

CAREC Institute Visiting Fellow Program

COMPARING REGIONAL INTEGRATION FOR SUSTAINABLE DEVELOPMENT IN ASEAN AND CAREC ECONOMIES: LESSONS FOR THE CAREC REGION

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December 2021

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Abstract

The Association of Southeast Asian Nations (ASEAN)-Central Asian Regional Economic Cooperation (CAREC) Digital and Sustainable Regional Integration Index (ACDigiSRII) aims to analyze the level of integration in ASEAN and CAREC economies, to identify the drivers of regional integration (RI), to find out progress in RI during the period 2010-2020, and to draw lessons for the CAREC region. The ACDigiSRII focuses on developing a regional indicator framework for digital and sustainable RI in the ASEAN-CAREC region. The ACDigiSRII shows that performance of ASEAN-CAREC economies in RI differs across various dimensions. Overall, the average RI score of the CAREC region stood higher than that of the ASEAN region. The CAREC region performed better than the ASEAN region in the dimensions of trade and investment except 2020, RVC integration, movement of people and regional cooperation during 2010-2020 and digital economy integration since 2016. However, performance in all dimensions of RI varies across CAREC economies. In sustainable indicators, the performance of the CAREC region has improved significantly over the period. However, volatilities in performance are noticeable in most dimensions and indicators across CAREC economies. The ASEAN region performed better than the CAREC region in sustainable financial integration since 2015 and infrastructure integration except 2018-2020 with significant variations and volatilities in most dimensions across countries. The ACDigiSRII indicates that policymakers in ASEAN-CAREC countries should prioritize diverse areas of RI. Sustainable development indicators reveal the significance of inclusivity and environmental protection in RI, and help policymakers to monitor the progress in seven dimensions of sustainable development. Trade and investment integration, including RVC integration can be pushed by the digital transformation of trade and investment in the CAREC region. The ACDigiSRII suggests that facilitation of movement of people, substantial regulatory cooperation in digital trade, trade in information and communications technology (ICT) goods and development of e-commerce platforms are essential for sustainable development in the CAREC region.

Keywords: regional integration, sustainable development, ASEAN, CAREC, policy implications

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Abbreviations

ACDigiSRII	ASEAN-CAREC Digital and Sustainable Regional Integration Index
ADB	Asian Development Bank
ADBI	Asian Development Bank Institute
AfDB	African Development Bank
APEC	Asia-Pacific Economic Cooperation
ARCII	Asia-Pacific Regional Cooperation and Integration Index
ARII	Africa Regional Integration Index
ASEAN	Association of Southeast Asian Nations
AUC	African Union Commission
CAREC	Central Asian Regional Economic Cooperation
CRII	CAREC Regional Integration Index
DEI	digital economy integration
DigiSRII	Digital and Sustainable Regional Integration Index
ECA	Economic Commission for Africa
ECLAC	Economic Commission for Latin America and Caribbean
EEU	European Economic Union
EIU	Economist Intelligence Unit
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
EU	European Union
FDI	foreign direct investment
FTA	free trade agreement
GDP	gross domestic product
ICT	information and communications technology
IIA	international investment agreement
LSCI	liner shipping connectivity index
MRIO	multiregion input–output
NBER	National Bureau of Economic Research
NTB	non-tariff barrier
OECD	Organization for Economic Cooperation and Development
PCA	principal component analysis
PRC	People's Republic of China
RI	regional integration
RTA	regional trade agreement
RVC	regional value chain
SDG	sustainable development goal
SME	small and medium-sized enterprise
SRI	sustainable regional integration
TRAINS	Trade Analysis Information System
UNCTAD	United Nations Conference on Trade and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNECA	United Nations Economic Commission for Africa
UNU-CRIS	United Nations University-Institute on Comparative Regional Integration Studies
WDI	World Development Indicator
WTO	World Trade Organization

1. Introduction

Integration refers to the process of uniting different countries into a bigger economic region (Machlup 1977). Economic integration has been defined in various ways by researchers. Economic integration refers to 'the creation of the most desirable structure of international economy, removing artificial hindrances to the optimal operation and introducing deliberately all desirable elements of coordination or unification' (Tinbergen 1954). It is defined as 'the abolition of discrimination within an area' (Balassa 1961). Economic integration is a unique instance of regional cooperation (Hettne and Söderbaum 2000). Economic integration can be measured through various indicators such as trade and foreign direct investment (FDI) (Dennis and Yusof 2003), tourism (Chen and Woo 2010), institutions (Dorrucci et al. 2002; Dorrucci et al. 2015), remittance flows (ESCWA 2015), labor and capital (König 2015), movement of people, peace and security, and regional investment and production networks (Naeher and Narayanan 2020).

Economic integration linked with a robust legal and institutional infrastructure as a basis for trade strengthens the economic interdependence of the participants. Regional integration (RI) refers to the cooperation among a cluster of countries in social, economic, and political activities to achieve a common objective (ECA 2019) and shared gains (ECLAC 2009). According to Volz (2011), RI refers to an incessant process, which steadily strengthens the structural and institutional aspects. RI creates prospects for economic progress (ESCAP 2017) and can help achieve sustainable development goals (SDGs) by mainstreaming sustainable development into national policies. In the present century, the digital economy can intensify RI (UNCTAD 2019). Robust institutions and strategies for the digital economy can help realize SDGs. In this study, RI refers to the elimination of barriers for fostering sustainable economic development in regional and subregional economies.

In the past, economic and institutional integration has been measured widely by using various indicators and dimensions. Economic and institutional integration has been computed for the 15 European Union (EU) economies and Latin America (Dorrucci et al. 2002) covering 44 indicators and four dimensions of free trade area and customs union, common market, economic union, and total economic integration. Dennis and Yusof (2003) measured economic integration in the ten economies of the Association of Southeast Asian Nations (ASEAN) and covered two indicators and two dimensions of trade and FDI. Chen and Woo (2010) computed economic integration in the 17 economies of the Asia-Pacific Economic Cooperation (APEC) region and covered eight indicators and four dimensions of economic convergence, trade, FDI, and international tourists. Dorrucci et al. (2015) also measured institutional integration in the 27 EU economies and covered 135 indicators and nine dimensions of free trade area and customs union, internal market, monetary and exchange rate policies, supranational institutions, economic union, financial markets union, fiscal union, monetary union, and democratic legitimacy. König (2015) captured economic integration in the EU and covered 25 indicators and four dimensions of single market homogeneity, symmetry, and conformity. The Economic and Social Commission for Western Asia (ESCWA) (2015) measured economic integration in Arab countries using three indicators and three dimensions of trade, foreign investment, and remittance flows. Naeher and Narayanan (2020) computed RI in 193 economies and 19 subregions and covered 11 indicators and five dimensions of trade, finance, movement of people, peace and security, and regional investment and production networks. Most studies provided economyspecific results on RI but did not cover labor and portfolio capital flows, or value chain integration.

Recently, comprehensive RI indices were developed by many researchers using different socioeconomic dimensions (Chen and Woo 2008; Jackson 1991; Johnson and Wichern 2007; Jolliffe 2002; Huh and Park 2018; Park and Claveria 2018). The most comprehensive indices of RI include the Africa Regional Integration Index (ARII) developed by AUC et al. (2016, 2019), the Asia-Pacific Regional Integration Index computed by Huh and Park (2018), and the Asia-Pacific Regional Cooperation and

Integration Index (ARCII) by Park and Claveria (2018). The ARII used max—min normalization for 2014 using equal/additive weights and covered five dimensions of trade, financial and macroeconomic, and 16 indicators (AUC et al. 2016), while AUC et al. (2019) used max—min normalization for 2016 using the principal component analysis (PCA)/additive PCA generated weights and covered similar dimensions and indicators to AUC et al. (2016). The APRII used max—min normalization for 2013 using PCA/additive PCA generated weights and covered six dimensions of trade and investment, money and finance, regional value chain (RVC), infrastructure and connectivity, free movement of people, and institutional and social, and 26 indicators(Huh and Park 2018), while the ARCII used panel max—min normalization for 2006-2016 using PCA/additive using PCA generated weights (Park and Claveria 2018)and covered similar dimensions and indicators to Huh and Park (2018). It is evident that the ARII focuses on five dimensions of RI covering trade, productive, infrastructure and connectivity, movement of people, and financial integration, while the APRII and the ARCII added the sixth dimension of institutional and social integration. All these indices of RI are fairly inclusive, but did not cover the digital and sustainable dimensions.

The Digital and Sustainable Regional Integration Index (DigiSRII) was developed on earlier RI indices such as the ARII (AUC et al. 2016), the APRII (Huh and Park 2018), and the ARCII (Park and Claveria 2018). The DigiSRII used panel max—min normalization for 2010-2017 using equal/additive equal weights and covered seven dimensions of trade and investment, financial, RVC, infrastructure, free movement of people, regulatory cooperation, and digital economy, and 53 indicators (ESCAP 2020). The DigiSRII also highlights the increasing significance of digital and sustainable development by including a seventh dimension of digital integration and adding sustainability components to all seven dimensions. Each dimension consists of conventional RI indicators and sustainable RI indicators. This facilitates the tracking of progress along each dimension and the monitoring of sustainable development. However, the DigiSRII is highly data intensive. A comprehensive version and a simplified version of DigiSRII address the issues of data availability and data gaps.

Despite the increasing significance of RI, there is limited empirical evidence to compute and measure RI levels using digital and sustainable development dimensions and related indicators in the economies of the ASEAN and the Central Asia Regional Economic Cooperation (CAREC) regions and to chart progress vis-à-vis the planned targets. Therefore, policy driven research is needed to construct an index of RI that reflects these dimensions (De Lombaerde et al. 2008; AUC et al. 2016; Huh and Park 2018; Claveria and Park 2018). This study aims to fill this gap by constructing a simple index of RI using different dimensions—including digital and sustainable development dimensions—and indicators to quantify the progress in the ASEAN and the CAREC economies with aim of offering future policy options for achieving higher RI. Following the review of literature in Section 2, this study introduces the objectives, methodology, and structure of the ACDigiSRII and its dimensions and indicators in Section 3. A brief analysis of the results and interpretation is presented in Section 4, which highlights how the regional economies of the ASEAN and the CAREC regions have made improvement in more sustainable RI and digital economy integration (DEI). In Section 5 the results are compared with other regional integration studies. Section 6 concludes and draws policy implications. The data for different conventional and sustainable indicators and normalized data on all dimensions are presented in the Appendix.

2. Review of literature

Static analysis of economic integration describes the potential welfare gains to participating countries and differentiates the effects of trade creation and trade diversion (Viner 1950). Dynamic analysis of economic integration focuses on 'large scale economies, technological change, as well as the impact of integration on market structure and competition, productivity growth, risk and uncertainty, and investment activity' (Balassa 1961). The dynamic effects of economic integration include medium and longterm welfare impacts in the member countries (Schiff and Winters 1998; Hosny 2013). Dynamic analysis of economic integration is derived by economies of scale (Dubey 2005), and investment creation and investment diversion (Baldwin, Forslid, and Haaland 1995). Static analysis of economic integration is termed as old regionalism (De Melo and Panagariya 1993), while dynamic analysis is referred to as new regionalism (Hosny 2013).

Extant studies have analyzed trade integration (Baldwin 2006), monetary integration (Gregoriouet al. 2011), capital market integration (Baeleet al. 2004), and labor market integration (Nowotnyet al. 2009).RI is derived by markets (Marinov 2015), institutions (Dür, Baccini, and Elsig 2014), and the private sector (Peng 2002). There is a strong link between regional economic integration and growth (Taghizadeh-Hesary et al. 2020). Economic integration significantly affects growth (Nwosu et al. 2013) and per capita income growth (Darku and Yeboah 2018). RI supports economic development and wellbeing (Peters-Berries 2010) and promotes non-economic gains in participating economies (Bhattacharyay, Kawai, and Nag 2012). RI helps restructure natural and factor endowments and improves infrastructure in the region (Yoshino et al. 2018). RI helps to accumulate physical and human capital and to promote technology transfer (Tumwebaze and Ijjo 2015); it improves productivity (Sapir 2011) and reduces poverty (Park and Claveria 2018). It increases mutual trust (Dubey 2005) and facilitates sustainable development, peace, and security (ESCAP 2016).

Regional trade integration refers to the process of easing trade barriers, factor mobility, and economic growth among participating economies (Carbaugh 2011). Regional trade integration improves market accessibility (Romer 1990), fosters regional trade (Baldwin 2006), increases intraregional trade (Sobhan 2006), and promotes innovation (Romer 1990). Frankel and Romer (1999) provided empirical analysis of bilateral trade and gross domestic product (GDP) per capita. Comparative gains derive from RI (Das 2007). Trade complementarity is insufficient for stronger regional economic integration though (Sobhan 2006).

Economic integration is imperative for contemporary globalization (Söderbaum and Shaw 2003). The KOF Index of Globalization computes the economic, social, and political dimensions of globalization (Dreher 2006). Globalization boosts growth, reduces inequality and poverty (Dollar and Kraay 2004), and improves gender equality and human rights (Potrafke 2015). By contrast, Gozgor and Ranjan (2017) and Lang and Tavares (2018) show that globalization has amplified income inequality. The link between RI and inequality has been analyzed by DiCaprio, Santos-Paulino, and Soklova (2017) and Beckfield (2006). However, there are strong hindrances to economic integration. Vamvakidis (1999) reported negative effect on growth owing to trade agreements between small and poor economies. Macroeconomic crises, contradictions, and risks (Alpysbaeva and Shuneev 2018) substantially affect the integration process (Andronova 2016). New protectionism also hinders development of RI (Lisovolik and Uzan 2018). RI neutralizes unfavorable economic situations (Libman and Vinokurov 2014). From the above literature, it is evident that empirical research on RI is scant in a comparative perspective of the ASEAN and the CAREC regions. Therefore, there is a need for quantitative analyses of progress in RI (De Lombaerde et al. 2008), which this study seeks to address.

3. Objectives and methodology

Europe's RI in the late 1950s remained a dynamic example of integration, while the ASEAN integration, African RI, and Central Asian integration are recent examples of RI. CAREC economies have progressed slowly in RI with significant variations across different countries. Against this backdrop, this study develops an ASEAN-CAREC Digital and Sustainable Regional Integration Index (ACDigiSRII), to identify key drivers of RI in ASEAN and CAREC economies, to analyze the progress in sustainable RI and emerging DEI dimensions, and to draw lessons for the CAREC economies.

The study covers the period from 2010 to 2020 and confines itself to the ASEAN economies of Brunei Darussalam, Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam, and the CAREC economies of Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, and Tajikistan. The study uses a simple aggregation technique to build the ACDigiSRII and to offer policy implications. The ACDigiSRII includes seven dimensions: trade and investment, RVC, finance, movement of people, infrastructure, regulatory cooperation, and DEI and related conventional and sustainable indicators. Sustainable development is normalized into the ACDigiSRII by including sustainable development indicators for all dimensions, where data was available. Sustainable development indicators stress the need for inclusivity and environmental protection in RI. Therefore, the ACDigiSRII includes a DEI dimension and adds sustainability components to all dimensions subject to data availability to arrive at a series of conventional and sustainable RI indicators and to draw lessons for CAREC countries to monitor the progress in sustainable development *vis-à-vis* each of the selected dimensions.

A comprehensive assessment of RI indices to develop a RI index can better integrate digital and sustainable development dimensions of RI policies. Comprehensive research and deeper analysis of the progress of RI in the ASEAN-CAREC regions to inform policy makers has remained scarce. For instance, the ARII included five dimensions of RI including trade integration, productive integration, infrastructure and connectivity integration, integration in the movement of people, and financial integration, while APRII and ARCII added the dimension of institutional and social integration. ARII, APRII, and ARCII are comprehensive indices, but do not cover either the digital or the sustainable dimensions of RI. Therefore, the ACDigiSRII includes the digital integration dimension and adds sustainability components to all selected dimensions to arrive at a series of conventional RI indicators and a series of sustainable RI indicators to offer policymakers a tool to monitor progress in sustainable development in each of the selected dimensions. However, full comprehensiveness could not be developed owing to data limitations.

3.1. Dimensions and indicators

Sustainable development is normalized into the ACDigiSRII by including sustainable indicators to four out of seven dimensions, where data was available. Sustainable indicators stress the need for inclusivity and environmental protection in RI. The ACDigiSRII covers a period of ten years, 2010 to 2020, and includes seven dimensions: trade and investment, finance, RVC, free movement of people, infrastructure, regulatory cooperation, and DEI (Figure 1). SDGs reflected in the ACDigiSRII are shown in Table 1.

Figure 1: ACDigiSRII dimensions and indicators



Source: Author's creation

Table 1: SDGs reflected in the ACDigiSRII

Sustainable Development Goals	Trade and investment	Finance	RVC	Infrastructure	Movement of people	Regulatory cooperation	Digital economy
Goal 1: No poverty							
Goal 2: Zero hunger							
Goal 3: Good health and wellbeing							
Goal 5: Gender equality							
Goal 7: Affordable and clean energy							
Goal 8: Decent work and economic growth							
Goal 9: Industry, innovation, and infrastructure							
Goal 10: Reduce inequality							
Goal 11: Sustainable cities and communities							
Goal 12: Responsible consumption and production							
Goal 13: Climate action							
Goal 14: Life below water							
Goal 15: Life on land							
Goal 16: Peace and justice strong institutions							
Goal 17: Partnerships to achieve the goal							

Source: Author's creation

3.2. Data availability and sources

Table 2 shows data availability by economy and dimension for conventional and sustainable indicators. Figure 2 depicts dimensions of composite RI index and Table 3 provides the data sources by dimension and indicators.

	Trad inves	e and tment	Fina	ince	R	RVC		Infrastructure		Movement of people		Regulatory cooperation		ital Iomy
ASEAN	Con.	Sus.	Con.	Sus.	Con.	Sus.	Con.	Sus.	Con.	Sus.	Con.	Sus.	Con.	Sus.
Brunei Darussalam														
Cambodia														
Indonesia														
Malaysia														
Philippines														
Singapore														
Thailand														
Vietnam														
CAREC														
Kazakhstan														
Kyrgyzstan														
Mongolia														
Pakistan														
Tajikistan														

Table 2: Data availability by economy and dimension

Source: Author's creation

Note: Con. = conventional and Sus. = sustainable



: Data available for simplified version



The study focuses on the CAREC clusters of investment in financial infrastructure, crossborder capital flows to strengthen financial integration, closer financial cooperation, multilateral trade credit and investment, greater crossborder investment, trade openness and addressing non-tariff barriers (NTBs) and free trade agreements (FTAs) for greater regional trade, regional investments in telecommunications, freer movement of labor, integrated trade facilitation, RVC, digital economy, and sustainable development. The ACDigiSRII focuses on developing the ASEAN-CAREC indicator framework for digital and sustainable RI using the indicator framework established to monitor progress of the implementation of the SDGs. This approach considers that strong RI may not be the

most desirable outcome in the context of the COVID-19 pandemic. For instance, the COVID-19 crisis may have a more negative impact on the most regionally integrated economy, but a more regionally integrated economy may recover faster owing to having more access to medical supplies. Based on experiences in the development of the ARII, the APRII, and the ARCII, the study uses simple aggregation techniques to build the index and to offer policy implications.

The ACDigiSRII captures progress in conventional trade and investment integration, RVC integration, movement of people, conventional and sustainable infrastructure integration, regulatory cooperation, and DEI. In the case of financial integration, only sustainability indicators are used. Owing to data limitations, sustainability indicators for trade and investment, RVC, and movement of people are not captured, which remains a major limitation of this study.



Figure 2: Composite regional integration index

Source: Author's creation

No.		Dimension/Indicator	Sources
١.	Region	al trade and investment integration	LINCTAD Trade Analysis Information
	1.	Intraregional goods exports to GDP	System (TRAINS); UN Comtrade
	2.	Intraregional goods imports to GDP	database; World Development
	3.	Average tariff on intraregional imports	Indicators (WDIs), UNCTAD TRAINS,
	4.	Stock of intraregional FDI inflows to GDP	andUNCTAD FDI Statistics; ADB MRIO
	5.	Stock of intraregional FDI outflows to GDP	database; WTO; OECD trade data
П.	Region	al financial integration	
	1.	Intraregional real exchange rate volatility	WDIs; and IMF database
	2.	Average intraregional financial development index score	
III.	Region	al value chainintegration	
	1.	RVC participation index	UNCIAD; UN Comtrade database,
	2.	Intraregional intermediate goods exports to total	Trade: ESCAP Trade Costs database:
		intraregional goods exports	World Bank WDI
	3.	Intraregional intermediate goods imports to total	
		intraregional goods imports	
IV.	Region	al infrastructure integration	
	1.	Intraregional liner shipping connectivity index (LSCI)	
	2.	Intraregional average trade cost (in US\$)	
	3.	Average intraregional rural access to electricity	WDI; UNCTAD; ADB MRIO database
	4.	Average intraregional share of internet users in	
		population	
	5.	Intraregional LSCI	
V.	Region	al movement of people	UN Population Division; Population
ļ	1.	Stock of intraregional emigrants per capita	Division, World Bank WDI, World
	2.	Intraregional outflow of remittances to GDP	Bank Migration and Remittances
	3.	Intraregional inflow of remittances to GDP	database; UN DESA
VI.	Region	al regulatory cooperation	
	1.	Number of regional economies that have signed FTAs	
		with the economy	ADB; ESCAP Asia-Pacific Trade;
	2.	Number of regional economies that have signed	UNCTAD
		International investment agreements with the economy	
	3.	Rule of law index score	
VII.	Region	al digital economy integration	
	1.	Share of ICT good exports in intraregional exports	
	2.	Share of ICI good imports in intraregional imports	
	3.	Average intraregional share of population with financial	WDI; UN Comtrade database, TRAINS,
	4	Average intraregional secure internet servers	World Bank Global Findex database,
	4. -	Average intraregional properties of beyers	ESCAP
	5.	Average intraregional proportion of nousehold With	
	6	Average intraregional share of female nonulation with	
	0.	financial institution or mobile money account	

Table 3: Data sources by dimension and indicator

Source: Author's compilation

3.3. Methodological considerations

This subsection provides an overview of methods applied to build the simplified version of the ACDigiSRII. The steps involved in computing the index are discussed as follows.

Step 1: Imputing missing data

The problem of missing data related to certain indicators has been addressed by linear interpolation for years where data was not reported. When data was not reported by economies, mirror data has been used for missing values from available bilateral data. Regression imputation has also been employed for several indicators that lack data for specific countries. Still, if missing data for particular indicators remains for economies, the same has been dropped from the calculation of a particular dimensional index alongsidetheoverall composite integration index.

