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**Harmonization of Trade in Services  
by APEC members**

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March 2013

**Abstract**

This study maps out the degree of services trade liberalization by the APEC members toward achieving a Free Trade Area of the Asia-Pacific (FTAAP) and makes some comparative analyses. The study finds that the commitment level differs greatly between sensitive and less sensitive sectors, and that the commitment level under the ASEAN Framework Agreement (AFAS) package 8 is the highest among the four FTAs studied. It also finds that there are cross-country and sector-wide similarities in the pattern of service sector commitment under and across each of the FTAs; this implies that the shared domestic sensitivities can be overcome by an APEC-wide economic cooperation scheme for enhancing competitiveness (through, e.g., the Trans-Pacific Strategic Economic Partnership Agreement or TPP).

**Keywords:** Trade in services, ASEAN Framework Agreement on Services (AFAS), Regional Comprehensive Economic Partnership (RCEP), Trans-Pacific Partnership (TPP)

**JEL classification:** F13, F15

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# Harmonization of Trade in Services by APEC members \*

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**Abstract:** This study maps out the degree of services trade liberalization by the APEC members toward achieving a Free Trade Area of the Asia-Pacific (FTAAP) and makes some comparative analyses. The study finds that the commitment level differs greatly between sensitive and less sensitive sectors, and that the commitment level under the ASEAN Framework Agreement (AFAS) package 8 is the highest among the four FTAs studied. It also finds that there are cross-country and sector-wide similarities in the pattern of service sector commitment under and across each of the FTAs; this implies that the shared domestic sensitivities can be overcome by an APEC-wide economic cooperation scheme for enhancing competitiveness (through, e.g., the Trans-Pacific Strategic Economic Partnership Agreement or TPP).

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## 1. Introduction

Trade in services generates employment and induces goods and investment flows in the Asia Pacific region toward the establishment of a Free Trade Area of the Asia-Pacific (FTAAP). APEC's Group on Services<sup>1</sup> (GOS) addresses issues related to trade and investment liberalization and facilitation (TILF) and coordinates APEC's work in this area. GOS works in close collaboration with four service-related APEC Working Groups: Telecommunications and Information; Transportation; Tourism; and Energy. It is therefore expected that APEC will contribute to the convergence of cross-border regulations especially in these service sub-sectors.

While there has been a delay in the WTO-based liberalization of trade in services<sup>2</sup>, some East Asian countries are in the process of actively establishing preferential pluri-lateral free trade

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<sup>1</sup> The Group on Services (GOS) was established by the Committee on Trade and Investment (CTI) in 1997 to address the TILF tasks in the area of services as mandated in the Osaka Action Agenda and instructed by APEC Leaders, Ministers, Senior Officials and the CTI

(<http://www.apec.org/Home/Groups/Committee-on-Trade-and-Investment/Group-on-Services>).

<sup>2</sup> Hoekman, Martin and Mattoo (2009) address this issue in detail.

agreements (FTAs) with a wide coverage fit for regional community building.<sup>3</sup> They have the potential of merging into a consolidated region-wide free trade framework. This study undertakes a mapping exercise of the GATS and the ASEAN+n type FTAs (where “n” can be zero one or two countries) in terms of trade in services, which is an important and growing mode of international economic transaction. The four ASEAN-related free trade agreements covering the service sector are: (1) the ASEAN Framework Agreement on Services (AFAS), (2) the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA), (3) the ASEAN-China Free Trade Agreement (ACFTA), and (4) the ASEAN-Korea Free Trade Agreement (AKFTA).

The structure of this paper is as follows. The next section makes an overview of GATS commitment tables by the APEC members. Section 3 addresses the method of indexing service trade liberalization from the database constructed. Section 4 presents correlation among the participating countries. Section 5 makes a cluster analysis of the commitment pattern. Section 6 is dedicated to indexation of commitments by country, by mode and by aspect. Section 7 concludes the paper with some policy implications for APEC.

## **2. An overview of WTO/GATS Commitment Tables**

Whereas WTO’s General Agreement on Trade in Services (GATS) is still ongoing under the current Doha Development Agenda for further multilateral liberalization, its basic framework of negotiation is fully taken into consideration and implemented under the four FTAs in the Asia Pacific region. It is therefore necessary first to give an overview of the framework of GATS. The most recent updated version of the GATS Commitment Tables available on-line is dated January 2003. In the case of “Revised Offer 2006”, only a limited number of countries have submitted their revised offers.<sup>4</sup>

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<sup>3</sup> Fink and Molinuevo (2008), and Gootiiz and Mattoo (2009) are recent examples of study into preferential agreements covering trade in services.

<sup>4</sup> GATS Commitment Tables submitted in 2003 are downloadable at: <http://tsdb.wto.org/default.aspx> (accessed on 1 March 2011).

Therefore the former tables are used in this study.

In a commitment table under GATS, four Modes<sup>5</sup> i.e., Mode 1 up to Mode 4, and two aspects of liberalization, i.e., market access (MA) and national treatment (NT), are listed in tabular formats. In each service sector (see APPENDIX for the GATS-based classification of service sectors), the four modes and two aspects of liberalization make eight “cells”, for each of which the existence of limitations is indicated in text. Such indication is created by filling in one of the following three indications: (1) “none” (in the case of no limitation), or (2) “unbound” (in the case where there is no legally binding commitment made), or (3) description of the limitation.

For the sake of analytical tractability, this study adopts the level of 55 sub-sectors, but further disaggregated 155 sectors have been considered at the database construction stage.<sup>6</sup> Also, this study considers specific-commitments only. “Horizontal commitments”, or commitments applied to all the GATS service sectors are not considered in this study. This is because the way horizontal commitments are described is oftentimes rather complicated, making a clear-cut and consistent database construction extremely difficult.

The following three-fold symbolic classification is used for constructing a database for the commitment by each sub-sector, by mode and by aspect of liberalization, in each FTA

N: No limitation (and bound);  
L: Limited (or restricted) but bound;  
U: Unbound.

In the case where the word "Unbound", or “None” is followed by such phrases as "except...", the label "U" or “N”, respectively, is simply applied. The situation of no description exists is considered as "U". This simplified categorization allows for a "bird’s-eye view" analysis of an otherwise analytically intractable style of reporting observed in the original GATS commitment

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<sup>5</sup> Mode 1 refers to cross-border service provision; Mode 2, consumption abroad; Mode 3, service provision through establishing commercial presence; and Mode 4, service provision through movement of people (as suppliers).

<sup>6</sup> At the stage of reporting the Hoekman Index (mentioned in the next section), aggregation up to the 55 sectors is used. While each of the 155 sub-sectors has further sub-divisions, the way each commitment table is described is not comparable with others due to idiosyncrasy in actual offer documents at the most detailed level (e.g., branching out with incomplete indications, incomplete listings, partial merging of different sub-divisions and the like).

tables. The database has been constructed for APEC member economies under the GATS, and also for some Asia-Pacific economies under the four East Asian free trade agreements, i.e., (1) the ASEAN Framework Agreement on Services (AFAS), (2) the ASEAN-Australia-New Zealand FTA, (3) the ASEAN-China FTA, and (4) the ASEAN-Korea FTA.

### **3. Indexation of service trade liberalization under the GATS and the ASEAN+n type FTAs**

Hoekman (1995) proposes an indexation method for measuring the GATS-style degree of commitment in the service sector. This method assigns values to each of 8 cells (4 modes and 2 aspects--market access (MA) or National Treatment (NT)--), as follows: N=1, L=0.5, U=0; then calculates the average value by service sector and by country. Using the database constructed, the “Hoekman Index” has been calculated for each 155 sub-sectors. Then the simple average at the level of the 55 sectors is calculated. Table 1 reports the results for the commitment by the APEC member economies (except for Russia) under the GATS.

**Table 1. Hoekman Index for the APEC members and other reference economies under the GATS (by sector)**

	01A	01B	01C	01D	01E	01F	02A	02B	02C	02D	02E	03A	03B	03C	03D	03E	04A
India	0.15	0.15	0.06	0.00	0.00	0.01	0.00	0.00	0.17	0.02	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Cambodia	0.51	0.75	0.00	0.00	0.15	0.36	0.00	0.75	0.63	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50
Myanmar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brunei	0.10	0.55	0.00	0.00	0.09	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.06	0.08	0.06	0.00	0.00	0.08	0.00	0.00	0.51	0.00	0.00	0.25	0.25	0.38	0.00	0.25	0.00
Malaysia	0.45	0.41	0.23	0.00	0.41	0.30	0.00	0.00	0.09	0.14	0.00	0.44	0.00	0.00	0.00	0.00	0.00
Philippines	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.94	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Singapore	0.36	0.59	0.25	0.00	0.00	0.08	0.00	0.50	0.09	0.13	0.00	0.75	0.00	0.00	0.00	0.00	0.00
Thailand	0.24	0.55	0.00	0.00	0.14	0.37	0.00	0.00	0.30	0.23	0.00	0.69	0.69	0.69	0.00	0.00	0.50
Vietnam	0.47	0.75	0.25	0.00	0.20	0.36	0.00	0.75	0.43	0.15	0.00	0.50	0.50	0.50	0.50	0.50	0.50
ASEAN average	0.24	0.41	0.09	0.00	0.13	0.17	0.00	0.33	0.27	0.07	0.00	0.35	0.22	0.23	0.11	0.14	0.17
China	0.30	0.48	0.25	0.72	0.00	0.30	0.00	0.69	0.63	0.11	0.00	0.44	0.44	0.44	0.44	0.44	0.44
Japan	0.15	0.75	0.00	0.63	0.45	0.49	0.00	0.00	0.39	0.33	0.00	0.50	0.50	0.50	0.50	0.50	0.75
Korea	0.26	0.75	0.17	0.00	0.33	0.48	0.00	0.00	0.75	0.25	0.00	0.44	0.44	0.44	0.00	0.44	0.50
Australia	0.57	0.60	0.21	0.63	0.60	0.56	0.00	0.00	0.67	0.00	0.00	0.50	0.50	0.50	0.50	0.00	0.75
New Zealand	0.38	0.60	0.00	0.75	0.15	0.13	0.00	0.00	0.10	0.46	0.00	0.50	0.50	0.50	0.50	0.50	0.75
Canada	0.23	0.75	0.25	0.00	0.40	0.49	0.00	0.75	0.62	0.00	0.00	0.75	0.75	0.75	0.75	0.75	0.75
USA	0.49	0.88	0.00	0.75	0.25	0.70	0.00	0.88	0.81	0.84	0.00	0.63	0.63	0.63	0.63	0.63	0.88
Mexico	0.28	0.13	0.69	0.00	0.40	0.33	0.00	0.44	0.26	0.20	0.00	0.19	0.19	0.00	0.19	0.19	0.00
Chile	0.09	0.00	0.00	0.00	0.08	0.01	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peru	0.08	0.00	0.00	0.00	0.05	0.03	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hong Kong China	0.07	0.30	0.00	0.38	0.23	0.18	0.00	0.38	0.30	0.17	0.00	0.00	0.00	0.00	0.38	0.00	0.00
Chinese Taipei	0.44	0.75	0.75	0.75	0.60	0.59	0.00	0.75	0.70	0.38	0.00	0.50	0.50	0.50	0.50	0.50	0.75
Papua New Guinea	0.31	0.15	0.00	0.00	0.00	0.04	0.00	0.75	0.30	0.00	0.00	0.44	0.44	0.00	0.00	0.00	0.00
APEC Average	0.27	0.45	0.16	0.23	0.23	0.28	0.00	0.34	0.41	0.17	0.00	0.38	0.32	0.29	0.24	0.23	0.33

