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Economic Impact of RCEP*

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Abstract

This study provides a quantitative evaluation of the economic impact of the Regional Comprehensive Economic Partnership (RCEP), the world's largest regional trade agreement. We adopt two methodological approaches. First, we conduct an ex post evaluation using a structural gravity model applied to panel data on bilateral trade in goods and services, inward foreign direct investment (FDI), and import tariffs. Second, we implement an exante analysis using a computable general equilibrium (CGE) model to simulate potential medium-term economic gains from deeper integration. Our ex post results indicate that RCEP has limited short-term effects on goods trade and inward FDI within the region. However, services trade shows clear gains, and the responsiveness of goods imports to tariffs has increased. Drawing on empirical estimates, the CGE analysis simulates a set of policy scenarios that include tariff reductions, reductions in non-tariff barriers (NTBs) in goods and services trade, and improved investment conditions. The simulation results show that deeper integration, particularly in NTB reductions and investment commitments, produces substantial economic benefits: by 2040, real GDP in RCEP increases by 1.5%, and economic welfare by 1.3%. These findings imply that realizing RCEP's full economic potential depends critically on progress in reducing NTBs and facilitating cross-border investment.

Keywords: RCEP, regional trade agreement, tariffs, gravity model, CGE model, non-tariff barriers
JEL classification: F14, F15

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1 Introduction

The RCEP agreement entered into force on January 1st, 2022, creating the world's largest regional trade area. The countries that ratified the agreement are the Association of Southeast Asian Nations (ASEAN) member states[1], Australia, China, Japan, Korea, and New Zealand. Together, RCEP member countries account for about 30% of the world's population, 31% of GDP, 29% of exports, and 27% of imports in 2021, the year before enactment, according to estimates from the United Nations (2024), the International Monetary Fund (2025), and the Center for Global Trade Analysis (Aguiar et al. 2023). The RCEP region also accounts for 36% of global goods and services production and participates in 43% of international trade in intermediate inputs, underscoring its central role in global production and supply chains. Given this economic scale and RCEP's function as a linchpin of the regional production network, the agreement's full implementation is expected to have substantial impacts on member economies and the rest of the world.

The RCEP is a comprehensive agreement comprising 20 chapters in the official documents (RCEP 2020) that covers market access, along with a wide range of regulatory provisions. It has the potential to deepen regional economic integration through multiple channels, including reductions in trade costs, greater policy certainty, and improved conditions for cross-border investment. Yet evaluating its economic impact presents particular challenges at this early stage. The agreement applies multi-stage timelines to eliminate approximately 90% of tariffs over an average of 20 years, and only four years have elapsed since its entry into force. A further complication arises from the institutional context in which RCEP was formed: many member countries were already connected through a network of bilateral and plurilateral agreements, such as the ASEAN+1 agreements, meaning that applied tariff rates among members were already relatively low when the agreement took effect. The scope for trade effects arising from tariff reductions is therefore limited in the short run. Instead, the economic gains from RCEP are likely to materialize gradually through reductions in non-tariff barriers (NTBs) in goods and services trade and improvements to the investment environment.

To address these challenges, this study combines ex post empirical analysis with ex ante simulation. First, we conduct an ex post evaluation of RCEP's effects using a structural gravity model applied to panel data on bilateral trade in goods and services, bilateral

[1]The ASEAN member states are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

inward foreign direct investment (FDI), and bilateral import tariffs. This approach allows us to assess whether RCEP has measurably affected trade and investment outcomes since its entry into force and to examine whether the responsiveness of trade flows to tariffs has changed following implementation, providing evidence on potential shifts in trade structure. Second, we conduct an ex ante analysis using a computable general equilibrium (CGE) model of global trade to assess potential medium-term economic gains from deeper regional integration. Drawing on empirical estimates from the gravity model, we design policy scenarios that simulate tariff reductions, NTB reductions in goods and services, and FDI facilitation among RCEP members. These simulations allow us to quantify how commitments under RCEP could affect real GDP, trade, investment, and welfare across member economies and the rest of the world.

The literature on RCEP has evolved as analytical frameworks and policy inputs have become more refined over time. Early studies examining the potential economic effects of RCEP generally relied on computable general equilibrium (CGE) models and evaluated potential impacts under stylized assumptions such as full or near-full tariff elimination (e.g., Kawai & Wignaraja (2008); Lee et al. (2009); Cheong & Tongzon (2013); Urata (2014); Lee & Itakura (2018); Itakura (2019); Petri & Plummer (2020); Park et al. (2021)). While these studies provided important insights into the prospective gains from regional integration, their simulation results were, by design, sensitive to the assumed liberalization scenarios.

Subsequent studies sought to incorporate more realistic policy inputs. Mahadevan & Nugroho (2019) conducted a quantitative assessment based on the tariff schedules under discussion around 2018, allowing for an evaluation of RCEP grounded in negotiated tariff commitments rather than hypothetical full liberalization. Their work represented an important step toward policy-relevant simulation, though considerations for services trade, investment, and non-tariff barriers remained unexplored. Building on this line of research, Itakura (2022) extended the analysis by incorporating multiple liberalization channels, including tariff reductions based on the actual RCEP Agreement[2], services trade liberalization, improvements in logistics, and investment-related commitments, thereby offering a more comprehensive assessment of the agreement's potential economic effects. Services trade liberalization and investment commitments were simulated as reductions in ad valorem tariff equivalents and country-specific investment risk, respectively, though these

[2]RCEP Agreement's Annex I Schedules of Tariff Commitments for the member countries (RCEP 2020).

reductions were not derived from empirical estimation. More recently, Jin et al. (2025) analyzed the welfare effects of RCEP using a dynamic hat algebra framework based on Caliendo et al. (2019), finding that reductions in non-tariff barriers and the easing of financial frictions play a crucial role in amplifying welfare gains within a dynamic general equilibrium setting.

Despite these advances, the existing literature largely relies on ex ante analyses based on pre-entry policy information. With the RCEP having been in force for only a few years, empirical studies examining realized changes in trade and investment outcomes using post-entry data remain scarce. This gap is particularly consequential, as the agreement approaches its mandated five-year review in 2027, which will require member governments to assess what the agreement has actually delivered and where further liberalization efforts should be directed.

This study contributes to the literature in three ways. First, it provides one of the few ex post empirical evaluations of RCEP using observed panel data on goods trade, services trade, inward FDI, and import tariffs, offering evidence on the agreement's realized effects in its early years of implementation. Second, it examines not only average-level effects but also whether RCEP has altered the responsiveness of trade flows to tariff reductions, shedding light on potential changes in trade structure since the agreement entered into force. Third, by linking ex post gravity estimates to ex ante CGE simulations of deeper regional integration, this study bridges empirical evidence and general equilibrium analysis, offering a coherent assessment of both realized impacts and the future economic potential that remains to be realized through the agreement's fuller implementation.

The remainder of the paper is organized as follows. Section 2 presents the ex post empirical analysis of the RCEP, including the empirical strategy, data, and estimation results. Section 3 describes the CGE model and database used for the policy simulation. Section 4 outlines the baseline and RCEP policy scenarios. Section 5 reports the simulation results. Section 6 concludes.

2 Ex post Analysis of RCEP

We empirically evaluate the effects of RCEP on trade and investment using a structural gravity model. The objective in this ex post analysis is twofold. First, we estimate the average effect of RCEP on bilateral outcomes in goods trade, services trade, and inward foreign direct investment (FDI). Second, we examine whether the agreement has altered

the responsiveness of trade flows to tariff changes, providing evidence on potential changes in the trade structure following the RCEP's entry into force.

2.1 Empirical Strategy

We estimate the following gravity equations for goods imports, services imports, and inward FDI using bilateral panel data, based on the structural gravity framework by Anderson & van Wincoop (2003) and the standard empirical practices summarized in Yotov et al. (2016). Estimation is conducted using the Poisson Pseudo-Maximum Likelihood (PPML) estimator, as proposed by Santos Silva & Tenreyro (2006), which is robust to heteroskedasticity and accommodates zero trade and investment flows.

For goods and services imports, we estimate the following equation:

$$\begin{aligned} \mathrm{X}_{ij,t} = \exp\big(&\beta_1 \mathrm{RCEP}_{ij,t} + \beta_2 \mathrm{OtherDeepRTA}_{ij,t} + \beta_3 \mathrm{ShallowRTA}_{ij,t} \\ &+ \gamma_{ij} + \pi_{i,t} + \psi_{j,t}\big) \times \varepsilon_{ij,t} \end{aligned}$$

Additionally, for inward FDI, we use the following equation:

$$\begin{aligned} \mathrm{FDI}_{ij,t} = \exp\big(&\beta_1 \mathrm{RCEP}_{ij,t} + \beta_2 \mathrm{OtherDeepRTA}_{ij,t} + \beta_3 \mathrm{ShallowRTA}_{ij,t} \\ &+ \beta_4 \mathrm{BIT}_{ij,t} + \gamma_{ij} + \pi_{i,t} + \psi_{j,t}\big) \times \varepsilon_{ij,t} \end{aligned}$$

Here, $\mathrm{X}_{ij,t}$ represents the value of goods or services imports from country i to country j in year t. $\mathrm{FDI}_{ij,t}$ represents the foreign direct investment position from country i to country j in year t. $\mathrm{RCEP}_{ij,t}$ is a dummy variable that takes the value of 1 if both countries are RCEP members and the agreement is in effect at time t. $\mathrm{OtherDeepRTA}_{ij,t}$ and $\mathrm{ShallowRTA}_{ij,t}$ capture the presence of regional trade agreements other than RCEP, classified by their depth of integration. Specifically, $\mathrm{OtherDeepRTA}_{ij,t}$ is a dummy variable equal to one if a country pair is jointly covered by a trade agreement whose depth is greater than or equal to that of RCEP, while $\mathrm{ShallowRTA}_{ij,t}$ indicates agreements that are shallower than RCEP. This classification allows us to control for heterogeneity in the scope and depth of regional trade agreements relative to RCEP.