Step 2: Unidirection

The data is made unidirectional, which means in a positive direction (if itisnegative variable).

Step 3: Normalization of indicators

Minimum–maximum scaling has been used to normalize all indicators which convey quantitatively different information in different measurement units. The normalized indicators range between 0 and 1, which reveals the comparative vigor or frailty of the dimensions. The score of 1 reveals complete integration and score of 0 reveals no integration. The formula for panel normalization has been used to maintain the time consistency of the index, where each indicator represents asx^{t}_{qc} of typeq for a countrycand timet transformed into:

$$I_t = x_{qc}^t - \min_{t \in T} \min_c(x_q^t) / \max_{t \in T} \max_c(x_q^t) - \min_{t \in T} \min_c(x_q^t)$$

where the minimum and maximum values for each indicator have been calculated across countries and time. The values of I_t range from 0 to 1, with higher values denoting greater integration.

Step 4: Aggregating indicators: Equal weighting

Equal weighting is preferred in calculating average indicators as it helps in easy interpreting and tracking performance over a period. However, equal weighting can probably overweight a dimension with more indicators compared to others, except the application of dimensional average scores prior to aggregation into a total index score. But the indicators range from minimum 1 to maximum 5 for each dimension; therefore, equal weights have been used to calculate the dimensional index and overall index.

4. ACDigiSRII: Results and interpretation

4.1. Performance in overall regional integration

The overall RI remained higher in the CAREC region (above 0.43) than the ASEAN region (above 0.35) during 2010 to 2020 (Table 4). However, significant variations existed across dimensions. In the regional trade and investment dimension, the CAREC region's score stood higher than the ASEAN's score except in 2020. In 2010 and 2012 to 2013, financial integration of the CAREC region was robust, while in 2014 both regions have similar levels of financial integration, and in 2015 to 2020 financial integration stood stronger in the ASEAN region compared to the CAREC region. RVC integration

remained higher throughout in the CAREC region compared to the ASEAN region. Infrastructure integration remained lower in the CAREC region compared the ASEAN region and in 2018 to 2020 infrastructure integration displayed better in the CAREC region compared to the ASEAN region. In movement of people, the CAREC region performed better than the ASEAN region and in regulatory cooperation, the CAREC region stood stronger throughout compared to the ASEAN region. In DEI, both regions started with a similar level of integration followed by fluctuating levels of integration up to 2019 and 2015 respectively in the ASEAN region and the CAREC region, after which the performance of the CAREC region improved steadily up to 2019 and remained higher than the ASEAN region (Figure 4). The results indicate that strong integration in the CAREC region is attributed to a more active participation in trade and investment, regional production networks and value chains, movement of people and cooperation arrangements over time, and digital economy in recent years.

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Trade and investment integration	0.35	0.36	0.38	0.35	0.35	0.36	0.41	0.37	0.40	0.38	0.40
Financial integration	0.46	0.52	0.50	0.49	0.52	0.49	0.49	0.51	0.54	0.54	0.51
RVC integration	0.36	0.34	0.43	0.34	0.31	0.33	0.35	0.35	0.32	0.41	0.32
Infrastructure integration	0.52	0.53	0.53	0.52	0.54	0.55	0.54	0.52	0.51	0.51	0.51
Movement of people	0.26	0.26	0.27	0.28	0.28	0.27	0.27	0.27	0.26	0.27	0.27
Regulatory cooperation	0.50	0.50	0.49	0.50	0.50	0.49	0.51	0.51	0.51	0.50	0.50
Digital economy integration	0.34	0.34	0.37	0.39	0.38	0.37	0.38	0.39	0.40	0.39	0.41
Overall composite RI	0.40	0.41	0.43	0.41	0.41	0.41	0.42	0.42	0.42	0.43	0.42
CAREC											
Trade and investment integration	0.42	0.42	0.42	0.44	0.49	0.40	0.43	0.38	0.43	0.39	0.39
Financial integration	0.50	0.46	0.52	0.51	0.52	0.41	0.48	0.43	0.47	0.45	0.47
RVC integration	0.48	0.49	0.56	0.47	0.46	0.41	0.42	0.39	0.42	0.52	0.45
Infrastructure integration	0.49	0.48	0.42	0.45	0.48	0.49	0.50	0.50	0.57	0.58	0.52
Movement of people	0.44	0.43	0.44	0.39	0.38	0.37	0.36	0.37	0.36	0.37	0.43
Regulatory cooperation	0.53	0.51	0.51	0.52	0.51	0.54	0.53	0.57	0.56	0.56	0.55
Digital economy integration	0.34	0.36	0.35	0.34	0.33	0.38	0.38	0.41	0.43	0.47	0.46
Overall composite RI	0.46	0.45	0.46	0.45	0.45	0.43	0.44	0.44	0.46	0.48	0.47

Table 4: Performance in composite regional integration

Source: Author's calculations



In conventional RI, the CAREC region scored better than the ASEAN region during 2010 to 2020 (Table 5). In the CAREC region, regulatory cooperation followed by RVC and movement of people contributed the most to conventional RI, while contribution of trade and investment integration and infrastructure integration remained above the ASEAN region except 2020 and 2012 respectively. Infrastructure integration contributed more to conventional RI than RVC and movement of people in both the regions except 2012. However, the ASEAN region obtained higher than the CAREC region in conventional DEI except 2018 to 2020. In 2010 and 2017 to 2020, the CAREC region displayed better than the ASEAN region in sustainable integration (Table 6). In recent years, the CAREC region significantly improved performance in sustainable integration, while the ASEAN region sustained its performance during 2010 to 2020. The dimensions of sustainable financial integration, infrastructure integration, and regulatory cooperation contributed more to sustainable integration in the CAREC region, while the contribution of sustainable DEI remained modest but increased from 0.34 in 2010 to 0.40 in 2020. In the ASEAN region, sustainable infrastructure integration and sustainable financial integration contributed more to RI than other two dimensions. The ASEAN's score in sustainable infrastructure integration and sustainable financial integration remained higher than the CAREC region except 2010 and 2012 to 2013 in financial integration. In sustainable regulatory cooperation and sustainable DEI, the CAREC region exhibited better than the ASEAN region during 2010 to 2020. These results indicate that the CAREC region has improved performance in sustainable integration owing to the robust contribution of financial, infrastructure, and regulatory cooperation and sustainable DEI exhibited modestly.

Table 5: Performance in conventional regional integ	ration
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ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Trade and investment integration	0.35	0.36	0.38	0.35	0.35	0.36	0.41	0.37	0.40	0.38	0.40
RVC integration	0.36	0.34	0.43	0.34	0.31	0.33	0.35	0.35	0.32	0.41	0.32
Infrastructure integration	0.40	0.41	0.40	0.39	0.42	0.42	0.42	0.42	0.41	0.41	0.40
Movement of people	0.26	0.26	0.27	0.28	0.28	0.27	0.27	0.27	0.26	0.27	0.27
Regulatory cooperation	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Digital economy integration	0.43	0.43	0.48	0.51	0.47	0.46	0.46	0.49	0.50	0.47	0.49
Overall conventional RI	0.39	0.39	0.42	0.41	0.40	0.40	0.41	0.41	0.41	0.42	0.41
CAREC											
Trade and investment integration	0.42	0.42	0.42	0.44	0.49	0.40	0.43	0.38	0.43	0.39	0.39
RVC integration	0.48	0.49	0.56	0.47	0.46	0.41	0.42	0.39	0.42	0.52	0.45
Infrastructure integration	0.51	0.50	0.38	0.42	0.52	0.52	0.49	0.48	0.55	0.55	0.42
Movement of people	0.44	0.43	0.44	0.39	0.38	0.37	0.36	0.37	0.36	0.37	0.43
Regulatory cooperation	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Digital economy integration	0.35	0.40	0.37	0.37	0.33	0.43	0.42	0.47	0.53	0.59	0.59
Overall conventional RI	0.46	0.47	0.46	0.44	0.46	0.45	0.45	0.44	0.48	0.50	0.48

Source: Author's calculations

Table 6: Performance in sustainable regional integration

		<u> </u>	<u> </u>	1			1	1			
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Financial integration	0.46	0.52	0.50	0.49	0.52	0.49	0.49	0.51	0.54	0.54	0.51
Infrastructure integration	0.64	0.65	0.66	0.65	0.66	0.68	0.65	0.61	0.61	0.61	0.61
Regulatory cooperation	0.40	0.39	0.37	0.38	0.38	0.37	0.42	0.42	0.43	0.40	0.39
Digital economy integration	0.25	0.26	0.27	0.28	0.28	0.29	0.29	0.30	0.31	0.33	0.34
Overall sustainable RI	0.44	0.46	0.45	0.45	0.46	0.46	0.46	0.46	0.47	0.47	0.46
CAREC											
Financial integration	0.50	0.46	0.52	0.51	0.52	0.41	0.48	0.43	0.47	0.45	0.47
Infrastructure integration	0.48	0.48	0.44	0.46	0.46	0.47	0.51	0.51	0.58	0.59	0.56
Regulatory cooperation	0.47	0.41	0.42	0.45	0.42	0.49	0.45	0.58	0.56	0.55	0.53
Digital economy integration	0.34	0.33	0.33	0.31	0.32	0.34	0.35	0.37	0.39	0.40	0.40
Overall sustainable RI	0.45	0.42	0.43	0.43	0.43	0.42	0.45	0.48	0.50	0.50	0.49

Source: Author's calculations

4.2. Performance in conventional trade and investment integration

Trade and investment integration refer to the establishment of free trade and investment flows between the participating countries (Hassan et al. 2014; Kawai and Naknoi 2015). The trade and investment dimension concentrates on intraregional intensity of trade and investment flows (ADB 2009). Stronger trade and investment integration occur by eliminating the trade and investment barriers and decentralizing related institutions for free trade and investment flows (Widodo 2009). Sustainable trade and investment integration requires engagement in the regional trading system for economic, environment, and social sustainability (EIU 2018). In conventional trade and investment integration, the CAREC region exhibited better than the ASEAN region during 2010 to 2019 (Table 7). However, significant variations exist across regional economies. The performance of Singapore followed by Vietnam and Cambodia remained higher than the regional average during 2010 to 2020, while Indonesia, Malaysia, and the Philippines scored lower than the regional average and the situation in Thailand was similar except for 2010. Brunei Darussalam remained least integrated in trade and investment integration. In the CAREC region, the performance of Mongolia remained significant during 2010 to 2020 except for 2015 to 2016. Kazakhstan and Kyrgyzstan obtained significantly above the regional average during 2010 to 2010 to 2020 except for 2015 to 2016, while Tajikistan generated below the

regional average except for 2017 and 2020, and Pakistan scored the least in trade and investment integration. Kyrgyzstan and Kazakhstan displayed poorly in recent years. However, the performance of all the CAREC economies remained better than the two ASEAN economies of Brunei Darussalam and Indonesia during 2014 to 2020. The results indicate that the CAREC region has improved in trade and investment integration, but high instability persisted.

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.12	0.13	0.13	0.13	0.12	0.10	0.13	0.11	0.13	0.15	0.16
Cambodia	0.41	0.46	0.48	0.48	0.46	0.50	0.55	0.49	0.55	0.54	0.57
Indonesia	0.22	0.27	0.31	0.22	0.19	0.18	0.23	0.17	0.20	0.19	0.19
Malaysia	0.31	0.31	0.30	0.27	0.28	0.30	0.35	0.29	0.30	0.28	0.29
Philippines	0.33	0.33	0.32	0.32	0.32	0.33	0.38	0.36	0.35	0.35	0.35
Singapore	0.63	0.63	0.70	0.63	0.61	0.61	0.67	0.63	0.71	0.62	0.67
Thailand	0.36	0.32	0.35	0.34	0.33	0.35	0.39	0.32	0.32	0.31	0.32
Vietnam	0.43	0.45	0.47	0.45	0.46	0.53	0.62	0.59	0.63	0.61	0.62
RI	0.35	0.36	0.38	0.35	0.35	0.36	0.41	0.37	0.40	0.38	0.40
CAREC											
Kazakhstan	0.52	0.50	0.49	0.48	0.54	0.42	0.57	0.29	0.16	0.18	0.34
Kyrgyzstan	0.49	0.46	0.44	0.54	0.73	0.77	0.57	0.31	0.52	0.39	0.31
Mongolia	0.57	0.64	0.60	0.56	0.53	0.30	0.29	0.59	0.73	0.75	0.62
Pakistan	0.22	0.23	0.25	0.27	0.22	0.21	0.35	0.27	0.39	0.31	0.26
Tajikistan	0.27	0.28	0.31	0.38	0.41	0.28	0.39	0.42	0.37	0.35	0.42
RI	0.42	0.42	0.42	0.44	0.49	0.40	0.43	0.38	0.43	0.39	0.39

Table 7: Performance in conventional trade and investment integration

Source: Author's calculations

The average contribution of intraregional goods exports to GDP in conventional trade and investment remained higher in the CAREC region from 2010 to 2018 except 2017, while the same is true in the ASEAN region for 2019 and 2020 (see appendix table). Intraregional goods exports to GDP contributed significantly in Singapore followed by steady progress in Vietnam up to 2019 and Cambodia up to 2016 followed by an upturn after 2017, while the performance of the Philippines remained poor. Kazakhstan's performance in intraregional goods exports to GDP was significantly high during 2010 to 2013 followed by a declining trend up to 2016, while Mongolia showed a declining trend up to 2012 followed by persistently high performance thereafter, and Tajikistan and Pakistan exhibited low scores. The average score of intraregional goods imports to GDP remained high in the CAREC region during 2010 to 2016 and thereafter in the ASEAN region. Intraregional goods imports to GDP exhibited persistently robust in Singapore, while Vietnam obtained high scores up to 2019 after 2012 and experienced a negligible dip in 2020 and Cambodia exhibited steadily up to 2020 except for a small dip in 2017. Indonesia contributed low followed by the Philippines, Brunei Darussalam, and Thailand. In the CAREC region, intraregional goods imports to GDP contributed strongly in Kyrgyzstan for most years, while Tajikistan and Mongolia displayed substantially high, and Kazakhstan contributed low and Pakistan performed very insignificantly.

The average tariff on intraregional imports contributed higher in the ASEAN region than the CAREC region and contributed substantially to trade and investment integration in Cambodia followed by Thailand, Vietnam, Indonesia, the Philippines, and Malaysia, while Brunei Darussalam and Singapore contributed insignificantly. Pakistan obtained high while Tajikistan, Kyrgyzstan, and Kazakhstan contributed modestly and Mongolia the least. Stock of intraregional FDI inflows to GDP contributed more to trade and investment integration in the CAREC region than the ASEAN region except in 2011 and 2012. Singapore achieved a persistent score of 1 in this indicator, while Cambodia and Vietnam displayed modest and low scores respectively. All CAREC economies displayed the volatile

contribution of this indicator. The CAREC region generated better than the ASEAN region in stock of intraregional FDI outflows to GDP except 2016. Singapore sustained a score of 1 in this indicator and other ASEAN economies obtained low. All CAREC economies except Pakistan exhibited volatilities in stock of intraregional FDI outflows to GDP. The results reveal that stock of intraregional FDI inflows and outflows to GDP contributed significantly to trade and investment integration in the CAREC region for most years. However, the ASEAN region was unable to sustain contribution of intraregional goods exports and imports to GDP in recent years and contribution of average tariff on intraregional imports to trade and investment integration remained low.

4.3. Performance in sustainable financial integration

Financial integration refers to the linking of regional financial markets through capital flows, regional investors, and information sharing (Nardo et al. 2017) for equalizing asset prices and yields. Stronger financial integration demonstrates greater interregional capital flows and increased financial market harmonization in participating countries and therefore supports sustainable economic growth (Yadav et al. 2019). In financial integration, the ASEAN region performed better than the CAREC region in 2011 and in 2015 to 2020, while in 2014 both regions score equally (Table 8). Singapore and Thailand obtained very high in financial integration, while Malaysia and Cambodia exhibited above regional average except 2017 and 2010 to 2015 respectively. In 2019 and 2020, Cambodia scored similar to regional average. Brunei Darussalam and the Philippines displayed modestly and similar is the situation of Vietnam except 2011 to 2013. However, the Philippines showed fluctuating performance and Indonesia remained the least financially integrated economy in the ASEAN region. Mongolia performed significantly better than other regional economies, but scored below regional average in 2014. Kazakhstan generated above regional average in 2010 to 2015 and the situation was similar in Pakistan in 2010 and in 2015 to 2020. Kyrgyzstan and Kazakhstan obtained above regional average in 2019 to 2020 and 2014 respectively, while Tajikistan scored the least. The analysis indicates that most CAREC economies except Mongolia persistently scored low in sustainable financial integration.

Average score of intraregional real exchange rate volatility remained higher in the ASEAN region than the CAREC region except 2010, when average score was similar in both regions (see appendix table). This indicator contributed perfectly to sustainable financial integration of Singapore in most years except in 2010 to 2011, 2015, and 2020, when it remained substantial. The status of the Philippines, Cambodia, Brunei Darussalam, and Thailand remained stronger than Vietnam and Indonesia. In Kyrgyzstan and Pakistan, this indicator contributed substantially to sustainable financial integration compared to Mongolia and Kazakhstan for most years. In the CAREC region, average intraregional financial development index score remained higher than the ASEAN region. Singapore's score remained perfect except in 2014 to 2016 and 2019, when it was significantly high. In Thailand, the score was perfect in 2014 to 2016 and 2019 and robust in remaining years, while Malaysia generated a substantial score compared to Vietnam followed by Cambodia, the Philippines, Indonesia, and Brunei Darussalam. Mongolia and Kazakhstan obtained a higher score than Pakistan, while Tajikistan performed low in intraregional financial development and Kyrgyzstan scored very poorly. The high average score of intraregional financial development index should be taken cautiously. These scores suggest the strength of financial markets and not imply the existence of adequately liberalized financial systems to promote financial integration in regional economies. Besides, CAREC economies need to diversify their financial markets and create robust institutions to achieve higher intraregional financial vitality and integration.

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.29	0.51	0.48	0.45	0.45	0.36	0.38	0.40	0.44	0.42	0.37
Cambodia	0.30	0.38	0.40	0.39	0.44	0.45	0.51	0.54	0.55	0.54	0.51
Indonesia	0.25	0.37	0.18	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.05
Malaysia	0.67	0.84	0.81	0.75	0.76	0.59	0.50	0.50	0.58	0.57	0.56
Philippines	0.29	0.29	0.40	0.45	0.46	0.53	0.53	0.51	0.47	0.53	0.55
Singapore	0.75	0.91	1.00	1.00	0.98	0.95	0.96	1.00	1.00	0.97	0.92
Thailand	0.66	0.79	0.74	0.80	0.80	0.78	0.77	0.79	0.88	0.95	0.88
Vietnam	0.45	0.06	0.03	0.04	0.27	0.25	0.26	0.28	0.31	0.25	0.26
RI	0.46	0.52	0.50	0.49	0.52	0.49	0.49	0.51	0.54	0.54	0.51
CAREC											
Kazakhstan	0.75	0.73	0.94	1.00	0.75	0.42	0.42	0.38	0.38	0.33	0.36
Kyrgyzstan	0.28	0.19	0.38	0.43	0.39	0.15	0.30	0.30	0.44	0.50	0.50
Mongolia	0.66	0.93	0.96	0.70	0.50	0.57	0.76	0.65	0.73	0.73	0.76
Pakistan	0.54	0.40	0.23	0.09	0.43	0.75	0.72	0.72	0.69	0.51	0.55
Tajikistan	0.25	0.04	0.09	0.33	0.52	0.14	0.22	0.11	0.10	0.16	0.16
RI	0.50	0.46	0.52	0.51	0.52	0.41	0.48	0.43	0.47	0.45	0.47

Table 8: Performance in sustainable financial integration

Source: Author's calculations

4.4. Performance in conventional regional value chain integration

RVC refers to the establishment of cross-border supply chains through regional investment and market links, which facilitates RI (Suder et al. 2015). Stronger RVC integration promotes greater coordination and economic cooperation between regional economies facilitated by better trade complementarity and higher intraregional resource flows (Rosario 2019). The CAREC region performed better than the ASEAN region in the RVC index (Table 9). Malaysia and Vietnam generated significantly higher scores followed by Indonesia and Cambodia. The performance of Cambodia (2011 and 2016 to 2018), Philippines (2011 and 2019 to 2020) and Brunei Darussalam (2012 to 2013) remained above regional average and Singapore displayed poorly in RVC integration. Except for Pakistan and Mongolia, performance of CAREC economies remained lower than regional average. RVC integration scores of Kazakhstan, Kyrgyzstan, and Tajikistan fluctuated over the period. The analysis indicates that CAREC economies displayed relatively high instability in RVC integration.

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.35	0.25	0.57	0.42	0.19	0.31	0.24	0.29	0.25	0.25	0.25
Cambodia	0.34	0.42	0.39	0.27	0.31	0.32	0.39	0.40	0.36	0.38	0.29
Indonesia	0.37	0.38	0.45	0.37	0.36	0.43	0.56	0.52	0.44	0.48	0.45
Malaysia	0.63	0.50	0.79	0.73	0.73	0.74	0.54	0.68	0.62	0.73	0.63
Philippines	0.34	0.36	0.35	0.30	0.29	0.28	0.34	0.32	0.31	0.46	0.33
Singapore	0.03	0.01	-0.05	-0.03	-0.06	-0.06	0.06	0.00	-0.03	0.22	0.04
Thailand	0.17	0.20	0.19	0.09	0.10	0.07	0.13	0.14	0.10	0.26	0.13
Vietnam	0.65	0.64	0.79	0.59	0.57	0.54	0.53	0.50	0.49	0.49	0.45
RI	0.36	0.34	0.43	0.34	0.31	0.33	0.35	0.35	0.32	0.41	0.32
CAREC											
Kazakhstan	0.30	0.30	0.25	0.19	0.20	0.04	0.14	0.10	0.04	0.00	0.06
Kyrgyzstan	0.08	0.08	0.13	0.07	0.11	0.17	0.16	0.12	0.10	0.16	0.13
Mongolia	0.59	0.68	0.70	0.66	0.66	0.51	0.63	0.62	0.60	0.74	0.66
Pakistan	1.01	0.98	1.39	1.18	1.03	1.10	0.97	1.00	1.17	1.46	1.22
Tajikistan	0.41	0.39	0.33	0.27	0.30	0.22	0.21	0.11	0.16	0.25	0.17
RI	0.48	0.49	0.56	0.47	0.46	0.41	0.42	0.39	0.42	0.52	0.45

Table 9: Performance in conventional regional value chain integration

Source: Author's calculations

Average RVC participation index stood higher in the CAREC region than the ASEAN region except for 2019(see appendix table). Brunei Darussalam scored 1 in 2015-2020 and robustly in previous years, while almost the reverse is true for Indonesia. Malaysia and Vietnam obtained significantly higher than regional average, while the Philippines, Thailand, and Singapore generated very poorly. Pakistan and Mongolia contributed above regional average, while Kazakhstan's performance remained above regional average during 2010-2014 and below regional average afterwards. The contribution of intraregional intermediate goods exports to total intraregional goods exports in RVC integration remained higher in the CAREC region except 2012. The Philippines's score remained 1, while Vietnam and Cambodia generated above regional average and most CAREC economies performed very poorly. Intraregional intermediate goods imports to total intraregional goods imports contributed significantly to RVC integration in the CAREC region than the ASEAN region except 2017. Malaysia followed by Vietnam and Cambodia generated better than regional average, while Indonesia obtained above regional average except 2011 to 2014. Half of ASEAN counties displayed negative in this indicator (Brunei Darussalam and the Philippines (2010 to 2020), Singapore (2011 to 2015 and 2018-2020, Thailand (2013 to 2015, 2018, and 2020). Pakistan exhibited significantly higher than regional average and Kyrgyzstan's score remained above regional average (2014-2018 and 2020) and Mongolia generated below regional average, while Kazakhstan and Tajikistan obtained negative over the period. The results suggest that the CAREC region is unable to sustain RVC participation index in recent years despite substantial contribution of intraregional intermediate goods exports and imports to total intraregional goods exports and imports in RVC integration except 2012 and 2017 respectively.

