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Investment Liberalisation in East and Southeast Asia[1†]

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Abstract: *This paper presents the trends and patterns in the inflows and outflows of foreign direct investment (FDI) and reviews FDI liberalisation in East and Southeast Asia. We found that inward FDI has been significantly increasing in Singapore as well as in Cambodia, Lao People's Democratic Republic, Myanmar, and Viet Nam. Outward FDI has also been increasing in China and major Association of Southeast Asian Nations (ASEAN) countries. Moreover, intraregional FDI is increasing in East and Southeast Asia. Although there has been significant liberalisation of FDI in the region, restrictions remain, especially in the primary and tertiary sectors. The estimation results of the gravity model indicate that there is room for increasing FDI by means of investment liberalisation in the non-manufacturing in the ASEAN countries.*

***Keywords*:** Inward FDI; FDI liberalisation; Gravity

***JEL Classification*:** F23; F13; D22

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1. Introduction

The novel coronavirus disease (COVID-19) pandemic crisis caused a dramatic decline in foreign direct investment (FDI) in 2020. According to the United Nations Conference on Trade and Development, global FDI flows in 2020 declined by 35% (UNCTAD, 2021). However, flows to developing countries in Asia were resilient. Southeast Asia saw a 25% decline, and investments in China increased by 6%. Developing Asia is already the predominant recipient of FDI, accounting for more than one-half of the global amount. Specifically, members of the Regional Comprehensive Economic Partnership (RCEP) agreement, which was concluded in November 2020, will be the world's largest recipients of FDI.[2]

RCEP will create the world's largest free trade area, providing for investment, trade, and services, including the development of electronic commerce, which implies that RCEP may further boost FDI flows amongst members in the region. Association of Southeast Asian Nations (ASEAN) countries will continue to benefit from the relocation of production by Chinese and other multinational enterprises (MNEs) to avoid increased costs and the impact of the United States–China trade dispute as well as to build more resilient supply chain networks (UNCTAD, 2021).

The objective of this study is threefold. The first objective is to present a picture of FDI inflows and outflows in 15 RCEP countries. To highlight the characteristics in this region, we compare them with those in the member countries of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).[3] Second, we investigate the extent of FDI liberalisation in the 15 RCEP member countries by using the latest version of the Organisation of Economic Co-operation and Development (OECD) FDI restrictiveness index. This database includes not only OECD countries but also other developing countries, including most RCEP member

[2] RCEP includes the ASEAN members – Brunei Darussalam (BRN), Cambodia (KHM), Indonesia (IDN), Lao People's Democratic Republic (LAO), Malaysia (MYS), Myanmar (MMR), Philippines (PHL), Singapore (SGP), Thailand (THA), Viet Nam (VNM), plus Australia (AUS), China (CHN), Japan (JPN), Republic of Korea (KOR), and New Zealand (NZL).

[3] The CPTPP member countries include Australia (AUS), Brunei Darussalam (BRN), Canada (CAN), Chile (CHL), Japan (JPN), Malaysia (MYS), Mexico (MEX), New Zealand (NZL), Peru (PER), Singapore (SGP), and Viet Nam (VNM). Seven out of 11 of the CPTPP member countries also belong to RCEP.

countries. Third, we estimate a gravity model to examine how liberalisation affects inward FDI and discuss the potential for future inward FDI in RCEP member countries. We use the number of new MNE subsidiaries by source and destination country, calculated using the Orbis database, as a measure of bilateral FDI.

Our main findings are summarised as follows. First, while inward FDI has been increasing significantly in Singapore as well as in and Cambodia, Lao People's Democratic Republic (Lao PDR), Myanmar, and Viet Nam (collectively, CLMV), outward FDI has also been increasing in China and the major ASEAN countries. Looking at the source countries of inward FDI, we find that intraregional FDI is also increasing in East and Southeast Asia. While there is room for growth in FDI in CLMV's manufacturing sector, inward FDI of other RCEP member countries is shifting to the services sector. Second, in East and Southeast Asia, FDI liberalisation has progressed substantially; however, there are still some restrictions, especially in the primary and tertiary sectors. Third, the estimation results of the gravity model show that there is room to expand FDI through investment liberalisation in the non-manufacturing sectors in ASEAN countries.

The structure of this paper is as follows. Section 2 presents FDI trends and patterns in RCEP member countries, while Section 3 reviews FDI liberalisation. The estimation results of the gravity model are presented in Section 4. Section 5 concludes.

2. Trends in Inward FDI in RCEP Member Countries

This section provides the patterns of inward and outward FDI flows in RCEP and CPTPP member countries, the data for which were drawn from the World Development Indicators database[4] compiled by the World Bank.

2.1. FDI Flows by Country

Figure 1 presents the inward FDI-to-gross domestic product (GDP) ratio by country. Comparing the average inward FDI-to-GDP ratio amongst CPTPP and

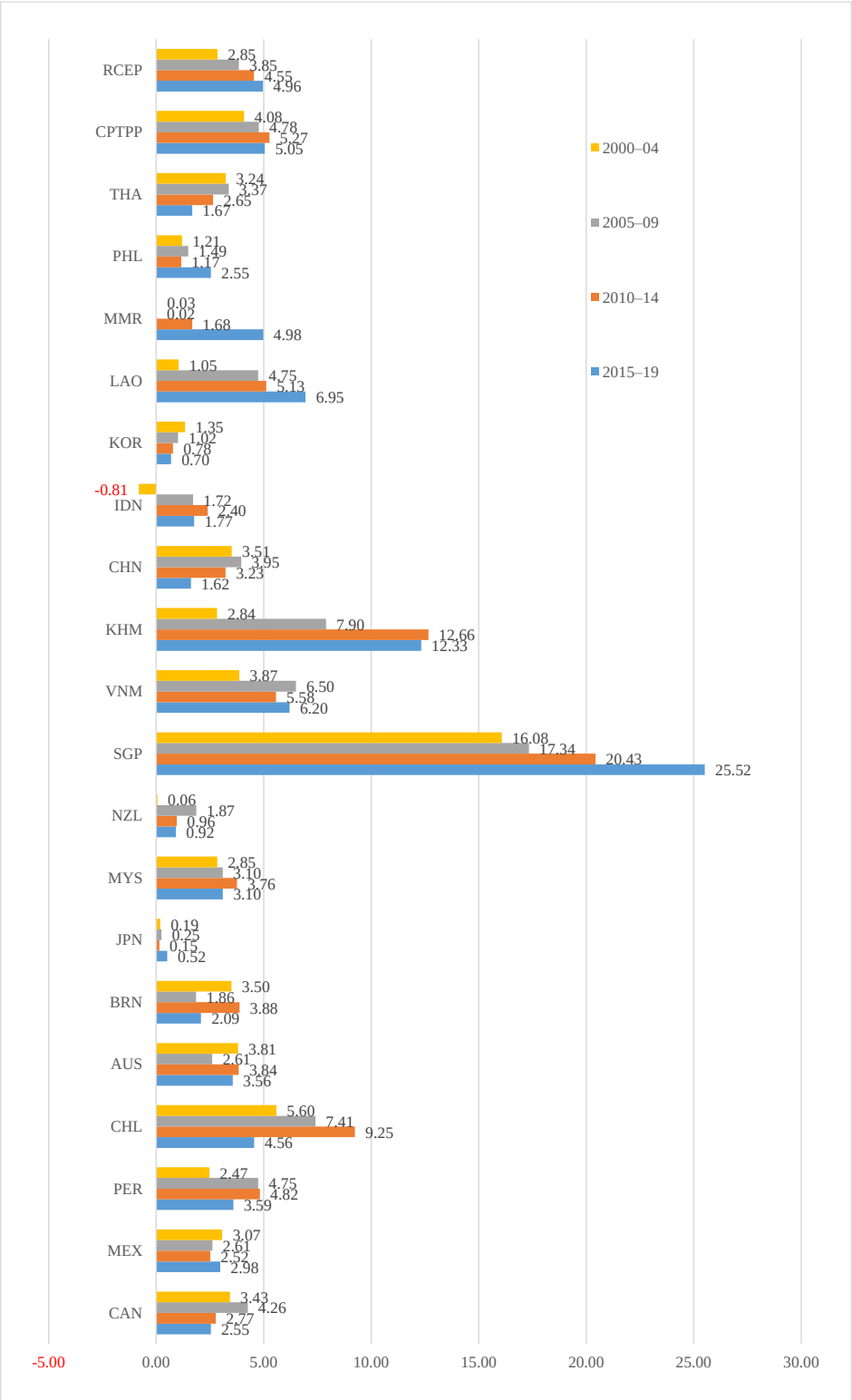
[4] The database can be accessed through the following URL: https://databank.worldbank.org/source/world-development-indicators (accessed on 6 August 2022).