**Table 1. (Continued)**

	04C	04D	04E	05A	05B	05C	05D	05E	06A	06B	06C	06D	07A	07B	07C	08A	08B	08C
India	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.03	0.00	0.19	0.00	0.00
Cambodia	0.75	0.75	0.75	0.00	0.00	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.73	0.31	0.00	0.75	0.00	0.00
Myanmar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brunei	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.01	0.00	0.00	0.00	0.00
Indonesia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.39	0.00	0.00	0.00	0.00
Malaysia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.32	0.00	0.63	0.00	0.00
Philippines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.72	0.00	0.00	0.00	0.00
Singapore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.53	0.00	0.00	0.00	0.00
Thailand	0.00	0.00	0.00	0.50	0.50	0.00	0.50	0.00	0.69	0.69	0.69	0.69	0.45	0.13	0.00	0.00	0.00	0.00
Vietnam	0.00	0.75	0.00	0.00	0.25	0.25	0.25	0.25	0.50	0.75	0.00	0.50	0.75	0.23	0.25	0.50	0.50	0.00
ASEAN average	0.08	0.17	0.08	0.06	0.08	0.11	0.17	0.11	0.22	0.24	0.16	0.22	0.40	0.29	0.03	0.21	0.06	0.00
China	0.25	0.63	0.63	0.31	0.31	0.31	0.31	0.31	0.56	0.00	0.00	0.00	0.38	0.31	0.00	0.00	0.00	0.00
Japan	0.75	0.75	0.00	0.19	0.19	0.19	0.75	0.00	0.50	0.44	0.50	0.50	0.41	0.43	0.00	0.25	0.00	0.00
Korea	0.44	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.56	0.00	0.69	0.28	0.04	0.00	0.00	0.00	0.00
Australia	0.63	0.75	0.00	0.00	0.75	0.63	0.00	0.63	0.50	0.50	0.50	0.00	0.42	0.42	0.00	0.00	0.50	0.00
New Zealand	0.75	0.00	0.00	0.75	0.75	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.54	0.00	0.00	0.00	0.00
Canada	0.25	0.75	0.50	0.00	0.00	0.00	0.00	0.00	0.75	0.75	0.75	0.75	0.39	0.04	0.00	0.00	0.00	0.00
USA	0.88	0.88	0.00	0.00	0.00	0.00	0.56	0.00	0.88	0.88	0.88	0.88	0.28	0.03	0.00	0.50	0.00	0.00
Mexico	0.69	0.00	0.00	0.69	0.69	0.69	0.00	0.69	0.00	0.00	0.00	0.00	0.19	0.11	0.19	0.44	0.44	0.00
Chile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.05	0.00	0.00	0.00	0.00
Peru	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.04	0.00	0.00	0.00	0.00
Hong Kong China	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.39	0.00	0.00	0.00	0.00
Chinese Taipei	0.75	0.75	0.00	0.00	0.75	0.75	0.75	0.75	0.63	0.75	0.00	0.00	0.50	0.24	0.00	0.81	0.00	0.00
Papua New Guinea	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00
APEC Average	0.30	0.30	0.06	0.12	0.21	0.18	0.16	0.13	0.28	0.27	0.17	0.20	0.33	0.26	0.02	0.16	0.07	0.00

**Table 1. (Continued)**

	08D	09A	09B	09C	09D	10A	10B	10C	10D	10E	11A	11B	11C	11D	11E	11F	11G	11H	11I	Average
India	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Cambodia	0.00	0.31	0.75	0.75	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.75	0.63	0.00	0.00	0.37
Myanmar	0.00	0.75	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.03
Brunei	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Indonesia	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Malaysia	0.00	0.44	0.44	0.00	0.00	0.44	0.00	0.00	0.44	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Philippines	0.00	0.63	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.15	0.00	0.30	0.29	0.00	0.44	0.00	0.09
Singapore	0.00	0.63	0.50	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.11
Thailand	0.00	0.69	0.69	0.00	0.69	0.00	0.00	0.00	0.69	0.00	0.30	0.00	0.14	0.00	0.14	0.28	0.00	0.17	0.00	0.24
Vietnam	0.00	0.69	0.75	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.30	0.13	0.05	0.00	0.10	0.10	0.00	0.33	0.00	0.27
ASEAN average	0.00	0.46	0.58	0.08	0.08	0.13	0.00	0.08	0.17	0.00	0.16	0.01	0.07	0.00	0.06	0.17	0.07	0.13	0.00	0.14
China	0.00	0.69	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.06	0.05	0.00	0.10	0.24	0.00	0.44	0.00	0.24
Japan	0.00	0.50	0.75	0.50	0.00	0.38	0.75	0.50	0.50	0.00	0.21	0.21	0.24	0.00	0.10	0.19	0.38	0.19	0.00	0.33
Korea	0.00	0.50	0.75	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.14	0.00	0.00	0.08	0.00	0.55	0.38	0.22
Australia	0.00	0.50	0.69	0.75	0.00	0.00	0.75	0.00	0.75	0.00	0.29	0.00	0.10	0.00	0.00	0.20	0.75	0.50	0.00	0.34
New Zealand	0.00	0.25	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.45	0.45	0.75	0.25	0.00	0.25
Canada	0.00	0.75	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.25	0.00	0.45	0.60	0.00	0.69	0.00	0.30
USA	0.00	0.88	0.81	0.81	0.88	0.88	0.88	0.88	0.81	0.00	0.00	0.00	0.13	0.00	0.50	0.33	0.00	0.13	0.00	0.45
Mexico	0.00	0.44	0.44	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.21	0.00	0.16	0.00	0.19
Chile	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Peru	0.00	0.19	0.19	0.00	0.00	0.19	0.00	0.00	0.25	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Hong Kong China	0.00	0.38	0.38	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.09
Chinese Taipei	0.75	0.75	0.75	0.38	0.00	0.00	0.75	0.00	0.75	0.00	0.00	0.00	0.40	0.00	0.35	0.35	0.00	0.63	0.00	0.42
Papua New Guinea	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
APEC Average	0.04	0.51	0.54	0.18	0.08	0.11	0.16	0.11	0.23	0.00	0.14	0.02	0.09	0.00	0.12	0.17	0.09	0.24	0.02	0.19

Source: Calculated from the database constructed from the GATS commitment tables (revised offer in 2003).

Under the GATS, APEC members have the average commitment level of 0.19, and 09B (Travel Agencies and Tour Operators Services) has the deepest country-average commitment of 0.54. Some observations can be made for each of the APEC members, as follows (in the alphabetical order). As seen below, APEC's priority sub-sectors (mentioned above) --Telecommunications and Information; Transportation; and Tourism—are rather deeply committed, indicating their importance also under the GATS.

Australia: 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04D (Franchising), 05B (Secondary Education Services), 09C (Tourist Guides Services), 10B (News Agency Services), 10D (Sporting and Other Recreational Services), and 11G (Pipeline Transport), all have the deepest commitment of 0.75. The average level of commitment stands at 0.34.

Brunei: 01B (Computer and Related Services) has the deepest commitment of 0.55. The average level of commitment stands at 0.03.

Canada: 01B (Computer and Related Services), 02B (Courier Services), 03A (General Construction Work for Building), 03B (General Construction work for Civil Engineering), 03C (Installation and Assembly Work), 03D (Building Completion and Finishing Work), 03E (Other under Construction and Related Engineering Services), 04A (Commission Agents' Services), 04D (Franchising), 06A (Sewage Services), 06B (Refuse Disposal Services), 06C (Sanitation and Similar Services), 06D (Other under Environmental Services), 09A (Hotels and Restaurants), and 09B (Travel Agencies and Tour Operators Services), all have the deepest commitment of 0.75. The average level of commitment stands at 0.30.



Chile: 09A (Hotels and Restaurants) has the deepest commitment of 0.50. The average level of commitment stands at 0.02.

People's Republic of China: 01D (Real Estate Services) has the deepest commitment of 0.72. The average level of commitment stands at 0.24.

Hong Kong, China: 07B (Banking and Other Financial Services) has the deepest commitment of 0.39. The average level of commitment stands at 0.09.

Indonesia: 09B (Travel Agencies and Tour Operators Services) has the deepest commitment of 0.69. The average level of commitment stands at 0.06.

Japan: 01B (Computer and Related Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04C (Retailing Services), 04D (Franchising), 05D (Adult Education), 09B (Travel Agencies and Tour Operators Services), and 10B (News Agency Services), all have the deepest commitment of 0.75. The average level of commitment stands at 0.33.

Republic of Korea: 01B (Computer and Related Services), 02C (Telecommunication Services), and 09B (Travel Agencies and Tour Operators Services) have the deepest commitment of 0.75. The average level of commitment is 0.22.

Malaysia: 08A (Hospital Services) has the deepest commitment of 0.63. The average level of commitment is 0.10.

Mexico: 01C (Research and Development Services), 04B (Wholesale Trade Services), 04C (Retailing Services), 05A (Primary Education Services), 05B (Secondary Education Services), 05C (Higher Education Services), and 05E (Other Education Services) have the deepest commitment of 0.69. The average level of commitment is 0.19.