4.5. Performance in conventional and sustainable infrastructure integration

Deeper RI necessitates better connectivity and facilitating regulations for greater intraregional trade (ADB 2013). Sustainable infrastructure integration refers to inclusive access to domestic and crossborder infrastructure. In the ASEAN region, regional infrastructure integration remained relatively better than the CAREC region except in recent years (Table 10). Singapore's performance in financial integration remained robust followed by Malaysia, Brunei Darussalam, Vietnam, and Thailand, while the performance of the Philippines remained above regional average except 2015 and 2017 to 2020, and Indonesia and Cambodia displayed poorly. Kazakhstan steadily maintained a high score of 1, while Kyrgyzstan performed substantially except for 2012 to 2013and 2018 to 2020 and Tajikistan scored above regional average during 2012 to 2013 and 2018 to 2020. Pakistan scored lower than the regional average over the period and Mongolia performed above the regional average in 2018 and 2019. Pakistan's performance in the financial integration index remained significantly low during the past decade and stood at 0.14 in 2020. In Kyrgyzstan, infrastructure integration declined from 0.75 in 2010 to 0.40 in 2013, followed by an increase to 0.75 in 2014 and giving way to a declining trend up to 2020, while Tajikistan showed a mixed trend in infrastructure integration. The results indicate that all CAREC economies except Kazakhstan experienced high volatilities in infrastructure integration.

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.56	0.57	0.59	0.57	0.59	0.60	0.63	0.63	0.63	0.63	0.63
Cambodia	0.17	0.16	0.16	0.17	0.16	0.17	0.19	0.17	0.18	0.17	0.17
Indonesia	0.37	0.36	0.37	0.35	0.35	0.39	0.31	0.31	0.31	0.31	0.30
Malaysia	0.69	0.73	0.73	0.65	0.74	0.75	0.74	0.72	0.65	0.67	0.67
Philippines	0.57	0.57	0.58	0.61	0.62	0.54	0.57	0.49	0.45	0.39	0.44
Singapore	0.87	0.87	0.87	0.87	0.87	0.87	0.85	0.83	0.84	0.85	0.84
Thailand	0.43	0.41	0.42	0.41	0.43	0.46	0.43	0.42	0.42	0.49	0.44
Vietnam	0.54	0.56	0.55	0.52	0.54	0.59	0.58	0.56	0.60	0.58	0.57
RI	0.52	0.53	0.53	0.52	0.54	0.55	0.54	0.52	0.51	0.51	0.51
CAREC	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Kazakhstan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kyrgyzstan	0.75	0.68	0.49	0.40	0.75	0.74	0.74	0.72	0.45	0.45	0.45
Mongolia	0.03	0.03	0.04	0.12	0.08	0.13	0.20	0.24	0.61	0.64	0.47
Pakistan	0.19	0.24	0.11	0.20	0.10	0.10	0.10	0.08	0.20	0.20	0.14
Tajikistan	0.48	0.47	0.47	0.52	0.47	0.46	0.48	0.47	0.58	0.59	0.53
RI	0.49	0.48	0.42	0.45	0.48	0.49	0.50	0.50	0.57	0.58	0.52

Table 10: Performance in conventional and sustainable infrastructure integration

Source: Author's calculations

The LSCI contributed a score of 1 to infrastructure and connectivity index in Singapore and substantially in Malaysia and modestly in Vietnam, Thailand, and Indonesia and very low in Cambodia (see appendix table). Intraregional average trade cost to infrastructure and connectivity index exhibited high in the CAREC region compared to the ASEAN region except 2012. Philippines scored 1 and Cambodia, Brunei Darussalam, and Singapore contributed significantly, while other ASEAN economies performed poorly. Kazakhstan scored 1, while Kyrgyzstan displayed significantly in most of the years and other economies scored low. The sustainable indicator of average intraregional rural access to electricity contributed robustly in infrastructure and connectivity index in the ASEAN region during 2010 to 2017 compared to the CAREC region. Singapore and Brunei Darussalam scored 1 and other ASEAN economies scored high except Cambodia. Kazakhstan followed by Kyrgyzstan and Tajikistan obtained substantially, while Mongolia's score improved in recent years, and Pakistan performed poorly. The contribution of sustainable indicator of average intraregional share of internet users in population to infrastructure and connectivity index exhibited higher in the ASEAN region than the CAREC region. Singapore followed by Brunei Darussalam and Malaysia contributed significantly, while Vietnam, Thailand, and the Philippines generated modestly and Indonesia and Cambodia displayed poorly. The results reveal that intraregional average trade cost contributed heavily to infrastructure and connectivity index in the CAREC region and intraregional rural access to electricity increased in recent years and intraregional share of internet users in the population is low.

4.6. Performance in conventional movement of people

Stronger RI requires free movement of people within the region, which facilitates sustainable development outcomes (Srinivasan 2012). CAREC economies obtained better than ASEAN economies in movement of people (Table 11). Tajikistan and Kazakhstan scored higher at 0.67 and 0.65 respectively in 2020 compared to the regional average of 0.43. In Kazakhstan, the index of movement of people improved significantly from 0.53 in 2010 to 0.65 in 2020, while Tajikistan's score declined from 0.70 to 0.67 over the past decade. Pakistan and Mongolia remained the least integrated nations with a score of 0.15 and 0.33 respectively in 2020, much below regional average, while Kyrgyzstan exhibited strongly except in2020. Malaysia, the Philippines, Singapore, and Cambodia (except in 2020) generated better than the regional average, while other ASEAN countries obtained lower than regional average and Indonesia remained the least integrated. The relatively high integration of CAREC economies in movement of people is attributed to greater human mobility than goods mobility owing to relatively more open borders and greater reliance on labor remittances from Kazakhstan and Russia in Kyrgyzstan and Tajikistan.

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.20	0.20	0.20	0.20	0.20	0.19	0.19	0.19	0.19	0.19	0.20
Cambodia	0.30	0.32	0.43	0.46	0.46	0.38	0.38	0.35	0.33	0.30	0.26
Indonesia	0.07	0.06	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.08	0.08
Malaysia	0.41	0.41	0.41	0.42	0.42	0.43	0.43	0.43	0.43	0.43	0.43
Philippines	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Singapore	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Thailand	0.17	0.17	0.17	0.18	0.19	0.18	0.19	0.19	0.19	0.26	0.29
Vietnam	0.22	0.21	0.22	0.22	0.22	0.22	0.22	0.21	0.21	0.22	0.21
RI	0.26	0.26	0.27	0.28	0.28	0.27	0.27	0.27	0.26	0.27	0.27
CAREC	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Kazakhstan	0.53	0.49	0.46	0.42	0.42	0.44	0.44	0.42	0.41	0.40	0.65
Kyrgyzstan	0.64	0.61	0.64	0.63	0.67	0.67	0.71	0.71	0.71	0.71	0.37
Mongolia	0.26	0.29	0.35	0.23	0.17	0.14	0.11	0.11	0.11	0.13	0.33
Pakistan	0.08	0.07	0.08	0.08	0.09	0.10	0.10	0.08	0.09	0.12	0.15
Tajikistan	0.70	0.67	0.65	0.56	0.57	0.51	0.42	0.50	0.49	0.48	0.67
RI	0.44	0.43	0.44	0.39	0.38	0.37	0.36	0.37	0.36	0.37	0.43

Table 11: Performance in conventional movement of people

Source: Author's calculations

The contribution of stock of intraregional emigrant per capita (percent) to movement of people generated higher in the CAREC region than the ASEAN region (see appendix table). Singapore scored 1 in this indicator, while Brunei Darussalam obtained substantially and other ASEAN economies contributed poorly. Like Singapore, Kazakhstan scored perfectly and other CAREC economies displayed poorly. Intraregional outflow of remittances to GDP (percent) contributed significantly more in the CAREC region than the ASEAN region. Malaysia scored 1, while Cambodia and Thailand generated robustly and other ASEAN economies displayed poorly. Like Malaysia, Kyrgyzstan scored 1, while Mongolia (except for 2015 to 2019) and Tajikistan (except 2015 to 2016 and 2019) scored above regional average. Kazakhstan displayed below regional average except 2020 and Pakistan's score remained negligible. The regional average score of the CAREC region remained higher than the ASEAN region in intraregional inflow of remittances to GDP (percent). The Philippines scored 1 in this indicator, Vietnam and Cambodia generated above regional average, and other ASEAN economies displayed poorly. Tajikistan and Kyrgyzstan exhibited significantly, while Pakistan and Mongolia performed poorly. The analysis signifies the relative relevance of stock of intraregional emigrant per

capita and intraregional outflow and inflow of remittances to GDP in movement of people dimension in CAREC economies.

4.7. Performance in conventional and sustainable regulatory cooperation

Regulatory cooperation refers to establishment of common institutional and regulatory frameworks within a region to deepen economic integration (ADB 2013). Sustainability dimension of RI focused on level of participation in regional arrangements (Wignaraja et al. 2019). Regulatory cooperation index for the CAREC region stood higher than the ASEAN region (Table 12). Singapore sustainably maintained at 0.91, while Malaysia followed by Thailand and Indonesia displayed high. Other ASEAN economies generated lower than regional average and Cambodia remained the least integrated. Kazakhstan, Pakistan, and Kyrgyzstan performed significantly high, while Mongolia obtained below regional average and sustained a score of 0.42 and Tajikistan remained the least integrated nation with a score of 0.06 during 2011 to 2020. The relatively high scores in regulatory cooperation integration imply that all CAREC countries have entered regional trade agreements (RTAs) and are members of different regional economic alliances although with differential outcomes.

The number of regional economies that have signed FTAs with the economy contributed higher to conventional regional cooperation index in the ASEAN region than the CAREC region (see appendix table). Singapore scored 1 followed by high score of Indonesia, Thailand, and Malaysia, while the Philippines, Brunei Darussalam, and Cambodia generated below regional average. Like Singapore, Pakistan scored perfectly, while Kazakhstan and Kyrgyzstan exhibited above regional average and Tajikistan performed poorly. The average regional score of the number of regional economies that have signed international investment agreements (IIAs) with the economy contributed more to regional cooperation index in the ASEAN region compared to the CAREC region. Malaysia scored 1, while other ASEAN economies (except the Philippines and Cambodia) obtained above regional average. Like Malaysia, Kyrgyzstan scored 1, while Pakistan and Mongolia scored above and below regional average respectively. The sustainable indicator of rule of law index contributed more to regional cooperation index in the CAREC region than the ASEAN region. Singapore scored 1, while other ASEAN economies scored below regional average except Brunei Darussalam and Malaysia. Like Singapore, Mongolia scored perfectly, while Kazakhstan and Pakistan (except 2011 to 2016) generated above regional average. The results indicate that CAREC economies have signed fewer FTAs and IIAs. However, relative rule of law index contributed significantly to regional cooperation index.

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.37	0.37	0.35	0.33	0.31	0.30	0.32	0.33	0.33	0.32	0.32
Cambodia	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Indonesia	0.54	0.54	0.53	0.54	0.56	0.55	0.57	0.57	0.57	0.56	0.55
Malaysia	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.76	0.79	0.77	0.78
Philippines	0.39	0.39	0.38	0.40	0.40	0.40	0.41	0.40	0.40	0.38	0.37
Singapore	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Thailand	0.58	0.58	0.57	0.58	0.56	0.57	0.60	0.60	0.60	0.60	0.59
Vietnam	0.27	0.27	0.26	0.27	0.28	0.28	0.34	0.34	0.33	0.32	0.31
RI	0.50	0.50	0.49	0.50	0.50	0.49	0.51	0.51	0.51	0.50	0.50
CAREC											
Kazakhstan	0.80	0.78	0.76	0.76	0.75	0.90	0.83	0.89	0.86	0.86	0.83
Kyrgyzstan	0.59	0.61	0.62	0.65	0.63	0.63	0.64	0.73	0.72	0.71	0.70
Mongolia	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Pakistan	0.76	0.68	0.69	0.71	0.69	0.70	0.69	0.76	0.76	0.76	0.75
Tajikistan	0.08	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
RI	0.53	0.51	0.51	0.52	0.51	0.54	0.53	0.57	0.56	0.56	0.55

Table 12: Performance in conventional and sustainable regulatory cooperation

Source: Author's calculations

4.8. Performance in conventional and sustainable digital economy integration

DEI refers to uninterrupted flow of digital goods and services within regional economies (UNCTAD 2019). DEI of the CAREC region improved faster than the ASEAN region during 2017-2020 (Table 13). Singapore, Malaysia, Thailand, and the Philippines sustained DEI's performance, while Vietnam and Indonesia performed modestly, and Cambodia and Brunei Darussalam remained least integrated digitally. Kazakhstan gradually improved DEI's performance during 2010 to 2014, which declined in 2015to 2016and again resurged up to 2020. Kyrgyzstan (except for 2019), Tajikistan, and Pakistan all scored below regional average. Kyrgyzstan showed fluctuating performance, while Tajikistan's score improved steadily since 2015, and Pakistan remained the least integrated. The results suggest that CAREC economies have improved relatively rapidly in DEI, although volatilities remain.

The share of ICT good exports in intraregional exports contributed higher in the ASEAN region than the CAREC region to conventional DEI except 2011 and 2016-2020 (see appendix table). The Philippines followed by Singapore and Malaysia added substantially, while Vietnam and Thailand exhibited above regional average except 2010 to 2011 and 2013 to 2020 respectively. The performance of Kyrgyzstan (except 2012 to 2015), Kazakhstan (except 2010 to 2011 and 2016), and Pakistan (except 2010, 2014, and 2019) remained significant, while Mongolia displayed below regional average. The contribution of share of ICT good imports in intraregional imports to conventional DEI fluctuated in both regions; the ASEAN region performed better than the CAREC region in most years. Singapore, the Philippines, and Malaysia generated substantially above regional average, while Vietnam added significantly except for 2010 to 2011. Thailand generated modestly and Indonesia and Brunei Darussalam performed the least. Kazakhstan contributed substantially, while Mongolia added significantly during 2010 to 2012 and 2015 to 2016, and Pakistan displayed below regional average except 2014 to 2017. The contribution of the intraregional share of the population with financial institution or mobile money account to conventional DEI exhibited higher in the ASEAN region than the CAREC region except for 2018 to 2020. It increased steadily in both regions except 2014 in the ASEAN region. Singapore followed by Malaysia and Thailand contributed significantly, while other ASEAN economies added modestly. Mongolia generated very high scores followed by Kazakhstan, while Tajikistan and Kyrgyzstan showed high performances in recent years.

	2010	2011	2012	2012	2014	2015	2010	2017	2010	2010	2020
ASEAN	2010	2011	2012	2013	2014	2012	2010	2017	2018	2019	2020
Brunei Darussalam	0.06	0.06	0.06	0.07	0.07	0.08	0.04	0.03	0.03	0.04	0.06
Cambodia	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00
Indonesia	0.10	0.12	0.13	0.15	0.12	0.13	0.18	0.20	0.23	0.26	0.29
Malaysia	0.63	0.66	0.66	0.70	0.69	0.65	0.65	0.70	0.72	0.68	0.71
Philippines	0.41	0.32	0.44	0.41	0.40	0.43	0.41	0.40	0.43	0.43	0.43
Singapore	0.98	0.98	0.98	1.00	0.98	0.96	0.96	0.98	0.96	0.93	0.96
Thailand	0.41	0.42	0.43	0.44	0.43	0.43	0.44	0.47	0.48	0.47	0.50
Vietnam	0.15	0.21	0.29	0.37	0.32	0.31	0.32	0.37	0.36	0.34	0.35
RI	0.34	0.34	0.37	0.39	0.38	0.37	0.38	0.39	0.40	0.39	0.41
CAREC											
Kazakhstan	0.55	0.65	0.74	0.75	0.76	0.72	0.59	0.75	0.77	0.79	0.81
Kyrgyzstan	0.22	0.22	0.09	0.06	0.09	0.10	0.26	0.23	0.30	0.51	0.44
Mongolia	0.75	0.70	0.69	0.66	0.62	0.71	0.74	0.64	0.61	0.53	0.51
Pakistan	0.20	0.25	0.25	0.22	0.17	0.34	0.25	0.27	0.19	0.17	0.19
Tajikistan	0.00	0.00	0.00	0.00	0.00	0.03	0.07	0.15	0.28	0.33	0.37
RI	0.34	0.36	0.35	0.34	0.33	0.38	0.38	0.41	0.43	0.47	0.46

Table 13: Performance in conventional and sustainable digital economy integration

Source: Author's calculations

Intraregional secure internet servers contributed more to sustainable DEI in the CAREC region than the ASEAN region. Singapore and Mongolia generated substantially, while Kazakhstan's contribution improved significantly in recent years. Other economies in both regions showed very poor contribution of intraregional secure internet servers in sustainable DEI. The ASEAN region exhibited gradual progress in sustainable indicator of the intraregional proportion of household with access to the internet and its average regional contribution to sustainable DEI stood more than the CAREC region since 2013. Singapore contributed perfectly, while Malaysia's contribution remained significant and improved gradually except 2016 when it experienced a small dip. In other ASEAN economies, performance has been lower than regional average except Thailand in 2019 to 2020. Kazakhstan experienced robust contribution and Mongolia obtained more than regional average in 2010 and also in recent years, while Pakistan's contribution remained significantly below regional average except 2010 to 2011 and Kyrgyzstan performed poorly. The ASEAN region contributed more than regional average in intraregional share of the female population with financial institution or mobile money account to sustainable DEI than the CAREC region except 2019 to 2020. Singapore followed by Thailand and Malaysia exhibited better, while the performance of Indonesia followed by the Philippines and Vietnam remained low. Mongolia added substantially and Kazakhstan's contribution remained above regional average. In recent years, Tajikistan and Kyrgyzstan have also improved their performance in this indicator. These findings suggest that CAREC economies exhibited improved contribution of ICT good exports and imports in intraregional exports and imports and also intraregional share of population with financial institution or mobile money account in recent years. The contribution of intraregional secure internet servers has also increased. However, the intraregional proportion of households with access to the internet and the intraregional share of the female population with financial institution or mobile money account are low.

5. Comparing the results with other regional integration studies

A comparison of the results of recently conducted major RI studies focusing on the Asia-Pacific region (ADB 2021; ESCAP 2020; APRII 2018; ARCII 2018) and the CAREC region (CRII 2019; CRII 2021) with the findings of the present study have been presented in the following paragraphs.

According to ESCAP (2020), the RI score increased from 0.359 in 2010 to 2013 to 0.403 in 2014 to 2017 in the Asia-Pacific region. Southeast Asia (SEA) remained the most regionally integrated and also performed the most over the period (ADB 2021), while Central Asian countries remained the least regionally integrated and performed the least (ADB 2021; ESCAP 2020; Park and Claveria 2018). Stronger participation in regional production networks derived deeper integration in SEA countries. Besides, SEA economies have been deeply linked in regional trade, investment, infrastructure, RVCs, and collaboration agreements. The Asia-Pacific region performed differently across the dimensions of conventional and sustainable integration. Infrastructure and regulatory cooperation contributed significantly to conventional integration owing to substantial investment in infrastructure development and positive FTAs. Both dimensions also derived the most of the progress in RI during 2010 to 2017 (ESCAP 2020). The dimensions of movement of people, infrastructure and connectivity, and trade and investment contributed the most to RI in Asia. The ASEAN region performed strongly in trade and investment and movement of people (ADB 2021) owing to ongoing economic projects linking the People's Republic of China (PRC) and the ASEAN economies for enhanced mobility of goods and services, and people (ADB 2019) including tourism professionals (ASEAN Secretariat 2019). In the Asia-Pacific region, sustainable financial integration and digital economy contributed significantly to sustainable RI over time, while the dimensions of trade and investment and RVC have not significantly intensified conventional and sustainable integration over time (ESCAP 2020).

Despite substantial investments under the CAREC Program in recent years, RI in the CAREC region remained low compared to SEA. The CAREC region's RI score of 0.373 stood significantly lower than the Asia-Pacific score of 0.473 (Huh and Park 2018) and SEA score of 0.590 from 2006 to 2016, while Central Asia performed the lowest over the period (Park and Claveria 2018). SEA scored the most in the trade and investment dimension and showed some volatility in this dimension including money and finance. SEA also scored highest in RVC integration but Central Asia surpassed in 2012. SEA dominated in the movement of people, while Central Asia performed weakly in this dimension. The CAREC region remained least integrated in the dimension of trade and investment and showed high volatility (del Rosario 2019). The low level of RI in the CAREC region is in consonance with Park and Claveria (2018), del Rosario (2019), and Holzhacker et al. (2021). However, recent performance in transport and trade, development of ports, and energy trade exhibits an optimistic picture (ADB 2019). The CAREC region progressed moderately in RI from 0.337 during 2006 to 2016 (del Rosario 2019) to 0.344 during 2006 to 2019 (Holzhacker et al. 2021), with an improvement in all dimensions except institutional and social integration, wherein a marginal decline has been noticed.