We control for time-invariant bilateral factors, such as distance and common language, using country-pair fixed effects (γ_{ij}). The exporter-year fixed effects ($\pi_{i,t}$) and importer-year fixed effects ($\psi_{j,t}$) absorb time-varying factors specific to the exporter and importer,

respectively, such as production size, expenditure size, and multilateral resistance terms.

The error term $\varepsilon_{ij,t}$ captures remaining idiosyncratic shocks to bilateral trade or investment that are not explained by the included covariates and fixed effects.

Under this specification, the coefficient β_1 captures the average effect of the RCEP's entry into force on bilateral outcomes, relative to other trade agreements of differing depth, and conditional on bilateral and country-specific factors.

Additionally, to verify whether RCEP has changed the trade structure, we conduct an analysis using bilateral tariff rates. Specifically, we focus on whether the responsiveness of imports to tariff reductions has changed before and after the RCEP's entry into force.

$$\begin{aligned} \mathrm{X}_{ij,t} = \exp\Big[&\theta_1 \log \tau_{ij,t} + \theta_2 \log \tau_{ij,t} \times \mathrm{Treat}_{ij} + \theta_3 \log \tau_{ij,t} \times \mathrm{Post}_t \\ &+ \theta_4 \log \tau_{ij,t} \times \mathrm{Treat}_{ij} \times \mathrm{Post}_t + \gamma_{ij} + \pi_{i,t} + \psi_{j,t}\Big] \times \varepsilon_{ij,t} \end{aligned}$$

where, $\tau_{ij,t}$ represents one plus ad valorem tariff rate from country i to country j in year t. The indicator Treat_{ij} is a dummy variable that takes the value of 1 if both countries are RCEP members, and Post_t is a dummy variable indicating the period after the RCEP enters into force. Under this specification, the marginal effect of tariffs on goods imports is then given by the following equation:

$$\frac{\mathrm{d} \log \mathrm{X}_{ij,t}}{\mathrm{d} \log \tau_{ij,t}} = \theta_1 + \theta_2 \mathrm{Treat}_{ij} + \theta_3 \mathrm{Post}_t + \theta_4 \mathrm{Treat}_{ij} \times \mathrm{Post}_t$$

The coefficient of interest is θ_4. A negative and statistically significant estimate of θ_4 implies that, after RCEP entered into force, imports among RCEP member pairs became more responsive to tariff reductions relative to non-member pairs and the pre-entry period. This result would be consistent with RCEP having altered the effectiveness of tariff liberalization.

It is important to note that the empirical strategy identifies average associations conditional on a rich set of fixed effects, rather than structural causal effects of specific policy provisions. In particular, given the gradual implementation of RCEP tariff commitments and the short post-entry period covered by the data, the estimates should be interpreted as early evidence on the direction and nature of RCEP's impact, rather than as definitive measures of its medium-run effects. These considerations motivate the complementary ex ante simulation analysis presented in the subsequent Section 3.

2.2 Data for Ex post Analysis

The empirical analysis is based on annual bilateral panel data on goods trade, services trade, foreign direct investment, tariffs, regional trade agreements, and bilateral investment treaties. The dataset is constructed to support the estimation of a structural gravity model for goods and services trade and inward FDI, and to analyze tariff-trade interactions before and after RCEP's entry into force.

Bilateral trade data on goods and services are obtained from the UN COMTRADE database. For goods trade, we use importer-reported CIF values, measured in current U.S. dollars, for the period 1996–2024. We exclude aggregate or residual regional categories that do not correspond to individual countries. After this exclusion, the estimation is conducted using a set of explicitly identified countries, which results in a panel covering up to 198 reporting countries and 226 partner countries.

Bilateral services trade data are also sourced from the UN COMTRADE database and reported in current U.S. dollars for the period 2000–2024. However, bilateral services trade is reported at the partner level by a limited number of countries (55 reporters), resulting in a substantially smaller sample than for goods trade.

Trade data are downloaded at the reporter–year level. If no data file is available for a given reporter–year, the corresponding observations are treated as missing. For reporter–year files that are available, partner countries not appearing in the file are assigned zero trade flows, reflecting the absence of reported bilateral trade.

Bilateral foreign direct investment (FDI) data are obtained from the IMF's Coordinated Direct Investment Survey (CDIS), which reports direct investment positions by immediate counterpart economy. The data cover 126 reporting countries and 239 partner countries over the period 2009–2023.

We use inward FDI positions, measured as the value of investment from the source country to the host country. Inward FDI positions are measured at market value in current U.S. dollars and capture the accumulated value of bilateral direct investment, including both equity and debt positions. Using FDI position (stocks) rather than flows is consistent with theoretical gravity models of foreign direct investment, such as Anderson et al. (2019), Bergstrand & Paniagua (2024), Larch & Yotov (2025), which emphasize the relationship between bilateral investment positions, economic size, and investment frictions.

Bilateral tariff data are obtained from the WTO Stats. We collect both most-favored-nation (MFN) and preferential tariff rates at the HS six-digit level. We harmonize tariff data

to a single HS classification and construct annual tariff series by holding tariffs constant at their most recent available level when data are missing.

For each importer–exporter–product–year observation, the applied tariff rate is defined as the minimum of the MFN and preferential rates. These product-level applied tariffs are then aggregated to the importer–exporter–year level using CIF import values as weights. Tariff data are not available for all country pairs in the UN COMTRADE sample. Accordingly, observations with missing tariff information are excluded from the estimation.

Data on deep trade agreements are obtained from the World Bank Deep Trade Agreements Database (DTA 1.0). Following Hofmann et al. (2017), we construct a horizontal depth index based on legally binding provisions in the Horizontal Content component of the database. Using this depth index, trade agreements other than RCEP are classified relative to RCEP. Agreements with depth greater than or equal to that of RCEP are classified as deep. In comparison, those with lower depth are classified as shallow, giving rise to indicators such as OtherDeepRTA and ShallowRTA used in the estimating equations.

Data on bilateral investment treaties (BITs) are obtained from the United Nations Conference on Trade and Development (UNCTAD), International Investment Agreements (IIA) Navigator. The BIT dummy variable indicates whether an investment treaty is in force between the source and host countries in a given year and is included only in the FDI regressions.

Table 1 reports summary statistics for the main variables used in the estimation, separately for RCEP-treated and untreated observations. The table highlights several salient features of the data. First, average trade and investment values are substantially larger for RCEP member pairs than for non-member pairs, reflecting the region's economic size. Second, services trade and inward FDI exhibit a high share of zero observations, underscoring the importance of using estimation methods that can accommodate zero flows. Third, average tariff rates among RCEP members are already low relative to those among non-member pairs, consistent with extensive pre-existing trade agreements, many of which are deep, before RCEP entered into force.

Table 1: Summary statistics by treatment status

	RCEP = 1		RCEP = 0	
Variables	Mean (SD)	Zero (%)	Mean (SD)	Zero (%)
log Goods Imports (USD)	21.16 (2.90)	0.18	14.20 (4.43)	30.01
log Services Imports (USD)	21.28 (1.72)	39.62	17.25 (3.30)	69.21
log Inward FDI (USD)	21.02 (3.17)	4.94	17.09 (3.95)	50.53
Other Deep RTAs (0/1)	0.86 (0.35)	–	0.09 (0.28)	–
Shallow RTAs (0/1)	0.12 (0.32)	–	0.10 (0.31)	–
BIT (0/1)	0.41 (0.49)	–	0.21 (0.41)	–
Applied Tariff (%)	1.21 (3.15)	27.55	7.27 (13.54)	14.15

Source: Authors' computation.

2.3 Estimation Results

We present the estimation results and discuss their implications for the short-run economic impact of RCEP in this section. Specifically, we report the Poisson Pseudo-Maximum Likelihood (PPML) estimates for goods imports, services imports, and inward foreign direct investment (FDI), along with results from the tariff-trade interaction analysis. In all specifications, estimation is conducted using PPML, and standard errors are clustered at the country-pair level.

Table 2 reports the estimation results for goods imports, services imports, and inward FDI. All specifications include country-pair fixed effects, importer-year fixed effects, and exporter-year fixed effects, thereby controlling for time-invariant bilateral factors and multilateral resistance terms.

For goods imports, the estimated coefficient on the RCEP dummy is negative but not statistically significant. This result suggests that there is no evidence of a positive average effect of RCEP on goods imports in the short period since the agreement entered into force in 2022. This finding should not be interpreted as evidence that RCEP has reduced goods trade, but rather reflects the difficulty of identifying short-run effects. RCEP entered into force only in 2022, and the post-entry period covered by the data is limited. More importantly, many RCEP members had already implemented extensive tariff liberalization through pre-existing free trade agreements, leaving limited scope for significant, immediate changes in goods trade attributable solely to the agreement.

By contrast, the coefficient on the other deep RTA dummy is positive and statistically significant. The estimated coefficient of 0.0877 implies that goods imports between country pairs covered by deep trade agreements other than RCEP are approximately 9.2 percent larger than those between country pairs without such agreements, holding other factors constant. This result provides a useful benchmark for interpreting the potential medium-run effects of RCEP as deeper forms of integration are gradually implemented.

