope is negative, and the export competitiveness index is entering negative territory. This is presumably because of the country's prolonged transition away from a monopolistic condition toward a more competition-based telecommunication sector.
- Singapore's export value is the largest among ASEAN member states; its export trend is positive and higher than the ASEAN average. Its export competitiveness index, however, fluctuates between positive and negative values, due partly to the fact that the Singaporean economy is rather mature and has limited market size.
- As for Thailand, the export competitiveness index oscillated from between negative and positive values, starting at 0.2 and ending at -0.2, while the export slope is positive. The country's export-oriented policy (which started in the 1980s) has not affected services, as it targeted mainly the goods sector.
- In Viet Nam, export and import values decreased to but stabilized in the last half of the 2010s

to around \$55 million and \$35 million, respectively. Its export competitiveness index value is declining but still significantly positive. This is because Viet Nam has been actively embracing a market-based economy, which attracts inward FDI.

These trade-related statistics provide some basic information on growth and typical characteristics of trade for individual member states. Mode 1 trade is dwarfed by supply through commercial presence (Mode 3), though still considerably higher than Mode 2 (consumption abroad) and close to Mode 4 (movement of natural persons) levels (table 1).

Box 1. The impact of COVID-19 on telecommunication services trade

In December 2019, the first case of a new infectious disease caused by the novel coronavirus (COVID-19) was identified. The high transmission rate resulted in the rapid spread of the virus around the world and the declaration of a pandemic in March 2020. The pandemic affected most countries around the globe, decreasing the movement of people and products. This unprecedented event generated disruptions in daily lives and countries' economies, requiring totally new measures from governments. Although this problem is still not solved, the countries of the world struggle to recover their economies, while dealing with the health problems.

In such times of social distancing policies, the telecommunications infrastructure and the use of new technologies became vital for keeping the economy running and avoiding a great collapse of the world economy.

Observing the data for the year 2020, when available, provides insight into how and if telecommunication services were affected in ASEAN member states.

Given the initial negative shock on the world economy, the export numbers of Indonesia, Myanmar, Philippines, Singapore and Thailand indicate a negative impact. Myanmar and Thailand were the most affected countries, with the former's export values decreasing to less than one-quarter of the export values in 2019, while the latter lost almost half of the value exported in 2019. Interestingly, Cambodian export values changed little, while Malaysia was the only country with an increase in exports, despite the effects of COVID-19.

In terms of imports, an opposite pattern was observed, with increases in imports of telecommunication services in all countries except for Myanmar and Thailand. This increase in telecommunication services may relate to the introduction of home office policies.

2. Supply through commercial presence (Mode 3)

Table 10 shows the estimated sales of telecommunication services through foreign presence (Mode 3 in terms of service trade categorization as done by the ASEAN Japan-Centre, or AJC; see box 2).³ Except for Brunei Darussalam, Lao People's Democratic Republic and Myanmar, receipts (imports) from abroad and sales by foreign telecommunication services affiliates are relatively large, indicating that the ASEAN region is benefiting from foreign supply of telecommunication services.

³ This is an underestimation of trade volume, as only companies that provide telecommunication services are considered absent data on companies engaged only partly in telecommunication services. Tables 6 and 7 remain useful for a first approximation.

Table 10. Estimated sales of telecommunication services through foreign presence, 2015

(Number and millions of dollars)

Country	Receipts from abroad		Supply to the world	
	Number of foreign entities	Estimated sales ^a	Number of ASEAN entities abroad	Estimated sales ^a
Brunei Darussalam	1	1 (0)	0	–
Cambodia	27	1,230 (7)	0	–
Indonesia	68	16,616 (25)	12	3,524 (1)
Lao People's Democratic Republic	3	175 (0)	0	–
Malaysia	74	13,240 (14)	53	6,694 (17)
Myanmar	14	8 (2)	0	–
Philippines	64	12,807 (7)	7	64 (2)
Singapore	170	15,282 (24)	111	40,595 (23)
Thailand	46	8,905 (11)	10	11 (3)
Viet Nam	49	477 (11)	17	138 (1)
<i>ASEAN total</i>	516	68,740	210	51,027

Source: AJC, based on data from Toyo Keizai Shimposha, UNCTAD, Thomson Reuters and Orbis.

^a Figures in parentheses indicate the number of entities for which sales cannot be estimated.

Note: For estimated sales, see the estimation procedure in the main text.

Box 2. How to estimate Mode 3 services supply

Almost no developing countries compile foreign affiliate statistics. ASEAN member states are no exception. The supply of telecommunication services through commercial presence must therefore be estimated from the sales of foreign affiliates engaged in such services. The AJC estimated this supply using the following steps:

- (1) Identify foreign affiliates in each country by examining the lists of foreign companies compiled from various sources, including Toyo Keizai's database for Japanese affiliates in ASEAN, Orbis and Who Owns Who databases for non-Japanese foreign affiliates in ASEAN, and individual foreign investment cases from Thomson One and the *Financial Times'* fDi Markets databases.
- (2) Because many of these identified foreign affiliates do not provide sales data, calculate the ratio of sales to firm size based on the affiliates with information on both sales and firm size (*i.e.*, capital size, asset size or investment size). To estimate sales, apply this ratio to affiliates with at least data on firm size.
- (3) Do not include affiliates for which estimates of sales were not possible, effectively assuming that they are small and do not affect the total.

For sales by ASEAN affiliates abroad, the same estimation procedure is applied. In both estimates (supply of services by foreign affiliates in ASEAN and supply of services by ASEAN affiliates abroad), the AJC's estimates tend to be underestimated because they include only identified affiliates and only those whose main business is telecommunication services. Companies whose main business is not telecommunication services can also provide such services. However, in the calculations for Mode 3, supply by this type of firms is not covered.

Annexes A and B provide some of the identified telecommunication foreign firms established through FDI.

In terms of the number of investments, Brunei Darussalam hosts the smallest number of foreign affiliates and has no identifiable affiliates abroad. Singapore hosts the largest number at home (170) and sends the largest number abroad (111). All in all, ASEAN member states are receiving investment in telecommunication services rather than investing elsewhere.

Unlike trade under Mode 1 (cross-border supply), under Mode 3, Singapore, Indonesia, Malaysia and Philippines show almost the same level of foreign presence in terms of sales. Singapore has by far the largest sales abroad of all the ASEAN member states, seven to 10 times larger than the next largest countries (Malaysia and Indonesia).

Table 11 shows foreign affiliates in ASEAN and ASEAN affiliates abroad in telecommunication services by source and destination country. Investments in ASEAN from other ASEAN countries constitute the dominant share. Outside the ASEAN region, Europe makes the largest number of investments, followed by United States and Japan.

In terms of the volume of inward investment, or trade in services in Mode 3, the relevant companies' total sales figures have been added together. The result of the estimation shows that other ASEAN countries combined make up the largest share of inward investors. Then comes Japan, which implies that the average Japanese investment is larger than those of United States and Europe. The large investment values from Qatar (Qatar Telecom) and Hong Kong, China (True Corp.) (Annex A) are impressive, considering their rather small numbers of investments.

As for ASEAN companies' investment abroad, the largest number of affiliates is hosted by other ASEAN countries, followed by India. Bermuda and Pakistan also rank high. In contrast, Europe and United States, together with Japan, are not investment destinations, presumably because of the high costs and the dominance of large telecommunication companies in these advanced economies.

Table 11. Foreign affiliates in ASEAN and ASEAN affiliates abroad in telecommunication services, by source / destination country

		(Number and millions of dollars)					
		Foreign affiliates in ASEAN			ASEAN affiliates abroad		
	Country	Number of affiliates	Estimated sales ^a		Number of affiliates	Estimated sales ^a	
Developed countries	United States	97	6,440	(8)	8	179	(4)
	Europe	111	8,646	(11)	12	422	(2)
	Japan	67	10,115	(17)	4	25	(0)
	Others ^b	23	329	(3)	22	269	(2)
	Subtotal	298	25,529	(39)	46	895	(8)
Developing countries	ASEAN ^c	105	21,638	(38)	95	38,741	(28)
	China	23	76	(3)	7	100	(2)
	Korea, Rep. of	4	4	(0)	2	33	(0)
	India	10	137	(0)	14	5,416	(2)
	Hong Kong (China)	15	5,629	(4)	8	169	(2)
	Bermuda	0	0	(0)	2	3,190	(0)
	Pakistan	0	0	(0)	4	1,326	(0)
	Quatar	9	6,767	(2)	0	0	(0)
	Others ^d	45	8,921	(10)	32	1,157	(5)
	Subtotal	211	43,173	(57)	164	50,132	(39)
Unspecified		7	39	(5)	0	0	0
World		516	68,741	(101)	210	51,028	(47)

Source: AJC, based on data from Toyo Keizai Shimposha, UNCTAD, Thomson Reuters and Orbis.

^a Figures in parentheses indicate the number of affiliates for which sales cannot be estimated.

^b *Foreign affiliates in ASEAN includes those from Australia, Canada and New Zealand; ASEAN affiliates abroad includes Australia and New Zealand only.*

^c The number of *foreign affiliates in ASEAN* and *ASEAN affiliates abroad* should balance. However, either the destination or the source country of some of these affiliates is not available. Therefore they do not match.

^d *Foreign affiliates in ASEAN include those in the United Arab Emirates, Israel, Kuwait, the Cayman Islands, the Marshall Islands, Mexico, the Russian Federation, Saudi Arabia, Seychelles, Tokelau, Taiwan and the Virgin Islands (British). ASEAN affiliates abroad include those in the United Arab Emirates, Bahrain, Brazil, Egypt, Haiti, Israel, Sri Lanka, the Marshall Islands, Macau, Oman, Peru, Papua New Guinea, Saudi Arabia, East Timor, South Africa, Taiwan Province of China, Tanzania, the Virgin Islands (British) and Yemen.*

Note: For estimated sales, see the estimation procedure in the main text.

3. Consumption abroad (Mode 2) and movement of natural persons (Mode 4)

The essence of telecommunication services is embodied in equipment, networks and infrastructure that provide such services, rather than in natural persons. Therefore, supply of services through Mode 2 and Mode 4 is very limited, as movement to the places of consumption or production does not accompany such infrastructure. Supply through these two modes is estimated

to be only one tenth of total supply of this subsector. As no systematic information is available, international roaming could be seen as supply of telecommunication services in Mode 2, because consumers in suppliers' countries use foreign suppliers' service facilities. Meanwhile, Mode 4 is not technically feasible because telecommunication services are oriented to facilities rather than natural persons. Put differently, the lack of relevant trade statistics in Mode 2 and Mode 4 reflects that these two modes are not in full use.

Nonetheless, using and recording trade flows in both of these underutilized modes is required. Foreign visitors' rental of mobile phones would be considered trade in Mode 2, and expansion of this trade is much needed, with the increase in foreign visitors (including tourists and businessmen and -women). Although the nature of this services trade is telecommunication, for statistical purposes, it is recorded as tourism expenditure. Regarding Mode 4, as the industry stands now, self-employed telecommunication experts remain inconceivable. In the not-too-distant future, however, this type of professional might appear, using mobile (not large-scale) facilities to supply telecommunication services abroad. Business development along this line should thus be kept open by not restricting such trade flows without sound discretionary reasons.

IV. Trade Agreements and Regulations among and in ASEAN Member States

The ASEAN Framework Agreement on Services (AFAS) is the most extensive ASEAN-related free trade agreement on services. Because of potential spillovers to non-AFAS countries (including ASEAN's dialogue partners), AFAS merits a particular focus. It is important to first make an overall assessment of the degree of trade liberalization in telecommunication services. One useful method is indexation of trade liberalization through, for example, the Hoekman index.⁴ Table 12 shows Hoekman index values for ASEAN member states under AFAS (10th package, signed in November 2018); see Annex C. Judging from the ASEAN average value, which is close to one in all three modes,⁵ most ASEAN member states are highly committed in telecommunication services under the AFAS 10th package.

Following are some noteworthy observations by country.

Brunei Darussalam: Highly committed and well above the ASEAN average in all three modes. Mode 2 reveals the highest commitment, followed by Mode 1 and then Mode 3; this is a typical pattern, considering the sensitivity of Mode 3, which directly relates to domestic regulation and employment.

Cambodia: Highly committed and well above the ASEAN average in all three modes; Mode 3 records the lowest commitment.

Indonesia: Commitment in Mode 3 is a bit below the ASEAN average; the other modes' commitments are among the highest. In 2016, the country introduced a regulation that imposes a 20 per cent limit on foreign ownership in companies that offer electronic payment services.⁶ Indonesia launched a 5G network, but frequency limitation exists.⁷

Lao People's Democratic Republic: Fully committed in all three modes together with Viet Nam; this is presumably because telecommunication services are an essential part of the country's value chains with the rest of ASEAN.

Malaysia: The level of commitment is below the ASEAN average; Malaysia seems to have a domestically oriented policy strategy for telecommunication services, especially in Mode 3 (commercial presence).

Myanmar: The level of commitment in Mode 3 is below the ASEAN average; the other modes are

⁴ Hoekman (1995) proposes an indexation method for measuring the General Agreement on Trade in Services-style degree of commitment in the services sector. The index takes a value between 0 and 1, with 0 referring to the most restricted situation and 1 being the most open. The method assigns values to each of eight cells (four modes and two aspects—market access or national treatment) as follows: Assign the value 1 for a sector that is "fully liberalized", 0.5 for one that is "limited (but bound)" and 0 for one that is "unbound" (government has not committed to liberalize) by subsector, by mode and by aspect (market access or national treatment); take the simple average for aggregation and then calculate the average value by services sector and by country. The higher the figure, the more liberal the country's service trade commitments are to members of a free trade agreement. Using the database constructed for this paper series, the Hoekman index is derived for 155 subsectors. Then the simple average for the 11 main sectors is calculated.

⁵ As Mode 4 (movement of natural persons) is administered by a separate ASEAN-wide agreement (ASEAN Agreement on the Movement of Natural Persons) and Mode 4 is less relevant in telecommunication services, table 12 lists only Modes 1–3.

⁶ Bank Indonesia, "Peraturan Bank Indonesia No. 18/40/PBI/2016 tentang Penyelenggaraan Pemrosesan Transaksi Pembayaran", 14 November 2016.

⁷ *Jakarta Globe*, "Indonesia Launches 5G Network, but Frequency Limitation Leaves Many in Blank Spots", May 28, 2021 (<https://jakartaglobe.id/tech/indonesia-launches-5g-network-but-frequency-limitation-leaves-many-in-blank-spots>).

well committed.

Philippines: The level of commitments below the ASEAN average in Modes 1 and 3 (Mode 2 is fully committed); Philippines, like Malaysia, seems to have a domestically oriented policy strategy for telecommunication services, especially in Mode 3 (commercial presence).

Singapore: The level of commitment in Mode 1 is just around the ASEAN average; Mode 2 is fully committed, and Mode 3 commitment is higher than the ASEAN average.

Thailand: Commitments are lower than the ASEAN average; the telecommunication sector seems to be sensitive and domestically oriented.

Viet Nam: All the modes are fully committed (the index value is 1.0) like Lao People's Democratic Republic; the country has an open economy policy for this sector.

Table 12. Hoekman index of AFAS (10th package, signed in November 2018) commitments for telecommunication services

Country	Mode 1	Mode 2	Mode 3
Brunei Darussalam	0.97	0.98	0.92
Cambodia	0.97	1.00	1.00
Indonesia	1.00	1.00	0.75
Lao PDR	1.00	1.00	1.00
Malaysia	0.73	0.73	0.55
Myanmar	0.93	0.93	0.55
Philippines	0.65	1.00	0.57
Singapore	0.88	1.00	0.88
Thailand	0.75	0.75	0.75
Viet Nam	1.00	1.00	1.00
<i>ASEAN average</i>	0.89	0.94	0.81

Source: AJC, calculated from the specific commitment tables of AFAS (10th package). For each ASEAN member state's specific commitment table, see Annex C.

Table 13 lists the Hoekman index of the positive list commitments (*i.e.*, listing those services sectors that will be liberalized rather than negative list commitments that list sectors that will not be liberalized) by ASEAN members under the Regional Comprehensive Economic Partnership (RCEP, signed in November 2020). Note that some ASEAN members use the negative list approach under RCEP.

Table 13. Hoekman index of the positive list commitments by ASEAN members for telecommunication services under RCEP (signed in November 2020)

Country	Mode 1	Mode 2	Mode 3
Brunei Darussalam	-	-	-
Cambodia	1.00	1.00	0.88
Indonesia	-	-	-
Lao PDR	0.73	1.00	0.73
Malaysia	-	-	-
Myanmar	0.68	0.93	0.70
Philippines	0.53	1.00	0.38
Singapore	-	-	-
Thailand	0.60	0.60	0.60
Viet Nam	0.75	1.00	0.75
<i>ASEAN average</i>	0.72	0.92	0.67

Note: - indicates negative list commitments (indexation not applicable).

Source: AJC, calculated from the RCEP commitment tables (Annex D).

As for RCEP, following are some country-level observations.

Brunei Darussalam: Indexation method is not applicable because negative listing is used.

Cambodia: All the modes are fully committed, and the degree of commitment is almost the same as that under AFAS 10th package.

Indonesia: Indexation method is not applicable because negative listing is used.

Lao People's Democratic Republic: The commitment under RCEP is a bit lower than that under AFAS in Modes 1 and 3; a concern seems to exist regarding the ASEAN dialogue partners' potentially unbridled presence in the telecommunication sector.

Malaysia: Indexation method is not applicable because negative listing is used.

Myanmar: Commitment in Mode 1 is lower than that under AFAS, commitment in Mode 2 is the same as for AFAS and commitment in Mode 3 is higher than for AFAS.

Philippines: Commitments in Modes 1 and 3 are a bit lower than those for AFAS, while Mode 2 is fully committed for both AFAS and RCEP.

Singapore: Indexation method is not applicable because negative listing is used.

Thailand: Commitments in Modes 1–3 are all below those for AFAS, possibly reflecting the sensitive nature of this sector (as a social infrastructure) because of security considerations.

Viet Nam: Commitments in Modes 1 and 3 are lower than for AFAS, which might imply that the telecommunication services sector is rather sensitive.

A smaller presence of foreign firms in the telecommunication services sector in the domestic market could lead to less liberalization in those countries at issue. However, as discussed later in the context of policy formulation, an open trade policy would be desirable because not only existing physical assets (e.g., fibre and submarine cables) but also future evolving technologies (e.g., 5G and even 6G telecommunication devices) must be developed in the ASEAN region in an ever-evolving manner. Collaboration with foreign-technology-bearing firms would therefore be indispensable to make this happen in ASEAN's domestic economies. Given this, the types of policy restrictions to apply in telecommunication services are an important consideration when

inviting technologically advanced foreign firms, with domestic security and therefore some sort of prudential regulations also in mind.

Table 14 shows the status of restrictions in the telecommunication sector by country under AFAS (10th package). Following are some observations by country.

Brunei Darussalam: Among the restrictions used, the frequency of E (measures that restrict or require specific types of legal entity) is higher than that of F (limitations on the participation of foreign capital); a 70 per cent upper limit is dominant.

Cambodia: Restriction is less used; only one unbound (no commitment) is observed.