Singapore followed by Malaysia remained the most regionally integrated economies in the ASEAN region and progressed significantly in RI during 2014 to 2017, while Cambodia performed the least well. Vietnam and Cambodia quickly deepened their level of RI over the period. In the CAREC region, Pakistan and Kyrgyzstan remained the least regionally integrated economies. In the ASEAN region, Singapore remained the top performer in conventional RI, followed by Malaysia, while Vietnam progressed the most and Pakistan progressed the least in conventional RI over time. In terms of sustainable RI, Singapore remained the top performers in the ASEAN region, while the Philippines scored significantly in sustainable RI. Vietnam and Thailand showed significant progress in sustainable RI between 2010 to 2013 and 2014 to 2017 (ESCAP 2020).The ASEAN region performed robustly in

trade and investment and movement of people compared to the CAREC region. The performance in trade and investment can be attributed to trade intensity with regional economies (ESCAP 2018).

Malaysia, the Philippines, Singapore, Thailand, and Vietnam exhibited significant performance in RI across the ASEAN economies and the CAREC economy of Kazakhstan scored strongly for the period 2006 to 2016, while Indonesia slipped in RI over the period (Park and Claveria 2018). The dimensions of infrastructure and connectivity, and institutional and social integration steered RI over time and movement of people also contributed to RI within the ASEAN region since 2012. The ASEAN region scored high in the dimensions of RVC and infrastructure and connectivity and relatively low in the dimensions of trade and investment and money and finance. Low trade and investment performance reflected trade and investment across other subregions compared to the ASEAN economies. In movement of people, the ASEAN region performed the most in intrasubregional integration since 2013 and performed robustly in institutional and social integration over the period.

In the CAREC region, Kazakhstan performed the most in intrasubregional integration during 2006 to 2016, except 2012 with an average score of 0.444 from 2006 to 2011, while Pakistan exhibited the lowest RI with an average score of 0.344, which reflected the low level of intratrade in the CAREC region (Huh and Park 2018).Kazakhstan, Kyrgyzstan, and Turkmenistan scored above the regional average at 0.444, 0.408, and 0.400 respectively, and Mongolia, Tajikistan, and Pakistan performed below the regional average at 0.373, 0.369, and 0.344 respectively (del Rosario 2019). The average regional score of the CAREC region including and excluding the PRC stood at 0.373 and 0.399 respectively. The CAREC region scored the most in institutional and social integration, movement of people, RVC, and infrastructure and connectivity respectively at 0.181, 0.180, 0.176, and 0.168, while money and finance, and trade and investment exhibited the lowest at 0.157 and 0.137 respectively during 2006 to 2016. Institutional and social integration reflects the existence of RTAs among CAREC member countries, which need practical applications for enhanced outcomes. The performance in the dimension of movement of people depicts relatively more mobility of people than goods, reflected by remittances. High volatilities in trade and investment integration were reported in all CAREC member countries. Despite the low regional score in the dimension of money and finance, Kazakhstan displayed a high score of 0.381 in money and finance, reflecting sound banking systems and financial markets rather than financial integration and a sound intraregional financial system. The CAREC member countries displayed high volatility in the dimension of RVC. Turkmenistan obtained the highest score in most years except2009 (Holzhacker et al. 2021).

According to Holzhacker et al. (2021), the level of RI increased in the CAREC region after 2013 owing to the performance in the dimensions of RVC and infrastructure and connectivity, while the performance in the dimensions of money and finance, and trade and investment remained low. Most CAREC economies showed marginal improvement in RI between 2006 to 2016 and 2006 to 2019, while Pakistan displayed low progress owing to a significant decline in performance in the dimension of infrastructure and connectivity. Kyrgyzstan scored significantly high in the dimension of trade and investment over 2006 to 2019. The PRC contributed the most to trade integration in the CAREC economies and trade intensification remained low within the CAREC region over time. In the dimension of money and finance, the performance of the CAREC region lacked evidence of stronger cross-border financial flows and depicted financial sector development in Kazakhstan, Mongolia, and Pakistan.RVC integration improved in most CAREC countries owing to enhanced trade complementarity in recent years. The PRC remained a determining factor in the improved RVC integration score. The CAREC member countries displayed substantial progress in infrastructure and connectivity owing to improvement in the ease of doing business index. Tajikistan, Uzbekistan, and Kazakhstan exhibited improved performance in the dimension free movement of people since 2013 owing to improvement in the tourism indicator compared to the migration indicator and the remittances indicator. The performance of institutional and social integration remained steady or somewhat declining in most CAREC economies owing to fewer institutional and social interactions.

The present study reveals that the overall average RI score of the CAREC region stood higher than the ASEAN region (Table 14). The ASEAN average regional score stood higher than the CAREC region in sustainable financial integration (0.5054), infrastructure integration (0.5254), and regulatory cooperation (0.5009). Singapore and Malaysia generated 0.6747 and 0.6048 respectively. Singapore obtained the most in DEI (0.97) followed by sustainable financial integration (0.949) and infrastructure integration (0.8572) and the least in RVC integration and movement of people. Indonesia, Brunei Darussalam, Thailand, and Vietnam all scored lower than Singapore in movement of people. Malaysia scored above regional average in all dimensions except trade and investment integration. Cambodia displayed better in trade and investment integration, while Indonesia exhibited higher in RVC integration and regulatory cooperation and the least in movement of people, financial integration, and DEI. Brunei Darussalam and Cambodia scored lower than Indonesia in DEI. The Philippines scored higher in movement of people and DEI, while Thailand performed better in sustainable financial integration, regulatory cooperation, and DEI, and the least in RVC integration, and Vietnam exhibited above regional average in trade and investment integration, RVC integration and infrastructure integration and one of the least in movement of people. Singapore scored lower than Thailand in RVC integration.

ASEAN	Trade and	Financial	RVC	Infrastructure	Movement	Regulatory	Digital	Average
	investment	integration	integration	integration	of people	cooperation	economy	score
	integration						integration	
Brunei Darussalam	0.128	0.4236	0.3063	0.6027	0.195	0.3318	0.0545	0.2917
Cambodia	0.4554	0.4554	0.3518	0.17	0.3609	0.18	0.0036	0.2824
Indonesia	0.2154	0.1027	0.4372	0.3390	0.08	0.5527	0.1736	0.2715
Malaysia	0.2981	0.6936	0.6654	0.7036	0.4227	0.7736	0.6772	0.6048
Philippines	0.34	0.4554	0.3345	0.53	0.34	0.3927	0.41	0.4003
Singapore	0.6463	0.949	0.0609	0.8572	0.33	0.91	0.97	0.6747
Thailand	0.3372	0.8036	0.1436	0.4327	0.1981	0.5845	0.4472	0.4209
Vietnam	0.5327	0.2236	0.5672	0.5318	0.2154	0.2954	0.3081	0.3820
Average RI	0.3836	0.5054	0.35	0.5254	0.269	0.5009	0.3754	0.4156
CAREC				•				
Kazakhstan	0.408	0.587	0.147	1.00	0.4618	0.82	0.716	0.5914
Kyrgyzstan	0.5027	0.3509	0.119	0.6018	0.6427	0.657	0.229	0.4433
Mongolia	0.5618	0.6543	0.6409	0.2354	0.2027	0.42	0.6509	0.4808
Pakistan	0.268	0.5118	1.137	0.1509	0.0945	0.7227	0.2272	0.4445
Tajikistan	0.3527	0.1927	0.304	0.501	0.565	0.0618	0.1118	0.2984
Average RI	0.41	0.474	0.4609	0.4527	0.394	0.4654	0.386	0.4347

Table 14: Overall average regional integration by indicator and country

During 2010 to 2020, Kazakhstan was the super performer in overall average integration among all CAREC and ASEAN economies with a score of 0.5914. Kazakhstan scored the most in infrastructure integration (1.0) and DEI (0.716) and also in sustainable financial integration (0.587). In trade and investment integration, all CAREC economies except Pakistan and Tajikistan exhibited above regional average, while in financial integration. Kyrgyzstan and Tajikistan scored the lowest, and Mongolia displayed significantly in RVC integration. In infrastructure integration and movement of people, Kyrgyzstan and Tajikistan generated above regional average, while Kyrgyzstan and Pakistan performed significantly in regulatory cooperation, and Mongolia scored strongly in DEI. In brief, Singapore performed best, followed by Malaysia, while Pakistan remained the least integrated economy. Singapore and Kazakhstan attained highest levels of digital and sustainable RI respectively and performance in digital and sustainable integration varies significantly across dimension indicators.

6. Conclusion and policy implications

RI in trade and investment integration remained more substantial in the CAREC region than in the ASEAN region except in 2020 and it varied across economies. In sustainable financial integration, the ASEAN region performed better than the CAREC region since 2015. The CAREC economies have experienced substantial volatilities in trade and investment, as well as financial integration. The CAREC region scored higher than the ASEAN region in RVC integration, while the ASEAN region exhibited better than the CAREC region in infrastructure integration except 2018 to 2020. However, volatilities in performance are noticeable in CAREC economies except for Kazakhstan. The CAREC region has made substantial progress in movement of people and regional cooperation and performed better than the ASEAN region in DEI since 2016.

In sustainable indicators, the performance of the CAREC region has improved significantly. In intraregional real exchange rate volatility, the CAREC region exhibited negligibly from 0.50 in 2010 to 0.51 in 2020 compared to the substantial performance of the ASEAN region from 0.50 to 0.61 during same period. In intraregional financial development index, the CAREC region generated higher (0.43) than the ASEAN regional average (0.42) in 2020. The contribution of average intraregional rural access to electricity in infrastructure and connectivity index has improved gradually in the CAREC region from 0.62 in 2014 to 0.76 in 2020 compared to a decline from 0.82 to 0.74 in the ASEAN region during same period, while average intraregional share of internet users in the population contributed more in the ASEAN region. The contribution of rule of law index to regulatory cooperation steadily increased from 0.47 in 2010 to 0.53 in 2020 in the CAREC region and declined from 0.40 to 0.39 in the ASEAN region. In DEI, the CAREC region generated 0.386, which is above ASEAN score of 0.3754. All CAREC economies obtained better than the ASEAN economies of Brunei Darussalam and Cambodia. The CAREC region generated better scores in sustainable indicator of average intraregional secure internet servers and scored 0.33 in 2020 compared to 0.15 in ASEAN region. However, the performance of the CAREC region remained lower in sustainable indicators of average intraregional proportion of household with access to internet and average intraregional share of female population with financial institution or mobile money account compared to the ASEAN region in most years.

6.1. Policy recommendations

The study derives three levels of policy implications to promote and strengthen regional cooperation and integration in the CAREC region, focusing on CAREC program, different dimensions, and countryspecific recommendations.

6.1.1. Strengthening the CAREC program

The following policy recommendations can be considered for bolstering the CAREC program:

- i. The CAREC program should be gradually oriented to greater formal regional economic integration agreement aligned to address the challenges and aspirations of both the domestic economic development and regional collaboration for achieving SDGs.
- ii. The CAREC program should evolve formal institutions for sustainable integration to boost integration efforts in the region. Intraregional trade should be strengthened to tap lopsided economic resources in the CAREC region. Cross-border investment should be promoted through public-private participation for building economic corridors, improving transport and digital connectivity, and movement of people.
- iii. The CAREC program should develop institutional arrangements to rejuvenate the special and differential treatment mechanisms for stronger economic integration in landlocked countries.

- iv. The CAREC program should advance cooperation in new production and digital services by additional bolstering of business and investment regimes focusing on the wider application of digital trade promotion, technology transfer, and knowledge sharing. Government–corporate collaborations should be embraced in development policies including industrial, digital, investment, and infrastructure planning.
- v. The CAREC program should embrace the compatible policy to integrate the SDGs and climate resilience to economic cooperation and integration agenda. Collective endeavors, regional cooperation, and knowledge sharing are needed to improve sustainable RI, which in turn can help achieve the SDGs.

6.1.2. Improving dimensions of regional integration

The performance of CAREC economies in conventional and sustainable integration suggests optimistic scenarios and robust potential for future regional economic integration and cooperation in particular dimensions.

6.1.2a. Promoting trade and investment integration

Cross-border trade can substantially address the challenges of small economic and population size, landlocked economies, and remoteness from economic growth centers in Asia and beyond. The geographic closeness of the CAREC economies to the PRC is a positive factor in stimulating cross-border trade. The CAREC economies should tap this strategic geographic advantage to boost intraregional trade with the PRC and exploit oil and gas reserves and immense renewable energy potential. The CAREC's intraregional trade and connectivity should also benefit from substantial investments made in the revival of the Silk Road. Growth in intraregional trade can also stimulate growth, upgrade institutions, and help achieve most of the SDGs in CAREC economies.

Trade openness varies by countries owing to the differential implementation of reforms. Kazakhstan and Kyrgyzstan exhibit stronger trade openness compared to other regional economies. Trade and investment integration is least able to contribute to RI in the CAREC region compared to the ASEAN region, which suggests that greater formal RTAs are needed to spur trade and investment in CAREC economies.

Regulatory institutions should be strengthened to formalize the informal economy. Policy support is needed to leverage development of more formal small and medium-sized enterprises (SMEs) by implementing a simple and compatible tax structure. Cross-border trade should be boosted further through compatible policies to increase RI by promoting more formal trade and reducing informal trade. Greater trade facilitation and the removal of NTBs can help slash high intraregional trade costs and promote free trade zones in all CAREC corridors for greater intraregional trade.

Economic reforms have led to the growth of collegial trade owing to a lack of robust trade regulations to recompense the most susceptible sectors, which need capacity building, retraining, and reskilling to support viable sectors. Shortterm problems of reforms can be mitigated by RTAs to address unfair trade practices. Technology transfer and upgrading are needed to address short-term hiccups in trade reforms. Policy support is required to diversify away from extractive sector to product and services trade in Kazakhstan, Kyrgyzstan, and Mongolia. Regulatory issues linked to financial, product, and labor markets should be strengthened. The development of stronger cross-border economic corridors for the product and services market can generate greater sustainable integration in the CAREC region.

6.1.2b. Leveraging financial integration

Substantial financial support is needed to leverage more private participation in the development of SMEs in CAREC economies. Robust banking reforms can spur financial development, provide credit to SMEs, and promote trade and financial integration. Like the Astana International Financial Centre in Kazakhstan, other regional economies should establish such financial hubs to increase financial integration. Financial development in the CAREC region requires robust financial markets and efficient regulation. Financial markets should be more inclusive to cater the needs of sustainable infrastructure development through enabling policies to leverage private capital. Public resources should be mobilized for investment in infrastructure by tapping the tax potential to improve the existing low tax to GDP ratios. In this context, regional cooperation in public resource governance and practices. Regional cooperation in public–private participation in cross-border infrastructure development is needed to plug knowledge asymmetry by developing capabilities in implementing infrastructure services.

6.1.2c. Strengthening RVCs

The COVID-19 pandemic and new technological changes have exposed existing weaknesses in social protection and healthcare infrastructure. There has been shift in emphasis to move supply chains closer to the domestic markets to make them more agile and resilient using digital platforms. Therefore, the ongoing digitalization process needs to be strengthened to enable robust social protection and healthcare systems and resilient supply chains. E-commerce and digital business services should be promoted for enhanced digital trade and tourism services. RVC integration should be developed through regional cooperation in capacity building for skills of SMEs to bolster trade in goods and services using digital platforms. Capacity building support is needed to spur RVCs of apparel manufacturing in Pakistan and Kyrgyzstan. RVCs of garment manufacturing in Kyrgyzstan should be upgraded. Regional markets should be open to embrace garment products from these two economies. Mongolia should promote RVCs in livestock and horticulture products through the wider application of new technologies, advanced value chains, and digital platforms, and implement strong phytosanitary measures to tackle trade-linked health challenges.

6.1.2d. Developing robust infrastructure

The CAREC region is plunged into substantial infrastructure bottlenecks owing to geographic and economic factors. Investment in regional transport and economic connectivity can address the challenges of inadequate infrastructure to spur intraregional trade. Existing transport infrastructure in Pakistan should be increased to improve regional connectivity along the CAREC corridors and beyond to the PRC and India for greater product and energy trade. Mongolia should invest substantially in renewable energy infrastructure development. Tajikistan's immense hydropower potential should be tapped for energy security in the economy and other energy-deficient CAREC economies. Therefore, cross-border infrastructure connectivity should be further enhanced through robust regional interlinks by expanding existing transport and economic corridors under the CAREC program. The development of intraregional free trade zones along the CAREC corridors can potentially convert transport corridors into economic corridors.

6.1.2e. Leveraging movement of people

A holistic approach is needed to enhance RI in movement of people in the CAREC region. Regional cooperation in public–private collaboration can promote mutual understanding and acceptance and foster legitimacy of regional discourse. Enhanced tourism can accelerate employment, businesses, and economic growth. E-visa or free visa services should be promoted. New tourist destinations need to be tapped in less explored regions of the CAREC economies. Mongolia's potential in the tourism sector should be tapped by leveraging cross-border tourism. Greater academic exchange and collaboration can increase societal awareness. E-connectivity should be strengthened through the extensive use of social media and digital platforms for cultural awareness and recruitment of professionals for development activities in the region. Effective border management should be promoted for goods and people mobility through robust regional cooperation. Enabling regional migration policies should be developed for sound border management of intraregional labor mobility. Capacity building in people-to-people connectivity is essential to increase integration in this dimension. Institutional cooperation and capacity building in managing cross-border movement of people in CAREC economies should be developed.

6.1.2f. Sustaining regional cooperation

In the CAREC region, modest improvement has been gained in regional cooperation, which needs to be strengthened through sustained cooperation for achieving SDGs. There is a need to deepen and advance the CAREC cooperation through novel trade and investment agreements in DEI to achieve SDGs via increased trade among CAREC economies. Robust regional FTAs can be bolstered for stronger trade. Closer cooperation among CAREC economies is needed to reap the potential in all RI dimensions by exploring robust ways and means to tap growing economic opportunities in the Eurasian economies—the PRC, Japan, the Russian Federation, and the neighboring South Asian economies for achieving stronger development of trade and commerce. In this context, the pragmatic role of the CAREC program cannot be overemphasized. Major hurdles in cross-border economic cooperation among CAREC economies focusing on tariff reduction, smooth cargo, and inhibitive NTBs should be eliminated for greater intraregional trade. There is a need to establish the CAREC Investment Bank like the European Investment Bank for enhanced longterm financing and investments in infrastructure projects in the CAREC member countries. Economic integration should be further bolstered through better enabling of the environment and removing technical and institutional barriers for the completely free flow of energy in the CAREC region for greater price competitiveness, self-sufficiency, and energy security. Regional cooperation should be further leveraged by aligning to RI agendas of other regional blocs compatible with the CAREC program. Regional knowledge centers should be developed to promote and strengthen the CAREC program covering all sectors. Institutional development is imperative for policy research in the CAREC region.

6.1.2g. Promoting digital economy

DEI and trade integration are interlinked. An enabling policy environment is needed to enhance crossborder trade using digital technology and platforms. Digital trade in services should be boosted by increasing digital connectivity. Trade intensity in ICT products should be increased through effective regulations on trade in digital goods and services. Robust regulations on data management, cyber security, and digital inclusion should be developed through regional cooperation in the development of digital infrastructure. There is a need to improve the regulatory environment to support digital trade including trade in ICT goods and the use of e-commerce platforms for increasing RI in the digital economy of the CAREC countries. The main drivers of overall progress in DEI are the proportional increase in ICT good exports in intraregional exports and ICT good imports in intraregional imports, and average intraregional share of the population with financial institution or mobile money account. The drivers of a sustainable digital economy are average intraregional secure internet servers (secure internet servers per 1 million people), average intraregional proportion of households with access to the internet (households with internet access), average intraregional share of the female population with financial institution or mobile money account, and female account ownership at a financial institution or with a mobile money service provider (percent of the population aged 15+) in ASEAN rather than CAREC economies. Therefore, women's access to financial or mobile money accounts and household access to the internet and secure internet servers should be promoted to increase sustainable RI in the digital economy of CAREC countries.

6.1.3. Countryspecific recommendations

6.1.3a. Kazakhstan: Overall integration is comparatively higher in Kazakhstan (0.5914) compared to the regional average and other CAREC economies (Table 14). In trade and investment integration, Kazakhstan scored 0.408, below the regional average of 0.41 during 2010 to 2020. This suggests that Kazakhstan has untapped potential to exploit intraregional trade. The score of 0.587 in financial integration (above the regional average of 0.474) suggests a robust level of financial development in the country. This does not exhibit the level of financial integration with other CAREC economies. The level of integration in infrastructure, regulatory cooperation, digital economy, and movement of people is comparatively advanced exhibited above regional average with a high score of 1, 0.82, 0.716, and 0.4618 respectively. Kazakhstan scored 0.147, below the regional average of 0.4609 in RVC integration, but relatively stronger than Kyrgyzstan and Pakistan. The analysis exhibits the need for increased investments to intensify RI in Kazakhstan and to tap its potential in the CAREC region. There is need to diversify the economy by developing the highly competitive manufacturing sector. The efficiency of stateowned enterprises should to be bolstered through robust reforms and privatization plans. The private sector should be strengthened to speed up privatization drives to accomplish the vision of Kazakhstan-2050. The achievement in Kazakhstan's economy in RI should be further strengthened and sustained to leverage the strategic locational gains of the CAREC region in terms of cross-border trade, transport and economic corridors, and various dimensions of conventional and sustainable RI. DEI should be further bolstered to improve the performance of conventional and sustainable indicators of all dimensions of RI and to achieve the SDGs. Rural-urban infrastructure links should be strengthened to increase the flow of goods, movement of people, and knowledge resources, and reduce locational and gender inequalities. Knowledge collaboration and exchange programs should be developed to enhance local capacities in Kazakhstan and other CAREC economies for better regional cooperation.

6.1.3b. Kyrgyzstan: Kyrgyzstan scored 0.4433, above the regional average of 0.4347, which indicates untapped potential to intensify RI with other CAREC economies (Table 14). Kyrgyzstan performed the most in regulatory cooperation (0.657) followed by movement of people (0.6427) and trade and investment integration (0.5027), all above regional average. However, trade and investment integration depicted wide fluctuations owing to small economic size, which would suggest the application of robust policy measures to accelerate cross-border trade and investment. The lowest score in RVC integration (0.119) and DEI (0.229) is similar to most CAREC economies and much below overall regional performance. This indicates the immense future potential for RVC integration and digital economy development through stronger investments in compatible infrastructure and stronger integration into regional blocs. The existing potential in most dimensions of RI should be tapped significantly, which would require a substantial improvement in the performance of the agriculture, industry, and services sectors. Remittances contribute about onethird to Kyrgyzstan's GDP, which is highly influenced by global and regional instability and crises. Therefore, a remittances based development strategy should be revisited to ensure sustainable growth in the future. Investment in Kyrgyzstan's economy should be strengthened and diversified away from mining to productive sectors and infrastructure and connectivity to improve RI. RVCs of garment manufacturing should be expanded to other regional and global markets through better capacity utilization, improved financial access to SMEs, cross-border trade management, application of new technologies, and export promotion. In the energy sector, the potential of abundant hydro resources should be tapped and energy trade can be promoted with the energy-scarce economies of the CAREC region. Agroprocessing industries should be developed to reap the competitive advantage in intraregional trade.