In the services imports regression, the estimated coefficient on the RCEP dummy is positive and statistically significant, with a magnitude of 0.1814. This estimate implies that services imports among RCEP member countries increased by approximately 19.9 percent following the agreement's entry into force, holding other factors constant. This suggests that services trade has responded more quickly to RCEP than goods trade. One plausible explanation is that services sectors were less fully liberalized under pre-existing agreements, leaving greater scope for early gains from RCEP. In addition, provisions related to regu-

latory cooperation, transparency, and policy certainty may affect services trade relatively quickly, even in the absence of significant changes in explicit market access commitments. Neither other deep RTA nor shallow RTA is statistically significant in the services regression, indicating that services trade responds differently to trade agreements than goods trade.

Turning to inward FDI, the estimated coefficient on the RCEP dummy is small and statistically insignificant. This suggests that, in the short period since RCEP entered into force, there is limited evidence of a measurable increase in inward FDI attributable to the agreement. Investment responses to trade agreements typically materialize over longer horizons, as firms adjust their production networks and capital allocation decisions. In contrast, the coefficient on other deep RTA is positive and statistically significant. The estimated coefficient of 0.1455 implies that inward FDI is approximately 15.7 percent larger between country pairs linked by deep trade agreements other than RCEP. This finding supports the view that deeper forms of economic integration can have economically meaningful effects on cross-border investment[3], even if such effects are not yet observed for RCEP.

[3]Urata & Baek (2023) provides empirical evidence that comprehensive and high-level investment agreements lead to a positive impact on FDI from Japanese firms.

Table 2: Regression results: the effect of RCEP on imports and inward FDI

Dependent Variables:	Imports		Inward FDI
	Goods	Services	
Model:	(1)	(2)	(3)
Variables			
RCEP	-0.0891	0.1814**	-0.0732
	(0.0583)	(0.0880)	(0.0801)
Other deep RTAs	0.0877***	0.0622	0.1455**
	(0.0263)	(0.0446)	(0.0658)
Shallow RTAs	0.0505	0.0143	0.0370
	(0.0707)	(0.1318)	(0.0873)
BIT			0.0068
			(0.0090)
Fixed-effects			
Country-pair	Yes	Yes	Yes
Importer-Year	Yes	Yes	Yes
Exporter-Year	Yes	Yes	Yes
Fit statistics			
Observations	895,696	90,716	108,375
Pseudo R^2	0.99101	0.98160	0.98897

Note: *Clustered standard errors at the country-pair level*
*Significance levels: ***: 0.01, **: 0.05, *: 0.1*
Source: Authors' estimation results.

Table 3 reports the results of the tariff-trade interaction analysis, which examines whether the responsiveness of goods imports to tariff changes has shifted following RCEP's entry into force. For this analysis, we restrict the sample to the period starting in 2015. Using a shorter and more recent pre-treatment window helps ensure that the identifying variation is driven by policy changes around RCEP's entry into force, rather than by earlier structural changes or global shocks unrelated to the agreement.

The coefficient on the log of tariffs is negative and statistically significant, confirming the standard result that higher tariffs reduce imports. The key coefficient of interest is the triple interaction among tariffs, the RCEP treatment indicator, and the post-entry period. This coefficient is negative and statistically significant, indicating that, after RCEP entered into force, goods imports among RCEP member pairs became more responsive to tariff reductions than those among non-member pairs and during the pre-entry period. This result provides evidence of a structural change in the tariff-trade relationship associated with RCEP.

Notably, the interaction terms between tariffs and the RCEP treatment indicator, as well as between tariffs and the post-entry period, are not statistically significant on their own. This indicates that RCEP member pairs did not exhibit systematically higher tariff responsiveness before the agreement, nor was there a common post-entry global shock affecting tariff responsiveness across all country pairs. The significant triple interaction, therefore, captures a change that is specific to RCEP member pairs after the agreement entered into force. Even though average tariff levels were already low, RCEP has enhanced the effectiveness of tariff liberalization, potentially through improvements in trade facilitation, policy certainty, or rule harmonization.

In summary, the estimation results lead to three main conclusions. First, short-run average effects of RCEP on goods imports and inward FDI are limited and difficult to identify empirically, reflecting both the recent entry into force of the agreement and extensive pre-existing liberalization among member countries. Second, services trade shows clear early gains, consistent with RCEP's broader scope beyond tariffs. Third, the tariff-trade interaction analysis suggests that RCEP has altered the structure of trade by increasing the responsiveness of imports to tariff reductions. These findings motivate the ex ante simulation analysis presented in the subsequent sections. While ex post data provide valuable evidence on early impacts and structural changes, they are inherently limited in their ability to capture the medium-run effects of deeper reductions in non-tariff barriers, particularly those affecting investment. Hence, the CGE simulations serve as a complementary

tool for assessing the potential economic gains from the full implementation of RCEP commitments.

Table 3: Regression results: the effect of RCEP on the tariff-trade response

Dependent Variable:	Goods Imports
Model:	(1)
Variables	
log(1 + Tariff)	-1.640***
	(0.4379)
log(1 + Tariff) × Treat	0.5450
	(1.026)
log(1 + Tariff) × Post	-0.4230
	(0.2888)
log(1 + Tariff) × Treat × Post	-2.201**
	(1.109)
Fixed-effects	
Country-pair	Yes
Importer-Year	Yes
Exporter-Year	Yes
Fit statistics	
Observations	203,676
Pseudo R^2	0.99460
Clustered standard errors at the country-pair level	
*Significance levels: ***: 0.01, **: 0.05, *: 0.1*	

Note: *Clustered standard errors at the country-pair level*
*Significance levels: ***: 0.01, **: 0.05, *: 0.1*
Source: Authors' estimation results.

3 Ex ante CGE Analysis

To assess the potential medium-term economic impacts of deeper implementation of RCEP commitments, we employ a computable general equilibrium (CGE) model of global trade. The CGE model captures interlinkages among production, trade, consumption, and investment across regions and sectors and enables us to quantify how policy-induced changes in trade and investment propagate through the global economy.

3.1 Data Base and the Model

To represent the current and future states of the global economy, we use the GTAP database version 11 (Aguiar et al. 2023), the OECD's Inter-Country Input-Output (ICIO) tables (OECD 2025), and economic forecasts from international organizations. The GTAP database describes the global economy with detailed information about 65 industrial sectors for 141 countries and regions. With this database, we can observe the economic structure of production, international trade and protection, and consumption, benchmarked to 2017. We use the ICIO tables to extend the GTAP database to include trade in intermediate goods and services, distinct from trade in final goods and services. The extended database is supplemented with international factor income flows arising from domestic and foreign asset holdings. To reduce the computational burden, we aggregated the database to 25 countries and regions and 24 industrial sectors. The aggregation mappings from the original data are reported in Tables A1 and A2. The extended database covers RCEP member countries, other countries, and the rest of the world.

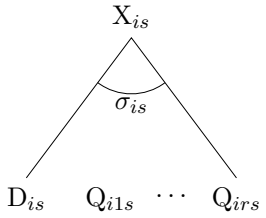
For our simulations, we incorporate the global supply chain (GSC) structure into the dynamic GTAP model (Ianchovichina & McDougall 2001, Ianchovichina & Walmsley 2012), which is a multi-sector, multi-region recursive dynamic computable general equilibrium (CGE) model of global trade. The dynamic GTAP model is an extension of the comparative static GTAP model (Hertel 1997, McDougall 2003, Corong et al. 2017), integrating capital accumulation and international capital mobility. The model assumes constant returns to scale production technology and perfect competition across all sectors. Products are differentiated by their origin, known as the Armington assumption (Armington 1969).

In the global supply chain (GSC) structure, each economic agent in country s has demand for domestically produced goods i (D_{is}) and imports from source country r (Q_{irs}), which is represented by a constant elasticity of substitution (CES) function with subsitution parameter σ_{is} (Figure 1). Economic agents in a country are modeled as a private

household, the government, and producers of goods and services, each with a different demand composition (X_{is}).

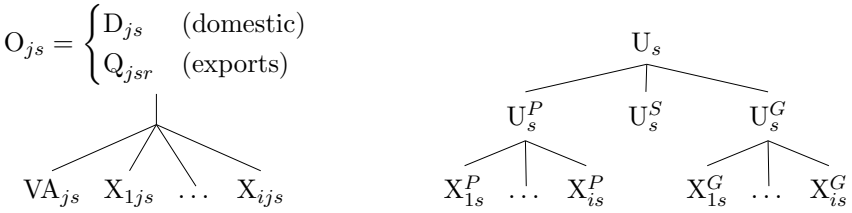
Producer j demands for intermediate inputs (X_{ijs}) and value added (VA_{js}) composite of skilled and unskilled labor, capital, and land, based on the Leontief production function (Figure 2). Output of the producer (O_{js}) is supplied to domestic market (D_{js}) or to foreign markets as exports (Q_{jsr}), which in turn are used as intermediate inputs, consumption, or investment, forming global supply chains.

In Figure 2, a representative household's utility (U_s) is derived from sub-utility of private household (U_s^P), government (U_s^G) and savings (U_s^S), using a Cobb-Douglas-type function. The private household's utility is determined by the constant difference elasticity (CDS) function of the composite goods (X_{is}^P), whereas the government utility is determined by a CES function. Because of the non-homotheticity in the private household's utility, McDougall (2003) introduces an adjustment to shift the distribution parameter of expenditures.



Source: Itakura (2022)

Figure 1: Demand structure for domestic and imported goods and services



Source: Itakura (2022)

Figure 2: Structure of production and consumption

Another feature of the model is its treatment of investment and capital accumulation. Investment responds to changes in expected rates of return, and capital stocks evolve dynamically over time. Domestic and foreign households hold equity in firms that own capital. Changes in firms' foreign equity are captured in inward FDI. Reductions in investment-related country-specific risk affect not only the allocation of capital across regions but also the level of capital accumulation, generating medium-term growth effects. This dynamic investment channel is particularly important in the context of RCEP, given the agreement's emphasis on investment commitment and facilitation. It also provides an analytical bridge between the ex post gravity estimates on inward FDI and the ex ante simulation results reported below.