Indonesia: Among the restrictions used, the uses of E (measures that restrict or require specific types of legal entity) and F (limitations on the participation of foreign capital) are dominant; as for F, a 49 per cent upper limit on foreign equity participation is more frequently used than a 70 per cent limitation.

Lao People's Democratic Republic: Now that the sector is fully open, no restriction is used.

Malaysia: The use of F (limitations on the participation of foreign capital) is dominant; a 70 per cent foreign equity limit (majority foreign capital) is used.

Myanmar: The use of E (measures that restrict or require specific types of legal entity) and G (government approval requirement) are dominant; F (limitations on the participation of foreign capital) is not used.

Philippines: E (measures that restrict or require specific types of legal entity) is the most dominant; F (limitations on the participation of foreign capital) is also dominant, and a 40 per cent foreign equity limit is more frequently used than a 70 per cent limit. The use of D (limitations on the total number of natural persons) is unique among ASEAN member states.

Singapore: The use of E (measures that restrict or require specific types of legal entity) is the most frequently used measure, followed by F (limitations on the participation of foreign capital); a foreign equity limit of 73.99 per cent is dominant.

Thailand: The use of E (measures that restrict or require specific types of legal entity) is dominant; F (limitations on the participation of foreign capital) comes next; a 70 per cent foreign equity limit is the most frequently used figure.

Viet Nam: As full liberalization has been achieved, there is no use of policy restrictions.

As for RCEP, Table 15 shows the use of restrictions by type; following are the observations at the country level.

Brunei Darussalam: Indexation method is not applicable because negative listing is used.

Cambodia: F (limitations on the participation of foreign capital) is the only policy restriction used, with 49 per cent being the upper limit.

Indonesia: Indexation method is not applicable because negative listing is used.

Lao People's Democratic Republic: E (measures that restrict or require specific types of legal entity), F (limitations on the participation of foreign capital) and G (government approval requirement) are used with the same frequency; as for F, a 60 per cent upper limit of foreign equity participation is used.

Malaysia: Indexation method is not applicable because negative listing is used.

Myanmar: E (measures that restrict or require specific types of legal entity) and G (government approval requirement) are used most frequently, followed by U (unbound, no commitment) and

then by F (limitations on the participation of foreign capital), with an upper equity participation limit of 70 per cent.

Philippines: E (measures that restrict or require specific types of legal entity) is the most frequently used restrictive measure, followed by G (government approval requirement), then U (unbound, no commitment) and F (limitations on the participation of foreign capital), with which an upper equity participation limit of 40 per cent alone is used.

Singapore: Indexation method is not applicable because negative listing is used.

Thailand: E (measures that restrict or require specific types of legal entity) is the most frequently used restrictive measure, followed by U (unbound, no commitment) and then by F (limitations on the participation of foreign capital), with which a 70 per cent upper equity participation limit is most frequently observed.

Viet Nam: E (measures that restrict or require specific types of legal entity) is the most frequently used restrictive measure, followed by F (limitations on the participation of foreign capital), with which 49 per cent and 50 per cent upper limits are used. These lower limits (less than 70 per cent) imply the country's rather cautious commitment under RCEP.

Table 14. Status of restrictions in the telecommunication sector under AFAS (10th package)

	N = none/no limitation	D = limitations on the total number of natural persons	E = measures that restrict or require specific type of legal entity	F = limitations on the participation of foreign capital	G = government approval requirement	U = Unbound (no commitment)
Brunei Darussalam	82	1	8	4(70%:4)	0	0
Cambodia	89	0	0	0	0	1
Indonesia	75	0	15	15(49%:12; 70%:3)	0	0
Lao PDR	90	0	0	0	0	0
Malaysia	55	0	1	11(70%:11)	0	24
Myanmar	68	0	14	0	14	6
Philippines	47	4	39	18(40%:17; 70%:1)	18	4
Singapore	76	0	14	7(73.99%:7)	0	0
Thailand	45	0	45	15(49%:2; 70%:13)	0	0
Viet Nam	90	0	0	0	0	0

Source: Calculated from each country's specific commitment table under AFAS (10th package).

Note: Only those commitments with CPC (Central Product Classification) codes clearly indicated (for specifying service sectors) are counted.

Table 15. Status of restrictions in telecommunication sector under RCEP

	N = none/no limitation	D = limitations on the total number of natural persons	E = measures that restrict or require specific type of legal entity	F = limitations on the participation of foreign capital	G = government approval requirement	U = Unbound (no commitment)
Brunei Darussalam	-	-	-	-	-	-
Cambodia	83	0	0	7(49%:7)	0	0
Indonesia	-	-	-	-	-	-
Lao PDR	58	0	16	16(60%:16)	16	0
Malaysia	-	-	-	-	-	-
Myanmar	60	0	13	6(70%:6)	13	11
Philippines	42	8	31	15(40%:15)	23	17
Singapore	-	-	-	-	-	-
Thailand	36	0	32	12(49%:1; 51%:2; 70%:9)	1	18
Viet Nam	60	0	29	15(49%:8; 50%:7)	0	0

Source: Calculated from each country's specific commitment table under RCEP.

Note: Only those with CPC codes clearly indicated is counted.

- not applicable because of negative listing.

Overall, AFAS (10th package) has opened up ASEAN members' domestic markets toward freer trade (albeit not completely), while RCEP with ASEAN members' five dialogue partners (Australia, China, Japan, Republic of Korea and New Zealand) remain rather restrictive in terms of market access and national treatment.

An important aspect of AFAS is its expected positive spillover effect when combined with the concluded RCEP involving ASEAN member states and their dialogue partners (Australia, China, Japan, Republic of Korea and New Zealand). As ASEAN members' commitments under RCEP remain relatively lower than under AFAS (10th package), AFAS could still be seen as a useful reference point for future upgrading of RCEP, and in this sense, the specific measures in telecommunication services under AFAS (see Annex C) provide useful information for considering the ASEAN region's liberalization of trade in telecommunication services.⁸

Another service-related agreement, ASEAN Trade in Services Agreement (ATISA), is said to contribute to further liberalization of the services sector for ASEAN members. As of this writing (March 2022), country-by-country commitments/reservations under ATISA remain under preparation. That said, existing trade agreements (namely, AFAS and RCEP) will serve as important reference points. Also, a "spillover effect of liberalization" is expected in which free trade agreements, whether bilateral or plurilateral, will intentionally or unintentionally benefit non-members, especially in the telecommunication services sector, which has a "network feature" involving members and non-members of trade agreements.

Although AFAS addresses trade liberalization measures, measures specific to telecommunication service trade are also administered through other means. ASEAN and the World Bank (2015, p. 130) point out that telecommunication ministers "do not address liberalization measures in the form of restrictions on market access and national treatment, which are understood to be covered by the AFAS negotiations ... These ASEAN bodies and their efforts may, however, address the

⁸ ASEAN members' and their dialogue partners' commitments under RCEP (the hybrid of positive listing and negative listing depending on the country) are available at <https://rcepsec.org/legal-text/>.

domestic regulation measures that may act as barriers to trade and investment in these services sectors". The most important and updated policy measures are provided under the ASEAN Digital Masterplan 2025 (ADM 2025) released in 2020, which covers the period of 2021–2025 (box 3).

Box 3. ASEAN Digital Masterplan 2025 (ADM 2025)

ADM 2025 envisions ASEAN as a leading digital community and economic bloc, powered by secure and transformative digital services, technologies and ecosystem. ADM 2025 focuses on enabling economy-wide digital transformation through the following eight desired outcomes (Ds): (1) Actions of ADM 2025 prioritised to speed ASEAN's recovery from COVID-19, (2) increase in the quality and coverage of fixed and mobile broadband infrastructure, (3) the delivery of trusted digital services and the prevention of consumer harm, (4) a sustainable competitive market for the supply of digital services, (5) increase in the quality and use of e-government services, (6) digital services to connect business and to facilitate cross-border trade (7) increased capability for business and people to participate in the digital economy and (8) a digitally inclusive society in ASEAN. Among these Ds, items (2) and (6) relate directly to telecommunication services (as the following main text discusses in the context of workable policy suggestions). ADM 2025 covers wide-ranging policy agendas not just for telecommunication services but also for computer services, as both of these subsectors are now an integral and inseparable part of overall digital services. With the merging of telecommunication services and computer services under the overarching name of digital services, a unified treatment becomes possible. ASEAN has also responded to this digitalization trend and currently holds related ministerial meetings in a unified fashion. (A separate AJC paper on computer and related services addresses the digital services sector in an integrated manner.)

V. Impacts of Further Liberalization of Telecommunication Services on the Economy

Table 16 shows the value added and output of telecommunication services for some ASEAN member states. The average ratio of value added to output (0.50) is significantly higher than the all-industry average (0.43), which indicates that expansion of the telecommunication services sector has a significant value-creation impact. In terms of the absolute level of value added, Indonesia has the largest figure, followed by Philippines, Malaysia, Singapore and Thailand. This order is roughly positively related to both the size and the level of economic development of the countries. Indeed, the telecommunication sector is the base of a country's physical infrastructure. Trade expansion in this sector therefore is expected to rapidly increase the level of basic infrastructure.

Table 16. Value added and output of telecommunications* compared with all industries (millions of dollars and ratio)

Country	Telecommunications			All industries		
	Value added	Output	Ratio of value added to output	Value added	Output	Ratio of value added to output
Brunei Darussalam	221	392	0.56	13,174	22,921	0.57
Cambodia	114	191	0.60	16,984	30,075	0.56
Indonesia	22,051	34,703	0.64	833,734	1,635,254	0.51
Malaysia	6,456	19,009	0.34	292,523	763,255	0.38
Philippines	6,863	12,273	0.56	286,120	555,126	0.52
Singapore	3,798	10,111	0.38	275,238	770,936	0.36
Thailand	3,438	6,455	0.53	378,162	917,981	0.41
Vietnam	1,753	5,998	0.29	175,692	570,060	0.31
ASEAN total	44,693	89,131	0.50	2,271,628	5,265,607	0.43

Source: AJC, based on OECD Input-Output table database.

Note: The Lao People's Democratic Republic and Myanmar are not covered in the OECD dataset.

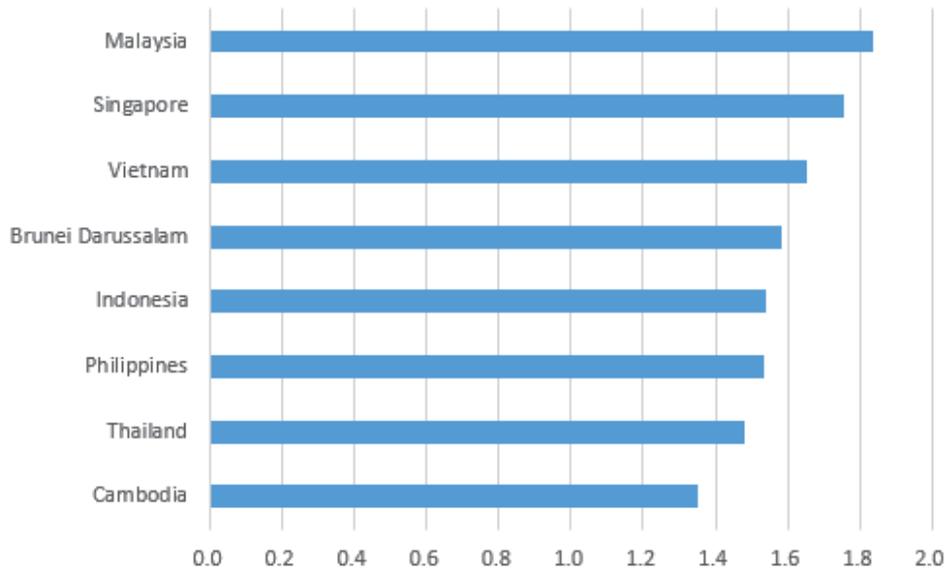
* Refers to Telecommunications

As for the impact of the diffusion of telecommunication services, figure 2 shows the multiplier effects of telecommunication services in ASEAN (in 2015). As in the table, Malaysia displays the highest level of multiplier effect—more than 1.8—presumably reflecting the fact that the country has been concentrating on information-technology-related infrastructure over the past decades. Singapore follows Malaysia for the same reason. Viet Nam, ranked third, is also considered to have a high multiplier effect. Therefore, the presence of foreign telecommunication services that are considered more competitive may change the productivity of the telecommunication services sector. Cambodia, in contrast, ranks at the bottom because of the relatively weak domestic industrial linkage between telecommunication services and other sectors. The coefficient multiplier of the telecommunication sector has declined generally. For example, in Indonesia, it was approximately 1.8 during the 1980s and decreased to 1.3 by the end of 2008 (Rohman and Bohlin, 2014). This is because mobile phones are used more for communication (as a final demand) than for industrial input and because the mobile era that started in the early 2000s created changes in telecommunication output: although final demand remains dominant, the technological coefficient effect has diminished as the source of that output. This study indicates that in ASEAN at large, the telecommunication services sector has a limited capacity to strengthen its input-output linkage with other sectors.

The main impact of telecommunication services, however, comes precisely from the transition to final-demand-oriented use of mobile phones. Although a quantitative assessment of this channel

of impact is difficult, smoother communication through mobile phones surely contributes to the upward shifting of ASEAN's smile curve for value creation.

Figure 2. Multiplier effects of telecommunication services in A SEAN' , 2015



Source: AJC, based on OECD Input-Output table database.

Note: The Lao People's Democratic Republic and Myanmar are not covered in the OECD dataset.

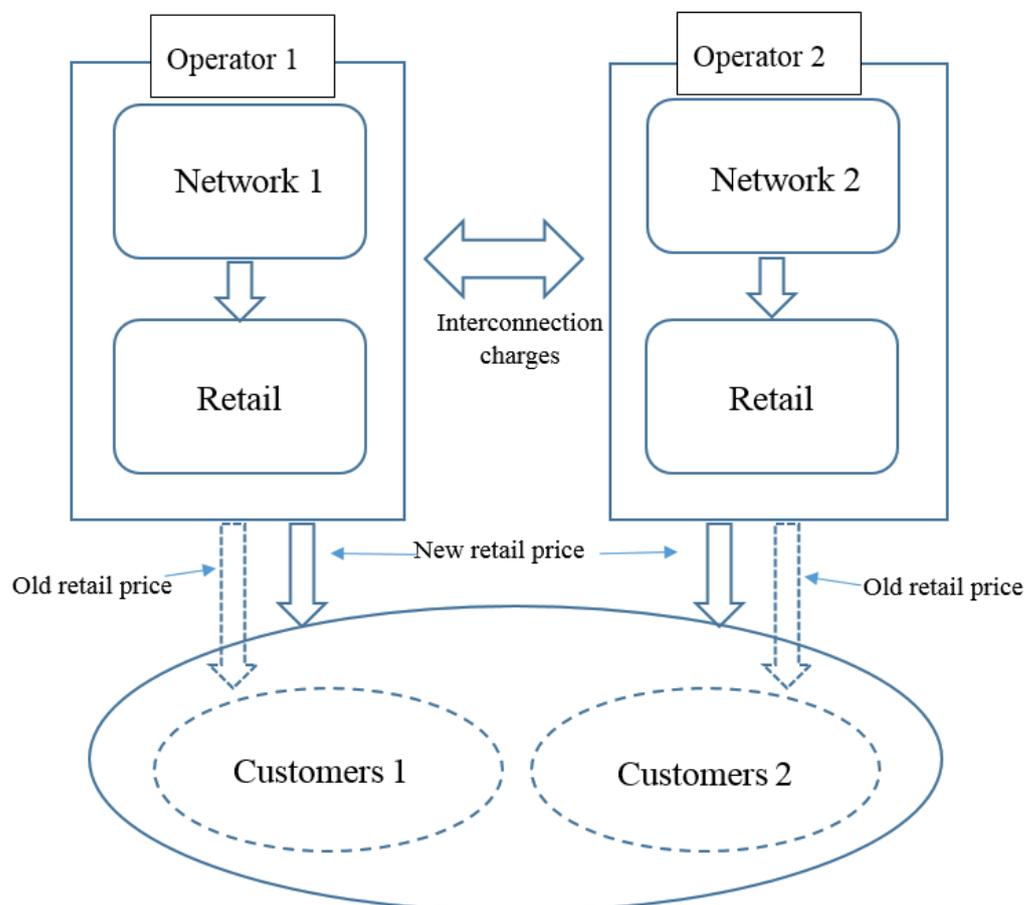
* Refers to Telecommunications

To assess the impacts of telecommunication services, introducing the concept of network externality is also important. Figure 3 illustrates network externality. Telecommunication networks are managed by two respective operators, and interconnection charges are required between the two operators. The retail part of the operators handles transactions with users (*e.g.*, billing and customer services). Network externality signifies the increased value of a network arising from new users joining the network. For instance, when new users start to use network 1 in figure 3 (represented by the bigger, solid oval), the network now has more users, and existing users can also contact the new users at low cost. This situation is more valuable than in the case where new users select the other network (either network 1 or network 2) separately (the two groups of users being represented by the smaller ovals with dashed lines). Put differently, the total value of the new users joining network 1 includes the value for the new users *and* the value for existing users of network 1. This means that the existing users benefit without paying extra connection fees; this is precisely the network externality effect.

In the extreme case of only one user of the network would produce no benefit for the network user, so the cost of using the network is higher than the benefit (zero). When the number of users somehow becomes two, the second user's entry affects the first (existing) user because the first user can benefit from contacting the second user of the network. Thus, the network has the feature of "externality" of new users affecting existing users.

However, market competition requires that the cost should equal the price. In the extreme case of zero users, there would be no one to start using the network, because the benefit for the first user of the network is, as mentioned previously, zero (no telecommunication is possible with others).

Figure 3. Dlustration of netv.ork externality



Source: Adapted from Frontier Economics (2005).

UNCTAD (2021) points to the positive effects on supply and costs in host economies and reports that the availability and performance of telecommunication (together with other digital) services after large-scale foreign entry leads to improved and more competitive provision of services. Indeed, an enhanced degree of trade in telecommunication services will improve service provision not only within ASEAN but also within the broader region (such as RCEP) as a spillover of market externality. Although concrete cost calculation may be difficult, a need for government intervention, in the form of subsidies, surely exists to encourage potential users to use the network and to merge existing smaller-scale networks so as to capture a larger degree of network externality.

Higher pricing of international roaming charges makes capturing this externality difficult in practice. Users of foreign telecommunication services often have to pay one month's fee plus other usage charges to be able to roam; the combination of these fees can be quite expensive.⁹

⁹ For roaming to be possible, the user's handset must be compatible with the host's network. It is also worth pointing out that if the home operator and host operator use different technologies, roaming can be accomplished only by using a different handset when in the host operator's coverage area. This can be expensive and cumbersome. And even when network technologies are compatible, international roaming cannot occur until the operators have agreed on the terms and conditions for accepting each other's roaming traffic (World Bank and ITU, 2011).