RCEP members, it is slightly higher for CPTPP members throughout 2000–19. This is because the ratio is relatively lower for those RCEP countries that are not part of the CPTPP, namely, Republic of Korea (henceforth, Korea), Indonesia, and the Philippines. Conversely, comparing the 2000–04 and 2015–19 periods, the average value of an RCEP member country saw a larger increase in its FDI-to-GDP ratio, rising from 2.85 percentage points to 4.96 percentage points. This is because the inward FDI-to-GDP ratio increased significantly in RCEP member countries that were not part of the CPTPP, namely, Lao PDR, Myanmar, and Cambodia. Amongst the other countries, the ratio increased significantly in Singapore, while it declined in Korea, China, Thailand, and New Zealand. Amongst RCEP and CPTPP members, the ratio is lower in Korea, Japan, and New Zealand, the ratios of which were all less than 1% since 2010. In particular, Japan's inward FDI-to-GDP ratio was less than 0.5% for most of the 2000–19 period. To sum up, since some ASEAN countries such as Singapore, Lao PDR, Myanmar, and Cambodia exhibit an upward trend in inward FDI, there seems to be potential to boost inward FDI.

As for the outward FDI-to-GDP ratio, CPTPP member countries were relatively more active in outward FDI, compared with RCEP member countries. This is because RCEP member countries include ASEAN latecomers such as Lao PDR, Myanmar, and Cambodia, and Viet Nam (namely, the CLMV countries), which have a low outward FDI ratio. In contrast, the countries participating only in the CPTPP, such as Canada and Chile, actively invest abroad. For example, the outward FDI-to-GDP ratios were 4.5% in Canada for 2015–19 and 5.7% in Chile for the 2010–14 period.

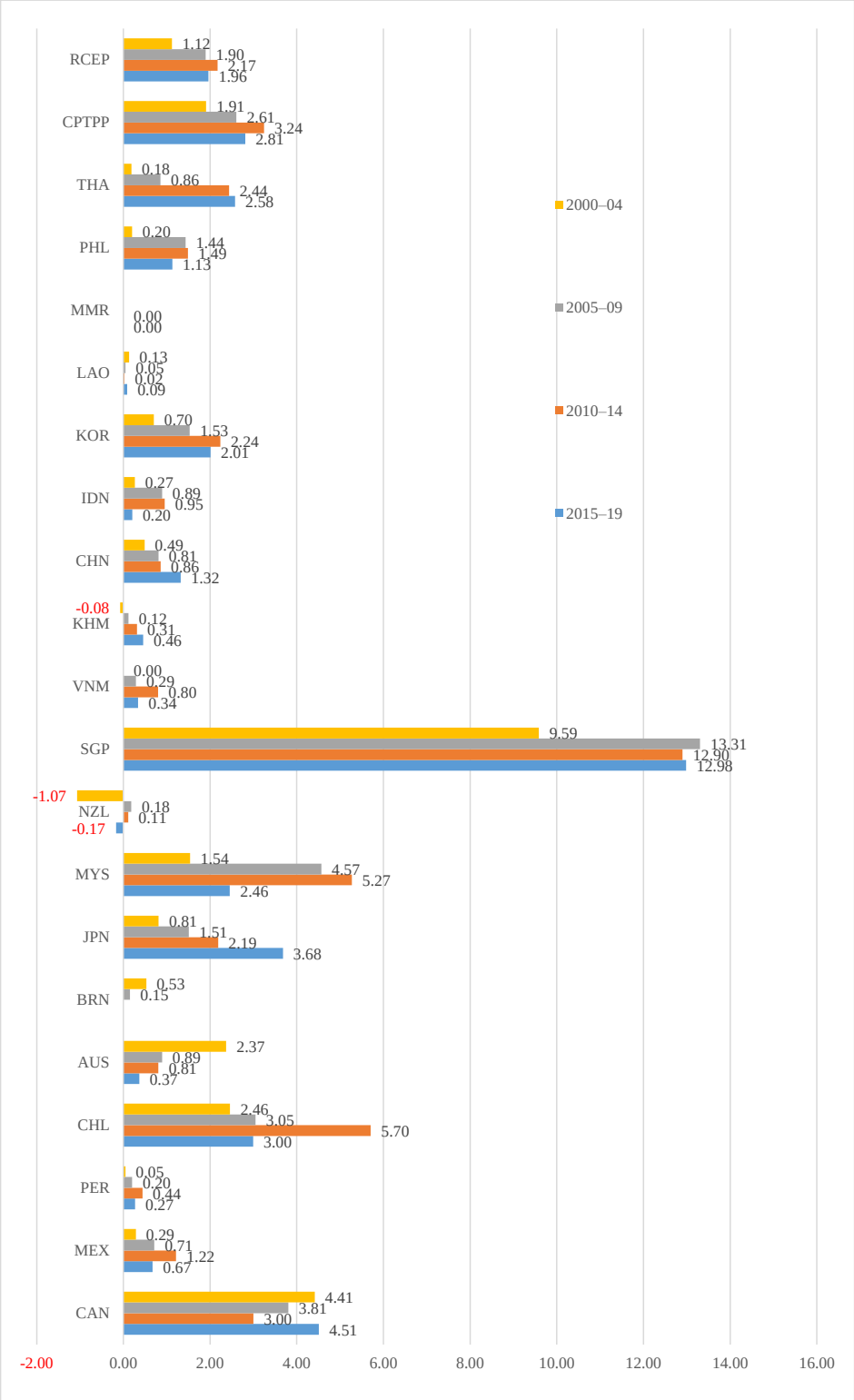
Except for the CLMV countries, other RCEP member countries in East and Southeast Asia actively engaged in outward FDI. Amongst the ASEAN countries, Singapore was the most active in FDI, reaching 13% of GDP in 2015–19, followed by Thailand at 2.6% in 2015–19 and Malaysia at 5.3% in 2010–14. China, Japan, and Korea also increased their outward FDI-to-GDP ratios. The outward FDI ratios of China, Japan, and Korea increased from 0.5%, 0.7%, and 0.8% in 2000–04 to 1.32%, 2%, and 3.7%, respectively, in 2015–19.