4 Baseline and RCEP Scenarios

The baseline and the policy scenarios are constructed to quantify the potential economic impacts of deeper integration under RCEP. The baseline provides a counterfactual path for the global economy in the absence of RCEP. Policy scenarios simulate RCEP's components, including reducing tariffs, lowering non-tariff barriers to trade in goods and services, and facilitating the inflow of foreign direct investment.

4.1 Baseline

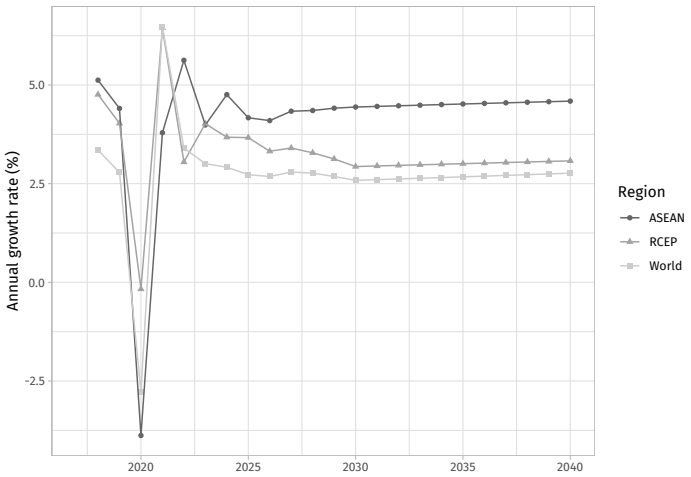
The baseline scenario represents a business-as-usual path in which existing trade agreements, tariff schedules, and policy settings remain in place, and no RCEP-specific components are implemented. In particular, the baseline incorporates all tariff reductions and preferential arrangements that were already in force before RCEP entered into force, including the ASEAN+1 agreements and other regional trade agreements. International Trade Centre's Market Access Map[4] provides a database of tariff-reduction schedules that covers more than 450 trade agreements enacted by 2019 (Ngavozafy et al. 2020). We use this database to implement tariff reductions under existing RTAs in our baseline scenario, and we also add tariff reductions of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), another mega-RTA in the world. Furthermore, import tariffs unilaterally imposed by the U.S. in 2025 are also included in the baseline.

Macroeconomic variables in the baseline, including population growth, labor supply,

[4] www.macmap.org

and productivity growth, are calibrated to external projections from international organizations. These variables are exogenously given based on the growth paths of regional economies over the simulation period. The model is solved recursively, allowing capital stocks to evolve endogenously in response to investment and rates of return. Projections for the total and working-age population growth rates are computed from the United Nations World Population Prospects (2024) based on the medium projection variant. Projections for real GDP and gross investment are obtained from the IMF World Economic Outlook (2025, October issue), and extrapolated to 2040.

To highlight the projections used in our baseline scenario, Figure 3 shows the annual growth rates of real GDP for ASEAN, RCEP, and the world. ASEAN countries constitute the majority of RCEP, and their annual growth rates of real GDP are higher than those of RCEP and the world.

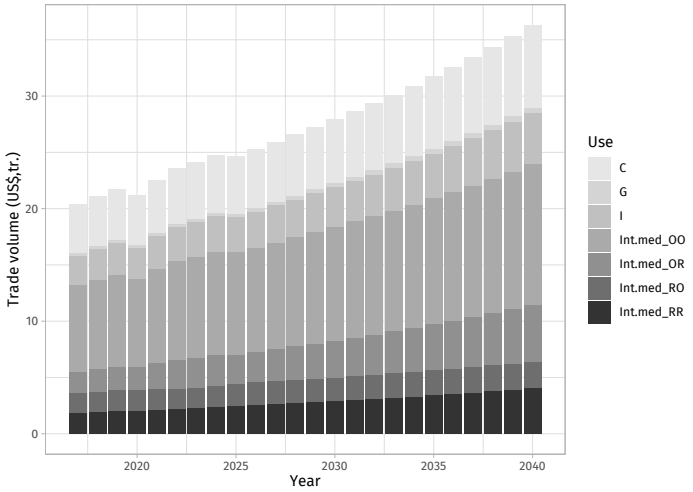


Source: Authors' computation based on IMF (2025)

Figure 3: Annual growth rate of real GDP (%)

The world trade volume, which is measured in constant 2017 US$, is projected to grow as shown in Figure 4. Trade in final goods and services used by private household consumption (C), government expenditure (G), and investment for fixed capital formation (I) account for about 35% of the world trade volume. A larger share of world trade volume is trade in intermediate goods and services used in production across countries, accounting for

65%, indicating the significance of global supply chains. Directions of trade in intermediate inputs are denoted as RR, RO, OR, and OO, where R indicates RCEP and O is for other countries. Intra-RCEP trade in intermediate inputs is RR, and exports from RCEP to other countries are RO, and imports from other countries to RCEP are OR. Altogether, RCEP-related trade in intermediate inputs accounts for about one-third of the world trade volume.



Note: World trade volumes are decomposed as intermediate inputs (Int.med), consumption (C), government's use (G), and investment (I). Trades in intermediate inputs are further decomposed by trade direction: R for RCEP countries and O for other countries.
Source: Authors' baseline simulation results

Figure 4: World trade volume by use (constant 2017 US$, trillion)

4.2 Policy scenarios

We consider a set of policy scenarios postulating RCEP's deeper integration, consisting of tariff reductions, lowering non-tariff barriers (NTBs) to goods imports, reducing ad valorem tariff equivalents for services trade, and facilitating inward foreign direct investment. The empirical estimation results obtained in the ex post analysis (Table 2) are applied to the policy scenarios. The following lists scenarios for both baseline and policy experiments. Each policy scenario is constructed to implement different components of the RCEP agreement incrementally.

Baseline: Baseline scenario

Scenario 1 (S1): Tariff reductions based on the RCEP Agreement's Annex I

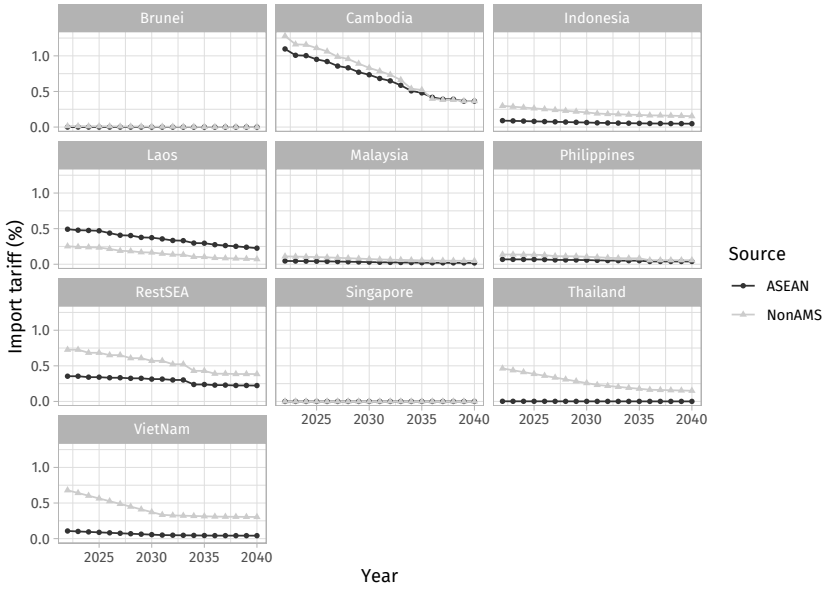
Scenario 2 (S2): S1 + lowering NTBs to goods imports

Scenario 3 (S3): S2 + reducing ad valorem tariff equivalent of services trade

Scenario 4 (S4): S3 + facilitating inward FDI

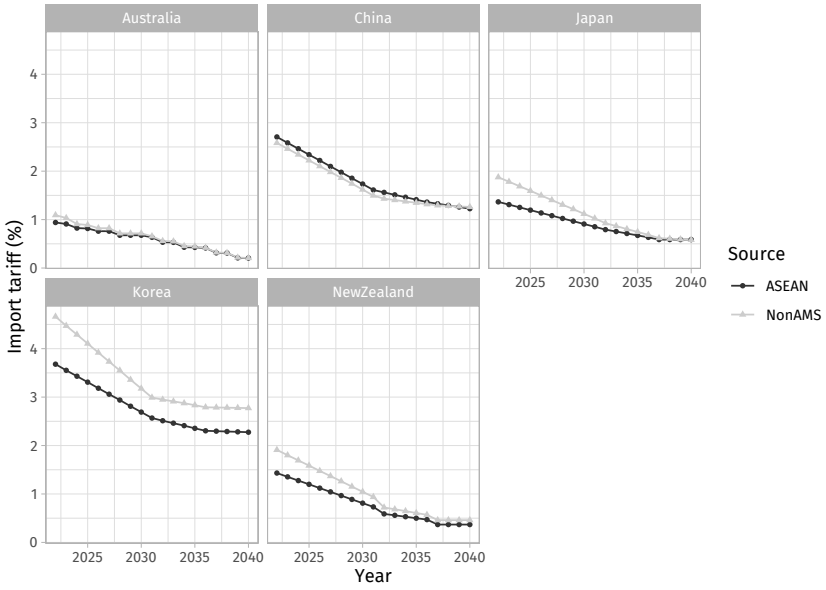
In Scenario 1, we simulate RCEP's tariff reductions according to Annex I, with subsequent years following (RCEP 2020). Since the schedule of tariff commitments is specified at the national tariff line level, we aggregate them into our 24 sectors in the extended GTAP database. Also, the schedule differs by RCEP member country in terms of duration and applicable partners. For example, Singapore eliminated all tariffs for all partners in 2022, whereas Viet Nam's schedule spans over 25 years and varies across ASEAN member states (AMS) and other RCEP countries.