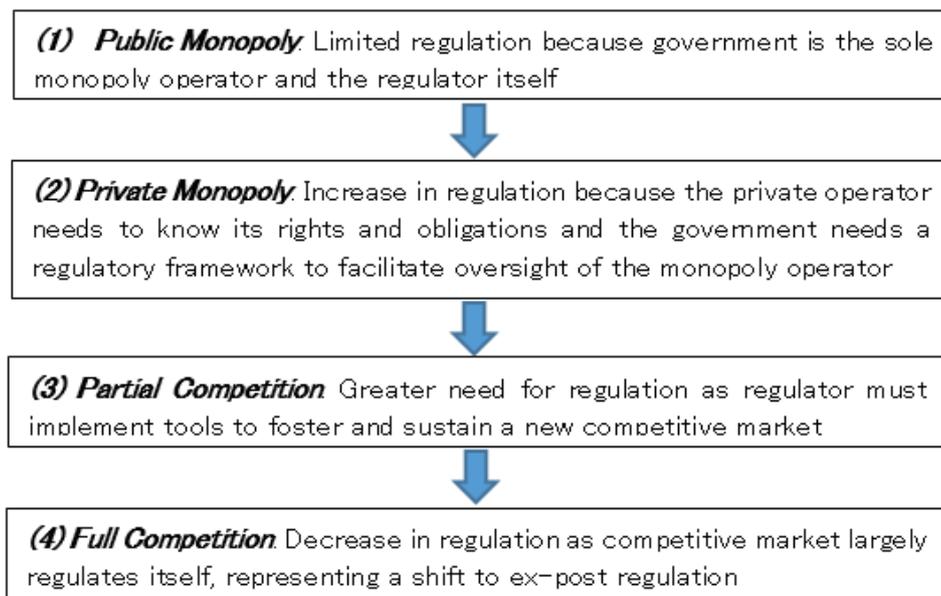
ASEAN has a goal of reducing international roaming charges by 2025 (under the ASEAN Digital Masterplan 2025). Concrete policy measures should be honed to make this happen. ASEAN-wide collaboration efforts are especially important for capturing ASEAN-wide network externalities.

In the context of growing market potential and network externality across the ASEAN region, integrating the telecommunication services sector into the economy by promoting relevant trade in services would be beneficial for ASEAN.

ASEAN member states are in the middle of a transition from a monopolistic to a competition-based market in the telecommunication sector, with rather domestically oriented reform (*i.e.*, not focused on attracting international service suppliers). To capture the ASEAN-wide network externality, therefore, each needs to allow market penetration by suppliers from other ASEAN member states.

Considering the issue of why and when regulation is needed in the first place is worthwhile. Figure 4 depicts the transition in the need for regulation. Stage 1 (public monopoly) is usually the starting point, as the supply of telecommunication services requires large-scale facilities (*i.e.*, cables, lines, satellites and so forth) that are beyond the capacity of private companies. At this stage, regulation could be limited because the government itself is the operator of telecommunication services. Stage 2 (private monopoly) requires regulation because the private sector, while seeking efficiency and profit, needs guidelines for operation. Stage 3 (partial competition) needs an enhanced level of regulation to ensure private sector contestability. Stage 4 (full competition) needs deregulation to ensure “self-regulation” of market forces (or efficient price formation without market failure); trade liberalization should be implemented at this stage. Then, the impact of liberalizing trade in telecommunication services could be addressed in this context.

Figure 4. Transition of need for regulation



Source: Adapted from World Bank and ITU (2011), figure 1.3.

VI. Policy Recommendations and Promotion Measures for Trade in Telecommunication Services

This section provides general policy recommendations (suggestions) first (in section 1) and then lists more concrete policy measures (in section 2) for promoting trade in telecommunication services by ASEAN member states.

1. General policy suggestions

As the first section mentions, telecommunication services have a wide-ranging impact on the value added along the value chain curve (figure 1), in the sense of facilitating domestic and international communications. In many cases, service regulations aim at redressing market failures and achieving legitimate non-trade policy objectives such as national security. As long as those objectives are attainable, regulators should consider deregulating the telecommunication service market internationally to secure market contestability.

The ASEAN Telecommunications Regulators' Council identified the following three major themes as priority areas for their work program: (1) competition management and interconnection, (2) convergence and licensing of existing and new services and (3) tackling of the digital divide through capacity building and universal service and/or access schemes (Shogren et al., 2005).

These emerging issues stemmed from the same origins: market liberalization and technology advancement. Removing regulations created under the state-monopoly era and simultaneously evolving into an open market is important. A general policy for promoting trade in telecommunication services in ASEAN could be suggested in these three areas (Shogren et al., 2005).

Competition management and interconnection. Making the regulatory institutions at the ASEAN Secretariat robust will be essential to capture additional network externalities. As the telecommunication market is being liberalized for trade, ASEAN member states should ensure the existence of an independent, well-functioning regulatory body. Singapore, Malaysia and Philippines are faring rather well in this respect. However, a tendency exists toward effectively preventing small telecommunication operators from competing for trade, and market accessibility for new operators is sometimes quite difficult. This situation needs to be remedied by technology-neutral and size-neutral telecommunication policy.

Convergence and licensing of existing and new services. Continuing liberalization of telecommunication service markets will be indispensable. Of course, AFAS-based regulations in ASEAN member states will never converge perfectly. Nonetheless, ASEAN member states should make continual efforts to reduce market access barriers while maintaining a technology-neutral and pro-competitive market condition ready to embrace new services by promoting inward FDI and through non-equity mode technological alliances with their dialogue partners (with RCEP as an important policy framework).

Tackling of the digital divide through capacity building and universal service and/or access schemes. Exposure to telecommunication services is an important policy priority. Public-private partnerships would be a feasible option given the network externality of telecommunication services, as this paper emphasizes. And a successful universal telecommunication service is

closely related to the choice of industry-wide funding mechanism (Shogren et al., 2005).

As mentioned in section III, ASEAN collaborates with other dialogue and development partners through ADM 2025 as the current flagship policy framework.¹⁰ ASEAN and its partners must join collaborative efforts to capture network externality. ASEAN and the World Bank (2015, p. 130) indicate that these sectoral initiatives go outside the coverage of AFAS insofar as they do not seek to liberalize services per se, but rather focus on cooperation measures that may assist the process of integration. Cooperation initiatives have focused largely on infrastructure issues such as promoting connectivity, enhancing dialogue and increasing domestic capacity.

From the perspective of network externality, the ASEAN-wide coordinating body should manage the supply of telecommunication services in ASEAN. Thus, the ASEAN Telecommunications and Information Technology Ministers Meeting (TELMIN) and the ASEAN Telecommunications Senior Officials Meeting (TELSOM¹¹) are surely the central organs for implementing promotional measures for telecommunication services.

ASEAN efforts at the regional and international levels should be complemented by the efforts of individual member states. Country efforts should aim at strengthening the legal and regulatory framework and providing affordable digital/information and communication technology (ICT) infrastructure and services. The latter includes access to reliable and affordable services, which requires constant improvements in infrastructure accompanied by competent and effective regulation of telecommunication markets. In the former, implementing and enforcing relevant laws and regulations related to digital/ICT is of utmost importance to encourage transparency and eventually reduce transaction costs. For example, in terms of e-commerce, UNCTAD (2015, p. 65) indicates that in the four areas of e-transaction laws, consumer protection laws, data protection

¹⁰ For instance, paragraph 15 of the declaration of the ASEAN Telecommunications Ministers Meeting states: "The Ministers acknowledged the Republic of Korea for having successfully implemented a series of cooperative activities in 2016, among others: expansion of new technology and services, capacity building and knowledge sharing, ICT infrastructure enhancement, as well as cooperation with international organizations on AP-IS broadband development, women empowerment through ICT, and development of mobile applications". As for collaboration with the European Union (EU), paragraph 17 states: "The Ministers welcomed the endorsement of the 2017 ASEAN-EU ICT Work during the 9th TELSOM+EU meeting, to further extend cooperation on sectors of mutual interest that are targeted in both the ASEAN ICT Masterplan 2020 and the EU Digital Single Market initiative. The Ministers further welcomed the Enhanced Regional EU-ASEAN Dialogue Instrument (E-READI) starting early 2017 that will support cooperation, including in ICT". And with the United States, paragraph 18 says: "The Ministers noted the convening of the 2nd TELSOM+U.S. meeting and appreciated the United States' assistance in the successful conclusion of ICT-related activities on spectrum management, cybersecurity, and e-commerce and telecommunication commitments in high-standards trade agreements". All these collaborative activities should be coordinated with one another to enhance their effectiveness.

¹¹ In more detail, TELSOM has the following functions: achieving the interoperability and interconnectivity of national information infrastructures of member states by 2010, developing and implementing an ASEAN Plan of Action on Regional Broadband Interconnectivity and intensifying cooperation in ensuring seamless roaming of telecommunication services (*i.e.*, wireless communications) within the region and in facilitating intra-ASEAN trade in telecommunication equipment and services. The plan aims for TELSOM, with the help of the ASEAN Secretariat, to act as an executive body to supervise, coordinate and implement policies, programs and activities for telecommunication and information technology (IT) cooperation in ASEAN, in line with the directions and priorities set by TELMIN. TELSOM's mandate is to identify, implement and monitor cooperation programs and activities to meet the telecommunication and IT requirements of the ASEAN region; to serve as a forum for exchange of information, discussion and consultation on major regional or international issues and developments in telecommunication and IT of common interest to member states; to provide the mechanism to promote participation of the private sector, regional and/or international organizations and non-governmental organizations in the development and implementation of its programs and activities; to establish, as and when necessary, working groups and/or expert groups to assist in the development and implementation of its cooperative programs and activities; to report progress to TELMIN and to carry out other activities that may be mandated by TELMIN or requested by other relevant ASEAN bodies. To this end, TELSOM coordinates with the ASEAN Telecommunication Regulators' Council, the e-ASEAN Business Council and ASEAN Dialogue Partners (<http://nitc.kkmm.gov.my/index.php/international-linkages/asean-telecommunications-senior-officials-meeting-telsom>).

and privacy laws and cybercrime laws, ASEAN countries lag behind developed countries, particularly on data protection and privacy laws.¹²

Digital dividends, or developmental benefits from using digital technologies, are enormous but unevenly distributed. This is not due to any lack of greater digital adoption but to the remaining digital divide. Countries need to work on the “analogue complements” by strengthening regulations that ensure competition, adapting workers’ skills to the demands of the new economy and ensuring that institutions are accountable (World Bank, 2016).

2. Workable policy suggestions

As for workable policy suggestions, trade in telecommunication services per se might not be the right focus because the sector necessarily involves large-scale physical facilities. Indeed, lack of capital investment remains a persistent problem in most ASEAN member states. In formulating workable promotional measures, combining telecommunication services (larger scale) and computer services (smaller scale, addressed in a separate paper) under the umbrella of digital technologies would be better. (For workable promotional measures for digital services, refer to the separately prepared AJC paper on computer and related services.)

For the telecommunication services sector, be it alone in its business or an integral part of other businesses, not only should further liberalization continue, but also further effort for market regulations is required to ensure network externality. Telecommunication services are required for everyone not only to communicate but also for use as a basic service for any personal or business purposes. All countries have their strategic policies on this service in addition to their overall commitment to the regional initiatives (*e.g.*, AFAS, ADM 2025).

Table 17 lists the desired outcomes and enabling actions relevant to telecommunication services. The table highlights that desired outcome 2 (increase in the quality and coverage of fixed and mobile broadband infrastructure) and desired outcome 6 (digital services to connect business and to facilitate cross-border trade) are especially relevant to telecommunication services among digitally oriented services. As for enabling actions (also in the table), legal and institutional arrangements, including through free trade agreements, are important. In this context, ADM 2025 points out that lack of common regulation makes intra-region operation complex and expensive and that developing consistent regulation across the ASEAN region would both encourage inward investment and enable countries to understand and adopt best practices.

¹² The share of countries with legislation related to privacy and data protection is 55 per cent for ASEAN, compared with 98 per cent for developed countries (UNCTAD, 2015, p. 65).

Table 17. Excerpt from the desired outcomes and enabling actions on telecommunication services under ADM 2025

Desired Outcome/Enabling Action	Content
Desired outcome 2: Increase in the quality and coverage of fixed and mobile broadband infrastructure	An excellent telecommunication infrastructure is at the heart of any digital transformation. Achieving this outcome ensures that telecommunication infrastructure in ASEAN is upgraded to higher data rates capabilities and resilience in a timely and cost-effective manner and that coverage is extended into rural areas.
Enabling action 2.1: Encourage inward investment in digital and ICT	Encourage inward investment in digital and ICT
Enabling action 2.2: Move towards best practice permission and access rights for local and national infrastructure including submarine cable repair	Move towards best practice permission and access rights for local and national infrastructure including submarine cable repair
Enabling action 2.3: Facilitate adoption of region-wide telecommunications regulation best practices by market players to provide regulatory certainty	Facilitate adoption of region-wide telecommunications regulation best practices by market players to provide regulatory certainty
Enabling action 2.5: Reduce the carbon footprint of telecommunication operators in ASEAN	Reduce the carbon footprint of telecommunication operators in ASEAN
Enabling action 2.6: Ensure increased and harmonised spectrum allocation across the region	Ensure increased and harmonised spectrum allocation across the region
Enabling action 2.7: Adopt regional policy to deliver best practice guidance on artificial intelligence governance and ethics, Internet of things spectrum and technology	Adopt regional policy to deliver best practice guidance on artificial intelligence governance and ethics, Internet of things spectrum and technology
Desired outcome 6: Digital services to connect business and to facilitate cross-border trade	Digital services that support international trade in goods and services and e-commerce; both intra-ASEAN and external to ASEAN are critical to the economic success of the region and is the focus of this desired outcome. Key focus areas that are consistent with regional policies are securing the benefits of IR4.0 technologies, securing the benefits of ASEAN's trade agreements supporting e-commerce and cross-border trade and enhancing last-mile fulfilment cooperation
Enabling action 6.1: Facilitate compliance and secure the benefits of telecommunications services and electronic commerce in line with relevant ASEAN trade agreements	Facilitate compliance and secure the benefits of telecommunications services and electronic commerce in line with relevant ASEAN trade agreements
Enabling action 6.4: Reduce regional business travel costs by lowering common roaming rates for mobile data services across ASEAN	Reduce regional business travel costs by lowering roaming rates for mobile data services across ASEAN

Source: Adapted from ADM 2025 (<https://asean.org/storage/ASEAN-Digital-Masterplan-2025.pdf>), Figure 1.1.

More specifically, fixed telecommunication service operators are regulated in various forms including obligations for dominant operators to supply wholesale products to enable retail competition; price regulation at wholesale and retail levels; coverage/connectivity obligations and performance obligations covering reliability, time to connect a premise, speed of connection and latency (*i.e.*, waiting time).¹³ Mobile telecommunication operators are also regulated in multiple policy measures: price regulation at the wholesale level; coverage/connectivity obligations; performance obligations covering reliability, speed of connection and latency and security and similar obligations, such as liability, especially in terms of the Internet of things as the non-telecommunication use of dynamically changing telecommunication technologies.

¹³ High speed, large capacity/low latency (*i.e.*, short waiting time or quick response) and massive connectivity are the main features of 5G and 6G telecommunication technologies.

ADM 2025 therefore states that the following is especially needed: ASEAN needs to empower the existing ASEAN Telecommunication Regulators Council to (1) detail current telecoms regulation in each ASEAN country, (2) determine best practice and (3) gain agreement to a pan-ASEAN set of regulations. From the perspective of the linkage between telecommunication services and trade agreements, pro-trade regulatory and institutional harmonization through AFAS (10th package), RCEP and ATISA would be particularly important for ASEAN to recover from the negative economic impact of COVID-19 and pursue longer-term technological advancement in telecommunication services.¹⁴ Judging from the fact that in the ASEAN region basic telecommunication services are supplied by domestic telecommunication companies (table 18), aiming for “5G and beyond” (*i.e.*, 6G) through equity and non-equity alliances with ASEAN’s dialogue partners (especially through RCEP) would be all the more important in the face of COVID-19, which has increased the demand for telecommunication-based remote work both domestically and internationally.

Table 18. Provision of basic telecommunication services

ASEAN member state	Individuals owning a mobile phone (2019, per cent)	Population covered by at least a 4G mobile network (2019, per cent)	Mobile cellular basket as a per cent of gross national income per capita (2020, per cent)
Brunei Darussalam	94	95	0.3
Cambodia	33	80	5.0
Indonesia	64	98	1.8
Lao PDR	n.a.	43	3.5
Malaysia	96	87	0.6
Myanmar	62 ^a	75	0.8
Philippines	79	80	3.0
Singapore	88	100	0.4
Thailand	88	98	0.6
Viet Nam	n.a.	97	1.0

Source: ITU, Digital Development Dashboard, (<https://public.tableau.com/app/profile/ituint/viz/DigitalDevelopmentDashboard-NoMap2/Online>)

Notes: n.a., not available; ^a 2017 figure.

Some concrete recommendations for the telecommunication services sector only would be to hold capacity-building and information-sharing seminars on expanding telecommunication services and addressing the issue areas discussed in the previous section on general policy suggestions and with due consideration to the issue areas covered in ADM 2025 (table 17).

¹⁴ WTO has sector-specific policy issues on trade in telecommunication services. At the Hong Kong Ministerial Conference (December 2005), the trade ministers mandated a new sector-specific negotiating mechanism. Negotiating objectives outlined by WTO members in the Chairman’s note to the Trade Negotiations Committee include

- Achieving broad coverage in a technology-neutral manner and significant commitments in all modes of supply
- Working with least-developed countries and developing countries to find ways to encourage new and improved offers and to provide technical assistance to support this process
- Reducing or eliminating exclusive rights, economic needs tests (*i.e.*, a test using economic criteria to decide whether the entry into the market of a new foreign firm is warranted), restrictions on the types of legal entity permitted and limitations on foreign equity
- Committing to all provisions of the telecommunications reference paper
- Eliminating exemptions for most-favoured-nation treatment (*i.e.*, non-discrimination) (Annex on telecommunications, WTO website, https://www.wto.org/english/tratop_e/serv_e/12-tel_e.htm).

Because no systematic statistical data are collected, particularly in Mode 3, which is already much used, a definition of trade in telecommunication services in this mode and relevant data collection should also be undertaken. This should first take the form of holding seminars and later the form of implementing related projects. Interconnection fees are the barriers to capturing network externalities. In concrete terms, rental of mobile phones abroad would be considered Mode 2 trade, as mentioned earlier. This mode of trade could be undertaken while retaining the country-specific telephone numbers originally assigned to users; then lower international roaming charges should be charged to those users. Some sort of mutual agreement to reduce roaming charges could therefore be discussed. Mode 4, as mentioned earlier, is not technically feasible. Nonetheless, holding seminars about technology that might become available for self-employed professional suppliers of telecommunication-related services in the forthcoming “ubiquitous society” would still be worthwhile.

Regional organizations such as AJC could organize such seminars as a follow-up project, because ASEAN’s telecommunication network, given its network externalities, should involve the region beyond ASEAN and spill over to ASEAN’s dialogue partners (including Japan) through pan-ASEAN (AFAS and ATISA) and larger groups including RCEP.