Figure 1: Foreign Direct Investment, Net Inflows (as a % of GDP)



CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, RCEP = Regional Comprehensive Economic Partnership, GDP = gross domestic product.
Note: For three-letter country abbreviations, see Table B-1 in Appendix.
Source: Author's calculation based on the World Development Indicators database (https://databank.worldbank.org/source/world-development-indicators, accessed 6 August 2022).

Figure 2: Foreign Direct Investment, Net Outflows (as a % of GDP)



CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, RCEP = Regional Comprehensive Economic Partnership, GDP = gross domestic product.
Note: For three-letter country abbreviations, see Table B-1 in Appendix.
Source: Author's calculation based on the World Development Indicators database (https://databank.worldbank.org/source/world-development-indicators, accessed 6 August 2022).

2.2. Inward FDI by Source Country and Industry

Table 1: The Share of Each Source Country in Total Inward FDI

Recipient		Period	ASEAN	China	Japan	Korea	Europe	USA
AUS	RCEP	2010–14	8%	9%	18%	1%	20%	28%
	&CPTPP	2015–19	4%	7%	16%	1%	23%	24%
CHL	CPTPP	2010–14	0%	0%	4%	0%	37%	15%
		2015–19	0%	0%	2%	0%	61%	7%
CHN	RCEP	2010–14	6%		5%	3%	5%	2%
		2015–19	5%		3%	3%	6%	2%
IDN	RCEP	2010–14	49%	2%	32%	4%	3%	1%
		2015–19	64%	9%	26%	2%	11%	-9%
JPN	RCEP	2010–14	27%	7%		8%	42%	40%
	&CPTPP	2015–19	11%	3%		5%	36%	28%
KOR	CPTPP	2010–14	10%	2%	26%		38%	12%
		2015–19	12%	5%	9%		36%	15%
LAO	CPTPP	2010–14	29%	34%	1%	3%	2%	0%
		2015–19	20%	42%	1%	0%	6%	0%
MEX	CPTPP	2010–14	0%	0%	6%	1%	35%	40%
		2015–19	0%	0%	7%	2%	31%	41%
MMR	RCEP	2010–14	28%	35%	1%	8%	7%	0%
		2015–19	54%	19%	2%	2%	8%	1%
MYS	RCEP	2010–14	19%	1%	17%	2%	25%	5%
	&CPTPP	2015–19	20%	8%	13%	1%	24%	5%
NZL	RCEP	2010–14	15%	0%	10%	0%	14%	-23%
	&CPTPP	2015–19	6%	2%	17%	0%	-1%	-9%
PHL	RCEP	2010–14	0%	0%	8%	0%	112%	8%
		2015–19	6%	1%	4%	1%	53%	6%
SGP	RCEP	2010–14	0%	0%	7%	0%	29%	35%
	&CPTPP	2015–19	0%	0%	6%	0%	25%	47%
THA	RCEP	2010–14	4%	4%	39%	3%	5%	17%
		2015–19	13%	5%	43%	2%	-2%	11%
VNM	RCEP	2010–14	21%	5%	20%	18%	8%	3%
	&CPTPP	2015–19	18%	5%	17%	26%	6%	2%

ASEAN = Association of Southeast Asian Nations, CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, RCEP = Regional Comprehensive Economic Partnership, FDI = foreign direct investment, USA = United States of America.
Note: For three-letter country abbreviations, see Table B-1 in Appendix.
Source: Author's calculation based on International Direct Investment Statistics (ITI).

Next, we examine the share of each source country in total inward FDI for RCEP and CPTPP member countries. The data for inward FDI by source countries were obtained from the International Direct Investment Statistics Database, which were collected and compiled by the Institute for Trade and Investment (ITI) of Japan. This database is based on direct investment statistics issued by the governments of the world's major countries and regions and extracts and processes data from 65

frequently used countries and regions.[5]

Table 1 shows the share of each source country in total inward FDI flows, calculated from the ITI's FDI database for 2010–14 and 2015–19.[6] In the ASEAN countries, inward FDI from RCEP member countries has been increasing. For example, in Lao PDR, Malaysia, and Indonesia, China's share in total inward FDI flows has been increasing. In Lao PDR, in particular, 42% of the investment in 2015–19, on average, came from China. In Thailand, investment from Japan was increasing, reaching 43% in 2015–19, and in Viet Nam, investment from South Korea was increasing, reaching 26% in 2015–19. In addition, intra-ASEAN FDI was increasing in Indonesia, Myanmar, and Thailand. In particular, 64% and 54% of inward FDI in Indonesia and Myanmar, respectively, came from within the ASEAN in 2015–19.

Table 2 shows the industry share of inward FDI flow in RCEP and CPTPP member countries.[7] Industries are disaggregated into the manufacturing, finance, and service industries. Overall, the manufacturing sector's share of FDI has declined in many countries, especially in China, from 39% to 27%, in Indonesia from 24% to 13%, and in Korea from 42% to 35%. In Myanmar, however, manufacturing's share of FDI has been increasing, rising from 10% to 21%. These facts imply that, while we see a shift in FDI from the manufacturing sector to the service sector in most RCEP member countries, there is still potential to attract additional manufacturing FDI in the CLMV countries.

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[5] It should be noted that the source of each statistic has a different method for collecting data and a different standard of preparation. For example, some data are collected through surveys, while others are collected through administrative processes (applications, notifications, approvals, etc.). The statistics may or may not cover all the industries and may or may not include all types of projects. Some countries report the investment flow, while others provide data for investment stocks. The data are recorded in US dollars in some countries, but other countries report it in their national currency. No work has been done to unify the definitions in this database because of their variety and the limited availability of data.

[6] Amongst RCEP and CPTPP member countries, Brunei Darussalam and Cambodia are not included in this database. Inward FDI by source country is not available for Canada and Peru. These four countries are not included in Table 1.

[7] As in Table 1, the data are obtained from the ITI's direct investment database. In addition to Brunei Darussalam, Cambodia, Canada, and Peru, inward FDI by industry was not available for Lao PDR, New Zealand, and Singapore.