Figure 5 and Figure 6 show the tariff reduction schedules for the RCEP countries in which average applied tariff rates are aggregated with the partner's weights, and calibrated to Aguiar et al. (2023). Figure 5 illustrates that Cambodia, Laos, and Viet Nam are lowering the tariffs from a relatively higher level with different rates of reduction. However, reflecting the trade agreements ratified before RCEP, ASEAN member states' tariff rates in 2021 are already low, less than 1% on average. Conversely, in Figure 6 for other RCEP members, they begin tariff reduction at a higher level, except for Australia.



Note: NonAMS refers to non-ASEAN member states, and they are other RCEP countries except for ASEAN. Average applied tariff rates are aggregated with the source country's weights from the national tariff lines in Annex I schedule of tariff commitments.
Source: Authors' computation based on the RCEP Agreement's Annex I, and Aguiar et al. (2023).

Figure 5: Average applied tariffs for ASEAN member states (%)



Note: NonAMS refers to non-ASEAN member states, and they are other RCEP countries except for ASEAN. Average applied tariff rates are aggregated with the source country's weights from the national tariff lines in Annex I schedule of tariff commitments.
Source: Authors' computation based on the RCEP Agreement's Annex I, and Aguiar et al. (2023).

Figure 6: Average Applied Tariffs for Other RCEP Countries (%)

Table 4: Tariffs and Import Shares of RCEP, 2021 (%)

	(tariff %) Importer:		(import share) Importer:	
	RCEP	Other	RCEP	Other
Exporter:				
RCEP	1.5	3.6	0.47	0.23
Other	2.6	1.2	0.53	0.77

Source: Authors' computation based on the RCEP Agreement's Annex I, and Aguiar et al. (2023).

For the RCEP as a whole in 2021, Table 4 reports average applied tariffs for each trade bloc and corresponding import shares. Intra-RCEP trade, which accounts for 47% of RCEP's imports, is subject to 1.5% tariffs on average. Although it is already low, full tariff reduction is expected to bring economic gains.

In Scenario 2, we lower NTBs on goods imports among RCEP countries using the empirical estimates from the ex post analysis (Table 2). The reductions in NTBs to trade in goods are exogenously specified in this policy scenario, and their magnitudes are assumed to be 9.2% increase in goods imports under deep regional trade agreements (RTAs). In Scenario 3, we assume that ad valorem tariff equivalents of services trade are reduced so that the effect on services imports rises to 19.9% larger than the baseline. The regression results on services imports (Table 2) provide the target value. In Scenario 4, we assume that RCEP reduces country-specific barriers to investment. Adopting the estimated coefficient on deep RTAs, the inward FDI is assumed to be 15.7% higher (Table 2). For this policy scenario, changes in country-specific investment risk are computed as changes in the rate of return and then implemented as exogenous shocks. These exogenous values, obtained from the estimates in Table 2, can be considered upper limits because they include other factors not specified in the ex post model.

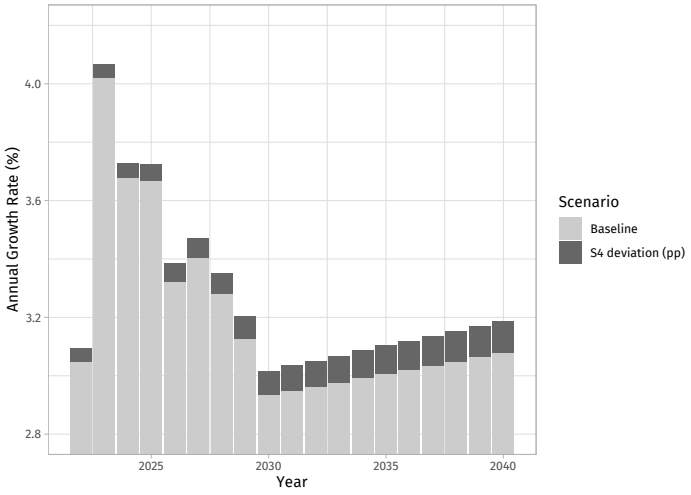
We implement all baseline and policy scenarios, and compute the difference from the baseline by using the GEMPACK software (Horridge et al. 2018).

5 Simulation Results

We implement the policy scenarios described in Section 4.2, and obtain the results of the CGE simulations. We focus on the effects on real GDP, trade volume, investment, and economic welfare for the RCEP region as a whole. We emphasize the sequencing of policy scenarios to highlight the relative importance of tariff reductions, reductions in non-tariff barriers (NTBs) to trade in goods and services, and facilitation of inward FDI to assess the agreement's economic impact.

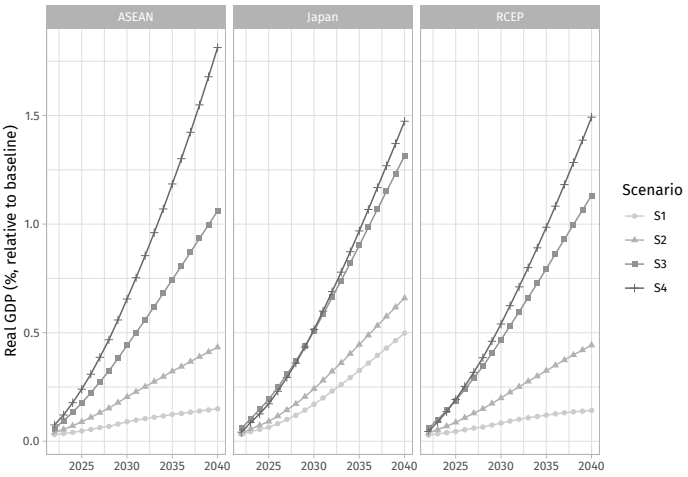
Figure 7 shows the impact of RCEP on the annual growth rate of real GDP in the RCEP region under the comprehensive policy scenario (S4). In the RCEP Scenario 4, the annual growth rates of real GDP are raised above the baseline. RCEP's impact on the real GDP growth rate is, on average, 0.08 percentage points higher than the baseline. Reflecting the increased inward FDI and capital stock, the effect tends to be slightly larger in later periods. While modest on an annual basis, this effect compounds over time through higher investment and capital accumulation, leading to a persistent increase in real GDP.

As the RCEP implements deeper integration components, the growth rate rises, and real GDP exceeds the baseline level. This deviation from the baseline is another metric for evaluating the impact of RCEP. Figure 8 illustrates the deviation of real GDP for ASEAN, Japan, and RCEP under the four scenarios. Tariff reductions alone (Scenario 1) generate small gains in real GDP. This reflects the fact that applied tariffs among RCEP members were already low before the agreement due to extensive pre-existing trade agreements, leaving limited scope for additional gains from tariff liberalization. More importantly, the inclusion of NTB reductions in services trade and the facilitation of FDI inflows substantially amplify the economic impact of RCEP. Under Scenario 4, which combines tariff reductions, lower NTBs in goods and services trade, and improved investment conditions, real GDP in 2040 exceeds the baseline by about 1.8 percent in ASEAN, 1.5 percent in Japan, and 1.5 percent in RCEP as a whole. These results underscore that the primary source of medium-run gains from RCEP lies beyond tariffs, working instead through deeper forms of economic integration.



Note: S4 deviation is for the impact of RCEP Scenario 4, which implements import tariff reductions, trade barrier reductions of goods and services, and investment commitments.
Source: Authors' simulation results

Figure 7: Impact on annual growth rate of RCEP's real GDP (%)



Note: S1: import tariff reduction, S2: S1 + goods trade barrier reduction, S3: S2 + services trade barrier reduction, S4: S3 + investment commitment.
Source: Authors' simulation results

Figure 8: RCEP impact on real GDP (deviation from baseline %)

Table 5 summarizes the aggregate economic impacts of the RCEP policy scenarios in 2040. Under the comprehensive policy scenario (S4), real GDP in the RCEP region increases by 1.5 percent, equivalent to approximately US$728 billion in constant 2017 prices. Economic welfare rises by 1.3 percent, reflecting improvements in allocative efficiency, lower trade and investment costs, and higher real incomes.

The decomposition across scenarios highlights the dominant role of investment facilitation. While reductions in NTBs to goods and services trade generate sizable gains, the most significant incremental effects arise when inward FDI is facilitated. Investment in the RCEP region increases by 3.4 percent under Scenario 4, corresponding to nearly US$934 billion, and serves as the key driver of midium-run growth through capital accumulation. These results are consistent with ex post empirical findings that deeper forms of integration, rather than tariff reductions alone, are central to RCEPs economic potential gains. At the global level, the effects of RCEP are positive but modest, reflecting both trade creation within the region and some trade diversion. World welfare nevertheless continues to increase, indicating that deeper integration within RCEP enhances global efficiency.

Table 6 and Figure 9 highlight the effects of RCEP on intra-regional trade, with particular attention to trade in intermediate inputs. Intra-RCEP trade increases steadily across policy scenarios, reaching a 4.5 percent increase under Scenario 4. In particular, trade in intermediate inputs rises almost as strongly as total intra-regional trade, strengthening RCEP's supply-chain linkages. Figure 9 shows that the share of intra-RCEP trade in intermediate inputs in world trade increases persistently over time under the comprehensive policy scenario (S4). This pattern implies that RCEP deepens production networks within the Asia-Pacific region. By reducing trade and investment barriers, RCEP facilitates supply chain reorganization across member economies and strengthens the regions integration into global production.