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Annex A. Fifty Large Foreign Affiliates Engaged in Telecommunication Services in ASEAN, 2015

	Name of foreign affiliate	Host country	Estimated sales (\$ million)	Name of parent firm	Home country
1	Binariang GSM Sdn Bhd	Malaysia	6,008	Saudi Telecom Co	Saudi Arabia
2	Philippine Long Distance Telephone Co (PLDT)	Philippines	5,791	NTT Docomo Inc	Japan
3	Google Asia Pacific Pte. Ltd.	Singapore	5,095	Alphabet Inc	United States
4	Indosat Tbk PT	Indonesia	3,513	Qatar Telecom QSC (Qtel)	Qatar
5	Telekom Malaysia Bhd	Malaysia	3,111	Temasek Holdings (Pte) Ltd	Singapore
6	True Corp PCL	Thailand	3,008	True Corp PCL	Hong Kong
7	Globe Telecom Inc	Philippines	2,544	Singapore Telecommunications Ltd	Singapore
8	Total Access Communication Public Company Limited	Thailand	2,432	Telenor ASA	Norway
9	Philippine Long Distance Telephone Co (PLDT)	Philippines	2,398	Investor Group	Hong Kong
10	Advanced Info Service PCL	Thailand	2,261	Investor Group	Singapore
11	NTT Singapore Pte Ltd	Singapore	2,219	NTT Communications Corporation	Japan
12	Digi Telecommunications Sdn Bhd	Malaysia	2,008	Telenor ASA	Norway
13	PT Indosat TBK	Indonesia	1,944	Ooredoo QSC	Qatar
14	StarHub Ltd	Singapore	1,728	NTT Communications Corporation	Japan
15	Saudi Telecom Co SJSC	Indonesia ^a	1,704	Axis Telekom Indonesia PT	Indonesia ^a
16	XL Axiata TBK	Indonesia	1,662	Axiata Group Bhd	Malaysia
17	Digi.Com Bhd	Malaysia	1,611	Telenor ASA	Norway
18	Asia Mobile Holdings Pte Ltd	Singapore	1,251	Qatar Telecom QSC (Qtel)	Qatar
19	Excelcomindo Pratama Tbk PT	Indonesia	1,244	TM International Sdn Bhd	Malaysia
20	Indosat Tbk PT- Telecommunication Towers (12000)	Indonesia ^a	1,022	PT Tower Bersama Infrastructure Tbk	Indonesia ^a
21	Hutchison CP Telecommunication PT- Certain Assets	Indonesia ^a	985	Profesional Telekomunikasi Indonesia PT	Indonesia ^a
22	Globe Telecom Inc	Philippines	949	Singapore Telecom International Pte Ltd	Singapore
23	MobileOne Ltd	Singapore	908	SunShare Investments Ltd	Malaysia
24	Axiata Group Bhd	Indonesia ^a	905	PT Tower Bersama Infrastructure Tbk	Indonesia ^a
25	MI Limited	Singapore	818	Standard Chartered Plc	United Kingdom
26	Excelcomindo Pratama Tbk PT	Indonesia	745	Emirates Telecommunications Corp	United Arab Emirates
27	Millicom International Cellular SA- Cambodia Assets	Cambodia ^a	682	Royal Group of Cos Ltd	Cambodia ^a
28	Shin Corp PCL	Thailand	668	Investor Group	Singapore
29	Brightpoint Singapore Pte Ltd	Singapore	629	Ingram Micro Inc	United States
30	Mitra Global Telekomunikasi Indonesia	Indonesia ^a	524	Alberta Telecommunication PT	Indonesia ^a
31	Trikomsel Oke Tbk PT	Indonesia	481	Canopus Finance Ltd	Virgin Islands (British)
32	Sea Consortium Private Limited	Singapore	480	X-press Feeders Ltd	Virgin Islands (British)
33	Shenington Investments Pte Ltd	Singapore ^a	417	Asia Mobile Holdings Pte Ltd	Singapore ^a
34	Innove Communications, Inc	Philippines	402	Singapore Telecommunications Ltd	Singapore
35	GTEL Mobile JSC	Viet Nam	386	VimpelCom Ltd	Netherlands
36	Excelcomindo Pratama PT	Indonesia	335	TM International Sdn Bhd	Malaysia
37	Excelcomindo Pratama PT	Indonesia	310	Nynex Indocel Holding Sdu	Malaysia
38	Samart I-Mobile PCL	Thailand	308	TM International Sdn Bhd	Malaysia
39	Latelz Co Ltd	Cambodia ^a	305	Hello Axiata Co Ltd	Cambodia ^a
40	Nera Telecommunications Ltd	Singapore	296	Asia Systems Ltd	Singapore
41	Upper Mobile Ltd	Philippines	284	MonsterMob Group PLC	United Kingdom
42	Yahoo! Asia Pacific Pte Ltd	Singapore	277	Yahoo! Inc	United States
43	Natrindo Telepon Seluler PT	Indonesia	244	Althem BV	Virgin Islands (British)
44	Cyber Access Communications PT	Indonesia	236	Hutchison Telecommunications International (Netherlands) BV	Netherlands
45	Ericsson Telecommunications Pte Ltd	Singapore	222	Telefonaktiebolaget LM Ericsson	Sweden
46	Natrindo Telepon Seluler PT	Indonesia	197	East Asia Communications NV	Netherlands
47	PT Link Net TBK	Indonesia	186	AcrossAsia Ltd	Cayman Islands
48	Millicom Holdings Laos BV	Lao People's Democratic Republic	173	QAO "Vypel-Kommunikatsii" (Vimpelkom)	Russian Federation
49	Bayan Telecommunications, Inc	Philippines	136	Singapore Telecommunications Ltd	Singapore
50	Pacnet Global Corporation (S) Pte Ltd	Singapore	133	Telstra Corp Ltd	Saudi Arabia

Source: AJC, based on data from Toyo Keizai Shimposha, UNCTAD, Thomson Reuters and FDI Markets.

^a Immediate investing country is different.

Note: These 50 firms are not necessarily the largest. They are provided for illustrative purposes. Sales are estimated in the following manner: First, the ratio of sales to size of foreign affiliates (investment value, capital size, employment size, etc.) is calculated for available foreign affiliates in each ASEAN host economy; second, this ratio is applied to the affiliates whose size is available from the sources given; and third, some adjustment was made to eliminate unreasonable estimates by searching information on the affiliates in question. Nevertheless there are likely to be some, sometimes large, errors, and readers should use these data with utmost caution.

Annex B.

Fifty Large ASEAN Affiliates Abroad Engaged in Telecommunication Services, 2015

Name of ASEAN affiliate abroad	Host country	Estimated sales (\$ million)	Name of ASEAN investing company	ASEAN home country
1 Bharti Airtel Ltd	Indonesia	14,566	Singapore Telecommunications Ltd	Singapore
2 Advanced Info Service PCL	Thailand	4,315	Singapore Telecommunications Ltd	Singapore
3 Telekom Malaysia Bhd	Malaysia	3,111	Temasek Holdings (Pte) Ltd	Singapore
4 Global Crossing Ltd	Bermuda	3,028	Singapore Technologies Telemidia Pte Ltd	Singapore
5 Telkomsel, PT (Telekomunikasi Selular)	Indonesia	2,906	Singapore Telecommunications Ltd	Singapore
6 Globe Telecom Inc	Philippines	2,589	Singapore Telecommunications Ltd	Singapore
7 Advanced Info Service PCL	Thailand	2,261	Investor Group	Singapore
8 Globe Telecom Inc	Philippines	1,847	Singapore Telecom International Pte Ltd	Singapore
9 Bharti Infratel Ltd	India	1,700	Investor Group	Singapore
10 Idea Cellular Ltd	India	1,685	TM International Bhd	Malaysia
11 Saudi Telecom Co SJSC	Indonesia ^a	1,471	Axis Telekom Indonesia PT	Indonesia ^a
12 Aircel Ltd	India	1,360	Investor Group	Malaysia
13 Warid Telecom (Pvt) Ltd	Pakistan	1,289	Singapore Telecommunications Ltd	Singapore
14 Excelcomindo Pratama Tbk PT	Indonesia	1,244	TM International Sdn Bhd	Malaysia
15 AriaWest International PT (MediaOne International BV,2 oth)	Indonesia ^a	790	Telekomunikasi Indonesia Tbk PT (Telkom)	Indonesia ^a
16 Axiata Group Bhd	Indonesia ^a	781	XL Axiata Tbk PT-Telecoms Towers (7000)	Indonesia ^a
17 Shin Corp PCL	Thailand	668	Investor Group	Singapore
18 Dialog Axiata Plc	Sri Lanka	513	Axiata Investments (Labuan) Limited	Malaysia
19 Aircel Ltd	India	477	Maxis Communications Bhd	Malaysia
20 Mitra Global Telekomunikasi Indonesia	Indonesia ^a	452	Albarta Telecommunication PT	Indonesia ^a
21 Sri Lanka Telecom Plc	Sri Lanka	379	Usaha Tegas Sdn Bhd	Malaysia
22 Sherington Investments Pte Ltd	Singapore ^a	360	Asia Mobile Holdings Pte Ltd	Singapore ^a
23 Microcell Oy	Finland	340	Flextronics International Ltd	Singapore
24 Nera Telecommunications Ltd	Singapore ^a	296	Asia Systems Ltd	Singapore ^a
25 Spice Communications Ltd [MERGED]	Indonesia	329	Axiata Group Berhad	Malaysia
26 Samart I-Mobile PCL	Thailand	308	TM International Sdn Bhd	Malaysia
27 Equinix Inc	United States	164	Temasek Holdings (Pte) Ltd	Singapore
28 APT Satellite Holdings Ltd	Bermuda	162	Singapore Telecommunications Ltd	Singapore
29 Spice Communications Ltd	India	140	TM International Sdn Bhd	Malaysia
30 China Satellite Mobile Communications Group Ltd	Hong Kong	121	Armada Group Ltd	Singapore
31 --	Australia	80	Optus	Singapore
32 China Unifiednet Holdings Ltd	China	64	Next-Generation Satellite Communications Ltd	Singapore
33 MediaRing Ltd	Singapore ^a	54	Venture One Finance Ltd	Singapore ^a
34 Cambodia Samart Communication Co Ltd	Cambodia	49	TM International Sdn Bhd	Malaysia
35 --	Peru	44	Viettel	Viet Nam
36 Uocomm Pty Ltd	Australia	44	Singapore Telecommunications Ltd	Singapore
37 Redtone International Bhd	Malaysia	43	Berjaya Philippines Inc.	Philippines
38 --	Australia	40	SingTel Optus	Singapore
39 NewSat Ltd	Australia	38	Ching Chai Kwong	Singapore
40 Multi Skies Nusantra Ltd	Hong Kong	37	Telemidia Pacific Communications Pte Ltd	Singapore
41 Singtel (Europe) Ltd	United Kingdom	32	Singapore Telecommunications Ltd	Singapore
42 --	Viet Nam	30	Nextnation	Malaysia
43 Wisdom Choice Investments Ltd	China	28	GMO Ltd	Malaysia
44 --	Israel	25	SingTel (Singapore Telecommunications)	Singapore
45 --	Malaysia	24	Pacnet International	Singapore
46 Singapore Telecom Japan Co, Ltd	Japan	22	Singapore Telecommunications Ltd	Singapore
47 MTK Wireless Ltd	United Kingdom	21	Mediatek Singapore Pte. Ltd.	Singapore
48 Rakjasa Akses PT	Indonesia	21	Capital Managers Asia Pte Ltd	Singapore
49 Singapore Telecom Korea Ltd	Korea	21	Singapore Telecommunications Ltd	Singapore
50 --	Australia	19	Optus	Singapore

Source: AJC, based on data from Toyo Keizai Shimposha, UNCTAD, Thomson Reuters and FDI Markets.

^a Immediate investing country is different.

Note: These 50 firms are not necessarily the largest. They are provided for illustrative purposes. Sales are estimated in the following manner: First the ratio of sales to size of foreign affiliates (investment value, capital size, employment size, etc.) is calculated for available foreign affiliates in each ASEAN host economy; second, this ratio is applied to the affiliates whose size is available from the sources given; and third, some adjustment was made to eliminate unreasonable estimates by searching information on the affiliates in question. Nevertheless there are likely to be some, sometimes large, errors, and readers should use these data with utmost caution.

Annex C.

Specific Schedule of Commitments for Telecommunication Services under AFAS (10th package, adopted in November 2018) by ASEAN Members

Legend for this Annex:

(1) means Mode 1 (cross-border supply of services), (2) means Mode 2 (consumption abroad), (3) means Mode 3 (commercial presence), (4) means Mode 4 (movement of natural persons).

CPC means Central Product Classification (the major industry classification for defining services sectors), MA means market access and NT means national treatment.

“Horizontal section” means across-industry (hence the word “horizontal”) commitments common to all the sectors, the text of which is separate from specific commitments (unique to the sector at issue).

The meaning of the alphabetical classification in the right-hand column of each specific commitment table is as follows:

N: none (no restriction)

A: limitations on the number of service suppliers whether in the form of numerical quotas, monopolies, exclusive service suppliers or the requirements of an economic needs test

B: limitations on the total value of service transactions or assets in the form of numerical quotas or the requirement of an economic needs test

C: limitations on the total number of service operations or on the total quantity of service output expressed in terms of designated numerical units in the form of quotas or the requirement of an economic needs test

D: limitations on the total number of natural persons who may be employed in a particular service sector or that a service supplier may employ and who are necessary for, and directly related to, the supply of a specific service in the form of numerical quotas or the requirement of an economic needs test

E: measures that restrict or require specific types of legal entity or joint venture through which a service supplier may supply a service

F: limitations on the participation of foreign capital in terms of maximum per centage limit on foreign shareholding or the total value of individual or aggregate foreign investment; the number after F (where applicable) indicates the upper bound of foreign equity participation.

Under AFAS, the restriction types A, B and C are actually not used by the ASEAN member states in the telecommunication services sector. In addition to these six types of market-access restrictions, the following two restrictions are observed:

G: Government approval requirement

H: Tax or fee payment requirement.

Note on * and **: * after a CPC code means the sector is part of the wider service sector elsewhere indicated. ** after a CPC code means the sector is part of the wider service sector indicated by the CPC code.

Brunei Darussalam

Note: * For the subsectors of (a) public non-fixed and (b) public payphone services, this is in accordance with the new licensing regime under Telecommunications Order 2001, which requires new entrants/players wishing to provide such service domestically to apply for a licence from the relevant authority (*i.e.*, the Authority for Info-Communication Technology and Industry, or AITI) and if further required may also be subject to terms and conditions set by the authority including among others the need to have commercial arrangements with licensed operator(s).

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Voice telephone services (CPC 7521)	(1) Subject to commercial arrangements with licensed operator(s)	(1) E	(1) None	(1) N
	(2) Subject to commercial arrangements with licensed operator(s)	(2) E	(2) None	(2) N
	(3) None	(3) N	(3) None	(3) N
Circuit-switched data transmission services (CPC 7523**)	(1) None	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
	(3) None	(3) N	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Packet-switched data transmission services (CPC 7523**)	(1) None.	(1) N	(1) None	(1) N
	(2) None.	(2) N	(2) None	(2) N
	(3) Only through locally incorporated joint-venture corporation with Bruneian individuals or Bruneian-controlled corporations; foreign equity participation should not exceed 70%.	(3) EF70	(3) None	(3) N
Telex services (CPC 7523**)	(1) None	(1) N	(1) None	(1) N
Telegraph services (CPC 7522**)	(2) None	(2) N	(2) None	(2) N
	(3) None	(3) N	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Facsimile services (CPC 7521**, CPC 7529**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Private leased circuit services (CPC 7522**, CPC 7523**)	(1) None. (2) None. (3) Foreign equity participation should not exceed 70%.	(1) N (2) N (3) F70	(1) None (2) None (3) None	(1) N (2) N (3) N
Electronic mail (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Voicemail (CPC 7523**)	(1) Subject to commercial arrangements with licensed operator(s) (2) None (3) None	(1) E (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Online information and database Retrieval (CPC 7523**)	(1) None (2) None (3) None	(1) N (1) N (3) N	(1) None (2) None (3) None	(1) N (1) N (3) N
Electronic data interchange (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Enhanced/value-added facsimile services, including store and forward and retrieve (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Code and protocol conversion	(1) None. (2) None. (3) Only through locally incorporated JV corporation with Bruneian individuals or Bruneian-controlled corporations. Foreign equity participation should not exceed 70%.	(1) N (2) N (3) EF70	(1) None (2) None (3) None	(1) N (2) N (3) N
Online information and data processing (including transaction processing) (CPC 843*)	(1) None (2) None (3) Only through locally incorporated JV corporation with Bruneian individuals or Bruneian-controlled corporations	(1) N (2) N (3) DE	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
Public non-fixed*	(1) None, except subject to commercial arrangements with licensed operator(s)* (2) None, except subject to commercial arrangements with licensed operator(s) (3) None	(1) E (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N	This offer is based on the new licensing regime under Telecommunications Order 2001. This offer is for reselling of services using infrastructure owned by an AITI licensee as per the new licensing framework of the regulatory authority under Telecommunications Order 2001.
Local services Public switched voice telephone services	(1) Subject to commercial arrangements with licensed operator(s) (2) None (3) None	(1) E (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
Public payphone services*	(1) None, except subject to commercial arrangements with licensed operator(s)*	(1) E	(1) None	(1) N	This offer is based on the new licensing regime under Telecommunications Order 2001.
	(2) None, except subject to commercial arrangements with licensed operator(s)	(2) E	(2) None	(2) N	
	(3) None	(3) N	(3) None	(3) N	
International service Public switched voice telephone services	(1) Subject to commercial arrangements with licensed operator(s)	(1) N	(1) None	(1) N	
	(2) Subject to commercial arrangements with licensed operator(s)	(2) N	(2) None	(2) N	
	(3) None	(3) N	(3) None	(3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Mobile services Public cellular mobile telephone service	(1) Subject to commercial arrangements with licensed operator(s)	(1) E	(1) None	(1) N
	(2) Subject to commercial arrangements with licensed operator(s)	(2) E	(2) None	(2) N
	(3) None	(3) N	(3) None	(3) N
Prepaid telecommunications services	(1) None, except subject to commercial arrangements with licensed operator(s)	(1) E	(1) None	(1) N
	(2) None, except subject to commercial arrangements with licensed operator(s)	(2) E	(2) None	(2) N
	(3) None	(3) N	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Paging services (CPC 75291)	(1) None. (2) None. (3) Only through locally incorporated joint-venture corporation with Bruneian individuals or Bruneian-controlled corporations; foreign equity participation should not exceed 70%.	(1) N (2) N (3) EF70	(1) None (2) None (3) None	(1) N (2) N (3) N
Trunked radio service	(1) Subject to commercial arrangements with licensed operator(s) (2) Subject to commercial arrangements with licensed operator(s) (3) None	(1) E (2) E (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Video text (CPC 75299*)	(1) Subject to commercial arrangements with licensed operator(s) (2) Subject to commercial arrangements with licensed operator(s) (3) None	(1) N (2) E (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N

Cambodia

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Voice telephone services (CPC 7521)	(1) None	(1) N	(1) None	(1) N
Packet-switched data transmission services (CPC 7523**)	(2) None	(2) N	(2) None	(2) N
Circuit-switched data transmission services (CPC 7523**)	(3) None	(3) N	(3) None	(3) N
Telex services (CPC 7523**)				
Telegraph services (CPC 7522)				
Facsimile services (CPC 7521**, CPC 7529**)				
Private leased circuit services (CPC 7522**, CPC 7523**)				