New Zealand: 01D (Real Estate Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04C (Retailing Services), 05A (Primary Education Services), 05B (Secondary Education Services), 05C (Higher Education Services), 09B (Travel Agencies and Tour Operators Services) and 11G (Pipeline Transport) have the deepest commitment of 0.75. The average level of commitment is 0.25.

Papua New Guinea: 02B (Courier Services) and 09A (Hotels and Restaurants) have the deepest commitment of 0.75. The average level of commitment is 0.07.

Peru: 02C (Telecommunication Services) has the deepest commitment of 0.46. The average level of commitment stands at 0.04.

Philippines: 02B (Courier Services) has the deepest commitment of 0.94. The average level of commitment stands at 0.09.

Singapore: 03A (General Construction Work for Building) and 10C (Libraries, archives, museums and other cultural services) have the deepest commitment of 0.75. The average level of commitment stands at 0.11.

Chinese Taipei: 08A (Hospital Services) has the deepest commitment of 0.81. The average level of commitment stands at 0.42.

Thailand: 03A (General Construction Work for Building), 03B (General Construction work for Civil Engineering), 03C (Installation and Assembly Work), 06A (Sewage Services), 06B (Refuse Disposal Services), 06C (Sanitation and Similar Services), 06D (Other under Environmental Services), 09A (Hotels and Restaurants), 9B (Travel Agencies and Tour Operators Services), 09D (Other under Tourism and Travel Related Services) and 10D (Sporting and Other Recreational Services) have the deepest commitment of 0.69. The average level of commitment stands at 0.24.

United States of America: 01B (Computer and Related Services), 02B (Courier Services), 04A (Commission Agents' Services), 04C (Retailing Services), 04D (Franchising), 06A (Sewage Services), 06B (Refuse Disposal Services), 06C (Sanitation and Similar

Services), 06D (Other under Environmental Services), 09A (Hotels and Restaurants), 09D (Other under Tourism and Travel Related Services), 10A (Entertainment Services), 10B (News Agency Services), and 10C (Libraries, archives, museums and other cultural services), all have the deepest commitment of 0.88. The average level of commitment stands at 0.45.

Vietnam: 01B (Computer and Related Services), 02B (Courier Services), 04D (Franchising), 06B (Refuse Disposal Services), 07A (All Insurance and Insurance-related Services) and 09B (Travel Agencies and Tour Operators Services) have the deepest commitment of 0.75. The average level of commitment stands at 0.27.

Next, commitment under the four ASEAN+n type agreements has been indexed likewise.<sup>7</sup>

Following are the observations based on the database and the indexation (tables are not reported in this paper for lack of space). These observations based on the database constructed remain rather factual, yet these “mappings” are the first step for an APEC-wide deep convergence of service sectors. Overall, as shown below, the ASEAN+n agreements have the “WTO Plus” commitment levels (unlike in the case of APEC members for whom the GATS has so far been the only binding commitment).

### **Commitment under the ASEAN Framework Agreement on Services (AFAS) by country and by sector (for reference)**

The ASEAN Framework Agreement on Services (AFAS) seems to be among the most deepened regional economic integrations in Asia, hence it serves as a reference point when considering an APEC-wide economic integration. AFAS (ASEAN Framework Agreement on Services), as a living agreement, moves toward deeper commitments by releasing new “packages” almost every year, AFAS5 means its package 5 (released in 2006), while AFAS 8 means its package 8 (released in 2012).

Tables 5 and show Hoekman Index of the ASEAN members under the AFAS package 5 and AFAS package 8, respectively. Of the two packages 5 and 8, AFAS package 8 has a higher level of commitment, and the level is the highest among the ASEAN+n FTAs: the average level of commitment by all the ASEAN member countries under AFAS package 8 is 0.42. Following are the

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<sup>7</sup> Full results are not listed in tables but are available upon request.

observations by package and by country.

**<AFAS package 5 (Table 2)>**

Brunei: 08A (Hospital Services) has the largest degree of commitment of 0.75. The average level of commitment stands at 0.21.

Cambodia: 01B (Computer and Related Services), 02B (Courier Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04C (Retailing Services), 04D (Franchising), 05C (Higher Education Services), 05D (Adult Education), 05E (Other Education Services), 06A (Sewage Services), 06B (Refuse Disposal Services), 06C (Sanitation and Similar Services), 06D (Other Environmental Services), 08A (Hospital Services), 09B(Travel Agencies and Tour Operators Services), 09C (Tourist Guides Services), 10A(Entertainment Services), 10D(Sporting and Other Recreational Services), and 11F (Road Transport Services), all have the largest degree of commitment at 0.75. The average level of commitment is 0.41.

Indonesia: 09B (Travel Agencies and Tour Operators Service) has the largest degree of commitment at 0.69. The average level of commitment is 0.22.

Laos: 03C (Installation and Assembly Work) has the largest degree of commitment at 0.75. The average level of commitment is 0.19.

Malaysia: 09C (Tourist Guides Services) has the largest degree of commitment at 0.75. The average level of commitment is 0.26.

Myanmar: 09A (Hotels and Restaurants) has the largest degree of commitment at 0.69. The average level of commitment is 0.29.

Philippines: 09A (Hotels and Restaurants) has the largest degree of commitment at 1.00. The average level of commitment is 0.26.

Singapore: 03A (General Construction Work for Building), 03B (General Construction work for Civil Engineering), 03C (Installation and Assembly Work), 03D (Building Completion and Finishing Work), 03E (Other under 03. Construction and Related Engineering Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), and 09C (Tourist Guides Services), all have the largest degree of commitment at 0.75. The average level of commitment is 0.35.

Thailand: 07B (Banking and Other Financial Services) has the largest degree of commitment at 0.67. The average level of commitment is 0.29.

Vietnam: 01B (Computer and Related Services), 07A (All Insurance and Insurance-related Services) and 09A (Hotels and Restaurants) have the largest degree of commitment at 0.75. The average level of commitment is 0.23.

**Table 2. Hoekman Index of ASEAN members under AFAS package 5**

	01A	01B	01C	01D	01E	01F	02A	02B	02C	02D	02E	03A	03B	03C	03D	03E	04A	04B	04C
Brunei	0.26	0.69	0.56	0.00	0.31	0.28	0.00	0.00	0.36	0.00	0.00	0.31	0.31	0.31	0.31	0.31	0.00	0.00	0.00
Cambodia	0.53	0.75	0.00	0.00	0.10	0.30	0.00	0.75	0.63	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.75	0.75	0.75
Indonesia	0.39	0.41	0.23	0.00	0.10	0.15	0.00	0.00	0.31	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
Laos	0.23	0.45	0.00	0.00	0.00	0.01	0.00	0.00	0.15	0.00	0.00	0.50	0.50	0.75	0.50	0.50	0.00	0.00	0.00
Malaysia	0.54	0.15	0.23	0.00	0.21	0.17	0.00	0.00	0.33	0.14	0.00	0.50	0.50	0.50	0.50	0.50	0.00	0.38	0.38
Myanmar	0.42	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.32	0.11	0.00	0.63	0.63	0.63	0.63	0.63	0.50	0.50	0.50
Philippines	0.25	0.51	0.00	0.00	0.19	0.00	0.00	0.94	0.71	0.00	0.00	0.31	0.31	0.31	0.31	0.31	0.81	0.00	0.00
Singapore	0.44	0.60	0.00	0.00	0.10	0.11	0.00	0.00	0.13	0.00	0.00	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.00
Thailand	0.37	0.64	0.38	0.00	0.11	0.14	0.00	0.00	0.45	0.19	0.00	0.56	0.56	0.56	0.56	0.56	0.50	0.00	0.00
Vietnam	0.55	0.75	0.25	0.00	0.10	0.21	0.00	0.00	0.58	0.00	0.00	0.38	0.38	0.38	0.38	0.38	0.00	0.00	0.00
Average	0.40	0.50	0.16	0.00	0.12	0.15	0.00	0.17	0.40	0.04	0.00	0.49	0.49	0.52	0.49	0.49	0.33	0.24	0.16

Table 2. (Continued)

	04D	04E	05A	05B	05C	05D	05E	06A	06B	06C	06D	07A	07B	07C	08A	08B	08C	08D
Brunei	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.02	0.50	0.75	0.50	0.00	0.00
Cambodia	0.75	0.00	0.00	0.00	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.73	0.58	0.00	0.75	0.00	0.00	0.00
Indonesia	0.00	0.00	0.00	0.63	0.00	0.56	0.56	0.00	0.00	0.00	0.00	0.34	0.27	0.00	0.00	0.00	0.00	0.00
Laos	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.17	0.00	0.00	0.00	0.00	0.00
Malaysia	0.00	0.00	0.44	0.44	0.19	0.19	0.44	0.00	0.00	0.00	0.00	0.34	0.41	0.00	0.63	0.00	0.00	0.00
Myanmar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.23	0.05	0.00	0.50	0.50	0.00	0.00
Philippines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.33	0.00	0.56	0.00	0.00	0.00
Singapore	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.50	0.50	0.44	0.48	0.00	0.25	0.25	0.44	0.00
Thailand	0.00	0.00	0.56	0.56	0.00	0.56	0.00	0.56	0.56	0.56	0.56	0.42	0.67	0.00	0.19	0.31	0.00	0.00
Vietnam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.56	0.56	0.00	0.56	0.75	0.46	0.00	0.69	0.00	0.00
Average	0.08	0.00	0.10	0.16	0.09	0.28	0.18	0.19	0.25	0.18	0.24	0.48	0.34	0.05	0.43	0.16	0.04	0.00

Table 2. (Continued)

	09A	09B	09C	09D	10A	10B	10C	10D	10E	11A	11B	11C	11D	11E	11F	11G	11H	11I	Average
Brunei	0.50	0.00	0.00	0.56	0.56	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.56	0.45	0.00	0.00	0.14	0.00	0.21
Cambodia	0.56	0.75	0.75	0.00	0.75	0.00	0.00	0.75	0.00	0.09	0.00	0.00	0.00	0.00	0.75	0.63	0.09	0.00	0.41
Indonesia	0.63	0.69	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.29	0.13	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.22
Laos	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Malaysia	0.69	0.69	0.75	0.00	0.44	0.00	0.00	0.44	0.00	0.48	0.00	0.10	0.00	0.00	0.00	0.00	0.17	0.00	0.26
Myanmar	0.69	0.63	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.21	0.00	0.21	0.00	0.00	0.00	0.00	0.28	0.00	0.29
Philippines	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.41	0.41	0.56	0.84	0.00	0.26
Singapore	0.50	0.63	0.75	0.63	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.35
Thailand	0.56	0.56	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.20	0.00	0.00	0.00	0.11	0.20	0.00	0.30	0.00	0.29
Vietnam	0.75	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.23
Average	0.64	0.46	0.23	0.18	0.24	0.00	0.00	0.18	0.00	0.24	0.01	0.06	0.06	0.10	0.14	0.12	0.21	0.00	0.27

Source: Calculated from the database constructed from the commitment tables under AFAS package 5.