In summary, the simulation results identify three main findings. First, tariff reductions under RCEP contribute only modestly to economic gains, given extensive liberalization prior to the agreement. Second, reductions in NTBs, particularly in services trade, generate substantial benefits and are important for translating RCEP commitments into measurable economic outcomes. Third, investment facilitation plays a central role in magnifying these gains over time by driving higher capital accumulation and sustained growth.

These findings align closely with the ex post empirical results presented in the previous sections, which point to limited short-run tariff effects but considerable structural changes in trade responsiveness and services trade integration. The CGE results provide a coherent

picture in which limited gains at the early stage of RCEP implementation can, if reinforced by deeper integration, translate into substantial medium-term economic gains.

Table 5: Economic Impact of RCEP, 2040
(% changes relative to baseline, US$ billion, constant 2017 US$)

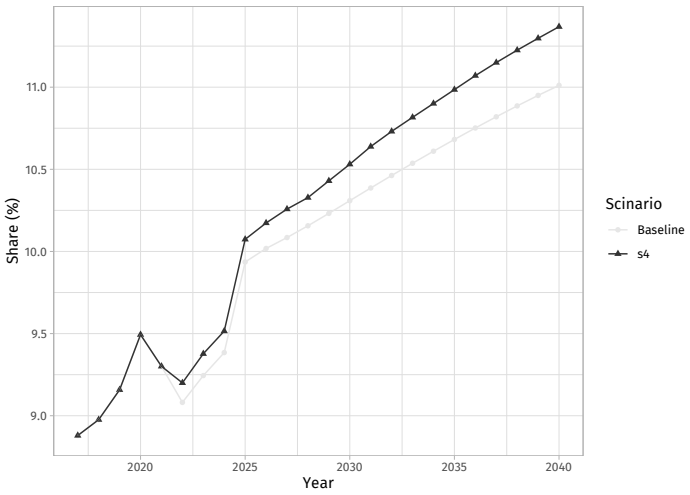
	(%)				(US$, bi.)			
	S1	S2	S3	S4	S1	S2	S3	S4
Real GDP								
RCEP	0.1	0.4	1.1	1.5	69.3	215.9	552.2	728.2
ASEAN	0.1	0.4	1.1	1.8	10.6	30.6	75.0	128.2
World	0.0	0.0	0.2	0.1	5.2	60.0	231.7	125.1
Export volume								
RCEP	2.0	1.8	1.7	0.4	191.5	172.8	165.2	40.8
ASEAN	1.0	1.1	1.4	2.2	32.8	37.1	46.9	73.6
World	0.5	0.4	0.4	0.6	168.9	146.7	151.2	208.7
Import volume								
RCEP	1.5	1.7	2.3	4.2	238.8	279.5	370.7	684.5
ASEAN	0.8	0.9	1.2	2.2	31.2	35.4	47.1	82.8
World	0.5	0.5	0.6	0.9	204.0	195.0	225.9	365.2
Investment								
RCEP	0.2	0.7	1.7	3.4	52.4	187.5	456.6	933.7
ASEAN	0.2	0.5	1.4	3.4	5.4	14.3	38.5	92.4
World	0.0	0.1	0.3	0.2	2.0	38.4	133.4	84.9
Welfare								
RCEP	0.1	0.4	1.0	1.3	35.3	139.9	382.2	479.0
ASEAN	0.0	0.3	0.8	1.0	2.2	14.0	38.9	48.5
World	0.0	0.1	0.2	0.2	8.0	66.2	236.6	179.5

Note: S1: import tariff reduction, S2: S1 + goods trade barrier reduction, S3: S2 + services trade barrier reduction, S4: S3 + investment commitment.
Source: Authors' simulation results

Table 6: Impact on Intra–RCEP Trade, total and intermediate inputs, 2040
(% changes relative to baseline, US$ billion, constant 2017 US$)

	total		intermediates	
	(%)	(US$, bi.)	(%)	(US$, bi.)
S1	3.5	203.5	3.3	132.6
S2	3.8	216.4	3.5	138.0
S3	4.2	240.0	3.7	149.8
S4	4.5	258.5	3.8	152.7

Note: S1: import tariff reduction, S2: S1 + goods trade barrier reduction, S3: S2 + services trade barrier reduction, S4: S3 + investment commitment.
Source: Authors' simulation results



Source: Authors' simulation results

Figure 9: Share of intra-RCEP trade in intermediate inputs in world trade (%)

6 Conclusion

This study provides a quantitative assessment of the economic impact of the Regional Comprehensive Economic Partnership (RCEP) using a combination of ex post empirical analysis with a structural gravity model and ex ante simulations with a CGE model. By integrating empirical evidence from observed trade and investment data with policy scenarios for simulations, the study offers a coherent outlook on both the short-run effects of RCEP since its entry into force and its potential medium-term economic implications.

The ex post empirical analysis yields three main findings. First, the average short-run effects of RCEP on goods trade and inward foreign direct investment are not statistically significant. Given the agreement's recent entry into force and the tariff liberalization already in place through pre-existing trade agreements among RCEP members, this finding is not surprising. It should not be interpreted as evidence of limited economic significance. Instead, the results suggest that non-tariff barriers (NTBs), both in goods imports and inward FDI, may be limiting RCEP's full potential. Second, services trade shows clear early gains, suggesting that RCEP's provisions beyond tariff reductions may be significant in shaping near-term outcomes. Third, the analysis reveals a significant change in the tariff-trade relationship among RCEP member countries, suggesting that imports have become more responsive to tariff reductions following the agreements entry into force. This finding points to a structural effect of RCEP that operates through improved trade conditions rather than through changes in tariff levels.

The ex ante simulation analysis complements these findings by illustrating how deeper implementation of RCEP commitments could translate these early structural changes into substantial medium-term economic gains. The simulation results identify three main findings. First, tariff reductions under RCEP contribute only modestly to economic gains. Second, reductions in NTBs, particularly in services trade, generate substantial benefits. Third, investment facilitation plays a key role in generating gains over time. Under the comprehensive scenario, real GDP in the RCEP increases by 1.5% in 2040, and the economic welfare gains is 1.3%. Trade volumes in exports and imports expanded for RCEP, indicating deeper connections to global supply chains (GSCs), as confirmed by increased intra-RCEP trade.

Several limitations of the analysis should be acknowledged. The ex post estimates are based on a short post-entry period and cannot capture longer-term adjustments in production structures or investment patterns. The simulation results, while internally consistent,

depend on assumptions about the magnitude and timing of reductions in non-tariff barriers. Also, there may be heterogeneity in the ex post estimated results for trade and investment across countries and sectors of goods and services. As with all CGE analyses, these results should be interpreted as illustrative rather than predictive. Future research will build on this analysis as more post-RCEP data become available and as implementation progresses.

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A Appendix

Table A1: Regional aggregation

No.	Country	GTAP 141 regions
1	Brunei	Brunei Darussalam.
2	Cambodia	Cambodia.
3	Indonesia	Indonesia.
4	Laos	Lao People's Democratic Republ.
5	Malaysia	Malaysia.
6	Philippines	Philippines.
7	Singapore	Singapore.
8	Thailand	Thailand.
9	VietNam	Viet Nam.
10	RestSEA	Rest of Southeast Asia.
11	Japan	Japan.
12	China	China; Hong Kong.
13	Korea	Korea.
14	Australia	Australia.
15	NewZealand	New Zealand.
16	India	India.
17	Taiwan	Taiwan.
18	USA	United States of America.
19	Canada	Canada.
20	Mexico	Mexico.
21	Chile	Chile.
22	Peru	Peru.
23	EU	Austria; Belgium; Bulgaria; Croatia; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; Netherlands; Poland; Portugal; Romania; Slovakia; Slovenia; Spain; Sweden.
24	UK	United Kingdom.
25	RestofWorld	Remaining 117 countries and regions.

Source: Author's aggregation based on Aguiar et al. (2023)

Table A2: Sector aggregation

No.	Sector	GTAP 65 sectors
1	Primary	Paddy rice; Wheat; Cereal grains nec; Vegetables, fruit, nuts; Oil seeds; Sugar cane, sugar beet; Plant-based fibers; Crops nec; Bovine cattle, sheep and goats; Animal products nec; Raw milk; Wool, silk-worm cocoons; Forestry; Fishing; Bovine meat products; Meat products nec; Vegetable oils and fats; Dairy products; Processed rice; Sugar; Food products nec; Beverages and tobacco products.
2	Extraction	Coal; Oil; Gas; Minerals nec.
3	TextWapp	Textiles; Wearing apparel; Leather products.
4	WoodPaper	Wood products; Paper products, publishing.
5	PetroCoal	Petroleum, coal products.
6	Chemical	Chemical products.
7	Pharma	Basic pharmaceutical products.
8	RubberPlstic	Rubber and plastic products.
9	Minerals	Mineral products nec.
10	BasicMetal	Ferrous metals; Metals nec.
11	MetalProduct	Metal products.
12	CmpElctrncs	Computer, electronic and optic.
13	ElctrclEquip	Electrical equipment.
14	Machinery	Machinery and equipment nec.
15	Motorvehicle	Motor vehicles and parts.
16	TrnsprtEquip	Transport equipment nec.
17	OthMnfct	Manufactures nec.
18	Utilities	Electricity; Gas manufacture, distribution; Water.
19	Construction	Construction.
20	Trade	Trade.
21	Transports	Transport nec; Water transport; Air transport; Warehousing and support activi.
22	Comm	Communication.
23	FinsBusi	Financial services nec; Insurance; Real estate activities; Business services nec.
24	OthServices	Accommodation, Food and servic; Recreational and other service; Public Administration and defe; Education; Human health and social work a; Dwellings.