Table 2: The Share of Industries in Total Inward FDI

Recipient		Year	MFG	Finance &Insurance	SERVICE
AUS	RCEP	2010-2014	9%	-1%	18%
	&CPTPP	2015-2019	16%	19%	18%
CHL	CPTPP	2010-2014	5%	19%	21%
		2015-2019	2%	31%	11%
CHN	RCEP	2010-2014	39%	9%	41%
		2015-2019	27%	11%	52%
IDN	RCEP	2010-2014	24%		
		2015-2019	13%		
JPN	RCEP	2010-2014	125%	10%	-58%
	&CPTPP	2015-2019	83%	47%	-41%
KOR	CPTPP	2010-2014	42%	23%	34%
		2015-2019	35%	25%	36%
LAO	CPTPP	2010-2014			
		2015-2019			
MEX	CPTPP	2010-2014	56%	5%	24%
		2015-2019	49%	10%	24%
MMR	RCEP	2010-2014	10%		
		2015-2019	21%		
MYS	RCEP	2010-2014	39%	15%	18%
	&CPTPP	2015-2019	31%	19%	29%
NZL	RCEP	2010-2014			
	&CPTPP	2015-2019			
PHL	RCEP	2010-2014	7%	4%	
		2015-2019	9%	7%	
SGP	RCEP	2010-2014			
	&CPTPP	2015-2019			
THA	RCEP	2010-2014	41%	25%	32%
		2015-2019	40%	26%	33%
VNM	RCEP	2010-2014	60%		25%
	&CPTPP	2015-2019	58%		28%

FDI = foreign direct investment, MFG = manufacturing, CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, RCEP = Regional Comprehensive Economic Partnership.
Note: For three-letter country abbreviations, see Table B-1 in Appendix.
Source: Author's calculation based on International Direct Investment Statistics (ITI).

3. FDI Liberalisation

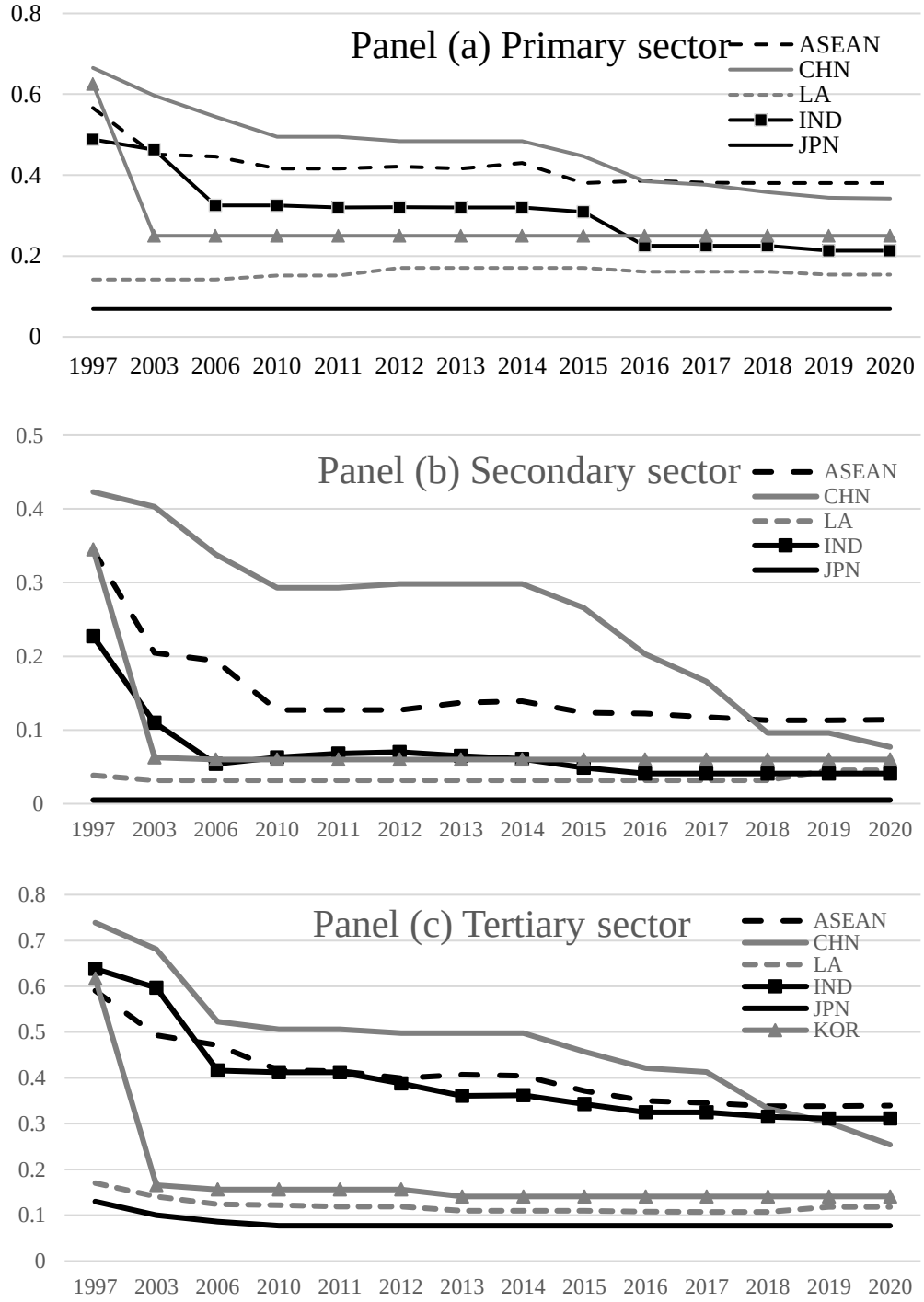
To examine FDI liberalisation in RCEP member countries, we use the FDI restrictiveness index (FDI RI) provided by OECD. This measure includes 85 countries and 22 industries. As of December 2021, the index covers the period from 1997 to 2020 for most countries; however, amongst ASEAN countries, the index values for Singapore, Cambodia, Lao PDR, and Myanmar are available only for the period between 2018 and 2020.[8] FDI RI assesses the restrictions of a country's FDI rules by examining the four major types of restrictions: (1) foreign equity limitations, (2) screening or approval mechanisms, (3) restrictions on the employment of foreigners as key personnel, and (4) other operational restrictions. It also provides an average score of the aforementioned four measures, namely, (5) all types of restrictions. FDI restrictiveness is evaluated on a scale between 0 for open and 1 for closed; a lower value of FDI RI indicates a greater level of FDI liberalisation.

In Figure 3, Panels (a), (b), and (c) present the trends in FDI RI in 'all type of restrictions' by region and sector. The regions include the ASEAN countries, Latin America, China, India, Japan, and Korea.[9] Two observations are noteworthy. First, although there is a huge gap in FDI RI across the ASEAN, East Asian, and Latin American (LA) countries in 1997, it narrowed during the 2000s and 2010s. For example, in Panel (a) of Figure 3, FDI RI for the primary sector in 1997 ranges between 0.5 and 0.7 for the ASEAN countries, China, India, and Korea, while FDI RI for Japan and Latin America was at a lower level of 0.7 and 0.14, respectively. FDI RI gradually declined through 2010 in Korea, China, the ASEAN countries, and India. These countries also deregulated FDI restrictions between 2014 and 2016, narrowing the gap between Japan and Latin America. These trends can also be observed in the secondary and tertiary sectors.

[8] For data availability, see Table A-1 in Appendix.

[9] Singapore, Lao PDR, Myanmar, and Cambodia are not included in the ASEAN because the index value for these countries is available only for the period between 2016 and 2020 for Cambodia and Lao PDR, between 2018 and 2020 for Singapore and Myanmar. The Latin American countries in Figure 3 include Argentina, Brazil, Chile, Colombia, Costa Rica, Dominica, Mexico, Panama, Peru, Uruguay, and Venezuela.