<AFAS package 8 (Table 3)>

Brunei: 01B (Computer and Related Services) has the largest degree of commitment of 0.74. The average level of commitment stands at 0.28.

Cambodia: 01B (Computer and Related Services), 02B (Courier Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04C (Retailing Services), 04D (Franchising), 05C (Higher Education Services), 05D (Adult Education), 05E (Other Education Services), 06A (Sewage Services), 06B (Refuse Disposal Services), 06C (Sanitation and Similar Services), 06D (Other Environmental Services), 09C (Tourist Guides Services), 10A (Entertainment Services), 11A (Maritime Transport Services), 11B (Internal Waterways Transport), and 11F (Road Transport Services), all have the largest degree of commitment at 0.75. The average level of commitment is 0.42.

Indonesia: 01B (Computer and Related Services), 05B (Secondary Education Services), 05C (Higher Education Services), 05D (Adult Education), 05E (Other Education Services), 06A (Sewage Services), 06B (Refuse Disposal Services), 06D (Other under 06. Environmental Services) and 10E (Other under Recreational, Cultural and Sporting Services), all have the largest degree of commitment at 0.75. The average level of commitment is 0.28.

Laos: 02B (Courier Services) has the largest degree of commitment at 0.88. The average level of commitment is 0.47.

Malaysia: 01B (Computer and Related Services), 09C (Tourist Guides Services) and 10D (Sporting and Other Recreational Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.46.

Myanmar: 09A (Hotels and Restaurants) has the largest degree of commitment at 0.88. The average level of commitment is 0.49.

Philippines: 09A (Hotels and Restaurants) has the largest degree of commitment at 1.00. The average level of commitment is 0.40.

Singapore: 01B (Computer and Related Services), 01C (Research and Development Services), 03A (General Construction Work for Building), 03B (General Construction work for Civil Engineering), 03C (Installation and Assembly Work), 03D (Building Completion and Finishing Work), 03E (Other under 03. Construction and Related Engineering Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04C (Retailing

Services), 04D (Franchising), 05D (Adult Education), 09B (Travel Agencies and Tour Operators Services), 09C (Tourist Guides Services), 09D (Other under 09. Tourism and Travel Related Services), 10A (Entertainment Services), 10C (Libraries, archives, museums and other cultural services), all have the largest degree of commitment at 0.75. The average level of commitment is 0.54.

Thailand: 01B (Computer and Related Services), 05B (Secondary Education Services), 05D (Adult Education), 09A (Hotels and Restaurants) and 09D (Other Health Related and Social Services) have the largest degree of commitment at 0.88. The average level of commitment is 0.48.

Vietnam: 02B (Courier Services), 04D (Franchising), 06C (Sanitation and Similar Services), 08A (Hospital Services), 09A (Hotels and Restaurants) and 09B (Travel Agencies and Tour Operators Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.37.

**Table 3. Hoekman Index of ASEAN members under AFAS package 8**

	01A	01B	01C	01D	01E	01F	02A	02B	02C	02D	02E	03A	03B	03C	03D	03E	04A	04B	04C
Brunei	0.40	0.74	0.69	0.00	0.28	0.28	0.00	0.69	0.63	0.00	0.00	0.31	0.31	0.31	0.31	0.31	0.00	0.00	0.00
Cambodia	0.53	0.75	0.00	0.00	0.10	0.32	0.00	0.75	0.70	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.75	0.75	0.75
Indonesia	0.36	0.75	0.23	0.00	0.14	0.37	0.00	0.00	0.68	0.00	0.00	0.44	0.44	0.44	0.44	0.44	0.00	0.00	0.63
Laos	0.35	0.70	0.56	0.00	0.30	0.28	0.25	0.88	0.60	0.28	0.00	0.75	0.75	0.75	0.75	0.69	0.56	0.56	0.00
Malaysia	0.45	0.75	0.69	0.00	0.55	0.53	0.00	0.69	0.73	0.43	0.00	0.50	0.50	0.50	0.50	0.50	0.69	0.69	0.38
Myanmar	0.28	0.75	0.17	0.00	0.30	0.23	0.75	0.75	0.65	0.46	0.00	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Philippines	0.34	0.86	0.50	0.25	0.15	0.23	0.69	0.94	0.73	0.25	0.00	0.31	0.31	0.31	0.31	0.31	0.88	0.00	0.25
Singapore	0.39	0.75	0.75	0.38	0.41	0.41	0.00	0.50	0.38	0.25	0.00	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Thailand	0.39	0.75	0.50	0.69	0.50	0.42	0.00	0.00	0.53	0.52	0.69	0.56	0.56	0.56	0.56	0.56	0.69	0.69	0.00
Vietnam	0.47	0.15	0.25	0.00	0.15	0.33	0.00	0.75	0.71	0.15	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Average	0.40	0.70	0.43	0.13	0.29	0.34	0.17	0.59	0.63	0.23	0.07	0.53	0.53	0.53	0.53	0.52	0.54	0.49	0.33

**Table 3. (Continued)**

	04D	04E	05A	05B	05C	05D	05E	06A	06B	06C	06D	07A	07B	07C	08A	08B	08C	08D
Brunei	0.00	0.00	0.56	0.56	0.00	0.56	0.56	0.00	0.69	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cambodia	0.75	0.00	0.00	0.00	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.00	0.00	0.00	0.75	0.75	0.75	0.75	0.75	0.75	0.00	0.75	0.00	0.00	0.00	0.63	0.13	0.63	0.00
Laos	0.56	0.00	0.56	0.56	0.56	0.56	0.56	0.63	0.63	0.63	0.63	0.00	0.00	0.00	0.63	0.00	0.00	0.00
Malaysia	0.69	0.00	0.44	0.44	0.19	0.19	0.44	0.69	0.69	0.00	0.00	0.00	0.00	0.00	0.63	0.69	0.69	0.00
Myanmar	0.00	0.00	0.75	0.75	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.00	0.00	0.00	0.63	0.63	0.75	0.00
Philippines	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.50	0.00	0.00	0.00	0.25	0.00	0.00	0.00
Singapore	0.75	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.25	0.63	0.50	0.00
Thailand	0.69	0.44	0.63	0.75	0.63	0.75	0.63	0.50	0.50	0.50	0.50	0.00	0.00	0.00	0.69	0.69	0.69	0.69
Vietnam	0.75	0.00	0.00	0.25	0.44	0.44	0.44	0.63	0.63	0.75	0.63	0.00	0.00	0.00	0.75	0.69	0.63	0.00
Average	0.42	0.07	0.29	0.41	0.39	0.54	0.48	0.51	0.53	0.38	0.49	0.00	0.00	0.00	0.44	0.34	0.39	0.07

**Table 3. (Continued)**

	09A	09B	09C	09D	10A	10B	10C	10D	10E	11A	11B	11C	11D	11E	11F	11G	11H	11I	Average
Brunei	0.69	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.73	0.63	0.00	0.69	0.55	0.00	0.00	0.52	0.00	0.28
Cambodia	0.56	0.69	0.75	0.00	0.75	0.00	0.00	0.63	0.00	0.75	0.75	0.00	0.00	0.45	0.75	0.63	0.08	0.00	0.42
Indonesia	0.69	0.69	0.00	0.00	0.00	0.00	0.00	0.69	0.75	0.58	0.50	0.00	0.00	0.58	0.30	0.00	0.25	0.00	0.28
Laos	0.69	0.63	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.59	0.00	0.16	0.00	0.47
Malaysia	0.69	0.69	0.75	0.44	0.69	0.00	0.69	0.75	0.69	0.51	0.11	0.00	0.00	0.00	0.41	0.00	0.52	0.00	0.46
Myanmar	0.81	0.63	0.00	0.00	0.63	0.50	0.63	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.49
Philippines	1.00	0.88	0.00	0.00	0.50	0.50	0.25	0.25	0.00	0.41	0.00	0.00	0.00	0.56	0.61	0.00	0.73	0.00	0.40
Singapore	0.63	0.75	0.75	0.75	0.75	0.00	0.75	0.00	0.00	0.23	0.10	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.54
Thailand	0.75	0.50	0.00	0.75	0.50	0.69	0.69	0.50	0.50	0.59	0.14	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.48
Vietnam	0.75	0.75	0.00	0.56	0.38	0.00	0.00	0.44	0.00	0.39	0.34	0.00	0.00	0.39	0.20	0.00	0.56	0.00	0.37
Average	0.73	0.62	0.23	0.38	0.42	0.17	0.30	0.33	0.19	0.48	0.26	0.00	0.07	0.33	0.31	0.06	0.36	0.00	0.42

Source: Calculated from the database constructed from the commitment tables under AFAS package 8.

### Commitment under the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) by country and by sector (Table 4)

The sector 01B (Computer and Related Services) has the highest average commitment by participating countries, at 0.70. The ASEAN average is 0.20. The total average of commitment by country under AANZFTA is 0.23. Following are the observations by country.

Australia: 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04D (Franchising), 06A (Sewage Services), 06B (Refuse Disposal Services), 06C (Sanitation and Similar

Services), 06D (Other Environmental Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.38.

Brunei: 01B (Computer and Related Services) has the largest degree of commitment at 0.75. The average level of commitment is 0.07.

Cambodia: 01B (Computer and Related Services) has the largest degree of commitment at 1.0 (full score). The average level of commitment is 0.38.

Indonesia: 08A (Hospital Services) and 09A (Hotels and Restaurants) have the largest degree of commitment at 0.63. The average level of commitment is 0.16.

Laos: 01B (Computer and Related Services) has the largest degree of commitment at 0.80. The average level of commitment is 0.12.

Malaysia: 01B (Computer and Related Services) has the largest degree of commitment at 0.80. The average level of commitment is 0.16.

Myanmar: 01B (Computer and Related Services) has the largest degree of commitment at 0.88. The average level of commitment is 0.11.