Source: Author's aggregation based on Aguiar et al. (2023)

Table A3: Average applied import tariff rates of ASEAN countries, 2021 (%)

	Brunei	Cambodia	Indonesia	Laos	Malaysia	Philippines	Singapore	Thailand	Viet Nam	RestSEA
Primary	0.5	6.7	3.8	3.5	5.3	5.7	0.1	13.6	5.0	2.5
Extraction	0.0	0.8	0.1	2.4	0.4	0.4	0.0	0.0	0.3	0.4
TextWapp	0.4	1.6	3.0	1.7	0.8	2.8	0.0	3.6	5.5	1.2
WoodPaper	0.1	4.1	0.7	1.6	2.4	1.8	0.0	1.2	2.0	1.7
PetroCoal	0.1	6.8	1.1	2.9	0.1	0.0	0.0	2.3	4.2	1.0
Chemical	0.0	4.5	1.7	0.9	1.4	1.0	0.0	1.8	1.1	0.8
Pharma	0.0	0.4	2.3	5.7	0.0	2.1	0.0	4.1	1.7	0.8
RubberPlstic	0.0	5.2	3.9	2.0	4.5	3.8	0.0	2.6	2.3	2.1
Minerals	0.0	5.3	5.0	1.7	3.3	0.7	0.0	3.8	6.6	0.9
BasicMetal	0.0	2.2	2.1	0.6	2.4	0.5	0.0	0.7	0.9	0.7
MetalProduct	0.0	6.6	2.4	0.6	2.1	2.1	0.0	4.0	2.8	1.2
CmpElctrncs	0.0	4.0	0.4	0.5	0.0	0.4	0.0	0.4	0.3	1.7
ElctrclEquip	0.1	4.5	1.5	1.0	1.4	1.2	0.0	3.6	2.7	1.1
Machinery	0.0	5.8	1.8	1.5	1.6	0.6	0.0	1.4	0.9	1.5
Motorvehicle	0.0	15.2	3.2	1.2	6.5	3.6	0.0	16.5	13.0	9.5
TrnsprtEquip	0.0	3.7	1.5	5.4	0.4	2.8	0.0	2.4	5.4	2.5
OthMnfct	0.5	4.5	2.8	2.7	0.9	1.8	0.0	1.9	3.3	1.1

Source: Author's computation based on the RCEP Agreement's Annex I, and Aguiar et al. (2023).

Table A4: Average applied import tariff rates of other RCEP countries, 2021 (%)

	Japan	China	Korea	Australia	New Zealand
Primary	11.0	6.0	7.5	0.9	0.8
Extraction	0.0	0.2	2.0	0.0	0.0
TextWapp	6.2	3.1	3.5	1.0	1.4
WoodPaper	0.9	1.1	1.4	1.0	0.3
PetroCoal	0.7	4.5	2.0	0.0	0.0
Chemical	1.1	3.8	1.6	1.1	0.7
Pharma	0.1	3.3	0.4	0.2	0.0
RubberPlstic	0.7	4.8	3.1	1.2	1.1
Minerals	0.3	6.9	3.7	1.3	1.3
BasicMetal	0.3	1.4	0.8	0.6	0.5
MetalProduct	0.4	5.8	1.3	1.4	1.1
CmpElctrncs	0.0	1.6	1.5	0.1	0.2
ElctrclEquip	0.0	2.6	2.8	1.0	1.3
Machinery	0.0	4.0	2.4	1.5	1.7
Motorvehicle	0.0	17.6	2.0	7.8	2.0
TrnsprtEquip	0.1	2.7	0.7	0.7	0.2
OthMnfct	0.6	5.2	1.4	0.7	0.8

Source: Author's computation based on the RCEP Agreement's Annex I, and Aguiar et al. (2023).

Table A5: Impact on real GDP, 2040
(% changes relative to baseline, US$ billion, constant 2017 US$)

	(%)				(US$, bi.)			
	S1	S2	S3	S4	S1	S2	S3	S4
Brunei	0.0	0.0	0.4	0.9	0.0	0.0	0.1	0.2
Cambodia	0.2	0.5	0.8	0.8	0.2	0.3	0.5	0.5
Indonesia	0.0	0.1	0.9	1.6	0.1	4.3	25.4	45.8
Laos	1.1	1.4	1.6	2.0	0.4	0.4	0.5	0.6
Malaysia	0.2	0.5	1.1	1.6	1.8	4.2	8.8	11.9
Philippines	0.1	0.4	1.0	1.7	1.4	4.8	10.5	17.8
Singapore	-0.1	0.0	0.9	1.9	-0.9	0.2	5.7	11.7
Thailand	0.6	1.0	1.5	2.2	4.1	7.1	10.7	15.7
VietNam	0.5	1.2	1.6	3.0	4.1	9.3	12.7	22.9
RestSEA	-0.7	0.0	0.4	1.4	-0.5	0.0	0.3	1.1
Japan	0.5	0.7	1.3	1.5	27.1	35.9	71.5	80.1
China	0.1	0.4	1.1	1.4	18.1	129.9	349.1	431.9
Korea	0.5	0.7	1.3	1.3	13.3	17.9	33.0	33.6
Taiwan	-0.3	-0.5	-0.5	-0.7	-3.6	-5.0	-6.0	-7.6
Australia	0.0	0.1	0.9	2.2	0.1	1.2	20.6	47.5
NewZealand	0.0	0.1	0.9	2.0	0.1	0.5	3.0	6.8
India	-0.1	-0.1	-0.3	-0.5	-5.5	-12.9	-26.5	-48.8
USA	-0.1	-0.1	-0.3	-0.6	-18.2	-45.4	-94.8	-178.5
Canada	0.0	-0.1	-0.2	-0.4	-0.8	-2.1	-4.6	-9.0
Mexico	-0.1	-0.3	-0.7	-1.3	-2.4	-5.8	-11.8	-21.4
Chile	-0.1	-0.2	-0.3	-0.6	-0.4	-0.7	-1.4	-2.6
Peru	0.0	-0.1	-0.1	-0.3	-0.1	-0.2	-0.5	-1.0
EU	-0.1	-0.1	-0.3	-0.6	-11.2	-30.1	-64.0	-123.0
UK	0.0	-0.1	-0.2	-0.4	-1.3	-3.4	-7.6	-15.3
RestofWorld	-0.1	-0.2	-0.3	-0.7	-20.7	-50.1	-103.3	-195.9
ASEAN	0.1	0.4	1.1	1.8	10.6	30.6	75.0	128.2
RCEP	0.1	0.4	1.1	1.5	69.3	215.9	552.2	728.2
World	0.0	0.0	0.2	0.1	5.2	60.0	231.7	125.1

Note: S1: import tariff reduction, S2: S1 + goods trade barrier reduction,
S3: S2 + services trade barrier reduction, S4: S3 + investment commitment.
Source: Author's simulation results

Table A6: Impact on export volume, 2040
(% changes relative to baseline, US$ billion, constant 2017 US$)

	(%)				(US$, bi.)			
	S1	S2	S3	S4	S1	S2	S3	S4
Brunei	0.1	0.2	0.3	-0.3	0.0	0.0	0.0	0.0
Cambodia	3.3	3.5	3.7	5.2	0.4	0.4	0.5	0.7
Indonesia	0.9	0.9	1.2	2.3	4.4	4.2	5.6	10.9
Laos	1.7	1.8	2.1	3.2	0.3	0.3	0.3	0.5
Malaysia	0.7	0.8	1.2	2.0	3.7	4.2	6.1	10.2
Philippines	0.8	1.0	1.4	2.8	2.9	3.5	4.9	10.1
Singapore	-0.1	0.0	0.3	0.8	-0.8	-0.2	1.7	5.3
Thailand	1.4	1.6	1.9	3.0	6.8	7.7	9.1	14.2
VietNam	1.9	2.1	2.3	2.6	14.9	16.6	18.1	21.0
RestSEA	0.5	0.7	1.0	1.9	0.2	0.3	0.5	0.9
Japan	4.3	4.3	4.5	4.0	41.1	41.4	42.7	38.3
China	2.0	1.4	0.8	-3.0	76.2	51.0	29.3	-110.5
Korea	3.3	3.4	3.6	3.9	38.9	40.1	43.0	46.0
Taiwan	-0.6	-0.7	-0.6	0.1	-4.5	-5.5	-4.4	0.7
Australia	0.4	0.5	0.5	-1.9	1.6	2.2	2.1	-7.9
NewZealand	1.2	1.3	1.5	1.6	1.0	1.0	1.2	1.3
India	-0.1	-0.1	0.0	0.6	-1.8	-2.1	-0.8	11.8
USA	0.0	0.3	0.8	3.3	1.0	8.4	25.2	110.5
Canada	0.0	0.1	0.4	1.8	0.1	0.9	2.8	12.0
Mexico	-0.2	-0.3	-0.6	-0.4	-1.3	-2.5	-4.4	-2.8
Chile	0.0	0.1	0.4	1.8	0.0	0.1	0.5	2.2
Peru	0.0	0.2	0.5	1.9	0.0	0.1	0.4	1.4
EU	-0.1	-0.1	-0.2	0.1	-7.7	-12.0	-15.4	10.6
UK	0.0	0.1	0.3	1.3	-0.1	0.8	2.9	14.2
RestofWorld	-0.1	-0.2	-0.2	0.1	-8.2	-14.5	-20.7	7.4
ASEAN	1.0	1.1	1.4	2.2	32.8	37.1	46.9	73.6
RCEP	2.0	1.8	1.7	0.4	191.5	172.8	165.2	40.8
World	0.5	0.4	0.4	0.6	168.9	146.7	151.2	208.7