6.1.3c. Mongolia: Mongolia's overall integration score of 0.4808 depicts that the economy is more integrated outside the CAREC region (Table 14). Highest scores are in financial integration (0.6543) followed by DEI (0.6509), RVC integration (0.6409), and trade and investment integration (0.5618). During 2010 to 2020, trade and investment integration showed a fluctuating performance, similar to other CAREC economies. The PRC and Russia remained major trading partners of Mongolia with exports of natural resources and imports of industrial and consumer goods. Therefore, there is a need to diversify trade partners and exports. Cross-border trade should be promoted by strictly adhering to sanitary and phytosanitary measures. Refinery potential remains untapped; this should be explored rigorously to reduce the dependence on petroleum imports. Foreign investment should be invited in other productive sectors than mining. High scores for RVC integration depict a relatively robust integration, which may be attributed to substantial trade with the PRC. Therefore, RVCs should be diversified away from the PRC to CAREC economies specifically in highly competitive livestock products. Agricultural diversification is needed to promote agricultural value chains and employment. Mongolia performed lower in movement of people (0.2027) and infrastructure integration (0.2354), which remained below the regional average. Therefore, robust policy interventions are needed to intensify RI efforts in Mongolia. Tourism potential should be further explored to reap competitive gains in the services sector, which could increase its integration with the CAREC economies. Renewable energy potential should be exploited to achieve self-sufficiency in energy and to boost intraregional energy trade. This can be achieved through energy reforms including greater private participation, technology transfer, and removing tariffs and NTBs. Financial sector reforms are needed to improve the performance of the banking industry, which can contribute substantially to financial integration.

6.1.3d. Pakistan: Overall RI score of Pakistan stood at 0.4445, which remains lower than the regional average but slightly higher than Kyrgyzstan and significantly above Tajikistan (Table 14). This suggests a need for robust policy interventions in these economies. Pakistan scored highest among the CAREC economies in RVC integration (1.137) and regional cooperation (0.7227). A high score in RVC integration exhibits the excellent performance of Pakistan's apparel manufacturing and its exports within the CAREC region and outside. In movement of people (0.0945) and infrastructure integration (0.1509), Pakistan scored the lowest in the region—a situation that requires strong policy interventions. The PRC has substantially invested in the China–Pakistan Economic Corridor to improve connectivity for greater trade. The score of 0.268 in trade and investment remains lowest in the CAREC region, which reflects the high trade links outside the region. Pakistan needs sustained investments in infrastructure and connectivity to diversify its exports and spur cross-border trade with the CAREC region including the PRC and South Asian economies, besides meeting energy requirements from other CAREC economies. The expansion of the CAREC corridors and an improvement in ease of doing business and logistics performance will reduce transaction costs and improve cross-border trade by enhancing Pakistan's trade competitiveness and opening out its exports market. Pakistan scored 0.2272 in DEI belowtheregional average (0.386) and Kyrgyzstan (0.229), which requires substantial investment in digital infrastructure and policy support.

6.1.3e. Tajikistan: Tajikistan scored 0.2984 in RI, a long way below the regional average (Table 14). This suggests substantial future potential for integration with other CAREC economies. Tajikistan scored above the regional average in movement of people (0.565) and infrastructure integration (0.501). Remittances contribute significantly to its GDP and a small proportion goes to private

consumption with less effect on investments. Tajikistan performed better than Pakistan in trade and investment integration. Exports confined mainly to agro-horticulture-livestock products, which should be further strengthened. Hydro-energy potential is substantial with significant prospects for energy trade to CAREC economies, which should be tapped to realize energy security. Energy sector development needs robust energy reforms for greater private investment to increase energy use efficiency, upgrade technical capacities, promote renewable energy, modernize infrastructure, and construct new plants. In all other dimensions, the score remains below the regional average. Tajikistan scored the least in regulatory cooperation (0.0618) followed by DEI (0.1118) and financial integration (0.1927), the lowest among the CAREC economies, which suggests substantial future potential for RI through robust policy interventions for private participation in technical and vocational education, job creation, and development of SMEs to boost exports.

Lastly, the ASEAN experiences in regional cooperation and integration can be seen as highly pertinent to the CAREC region, which include developing efficient institutions and flexible implementation, promoting shared prosperity, ensuring sufficient finance and regional investments, stronger leadership and direction, sustaining outside support and regional ownership of institutions, promoting open regionalism, engaging national monetary authorities, ensuring transparency and committing stronger government—corporate collaboration in regional cooperation, and robust monitoring and evaluation of outcomes of regional agreements.

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Appendix

	0										
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.64	0.67	0.68	0.65	0.65	0.47	0.42	0.45	0.48	0.54	0.54
Cambodia	0.35	0.39	0.40	0.46	0.49	0.52	0.51	0.51	0.53	0.55	0.69
Indonesia	0.20	0.21	0.20	0.20	0.20	0.17	0.16	0.17	0.17	0.15	0.15
Malaysia	0.73	0.72	0.66	0.63	0.61	0.58	0.55	0.58	0.57	0.54	0.55
Philippines	0.18	0.16	0.18	0.16	0.17	0.14	0.13	0.16	0.15	0.14	0.13
Singapore	1.56	1.61	1.53	1.49	1.43	1.29	1.17	1.21	1.22	1.18	1.21
Thailand	0.57	0.60	0.57	0.54	0.56	0.53	0.52	0.51	0.50	0.45	0.45
Vietnam	0.62	0.71	0.74	0.77	0.81	0.84	0.86	0.96	0.99	1.01	0.99
Max	1.56	1.61	1.53	1.49	1.43	1.29	1.17	1.21	1.22	1.18	1.21
Min	0.18	0.16	0.18	0.16	0.17	0.14	0.13	0.16	0.15	0.14	0.13
Max–Min	1.38	1.44	1.35	1.33	1.26	1.15	1.04	1.06	1.07	1.04	1.08
CAREC											
Kazakhstan	0.41	0.44	0.42	0.36	0.36	0.24	0.26	0.28	0.33	0.32	0.28
Kyrgyzstan	0.33	0.38	0.38	0.38	0.32	0.24	0.23	0.23	0.23	0.23	0.23
Mongolia	0.40	0.39	0.31	0.30	0.45	0.38	0.43	0.51	0.50	0.51	0.53
Pakistan	0.12	0.12	0.11	0.11	0.10	0.08	0.08	0.08	0.08	0.09	0.08
Tajikistan	0.08	0.09	0.11	0.07	0.06	0.07	0.10	0.12	0.11	0.12	0.16
Max	0.41	0.44	0.42	0.38	0.45	0.38	0.43	0.51	0.50	0.51	0.53
Min	0.08	0.09	0.11	0.07	0.06	0.07	0.08	0.08	0.08	0.09	0.08
Max–Min	0.33	0.35	0.31	0.31	0.39	0.31	0.35	0.43	0.42	0.42	0.45

Dimension I: Conventional trade and investment integration Indicator: 1) Intraregional goods exports to GDP

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.34	0.35	0.37	0.37	0.38	0.29	0.28	0.28	0.31	0.38	0.37
Cambodia	0.12	0.16	0.17	0.23	0.25	0.33	0.37	0.33	0.35	0.40	0.52
Indonesia	0.02	0.04	0.02	0.03	0.02	0.03	0.02	0.01	0.02	0.01	0.02
Malaysia	0.40	0.39	0.36	0.35	0.35	0.38	0.40	0.40	0.40	0.38	0.39
Philippines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.28	0.30	0.29	0.29	0.31	0.34	0.37	0.34	0.32	0.29	0.30
Vietnam	0.32	0.38	0.41	0.46	0.51	0.61	0.70	0.76	0.79	0.84	0.80
Regional average	0.31	0.33	0.33	0.34	0.35	0.37	0.39	0.39	0.40	0.41	0.42
CAREC											
Kazakhstan	1.00	1.00	1.00	0.95	0.77	0.56	0.51	0.48	0.60	0.54	0.43
Kyrgyzstan	0.76	0.82	0.89	1.00	0.67	0.54	0.43	0.35	0.36	0.33	0.32
Mongolia	0.97	0.85	0.65	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Pakistan	0.12	0.09	0.01	0.13	0.11	0.05	0.00	0.00	0.00	0.00	0.00
Tajikistan	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.08	0.07	0.16
Regional average	0.57	0.55	0.51	0.57	0.51	0.43	0.40	0.38	0.41	0.39	0.38

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.19	0.20	0.22	0.27	0.21	0.25	0.23	0.25	0.30	0.37	0.37
Cambodia	0.59	0.64	0.66	0.70	0.72	0.74	0.71	0.70	0.77	0.82	0.83
Indonesia	0.16	0.18	0.19	0.19	0.19	0.16	0.14	0.15	0.17	0.15	0.13
Malaysia	0.58	0.57	0.55	0.53	0.51	0.49	0.47	0.50	0.49	0.46	0.45
Philippines	0.26	0.25	0.25	0.22	0.23	0.22	0.25	0.28	0.30	0.27	0.22
Singapore	1.30	1.34	1.27	1.23	1.16	0.99	0.89	0.92	0.95	0.92	0.94
Thailand	0.49	0.56	0.57	0.54	0.51	0.47	0.43	0.44	0.45	0.40	0.37
Vietnam	0.67	0.72	0.67	0.72	0.74	0.80	0.81	0.91	0.93	0.93	0.93
Max	1.30	1.34	1.27	1.23	1.16	0.99	0.89	0.92	0.95	0.93	0.94
Min	0.16	0.18	0.19	0.19	0.19	0.16	0.14	0.15	0.17	0.15	0.13
Max–Min	1.14	1.16	1.08	1.04	0.97	0.83	0.75	0.77	0.78	0.78	0.81
CAREC											
Kazakhstan	0.22	0.21	0.22	0.21	0.19	0.18	0.19	0.18	0.19	0.22	0.21
Kyrgyzstan	0.61	0.63	0.77	0.75	0.70	0.57	0.54	0.54	0.59	0.52	0.52
Mongolia	0.43	0.65	0.56	0.51	0.43	0.33	0.31	0.38	0.45	0.43	0.40
Pakistan	0.19	0.18	0.18	0.18	0.17	0.15	0.15	0.17	0.18	0.17	0.17
Tajikistan	0.52	0.55	0.58	0.54	0.39	0.35	0.37	0.32	0.36	0.35	0.33
Max	0.61	0.65	0.77	0.75	0.70	0.57	0.54	0.54	0.59	0.52	0.52
Min	0.19	0.18	0.18	0.18	0.17	0.15	0.15	0.17	0.18	0.17	0.17
Max–Min	0.43	0.46	0.59	0.58	0.52	0.42	0.39	0.37	0.41	0.35	0.36
Normalized values		1	1	1	1	1		1	1	1	1
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.03	0.02	0.02	0.08	0.03	0.11	0.13	0.14	0.17	0.29	0.30
Cambodia	0.38	0.40	0.43	0.49	0.55	0.70	0.76	0.72	0.76	0.86	0.87
Indonesia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia	0.37	0.34	0.33	0.33	0.33	0.40	0.44	0.46	0.41	0.40	0.40
Philippines	0.09	0.06	0.05	0.02	0.04	0.07	0.14	0.17	0.16	0.16	0.11
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00
Thailand	0.29	0.33	0.35	0.33	0.34	0.37	0.39	0.38	0.36	0.32	0.30
Vietnam	0.45	0.47	0.44	0.51	0.57	0.78	0.89	0.99	0.97	1.00	0.99
Regional average	0.32	0.33	0.33	0.34	0.36	0.43	0.47	0.48	0.48	0.50	0.50
CAREC		n	1	1	n	n	-	n	1	1	n
Kazakhstan	0.09	0.06	0.07	0.05	0.03	0.08	0.10	0.03	0.03	0.14	0.13
Kyrgyzstan	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mongolia	0.57	1.00	0.63	0.57	0.49	0.44	0.40	0.56	0.65	0.73	0.65
Pakistan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tajikistan	0.78	0.80	0.67	0.63	0.42	0.47	0.54	0.39	0.43	0.51	0.46
Regional average	0.49	0.56	0.48	0.45	0.39	0.40	0.41	0.40	0.42	0.48	0.45

Indicator: 2) Intraregional goods imports to GDP

ASEAN	2010	2011	2012	2013	201	4	2015	20	16	2017	2018		2019	2020
Brunei Darussalam	1.2	0.9	0.6	0.3	1.2		1.2	1.	2	0.3	0.3		0.3	0.3
Cambodia	11.2	11.2	11.1	11.1	11.2	2	11.2	11	.2	11.1	11.1		11.1	10.3
Indonesia	7.2	7.6	8.0	8.1	6.9)	6.9	7.	9	8.1	8.1		8.1	8.1
Malaysia	6.0	5.8	5.7	5.6	6.1		6.1	5.	8	5.6	5.6		5.6	5.7
Philippines	6.3	6.3	6.3	6.2	6.3		6.3	6.	3	6.3	6.2		6.1	6.1
Singapore	0.1	0.1	0.0	0.0	0.2		0.2	0.	0	0.0	0.0		0.0	0.0
Thailand	11.2	10.5	10.1	9.8	11.0	6	11.0	11	.0	9.6	9.6		10.2	10.2
Vietnam	9.5	9.6	9.6	9.6	9.5	5	9.5	9.	6	9.6	9.5		9.6	9.5
Мах	11.20	11.17	11.13	11.10	11.6	i0 1	11.20	11.	20	11.10	11.10) [11.10	10.30
Min	0.13	0.07	0.00	0.00	0.20	0	0.20	0.0	00	0.00	0.00		0.00	0.00
Max–Min	11.07	11.10	11.13	11.10	11.4	0	11.00	11.	20	11.10	11.10) [11.10	10.30
CAREC														
Kazakhstan	7.8	7.1	6.6	6.3	8.6	;	7.8	6.	9	6.5	6.4		6.1	6.1
Kyrgyzstan	6.3	7.0	6.7	6.6	4.6	;	7.4	6.	9	6.6	6.5		6.6	6.6
Mongolia	5.1	5.1	5.2	5.2	5.0)	5.0	5.	2	5.2	5.2		5.2	5.2
Pakistan	12.6	12.2	12.1	12.1	13.4	4	12.3	12	.1	12.1	12.1		12.1	12.1
Tajikistan	7.6	7.6	7.7	7.7	7.7	'	7.6	7.	6	7.7	7.7		7.7	7.7
Max	12.60	12.17	12.10	12.10	13.4	0	12.30	12.	10	12.10	12.10) [12.10	12.10
Min	5.07	5.13	5.20	5.20	4.60	0	5.00	5.2	20	5.20	5.20		5.20	5.20
Max–Min	7.53	7.03	6.90	6.90	8.80	0	7.30	6.9	90	6.90	6.90		6.90	6.90
Normalized values														
ASEAN	2010	2011	2012	2013	2014	201	15 20	16	201	7 201	.8 20	19	2020	
Brunei Darussalam	0.10	0.08	0.05	0.03	0.09	0.0	9 0.	11	0.0	3 0.0	3 0.0)3	0.03	
Cambodia	1.00	1.00	1.00	1.00	0.96	1.0	0 1.	00	1.0	0 1.0	0 1.0	00	1.00	
Indonesia	0.64	0.68	0.72	0.73	0.59	0.6	61 0.	71	0.7	3 0.7	3 0.1	73	0.79	
Malaysia	0.53	0.52	0.51	0.50	0.52	0.5	64 0.	52	0.5	0 0.5	0 0.	50	0.55	
Philippines	0.56	0.56	0.56	0.56	0.54	0.5	5 0.	56	0.5	7 0.5	6 0.	55	0.59	
Singapore	0.00	0.00	0.00	0.00	0.00	0.0	0 0.	00	0.0	0 0.0	0 0.0	00	0.00	
Thailand	1.00	0.94	0.90	0.88	1.00	0.9	0.	98	0.8	6 0.8	6 0.9	92	0.99	
Vietnam	0.85	0.86	0.86	0.86	0.82	0.8	s 0.	86	0.8	6 0.8	6 0.8	36	0.92	
Regional average	0.58	0.58	0.58	0.57	0.56	0.5	8 0.	59	0.5	7 0.5	7 0.	57	0.61	
CAREC	ļ	<u> </u>			-									
Kazakhstan	0.36	0.27	0.20	0.16	0.45	0.3	8 0.	25	0.1	9 0.1	7 0.1	13	0.13	
Kyrgyzstan	0.16	0.26	0.21	0.20	0.00	0.3	3 0.	25	0.2	0 0.1	9 0.2	20	0.20	

Indicator: 3) Average tariff on intraregional imports

Mongolia

Pakistan

Tajikistan

Regional average

0.00

1.00

0.34

0.37

0.00

1.00

0.36

0.38

0.00

1.00

0.36

0.35

0.00

1.00

0.36

0.34

0.05

1.00

0.35

0.37

0.00

1.00

0.36

0.41

0.00

1.00

0.35

0.37

0.00

1.00

0.36

0.35

0.00

1.00

0.36

0.34

0.00

1.00

0.36

0.34

0.00

1.00

0.36

0.34

ASEAN	2010	2011	2012	2013	3 201	.4	2015	2	016	2017	2018	2019	2020
Brunei Darussalam	3.5	3.7	4.5	4.3	3.3	3	1.3	-	1.3	3.9	3.8	2.8	3.5
Cambodia	12.5	12.0	14.1	13.6	5 11.	1	10.1	1	2.4	12.6	13.1	13.5	13.1
Indonesia	2.0	2.3	2.3	2.6	2.8	3	2.3	().5	2.0	1.8	2.2	2.0
Malaysia	4.3	5.1	2.8	3.5	3.1	1	3.3	4	4.5	2.9	2.3	2.5	2.6
Philippines	0.5	0.9	1.2	1.3	1.9)	1.8		2.6	3.1	2.9	2.3	2.8
Singapore	23.1	17.6	18.7	20.9) 21.	8	22.7	2	1.3	29.4	22.1	32.2	27.9
Thailand	4.3	0.7	3.2	3.8	1.2	2	2.2	(0.8	1.8	2.6	0.9	1.8
Vietnam	6.9	5.5	5.4	5.2	4.9	9	6.1	(5.1	6.3	6.3	6.2	6.3
Max	23.07	17.60	18.74	20.9	3 21.8	32 2	2.65	22	1.30	29.35	22.11	32.17	27.88
Min	0.51	0.67	1.23	1.32	2 1.2	2	1.32	-1	1.32	1.82	1.81	0.88	1.77
Max–Min	22.56	16.93	17.52	19.6	2 20.	50 2	1.33	22	2.63	27.54	20.29	31.28	26.11
CAREC													
Kazakhstan	5.0	7.1	6.6	4.2	3.3	3	3.6	1	2.5	2.8	0.0	1.8	1.6
Kyrgyzstan	9.9	11.1	4.0	8.3	4.0	5	17.1	9	9.1	-1.4	1.7	3.1	1.2
Mongolia	23.5	43.9	34.8	16.4	1 2.8	3	0.8	-3	37.2	13.1	14.9	17.5	15.1
Pakistan	1.1	0.6	0.4	0.6	0.8	3	0.6	().9	0.8	0.6	0.8	0.7
Tajikistan	1.7	2.2	3.2	3.4	3.0	5	5.5		3.5	2.5	2.8	2.6	2.6
Max	23.53	43.91	34.76	16.3	7 4.5	9 1	.7.13	12	2.54	13.08	14.89	17.46	15.14
Min	1.14	0.62	0.38	0.58	3 0.7	7	0.62	-3	7.15	-1.39	0.05	0.80	0.72
Max–Min	22.39	43.29	34.37	' 15.7	9 3.8	2 1	.6.51	49	9.70	14.47	14.84	16.65	14.42
Normalized values													
ASEAN	2010	2011	2012	2013	2014	201	5 2	016	2017	2018	2019	2020	
Brunei Darussalam	0.13	0.18	0.19	0.15	0.10	0.0	0 0	.00	0.07	0.10	0.06	0.07	
Cambodia	0.53	0.67	0.74	0.63	0.48	0.4	1 0	.61	0.39	0.55	0.40	0.43	
Indonesia	0.07	0.10	0.06	0.06	0.08	0.0	5 0	.08	0.01	0.00	0.04	0.01	
Malaysia	0.17	0.26	0.09	0.11	0.09	0.0	9 0	.26	0.04	0.02	0.05	0.03	
Philippines	0.00	0.01	0.00	0.00	0.03	0.0	2 0	.17	0.05	0.05	0.05	0.04	
Singapore	1.00	1.00	1.00	1.00	1.00	1.0	0 1	.00	1.00	1.00	1.00	1.00	
Thailand	0.17	0.00	0.12	0.13	0.00	0.0	4 0	.10	0.00	0.04	0.00	0.00	
Vietnam	0.28	0.28	0.24	0.20	0.18	0.2	2 0	.33	0.16	0.22	0.17	0.17	
Regional average	0.29	0.31	0.30	0.28	0.25	0.2	3 0	.32	0.22	0.25	0.22	0.22	
CAREC													

Indicator: 4) Stock of intraregional FDI inflows to GDP (percent)