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Electronic mail services (CPC 7523**)	(1) None		(1) None	(1) N
Voicemail (CPC 7523**)	(2) None		(2) None	(2) N
Online information and database retrieval (CPC 7523**)	(3) None		(3) None	(3) N
Electronic data interchange (CPC 7523**)				
Enhanced/value-added facsimile services, including store and forward and store and retrieve (CPC 7523**)				
Code and protocol conversion				
Online information and/or data processing (including transaction processing) (CPC 843**)				

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Paging services (CPC 75291)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Internet services provision, excluding voice telephony and facsimile	(1) Unbound (2) None (3) None	(1) U (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Mobile services	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N

Indonesia

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Voice telephone services (CPC 7521)	(1) None (2) None (3) Joint venture with foreign equity participation up to 49%	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Public local telephone services (CPC 75211) Fixed wireline access technology only	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining per centage through other mechanisms.	(1) N (2) N (3) EF49	(1) None. (2) None. (3) Services shall be provided in certain provinces and or necessary areas.	(1) N (2) N (3) E

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Packet-switched data transmission services (CPC 7523**)	(1) None (2) None (3) Joint venture with foreign equity participation up to 49%	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Packet-switched data transmission services (CPC 7523**) Only in underserved area as specified in domestic regulations	(1) None (2) None (3) Joint venture with foreign equity participation up to 70%	(1) N (2) N (3) EF70	(1) None (2) None (3) Only in underserved area as specified in domestic regulations	(1) N (2) N (3) E
Circuit-switched data transmission services (CPC 7523**)	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining percentage through other mechanisms.	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Telex services	(1) None	(1) N	(1) None	(1) N
Telegraph services	(2) None	(2) N	(2) None	(2) N
Facsimile (CPC 7521**, CPC 7529**)	(3) Joint venture with foreign equity participation up to 70%	(3) EF70	(3) None	(3) N
Private leased circuit services (CPC 7522**, CPC 7523**)	(1) None (2) None (3) Joint venture with foreign equity participation up to 49%	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Dedicated network services (CPC 75222)	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining per centage through other mechanisms.	(1) N (2) N (3) EF49	(1) None. (2) None. (3) Services shall be provided in certain provinces and/or necessary areas.	(1) N (2) N (3) E
Electronic mail services (CPC 75232)	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining per centage through other mechanisms.	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Electronic mailbox (CPC 75232)	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining per centage through other mechanisms.	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Voicemail services (CPC 7523)	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining per centage through other mechanisms.	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Online information and database retrieval (CPC 7523**)	(1) None (2) None (3) Joint venture with aggregate foreign equity participation up to 70% provided that up to 51% is through foreign direct investment and the remaining per centage through other mechanisms	(1) N (2) N (3) EF51	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Electronic data interchange (CPC 7523**)	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining per centage through other mechanisms.	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Enhanced/value-added facsimile services, including store and forward and store and retrieve (CPC 7523**)	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining per centage through other mechanisms.	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Code and protocol conversion	(1) None. (2) None. (3) Aggregate foreign equity participation is permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining percentage through other mechanisms.	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Online information and/or data processing (including transaction processing) [CPC 843**]	(1) None. (2) None. (3) Joint venture with aggregate foreign equity participation up to 70% provided that up to 49% is through foreign direct investment and the remaining percentage through other mechanisms.	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Local services Teleconferencing services [CPC 75292]	(1) None (2) None (3) Joint venture with foreign equity participation up to 49%	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Long distance and international services Teleconferencing services [CPC 75292]	(1) None (2) None (3) Joint venture with foreign equity participation up to 49%	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N
Regional and national paging service [CPC 75291]	(1) None (2) None (3) Joint venture with foreign equity participation up to 70%	(1) N (2) N (3) EF70	(1) None (2) None (3) None	(1) N (2) N (3) N
Internet access services	(1) None (2) None (3) Joint venture with foreign equity participation up to 49%	(1) N (2) N (3) EF49	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Computer time-sharing services (CPC 84330)	(1) None	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
Video text services (CPC 75299)	(3) Joint venture with foreign equity participation up to 70%	(3) EF70	(3) None	(3) N
File transfer services (CPC 75299)	(1) None	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
Home telemetering alarm (CPC 75299)	(3) Joint venture with foreign equity participation up to 70%	(3) EF70	(3) None	(3) N
Entertainment services (CPC 75299)				
Management information services (CPC 75299)				

Lao People's Democratic Republic

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
The following services can be supplied only on a facilities basis, for public use, with regard to local and national long-distance services.	(1) None	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
	(3) None	(3) N	(3) None	(3) N
(a) Voice telephone service (CPC 7521)				
(b) Packet-switched data transmission services (CPC 7523**) [Electronic message and information services (CPC 75232)]				
(c) Circuit-switched data transmission services (CPC 7523**) [Data and message transmission services (CPC 7523)]				

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
(d) Telex services (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(e) Telegraph services (CPC 7522)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(f) Facsimile services (CPC 7529)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(g) Private leased circuit services (CPC 7522**+7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Other: Paging services (CPC 75291)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
(h) Electronic mail (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(i) Voicemail (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(j) Online information and database retrieval (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(k) Electronic data interchange (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(l) Enhanced/value-added facsimile services, including store and forward and store and retrieve (CPC 7523**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(m) Code and protocol conversion	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
(n) Online information and/or data processing (including transaction processing) (CPC 843**)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Telecommunication consulting services (CPC 75440)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N

Malaysia

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
Telecommunication Services					
Basic telecommunications	(1) None. (2) None.	(1) N (2) N	(1) None (2) None	(1) N (2) N	Pro-competition regulatory principle in respect of interconnection arrangement and competition
1. Voice service (wired or wireless) (CPC 7521)	(3) Foreign shareholding of up to 70% in these service providers is allowed.	(3) F70	(3) None	(3) N	
2. Packet-switched data transmission services, including frame-relay services (CPC 7523)					
3. Circuit-switched data transmission services (CPC 7523)					
4. Facsimile service (CPC 7521**, CPC 7529**)					
5. Private leased circuit service (CPC 7522**, CPC 7523**)					
Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	
Telex services (CPC 7523)	(1) None. (2) None. (3) Foreign shareholding of up to 70% is allowed.	(1) N (2) N (3) F70	(1) None (2) None (3) None	(1) N (2) N (3) N	
Telegraph services (CPC 7522)	(1) None. (2) None. (3) Only through locally incorporated joint-venture corporation with Malaysian individuals or Malaysian-controlled corporations; or foreign shareholding of up to 70% is allowed.	(1) N (2) N (3) EF70	(1) None (2) None (3) None	(1) N (2) N (3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Data and message transmission services (CPC 7523) Covering electronic mail, voicemail, online information and database retrieval, enhanced facsimile, code and protocol conversion	(1) None. (2) None. (3) Foreign shareholding of up to 70% is allowed.	(1) N (2) N (3) F70	(1) None (2) None (3) None	(1) N (2) N (3) N
Basic telecommunications Paging services (CPC 75291)	(1) None. (2) None. (3) Foreign shareholding of up to 70% is allowed.	(1) N (2) N (3) F70	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
Other telecommunication services 1. Domestic/international satellite services and satellite links/capacities (inclusive of mobile satellite) 2. Satellite earth station 3. International switching and other international gateway 4. Mobile services analogue/digital cellular 5. Trunked radio services 6. Video transport services	(1) None. (2) None. (3) Foreign shareholding of up to 70% is allowed.	(1) N (2) N (3) F70	(1) None (2) None (3) None	(1) N (2) N (3) N	Pro-competition regulatory principle in respect of interconnection arrangement and competition
Mobile telephone service (CPC 75213)	(1) None. (2) None. (3) Foreign shareholding of up to 70% is allowed.	(1) N (2) N (3) F70	(1) None (2) None (3) None	(1) N (2) N (3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Mobile data services (CPC 7523)	(1) None. (2) None. (3) Foreign shareholding of up to 70% is allowed.	(1) N (2) N (3) F70	(1) None (2) None (3) None	(1) N (2) N (3) N
Interconnection services (CPC 7525, CPC 76250) Integrated telecommunication services (CPC 7526, CPC 75260)	(1) None. (2) None. (3) Foreign shareholding of up to 70% is allowed.	(1) N (2) N (3) F70	(1) None (2) None (3) None	(1) N (2) N (3) N

Myanmar

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
I. Facsimile services (CPC 7521**, 7529**)	(1) None (2) None	(1) N (2) N	(1) None (2) None	(1) N (2) N
II. Enhanced/value-added facsimile services including store and forward and store and retrieve (CPC 7523**)	(3) None	(3) N	(3) None	(3) N
III. Packet-switched data transmission services (CPC 7523**)				
IV. Circuit-switched data transmission services (CPC 7523**)				
V. Private leased circuit services (CPC 7522**, 7523**)				

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Telex services (CPC 7523**)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms:</p> <p>(i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission</p> <p>(ii) Carrying out a joint venture between a foreign and a citizen or the relevant government department and organization</p> <p>(iii) Carrying out by any system contained in the contract approved by both parties.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour.</p> <p>b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Telegraph services (CPC 7522)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms:</p> <p>(i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission</p> <p>(ii) Carrying out a joint venture between a foreigner and a citizen or the relevant government department and organization</p> <p>(iii) Carrying out by any system contained in the contract approved by both parties.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour.</p> <p>b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Electronic mail (CPC 7523**)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms:</p> <p>(i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission</p> <p>(ii) Carrying out a joint venture between a foreigner and a citizen or the relevant government department and organization</p> <p>(iii) Carrying out by any system contained in the contract approved by both parties.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour.</p> <p>b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Voicemail (CPC 7523**)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms:</p> <p>(i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission</p> <p>(ii) Carrying out a joint venture between a foreigner and a citizen or the relevant government department and organization</p> <p>(iii) Carrying out by any system contained in the contract approved by both parties.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour.</p> <p>b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Online information and database retrieval (CPC 7523**)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms:</p> <p>(i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission</p> <p>(ii) Carrying out a joint venture between a foreign and a citizen or the relevant government department and organization</p> <p>(iii) Carrying out by any system contained in the contract approved by both parties.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour.</p> <p>b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Electronic data interchange (CPC 7523**)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms:</p> <p>(i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission</p> <p>(ii) Carrying out a joint venture between a foreigner and a citizen or the relevant government department and organization</p> <p>(iii) Carrying out by any system contained in the contract approved by both parties.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour.</p> <p>b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Code and protocol conversion (CPC 7523**)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms:</p> <p>(i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission</p> <p>(ii) Carrying out a joint venture between a foreigner and a citizen or the relevant government department and organization</p> <p>(iii) Carrying out by any system contained in the contract approved by both parties.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour.</p> <p>b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Online information and/or data processing (including transaction processing) (CPC 843**)	(1) None. (2) None. (3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms: (i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission (ii) Carrying out a joint venture between a foreigner and a citizen or the relevant government department and organization (iii) Carrying out by any system contained in the contract approved by both parties.	(1) N (2) N (3) EG	(1) None. (2) None. (3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour. b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.	(1) N (2) N (3) EG
Public telephone services (CPC 7521)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Mobile telephone service (CPC 75213)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Paging services (CPC 75291)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Private leased circuit services (CPC7521)	(1) None* (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Packet-switched data transmission services (CPC 7523**) (e) Data and message transmission services (CPC 7523)	(1) None (2) None (3) None	(1) N (2) N (3) N	(1) None (2) None (3) None	(1) N (2) N (3) N
Circuit-switched data transmission services (CPC 7523**) (e) Data and message transmission services (CPC 7523)				

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H classification of NT
Telecommunication equipment maintenance services (CPC 75450)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Commercial presence of foreign service suppliers and/or providers are permitted in accordance with the Myanmar Investment law (2016) of the Republic of the Union of Myanmar. The investment may be carried out in any of the following forms:</p> <p>(i) Carrying out an investment by a foreigner with 100% foreign capital on the business permitted by the Commission</p> <p>(ii) Carrying out a joint venture between a foreigner and a citizen or the relevant government department and organization</p> <p>(iii) Carrying out by any system contained in the contract approved by both parties.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) a. Foreign service suppliers and/or providers have to comply with existing laws, rules and regulations concerning investment, taxation, immigration and labour.</p> <p>b. Foreign organisations and persons are not allowed to own land in Myanmar. However, land may be acquired on long-term lease, depending on the individual circumstances.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) EG</p>

Philippines

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
The following services are offered only on a facilities basis, for public use, using either wired or wireless technology except cable television. a. Voice telephone services (CPC 7521) - Local services - Toll services • Domestic • International b. Packet-switched data transmission services (CPC 7523**) c. Circuit-switched data transmission services (CPC 7523**) d. Telex services (CPC 7523**) e. Telegraph services (CPC 7522) f. Facsimile services (CPC 7521**, 7529**) g. Private leased circuit services (CPC 7522**, 7523) h. Other - Cellular mobile telephone service (CPC 75213) i. Satellite services	(1) Subject to commercial arrangement with licensed operators.	(1) E	(1) None	(1) E	The Philippine Reference Paper on Regulatory Principles will be reviewed in the future in accordance with the development of its laws and regulations.
	(2) None.	(2) N	(2) None	(2) N	
	(3) Entry is subject to the following requirements and conditions: a) Franchise from Congress of the Philippines b) Certificate of Public Convenience and Necessity from the National Telecommunications Commission c) Foreign equity is permitted up to 40% d) Resale of private leased lines is not allowed ¹ e) Private leased circuit services shall not be connected to a public network g) Subject to the availability and efficient utilisation of radio frequencies h) Only duly enfranchised and certificated telecommunications, broadcast and/or cable TV entities can access satellite space segment service providers i) Philippine satellite operators shall be given the preference to provide the space segment capacity requirements of enfranchised entity after all factors are equally considered Satellite space segment service provisioning in the Philippines shall be on the basis of reciprocal arrangements.	(3) EF40G	(3) Entry is subject to the following requirements and conditions: a) The number of non-Filipino citizens in the Board of Directors of an entity shall be proportionate to the aggregate share of foreign capital of that entity. b) All executives and managers must be citizens of the Philippines. Limitations listed in the horizontal section shall also apply.	(3) EF40G	

¹ Enfranchised public telecommunications entities may be authorized to sell/resell private leased lines.

Sector or Subsector	Limitation on Market Access	A–H Classification of MA	Limitation on National Treatment	A–H Classification of NT
j. Voicemail (CPC 7523**)	(1) Only through duly enfranchised and certificated domestic public telecommunications carriers.	(1) E	(1) None	(1) N
k. Online information and database retrieval (CPC 7523**)	(2) None.	(2) N	(2) None	(2) N
l. Electronic data interchange	(3) Operation subject to securing of	(3) EG	(3) None	(3) N
m. Videotext	a) Franchise from Congress of the Philippines b) Certificate of Public Convenience and Necessity from the National Telecommunications Commissions.			

Sector or Subsector	Limitation on Market Access	A–H Classification of MA	Limitation on National Treatment	A–H Classification of NT
Value-added services, <i>i.e.</i> ,	(1) Unbound. ¹	(1) U	(1) None.	(1) N
n. Electronic mail (CPC 7523**)	(2) None.	(2) N	(2) None.	(2) N
o. Value-added facsimile service (CPC 7523**)	(3) Entry is subject to the following requirements:	(3) EF40	(3) Entry is subject to the following requirements and conditions:	(3) DE
p. Code and protocol conversion	a) Foreign equity is permitted up to 40%		a) The number of non-Filipino citizens on the Board of Directors of an entity shall be proportionate to the aggregate share of foreign capital of that entity	
q. Online information and/or data processing (CPC 843**)	b) Must register with the Philippines regulatory body but is not allowed to build its own network.		b) All executives and managers must be citizens of the Philippines	
			Limitations listed in the horizontal section shall also apply.	
Other telecommunication services: Content development services sold to telecommunications companies	(1) Subject to commercial arrangement with licensed operators.	(1) E	(1) None	(1) N
	(2) None.	(2) N	(2) None	(2) N
	(3) None, except that only up to 70% foreign equity participation is allowed.	(3) F70	(3) None	(3) N

¹ Shall be reviewed in the future in accordance with the development of Philippines laws and regulations.

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Data and message transmission services	(1) Unbound.	(1) U	(1) None.	(1) N
Data network services (CPC 75231)	(2) None.	(2) N	(2) None.	(2) N
Electronic message and information services (CPC 75232)	(3) Entry is subject to the following requirements and conditions: a) Franchise from Congress of the Philippines b) Certificate of Public Convenience and Necessity from the National Telecommunications Commission c) Foreign equity is permitted up to 40% d) Resale of private leased lines is not allowed ¹ e) Private leased circuit services shall not be connected to a public network f) Call back, dial back and other similar schemes, which result in the same operation, are not authorized g) Subject to the availability and efficient utilisation of radio frequencies.	(3) EF40	(3) Entry is subject to the following requirements and conditions: a) The number of non-Filipino citizens in the Board of Directors of an entity shall be proportionate to the aggregate share of foreign capital of that entity b) All executives and managers must be citizens of the Philippines. Limitations listed in the horizontal section shall also apply.	(3) DE

¹ Enfranchised public telecommunications entities may be authorised to sell/resell private leased lines.

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
	<p>h) Only duly enfranchised and certificated telecommunications, broadcast and/or cable TV entities can access satellite space segment service providers.</p> <p>i) Philippine satellite operators shall be given preference to provide the space segment capacity requirements of enfranchised entity after all factors are equally considered.</p> <p>j) Satellite space segment service provisioning in the Philippines shall be on the basis of reciprocal arrangements.</p> <p>Limitations listed in the horizontal section shall also apply.</p>			
Paging services (CPC 75291)	<p>(1) Unbound.</p> <p>(2) Unbound.</p> <p>(3) Entry is subject to the following requirements and conditions:</p> <p>a) Franchise from Congress</p> <p>b) Foreign equity is limited to 40%</p> <p>c) Subject to the availability and efficient utilisation of radio frequencies.</p>	<p>(1) U</p> <p>(2) U</p> <p>(3) EF40</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) The number of non-Filipino citizens in the Board of Directors of an entity shall be proportionate to the aggregate share of foreign capital of that entity.</p>	<p>(1) N</p> <p>(2) N</p> <p>(3) D</p>

Singapore

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Basic telecommunication services (facilities based)	(1) Subject to commercial arrangements with licensed operator(s).	(1) E	(1) None	(1) N
a) Public switched services ¹ (local and international)	(2) None.	(2) N	(2) None	(2) N
b) Leased circuit services (local and international)	(3) A cumulative total of 73.99% foreign shareholding, based on 49% direct investment and 24.99% indirect investment, is allowed.	(3) EF73.99	(3) None	(3) N
Mobile services: ²	(1) Subject to commercial arrangements with licensed operator(s).	(1) E	(1) None	(1) N
a) Public mobile data service	(2) None.	(2) N	(2) None	(2) N
b) Public trunked radio service	(3) A cumulative total of 73.99% foreign shareholding, based on 49% direct investment and 24.99% indirect investment, is allowed.	(3) EF73.99	(3) None	(3) N
c) Public radio paging service				
d) Public cellular mobile telephone service				

¹ This includes voice, data facsimile, telex and telegraph services.

² Mobile services excludes public mobile broadband multimedia services and public fixed -wireless broadband multimedia services.