Note: S1: import tariff reduction, S2: S1 + goods trade barrier reduction,
S3: S2 + services trade barrier reduction, S4: S3 + investment commitment.
Source: Author's simulation results

Table A7: Impact on import volume, 2040
(% changes relative to baseline, US$ billion, constant 2017 US$)

	(%)				(US$, bi.)			
	S1	S2	S3	S4	S1	S2	S3	S4
Brunei	0.0	0.0	0.1	1.1	0.0	0.0	0.0	0.1
Cambodia	0.5	0.4	0.0	-0.1	1.2	0.8	0.0	-0.3
Indonesia	0.7	0.5	1.1	1.8	4.6	3.5	6.8	11.3
Laos	2.2	2.3	2.4	4.7	0.3	0.3	0.4	0.7
Malaysia	0.5	0.6	0.9	1.5	3.2	3.8	5.9	9.5
Philippines	0.8	0.8	1.1	1.7	1.6	1.7	2.2	3.6
Singapore	-0.1	0.0	0.4	1.9	-1.0	-0.3	2.8	13.2
Thailand	1.4	1.7	1.9	2.7	8.6	9.9	11.6	16.1
VietNam	1.5	1.9	2.1	3.4	12.1	14.9	16.4	27.2
RestSEA	2.2	2.6	3.0	4.7	0.7	0.8	1.0	1.5
Japan	4.9	4.9	5.3	6.5	65.9	65.9	72.2	88.4
China	0.9	1.3	2.1	4.7	81.7	116.8	179.4	408.5
Korea	3.4	3.5	3.9	4.3	56.5	57.7	63.2	70.9
Taiwan	-0.9	-1.2	-1.2	-1.3	-8.8	-12.2	-12.1	-13.1
Australia	0.3	0.3	1.1	4.9	1.8	2.0	6.7	29.8
NewZealand	1.7	1.7	2.2	4.2	1.7	1.7	2.2	4.2
India	-0.2	-0.5	-0.9	-2.1	-2.2	-5.3	-8.9	-20.3
USA	-0.2	-0.6	-1.3	-3.7	-4.7	-16.9	-35.7	-98.0
Canada	-0.1	-0.3	-0.6	-1.3	-0.6	-2.1	-4.0	-9.8
Mexico	-0.2	-0.5	-0.9	-1.9	-1.3	-3.6	-7.0	-14.9
Chile	-0.1	-0.3	-0.5	-1.1	-0.2	-0.4	-0.7	-1.6
Peru	-0.1	-0.2	-0.3	-0.7	-0.1	-0.2	-0.3	-0.9
EU	-0.1	-0.3	-0.4	-0.8	-9.9	-24.0	-40.0	-74.5
UK	-0.1	-0.3	-0.5	-1.3	-1.0	-2.7	-5.6	-13.2
RestofWorld	-0.1	-0.3	-0.5	-1.2	-6.1	-17.1	-30.5	-73.1
ASEAN	0.8	0.9	1.2	2.2	31.2	35.4	47.1	82.8
RCEP	1.5	1.7	2.3	4.2	238.8	279.5	370.7	684.5
World	0.5	0.5	0.6	0.9	204.0	195.0	225.9	365.2

Note: S1: import tariff reduction, S2: S1 + goods trade barrier reduction,
S3: S2 + services trade barrier reduction, S4: S3 + investment commitment.
Source: Author's simulation results

Table A8: Impact on investment, 2040
(% changes relative to baseline, US$ billion, constant 2017 US$)

	(%)				(US$, bi.)			
	S1	S2	S3	S4	S1	S2	S3	S4
Brunei	-0.1	-0.2	0.1	1.9	0.0	0.0	0.0	0.3
Cambodia	4.2	4.2	4.1	4.1	1.0	1.0	1.0	1.0
Indonesia	0.0	0.0	1.1	2.4	-0.4	0.2	14.2	31.7
Laos	2.5	2.8	3.0	7.0	0.4	0.4	0.5	1.1
Malaysia	0.2	0.6	1.4	2.1	0.4	1.4	3.0	4.6
Philippines	0.0	0.5	1.0	3.0	0.1	1.1	2.4	6.9
Singapore	-0.2	0.0	1.2	4.5	-0.7	-0.1	4.3	15.6
Thailand	1.4	2.2	2.8	3.7	2.9	4.6	5.8	7.8
VietNam	0.9	2.2	2.7	8.1	2.5	6.1	7.5	22.2
RestSEA	-2.5	-1.1	-0.5	3.9	-0.8	-0.4	-0.1	1.3
Japan	1.4	1.6	2.5	3.6	31.6	35.6	55.2	79.9
China	0.0	0.6	1.6	3.3	2.5	123.0	326.0	673.0
Korea	1.1	1.3	2.1	2.4	12.4	14.4	22.8	25.6
Taiwan	-0.8	-1.3	-1.9	-3.8	-2.9	-4.8	-6.9	-13.9
Australia	0.0	0.0	1.4	6.2	0.3	0.1	12.5	57.0
NewZealand	0.1	0.1	1.3	5.1	0.1	0.1	1.5	5.7
India	-0.2	-0.5	-1.1	-3.0	-3.4	-10.1	-22.4	-59.2
USA	-0.2	-0.7	-1.5	-3.8	-22.2	-65.9	-144.2	-372.3
Canada	-0.1	-0.5	-1.1	-3.1	-1.1	-3.9	-8.5	-23.8
Mexico	-0.4	-1.0	-2.2	-5.1	-2.1	-5.8	-12.2	-28.5
Chile	-0.3	-0.7	-1.5	-3.5	-0.5	-1.3	-2.8	-6.6
Peru	-0.1	-0.3	-0.8	-2.1	-0.2	-0.4	-0.9	-2.5
EU	-0.4	-1.2	-2.7	-7.6	-4.9	-16.6	-37.0	-105.0
UK	-0.2	-0.5	-1.2	-3.3	-1.6	-5.2	-12.0	-33.4
RestofWorld	-0.3	-0.8	-1.8	-4.8	-11.6	-35.1	-76.3	-203.5
ASEAN	0.2	0.5	1.4	3.4	5.4	14.3	38.5	92.4
RCEP	0.2	0.7	1.7	3.4	52.4	187.5	456.6	933.7
World	0.0	0.1	0.3	0.2	2.0	38.4	133.4	84.9

Note: S1: import tariff reduction, S2: S1 + goods trade barrier reduction,
S3: S2 + services trade barrier reduction, S4: S3 + investment commitment.
Source: Author's simulation results

Table A9: Impact on welfare, 2040
(% changes relative to baseline, US$ billion, constant 2017 US$)

	S1	S2	S3	S4	S1	S2	S3	S4
Brunei	0.0	0.1	0.5	0.7	0.0	0.0	0.1	0.1
Cambodia	0.3	0.2	0.2	0.0	0.5	0.4	0.2	0.0
Indonesia	0.0	0.2	0.7	0.9	0.0	3.1	14.1	16.7
Laos	0.6	0.9	0.9	-0.1	0.1	0.1	0.1	0.0
Malaysia	0.0	0.3	0.7	0.8	0.0	1.4	4.1	4.6
Philippines	0.1	0.3	0.7	0.6	0.5	2.1	4.9	4.3
Singapore	-0.1	0.1	0.9	1.4	-0.5	0.3	3.7	5.7
Thailand	0.3	0.6	1.0	1.3	1.9	4.0	7.1	9.1
VietNam	-0.3	0.2	0.6	1.3	-1.4	1.2	3.3	6.6
RestSEA	2.3	2.7	3.0	2.8	1.1	1.3	1.4	1.3
Japan	0.4	0.6	1.1	1.2	21.1	27.7	54.9	58.9
China	0.0	0.4	1.0	1.3	5.7	87.0	252.4	320.8
Korea	0.2	0.4	0.9	0.9	5.3	9.1	21.5	21.5
Taiwan	-0.3	-0.4	-0.4	-0.5	-3.6	-4.9	-4.8	-5.2
Australia	0.0	0.1	0.9	1.9	0.4	1.3	12.1	25.8
NewZealand	0.2	0.4	1.0	1.6	0.6	0.8	2.4	3.6
India	0.0	-0.1	-0.2	-0.4	-3.1	-7.4	-14.3	-27.5
USA	0.0	-0.1	-0.1	-0.3	-4.0	-12.7	-27.6	-59.3
Canada	0.0	-0.1	-0.2	-0.4	-0.4	-1.3	-2.6	-6.2
Mexico	0.0	-0.1	-0.2	-0.5	-0.4	-1.2	-2.4	-5.2
Chile	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.3
Peru	0.0	0.0	-0.1	-0.2	0.0	-0.1	-0.2	-0.4
EU	0.0	-0.1	-0.3	-0.6	-9.2	-29.1	-58.6	-122.3
UK	0.0	-0.1	-0.2	-0.4	-0.7	-2.1	-4.8	-10.8
RestofWorld	0.0	-0.1	-0.2	-0.3	-5.9	-15.1	-30.5	-62.8
ASEAN	0.0	0.3	0.8	1.0	2.2	14.0	38.9	48.5
RCEP	0.1	0.4	1.0	1.3	35.3	139.9	382.2	479.0
World	0.0	0.1	0.2	0.2	8.0	66.2	236.6	179.5

Note: S1: import tariff reduction, S2: S1 + goods trade barrier reduction,
S3: S2 + services trade barrier reduction, S4: S3 + investment commitment.
Source: Author's simulation results