Kazakhstan

Kyrgyzstan

Mongolia

Pakistan

Tajikistan

Regional average

0.17

0.39

1.00

0.00

0.02

0.32

0.15

0.24

1.00

0.00

0.04

0.29

0.18

0.10

1.00

0.00

0.08

0.27

0.23

0.49

1.00

0.00

0.18

0.38

0.66

1.00

0.52

0.00

0.74

0.58

0.18

1.00

0.01

0.00

0.29

0.30

1.00

0.93

0.00

0.77

0.82

0.70

0.29

0.00

1.00

0.15

0.27

0.34

0.00

0.11

1.00

0.03

0.19

0.27

0.06

0.14

1.00

0.00

0.11

0.26

0.06

0.03

1.00

0.00

0.13

0.24

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam											
Cambodia	0.18	0.23	0.26	0.41	0.49	0.49	0.40	0.52	0.50	0.38	0.50
Indonesia	0.55	1.01	0.82	1.22	1.17	1.05	-1.24	0.20	0.61	0.40	0.48
Malaysia	6.02	6.08	5.37	4.15	4.75	3.50	3.35	1.76	1.61	2.11	1.23
Philippines	1.30	1.00	1.59	1.28	2.27	1.81	0.75	1.01	1.19	0.89	0.98
Singapore	14.76	11.42	6.94	14.72	16.67	14.68	11.97	18.90	5.86	13.51	9.52
Thailand	2.38	1.94	3.59	2.88	1.41	1.24	3.24	3.12	3.43	1.86	3.60
Vietnam	0.78	0.70	0.77	1.14	0.62	0.57	0.49	0.21	0.24	0.19	0.19
Max	14.76	11.42	6.94	14.72	16.67	14.68	11.97	18.90	5.86	13.51	9.52
Min	0.18	0.23	0.26	0.41	0.49	0.49	-1.24	0.20	0.24	0.19	0.19
Max–Min	14.58	11.19	6.68	14.31	16.18	14.20	13.21	18.70	5.62	13.32	9.34
CAREC											
Kazakhstan	2.56	2.69	0.86	0.84	1.19	1.80	2.53	0.57	-2.59	-1.20	0.80
Kyrgyzstan	0.37	-0.06	-0.24	-0.10	1.51	2.02	0.59	-0.38	0.06	-0.65	-0.32
Mongolia	0.87	0.91	0.53	0.33	0.88	0.10	0.13	0.43	0.21	0.91	0.20
Pakistan	0.03	0.03	0.03	0.09	0.05	0.01	0.02	0.02	-0.01	-0.03	0.01
Tajikistan	0.59	0.51	0.26	0.57	0.86	0.59	0.50	1.63	-0.36	0.28	0.86
Мах	2.56	2.69	0.86	0.84	1.51	2.02	2.53	1.63	0.21	0.91	0.86
Min	0.03	-0.06	-0.24	-0.10	0.05	0.01	0.02	-0.38	-2.59	-1.20	-0.32
Max–Min	2.53	2.75	1.11	0.93	1.46	2.01	2.51	2.01	2.80	2.11	1.18

Indicator: 5) Stock of intraregional FDI outflows to GDP (percent)

Note: For Brunei Darussalam, data is not available

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam											
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.02	0.05	0.01	0.03
Indonesia	0.03	0.07	0.08	0.06	0.04	0.04	0.00	0.00	0.07	0.02	0.03
Malaysia	0.40	0.52	0.77	0.26	0.26	0.21	0.35	0.08	0.24	0.14	0.11
Philippines	0.08	0.07	0.20	0.06	0.11	0.09	0.15	0.04	0.17	0.05	0.08
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.15	0.15	0.50	0.17	0.06	0.05	0.34	0.16	0.57	0.13	0.37
Vietnam	0.04	0.04	0.08	0.05	0.01	0.01	0.13	0.00	0.00	0.00	0.00
Regional average	0.24	0.27	0.37	0.23	0.21	0.20	0.30	0.19	0.30	0.19	0.23
CAREC											
Kazakhstan	1.00	1.00	1.00	1.00	0.78	0.89	1.00	0.47	0.00	0.00	0.95
Kyrgyzstan	0.13	0.00	0.00	0.00	1.00	1.00	0.23	0.00	0.95	0.26	0.00
Mongolia	0.33	0.35	0.70	0.45	0.57	0.04	0.04	0.40	1.00	1.00	0.44
Pakistan	0.00	0.03	0.25	0.20	0.00	0.00	0.00	0.20	0.92	0.55	0.28
Tajikistan	0.22	0.21	0.45	0.71	0.55	0.29	0.19	1.00	0.79	0.70	1.00
Regional average	0.34	0.32	0.48	0.47	0.58	0.44	0.29	0.41	0.73	0.50	0.54

Note: For Brunei Darussalam, data is not available

Dimension II. Sustainable financial integration Indicator: 1) Intraregional real exchange rate volatility

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	100	108.4	109.1	109.0	107.6	99.2	98.7	98.7	101.1	99.9	98.8
Cambodia	100	103.1	103.8	103.9	103.8	103.0	103.3	103.5	103.5	103.0	104.0
Indonesia	100	103.6	96.8	86.9	76.6	67.9	68.3	67.9	63.9	64.3	62.3
Malaysia	100	105.3	104.3	102.2	98.4	82.5	77.6	74.9	79.8	77.8	76.6
Philippines	100	100.2	104.8	107.6	106.3	111.5	108.3	103.4	100.5	105.4	111.5
Singapore	100	105.2	110.0	112.0	111.3	108.3	108.1	106.8	106.2	106.5	103.7
Thailand	100	103.9	101.9	103.1	97.6	92.5	89.8	93.4	98.1	102.1	101.3
Vietnam	100	90.8	89.4	88.9	88.0	85.8	84.9	83.2	82.4	80.7	80.2
Max	104.00	108.39	110.04	112.02	111.29	111.46	108.25	106.80	106.20	106.46	111.54
Min	96.00	90.75	89.36	86.90	76.61	67.89	68.31	67.94	63.85	64.25	62.34
Max—Min	8.00	17.64	20.68	25.12	34.68	43.57	39.94	38.87	42.35	42.20	49.20
CAREC											
Kazakhstan	100	100.5	98.8	96.9	82.2	66.5	43.1	45.2	42.7	38.5	35.7
Kyrgyzstan	100	99.6	97.8	95.0	85.6	71.3	65.7	66.7	66.8	65.9	59.4
Mongolia	100	107.2	99.8	89.1	74.7	68.9	63.3	55.6	55.0	51.0	48.2
Pakistan	100	98.7	91.2	83.8	84.3	82.9	81.3	80.8	69.9	56.8	52.6
Tajikistan	100	95.0	92.4	91.9	88.7	71.1	55.9	51.2	47.9	45.9	42.4
Max	104.00	107.23	99.84	96.88	88.69	82.90	81.32	80.79	69.93	65.86	59.43
Min	96.00	94.98	91.22	83.83	74.65	66.46	43.07	45.20	42.75	38.50	35.68
Max-Min	8.00	12.25	8.62	13.05	14.04	16.44	38.25	35.59	27.18	27.36	23.74

Real effective exchange rate index (2010 = 100)

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.50	1.00	0.96	0.88	0.89	0.72	0.76	0.79	0.88	0.85	0.74
Cambodia	0.50	0.70	0.70	0.68	0.79	0.81	0.88	0.91	0.94	0.92	0.85
Indonesia	0.50	0.73	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia	0.50	0.82	0.72	0.61	0.63	0.33	0.23	0.18	0.38	0.32	0.29
Philippines	0.50	0.54	0.74	0.82	0.86	1.00	1.00	0.91	0.86	0.97	1.00
Singapore	0.50	0.82	1.00	1.00	1.00	0.93	1.00	1.00	1.00	1.00	0.84
Thailand	0.50	0.75	0.61	0.65	0.60	0.57	0.54	0.65	0.81	0.90	0.79
Vietnam	0.50	0.00	0.00	0.08	0.33	0.41	0.41	0.39	0.44	0.39	0.36
Regional average	0.50	0.67	0.64	0.59	0.64	0.60	0.60	0.61	0.66	0.67	0.61
CAREC											
Kazakhstan	0.50	0.45	0.88	1.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00
Kyrgyzstan	0.50	0.38	0.76	0.85	0.78	0.29	0.59	0.61	0.88	1.00	1.00
Mongolia	0.50	1.00	1.00	0.40	0.00	0.15	0.53	0.29	0.45	0.46	0.53
Pakistan	0.50	0.30	0.00	0.00	0.69	1.00	1.00	1.00	1.00	0.67	0.71
Tajikistan	0.50	0.00	0.14	0.62	1.00	0.28	0.34	0.17	0.19	0.27	0.28
Regional average	0.50	0.43	0.56	0.57	0.60	0.34	0.49	0.41	0.50	0.48	0.51

, 0													
ASEAN	2010) 2013	1 2012	2 201	.3 20	L4 20	15 20	016	2017	2018	20	19	2020
Brunei Darussalam	0.32	0.31	0.33	3 0.3	3 0.3	2 0.3	33 0.	33	0.31	0.32	0.	32	0.32
Cambodia	0.33	0.34	0.36	5 0.3	6 0.3	6 0.3	37 0.	38	0.38	0.39	0.	38	0.38
Indonesia	0.29	0.31	0.33	3 0.3	5 0.3	5 0.3	35 0.	36	0.36	0.36	0.	36	0.36
Malaysia	0.64	0.65	0.65	5 0.6	6 0.6	6 0.6	55 0.	64	0.66	0.65	0.	63	0.65
Philippines	0.32	0.33	8 0.34	1 0.3	5 0.3	5 0.3	35 0.	35	0.36	0.35	0.	35	0.35
Singapore	0.70	0.70	0.69	9 0.7	1 0.7	0 0.7	70 0.	70	0.73	0.74	0.	68	0.72
Thailand	0.63	0.64	0.64	1 0.6	9 0.7	1 0.7	71 0.	74	0.70	0.72	0.	70	0.71
Vietnam	0.45	0.35	0.35	5 0.3	2 0.4	0 0.3	37 0.	37	0.39	0.39	0.	36	0.38
Max	0.70	0.70	0.69	0.7	1 0.7	1 0.7	71 0.	74	0.73	0.74	0.	70	0.72
Min	0.29	0.31	0.33	3 0.3	2 0.3	2 0.3	33 0.	33	0.31	0.32	0.	32	0.32
Max–Min	0.41	0.39	0.36	5 0.3	8 0.3	8 0.3	38 0.	41	0.42	0.42	0.	38	0.40
CAREC													
Kazakhstan	0.29	0.30	0.32	2 0.3	1 0.3	1 0.3	32 0.	33	0.31	0.33	0.	31	0.31
Kyrgyzstan	0.09	0.10	0.10	0.1	1 0.1	.2 0.1	L2 0.	11	0.12	0.12	0.	13	0.12
Mongolia	0.25	0.27	0.30	0.3	1 0.3	2 0.3	36 0.	38	0.37	0.39	0.	40	0.39
Pakistan	0.20	0.20	0.20	0.1	5 0.1	.5 0.2	24 0.	23	0.23	0.23	0.	23	0.23
Tajikistan	0.08	0.11	0.11	L 0.1	2 0.1	.3 0.1	L3 0.	14	0.13	0.13	0.	15	0.13
Max	0.29	0.30	0.32	2 0.3	1 0.3	2 0.3	36 0.	38	0.37	0.39	0.	40	0.39
Min	0.08	0.10	0.10	0.1	1 0.1	.2 0.2	L2 0.	11	0.12	0.12	0.	13	0.12
Max–Min	0.21	0.20	0.22	2 0.2	0 0.2	0 0.2	24 0	26	0.25	0.27	0.	27	0.26
lormalized values													
ASEAN	2010	2011	2012	2013	2014	2015	2016	201	7 20	018 2	019	202	0
													1

Indicator: 2) Average intraregional financial development index score

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.08	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cambodia	0.11	0.07	0.10	0.09	0.09	0.09	0.14	0.16	0.16	0.17	0.17
Indonesia	0.00	0.00	0.00	0.06	0.07	0.05	0.07	0.10	0.10	0.10	0.10
Malaysia	0.84	0.87	0.89	0.89	0.88	0.84	0.77	0.81	0.79	0.82	0.82
Philippines	0.07	0.04	0.05	0.08	0.07	0.06	0.06	0.11	0.08	0.09	0.10
Singapore	1.00	1.00	1.00	1.00	0.97	0.97	0.91	1.00	1.00	0.94	1.00
Thailand	0.83	0.84	0.87	0.96	1.00	1.00	1.00	0.92	0.96	1.00	0.98
Vietnam	0.40	0.11	0.06	0.00	0.20	0.09	0.11	0.17	0.19	0.10	0.16
Regional average	0.42	0.37	0.37	0.39	0.41	0.39	0.38	0.41	0.41	0.40	0.42
CAREC											
Kazakhstan	1.00	1.00	1.00	0.99	0.97	0.84	0.84	0.76	0.76	0.66	0.73
Kyrgyzstan	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mongolia	0.82	0.86	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Pakistan	0.59	0.51	0.45	0.18	0.17	0.50	0.44	0.44	0.38	0.36	0.39
Tajikistan	0.00	0.08	0.04	0.04	0.04	0.01	0.11	0.04	0.02	0.06	0.04
Regional average	0.49	0.49	0.48	0.44	0.44	0.47	0.48	0.45	0.43	0.42	0.43

Dimension III. Conventional regional value chain integration

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	1.04	1.02	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Cambodia	0.90	0.94	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.70	0.85
Indonesia	1.03	1.05	1.04	1.04	1.04	1.01	1.03	1.03	1.02	0.97	1.01
Malaysia	1.05	0.99	1.02	1.02	1.01	0.97	1.00	0.99	0.99	0.90	0.96
Philippines	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.87	0.90
Singapore	0.87	0.87	0.87	0.87	0.87	0.88	0.87	0.88	0.88	0.91	0.89
Thailand	0.89	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.84	0.88
Vietnam	1.01	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.96
Max	1.05	1.05	1.04	1.04	1.04	1.03	1.03	1.03	1.03	1.03	1.03
Min	0.87	0.87	0.87	0.87	0.87	0.88	0.87	0.88	0.88	0.70	0.85
Max–Min	0.18	0.17	0.17	0.17	0.17	0.15	0.16	0.15	0.15	0.33	0.18
CAREC											
Kazakhstan	1.02	0.98	1.00	0.99	1.00	0.96	0.98	0.98	0.97	0.99	0.98
Kyrgyzstan	0.76	0.76	0.76	0.76	0.76	0.83	0.78	0.79	0.80	0.92	0.84
Mongolia	1.08	1.05	1.06	1.06	1.06	1.02	1.04	1.04	1.04	1.11	1.06
Pakistan	1.05	1.05	1.05	1.05	1.05	1.15	1.08	1.09	1.11	1.08	1.09
Tajikistan											
Мах	1.08	1.05	1.06	1.06	1.06	1.15	1.08	1.09	1.11	1.11	1.09
Min	0.76	0.76	0.76	0.76	0.76	0.83	0.78	0.79	0.80	0.92	0.84
Max–Min	0.32	0.29	0.30	0.30	0.30	0.32	0.30	0.30	0.31	0.19	0.26

Indicator: 1) RVC participation index

Note: Data for Tajikistan is not available

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.94	0.87	0.96	0.96	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Cambodia	0.17	0.40	0.30	0.30	0.34	0.33	0.34	0.34	0.34	0.00	0.00
Indonesia	0.89	1.00	1.00	1.00	1.00	0.87	1.00	0.98	0.95	0.82	0.87
Malaysia	1.00	0.69	0.90	0.90	0.83	0.60	0.81	0.77	0.73	0.61	0.61
Philippines	0.17	0.23	0.21	0.21	0.22	0.20	0.22	0.22	0.21	0.52	0.25
Singapore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.20
Thailand	0.11	0.15	0.14	0.14	0.14	0.13	0.15	0.15	0.14	0.42	0.15
Vietnam	0.78	0.69	0.78	0.78	0.75	0.80	0.81	0.81	0.80	0.58	0.62
Regional average	0.51	0.50	0.54	0.54	0.53	0.49	0.54	0.53	0.52	0.57	0.46
CAREC											
Kazakhstan	0.81	0.78	0.80	0.79	0.79	0.41	0.67	0.63	0.56	0.37	0.56
Kyrgyzstan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mongolia	1.00	1.00	1.00	1.00	1.00	0.59	0.88	0.83	0.76	1.00	0.88
Pakistan	0.91	1.00	0.95	0.97	0.96	1.00	1.00	1.00	1.00	0.84	1.00
Tajikistan											
Regional average	0.68	0.69	0.69	0.69	0.69	0.50	0.64	0.61	0.58	0.55	0.61

Note: Data for Tajikistan is not available

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	20.4	10.1	43.9	41.6	15.6	28.8	14	18.8	15.8	12.3	15.64
Cambodia	27.6	28.1	27.7	28.4	27.4	30.1	31.5	31.2	31.4	31.4	31.32
Indonesia	8.73	8.69	16.5	17.2	15.8	20.7	18.1	17.8	18.1	18.2	18.04
Malaysia	19.8	21.3	21.8	22	18.1	20.7	18.6	15.5	15.3	15.7	15.49
Philippines	48.2	49.5	44.1	56.5	49.8	50.7	47.9	48.4	52.6	43.1	48.03
Singapore	10.4	11.4	10.7	15	16.9	17.3	14.9	13.9	15	14.3	14.38
Thailand	20.3	22	21.4	22.7	22.3	22.4	21.6	22.5	22.1	21.9	22.18
Vietnam	34.5	37	34.8	36.9	36.2	34.8	30.9	29.5	31	31.4	30.63
Max	48.21	49.51	44.07	56.50	49.78	50.72	47.91	48.41	52.58	43.11	48.03
Min	8.73	8.69	10.71	14.99	15.64	17.25	13.95	13.87	14.95	12.34	14.38
Max–Min	39.48	40.82	33.36	41.51	34.14	33.47	33.96	34.54	37.63	30.77	33.65
CAREC											
Kazakhstan	21.8	23.5	22.1	21.8	21.4	20.9	20.9	20.4	20.5	20	20.30
Kyrgyzstan	14.2	15.5	16	17.6	16.5	17.1	17	17.3	17.5	16.2	16.99
Mongolia	29.9	32.3	30.7	32.3	30	29.4	29.6	31.4	31.2	28.7	30.41
Pakistan	20.7	19.9	21.5	20.9	20.4	20	19.1	20.9	22.2	23.2	22.08
Tajikistan	37.7	36.3	33.3	34.8	33.3	31.7	31.3	28.9	29.8	28.7	29.10
Max	37.72	36.29	33.27	34.79	33.29	31.67	31.32	31.40	31.15	28.68	30.41
Min	14.21	15.48	16.02	17.60	16.47	17.14	16.98	17.27	17.54	16.15	16.99
Max–Min	23.51	20.81	17.25	17.19	16.82	14.53	14.34	14.13	13.61	12.53	13.42

Indicator: 2) Intraregional intermediate goods exports to total intraregional goods exports

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.30	0.03	1.00	0.64	0.00	0.34	0.00	0.14	0.02	0.00	0.04
Cambodia	0.48	0.47	0.51	0.32	0.35	0.38	0.52	0.50	0.44	0.62	0.50
Indonesia	0.00	0.00	0.17	0.05	0.00	0.10	0.12	0.11	0.08	0.19	0.11
Malaysia	0.28	0.31	0.33	0.17	0.07	0.10	0.14	0.05	0.01	0.11	0.03
Philippines	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Singapore	0.04	0.07	0.00	0.00	0.04	0.00	0.03	0.00	0.00	0.06	0.00
Thailand	0.29	0.33	0.32	0.19	0.20	0.15	0.23	0.25	0.19	0.31	0.23
Vietnam	0.65	0.69	0.72	0.53	0.60	0.52	0.50	0.45	0.43	0.62	0.48
Regional average	0.38	0.36	0.51	0.36	0.28	0.33	0.32	0.31	0.27	0.36	0.30
CAREC											
Kazakhstan	0.32	0.38	0.35	0.25	0.29	0.26	0.27	0.22	0.22	0.30	0.25
Kyrgyzstan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mongolia	0.67	0.81	0.85	0.86	0.80	0.84	0.88	1.00	1.00	1.00	1.00
Pakistan	0.28	0.21	0.32	0.19	0.23	0.19	0.14	0.25	0.34	0.56	0.38
Tajikistan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.90	1.00	0.90
Regional average	0.45	0.48	0.50	0.46	0.47	0.46	0.46	0.46	0.49	0.57	0.51

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ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	1.48	2.04	2.5	1.36	3.43	3.18	4.39	4.12	4.74	4.71	4.52
Cambodia	24	24.4	22.4	22.5	24.2	25.5	25.2	25.8	26.3	28	26.70
Indonesia	17.5	14.2	16.1	17.4	18.2	28.3	32.7	29.5	25.9	25.8	27.06
Malaysia	33.2	29.1	48.3	61.7	59.7	68.2	36.6	55.9	56.6	57.4	56.62
Philippines	3.02	2.5	5.62	2.38	3.84	5.45	7.67	5.12	3.81	7.86	5.60
Singapore	11.1	7.68	6.11	11.5	8.6	11.7	19.5	13.8	11.9	11	12.22
Thailand	12.8	13.9	14.3	13.3	14.5	14.9	14.2	14.6	14.2	13.8	14.21
Vietnam	28.7	30.1	39.6	34.8	27.7	26.9	23.7	22.5	23.5	21	22.32
Max	33.17	30.08	48.31	61.69	59.73	68.17	36.55	55.87	56.56	57.43	56.62
Min	1.48	2.04	2.50	1.36	3.43	3.18	4.39	4.12	3.81	4.71	4.52
Max–Min	31.69	28.04	45.81	60.33	56.30	64.99	32.16	51.75	52.75	52.72	52.10
CAREC											
Kazakhstan	8.74	10.3	8.93	9.38	8.08	9.14	9.54	9.43	8.45	7.82	8.57
Kyrgyzstan	20	20.5	22.9	21.4	21.9	24.5	24	22.6	21.8	22.4	22.24
Mongolia	16.9	20.1	20.3	19.6	19.5	18.4	18.7	17.9	18.2	18.8	18.27
Pakistan	57.5	51.4	66.2	58.5	48.3	47.6	42.4	41.9	47.2	53.4	47.48
Tajikistan	10.1	11	10.2	9.77	9.69	9	8.63	8.7	9.68	9.82	9.40
Max	57.49	51.38	66.22	58.49	48.30	47.61	42.35	41.85	47.17	53.41	47.48
Min	8.74	10.29	8.93	9.38	8.08	9.00	8.63	8.70	8.45	7.82	8.57
Max–Min	48.75	41.09	57.29	49.11	40.22	38.61	33.72	33.15	38.72	45.59	38.91
ormalized values											
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	3 201	9 202
Brunei Darussalam	-0.18	-0.16	-0.25	-0.33	-0.36	-0.42	-0.28	-0.28	3 -0.2	7 -0.2	5 -0.2
Cambodia	0.39	0.38	0.35	0.18	0.25	0.25	0.33	0.35	0.30	0.51	L 0.3
Indonesia	0.22	0.14	0.16	0.06	0.07	0.33	0.55	0.45	0.29	0.44	1 0.3
Malaysia	0.62	0.50	1.13	1.13	1.29	1.52	0.67	1.22	1.11	1.47	7 1.2
Philippines	-0.14	-0.15	-0.15	-0.30	-0.35	-0.35	6 -0.18	-0.25	5 -0.30	0 -0.1	5 -0.2
Singapore	0.06	-0.02	-0.14	-0.08	-0.21	-0.17	0.16	0.00	-0.08	3 -0.0	4 -0.0
Thailand	0.10	0.13	0.11	-0.04	-0.03	-0.07	0.01	0.02	-0.02	2 0.05	5 -0.0
Vietnam	0.51	0.52	0.87	0.48	0.35	0.29	0.29	0.25	0.23	0.28	3 0.2
Regional average	0.20	0.17	0.26	0.14	0.13	0.17	0.19	0.22	0.16	0.29	0.2
CAREC											