New Zealand: 01B (Computer and Related Services) has the largest degree of commitment at 1.0 (full score). The average level of commitment is 0.39.

Philippines: 09B (Travel Agencies and Tour Operators Services) has the largest degree of commitment at 0.75. The average level of commitment is 0.11.

Singapore: 01B (Computer and Related Services) has the largest degree of commitment at 1.0 (full score). The average level of commitment is 0.32.

Thailand: 01B (Computer and Related Services) has the largest degree of commitment at 1.0 (full score). The average level of commitment is 0.22.

Vietnam: 02B (Courier Services), 02C (Telecommunication Services), 04D (Franchising), 07A (All Insurance and Insurance-related Services), 09A (Hotels and Restaurants), 09B (Travel Agencies and Tour Operators Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.32.

**Table 4. Hoekman Index of the members under ASEAN-Australia-New Zealand FTA**

	01A	01B	01C	01D	01E	01F	02A	02B	02C	02D	02E	03A	03B	03C	03D	03E	04A	04B	04C
Australia	0.61	0.6	0.25	0.63	0.6	0.54	0	0	0.7	0	0	0.5	0.5	0.5	0.5	0.5	0.75	0.75	0.63
Brunei	0.15	0.75	0	0	0.09	0	0	0	0.24	0	0	0.31	0.31	0.31	0.31	0	0	0	0
Cambodia	0.51	1	0	0	0.15	0.38	0	0.75	0.75	0	0	0.5	0.5	0.5	0.5	0.5	0.75	0.75	0.75
Indonesia	0.27	0.35	0.21	0	0	0.13	0	0	0.32	0	0	0.5	0.5	0.5	0.5	0.5	0	0	0
Laos	0.14	0.8	0	0	0	0	0	0	0.18	0	0	0.75	0	0	0	0.63	0	0	0
Malaysia	0.49	0.8	0.23	0	0.14	0.27	0	0	0.65	0.04	0	0.44	0.44	0.44	0.44	0.44	0	0	0
Myanmar	0.24	0.88	0	0	0	0.11	0	0	0	0.09	0	0.5	0.5	0.5	0.5	0.5	0	0	0
New Zealand	0.55	1	0	0.75	0.6	0.32	0	0	0.72	0.29	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Philippines	0.17	0	0	0	0.14	0.04	0	0.69	0.36	0.17	0	0	0.38	0	0	0	0	0	0
Singapore	0.45	1	0.75	0.38	0.3	0.33	0	0.5	0.63	0.25	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0
Thailand	0.23	1	0	0	0.1	0.31	0	0	0.27	0.33	0	0.5	0.5	0.5	0	0	0.5	0	0
Vietnam	0.53	0.2	0.25	0	0.2	0.36	0	0.75	0.75	0.15	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ASEAN Average	0.32	0.68	0.14	0.04	0.11	0.19	0	0.27	0.42	0.10	0.00	0.48	0.44	0.40	0.35	0.38	0.25	0.20	0.13
Total Average	0.36	0.7	0.14	0.15	0.19	0.23	0	0.22	0.46	0.11	0	0.5	0.47	0.44	0.4	0.42	0.33	0.29	0.23

**Table 4. (Continued)**

	04D	04E	05A	05B	05C	05D	05E	06A	06B	06C	06D	07A	07B	07C	08A	08B	08C	08D
Australia	0.75	0	0	0.63	0.63	0	0.63	0.75	0.75	0.75	0.75	0.13	0.25	0	0	0.5	0	0
Brunei	0	0	0	0	0	0	0	0	0	0	0	0.39	0.01	0	0	0	0	0
Cambodia	0.75	0.75	0	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.72	0.56	0	0.75	0	0	0
Indonesia	0	0	0	0.56	0.56	0.56	0.56	0	0	0	0	0.28	0.18	0	0.63	0	0	0
Laos	0	0	0	0.63	0.13	0.13	0.13	0.63	0.63	0.63	0	0	0.31	0	0	0	0	0
Malaysia	0	0	0.44	0.44	0.19	0	0.44	0	0	0	0	0.36	0.43	0	0	0	0	0
Myanmar	0	0	0	0.5	0.5	0	0.5	0	0	0	0	0	0	0	0	0	0	0
New Zealand	0	0	0.75	0.75	0.75	0	0.75	0.75	0.75	0.75	0.75	0.2	0.25	0	0	0	0	0
Philippines	0	0	0	0	0.25	0	0	0.44	0	0	0	0.42	0.47	0	0	0	0	0
Singapore	0	0	0	0	0	0.75	0	0	0	0.5	0.5	0.47	0.53	0	0	0.5	0.5	0
Thailand	0	0	0.5	0.5	0.25	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.03	0	0	0	0	0
Vietnam	0.75	0	0	0.25	0.38	0.38	0.38	0.5	0.38	0	0.5	0.75	0.47	0.44	0.69	0.69	0	0
ASEAN Average	0.15	0.08	0.09	0.29	0.30	0.31	0.33	0.28	0.23	0.24	0.23	0.37	0.30	0.04	0.21	0.12	0.05	0.00
Total Average	0.19	0.06	0.14	0.35	0.36	0.26	0.39	0.36	0.31	0.32	0.31	0.33	0.29	0.04	0.17	0.14	0.04	0

**Table 4. (Continued)**

	09A	09B	09C	09D	10A	10B	10C	10D	10E	11A	11B	11C	11D	11E	11F	11G	11H	11I	Average
Australia	0.5	0.63	0.75	0	0	0	0.75	0	0.75	0	0.17	0	0.1	0	0.41	0.4	0.75	0.63	0.38
Brunei	0.44	0	0	0	0	0	0	0	0	0.19	0	0.1	0	0	0	0	0	0	0.07
Cambodia	0.31	0.75	0.75	0	0.75	0	0	0	0	0	0	0.15	0	0	0.75	0.63	0	0	0.38
Indonesia	0.63	0.56	0	0	0	0	0	0	0	0.19	0	0.41	0	0	0	0	0	0	0.12
Laos	0.63	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.12
Malaysia	0.63	0.63	0	0	0.44	0	0	0	0	0.23	0	0	0	0	0	0	0	0	0.12
Myanmar	0	0	0	0	0	0	0	0	0	0.14	0	0.25	0	0	0	0	0	0.38	0.11
New Zealand	0.75	0.75	0.75	0	0	0	0	0	0	0.17	0	0.08	0	0.75	0.75	0.38	0.31	0	0.39
Philippines	0.38	0.75	0	0	0	0	0	0	0	0.45	0	0	0	0.3	0.28	0.22	0.38	0	0.11
Singapore	0.63	0.75	0.75	0	0.63	0	0.75	0	0	0.38	0	0	0	0	0	0	0	0	0.32
Thailand	0.5	0.44	0	0.5	0	0	0	0.5	0	0.34	0	0.24	0	0.2	0.18	0	0.13	0	0.22
Vietnam	0.75	0.75	0	0	0.38	0	0	0.44	0	0.15	0.15	0.43	0	0.1	0.2	0	0.47	0	0.32
ASEAN Average	0.49	0.52	0.15	0.05	0.22	0.00	0.08	0.09	0.00	0.21	0.02	0.16	0.00	0.06	0.14	0.09	0.14	0.00	0.20
Total Average	0.51	0.55	0.25	0.04	0.18	0.06	0.06	0.14	0	0.2	0.01	0.15	0	0.15	0.21	0.16	0.19	0	0.23

Source: Calculated from the database constructed from the commitment tables under AANZFTA.

### Commitment under the ASEAN-China Free Trade Agreement (ACFTA) by country and by sector (Table 5)

The sector 09B (Travel Agencies and Tour Operators Services) has the highest average commitment by participating countries, at 0.34. The ASEAN average is 0.12. The total average of commitment by country under ACFTA is 0.12. Following are the observations by country.

Brunei: 11F (Road Transport Services) has the largest degree of commitment at 0.75. The average level of commitment is 0.02.

Cambodia: 01B (Computer and Related Services), 02B (Courier Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04C (Retailing Services), 04D (Franchising), 04E (Other Distribution Services), 05C (Higher Education Services), 05D (Adult Education), 05E (Other Education Services), 06A (Sewage Services), 06B (Refuse Disposal Services), 06C (Sanitation and Similar Services), 06D (Other Environmental Services), 08A (Hospital Services), 09B (Travel Agencies and Tour Operators Services), 09C (Tourist Guides Services), 10A (Entertainment Services), all have the largest degree of commitment at 0.75. The average level of commitment is 0.36.

Indonesia: 09A (Hotels and Restaurants) has the largest degree of commitment at 0.63. The average level of commitment is 0.04.

Laos: 07A (All Insurance and Insurance-related Services) has the largest degree of commitment at 0.50. The average level of commitment is 0.02.

Malaysia: 02C (Telecommunication Services) and 07B (Banking and Other Financial Services) have the largest degree of commitment at 0.69. The average level of commitment is 0.06.

Myanmar: 02D (Audiovisual Services) has the largest degree of commitment at 0.44. The average level of commitment is 0.02.

Philippines: 09B (Travel Agencies and Tour Operators Services) has the largest degree of commitment at 1.0. The average level of commitment is 0.04.

China: 01D (Real Estate Services) and 11F (Road Transport Services) have the largest degree of commitment at 0.69. The average level of commitment is 0.13.

Singapore: 04D (Franchising), 05D (Adult Education), 05E (Other Education Services), 09B (Travel Agencies and Tour Operators Services), 09C (Tourist Guides Services), 10A (Entertainment Services) and 10C (Libraries, archives, museums and other cultural

services) have the largest degree of commitment at 0.75. The average level of commitment is 0.23.

Thailand: 09D (Tourist Guides Services) has the largest degree of commitment at 0.81. The average level of commitment is 0.06.

Vietnam: 01B (Computer and Related Services), 02B (Courier Services), 04D (Franchising), 07A (All Insurance and Insurance-related Services), 09A (Hotels and Restaurants), 09B (Travel Agencies and Tour Operators Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.33.