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Resale basis:	(1) None	(1) N	(1) None	(1) N
a) Public switched services (local and international) (not including the use of leased circuits connected to the public switched network)	(2) None	(2) N	(2) None	(2) N
	(3) None	(3) N	(3) None	(3) N
b) Leased circuit services (local and international) (without connection to the public switched network)				
c) Public cellular mobile telephone services				
d) Public radio paging services				
Value-added network (VAN) services ¹ The services covered are	(1) None	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
	(3) None	(3) N	(3) None	(3) N
- Store-and-retrieve VAN services				
- Store-and-forward VAN services				
- Electronic mail				
- Voicemail				
- Online information and database retrieval				
- Electronic data interchange				
- Code and protocol conversion				
- Online information and/or data processing.				
Others				
- Telecommunications consulting services.				

¹ Provision of VAN services is subject to registration for store and retrieve VAN services from the Infocomm Development Authority of Singapore. Note that for the purpose of Singapore's commitments under AFAS, the services under CPC 7523 are included within Singapore's offer for VAN services.

Thailand

Telecommunications Services

Commitments undertaken in this offer are subject to the following general conditions:

- Any person or juridical person who intends to operate a telecommunication business in Thailand shall obtain a licence from the designated national authority(s).
- Licences are granted only to service suppliers duly constituted according to the Thai legislation, which requires head office and management located in Thai territory.
- The service provider shall operate for public use through existing facilities licensed by the designated national authority(s).
- The designated national authority(s) may prohibit the licence application or terminate the licence of any telecommunication businesses deemed to have any act of “business control” by a juridical person who is not a Thai national.
- Basic necessary new telecommunication acts are now in force. Commitments on public telecommunication services will be introduced and carried out in accordance with the implementing rules and regulations to be issued by virtue of those acts.

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
Public local, domestic long distance and international services (a) Fixed-line voice telephone services (a) Mobile telephone services (CPC 75213)	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N	Thailand will introduce into its Schedule of Specific Commitments on public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N	
	(3) As indicated in 3.3 of the horizontal section (a. Foreign equity participation must not exceed 49% of the registered capital, and b. the number of foreign shareholders must be less than half of the total number of shareholders of the company concerned).	(3) EF49	(3) None	(3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
(b) Package-switched data transmission services (CPC 7523**) (c) Circuit-switched data transmission service (CPC 7523**)	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N	Thailand will introduce into its Schedule of Specific Commitments on public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources
	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N	
	(3) As indicated in 3.1 of the horizontal section (foreign equity participation must not exceed 70% of the registered capital and shall only operate through joint venture with a juridical person of Thai nationality).	(3) EF70	(3) None	(3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
(d) Telegraph services (CPC 7523**) (e) Telex services (CPC 7523**) (f) Facsimile services (CPC 7521**, 7529**)	(1) None, other than <ul style="list-style-type: none"> - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends. 	(1) E	(1) None	(1) N	Thailand will introduce into its Schedule of Specific Commitments on public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) None, other than <ul style="list-style-type: none"> - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends. 	(2) E	(2) None	(2) N	
	(3) As indicated in 3.1 of the horizontal section.	(3) EF70	(3) None	(3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of MA	Additional Commitments
Private leased circuit services: Dedicated network services (CPC 75222)	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N	Thailand will introduce into its Schedule of Specific Commitments on public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N	
	(3) As indicated in 3.1 of the horizontal section.	(3) EF70	(3) None	(3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Domestic leased circuits (part of CPC 75299)	(1) (a) Service providers must use network operated by suppliers duly licensed. (b) Radio application service is subject to frequency availability.	(1) E	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
	(3) (a) Shall be a Thai-registered company with foreign equity participation not exceeding 40% of the registered capital, and the number of foreign shareholders must not exceed 40% of the total number of shareholders of the company. (b) Must use public telecommunication network under national telecommunication authorities. (c) Selection of service providers shall be based on open tender.	(3) EF40	(3) No limitation as long as foreign equity participation does not exceed 40%	(3) F40

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
(h) Electronic mail (CPC 7523**)	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N
(i) Voicemail (CPC 7523**)	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N
	(3) As indicated in 3.1 of the horizontal section.	(3) EF70	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
(j) Online information and database retrieval (CPC 7523**)	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N	Thailand will introduce into its Schedule of Specific Commitments on public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N	
	(3) As indicated in 3.1 of the horizontal section.	(3) EF70	(3) None	(3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
(k) Electronic data interchange (CPC 7523**)	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N
	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N
	(3) As indicated in 3.1 of the horizontal section.	(3) EF70	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
(l) Enhanced/value-added facsimile services including store and forward and store and retrieve (CPC 7523*) (m) Code and protocol conversion	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N
	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N
	(3) As indicated in 3.1 of the horizontal section.	(3) EF70	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
(n) Online information and/or data processing services provided over public telecommunications network (part of CPC 843, excluding transaction processing)	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N	Thailand will introduce into its Schedule of Specific Commitments on public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N	
	(3) As indicated in 3.1 of the horizontal section.	(3) EF70	(3) None	(3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Database access services (part of CPC 7523)	(1) Service providers must use networks operated by suppliers duly licensed.	(1) E	(1) None.	(1) N
	(2) None.	(2) N	(2) None.	(2) N
	(3) a) Shall be a Thai-registered company with foreign equity participation not exceeding 25% of registered capital. b) Must use networks operated by suppliers duly licensed.	(3) EF25	(3) No limitation as long as foreign equity participation does not exceed 25%.	(3) F25

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
(o) Other: Paging services (CPC 75291)	(1) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) E	(1) None	(1) N	Thailand will introduce into its Schedule of Specific Commitments on public telecommunication services its treatment on subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) None, other than - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) E	(2) None	(2) N	
	(3) As indicated in 3.3 of the horizontal section.	(3) EF49	(3) None	(3) N	

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Telecommunications terminal equipment leasing services (CPC 75410)	(1) None, subject to commercial arrangement with licensed operators	(1) E	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
	(3) As indicated in 3.3 of the horizontal section	(3) EF49	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Domestic VSAT [very small aperture terminal]	(1) a) Service providers must use network operated by suppliers duly licensed. b) Radio application service is subject to frequency availability.	(1) E	(1) None.	(1) N
	(2) None.	(2) N	(2) None.	(2) N
	(3) a) Shall be a Thai-registered company with foreign equity participation not exceeding 40% of the registered capital, and the number of foreign shareholders must not exceed 40% of the total number of shareholders of the company. b) Must use public telecommunication network under national telecommunication authorities.	(3) EF40	(3) No limitation as long as foreign equity participation does not exceed 40%.	(3) F40
Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Telecommunication equipment sales services [part of CPC 75420]	(1) None	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
	(3) As indicated in 3.3 of the horizontal section	(3) EF49	(3) None	(3) N
Telecommunication consulting services [CPC 75440]	(1) None	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
	(3) As indicated in 3.1 of the horizontal section	(3) EF70	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Videotext teleconference	(1) (a) Service providers must use network operated by suppliers duly licensed. (b) Radio application service is subject to frequency availability.	(1) E	(1) None.	(1) N
	(2) None.	(2) N	(2) None.	(2) N
	(3) (a) Shall be a Thai-registered company with foreign equity participation not exceeding 40% of the registered capital, and the number of foreign shareholders must not exceed 40% of the total number of shareholders of the company. (b) Must use public telecommunication network under national telecommunication authorities. (c) Selection of service providers shall be based on open tender.	(3) EF40	(3) No limitation as long as foreign equity participation does not exceed 40%.	(3) F40
Communication equipment maintenance services on a fee or contract basis (CPC 75450)	(1) None	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N
	(3) As indicated in 3.1 of the horizontal section	(3) EF70	(3) None	(3) N

Viet Nam

Telecommunication Services

Commitments hereunder are made in accordance with “Notes for Scheduling Basic Telecom Services Commitments” (S/GBT/W/2/REV.1) and “Market Access Limitations on Spectrum Availability” (S/GBT/W/3). For the purpose of these commitments, a “non-facilities-based service supplier” means a service supplier that does not own transmission capacity but contracts for such capacity including submarine cable capacity, including on a long-term basis, from a facilities-based supplier. A non-facilities-based supplier is not otherwise excluded from owning telecommunications equipment within its premises and permitted public service provision points.

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
<p>Basic telecommunications</p> <p>a. Voice telephone services including local, long distance and international (CPC 7521)</p> <p>b. Packet-switched data transmission services (CPC 7523**)</p> <p>c. Circuit-switched data transmission services (CPC 7523**)</p> <p>d. Telegraph services (CPC 7522)</p> <p>e. Telex services (CPC 7523**)</p> <p>f. Facsimile services (CPC 7521**, 7529**)</p> <p>g. Private leased circuit services (CPC 7522**, 7523**)</p>	<p>(1) None, except <i>Wire-based and mobile terrestrial services</i>: Service must be offered through commercial arrangements with an entity established in Viet Nam and licensed to provide international telecommunication services.</p> <p><i>Satellite-based services</i>: Subject to commercial arrangements with Vietnamese international satellite service suppliers duly licensed in Viet Nam, except satellite-based services offered to</p> <p>- Since 11 January 2007, offshore/on-sea-based business customers, government institutions, facilities-based service suppliers, radio and television broadcasters, official international organisations' representative offices, diplomatic representatives and consulates, high-tech and software development parks that are licensed to use <i>satellite-earth stations</i>.</p>	(1) N	(1) None	(1) N	<p>Viet Nam undertakes the obligations in the Reference Paper attached hereto.</p> <p>For consortium submarine cable links where Viet Nam is member, foreign service suppliers shall be permitted to control fully owned submarine cable transmission capacity (<i>e.g.</i>, infeasible right of use or consortium ownership) terminating at a licensed cable landing station in Viet Nam, and to provide such capacity to international facilities-based service suppliers licensed in Viet Nam.</p> <p>Since 11 January 2011, foreign service suppliers shall be permitted to provide such capacity to international virtual private network (VPN) and Internet exchange point (IXP) service suppliers licensed in Viet Nam.</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT	Additional Commitments
<p>Basic telecommunication services (o*) Other services - VPN¹</p>	<p>In the telecommunications sector, foreign investors in a business cooperation contract (BCC) will have the possibility to renew current arrangements or to convert them into another form of establishment with conditions no less favourable than those they currently enjoy.</p> <p>(1) None, except <i>Wire-based and mobile terrestrial services</i>: Service must be offered through commercial arrangements with an entity established in Viet Nam and licensed to provide international telecommunication services. <i>Satellite-based services</i>: Subject to commercial arrangements with Vietnamese international satellite service suppliers duly licensed in Viet Nam, except satellite-based services offered to - Since 11 January 2007, offshore/on-sea-based business customers, government institutions, facilities-based service</p>	<p>(1) N</p>	<p>(1) None</p>	<p>(1) N</p>	<p>Viet Nam undertakes the obligations in the Reference Paper attached hereto.</p> <p>For consortium submarine cable links where Viet Nam is member, foreign service suppliers shall be permitted to control fully owned submarine cable transmission capacity (e.g., indefeasible right of use or consortium ownership) terminating at a licensed cable landing station in Viet Nam, and to provide such capacity to international facilities-based service suppliers licensed in Viet Nam.</p> <p>Since 11 January 2011, foreign service suppliers shall be permitted to provide such capacity to international VPN and IXP service suppliers licensed in Viet Nam.</p>

	suppliers, radio and television broadcasters, official international organisations' representative offices, diplomatic representatives and consulates and high-tech and software development parks that are licensed to use satellite- earth stations. - Since 11 January 2010, multinational companies ² that are licensed to use satellite- earth stations.				
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¹ Services, provided on commercial terms, establishing and managing a private network over public (shared) networks for the purpose of carrying out, on a non-profit basis, voice and data telecommunications among members of a closed user group defined prior to the creation of the VPN. Such group may include a corporate group or organisation, or a group of legal entities with an established relationship affiliated through the pursuit of a common interest.

Initial members of a closed user group using VPN service must be listed in a dialling or routing plan approved by the competent authority and subject to its oversight. VPN service suppliers shall notify the competent authority of changes to membership at least two working weeks prior to actually commencing commercial service and can commence commercial service provided that no objection from the competent authority is issued during these two weeks.

Members are not allowed to resell VPN services to unaffiliated third parties. Virtual private networks are not allowed to carry/transfer traffic of/among unaffiliated third parties. VPN services can be offered by licensed foreign-invested service suppliers bundled with Internet access service and value-added services from (h) to (n).

² A multinational is a corporation that (1) has a commercial presence in Viet Nam, (2) operates in at least one other WTO member, (3) has been in operation for at least five years, (4) is publicly listed on the stock exchange of a WTO member and (5) is licensed to use satellite services in at least one WTO member.

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
- VPN (continued)	<p>(2) None</p> <p>(3) None, except <i>Non-facilities-based services</i>: Joint ventures shall be allowed without limitation on choice of partner. Foreign capital contribution shall not exceed 70% of legal capital of the joint ventures.</p> <p><i>Facilities-based services</i>: joint venture with telecommunication service suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 49% of legal capital of the joint ventures.</p>	<p>(2) N</p> <p>(3) F49</p>	<p>(2) None</p> <p>(3) None</p>	<p>(2)N</p> <p>(3)N</p>

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Value-added services: h. Electronic mail (CPC 7523**) i. Voicemail (CPC 7523**) j. Online information and database retrieval (CPC 7523**) k. Electronic data interchange (CPC 7523**) l. Enhanced/value-added facsimile services, including store and forward and store and retrieve (CPC7523**) m. Code and protocol conversion n. Online information and data processing (including transaction processing) (CPC 843)	(1) None, except <i>Wire-based and mobile terrestrial services</i> : Service must be offered through commercial arrangements with an entity established in Viet Nam and licensed to provide international telecommunication services. <i>Satellite-based services</i> : Subject to commercial arrangements with Vietnamese international satellite service suppliers duly licensed in Viet Nam except satellite-based services offered to - Since 11 January 2007, offshore/on-sea-based business customers, government institutions, facilities-based service suppliers, radio and television broadcasters, official international organisations' representative offices, diplomatic representatives and consulates and high-tech and software development parks that are licensed to use satellite-earth stations. - Since 11 January 2007, multinational companies that are licensed to use satellite-earth stations.	(1) N	(1) None	(1) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
	(2) None	(2) N	(2) None	(2) N
	<p data-bbox="485 472 705 824">(3) None, except <i>Non-facilities-based services</i>: Business cooperation contracts or joint ventures will be allowed. Foreign capital contribution shall not exceed 70% of legal capital of the joint ventures.</p> <p data-bbox="485 824 705 1317"><i>Facilities-based services</i>: Business cooperation contracts or joint ventures with telecommunications service suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 50% of legal capital of the joint ventures; 51% gives management control of the joint venture.</p> <p data-bbox="485 1317 705 1724">In the telecommunications sector, foreign investors in BCC will have the possibility to renew current arrangements or to convert them into another form of establishment with conditions no less favourable than those they currently enjoy.</p>	(3) F50	(3) None	(3) N

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
Value-added services (o) Other - Internet access services ¹	<p>(1) <i>Wire-based and mobile terrestrial services</i>: None, except service must be offered through commercial arrangements with an entity established in Viet Nam and licensed to provide international telecommunication services.</p> <p><i>Satellite-based services</i>: Subject to commercial arrangements with Vietnamese international satellite service suppliers duly licensed in Viet Nam, except satellite-based services offered to</p> <ul style="list-style-type: none"> - Since 11 January 2007, offshore/ on-sea-based business customers, government institutions, facilities-based services suppliers, radio and television broadcasters, official international organisations' representative offices, diplomatic representatives and consulates and high-tech and software development parks that are licensed to use satellite-earth stations. - Since 11 January 2010, multinational companies² that are licensed to use satellite-earth stations. 	(1) N	(1) None	(1) N
	(2) None	(2) N	(2) None	(2) N

¹ Services providing internet access to the end users.

² A multinational is a corporation that (1) has a commercial presence in Viet Nam, (2) operates in at least one other WTO member, (3) has been in operation for at least five years, (4) is publicly listed on the stock exchange of a WTO member and (5) is licensed to use satellite services in at least one WTO Member.

Sector or Subsector	Limitation on Market Access	A-H Classification of MA	Limitation on National Treatment	A-H Classification of NT
	<p>(3) <i>Non-facilities-based services:</i> Since 11 January 2007, joint ventures with telecommunications suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 51% of legal capital of the joint ventures. Since 11 January 2010, joint venture will be allowed without limitation on choice of partner. Foreign capital contribution shall not exceed 65% of legal capital of the joint ventures.</p> <p><i>Facilities-based services:</i> Joint venture with telecommunication service suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 50% of legal capital of the joint ventures.</p>	(3) F50	(3) None	(3) N

Source: Downloaded (with file-type conversion) from <https://cil.nus.edu.sg/database/cil/2018-protocol-to-implement-the-tenth-package-of-commitments-under-the-asean-framework-agreement-on-services/>.

Annex D. Commitments/Reservations under RCEP for Telecommunication Services (by ASEAN Member Country)

Brunei Darussalam

13. Sector	: Telecommunication Services
Subsector	: -
Type of Obligation	: National Treatment (Article 8.4 and Article 10.3) Market Access (Article 8.5) Local Presence (Article 8.11) Prohibition of Performance Requirements (Article 10.6)
Description of Measure	: <u>Trade in Services and Investment</u> a. A foreign national or enterprise may not provide telecommunication services for which Brunei Darussalam requires a licence ¹⁵ in the territory of Brunei Darussalam, unless <ul style="list-style-type: none"> (a) It maintains a physical business presence in Brunei Darussalam. (b) It provides such services through a commercial arrangement with a licensed operator in Brunei Darussalam. (c) Through a joint venture with a Bruneian national or enterprise, in which the foreign national or enterprise does not own more than 51% equity. (d) Where so required, it locates its transmission equipment used for the provision of public telecommunications networks or supply of public telecommunications services within Brunei Darussalam. b. A foreign national or enterprise may not undertake activities related to telecommunication services unless it complies with any performance requirements that may be imposed.
Source of Measure	: <i>Telecommunications Order, 2001</i> <i>AiTi Operational Framework (2006)</i>

¹⁵ Software application-based services provided over the Internet (over-the-top services) do not currently require a licence in Brunei Darussalam.