Indicator: 3) Intraregional intermediate goods imports to total intraregional goods imports

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	-0.18	-0.16	-0.25	-0.33	-0.36	-0.42	-0.28	-0.28	-0.27	-0.25	-0.29
Cambodia	0.39	0.38	0.35	0.18	0.25	0.25	0.33	0.35	0.30	0.51	0.37
Indonesia	0.22	0.14	0.16	0.06	0.07	0.33	0.55	0.45	0.29	0.44	0.38
Malaysia	0.62	0.50	1.13	1.13	1.29	1.52	0.67	1.22	1.11	1.47	1.26
Philippines	-0.14	-0.15	-0.15	-0.30	-0.35	-0.35	-0.18	-0.25	-0.30	-0.15	-0.26
Singapore	0.06	-0.02	-0.14	-0.08	-0.21	-0.17	0.16	0.00	-0.08	-0.04	-0.06
Thailand	0.10	0.13	0.11	-0.04	-0.03	-0.07	0.01	0.02	-0.02	0.05	-0.01
Vietnam	0.51	0.52	0.87	0.48	0.35	0.29	0.29	0.25	0.23	0.28	0.24
Regional average	0.20	0.17	0.26	0.14	0.13	0.17	0.19	0.22	0.16	0.29	0.20
CAREC											
Kazakhstan	-0.23	-0.25	-0.41	-0.48	-0.50	-0.55	-0.52	-0.55	-0.67	-0.66	-0.63
Kyrgyzstan	0.25	0.24	0.40	0.22	0.32	0.51	0.49	0.37	0.31	0.49	0.39
Mongolia	0.11	0.22	0.25	0.12	0.18	0.09	0.12	0.04	0.04	0.21	0.10
Pakistan	1.84	1.73	2.91	2.38	1.89	2.10	1.77	1.74	2.18	2.97	2.27
Tajikistan	-0.18	-0.21	-0.34	-0.46	-0.40	-0.56	-0.58	-0.61	-0.58	-0.51	-0.57
Regional average	0.36	0.34	0.56	0.36	0.30	0.32	0.26	0.20	0.26	0.50	0.31

Dimension IV. Conventional and sustainable infrastructure integration

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	5.12	5.52	4.98	5.35	5.35	4.90	8.61	6.16	5.37	7.68	6.40
Cambodia	6.10	5.85	3.62	6.00	5.96	7.57	9.16	9.03	8.35	8.00	8.46
Indonesia	32.99	34.30	33.69	36.03	34.87	35.70	33.90	42.51	45.68	44.36	44.18
Malaysia	72.29	87.49	88.18	86.69	90.64	92.21	94.79	90.70	93.64	93.80	92.72
Philippines	21.23	22.74	20.94	24.37	25.90	22.38	28.00	28.11	29.32	30.63	29.35
Singapore	92.45	97.73	98.26	96.22	93.79	100.95	102.48	102.44	110.83	108.08	107.12
Thailand	40.49	39.27	38.18	39.47	40.91	42.55	44.64	42.37	45.06	52.92	46.78
Vietnam	41.25	48.24	47.46	42.14	41.83	48.40	60.06	57.57	60.38	66.51	61.49
Max	92.45	97.73	98.26	96.22	93.79	100.95	102.48	102.44	110.83	108.08	107.12
Min	5.12	5.52	3.62	5.35	5.35	4.90	8.61	6.16	5.37	7.68	6.40
Max—Min	87.33	92.21	94.64	90.87	88.45	96.05	93.87	96.28	105.46	100.40	100.71
CAREC											
Kazakhstan											
Kyrgyzstan											
Mongolia											
Pakistan	31.64	31.25	27.22	28.54	27.72	32.94	34.42	33.11	35.28	34.06	34.15
Tajikistan											

Indicator: 1) Intraregional liner shipping connectivity index Liner shipping connectivity index (maximum value in 2004 = 100)

Note: Data for Kazakhstan, Kyrgyzstan, Mongolia, and Tajikistan is not available

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cambodia	0.01	0.00	0.00	0.01	0.01	0.03	0.01	0.03	0.03	0.00	0.02
Indonesia	0.32	0.31	0.32	0.34	0.33	0.32	0.27	0.38	0.38	0.37	0.38
Malaysia	0.77	0.89	0.89	0.90	0.96	0.91	0.92	0.88	0.84	0.86	0.86
Philippines	0.18	0.19	0.18	0.21	0.23	0.18	0.21	0.23	0.23	0.23	0.23
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.40	0.37	0.37	0.38	0.40	0.39	0.38	0.38	0.38	0.45	0.40
Vietnam	0.41	0.46	0.46	0.40	0.41	0.45	0.55	0.53	0.52	0.59	0.55
Regional average	0.39	0.40	0.40	0.40	0.42	0.41	0.42	0.43	0.42	0.44	0.43

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	340.00	340.00	340.00	340.00	340.00	340.00	340.00	340.00	340.00	340.00	340.00
Cambodia	375.00	375.00	375.00	375.00	375.00	375.00	375.00	375.00	375.00	375.00	375.00
Indonesia	253.70	253.70	253.70	239.50	253.70	253.70	253.70	253.70	253.70	211.10	239.50
Malaysia	274.00	274.00	253.50	233.00	274.00	274.00	274.00	274.00	212.50	212.50	233.00
Philippines	456.00	456.00	456.00	456.00	456.00	456.00	456.00	456.00	456.00	456.00	456.00
Singapore	335.00	335.00	335.00	335.00	335.00	335.00	335.00	335.00	335.00	335.00	335.00
Thailand	222.60	222.60	222.60	222.60	222.60	222.60	222.60	222.60	222.60	222.60	222.60
Vietnam	309.10	302.73	296.37	290.00	309.10	309.10	309.10	290.00	290.00	290.00	290.00
Max	456.00	456.00	456.00	456.00	456.00	456.00	456.00	456.00	456.00	456.00	456.00
Min	222.60	222.60	222.60	222.60	222.60	222.60	222.60	222.60	212.50	211.10	222.60
Max—Min	233.40	233.40	233.40	233.40	233.40	233.40	233.40	233.40	243.50	244.90	233.40
CAREC											
Kazakhstan	493.50	493.50	485.67	477.83	493.50	493.50	493.50	493.50	470.00	470.00	477.83
Kyrgyzstan	471.67	458.33	300.00	155.00	485.00	485.00	445.00	445.00	10.00	10.00	155.00
Mongolia	225.10	225.10	225.10	225.10	225.10	225.10	225.10	225.10	225.10	225.10	225.10
Pakistan	308.40	301.60	294.80	288.00	308.40	308.40	308.40	288.00	288.00	288.00	288.00
Tajikistan	313.30	313.30	313.30	313.30	313.30	313.30	313.30	313.30	313.30	313.30	313.30
Max	493.50	493.50	485.67	477.83	493.50	493.50	493.50	493.50	470.00	470.00	477.83
Min	225.10	225.10	225.10	155.00	225.10	225.10	225.10	225.10	10.00	10.00	155.00
Max-Min	268.40	268.40	260.57	322.83	268.40	268.40	268.40	268.40	460.00	460.00	322.83

Indicator: 2) Intraregional average trade cost (in US dollars)

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.53	0.50
Cambodia	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.67	0.67	0.65
Indonesia	0.13	0.13	0.13	0.07	0.13	0.13	0.13	0.13	0.17	0.00	0.07
Malaysia	0.22	0.22	0.13	0.04	0.22	0.22	0.22	0.22	0.00	0.01	0.04
Philippines	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Singapore	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.50	0.51	0.48
Thailand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.00
Vietnam	0.37	0.34	0.32	0.29	0.37	0.37	0.37	0.29	0.32	0.32	0.29
Regional average	0.42	0.42	0.40	0.38	0.42	0.42	0.42	0.41	0.40	0.38	0.38
CAREC											
Kazakhstan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kyrgyzstan	0.92	0.87	0.29	0.00	0.97	0.97	0.82	0.82	0.00	0.00	0.00
Mongolia	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.47	0.47	0.22
Pakistan	0.31	0.29	0.27	0.41	0.31	0.31	0.31	0.23	0.60	0.60	0.41
Tajikistan	0.33	0.33	0.34	0.49	0.33	0.33	0.33	0.33	0.66	0.66	0.49
Regional average	0.51	0.50	0.38	0.42	0.52	0.52	0.49	0.48	0.55	0.55	0.42

	2010	20	11 2	012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Demoselem	100.00	100		0.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Brunei Darussaiam	100.00	100	.00 10	0.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	00.00
	15.77	36.	47 4	0.11	43.88	44.73	60.51	70.03	86.09	89.43	90.91	00.01
Indonesia	89.36	90.	20 9	2.63	92.99	93.98	94.92	95.06	96.03	96.81	97.53	96.79
Malaysia	98.11	98.	59 9	9.54	99.72	99.96	100.00	100.00	100.00	100.00	100.00	100.00
Philippines	78.32	81.	19 8	0.70	81.90	84.51	83.19	88.06	90.02	91.70	93.55	91.76
Singapore	100.00	100	.00 10	00.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Thailand	99.47	98.	99 9	8.82	99.04	99.23	99.51	99.86	99.90	99.73	99.90	99.84
Vietnam	96.36	98.	55 9	7.00	97.85	98.85	99.70	98.78	100.00	100.00	99.05	99.68
Max	100.00	100	.00 10	00.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Min	15.77	36.	47 4	0.11	43.88	44.73	60.51	70.03	86.09	89.43	90.91	88.81
Max—Min	84.23	63.	53 5	9.89	56.12	55.27	39.49	29.97	13.91	10.57	9.09	11.19
CAREC												
Kazakhstan	100.00	99.	57 10	00.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Kyrgyzstan	98.92	97.	78 9	9.80	98.92	99.74	98.71	99.81	100.00	100.00	99.99	100.00
Mongolia	41.88	25.	18 5	3.72	45.77	60.72	67.00	74.73	82.28	94.63	97.22	91.38
Pakistan	56.65	56.	43 5	6.24	56.10	55.98	55.89	55.81	54.21	56.86	58.66	56.57
Tajikistan	98.42	98.	47 9	8.85	98.68	98.83	97.82	99.20	99.34	99.34	99.83	99.50
Max	100.00	99.	57 10	00.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Min	41.88	25.	18 5	3.72	45.77	55.98	55.89	55.81	54.21	56.86	58.66	56.57
Max-Min	58.12	74.	39 4	6.28	54.23	44.02	44.11	44.19	45.79	43.14	41.34	43.43
ormalized value	s				-			-				
ΛςελΝ		2010	2011	2012	2012	2014	2015	2016	2017 2	019 20	10 202	

Indicator: 3) Average intraregional rural access to electricity Access to electricity, rural (percent of rural population)

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ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.87	0.85	0.88	0.88	0.89	0.87	0.84	0.71	0.70	0.73	0.71
Malaysia	0.98	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Philippines	0.74	0.70	0.68	0.68	0.72	0.57	0.60	0.28	0.22	0.29	0.26
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.99	0.98	0.98	0.98	0.99	0.99	1.00	0.99	0.97	0.99	0.99
Vietnam	0.96	0.98	0.95	0.96	0.98	0.99	0.96	1.00	1.00	0.90	0.97
Regional average	0.82	0.81	0.81	0.81	0.82	0.80	0.80	0.75	0.74	0.74	0.74
CAREC											
Kazakhstan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kyrgyzstan	0.98	0.98	1.00	0.98	0.99	0.97	1.00	1.00	1.00	1.00	1.00
Mongolia	0.00	0.00	0.00	0.00	0.11	0.25	0.43	0.61	0.88	0.93	0.80
Pakistan	0.25	0.42	0.05	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tajikistan	0.97	0.99	0.98	0.98	0.97	0.95	0.98	0.99	0.98	1.00	0.99
Regional average	0.64	0.68	0.61	0.63	0.62	0.63	0.68	0.72	0.77	0.79	0.76

Individuals using the int	ernet (p	ercent c	of popula	ation)							_
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	53.00	56.00	60.27	64.50	68.77	71.20	90.00	94.87	95.00	95.00	94.96
Cambodia	1.26	3.10	4.94	6.80	14.00	6.43	32.40	32.90	40.55	40.55	38.00
Indonesia	10.92	12.28	14.52	14.94	17.14	22.06	25.45	32.34	39.90	47.69	39.98
Malaysia	56.30	61.00	65.80	57.06	63.67	71.06	78.79	80.14	81.20	84.21	81.85
Philippines	25.00	29.00	36.24	48.10	49.60	36.00	55.50	60.05	60.05	43.03	54.38
Singapore	71.00	71.00	72.00	80.90	79.03	79.01	84.45	84.45	88.17	88.95	87.19
Thailand	22.40	23.67	26.46	28.94	34.89	39.32	47.50	52.89	56.82	66.65	58.79
Vietnam	30.65	35.07	36.80	38.50	41.00	45.00	53.00	58.14	69.85	68.70	65.56
Max	71.00	71.00	72.00	80.90	79.03	79.01	90.00	94.87	95.00	95.00	94.96
Min	1.26	3.10	4.94	6.80	14.00	6.43	25.45	32.34	39.90	40.55	38.00
Max–Min	69.74	67.90	67.06	74.10	65.03	72.58	64.55	62.53	55.10	54.45	56.96
CAREC											
Kazakhstan	31.60	50.60	61.91	63.30	66.00	70.83	74.59	76.43	78.90	81.88	79.07
Kyrgyzstan	16.30	17.50	19.80	23.00	28.30	30.25	37.00	38.20	39.40	40.60	39.40
Mongolia	10.20	12.50	16.40	17.70	19.94	22.50	22.27	23.71	47.13	51.08	40.64
Pakistan	8.00	9.00	9.96	10.90	12.00	14.00	12.39	17.11	17.60	17.07	17.26
Tajikistan	11.55	13.03	14.51	16.00	17.49	18.98	20.47	21.96	23.45	24.94	23.45
Max	31.60	50.60	61.91	63.30	66.00	70.83	74.59	76.43	78.90	81.88	79.07
Min	8.00	9.00	9.96	10.90	12.00	14.00	12.39	17.11	17.60	17.07	17.26
Max–Min	23.60	41.60	51.95	52.40	54.00	56.83	62.20	59.32	61.30	64.81	61.81

Indicator: 4) Average intraregional share of internet users in population

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.74	0.78	0.83	0.78	0.84	0.89	1.00	1.00	1.00	1.00	1.00
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.01	0.00	0.00
Indonesia	0.14	0.14	0.14	0.11	0.05	0.22	0.00	0.00	0.00	0.13	0.03
Malaysia	0.79	0.85	0.91	0.68	0.76	0.89	0.83	0.76	0.75	0.80	0.77
Philippines	0.34	0.38	0.47	0.56	0.55	0.41	0.47	0.44	0.37	0.05	0.29
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.83	0.88	0.89	0.86
Thailand	0.30	0.30	0.32	0.30	0.32	0.45	0.34	0.33	0.31	0.48	0.37
Vietnam	0.42	0.47	0.48	0.43	0.42	0.53	0.43	0.41	0.54	0.52	0.48
Regional average	0.47	0.49	0.52	0.48	0.49	0.55	0.51	0.47	0.48	0.48	0.48
CAREC											
Kazakhstan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kyrgyzstan	0.35	0.20	0.19	0.23	0.30	0.29	0.40	0.36	0.36	0.36	0.36
Mongolia	0.09	0.08	0.12	0.13	0.15	0.15	0.16	0.11	0.48	0.52	0.38
Pakistan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tajikistan	0.15	0.10	0.09	0.10	0.10	0.09	0.13	0.08	0.10	0.12	0.10
Regional average	0.32	0.28	0.28	0.29	0.31	0.30	0.34	0.31	0.39	0.40	0.37

Dimension V. Conventional movement of people

0			0	,.							
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	25.9	25.7	25.4	25.2	25.0	24.8	24.9	25.1	25.3	25.4	25.6
Cambodia	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Indonesia	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Malaysia	8.6	8.5	8.4	8.3	8.3	10.8	10.9	11.0	11.1	11.1	10.7
Philippines	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Singapore	42.2	41.8	41.4	41.1	40.7	44.4	44.7	45.0	45.3	45.6	43.1
Thailand	4.8	4.8	4.7	4.7	4.6	5.1	5.1	5.1	5.2	5.2	5.2
Vietnam	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Max	42.2	41.8	41.4	41.1	40.7	44.4	44.7	45.0	45.3	45.6	43.1
Min	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Max–Min	42.1	41.7	41.4	41.0	40.7	44.3	44.6	44.9	45.2	45.5	43.1
CAREC											
Kazakhstan	20.5	20.3	20.2	20.0	19.8	20.2	20.3	20.4	20.6	20.7	19.9
Kyrgyzstan	4.3	4.2	4.2	4.2	4.1	3.4	3.5	3.5	3.5	3.5	3.1
Mongolia	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Pakistan	2.2	2.2	2.2	2.1	2.1	1.8	1.8	1.8	1.8	1.8	1.5
Tajikistan	3.7	3.7	3.7	3.6	3.6	3.3	3.3	3.3	3.3	3.3	2.9
Max	20.5	20.3	20.2	20.0	19.8	20.2	20.3	20.4	20.6	20.7	19.9
Min	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Max–Min	19.9	19.8	19.6	19.4	19.2	19.5	19.6	19.8	19.9	20.0	19.2

Indicator: 1) Stock of intraregional emigrant per capita (percent) Migrants from country (international migrant stock, total)

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.61	0.61	0.61	0.61	0.61	0.56	0.56	0.56	0.56	0.56	0.59
Cambodia	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Indonesia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia	0.20	0.20	0.20	0.20	0.20	0.24	0.24	0.24	0.24	0.24	0.25
Philippines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12
Vietnam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional average	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.25
CAREC											
Kazakhstan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kyrgyzstan	0.19	0.19	0.19	0.19	0.19	0.14	0.14	0.14	0.14	0.14	0.12
Mongolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pakistan	0.08	0.08	0.08	0.08	0.08	0.06	0.06	0.06	0.06	0.06	0.04
Tajikistan	0.16	0.16	0.16	0.16	0.16	0.13	0.13	0.13	0.13	0.13	0.12
Regional average	0.28	0.28	0.28	0.28	0.28	0.27	0.27	0.27	0.27	0.27	0.26

/ 0											
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cambodia	1.4	1.5	1.9	1.9	2.2	1.7	1.8	1.5	1.3	1.0	0.8
Indonesia	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.5	0.5	0.5	0.4
Malaysia	3.4	3.2	2.8	2.8	3.0	3.5	3.4	2.9	3.0	3.1	2.7
Philippines	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	0.9	0.8	0.7	0.8	0.9	1.0	1.0	1.0	1.0	1.6	1.6
Vietnam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	3.38	3.16	2.85	2.78	3.01	3.48	3.35	2.94	3.04	3.12	2.69
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max–Min	3.38	3.16	2.85	2.78	3.01	3.48	3.35	2.94	3.04	3.12	2.69
CAREC											
Kazakhstan	2.0	1.8	1.7	1.4	1.6	1.7	1.7	1.6	1.5	1.5	1.3
Kyrgyzstan	3.5	3.7	4.3	5.3	6.1	5.4	5.5	6.2	6.8	6.8	0.0
Mongolia	2.4	3.0	4.3	3.5	2.8	1.9	1.5	1.6	1.7	1.7	1.1
Pakistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Tajikistan	3.3	3.1	3.5	2.8	3.3	2.1	1.3	2.9	3.2	2.3	1.3
Max	3.50	3.67	4.33	5.31	6.08	5.43	5.55	6.18	6.78	6.79	1.34
Min	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.04	0.05	0.05	0.00
Max–Min	3.49	3.66	4.31	5.30	6.07	5.42	5.52	6.14	6.73	6.74	1.34
Normalized values											
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cambodia	0.43	0.47	0.66	0.70	0.71	0.50	0.53	0.50	0.41	0.33	0.31
Indonesia	0.11	0.11	0.14	0.16	0.15	0.15	0.16	0.17	0.16	0.15	0.16
Malaysia	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Philippines	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.03	0.02	0.02
Singapore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thailand	0.26	0.25	0.26	0.28	0.29	0.29	0.30	0.33	0.32	0.53	0.59
Vietnam	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Regional average	0.23	0.23	0.26	0.27	0.27	0.24	0.25	0.25	0.24	0.25	0.26
CAREC			•							•	
Kazakhstan	0.58	0.48	0.38	0.27	0.26	0.32	0.31	0.26	0.22	0.21	0.94
Kyrgyzstan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Mongolia	0.67	0.82	1.00	0.66	0.45	0.36	0.27	0.25	0.24	0.24	0.85
Pakistan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Tajikistan	0.93	0.84	0.80	0.53	0.54	0.39	0.22	0.46	0.48	0.33	1.00

Indicator: 2) Intraregional outflow of remittances to GDP (percent)

Regional average

0.64

0.63

0.63

0.49

0.45

0.41

0.36

0.39

0.39

0.36

0.57

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cambodia	5.0	4.8	6.1	6.6	6.6	6.6	6.0	5.8	5.8	5.6	4.7
Indonesia	0.9	0.8	0.8	0.8	1.0	1.1	1.0	0.9	1.1	1.0	0.9
Malaysia	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4
Philippines	10.8	10.3	9.8	9.8	10.1	10.2	10.2	10.5	10.2	9.8	10.1
Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	1.3	1.4	1.4	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6
Vietnam	7.1	6.3	6.4	6.4	6.4	6.7	6.8	6.7	6.5	6.5	6.4
Max	10.8	10.3	9.8	9.8	10.1	10.2	10.2	10.5	10.2	9.8	10.1
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max–Min	10.8	10.3	9.8	9.8	10.1	10.2	10.2	10.5	10.2	9.8	10.1
CAREC											
Kazakhstan	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2
Kyrgyzstan	26.4	27.6	30.8	31.1	30.0	25.3	29.3	32.3	32.5	28.5	29.8
Mongolia	3.7	2.4	2.6	2.0	2.1	2.2	2.3	2.4	3.4	4.0	4.2
Pakistan	5.6	5.8	6.5	6.6	6.9	7.2	7.1	6.6	7.5	8.7	10.2
Tajikistan	35.8	41.7	42.2	43.5	36.6	28.8	26.9	29.7	28.1	27.9	27.0
Max	35.8	41.7	42.2	43.5	36.6	28.8	29.3	32.3	32.5	28.5	29.8
Min	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2
Max–Min	35.7	41.6	42.1	43.3	36.5	28.6	29.0	31.9	32.2	28.2	29.6
Normalized values	1	1	1	1		1	1	1	1	1	1
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cambodia	0.46	0.46	0.62	0.67	0.66	0.65	0.59	0.55	0.57	0.57	0.47
Indonesia	0.08	0.08	0.08	0.08	0.10	0.11	0.09	0.08	0.11	0.11	0.09
Malaysia	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.04
Philippines	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Singapore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thailand	0.12	0.14	0.14	0.16	0.16	0.14	0.15	0.14	0.14	0.15	0.16
Vietnam	0.66	0.62	0.65	0.65	0.64	0.66	0.67	0.64	0.64	0.66	0.63
Regional average	0.30	0.29	0.32	0.33	0.32	0.33	0.32	0.31	0.31	0.32	0.30
CAREC											
Kazakhstan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kyrgyzstan	0.74	0.66	0.73	0.71	0.82	0.88	1.00	1.00	1.00	1.00	1.00
Iviongolia	0.10	0.06	0.06	0.04	0.05	0.07	0.07	0.06	0.09	0.13	0.14
Pakistan	0.15	0.14	0.15	0.15	0.19	0.25	0.24	0.19	0.22	0.30	0.34
Tajikistan	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.86	0.98	0.91
Regional average	0.40	0.37	0.39	0.38	0.41	0.44	0.44	0.44	0.44	0.48	0.48