**Table 5. Hoekman Index of the members under the ASEAN-China Free Trade Agreement (ACFTA)**

	01A	01B	01C	01D	01E	01F	02A	02B	02C	02D	02E	03A	03B	03C	03D	03E	04A	04B	04C	
Brunei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cambodia	0.51	0.75	0	0	0.15	0.34	0	0.75	0.63	0	0	0.5	0.5	0.5	0.5	0.5	0.75	0.75	0.75	
Indonesia	0	0	0	0	0	0	0	0	0	0	0	0.5	0.38	0.38	0	0.38	0	0	0	0
Laos	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malaysia	0.19	0.6	0	0	0	0	0	0	0.69	0	0	0	0	0	0	0	0	0	0	0
Myanmar	0	0	0	0	0	0.03	0	0	0	0.44	0	0	0	0	0	0	0	0	0	0
Philippines	0	0	0	0	0	0.15	0	0	0.04	0	0	0	0	0	0	0	0	0	0	0
China	0	0.46	0	0.69	0	0.15	0	0	0	0	0	0.44	0.44	0.44	0.44	0.44	0	0	0	0
Singapore	0.2	0.15	0	0.38	0.45	0.29	0	0	0.04	0	0	0	0	0	0	0	0	0.5	0.5	0.5
Thailand	0.22	0	0	0	0	0	0	0	0.17	0	0	0	0	0	0	0	0	0	0	0
Vietnam	0.53	0.75	0.25	0	0.2	0.36	0	0.75	0.65	0.15	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ASEAN A	0.17	0.26	0.03	0.04	0.08	0.12	0.00	0.15	0.22	0.06	0.00	0.15	0.14	0.14	0.10	0.14	0.18	0.18	0.18	
Total Avert	0.15	0.27	0.02	0.1	0.07	0.12	0	0.14	0.2	0.05	0	0.18	0.16	0.16	0.13	0.16	0.16	0.16	0.16	

**Table 5. (Continued)**

	04D	04E	05A	05B	05C	05D	05E	06A	06B	06C	06D	07A	07B	07C	08A	08B	08C	08D
Brunei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cambodia	0.75	0.75	0	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.73	0.52	0	0.75	0	0
Indonesia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laos	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.19	0	0	0	0
Malaysia	0	0	0	0	0.06	0	0	0	0	0	0	0	0.19	0.69	0	0.63	0	0
Myanmar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Philippine	0	0	0	0	0	0	0	0.44	0	0	0	0	0	0	0	0	0	0
China	0	0	0	0	0	0	0	0.56	0.56	0.56	0.56	0	0	0	0	0	0	0
Singapore	0.75	0	0	0	0	0.75	0.75	0	0	0.5	0.5	0.48	0.51	0	0	0.5	0.5	0
Thailand	0	0	0	0.56	0.31	0	0.31	0	0	0	0	0	0	0	0	0	0	0
Vietnam	0.75	0	0	0.25	0.44	0.44	0.44	0.5	0.63	0	0.5	0.75	0.46	0.44	0.69	0.69	0	0
ASEAN Average	0.23	0.08	0.00	0.08	0.16	0.19	0.23	0.17	0.14	0.13	0.18	0.27	0.24	0.04	0.21	0.12	0.05	0.00
Total Average	0.2	0.07	0	0.07	0.14	0.18	0.2	0.2	0.18	0.16	0.21	0.24	0.21	0.04	0.19	0.11	0.05	0

**Table 5. (Continued)**

	09A	09B	09C	09D	10A	10B	10C	10D	10E	11A	11B	11C	11D	11E	11F	11G	11H	11I	Average
Brunei	0.06	0	0	0	0	0	0	0	0	0.25	0	0.15	0	0	0.75	0	0	0	0.02
Cambodia	0.31	0.75	0.75	0	0.75	0	0	0	0	0.15	0	0	0	0	0	0.63	0	0	0.36
Indonesia	0.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Laos	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Malaysia	0	0	0	0.19	0	0	0	0	0	0.11	0	0.1	0	0	0	0	0	0	0.06
Myanmar	0	0	0	0	0	0	0	0	0	0.15	0	0.21	0	0	0	0	0	0.13	0.02
Philippine	0.63	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
China	0	0	0	0	0	0	0	0.06	0	0	0	0.08	0	0	0.69	0	0.44	0	0.13
Singapore	0	0.75	0.75	0	0.75	0	0.75	0.5	0	0	0	0	0	0.5	0	0.5	0	0	0.23
Thailand	0.56	0.5	0	0.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06
Vietnam	0.75	0.75	0	0	0.38	0	0	0.44	0	0.15	0.15	0.41	0	0.1	0.2	0	0.47	0	0.33
ASEAN Average	0.29	0.38	0.15	0.10	0.19	0.00	0.08	0.09	0.00	0.07	0.02	0.10	0.05	0.01	0.15	0.06	0.06	0.00	0.12
Total Average	0.27	0.34	0.14	0.09	0.17	0	0.07	0.09	0	0.06	0.01	0.1	0.05	0.01	0.19	0.06	0.09	0	0.12

Source: Calculated from the database constructed from the commitment tables under ACFTA.

**Commitment under the ASEAN-Korea Free Trade Agreement (AKFTA) by country and by sector (Table 6)**

The sector 09B (Travel Agencies and Tour Operators Services) has the highest average commitment by participating countries, at 0.50. The ASEAN average is 0.19. The total average of commitment by country under AKFTA is 0.20. Following are the observations by country.



Brunei: 08A (Hospital Services) has the largest degree of commitment at 0.75. The average level of commitment is 0.08.

Cambodia: 01B (Computer and Related Services), 02B (Courier Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04C (Retailing Services), 04D (Franchising), 04E (Other Distribution Services), 05C (Higher Education Services), 05D (Adult Education), 05E (Other Education Services), 06A (Sewage Services), 06B (Refuse Disposal Services), 06C (Sanitation and Similar Services), 06D (Other Environmental Services), 09B (Travel Agencies and Tour Operators Services), 09C (Tourist Guides Services), 10A (Entertainment Services), 11F (Road Transport Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.36.

Indonesia: 09A (Hotels and Restaurants) has the largest degree of commitment at 0.69. The average level of commitment is 0.18.

Korea: 01B (Computer and Related Services), 04D (Franchising), 09B (Travel Agencies and Tour Operators Services), and 09C (Tourist Guides Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.28.

Laos: 03B (General Construction work for Civil Engineering), 03C (Installation and Assembly Work), and 05B (Secondary Education Services) have the largest degree of commitment at 0.56. The average level of commitment is 0.07.

Malaysia: 09A (Hotels and Restaurants) and 09D (Other Tourism and Travel Related Services) have the largest degree of commitment at 0.69. The average level of commitment is 0.19.

Myanmar: 03B (General Construction work for Civil Engineering) has the largest degree of commitment at 0.63. The average level of commitment is 0.03.

Philippines: 09B (Travel Agencies and Tour Operators Services) has the largest degree of commitment at 1.0. The average level of commitment is 0.16.

Singapore: 03A (General Construction Work for Building), 03B (General Construction work for Civil Engineering), 03C (Installation and Assembly Work), 03D (Building Completion and Finishing Work), 03E (Other Construction and Related Engineering Services), 04A (Commission Agents' Services), 04B (Wholesale Trade Services), 04D (Franchising) 05D (Adult Education), 09C (Tourist Guides Services), 10A (Entertainment Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.31.

Thailand: NA (due to lack of online data)

Vietnam: 01B (Computer and Related Services), 02B (Courier Services), 02C (Telecommunication Services), 04D (Franchising), 07A (All Insurance and Insurance-related Services), 09A (Hotels and Restaurants), 09B (Travel Agencies and Tour Operators Services) have the largest degree of commitment at 0.75. The average level of commitment is 0.31.

**Table 6. Hoekman Index of the members under ASEAN-Korea FTA**

	01A	01B	01C	01D	01E	01F	02A	02B	02C	02D	02E	03A	03B	03C	03D	03E	04A	04B	04C	
Brunei	0.11	0.53	0	0	0.09	0	0	0	0.29	0	0	0.31	0.31	0.31	0.31	0.31	0	0	0	0
Cambodia	0.51	0.75	0	0	0.15	0.19	0	0.75	0.5	0	0	0.5	0.5	0.5	0.5	0.5	0.75	0.75	0.75	0.75
Indonesia	0.32	0.41	0.23	0	0	0.14	0	0	0.65	0	0	0.5	0.5	0.5	0.5	0.5	0	0	0	0
Korea	0.45	0.75	0.58	0.25	0.68	0.62	0	0.5	0.68	0.25	0	0.5	0	0	0	0	0.63	0	0	0.56
Laos	0.08	0	0	0	0	0.02	0	0	0	0	0	0.31	0.56	0.56	0.31	0.31	0	0	0.19	0
Malaysia	0.49	0.6	0.23	0	0.41	0.28	0	0	0.55	0.14	0	0.44	0.44	0.44	0.44	0.44	0	0	0.38	0.5
Myanmar	0.11	0	0	0	0	0.08	0	0	0.1	0.11	0	0	0.63	0	0	0	0	0	0	0
Philippines	0.15	0	0.75	0	0	0.03	0.69	0.69	0.26	0	0	0	0.56	0	0	0	0	0	0	0
Singapore	0.45	0.6	0.25	0.38	0.45	0.5	0	0.5	0.46	0.63	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0
Thailand	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Vietnam	0.53	0.75	0	0	0.2	0.36	0	0.75	0.75	0.15	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ASEAN Average (excl. Thailand)	0.30	0.41	0.16	0.04	0.14	0.18	0.08	0.30	0.39	0.11	0.00	0.37	0.53	0.40	0.37	0.37	0.22	0.29	0.19	
Total Average (excl. Thailand)	0.32	0.44	0.2	0.06	0.2	0.22	0.07	0.32	0.42	0.13	0	0.38	0.48	0.36	0.33	0.33	0.26	0.26	0.23	