Cambodia

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
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C. Telecommunication Services

These commitments are undertaken in accordance with "Notes for Scheduling Basic Telecom Services Commitments" (S/GBT/W/2/Rev.1) and "Market Access Limitations on Spectrum Availability" (S/GBT/W/3).

a) Voice telephone services (CPC 7521)	(1) None	(1) None	Cambodia undertakes additional commitments as indicated in the Attachment (Telecommunication Services Reference Paper).
b) Packet-switched data transmission services (CPC 7523**)	(2) None	(2) None	
c) Circuit-switched data transmission services (CPC 7523**)	(3) Subject to requirement for local share holding up to 49%	(3) None	
d) Telex services (CPC 7523**)	(4) Unbound except as indicated in the horizontal commitments	(4) Unbound except as indicated in the horizontal commitments	
e) Telegraph services (CPC 7522)			
f) Facsimile services (CPC 7521**, 7529**)			
g) Private leased circuit services (CPC 7522**, 7523**)			

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
h) Electronic mail (CPC 7523**)	(1) None	(1) None	
i) Voicemail (CPC 7523**)	(2) None	(2) None	
j) Online information and database retrieval (CPC 7523**)	(3) None	(3) None	
k) Electronic data interchange (CPC 7523**)	(4) Unbound except as indicated in the horizontal commitments	(4) Unbound except as indicated in the horizontal commitments	
l) Enhanced or value-added facsimile services, including store and forward and store and retrieve (CPC 7523**)			
m) Code and protocol conversion			
n) Online information or data processing (including transaction processing) (CPC 843**)			
o) Other services	(1) None	(1) None	Cambodia commits to permit licensed suppliers of mobile telecommunications services choice of technology used in the supply of such services.
Mobile services	(2) None	(2) None	
	(3) None	(3) None	
	(4) Unbound except as indicated in the horizontal commitments	(4) Unbound except as indicated in the horizontal commitments	

Indonesia

39. Sector	:	Telecommunication Services ¹
Subsector	:	(a) Public Switched Telephone Service (CPC 7521) (b) Teleconferencing Services (CPC 75292) (c) Mobile Cellular Telephone Services (CPC 75213) (d) Internet Access Services Regional and National Paging Services (CPC 75291) (e) Public Payphone Services Voice Mail Service (CPC 7523) (f) Electronic Mail Services (CPC 75232)
Type of Obligation	:	National Treatment (Article 8.4) Market Access (Article 8.5)
Description	:	<u>Trade in Services</u> Indonesia reserves the right to adopt or maintain any measure with respect to trade in services as defined in subparagraph (r)(iii) of Article 8.1 (Definitions) that requires supply through commercial presence to be in the form of joint venture with no more than 35% of the equity participation in a joint venture to be owned by foreigners.

¹ For greater certainty, the coverage of this sector does not include telecommunications tower construction services (same below).

40. Sector	:	Telecommunication Services
Subsector	:	(a) Videotext Services (CPC 75229) (b) File Transfer Services, Home Telemeter Alarm, Entertainment Services, Management Information Services (CPC 75299) (c) Computer Time Sharing Services (CPC84330)
Type of Obligation	:	National Treatment (Article 8.4) Market Access (Article 8.5)
Description	:	<u>Trade in Services</u> Indonesia reserves the right to adopt or maintain any measure with respect to trade in services as defined in subparagraph (r)(iii) of Article 8.1 (Definitions) that require supply through commercial presence to be in the form of joint venture subject to the following conditions: (a) No more than 35% of the equity participation in a joint venture shall be owned by foreigners. (b) Supply of services in certain provinces or areas are subject to an economic needs test. (c) Services shall be provided only for closed user group. (d) The network service supplier is prohibited from connecting to other networks for greater certainty; cross-border supply of service is permitted.
41. Sector	:	Telecommunication Services
Subsector	:	Electronic Data Interchange (CPC 7523**)
Type of Obligation	:	National Treatment (Article 8.4) Market Access (Article 8.5)
Description	:	<u>Trade in Services</u> Indonesia reserves the right to adopt or maintain any measure with respect to trade in services as defined in subparagraph (r)(iii) of Article 8.1 (Definitions) that requires supply through commercial presence to be in the form of joint venture subject to aggregate foreign equity participation requirement permitted up to 70% provided that up to 49% is through foreign direct investment and the remaining per centage through other mechanisms.

¹ For greater certainty, the coverage of this sector does not include telecommunications tower construction services.

42. Sector	:	Telecommunication Services
Subsector	:	<ul style="list-style-type: none"> (a) Circuit Switched Public Data Network Services (CPC 7523**) (b) Packet-Switched Public Data Network Services (CPC 7523**) (c) Private Leased Circuit Services (CPC 7522**, 7523**) (d) Telex Services (CPC 7523**) (e) Telegraph Services (CPC 7522) (f) Facsimile (CPC 7521**, 7529**) (g) Mobile Cellular Telephone Services (CPC 75213) (h) Dedicated Network Services (CPC 75222) (i) Enhanced or Value-Added Facsimile Services, Including Store and Forward and Store and Retrieve (CPC 7523**) (j) Online Information and Database Retrieval (CPC 7523**) (k) Internet Access Services Regional and National Paging Services (CPC 75291) (l) Public Payphone Services Voice Mail Service (CPC 7523) (m) Electronic Mail Services and Electronic Mail Box (CPC 75232) (n) Video Text Services (CPC 75229) (o) File Transfer Services, Home Telemeter Alarm, Entertainment Services, Management Information Services (CPC 75299) (p) Online Information and/or Data Processing (Including Transaction Processing) (CPC 843**)
Type of Obligation	:	National Treatment (Article 8.4) Market Access (Article 8.5)
Description	:	<p><u>Trade in Services</u></p> <p>Indonesia reserves the right to adopt or maintain any measure with respect to trade in services as defined in subparagraph (r)(iii) of Article 8.1 (Definitions) that requires supply through commercial presence to be in the form of joint venture with no more than 51% of the equity participation in a joint venture to be owned by foreigners.</p>

Lao People's Democratic Republic

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
C. Telecommunication Services			
Commitments are taken consistent with "Notes for Scheduling Basic Telecom Services Commitments" (S/GBT/W/2/Rev.1) and "Market Access Limitations on Spectrum Availability" (S/GBT/W/3).			
<p>The following services (a–g, o) can be supplied only on a facilities basis and for public use services: Basic telecommunication services</p> <p>a) Voice telephone services (CPC 7521)</p> <p>b) Packet-switched data transmission services (CPC 7523**)</p> <p>c) Circuit-switched data transmission services (CPC 7523**)</p> <p>d) Telex services (CPC 7523**)</p> <p>e) Telegraph services (CPC 7522)</p> <p>f) Facsimile services (CPC 7521**, 7529**)</p> <p>g) Private leased circuit services (CPC 7522**, 7523**)</p> <p>o) Other: Terrestrial-based mobile phone services</p>	<p>(1) Wire-based services, terrestrial-based mobile services and satellite-based services: Service must be offered through commercial arrangements with a juridical person established in Lao PDR and licensed to provide international telecommunication services.</p> <p>(2) None.</p> <p>(3) Commercial presence for new investments will be allowed with foreign equity participation limited to 60%.</p> <p>(4) Unbound, except as indicated in the horizontal section.</p>	<p>(1) Wire-based services, terrestrial-based mobile services and satellite-based services: Service must be offered through commercial arrangements with a juridical person established in Lao PDR and licensed to provide international telecommunication services.</p> <p>(2) None.</p> <p>(3) Commercial presence for new investments will be allowed with foreign equity participation limited to 60%.</p> <p>(4) Unbound, except as indicated in the horizontal section.</p>	

** indicates that the service specified constitutes only a part of the total range of activities covered by the CPC concordance (e.g., voicemail is only a component of CPC item 7523).

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
Value-added telecommunication services	(1) None	(1) None	
h) Electronic mail (CPC 7523**)	(2) None	(2) None	
i) Voicemail (CPC 7523**)	(3) None	(3) None	
j) Online information and database retrieval (CPC 7523**)	(4) Unbound, except as indicated in the horizontal section	(4) Unbound, except as indicated in the horizontal section	
k) Electronic data interchange (CPC 7523**)			
l) Enhanced or value-added facsimile services, including store and forward and store and retrieve (CPC 7523**)			
m) Code and protocol conversion			
n) Online information or data processing (including transaction processing) (CPC 843**)			

Malaysia

7. Sector	: Communications Services
Subsector	: -
Level of Government	: Central
Obligations Concerned	: National Treatment (Article 8.4 and Article 10.3) Most-Favoured-Nation Treatment (Article 8.6 and Article 10.4) Local Presence (Article 8.11) Prohibition of Performance Requirements (Article 10.6)
Description	: <u>Trade in Services and Investment</u> Licences for the supply of telecommunications services in Malaysia are divided into individual licences and class licences, depending on the character of the service. The following persons or classes of persons shall be ineligible to apply for an individual licence: (a) A foreign company defined under the <i>Companies Act 2016</i> [Act 777] (b) An individual or a sole proprietorship (c) A partnership (d) Such other persons or classes of persons as may be decided by the Minister from time to time. The following persons or classes of persons shall be ineligible to be registered as a class licensee: (e) A foreign individual who is not a permanent resident (f) A foreign company as defined under the <i>Companies Act 2016</i> [Act 777]. Foreigners are not permitted to apply for Content Applications Service Providers services, a special subset of applications service providers that refers to satellite broadcasting, subscription broadcasting, terrestrial free to air television, or terrestrial radio broadcasting. The Minister charged with the responsibility for communications and multimedia may, for good cause or as the public interest may require, permit either of the aforementioned to apply to be registered as any one of the licensees mentioned previously.
Measures	: <i>Communications and Multimedia Act 1998</i> [Act 588] <i>Communications and Multimedia (Licensing) Regulations 2000</i> [P.U.(A) 129/2000]

Myanmar

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
2. COMMUNICATION SERVICES			
C. Telecommunications Services			
o) Voice telephone services <ul style="list-style-type: none"> • Public telephone services (CPC 7521) • Mobile telephone services (CPC 75213) 	(1) None. (2) None. (3) Up to 70% foreign equity participation is permitted (in accordance with <i>Notification No. 15/2017 of the Myanmar Investment Commission</i> and existing rules and regulations of related ministries). (4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and economic needs test (ENT), will be applied to all categories of natural persons, if necessary.	(1) None. (2) None. (3) None. (4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
b) Packet-switched data transmission services (CPC 7523**) <ul style="list-style-type: none"> - Data and message transmission services (CPC 7523) 	(1) None. (2) None. (3) Up to 70% foreign equity participation is permitted (in accordance with <i>Notification No. 15/2017 of the Myanmar Investment Commission</i> and existing rules and regulations of related ministries). (4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.	(1) None. (2) None. (3) None. (4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.	
c) Circuit-switched data transmission services (CPC 7523**) <ul style="list-style-type: none"> - Voice telephone services (CPC 7521) - Data and message transmission services (CPC 7523) 	(1) None. (2) None. (3) Up to 70% foreign equity participation is permitted (in accordance with <i>Notification No. 15/2017 of the Myanmar Investment Commission</i> and existing rules and regulations of related ministries).	(1) None. (2) None. (3) None.	
Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.	(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
d) Telex services (CPC 7523**)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) None.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	
e) Telegraph services (CPC 7522)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) None.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
f) Facsimile services (CPC 7521**, 7529**)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Up to 70% foreign equity participation is permitted (in accordance with <i>Notification No. 15/2017 of the Myanmar Investment Commission</i> and existing rules and regulations of relevant ministries).</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) None.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	
g) Private leased circuit service (CPC 7522**, 7523**) - Business network services (CPC 7522)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Up to 70% foreign equity participation is permitted (in accordance with <i>Notification No. 15/2017 of the Myanmar Investment Commission</i> and existing rules and regulations of relevant ministries).</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) None.</p>	
Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	<p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
h) Electronic mail (CPC 7523**)	<p>(1) None, subject to compliance with the provisions of existing rules and regulations.</p> <p>(2) None.</p> <p>(3) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(1) Unbound.</p> <p>(2) None.</p> <p>(3) None.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	
i) Voicemail services (CPC 7523**)	<p>(1) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(2) None.</p> <p>(3) Subject to compliance with the provisions of existing rules and regulations.</p>	<p>(1) Unbound.</p> <p>(2) None.</p> <p>(3) None.</p>	
Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	<p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
j) Online information and database retrieval (CPC 7523**)	<p>(1) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(2) None.</p> <p>(3) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(1) Unbound.</p> <p>(2) None.</p> <p>(3) None.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	
k) Electronic data interchange services (CPC 7523**)	<p>(1) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(2) None.</p> <p>(3) Subject to compliance with the provisions of existing rules and regulations.</p>	<p>(1) Unbound.</p> <p>(2) None.</p> <p>(3) None.</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.	(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.	
l) Enhanced/value-added facsimile services including store and forward and store and retrieve (CPC 7523**)	(1) None. (2) None. (3) Up to 70% foreign equity participation is permitted (in accordance with <i>Notification No. 15/2017 of the Myanmar Investment Commission</i> and existing rules and regulations of relevant ministries). (4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.	(1) None. (2) None. (3) None. (4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
m) Code and protocol conversion (CPC 7523**)	<p>(1) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(2) None.</p> <p>(3) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(1) Unbound.</p> <p>(2) None.</p> <p>(3) None.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	
n) Other - Paging services (CPC 75291) - Telecommunication equipment maintenance services (CPC 75450)	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Subject to compliance with the provisions of existing rules and regulations.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations and ENT, will be applied to all categories of natural persons, if necessary.</p>	<p>(1) None.</p> <p>(2) None.</p> <p>(3) None.</p> <p>(4) Subject to Myanmar's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons), which complies with the provisions of existing rules and regulations.</p>	

Philippines

All subsectors	(3) No franchise, certificate or any other form of authorization for the operation of a public utility shall be granted except to citizens of the Philippines or to corporations or associations organized under Philippine laws at least 60% of whose capital is owned by such citizens. (3)(4) Limitations listed in the horizontal commitments shall also apply.		
Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments

C. Telecommunication Services

<p>The following services are offered only on a facilities basis, for public use, using either wired or wireless technology except cable television.</p> <p>a) Voice telephone services (CPC 7521)</p> <ul style="list-style-type: none"> - Local services - Toll services - Domestic - International <p>b) Packet-switched data transmission services (CPC 7523**)</p> <p>c) Circuit-switched data transmission services (CPC 7523**)</p> <p>d) Telex services (CPC 7523**)</p> <p>e) Telegraph services (CPC 7522)</p> <p>f) Facsimile services (CPC 7521**+7529**)</p> <p>g) Private leased circuit services (CPC 7522**+7523**)</p> <p>o) Other services</p> <ul style="list-style-type: none"> - Cellular mobile telephone services (CPC 75213) - Satellite services 	<p>(1) Subject to commercial arrangement with licensed operators.</p> <p>(2) None.</p> <p>(3) Entry is subject to the following requirements and conditions:</p> <ul style="list-style-type: none"> a) Franchise from Congress of the Philippines. b) Certificate of Public Convenience and Necessity from the National Telecommunications Commission. c) Foreign equity is permitted up to 40%. d) Resale of private leased lines is not allowed.¹ e) Private leased circuit services shall not be connected to a public network. f) Call back, dial back and other similar schemes, which result in the same operation, are not authorized. 	<p>(1) None.</p> <p>(2) None.</p> <p>(3) Entry is subject to the following requirements and conditions:</p> <ul style="list-style-type: none"> a) The number of non-Filipino citizens in the Board of Directors of an entity shall be proportionate to the aggregate share of foreign capital of that entity. b) All executives and managers must be citizens of the Philippines. <p>Limitations listed in the horizontal commitments shall also apply.</p>	
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¹ Enfranchised public telecommunications entities may be authorized to sell or resell private leased lines.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	<p>g) Subject to the availability and efficient utilization of radio frequencies.</p> <p>h) Only duly enfranchised and certificated telecommunications, broadcast or cable TV entities can access satellite space segment service providers.</p> <p>i) Philippine satellite operators shall be given preference to provide the space segment capacity requirements of enfranchised entity after all factors are equally considered.</p> <p>j) Satellite space segment service provisioning in the Philippines shall be on the basis of reciprocal arrangements.</p> <p>Limitations as indicated in horizontal section for communication services also apply.</p> <p>(4) Service suppliers must be Filipino citizens.</p> <p>Limitations listed in the horizontal commitments shall also apply.</p>	<p>(4) Service suppliers must be Filipino citizens.</p> <p>Limitations listed in the horizontal commitments shall also apply.</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
Value-added services, <i>i.e.</i> , h) Electronic mail (CPC 7523**) i) Value-added facsimile service (CPC 7523**) m) Code and protocol conversion n) Online information or data processing (CPC 843**)	(1) Unbound. ¹ (2) None. (3) Entry is subject to the following requirements: (b) Foreign equity is permitted up to 40%. (c) Must register with the Philippines regulatory body but is not allowed to build its own network. (4) Service suppliers must be Filipino citizens. Limitations listed in the horizontal commitments shall also apply.	(1) None (2) None (3) Unbound (4) Unbound	
Data and message transmission services Data network services (CPC 75231) Electronic message and information services (CPC 75232)	(1) Unbound. (2) None. (3) Entry is subject to the following requirements and conditions: (a) Franchise from Congress of the Philippines. (b) Certificate of Public Convenience and Necessity from the National Telecommunications Commission.	(1) None (2) None (3) Entry is subject to the following requirements and conditions: (a) The number of non-Filipino citizens in the Board of Directors of an entity shall be proportionate to the aggregate share of foreign capital of that entity. (b) All executives and managers must be citizens of the Philippines. Limitations listed in the horizontal commitments also apply.	