Figure 3: FDI Restrictiveness Index by Region and Sector

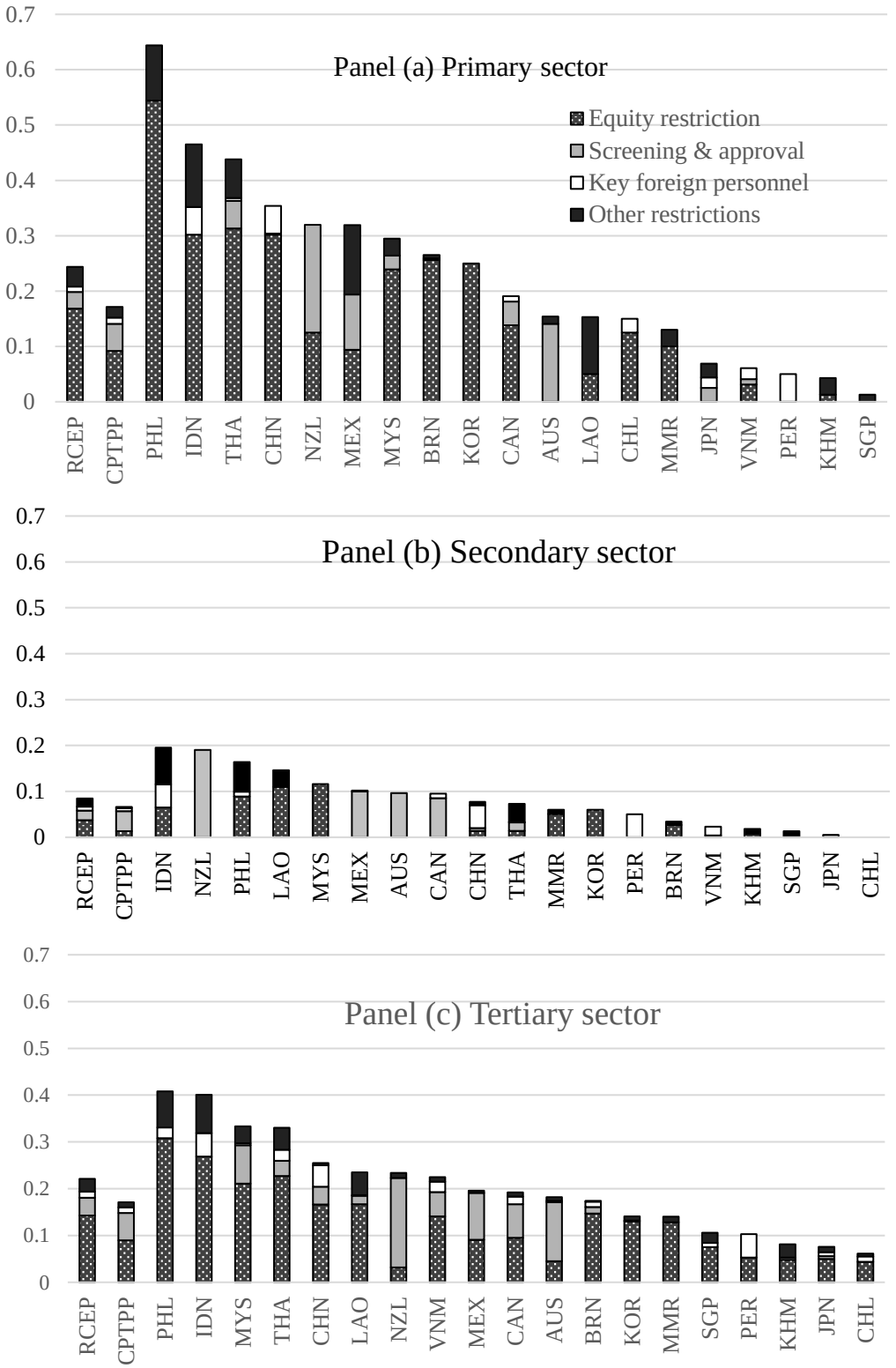


ASEAN = Association of Southeast Asian Nations, LA = Latin America.
Note: For three-letter country abbreviations, see Table B-1 in Appendix.
Source: Author's calculation based on the Organisation for Economic Co-operation and Development and the Foreign Direct Investment Restrictiveness Index database (https://www.oecd.org/investment/fdiindex.htm, accessed 6 August 2022).

Second, although FDI liberalisation has progressed over the past 20 years in many countries, the level of regulation for the primary and tertiary sectors in 2020 was higher than that of the secondary sector, especially in the ASEAN countries and China. In the secondary sector, as of 2010, the regulatory index declined to less than 0.15, except for China's secondary sector. China deregulated FDI restrictions in the secondary sector throughout the 2010s to less than 0.1 in 2018. In the secondary sector, deregulation is almost complete in the ASEAN and East Asian countries. Conversely, in the primary and tertiary sectors, the regulatory indices in China and the ASEAN countries were greater than 0.3 in 2020, indicating that regulations remain in place compared to Japan, Korea, and Latin American countries.

Figure 4 shows the FDI regulatory indicators and their breakdown into the type of restrictions for each country as of 2020. In the secondary sector, the average value of regulation index across RECEP and CPTPP countries is almost the same. However, RCEP member countries have a higher regulation level for the primary and tertiary sectors. The countries with the highest regulatory levels are the Philippines, Indonesia, and Thailand in the primary sector, and the Philippines, Indonesia, Thailand, and Malaysia in the tertiary sector. Amongst the ASEAN countries, Thailand, Malaysia, the Philippines, and Indonesia have a higher FDI restriction level than the CLMV countries. The share by the type of FDI restriction varies by country and sector. For example, we can see that the share of 'equity restrictions' is high in the primary sector and tertiary sector. In the secondary sector, while the share of regulations in 'equity restrictions' is higher in RCEP countries, CPTPP countries have a higher restrictiveness index in 'screening and approval.'

Figure 4: FDI Restrictiveness Index in RCEP and CPTPP Countries in 2020



FDI = foreign direct investment, CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, RCEP = Regional Comprehensive Economic Partnership.
Note: For three-letter country abbreviations, see Table B-1 in Appendix.
Source: Author's calculation based on the Organisation for Economic Co-operation and Development Foreign Direct Investment Restrictiveness Index database. (https://www.oecd.org/investment/fdiindex.htm, accessed 6 August 2022).

4. Determinants of Inward FDI

To examine how liberalisation affects inward FDI, we conduct a regression analysis using the data on bilateral FDI provided by the Orbis database. We also consider other policy measures such as the Bilateral Investment Treaty (BIT) dummy, FDI restrictions index, and the institutional quality of the host economies.

4.1. Empirical Specifications

In the literature, previous studies such as Anderson (2011), Egger (2010), and Hoshi and Kiyota (2020) have examined the determinants of FDI using the gravity model, in which FDI is modelled as a function of the origin and destination countries as well as origin–destination pair characteristics. Following these previous studies, we regress the FDI variable, measured by the number of new MNE subsidiaries for host country *i*, parent country *j*, and subsidiary industry *s,* on various host country, parent country, and industry characteristics.

$$FDI_{ijst} = \exp\{\beta_1 + \beta_2 O_{it-1} + \beta_3 D_{js-1} + \beta_4 w_{ijt-1}\} \cdot \epsilon_{ijk}, \qquad (1)$$

where O_{it-1}, D_{jst-1}, and w_{ijt-1} denote origin country, destination country, and origin–destination pair characteristics in year $t-1$. For origin and destination country characteristics, we include the log of the home and host countries' GDP as a measure of production capacity or market size. We also include several host country characteristics, such as FDI policy measures and institutional quality measures. For origin–destination pair characteristics, the bilateral geographical and cultural distances between the host and home countries are included. To deal with the issue of zero FDI, we estimate Equation (1) using the Poisson pseudo maximum likelihood method.