**Table 6. (Continued)**

	04D	04E	05A	05B	05C	05D	05E	06A	06B	06C	06D	07A	07B	07C	08A	08B	08C	08D
Brunei	0	0	0	0	0	0	0	0	0	0	0	0	0.39	0	0	0.75	0	0
Cambodia	0.75	0.75	0	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.73	0.56	0	0	0	0
Indonesia	0	0	0	0.63	0.56	0.56	0.56	0	0	0	0	0	0.19	0.33	0	0.63	0	0
Korea	0.75	0	0	0	0.31	0.31	0	0.63	0.63	0	0.63	0.31	0.17	0	0	0	0	0
Laos	0	0	0	0.56	0.44	0	0	0.06	0.06	0.06	0.06	0	0.03	0	0.5	0	0	0
Malaysia	0	0	0	0	0.19	0	0	0	0	0	0	0	0.33	0.05	0	0	0.63	0
Myanmar	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0
Philippines	0	0	0	0	0	0	0	0.44	0	0	0	0	0.42	0.58	0	0	0	0
Singapore	0.75	0	0	0	0	0.75	0	0	0	0.5	0.5	0.47	0.52	0	0	0.5	0.5	0
Thailand	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Vietnam	0.75	0	0	0.25	0.25	0.25	0.25	0.5	0.63	0	0.5	0.75	0.29	0.44	0.69	0.69	0	0
ASEAN Average (excl.Thailand)	0.25	0.08	0.00	0.16	0.24	0.26	0.17	0.19	0.16	0.15	0.20	0.36	0.26	0.05	0.29	0.20	0.06	0.00
Total Average (excl. Thailand)	0.3	0.08	0	0.14	0.25	0.26	0.16	0.24	0.21	0.13	0.24	0.36	0.25	0.04	0.26	0.18	0.05	0

**Table 6. (Continued)**

	09A	09B	09C	09D	10A	10B	10C	10D	10E	11A	11B	11C	11D	11E	11F	11G	11H	11I	Average
Brunei	0.44	0	0	0	0	0	0	0	0	0.25	0	0	0.25	0	0	0	0	0	0.08
Cambodia	0.31	0.75	0.75	0	0.75	0	0	0	0	0	0.15	0	0	0.75	0.63	0	0	0	0.58
Indonesia	0.69	0.63	0.63	0	0	0	0	0	0	0.23	0	0.14	0	0	0	0	0.13	0	0.18
Korea	0.5	0.75	0.75	0	0.38	0	0	0	0	0.52	0	0.5	0	0.05	0.38	0.25	0.59	0.5	0.28
Laos	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.07
Malaysia	0.69	0.63	0	0.69	0.44	0	0	0.44	0	0.53	0	0.1	0	0	0	0	0.17	0	0.19
Myanmar	0	0	0	0	0	0	0	0	0	0.19	0	0.21	0	0	0	0	0.25	0	0.03
Philippines	0.63	1	0	0	0	0	0	0	0	0.57	0	0.53	0	0.45	0.43	0.28	0.63	0	0.16
Singapore	0.63	0.5	0.75	0	0.75	0	0	0	0	0.38	0	0	0	0	0	0	0	0	0.31
Thailand	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Vietnam	0.75	0.75	0	0	0.38	0	0	0.44	0	0.15	0.13	0.43	0	0.1	0.2	0	0.19	0	0.31
ASEAN Average (excl.Thailand)	0.46	0.47	0.24	0.08	0.26	0.00	0.00	0.10	0.00	0.26	0.01	0.20	0.00	0.06	0.15	0.10	0.15	0.00	0.19
Total Average (excl. Thailand)	0.46	0.5	0.29	0.07	0.27	0	0	0.09	0	0.28	0.01	0.23	0	0.06	0.18	0.12	0.2	0.05	0.2

Source: Calculated from the database constructed from the commitment tables under AKFTA.

The commitment level by the APEC members under the GATS differs greatly between “sensitive” sectors and “less sensitive” sectors; this means that there is much scope for further enhancing international division of labor in terms of trade in services, through utilizing FTAs.

There are cross-country similarities in the pattern of service sector commitment under the GATS; this implies that the shared domestic sensitivities can be overcome by a shared economic cooperation scheme for enhancing competitiveness, through APEC’s Economic and Technical Cooperation, or through the new Trans Pacific Strategic Economic Partnership Agreement;

As for FTAs, the commitment level under the ASEAN Framework Agreement (AFAS) package 8 is the highest among the four FTAs mapped out as references; this means that the ASEAN member countries are rather highly consolidated among themselves, leading up to the formation of an ASEAN Economic Community (AEC) in 2015. While APEC, with an open regionalism, is not integrated under a preferential service sector commitment, it now envisions the TPP as its virtual “Pathfinder”<sup>8</sup>. The Regional Comprehensive Economic Partnership (RCEP) which is under negotiation among the ASEAN members plus Australia, China, India, Japan, Korea, and New Zealand could also facilitate the APEC-wide service trade liberalization. Indeed, this ASEAN-centered RCEP (without the US as an official member) serves as a counter-balance against TPP which is led by the US.

<sup>8</sup> “Pathfinder” is APEC’s unique modality of allowing some volunteer groups to move forward APEC agendas. Once such initiatives are to bear fruit, the rest of the APEC members are invited to join them. TPP, with 11 APEC members (as of this writing) can therefore be regarded as APEC’s Pathfinder type project.

#### **4. Correlation among the APEC and other Asian economies**

After calculating the Hoekman Index, similarities among the APEC and other Asian economies have been measured in the form of correlation coefficients. This has been done by comparing the calculated Hoekman Indices by country and by sector in Table 1. The result is presented in Table 7.

What is notable is that while details of limitations (or restrictions) differ, most correlation coefficients are positive at this level<sup>9</sup>, indicating that countries share sectoral sensitivities, rather than exhibit sectoral complementarities based possibly on each economy's comparative advantage. Also, this overall positive correlation can be observed with non-APEC economies (i.e., India, Cambodia and Myanmar). In the service sector, what seems important is not necessarily specialization in comparative advantage, but network externality arising from seamless service-linkage. An ideal goal for APEC would be to observe the coefficient of correlation of 1.0 in all the cells in the Table.

Two possible policy suggestions would be to (1) lay down "best practice regulation" of service sectors among APEC economies; and (2) make the Trans Pacific Partnership (TPP) a 21st century trade agreement in the sense of harmonizing service sector commitments among participants. Indeed, "[t]he benefit of a TPP is that it could lay down the foundations for a liberalizing APEC-wide agreement", and "[a]n effective TPP is one that will support continuing structural adjustment of Asia Pacific economies", and "also cover supply chain management, regulatory coherence and participation of small and medium sized enterprises"<sup>10</sup>.

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<sup>9</sup> That is, correlation at an aggregate level somewhat overstates similarities. As we go toward the more disaggregated level, in theory, the correlation coefficient would converge to zero.

<sup>10</sup> Alan Oxley, "Searching for a way out of the Doha Round impasse" (<http://www.itsglobal.net/node/158>).

**Table 7. Correlation coefficients among the Hoekman Indices of APEC economies under the GATS**

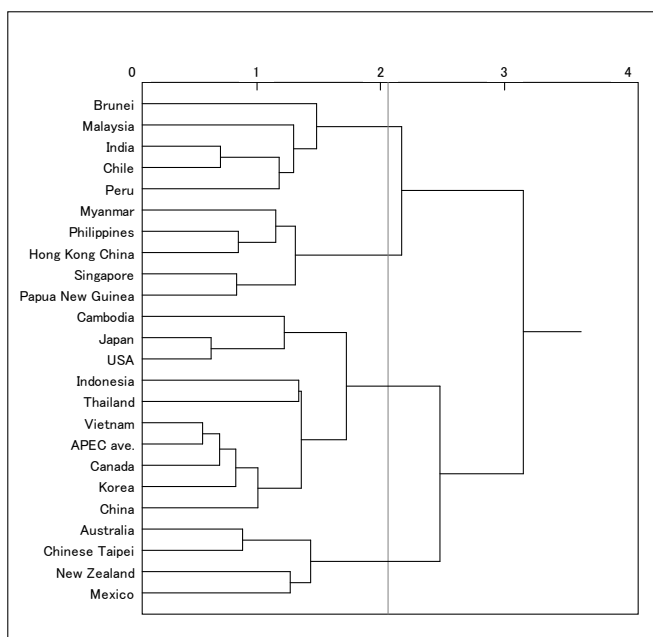
	India	Cambodia	Myanmar	Brunei	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam	China	Japan	Korea	Australia	New Zealand	Canada	USA	Mexico	Chile	Peru	Hong Kong China	Chinese Taipei	Papua New Guinea
India	1.00	0.09	-0.03	0.36	0.22	0.27	0.11	0.18	0.04	0.15	0.15	0.10	0.33	0.26	0.07	0.08	0.18	0.27	0.56	0.49	0.53	0.30	0.44
Cambodia		1.00	0.11	0.17	0.11	0.16	-0.04	0.21	0.39	0.72	0.68	0.77	0.76	0.80	0.61	0.71	0.55	0.44	0.20	0.15	0.25	0.79	0.40
Myanmar			1.00	-0.12	0.15	0.15	0.29	0.32	0.15	0.11	0.12	0.09	0.26	0.15	0.06	0.09	0.23	0.13	0.28	-0.04	0.10	0.08	0.29
Brunei				1.00	0.39	0.44	0.31	0.51	-0.02	0.28	0.34	0.17	0.32	0.33	0.25	0.16	0.12	0.20	0.60	0.42	0.47	0.31	0.56
Indonesia					1.00	0.27	0.40	0.52	0.11	0.29	0.31	0.15	0.21	0.15	0.31	0.05	0.12	-0.05	0.37	0.24	0.38	0.06	0.59
Malaysia						1.00	0.39	0.69	0.11	0.40	0.23	0.23	0.24	0.38	0.19	0.05	0.14	0.30	0.33	0.19	0.45	0.33	0.50
Philippines							1.00	0.61	0.08	0.07	0.12	0.05	0.02	0.05	0.16	-0.11	-0.15	0.01	0.35	0.13	0.38	-0.13	0.47
Singapore								1.00	0.08	0.40	0.30	0.38	0.21	0.41	0.45	0.10	0.10	0.16	0.40	0.17	0.60	0.22	0.67
Thailand									1.00	0.45	0.31	0.50	0.40	0.41	0.13	0.30	0.45	0.19	0.21	0.06	0.16	0.24	0.19
Vietnam										1.00	0.71	0.69	0.63	0.72	0.56	0.57	0.44	0.29	0.17	0.11	0.30	0.64	0.57
China											1.00	0.59	0.64	0.70	0.70	0.49	0.38	0.46	0.31	0.22	0.30	0.70	0.59
Japan												1.00	0.64	0.83	0.54	0.57	0.54	0.32	0.19	0.24	0.32	0.68	0.43
Korea													1.00	0.71	0.37	0.75	0.69	0.31	0.51	0.38	0.37	0.67	0.55
Australia														1.00	0.67	0.52	0.50	0.57	0.36	0.29	0.45	0.86	0.49
New Zealand															1.00	0.30	0.10	0.50	0.12	0.06	0.39	0.68	0.55
Canada																1.00	0.55	0.09	0.16	0.05	0.10	0.47	0.35
USA																	1.00	0.09	0.29	0.27	0.16	0.44	0.33
Mexico																		1.00	0.39	0.17	0.30	0.71	0.22
Chile																			1.00	0.63	0.30	0.38	0.60
Peru																				1.00	0.53	0.28	0.34
Hong Kong China																					1.00	0.39	0.61
Chinese Taipei																						1.00	0.46
Papua New Guinea																							1.00

Source: Calculated from the database constructed from the GATS commitment tables (revised offer in 2003).