¹ Shall be reviewed in the future in accordance with the developments of Philippine laws and regulations.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	<p>(c) Foreign equity is permitted up to 40%.</p> <p>(d) Resale of private leased lines is not allowed.¹</p> <p>(e) Private leased circuit services shall not be connected to a public network.</p> <p>(f) Call back, dial back and other similar schemes, which result in the same operation, are not authorized.</p> <p>(g) Subject to the availability and efficient utilization of radio frequencies.</p> <p>(h) Only duly enfranchised and certificated telecommunications, broadcast or cable TV entities can access satellite space segment service providers.</p> <p>(i) Philippine satellite operators shall be given preference to provide the space segment capacity requirements of enfranchised entity after all factors are equally considered.</p> <p>(j) Satellite space segment service provisioning in the Philippines shall be on the basis of reciprocal arrangements.</p>		

¹ Enfranchised public telecommunications entities may be authorized to sell or resell private leased lines.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	<p>Limitations listed in the horizontal commitments shall also apply.</p> <p>(4) Service suppliers must be Filipino citizens.</p> <p>Limitations listed in the horizontal commitments shall also apply.</p>	<p>(4) Service suppliers must be Filipino citizens.</p> <p>Limitations listed in the horizontal commitments shall also apply.</p>	

Singapore

42.	Sector	: All
	Subsector	: -
	Industry Classification	: -
	Type of Reservation	: Most-Favoured-Nation Treatment (Article 8.6 and Article 10.4)
	Description	: <u>Trade in Services and Investment:</u> Singapore reserves the right to adopt or maintain any measure that accords differential treatment to countries under any bilateral or multilateral international agreement in force or signed prior to the date of entry into force of this agreement.* Singapore reserves the right to adopt or maintain any measure that accords differential treatment to member states of ASEAN under any international agreement in force or signed after the date of entry into force of this agreement. Singapore reserves the right to adopt or maintain any measure that accords differential treatment to countries under any international agreement in force or signed after the date of entry into force of this agreement involving D. Aviation matters, including air services E. Maritime and services auxiliary to maritime matters and port matters F. Land transport matters G. Postal and courier services matters H. Telecommunications and information technology matters I. Electronic commerce matters J. Environmental matters. * For greater certainty, the wording in this paragraph extends to any differential treatment accorded to a country pursuant to a subsequent review or amendment of the relevant bilateral or multilateral agreement mentioned in this paragraph.
	Existing Measure	: -
16	Sector	: Telecommunication Services
	Subsector	: Telecommunication Services
	Industry Classification	: -
	Obligations Concerned	: National Treatment (Article 8.4 and Article 10.3) Market Access (Article 8.5) Local Presence (Article 8.11)
	Description	: <u>Trade in Services and Investment:</u> Facilities-based operators and service-based operators must be locally incorporated under the <i>Companies Act</i> , Cap. 50, 2006 Revised Edition. "Facilities-based operators" are operators who deploy any form of telecommunication networks, systems and facilities, outside of their own property boundaries, to offer telecommunication services to third parties, which may include other licensed telecommunication operators, business customers or the general public. "Service-based operators" are operators who lease telecommunication network elements (such as transmission capacity and switching services) from any facilities-based operator licensed by Infocomm Media Development Authority of Singapore to provide their own telecommunication services, or to resell the telecommunication services of facilities-based operators to third parties. The number of licences granted will be limited only by resource constraints, such as the availability of radio frequency spectrum. In view of spectrum constraints, parties interested in deploying networks based on wireless technology may be licensed to use radio frequency spectrum via a tender or auction process.
	Source of Measure	: <i>Info-communications Media Development Authority Act 2016</i> , Act 22 of 2016 <i>Telecommunications Act</i> , Cap. 323, 2000 Revised Edition

31	Sector	: Telecommunications Services
	Subsector	: Telecommunications Services
		Domain name allocation policies in Internet country code top level domains corresponding to Singapore territories (.sg)
	Industry Classification	: -
	Obligations Concerned	: Market Access (Article 8.5) Local Presence (Article 8.11)
	Description	: <u>Trade in Services:</u> A registrar must be a company incorporated or a foreign company registered under the <i>Companies Act</i> , Cap. 50, 2006 Revised Edition.
	Source of Measure	: <i>Info-communications Media Development Authority Act</i> , Act 22 of 2016 <i>Telecommunications Act</i> , Cap. 323, 2000 Revised Edition The Internet Corporation for Assigned Names and Numbers, which recognises the ultimate authority of sovereign governments over country code top level domains corresponding to their territories.
28.	Sector	: Telecommunications Services ¹
	Subsector	: Telecommunications Services
	Industry Classification	: -
	Type of Reservation	: National Treatment (Article 8.4 and Article 10.3) Market Access (Article 8.5) Most-Favoured-Nation Treatment (Article 8.6 and Article 10.4) Local Presence (Article 8.11) Prohibition of Performance Requirements (Article 10.6) Senior Management and Board of Directors (Article 10.7)
	Description	: <u>Trade in Services and Investment:</u> Singapore reserves the right to adopt or maintain any measure affecting the supply of telecommunications services, except for the following sectors and subsectors, which are subject to the limitations, conditions and qualifications listed herein: B. Basic telecommunication services, ² including resale (facilities based and services based): - Public switched services ³ (local and international) - Leased circuit services (local and international) C. Mobile services, ⁴ including resale (facilities based and services based): - Public mobile data service - Public trunked radio service - Public radio paging service - Public cellular mobile telephone Service D. The following value-added network services: - Electronic mail - Voicemail - Online information and database retrieval - Electronic data interchange - Online information and/or data processing.
	Existing Measure	: -

¹ Telecommunication services exclude broadcasting services, which is defined as the transmission of signs or signals via any technology for the reception or display of aural or visual programme signals by all or part of the public. For supply of service from the territory of another Party into the territory of Singapore, market access is subject to commercial arrangements with licensed operators.

² Basic Telecommunication Services may be provided using satellite technology.

³ This includes voice, data and facsimile services.

⁴ Mobile Services may be provided using satellite technology. For supply of service from the territory of another Party into the territory of Singapore, market access is subject to commercial arrangements with licensed operators.

Thailand

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
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2. COMMUNICATION SERVICES

C. Telecommunications Services

Commitments undertaken in this schedule are subject to the following general conditions:

- Any juridical person who intends to operate a telecommunication business in Thailand shall obtain a licence from designated national authorities in accordance with section 7(1) of *Telecommunication Business Act B.E. 2544 (2001)*.
- Licences are granted only to service suppliers duly constituted according to Thai laws and regulations.

Public local, domestic long distance and international services: Basic telecommunications services: a) Fixed-line voice telephone services	(1) - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) None	Thailand will introduce into this schedule with regard to public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) None	
	(3) As indicated in 3.2 of the horizontal section.	(3) None	
	(4) Unbound, except as indicated in the horizontal section.	(4) Unbound, except as indicated in the horizontal section	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
d) Telex services (CPC 7523**) e) Telegraph services (CPC 7522) f) Facsimile services (CPC 7521**, 7529**)	(1) - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. - The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) None	Thailand will introduce into this schedule with regard to public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. (b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) None	
	(3) As indicated in 3.3 of the horizontal section.	(3) None	
	(4) Unbound.	(4) Unbound	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
g) Private leased circuit services - Dedicated network services (CPC 75222)	<p>(1) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed.</p> <p>(b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.</p> <p>(2) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed.</p> <p>(b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.</p> <p>(3) (a) As indicated in 3.3 of the horizontal section.</p> <p>(b) Must use networks operated by suppliers duly licensed.</p> <p>(4) Unbound, except as indicated in the horizontal section.</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound, except as indicated in the horizontal section</p>	Thailand will introduce into this schedule with regard to public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
Value-added services: (q) Electronic mail (CPC 7523**) (r) Voicemail (CPC 7523**)	<p>(1) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed.</p> <p>(b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.</p> <p>(2) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed.</p> <p>(b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.</p> <p>(3) As indicated in 3.3 of the horizontal section.</p> <p>(4) Unbound, except as indicated in the horizontal section.</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound, except as indicated in the horizontal section</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
j) Online information and database retrieval (CPC 7523**)	(1) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. (b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) None	Thailand will introduce into this schedule with regard to public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.
	(2) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. (b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) None	
	(3) (a) As indicated in 3.3 of the horizontal section (b) Must use networks operated by suppliers duly licensed.	(3) None	
	(4) Unbound, except as indicated in the horizontal section.	(4) Unbound, except as indicated in the horizontal section	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
l) Enhanced or value-added facsimile services, including store and forward and store and retrieve (CPC 7523**)	(1) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. (b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(1) None	
	(2) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed. (b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.	(2) None	
	(3) (a) As indicated in 3.2 of the horizontal section. (b) Must use networks operated by suppliers duly licensed.	(3) None	
	(4) Unbound.	(4) Unbound	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
m) Code and protocol conversion	<p>(1) - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed.</p> <p>- The provision of concerned services shall be agreed by the supplier duly licensed of both ends.</p> <p>(2) - Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed.</p> <p>- The provision of concerned services shall be agreed by the supplier duly licensed of both ends.</p> <p>(3) As indicated in 3.3 of the horizontal section.</p> <p>(4) Unbound.</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
n) Online information and/or data processing services provided over public telecommunications network (part of CPC 843, excluding transaction processing)	<p>(1) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed.</p> <p>(b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.</p> <p>(2) (a) Traffic shall be routed through gateways in Thailand operated by suppliers duly licensed.</p> <p>(b) The provision of concerned services shall be agreed by the supplier duly licensed of both ends.</p> <p>(3) As indicated in 3.3 of the horizontal section.</p> <p>(4) Unbound, except as indicated in the horizontal section.</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound, except as indicated in the horizontal section</p>	Thailand will introduce into this schedule with regard to public telecommunication services its treatment on the subjects relating to competitive safeguards, interconnection, universal service, public availability of licensing criteria, separation of regulatory and operational functions and the allocation and use of scarce resources.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
o) Other: - Telecommunications terminal equipment leasing services (CPC 75410)	(1) Subject to commercial arrangement with licensed operators (2) None (3) (a) As indicated in 3.1 of the horizontal section (b) Must use networks operated by suppliers duly licensed (4) (a) Unbound, except as indicated in the horizontal section (b) Unbound for civil engineer	(1) None (2) None (3) None (4) Unbound, except as indicated in the horizontal section	
- Telecommunications equipment sales services (part of CPC 75420)	(1) Subject to commercial arrangement with licensed operators (2) None (3) As indicated in 3.1 of the horizontal section (4) (a) Unbound, except as indicated in the horizontal section (b) Unbound for civil engineer	(1) None (2) None (3) None (4) Unbound, except as indicated in the horizontal section	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
- Telecommunication consulting services (CPC 75440)	(1) Commercial presence is required (2) None (3) As indicated in 3.3 of the horizontal section (4) (a) Unbound, except as indicated in the horizontal section (b) Unbound for civil engineer	(1) None (2) None (3) None (4) Unbound, except as indicated in the horizontal section	
- Videotext - Teleconference	(1) Service providers must use networks operated by suppliers duly licensed. (2) None. (3) Shall be a Thai-registered company with foreign equity participation not exceeding 40% of the registered capital and the number of foreign shareholders must not exceed 40% of the total number of shareholders of the company. (4) Unbound, except as indicated in the horizontal section.	(1) None (2) None (3) None (4) Unbound, except as indicated in the horizontal section	

Viet Nam

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
C. Telecommunication Services			
<p>Commitments hereunder are made in accordance with "Notes for Scheduling Basic Telecom Services Commitments" (S/GBT/W/2/REV.1) and "Market Access Limitations on Spectrum Availability" (S/GBT/W/3). For the purpose of these commitments, a "non-facilities-based service supplier" means a service supplier that does not own transmission capacity but contracts for such capacity, including submarine cable capacity, including on a long-term basis, from a facilities-based supplier. A non-facilities-based service supplier is not otherwise excluded from owning telecommunications equipment within its premises and permitted public service provision points.</p>			
<p><u>Basic telecommunication services</u></p> <p>E. Voice telephone services (CPC 7521)</p> <p>F. Packet-switched data transmission services (CPC 7523**)</p> <p>G. Circuit-switched data transmission services (CPC 7523**)</p> <p>H. Telex services (CPC 7523**)</p> <p>I. Telegraph services (CPC 7523**)</p> <p>J. Facsimile services (CPC 7521**, 7529**)</p> <p>K. Private leased circuit services (CPC 7522**, 7523**)</p>	<p>(1) <i>Wire-based and mobile terrestrial services:</i> Service must be offered through commercial arrangements with an entity established in Viet Nam and licensed to provide international telecommunication services.</p> <p><i>Satellite-based services:</i> Subject to commercial arrangements with Vietnamese international satellite service suppliers duly licensed in Viet Nam, except satellite-based services offered to</p> <p>- Offshore or on-sea-based business customers, government institutions, facilities-based service suppliers, radio and television broadcasters, official international organisations' representative offices, diplomatic representatives</p>	<p>(1) None</p>	<p>Viet Nam undertakes the obligations in the Reference Paper attached hereto.</p> <p>For consortium submarine cable links where Viet Nam is member, foreign service suppliers shall be permitted to control fully owned submarine cable transmission capacity (<i>e.g.</i>, indefeasible right of use or consortium ownership) terminating at a licensed cable landing station in Viet Nam and to provide such capacity to international facilities-based service suppliers licensed in Viet Nam and international virtual private network (VPN) and Internet exchange point (IXP) service suppliers licensed in Viet Nam.</p>

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<p>(o*) Other services</p> <p>(a) Videoconference services (CPC 75292)</p> <p>(b) Video transmission services, excluding broadcasting¹</p> <p>(c) Radio-based services include</p> <ul style="list-style-type: none"> • Mobile telephone (terrestrial and satellite) • Mobile data (terrestrial and satellite) • Paging • Personal communications service • Trunking • IXP² 	<p>and consulates and high-tech and software development parks that are licensed to use satellite-earth stations.</p> <p>- Multinational companies,³ which are licensed to use satellite-earth stations.</p> <p>(2) None.</p> <p>(3) a. <i>Non-facilities-based services</i>: Joint venture will be allowed without limitation on choice of partner. Foreign capital contributions shall not exceed 65% of legal capital of the joint ventures.</p> <p>b. <i>Facilities-based services</i>: Joint venture with telecommunications service suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 49% of legal capital of the joint ventures; 51% gives management control of the joint venture.</p> <p>c. In the telecommunications sector, foreign investors in a business cooperation contract (BCC) will have the possibility to renew current arrangements or to convert them into another form of establishment with conditions no less favourable than those they currently enjoy.</p>	<p>(2) None</p> <p>(3) None</p>	

¹ Broadcasting is defined as the uninterrupted chain of transmission required for the distribution of television and radio programme signals to the general public, but does not cover contribution links between operators.

² Services providing internet access service (IAS) suppliers with connection between them and to the international Internet backbone.

³ A multinational is a corporation which: a) has a commercial presence in Viet Nam; b) operates in at least one other Party; c) has been in operation for at least five years; d) is publicly listed on the stock exchange of a Party; and e) is licensed to use satellite services in at least one Party.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	(4) Unbound, except as indicated in Viet Nam's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons).	(4) Unbound, except as indicated in Viet Nam's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons).	
(o*) Other services b) VPN ¹	(1) <i>Wire-based and mobile terrestrial services:</i> Service must be offered through commercial arrangements with an entity established in Viet Nam and licensed to provide international telecommunication services. <i>Satellite-based services:</i> Subject to commercial arrangements with Vietnamese international satellite service suppliers duly licensed in Viet Nam, except satellite-based services offered to - Offshore or on-sea-based business customers, government institutions, facilities-based service suppliers, radio and television broadcasters, official international organisations' representative offices, diplomatic representatives and consulates and high-tech and software development parks that are licensed to use satellite-earth stations. - Multinational companies, ² which are licensed to use satellite-earth stations.	(1) None	Viet Nam undertakes the obligations in the Reference Paper attached hereto. For consortium submarine cable links where Viet Nam is member, foreign service suppliers shall be permitted to control fully owned submarine cable transmission capacity (e.g., indefeasible right of use or consortium ownership) terminating at a licensed cable landing station in Viet Nam and to provide such capacity to international facilities-based service suppliers licensed in Viet Nam and international VPN and IXP service suppliers licensed in Viet Nam.

¹ Services, provided on commercial terms, that establish and manage a private network over public (shared) networks for the purpose of carrying out, on a non-profit basis, voice and data telecommunications among members of a closed user group defined prior to the creation of the VPN. Such group may include a corporate group or organisation, or a group of legal entities with an established relationship affiliated through the pursuit of a common interest. Initial members of a closed user group using VPN service must be listed in a dialling or routing plan approved by the competent authority and subject to its oversight. VPN service suppliers shall notify the competent authority of changes of membership at least two working weeks prior to actually commencing commercial service and can commence commercial service provided that no objection from the competent authority is issued during these two weeks. Members are not allowed to resell VPN services to unaffiliated third parties. Virtual private networks are not allowed to carry or transfer traffic of or among unaffiliated third parties. VPN services can be offered by licensed foreign-invested service suppliers bundled with Internet access service and value-added services (h) through (n).

² A multinational is a corporation that (1) has a commercial presence in Viet Nam, (2) operates in at least one other Party, (3) has been in operation for at least five years, (4) is publicly listed on the stock exchange of a Party and (5) is licensed to use satellite services in at least one Party.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	<p>(2) None</p> <p>(3) - <i>Non-facilities-based services</i>: Joint venture will be allowed without limitation on choice of partner. Foreign capital contribution shall not exceed 70% of legal capital of the joint ventures.</p> <p>- <i>Facilities-based services</i>: Joint venture with telecommunications service suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 49% of legal capital of the joint ventures.</p> <p>(4) Unbound, except as indicated in Viet Nam's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons).</p>	<p>(2) None</p> <p>(3) None</p> <p>(4) Unbound, except as indicated in Viet Nam's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons).</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<p>Value-added services</p> <p>B. Electronic mail (CPC 7523 **)</p> <p>C. Voice mail (CPC 7523 **)</p> <p>D. Online information and database retrieval (CPC 7523**)</p> <p>E. Electronic data interchange (CPC 7523**)</p> <p>F. Enhanced or value-added facsimile services, including store and forward and store and retrieve (CPC 7523**)</p> <p>G. Code and protocol conversion</p> <p>H. Online information and data processing (including transaction processing) (CPC 843**)</p>	<p>(1) <i>Wire-based and mobile terrestrial services:</i> Service must be offered through commercial arrangements with an entity established in Viet Nam and licensed to provide international telecommunication services.</p> <p><i>Satellite-based services:</i> Subject to commercial arrangements with Vietnamese international satellite service suppliers duly licensed in Viet Nam, except satellite-based services offered to</p> <p>(a) Offshore or on-sea based business customers, government institutions, facilities-based service suppliers, radio and television broadcasters, official international organisations' representative offices, diplomatic representatives and consulates and high-tech and software development parks that are licensed to use satellite-earth stations.</p> <p>(b) Multinational companies,¹ which are licensed to use satellite-earth stations.</p>	<p>(1) None</p>	<p>Viet Nam undertakes the obligations in the Reference Paper attached hereto.</p>

¹ A multinational is a corporation that (1) has a commercial presence in Viet Nam, (2) operates in at least one other Party, (3) has been in operation for at least five years, (4) is publicly listed on the stock exchange of a Party and (5) is licensed to use satellite services in at least one Party.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	<p>(2) None</p> <p>(3) <i>Non-facilities-based services</i>: Business cooperation contracts or joint ventures will be allowed. Foreign capital contribution shall not exceed 65% of legal capital of the joint ventures.</p> <p><i>Facilities-based services</i>: Business cooperation contracts or joint ventures with telecommunications service suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 50% of legal capital of the joint ventures; 51% gives management control of the joint venture.</p> <p>In the telecommunications sector, foreign investors in BCC will have the possibility to renew current arrangements or to convert them into another form of establishment with conditions no less favourable than those they currently enjoy.</p> <p>(4) Unbound, except as indicated in Viet Nam's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons).</p>	<p>(2) None</p> <p>(3) None</p> <p>(4) Unbound, except as indicated in Viet Nam's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons).</p>	

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<p><u>Value-added services</u></p> <p>h) Other</p> <ul style="list-style-type: none"> - Internet access services¹ 	<p>(1) <i>Wire-based and mobile terrestrial services:</i> Service must be offered through commercial arrangements with an entity established in Viet Nam and licensed to provide international telecommunication services.</p> <p><i>Satellite-based services:</i> Subject to commercial arrangements with Vietnamese international satellite service suppliers duly licensed in Viet Nam, except satellite-based services offered to</p> <ul style="list-style-type: none"> - Offshore or on-sea-based business customers, government institutions, facilities-based services suppliers, radio and television broadcasters, official international organisations' representative offices, diplomatic representatives and consulates and high-tech and software development parks that are licensed to use satellite-earth stations. - Multinational companies,² which are licensed to use satellite-earth stations. 	<p>(1) None</p>	<p>Viet Nam undertakes the obligations in the Reference Paper attached hereto.</p>

¹ Services providing internet access to the end users.

² A multinational is a corporation that (1) has a commercial presence in Viet Nam, (2) operates in at least one other Party, (3) has been in operation for at least five years, (4) is publicly listed on the stock exchange of a Party and (5) is licensed to use satellite services in at least one Party.

Sector or Subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	<p>(2) None</p> <p>(3) <i>Non-facilities-based services</i>: Joint ventures with telecommunications suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 65% of legal capital of the joint ventures.</p> <p><i>Facilities-based services</i>: Joint venture with telecommunications service suppliers duly licensed in Viet Nam will be allowed. Foreign capital contribution shall not exceed 50% of legal capital of the joint ventures.</p> <p>(4) Unbound, except as indicated in Viet Nam's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons).</p>	<p>(2) None</p> <p>(3) None</p> <p>(4) Unbound, except as indicated in Viet Nam's Schedule in Annex IV (Schedules of Specific Commitments on Temporary Movement of Natural Persons).</p>	

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