4.2. Data

For the data source for bilateral FDI, we use the number of new MNE subsidiaries, which was obtained from the firm-level panel dataset in the Bureau van Dijk's Orbis database compiled by Kurita and Matsuura (2020). Orbis is one of the leading sources of company information, including firm-level financial and ownership information, location, and detailed industry classifications for more than 100 million firms worldwide. In this study, we obtained data on MNE subsidiaries

located in 20 European countries, 13 countries in North and South America, 11 Asian countries, and two countries in Oceania.[10] Amongst RCEP member countries, Cambodia, Lao PDR, and Myanmar were not included due to insufficient observations. One strength of this dataset is that it enables us to identify differences between industries as well as between source and destination countries.[11]

For origin and destination characteristics, we use GDP as the production capacity of the home country or the market size of the host country, which was obtained from the World Bank's World Development Indicators database. We also include Trade Openness, which is the sum of export and import normalised by GDP and is often used as a measure of trade liberalisation. Country pair variables include geographical or cultural distances between the origin and destination country. For the bilateral distance between two countries, we used the population-weighted bilateral distance (*Distw*) obtained from the Centre d'Études Prospectives et d'Informations Internationales (CEPII) gravity database.[12] This variable is calculated by measuring the distance between the largest cities in those two countries, weighted by the share of the city in the country's overall population. To control for the cultural ties between two countries, we use a dummy variable that takes the value of 1 if the host and home countries have the same official or national language (*Comlang_off*) and 0 otherwise, and a colony dummy variable (*Colony*) that takes the value of 1 if the countries have a coloniser–colony relationship and 0 otherwise. Both variables were obtained from the CEPII gravity database.

For policy factor variables, we include the FDI Restrictiveness Index (*FDI-RI*), which is provided by OECD. In our baseline estimation, we use the index for 'all types of restrictions.' We also include Bilateral Investment Treaty (*BIT*) dummy variables that equal 1 if the two countries have a BIT and 0 otherwise. Information

[10] For details regarding the data from the Orbis database, see Appendix B.

[11] As a source of bilateral FDI flows, OECD's FDI statistics is an alternative option. However, it features some limitations. First, their reporting countries are restricted to OECD member countries, implying that FDI from non-member countries such as China or Singapore are not included. Second, it is difficult to obtain data by industry, especially for non-OECD member countries. As we see in Figures 3 and 4, the progress in FDI liberalisation varies by industry, and, when using OECD data, it is difficult to examine the industry-level relationship between FDI liberalisation and its impact.

[12] For details, see the following link: http://www.cepii.fr/cepii/en/bdd_modele/bdd.asp.

on BITs is obtained through the web appendix in Hoshi and Kiyota (2020).[13] As a measure of institutional quality, we use the World Bank's World Governance Indicator database produced by Kaufmann and Kraay. This database provides aggregated governance indicators for over 200 countries for the period between 1996 and 2020 in terms of six dimensions of governance as follows: 1) Voice and Accountability, 2) Political Stability and Absence of Violence/Terrorism, 3) Government Effectiveness, 4) Regulatory Quality, 5) Rule of Law, and 6) Control of Corruption. We use the index for regulatory burden as a measure of governance quality, as it is frequently used in the FDI and development literature, such as in Kimura and Todo (2010). Host country and year fixed effects are also included. The sample periods for our estimation extend from 2011 through 2016 due to the data restrictions of the Orbis and CEPII's gravity databases. As destination countries, we focus on 15 RECEP plus CPTPP member countries, India, as well as eight Latin American countries.

4.3. Estimation Results

Table 3 presents the estimation results of Equation (1). Column (1) is our baseline result. While the GDP of the origin countries are positive and significant, the coefficient in destination countries become negative but insignificant. This is probably because most destination countries in our sample are developing countries. The coefficients of bilateral geographical distance and cultural ties, namely *Colony* and *Comlang_off*, *Trade Openness*, and *BIT* dummy are all positive and significant. The FDI RI, the variable of interest, has negative and significant impact on inward FDI. Since a lower value of FDI RI indicates more liberalisation, this result implies that liberalisation promotes FDI. We also found that the coefficient of the regulatory quality is positive and weakly significant.

As we explained in Section 3, the FDI restrictiveness index can be decomposed into four factors, 'Equity restrictions,' 'Screening and approval,' 'Key foreign personnel,' and 'Other restrictions.' In Columns (2) through (5), we use these specific restrictiveness measures in place of 'All types of restrictions' to estimate the model

[13] We thank Prof. Kiyota for allowing us to use this index. Hoshi and Kiyota (2020) used the entry into force date of BIT, obtained from the World Bank database of Bilateral Investment Treaties.

for inward FDI. We found 'Equity restrictions,' 'Key foreign personnel,' and 'Other restrictions' have a negative and significant impact.

Table 3: Estimation Results: Baseline

	(1)	(2)	(3)	(4)	(5)
$lnGDP_i$	0.878***	0.878***	0.878***	0.878***	0.878***
	(0.0181)	(0.0181)	(0.0181)	(0.0181)	(0.0181)
$lnGDP_j$	–0.313	–0.237	–0.162	–0.161	–0.300
	(0.307)	(0.309)	(0.309)	(0.310)	(0.312)
	–	–	–	–	–
$lnDistw_{ij}$	0.927***	0.927***	0.927***	0.927***	0.927***
	(0.0428)	(0.0428)	(0.0429)	(0.0430)	(0.0429)
Trade Openness$_j$	2.239***	2.474***	2.544***	2.536***	2.121***
	(0.694)	(0.707)	(0.710)	(0.711)	(0.695)
BIT_{ij}	0.906***	0.906***	0.906***	0.906***	0.906***
	(0.1000)	(0.1000)	(0.101)	(0.100)	(0.100)
$Colony_j$	0.847***	0.847***	0.847***	0.847***	0.848***
	(0.0920)	(0.0920)	(0.0921)	(0.0921)	(0.0921)
$Comlang\_off_j$	1.243***	1.243***	1.243***	1.243***	1.243***
	(0.0690)	(0.0689)	(0.0691)	(0.0690)	(0.0691)
Regulatory quality	0.0228*	0.0233*	0.0234*	0.0233*	0.0233*
	(0.0129)	(0.0129)	(0.0130)	(0.0129)	(0.0129)
	–				
FDI RI, total	2.117***				
	(0.170)				
		–			
FDI RI		2.537***			
I Equity restriction		(0.246)			
FDI RI			0.111		
II Screening & approval			(0.529)		
				–	
FDI RI				12.95***	
III Key foreign personnel				(1.503)	
					–
FDI RI					4.949***
IV Other restrictions					(0.944)
Observations	167,076	167,076	167,076	167,076	167,076
Log pseudolikelihood	–25303	–25292	–25592	–25514	–25556
pseudo R2	0.3209	0.3212	0.3131	0.3152	0.3141

Note: Robust standard errors in parentheses. ***, **. and * indicate significant at 1%, 5% and 10%, respectively.
Source: Author's own calculation.