## 5. Cluster analysis

The next attempt concerns highlighting similarities in commitments among the APEC members under the GATS. The standard pair-wise clustering method<sup>11</sup> has been applied to the calculated Hoekman Indices (in Table 1). Figure 1 shows the result of such pair-wise clustering in the form of a “dendrogram” (tree-shaped categorization). It indicates that (1) per-capita GDP might not be the factor determining an APEC economy’s pattern of service sector commitment, since two economies with apparently differing per-capita incomes are clustered together; (2) Vietnam is closest to the APEC simple average (labeled as “APEC ave.” in the Figure); (3) Cambodia (a non-APEC member) is clustered with Japan and the US; (4) Myanmar (also a non-APEC member) is clustered together with the Philippines and Hong Kong China; (5) India (a non-APEC member) is clustered with Chile. From (3)-(5), it seems that there is as yet no uniquely APEC clustering.

**Figure 1. Clustering of service commitments by the APEC members under the GATS**



*Source:* Made from the database constructed from the GATS commitment tables (revised offer in 2003).

<sup>11</sup> Cluster analysis is a method of grouping observations into subgroups (called clusters) so that observations in the same cluster are similar in terms of "distance", which is Euclidean distance.

## **6. Hoekman Index by country, by mode and by aspect under the GATS**

The Hoekman Index has also been calculated by country, by Mode and by aspect. The result is shown in Table 8. A cross-cutting observation on the level of commitment by Mode is that while Mode 1 through Mode 3 exhibit sector-specific variations, Mode 2 (consumption abroad) has the deepest commitment, followed by Mode 3 (commercial presence), and Mode 1 (cross-border transactions). Mode 4 (movement of natural persons) shows the least commitment among the four Modes. There is not much difference between MA (market access) and NT (national treatment) for all the countries.

As for non-APEC members, India and Myanmar show very low levels of commitments, throughout all the Modes. Cambodia's commitment pattern is overall in line with the APEC average. An obvious policy implication for APEC would be to enhance the commitment especially under Mode 4. Also, a detailed analysis of the determinants of service liberalization by mode would be desirable as a future research agenda.<sup>12</sup>

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<sup>12</sup> In the context of mode-by-mode determinants of trade in services, Urata *et al.* (2011) indicate that endowment-based trade models (of Heckscher-Ohlin type) could explain Mode 1-based trade in services; Mode 2 tend to be determined by supply-side considerations as featured in the Ricardo model; Modes 3 and 4, being flow of factors of production, might be explained by the theory of foreign direct investment.







## **7. Conclusions and policy implications for APEC**

This study focuses on mapping the degree of liberalization of trade in services by the APEC member economies under the GATS, with some reference to other Asian economic integrations centering on ASEAN. This comparison is indispensable for assessing the feasibility of achieving an FTAAP by 2020 as pledged by the APEC leaders. While there remains much need to investigate causal links between restrictions on trade in services and the actual performances of service trade<sup>13</sup>, the mapping exercise in this study has revealed, in sum, that:

- (1) The commitment level by the APEC members under the GATS differs greatly between “sensitive” sectors and “less sensitive” sectors; this means that there is much scope for further enhancing international division of labor in terms of trade in services, through utilizing FTAs;
- (2) The commitment level under the ASEAN Framework Agreement (AFAS) is the highest among the four FTAs mapped out as references; this means that the ASEAN member countries are rather highly consolidated among themselves, leading up to the formation of an ASEAN Economic Community (AEC) in 2015. APEC, with an open regionalism, is not integrated under a preferential service sector commitment.
- (3) There are cross-country similarities in the pattern of service sector commitment under the GATS; this implies that the shared domestic sensitivities can be overcome by a shared economic cooperation scheme for enhancing competitiveness, through APEC’s Economic and Technical Cooperation, or through the new Trans Pacific Strategic Economic Partnership Agreement;

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<sup>13</sup> OECD (2003, 2009), for example, make systemic analyses of causal and/or correlation linkages between the restrictiveness and actual performance of trade in services.

(4) Overall, Mode 4 (movement of people) is least committed, whereas Mode 2 (consumption abroad) is most committed under the GATS and also under the four FTAs studied. Enhancing trade in services under Mode 4 should therefore be the focus of policy discussion at the APEC. Building on the APEC Business Travel Card scheme would be a natural policy focus.

There are a few issues to be made in interpreting the results of this study. Most notably, there should be a distinction drawn between actual policy provisions and the noted commitments: the former might be well above the latter, indicating that in the actual business setting, an economy's openness is more than the way the economy makes its commitment under the GATS and under FTAs. Binding service sector commitments under the GATS, under some FTAs, or at the APEC, importantly, removes uncertainty and contributes to forming a seamless region-wide market.

Enforcement of the bound commitments is another issue: however deeply committed to the GATS an economy may be, such commitment might not be actually realized (enforced). APEC therefore has a role to play in this regard, i.e., operationalizing the bound commitments.

There are two possibilities on the sequence of further streamlining the commitments by the APEC members:

(1) Aim for a convergence within the same "clusters" among similarly committed countries under the GATS; then harmonize the level of commitments across all the member economies; or

(2) Start harmonizing with rather dissimilar countries from different "clusters" of commitments under APEC's Pathfinder scheme, which provides a small-scale "social

experimenting”; then scale up this line of effort at an acceptably later stage to the level of the entire APEC.

Either avenue would generate some degree of domestic concern. Overall, though, the absolute degree of commitment in service sectors remains rather low, even though APEC members are considered as global traders. If the APEC region is to possess a more seamless service-linkage, further voluntary commitment should be made. Otherwise, further binding commitment could be made.

Given that there are more benefits than costs arising from deepening trade in services especially under the “open regionalism” (i.e., no discrimination among members as well as non-members), further harmonization of the service commitments at the APEC should be viewed as economically valid for bringing about more benefit to the APEC members, as well as to the partner economies. From this perspective, the service liberalization under the new TPP and the proposed RCEP could be made open to non-members, since after all, the proposed FTAAP, due to its sheer size covering the world’s major exporters, has the feature of a “second WTO”.

As for the near-future research agenda, mapping of a service chapter under the newly proposed TPP would be an important area of investigation for elucidating similarities and differences further among existing economic architectures in the Asia Pacific region.<sup>14</sup>

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<sup>14</sup>Detailed sector-wise analysis with more elaborated and multi-dimensional quantification attempts (e.g., Ochiai, Dee and Findlay, 2007, and Dee, 2009) could also be an important future research agenda alongside the outline-mapping efforts made in this study. In the context of Ochiai, Dee and Findlay (2007), for example, the criteria for sorting out the extent of liberalization in service trade under each of some 80 FTAs studied are quite wide-ranging, as below: Scope, MFN, MFN Exemption, National Treatment, Market Access, Local Presence, Domestic Regulations, Transparency, Recognition, Monopolies, Business Practices, Transfer and Payments, Denial of Benefits, Safeguard, Subsidies, Government Procurement, Ratchet Mechanism, Telecommunication, Financial Services (in terms of form of FTAs); and Excluded Modes, Excluded Form, Sectoral Exclusions, Regional Measures, Land Acquisitions, Minority Affairs, and Number of Domestic Employees (in terms of contents of FTAs). Although appropriate selection of criteria and their scores for weighting is always a contentions issue, this sort of analytical effort with a

## **APPENDIX: List of 11 sectors and 55 sub-sectors of service trade administered by GATS**

### **01. Business Services**

- 01.A. Professional Services
- 01.B. Computer and Related Services
- 01.C. Research and Development Services
- 01.D. Real Estate Services
- 01.E. Rental/Leasing Services without Operators
- 01.F. Other Business Services

### **02. Communication Services**

- 02.A. Postal Services
- 02.B. Courier Services
- 02.C. Telecommunication Services
- 02.D. Audiovisual Services
- 02.E. Other

### **03. Construction and Related Engineering Services**

- 03.A. General Construction Work for Building
- 03.B. General Construction work for Civil Engineering
- 03.C. Installation and Assembly Work
- 03.D. Building Completion and Finishing Work
- 03.E. Other

### **04. Distribution Services**

- 04.A. Commission Agents' Services
- 04.B. Wholesale Trade Services
- 04.C. Retailing Services
- 04.D. Franchising
- 04.E. Other

### **05. Educational Services**

- 05.A. Primary Education Services
- 05.B. Secondary Education Services
- 05.C. Higher Education Services
- 05.D. Adult Education
- 05.E. Other Education Services

### **06. Environmental Services**

- 06.A. Sewage Services
- 06.B. Refuse Disposal Services
- 06.C. Sanitation and Similar Services
- 06.D. Other

### **07. Financial Services**

- 07.A. All Insurance and Insurance-related Services
- 07.B. Banking and Other Financial Services
- 07.C. Other

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more focus on recently forged FTAs involving ASEAN and East Asia for comparison with a future APEC-wide FTA, should be a useful research agenda.

**08. Health Related and Social Services**

- 08.A. Hospital Services
- 08.B. Other Human Health Services
- 08.C. Social Services
- 08.D. Other

**09. Tourism and Travel Related Services**

- 09.A. Hotels and Restaurants
- 09.B. Travel Agencies and Tour Operators Services
- 09.C. Tourist Guides Services
- 09.D. Other

**10. Recreational, Cultural and Sporting Services**

- 10.A. Entertainment Services
- 10.B. News Agency Services
- 10.C. Libraries, archives, museums and other cultural services
- 10.D. Sporting and Other Recreational Services
- 10.E. Other

**11. Transport Services**

- 11.A. Maritime Transport Services
- 11.B. Internal Waterways Transport
- 11.C. Air Transport Services
- 11.D. Space Transport
- 11.E. Rail Transport Services
- 11.F. Road Transport Services
- 11.G. Pipeline Transport
- 11.H. Services Auxiliary to All Modes of Transport
- 11.I. Other Transport Services

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