Table 4: Estimation Results by Industries

	(1)	(2)	(3)	(4)	(5)	(6)
	Manufacturing		Non-Manufacturing			
VARIABLES	Machinery	Non-machinery		Wholesale & retail	Transportation & Communication	Finance, Insurance, & Real estate
$lnGDP_i$	1.028***	0.897***	0.850***	0.940***	0.928***	0.905***
	(0.0313)	(0.0335)	(0.0228)	(0.0291)	(0.0604)	(0.0372)
$lnGDP_j$	–0.291	–2.178***	–0.160	–0.664	0.0445	0.169
	(0.691)	(0.706)	(0.403)	(0.603)	(1.135)	(0.710)
$lnDistw_{ij}$	–0.748***	–0.986***	–0.945***	–0.933***	–0.784***	–1.161***
	(0.0754)	(0.0589)	(0.0583)	(0.0776)	(0.139)	(0.113)
Trade Openness$_j$	4.715**	0.941	1.089	0.504	3.542	–0.168
	(1.832)	(1.127)	(0.873)	(1.428)	(2.273)	(1.537)
BIT_{ij}	0.267	0.725***	1.164***	0.869***	1.017***	0.933***
	(0.206)	(0.177)	(0.120)	(0.176)	(0.326)	(0.210)
Colony$_j$	0.457*	0.0482	0.999***	0.618***	0.767***	0.874***
	(0.258)	(0.204)	(0.102)	(0.164)	(0.221)	(0.163)
Comlang_off$_j$	1.733***	1.331***	1.153***	1.237***	1.758***	1.241***
	(0.203)	(0.142)	(0.0764)	(0.118)	(0.186)	(0.142)
Regulatory quality	0.0151	0.00657	0.0234	0.0301	0.00739	0.00366
	(0.0328)	(0.0201)	(0.0157)	(0.0233)	(0.0408)	(0.0309)
FDI RI, total	–1.151	–20.57***	–4.604***	–7.436***	–0.828*	–2.444***
	(0.820)	(3.386)	(0.286)	(2.010)	(0.431)	(0.350)
Impact of one-S.D. change in FDI-RI on the new entry	–0.114	–1.513	–1.206	–1.661	–0.219	–0.641
Observations	18,720	67,392	75,582	7,488	19,656	17,550
Log pseudolikelihood	–2822	–4378	–15014	–3677	–1071	–2534
pseudo R2	0.4556	0.3157	0.3779	0.4835	0.2915	0.4234

Note: Robust standard errors appear in parentheses. ***, **. and * indicate significance at 1%, 5% and 10%, respectively.
Source: Author's own calculation.

In Table 4, we divide our sample by industry, Machinery and non-Machinery Manufacturing, Wholesale and Retail, Transportation and Communication, and Finance, Insurance and Real Estate.[14] *FDI RI* affects inward FDI in most subgroups of industries except for Machinery Manufacturing. This result may reflect the fact that FDI restrictions have been lifted before our sample period has started to attract FDI in machinery manufacturers. To compare the impact of *FDI RI* across industries, we calculate how much a 1-standard deviation change in *FDI RI* affects the number of MNEs, which is also presented in Table 4. The impact is greater for non-Machinery Manufacturing, Wholesale and Retail; a 1-standard deviation reduction of *FDI RI* in these two industries increased the number of MNEs subsidiaries by 0.56% and 1.70%, respectively.

We examined which industries in which countries have room to increase FDI by improving the investment climate. In Table 5, we check the level of *FDI-RI* and the global governance indicator in terms of regulatory quality in RCEP member countries for non-Machinery manufacturing, Wholesale and Retail, Transportation and Communication, and Finance, Insurance and Real Estate. Countries with a relatively higher FDI restrictiveness index include New Zealand, Lao PDR, and Indonesia for non-Machinery manufacturing, Indonesia, Malaysia, and Lao PDR for wholesale and retail; Philippines, China, and Viet Nam for Transportation and Communication; and Thailand, Philippines, and Malaysia for the Finance, Insurance, and Real Estate industries.

Table 5 also provides a breakdown of regulatory indicators. In countries with relatively high regulatory indicators, 'Equity restrictions' has a relatively high value amongst the four components of *FDI RI*. Since the FDI restriction index reached a very low level in the manufacturing sector, there is room for further improvement in non-manufacturing sectors such as distribution, transportation, and communication as well as finance, especially in the ASEAN countries.

[14] Machinery manufacturing includes the manufacturing of computers, electronics, and optical products, electrical equipment, machinery and equipment n.e.c., motor vehicles, trailers and semi-trailers, and other transport equipment.

Table 5: FDI Restrictiveness Index for Selected Industries and Regulatory Quality Index in RCEP Member Countries

a) non-Machinery manufacturing

	All type of restriction	Equity restriction	Screening &approval	Key foreign personnel	Other restrictions
AUS	0.09	0.00	0.09	0.00	0.00
BRN	0.00	0.00	0.00	0.00	0.00
CHN	0.06	0.01	0.00	0.05	0.00
IDN	0.17	0.04	0.00	0.05	0.08
JPN	0.00	0.00	0.00	0.00	0.00
KHM	0.04	0.03	0.01	0.00	0.01
KOR	0.00	0.00	0.00	0.00	0.00
LAO	0.18	0.15	0.00	0.00	0.03
MMR	0.13	0.12	0.00	0.00	0.01
MYS	0.00	0.00	0.00	0.00	0.00
NZL	0.19	0.00	0.19	0.00	0.00
PHL	0.07	0.00	0.00	0.00	0.07
SGP	0.01	0.00	0.00	0.00	0.01
THA	0.10	0.04	0.01	0.00	0.04
VNM	0.03	0.01	0.00	0.02	0.00

b) Wholesale & Retail

	All type of restriction	Equity restriction	Screening &approval	Key foreign personnel	Other restrictions
AUS	0.08	0.00	0.08	0.00	0.00
BRN	0.00	0.00	0.00	0.00	0.00
CHN	0.08	0.03	0.00	0.05	0.00
IDN	0.56	0.43	0.00	0.05	0.08
JPN	0.00	0.00	0.00	0.00	0.00
KHM	0.01	0.00	0.00	0.00	0.01
KOR	0.00	0.00	0.00	0.00	0.00
LAO	0.37	0.19	0.10	0.00	0.08
MMR	0.07	0.06	0.00	0.00	0.01
MYS	0.47	0.20	0.20	0.02	0.05
NZL	0.19	0.00	0.19	0.00	0.00
PHL	0.15	0.00	0.00	0.00	0.15
SGP	0.01	0.00	0.00	0.00	0.01
THA	0.07	0.00	0.03	0.00	0.04
VNM	0.13	0.03	0.05	0.02	0.03

(Table 5 continues on the next page)

c) Transportation & Communication

	All type of restriction	Equity restriction	Screening &approval	Key foreign personnel	Other restrictions
AUS	0.27	0.07	0.19	0.01	0.00
BRN	0.40	0.29	0.08	0.03	0.00
CHN	0.77	0.65	0.08	0.05	0.00
IDN	0.60	0.47	0.00	0.05	0.08
JPN	0.24	0.19	0.02	0.02	0.01
KHM	0.23	0.19	0.03	0.00	0.02
KOR	0.49	0.47	0.00	0.00	0.01
LAO	0.32	0.26	0.00	0.01	0.05
MMR	0.19	0.19	0.00	0.00	0.01
MYS	0.43	0.31	0.08	0.00	0.04
NZL	0.26	0.07	0.19	0.00	0.00
PHL	0.78	0.64	0.00	0.08	0.07
SGP	0.35	0.28	0.00	0.05	0.03
THA	0.48	0.35	0.03	0.04	0.05
VNM	0.48	0.29	0.17	0.02	0.00

d) Finance, Insurance, & Real Estate

	All type of restriction	Equity restriction	Screening &approval	Key foreign personnel	Other restrictions
AUS	0.28	0.12	0.14	0.00	0.02
BRN	0.05	0.05	0.00	0.00	0.00
CHN	0.08	0.00	0.03	0.03	0.03
IDN	0.16	0.05	0.00	0.03	0.09
JPN	0.05	0.00	0.00	0.00	0.05
KHM	0.09	0.06	0.00	0.00	0.03
KOR	0.03	0.02	0.00	0.00	0.01
LAO	0.12	0.08	0.00	0.00	0.04
MMR	0.21	0.19	0.00	0.00	0.02
MYS	0.31	0.23	0.05	0.00	0.03
NZL	0.25	0.04	0.20	0.00	0.02
PHL	0.32	0.27	0.00	0.00	0.05
SGP	0.09	0.08	0.00	0.00	0.01
THA	0.41	0.34	0.00	0.03	0.05
VNM	0.18	0.13	0.00	0.02	0.03

FDI = foreign direct investment, RCEP = Regional Comprehensive Economic Partnership.
Note: For three-letter country abbreviations, see Table B-1 in Appendix.
Source: Author's calculation based on the Organisation for Economic Co-operation and Development Foreign Direct Investment Restrictiveness Index database. (https://www.oecd.org/investment/fdiindex.htm, accessed 6 August 2022).

5. Conclusion

This paper presents the trends and patterns of FDI inflows and outflows and reviews FDI liberalisation in East and Southeast Asia. We found that inward FDI has been increasing in Singapore and the CLMV countries, and that outward FDI has been increasing in China and the major ASEAN countries. Examining the source countries of inward FDI, intraregional FDI has also been increasing in East and Southeast Asia; in the CLMV countries, there is room for growth in FDI in the manufacturing sector, while the other RCEP countries tend to shift to the service sector. We also found that in East and Southeast Asia, there has been significant FDI liberalisation, but restrictions still remain, especially in the primary and tertiary sectors. The estimation results of the gravity model show that there is room for increasing FDI through investment liberalisation in the non-manufacturing sectors of the ASEAN countries. Looking at the breakdown of FDI restrictions, 'Equity restrictions' tend to be a dominant component in countries with relatively high FDI RI.

Although this study presents interesting findings, it also provides various avenues for future research. First, an interesting research agenda would be to investigate how the COVID-19 pandemic affected the global value chain and FDI flows in East and Southeast Asia. This issue is important, especially when considering the post-pandemic long-term recovery of FDI flows. Second, this paper focused on FDI liberalisation and governance quality, but other trade and investment policies such as regional trade agreements or bilateral investment treaties may also affect FDI flows. The formation of industrial clusters is seen as a key factor for attracting MNEs, so investigating the role of other policies is also an important policy agenda.

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Appendix A

Table A-1. Data Availability of the FDI Restrictiveness Index

		1997	2003	2006	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	RCEP&CPTPP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Brunei	RCEP&CPTPP												X	X	X
Cambodia	RCEP										X	X	X	X	X
Canada	CPTPP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Chile	CPTPP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
China	RCEP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Indonesia	RCEP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Japan	RCEP&CPTPP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Rep. of Korea	RCEP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lao PDR	RCEP										X	X	X	X	X
Malaysia	RCEP&CPTPP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mexico	CPTPP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Myanmar	RCEP							X	X	X	X	X	X	X	X
New Zealand	RCEP&CPTPP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Peru	CPTPP				X	X	X	X	X	X	X	X	X	X	X
Philippines	RCEP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Singapore	RCEP&CPTPP												X	X	X
Thailand	RCEP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Viet Nam	RCEP&CPTPP	X	X	X	X	X	X	X	X	X	X	X	X	X	X

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, RCEP = Regional Comprehensive Economic Partnership, Lao PDR = Lao People's Democratic Republic.

Source: Author's calculation based on the Organisation for Economic Co-operation and Development Foreign Direct Investment Restrictiveness Index database (https://www.oecd.org/investment/fdiindex.htm, accessed on 6 August 2022).

Appendix B. FDI Data by Orbis

This appendix summarises the data construction procedure of the new MNE subsidiaries, which was developed by Kurita and Matsuura (2020) using Orbis. First, we select parent companies and their foreign subsidiaries that are both located in our focal regions, namely, 20 European countries, 13 countries in North and South America, 11 Asian countries, and two countries in Oceania. A list of countries is presented in Table B2. Parent companies are restricted to industrial firms to exclude ownership by individuals, governments, and financial institutions. We also exclude domestic subsidiaries, i.e. subsidiaries that are located in the same country as their parent companies. The ownership threshold for identifying the global ultimate owner is 50.01%. Our sample covers both manufacturing and non-manufacturing industries, based on each firm's Nomenclature of Economic Activities (Rev. 2) 4-digit level industry classification. We exclude parents and subsidiaries that lack an industry classification. As a measure of FDI flow, we use the number of new MNE subsidiaries, which is identified by referring to the date of incorporation for each one.

Table B-1. Three-Letter Country Abbreviations

Country name	Three-Letter Country Abbreviations
Australia	AUS
Brunei Darussalam	BRN
Canada	CAN
Chile	CHL
China	CHN
Indonesia	IDN
Japan	JPN
Cambodia	KHM
Korea, Republic of	KOR
Lao PDR	LAO
Mexico	MEX
Myanmar	MMR
Malaysia	MYS
New Zealand	NZL
Peru	PER
Philippines	PHL
Singapore	SGP
Thailand	THA
Viet Nam	VNM

Lao PDR = Lao People's Democratic Republic.
Source: Authors.

Table B-2. List of Countries

Europe	North America	Asia
United Kingdom	Canada	Japan
Switzerland	United States	China
Netherlands	**Latin America**	Korea, Republic of
Germany	Mexico	Taiwan
Ireland	Brazil	Indonesia
France	Chile	Malaysia
Spain	Colombia	Philippines
Belgium	Peru	Singapore
Italy	Argentina	Thailand
Sweden	Panama	Viet Nam
Austria	Costa Rica	India
Norway	Dominican Republic	**Oceania**
Portugal	Uruguay	Australia
Denmark	Venezuela	New Zealand
Finland		
Central Europe		
Czech Republic		
Hungary		
Romania		
Slovakia		
Poland		

Source: Authors.

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