Indicator: 3) Intraregional inflow of remittances to GDP (percent)

Dimension V. Conventional and sustainable regulatory cooperationintegration Indicator: 1) Number of regional economies that have signed free trade agreements (FTAs) with the economy

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	21	21	21	21	21	21	21	21	21	21	21
Cambodia	17	17	17	17	17	17	17	17	17	17	17
Indonesia	41	41	41	41	41	41	41	41	41	41	41
Malaysia	35	35	35	35	35	35	35	35	35	35	35
Philippines	27	27	27	27	27	27	27	27	27	27	27
Singapore	44	44	44	44	44	44	44	44	44	44	44
Thailand	39	39	39	39	39	39	39	39	39	39	39
Vietnam	5	5	5	5	5	5	5	5	5	5	5
Max	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
Min	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max–Min	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
CAREC											
Kazakhstan	29	29	29	29	29	29	29	29	29	29	29
Kyrgyzstan	26	26	26	26	26	26	26	26	26	26	26
Mongolia	5	5	5	5	5	5	5	5	5	5	5
Pakistan	32	32	32	32	32	32	32	32	32	32	32
Tajikistan	10	10	10	10	10	10	10	10	10	10	10
Max	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Min	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max–Min	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Cambodia	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Indonesia	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Malaysia	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Philippines	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Vietnam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional average	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
CAREC											
Kazakhstan	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Kyrgyzstan	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Mongolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pakistan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Tajikistan	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Regional average	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57

Indicator: 2) Number of regional economies that have signed international investment agreements with the economy

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	28	28	28	28	28	28	28	28	28	28	28
Cambodia	42	42	42	42	42	42	42	42	42	42	42
Indonesia	62	62	62	62	62	62	62	62	62	62	62
Malaysia	92	92	92	92	92	92	92	92	92	92	92
Philippines	54	54	54	54	54	54	54	54	54	54	54
Singapore	74	74	74	74	74	74	74	74	74	74	74
Thailand	63	63	63	63	63	63	63	63	63	63	63
Vietnam	68	68	68	68	68	68	68	68	68	68	68
Max	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0
Min	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
Max–Min	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0
CAREC						-					
Kazakhstan											
Kyrgyzstan	58	58	58	58	58	58	58	58	58	58	58
Mongolia	46	46	46	46	46	46	46	46	46	46	46
Pakistan	53	53	53	53	53	53	53	53	53	53	53
Tajikistan	42	42	42	42	42	42	42	42	42	42	42
Max	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
Min	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
Max–Min	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0

Bilateral investment treaties (BITs) and treaties with investment provisions (TIPs)

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cambodia	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Indonesia	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Malaysia	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Philippines	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Singapore	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Thailand	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Vietnam	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Regional average	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
CAREC											
Kazakhstan											
Kyrgyzstan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mongolia	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Pakistan	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Tajikistan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional average	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48

Note: Data for Kazakhstan is not available

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ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.78	0.85	0.79	0.59	0.47	0.41	0.56	0.65	0.63	0.61	0.60
Cambodia	-1.12	-1.05	-0.98	-1.00	-0.96	-0.98	-1.06	-1.06	-1.11	-0.94	-0.91
Indonesia	-0.64	-0.59	-0.58	-0.53	-0.34	-0.42	-0.34	-0.35	-0.32	-0.34	-0.33
Malaysia	0.48	0.48	0.47	0.44	0.59	0.50	0.50	0.41	0.62	0.59	0.72
Philippines	-0.55	-0.51	-0.52	-0.40	-0.32	-0.34	-0.35	-0.41	-0.48	-0.48	-0.52
Singapore	1.63	1.67	1.73	1.71	1.82	1.81	1.83	1.82	1.84	1.88	1.90
Thailand	-0.20	-0.20	-0.15	-0.12	-0.19	-0.15	0.00	0.04	0.02	0.10	0.12
Vietnam	-0.59	-0.54	-0.55	-0.51	-0.36	-0.34	0.08	0.07	0.00	-0.02	-0.07
Max	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.9	1.9
Min	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-0.9	-0.9
Max—Min	2.7	2.7	2.7	2.7	2.8	2.8	2.9	2.9	3.0	2.8	2.8
CAREC											
Kazakhstan	-0.62	-0.57	-0.68	-0.69	-0.60	-0.44	-0.44	-0.41	-0.43	-0.43	-0.45
Kyrgyzstan	-1.27	-1.19	-1.13	-1.11	-0.93	-0.99	-1.02	-0.93	-0.91	-0.89	-0.87
Mongolia	-0.36	-0.27	-0.38	-0.37	-0.34	-0.38	-0.22	-0.30	-0.27	-0.27	-0.24
Pakistan	-0.74	-0.90	-0.88	-0.86	-0.76	-0.77	-0.80	-0.72	-0.67	-0.67	-0.63
Tajikistan	-1.21	-1.23	-1.20	-1.25	-1.01	-1.06	-1.15	-1.35	-1.28	-1.23	-1.16
Max	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.2	-0.3	-0.3	-0.3	-0.2
Min	-1.3	-1.2	-1.2	-1.3	-1.0	-1.1	-1.1	-1.4	-1.3	-1.2	-1.2
Max-Min	0.9	1.0	0.8	0.9	0.7	0.7	0.9	1.1	1.0	1.0	0.9

Indicator: 3) Rule of law index score

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.69	0.70	0.65	0.59	0.51	0.50	0.56	0.59	0.59	0.55	0.54
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.17	0.17	0.15	0.17	0.22	0.20	0.25	0.25	0.27	0.21	0.21
Malaysia	0.58	0.56	0.53	0.53	0.56	0.53	0.54	0.51	0.59	0.54	0.58
Philippines	0.21	0.20	0.17	0.22	0.23	0.23	0.25	0.22	0.22	0.16	0.14
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.33	0.31	0.31	0.33	0.27	0.30	0.37	0.38	0.38	0.37	0.37
Vietnam	0.19	0.18	0.16	0.18	0.21	0.23	0.39	0.39	0.38	0.33	0.30
Regional average	0.40	0.39	0.37	0.38	0.38	0.37	0.42	0.42	0.43	0.40	0.39
CAREC											
Kazakhstan	0.72	0.68	0.63	0.64	0.62	0.91	0.77	0.90	0.84	0.83	0.78
Kyrgyzstan	0.00	0.04	0.09	0.16	0.13	0.10	0.13	0.41	0.37	0.36	0.32
Mongolia	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Pakistan	0.58	0.34	0.38	0.45	0.38	0.43	0.37	0.60	0.60	0.58	0.58
Tajikistan	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional average	0.47	0.41	0.42	0.45	0.42	0.49	0.45	0.58	0.56	0.55	0.53

Dimension VII. Conventional and sustainable digital economy integration

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.41	0.35	0.28	0.13	0.18	0.19	0.80	0.18	0.17	0.07	0.14
Cambodia	0.09	0.05	0.25	1.61	0.43	2.18	1.90	1.45	1.43	0.99	1.29
Indonesia	4.98	3.86	4.06	3.62	3.47	3.52	3.37	2.99	2.88	2.78	2.88
Malaysia	34.01	29.44	27.90	28.21	28.73	30.05	30.53	31.02	33.14	32.50	32.22
Philippines	26.77	22.74	29.47	26.92	34.62	42.91	43.21	35.87	38.32	49.02	41.07
Singapore	34.08	28.33	27.91	29.25	29.54	32.40	32.80	32.02	29.57	29.30	30.30
Thailand	18.93	15.57	16.04	15.59	16.03	16.61	15.76	16.11	15.59	14.35	15.35
Vietnam	7.91	11.64	18.24	24.54	23.97	29.37	31.24	33.45	33.76	35.01	34.07
Max	34.08	29.44	29.47	29.25	34.62	42.91	43.21	35.87	38.32	49.02	41.07
Min	0.09	0.05	0.25	0.13	0.18	0.19	0.80	0.18	0.17	0.07	0.14
Max-Min	34.0	29.4	29.2	29.1	34.4	42.7	42.4	35.7	38.1	48.9	40.9
CAREC											
Kazakhstan	0.05	0.14	0.44	0.33	0.84	0.19	0.16	0.13	0.11	0.12	0.12
Kyrgyzstan	0.56	0.24	0.08	0.06	0.06	0.07	0.37	0.15	0.14	0.18	0.15
Mongolia	0.08	0.07	0.05	0.19	0.07	0.08	0.09	0.02	0.02	0.01	0.02
Pakistan	0.20	0.24	0.24	0.23	0.19	0.24	0.30	0.20	0.16	0.07	0.14
Tajikistan											
Max	0.56	0.24	0.44	0.33	0.84	0.24	0.37	0.20	0.16	0.18	0.15
Min	0.05	0.07	0.05	0.06	0.06	0.07	0.09	0.02	0.02	0.01	0.02
Max-Min	0.5	0.2	0.4	0.3	0.8	0.2	0.3	0.2	0.1	0.2	0.1

Indicator: 1) Share of ICT good exports in intraregional exports

Note: Data for Tajikistan is not available

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cambodia	0.00	0.00	0.00	0.05	0.01	0.05	0.03	0.04	0.03	0.02	0.03
Indonesia	0.14	0.13	0.13	0.12	0.10	0.08	0.06	0.08	0.07	0.06	0.07
Malaysia	1.00	1.00	0.95	0.96	0.83	0.70	0.70	0.86	0.86	0.66	0.78
Philippines	0.78	0.77	1.00	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Singapore	1.00	0.96	0.95	1.00	0.85	0.75	0.75	0.89	0.77	0.60	0.74
Thailand	0.55	0.53	0.54	0.53	0.46	0.38	0.35	0.45	0.40	0.29	0.37
Vietnam	0.23	0.39	0.62	0.84	0.69	0.68	0.72	0.93	0.88	0.71	0.83
Regional average	0.47	0.47	0.52	0.55	0.49	0.46	0.45	0.53	0.50	0.42	0.48
CAREC											
Kazakhstan	0.00	0.45	1.00	1.00	1.00	0.67	0.23	0.59	0.67	0.64	0.74
Kyrgyzstan	1.00	1.00	0.08	0.00	0.00	0.00	1.00	0.71	0.87	1.00	1.00
Mongolia	0.06	0.00	0.00	0.47	0.01	0.06	0.00	0.00	0.00	0.00	0.00
Pakistan	0.29	0.99	0.49	0.64	0.17	1.00	0.76	1.00	1.00	0.37	0.91
Tajikistan											
Regional average	0.34	0.61	0.39	0.53	0.30	0.43	0.50	0.58	0.64	0.50	0.66

Note: Data for Tajikistan is not available

											1
ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	5.00	4.33	4.12	4.87	4.92	4.48	4.42	3.29	2.99	2.09	2.79
Cambodia	2.55	2.12	1.62	1.66	2.77	2.51	2.24	1.62	1.11	1.42	1.39
Indonesia	8.49	7.41	7.08	7.09	7.00	7.63	7.97	7.98	7.70	7.97	7.88
Malaysia	29.80	25.62	23.12	22.62	23.08	24.01	24.70	25.22	25.05	24.15	24.81
Philippines	31.63	13.16	24.75	23.01	20.89	27.47	23.98	19.76	22.06	20.94	20.92
Singapore	27.54	23.04	23.04	23.90	23.73	26.98	28.10	27.88	26.61	26.87	27.12
Thailand	14.18	11.92	11.82	11.30	12.62	13.88	14.03	14.04	13.38	13.07	13.50
Vietnam	8.40	10.17	16.18	19.93	19.14	21.13	22.59	25.01	23.81	25.65	24.83
Max	31.63	25.62	24.75	23.90	23.73	27.47	28.10	27.88	26.61	26.87	27.12
Min	2.55	2.12	1.62	1.66	2.77	2.51	2.24	1.62	1.11	1.42	1.39
Max-Min	29.1	23.5	23.1	22.2	21.0	25.0	25.9	26.3	25.5	25.5	25.7
CAREC											
Kazakhstan	4.97	5.74	5.81	5.96	5.99	4.89	5.20	5.85	5.99	5.63	5.82
Kyrgyzstan	2.71	3.82	2.34	2.21	2.04	2.80	3.13	3.66	3.85	5.33	4.28
Mongolia	5.11	5.35	5.12	3.46	3.88	5.01	6.45	4.58	4.34	3.47	4.13
Pakistan	3.35	3.56	4.36	3.79	4.59	4.90	4.95	4.69	3.93	4.75	4.45
Tajikistan											
Max	5.11	5.74	5.81	5.96	5.99	5.01	6.45	5.85	5.99	5.63	5.82
Min	2.71	3.56	2.34	2.21	2.04	2.80	3.13	3.66	3.85	3.47	4.13
Max-Min	2.4	2.2	3.5	3.7	3.9	2.2	3.3	2.2	2.1	2.2	1.7

Indicator: 2) Share of ICT good imports in intraregional imports

Note: Data for Tajikistan is not available

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.08	0.09	0.11	0.14	0.10	0.08	0.08	0.06	0.07	0.03	0.05
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.20	0.22	0.24	0.24	0.20	0.21	0.22	0.24	0.26	0.26	0.25
Malaysia	0.94	1.00	0.93	0.94	0.97	0.86	0.87	0.90	0.94	0.89	0.91
Philippines	1.00	0.47	1.00	0.96	0.86	1.00	0.84	0.69	0.82	0.77	0.76
Singapore	0.86	0.89	0.93	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Thailand	0.40	0.42	0.44	0.43	0.47	0.46	0.46	0.47	0.48	0.46	0.47
Vietnam	0.20	0.34	0.63	0.82	0.78	0.75	0.79	0.89	0.89	0.95	0.91
Regional average	0.46	0.43	0.53	0.57	0.55	0.54	0.53	0.53	0.56	0.54	0.54
CAREC											
Kazakhstan	0.94	1.00	1.00	1.00	1.00	0.95	0.62	1.00	1.00	1.00	1.00
Kyrgyzstan	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.09
Mongolia	1.00	0.82	0.80	0.33	0.47	1.00	1.00	0.42	0.23	0.00	0.00
Pakistan	0.26	0.00	0.58	0.42	0.65	0.95	0.55	0.47	0.03	0.59	0.19
Tajikistan											
Regional average	0.55	0.49	0.60	0.44	0.53	0.72	0.54	0.47	0.32	0.61	0.32

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam											
Cambodia	2.0	3.7	6.7	12.2	22.2	22.0	21.8	21.7	21.5	21.3	21.2
Indonesia	16.0	19.6	24.0	29.4	36.1	39.9	44.2	48.9	54.1	59.8	66.2
Malaysia	61.9	66.2	70.7	75.5	80.7	82.2	83.8	85.3	87.0	88.6	90.3
Philippines	25.1	26.6	28.0	29.6	31.3	32.3	33.4	34.5	35.6	36.8	38.0
Singapore	98.9	98.2	97.6	97.0	96.4	96.9	97.4	97.9	98.5	99.0	99.5
Thailand	70.9	72.7	74.4	76.3	78.1	79.3	80.4	81.6	82.8	84.0	85.2
Vietnam	18.9	21.4	24.2	27.4	31.0	30.9	30.8	30.8	30.7	30.7	30.6
Max	98.85	98.22	97.59	96.97	96.35	96.88	97.40	97.93	98.46	99.00	99.54
Min	2.01	3.66	6.67	12.16	22.17	22.00	21.84	21.67	21.51	21.35	21.19
Max—Min	96.8	94.6	90.9	84.8	74.2	74.9	75.6	76.3	77.0	77.6	78.3
CAREC											
Kazakhstan	38.8	42.1	45.7	49.6	53.9	55.5	57.1	58.7	60.4	62.1	63.9
Kyrgyzstan	2.2	3.8	6.4	10.9	18.5	23.9	30.9	39.9	51.7	66.8	86.4
Mongolia	73.5	77.7	82.2	86.9	91.8	92.2	92.6	93.0	93.4	93.7	94.1
Pakistan	9.5	10.3	11.1	12.1	13.0	15.4	18.1	21.3	25.1	29.5	34.8
Tajikistan	1.5	2.5	4.2	6.9	11.5	18.3	29.4	47.0	75.3	80.0	85.0
Max	73.51	77.72	82.16	86.86	91.82	92.20	92.59	92.97	93.36	93.75	94.13
Min	1.53	2.53	4.19	6.93	11.46	15.35	18.08	21.29	25.08	29.53	34.78
Max—Min	72.0	75.2	78.0	79.9	80.4	76.9	74.5	71.7	68.3	64.2	59.4

Indicator: 3) Average intraregional share of population with financial institution or mobile money account

Note: Data for Brunei Darussalam is not available

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam											
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.14	0.17	0.19	0.20	0.19	0.24	0.30	0.36	0.42	0.50	0.57
Malaysia	0.62	0.66	0.70	0.75	0.79	0.80	0.82	0.83	0.85	0.87	0.88
Philippines	0.24	0.24	0.24	0.21	0.12	0.14	0.15	0.17	0.18	0.20	0.22
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.71	0.73	0.75	0.76	0.75	0.76	0.78	0.79	0.80	0.81	0.82
Vietnam	0.17	0.19	0.19	0.18	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Regional average	0.41	0.43	0.44	0.44	0.42	0.44	0.45	0.47	0.48	0.50	0.52
CAREC											
Kazakhstan	0.52	0.53	0.53	0.53	0.53	0.52	0.52	0.52	0.52	0.51	0.49
Kyrgyzstan	0.01	0.02	0.03	0.05	0.09	0.11	0.17	0.26	0.39	0.58	0.87
Mongolia	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Pakistan	0.11	0.10	0.09	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Tajikistan	0.00	0.00	0.00	0.00	0.00	0.04	0.15	0.36	0.74	0.79	0.85
Regional average	0.33	0.33	0.33	0.33	0.33	0.33	0.37	0.43	0.53	0.57	0.64

Note: Data for Brunei Darussalam is not available

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	41.2	58.4	122.8	150.8	241.6	573.6	612.2	1620.8	1988.5	10720.2	15749.2
Cambodia	0.7	1.2	3.0	4.0	4.6	10.2	20.5	55.2	81.1	159.3	188.5
Indonesia	1.6	2.4	5.3	7.8	11.8	17.7	306.2	1280.6	1283.0	1683.8	1877.6
Malaysia	44.9	57.6	101.4	122.3	151.1	233.9	945.7	4917.8	5713.1	6723.9	7494.4
Philippines	5.0	7.1	11.8	12.5	16.1	20.9	40.5	87.8	92.9	111.3	113.6
Singapore	531.6	927.9	1898.9	2549.5	2544.0	3585.2	19060.7	58690.3	84713.9	122481.4	128378
Thailand	11.2	15.1	30.9	38.9	51.9	69.4	146.5	578.3	953.9	1403.8	1908.1
Vietnam	2.3	3.7	9.0	14.2	20.3	32.7	278.7	1348.7	1769.4	2597.0	3105.8
Max	532	928	1899	2549	2544	3585	19061	58690	84714	122481	128378
Min	0.70	1.24	2.98	3.99	4.65	10.18	20.49	55.16	81.11	111.31	113.56
Max-Min	530.9	926.7	1896.0	2545.5	2539.4	3575.0	19040.3	58635.2	84632.7	122370.1	128264
CAREC											
Kazakhstan	3.5	5.5	12.0	17.4	26.9	48.2	264.2	1232.2	1374.2	2359.0	3307.6
Kyrgyzstan	1.8	1.5	6.8	7.7	14.1	22.8	42.3	103.1	170.0	287.9	420.4
Mongolia	9.2	12.6	28.7	40.6	59.2	75.0	437.4	1527.1	1689.8	1690.5	1734.7
Pakistan	0.6	0.8	1.3	1.7	2.5	3.4	31.7	115.1	109.1	62.6	73.8
Tajikistan	0.3	0.8	1.1	1.9	1.7	5.1	5.9	20.0	27.4	71.1	92.3
Max	9.19	12.63	28.68	40.60	59.18	75.04	437.45	1527.08	1689.79	2359.01	3307.64
Min	0.27	0.78	1.14	1.71	1.70	3.41	5.89	20.04	27.36	62.56	73.76
Max-Min	8.9	11.9	27.5	38.9	57.5	71.6	431.6	1507.0	1662.4	2296.5	3233.9

Indicator: 4) Average intraregional secure internet servers

Secure internet servers (per 1 million people)

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0.08	0.06	0.06	0.06	0.09	0.16	0.03	0.03	0.02	0.09	0.12
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01
Malaysia	0.08	0.06	0.05	0.05	0.06	0.06	0.05	0.08	0.07	0.05	0.06
Philippines	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Vietnam	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Regional average	0.15	0.14	0.14	0.14	0.15	0.16	0.14	0.15	0.14	0.15	0.15
CAREC											
Kazakhstan	0.36	0.40	0.40	0.40	0.44	0.62	0.60	0.80	0.81	1.00	1.00
Kyrgyzstan	0.18	0.06	0.20	0.15	0.21	0.27	0.08	0.06	0.09	0.10	0.11
Mongolia	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.51
Pakistan	0.04	0.00	0.01	0.00	0.01	0.00	0.06	0.06	0.05	0.00	0.00
Tajikistan	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01
Regional average	0.31	0.29	0.32	0.31	0.33	0.38	0.35	0.38	0.39	0.36	0.33

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	53.9	57.6	61.3	65.0	72.4	70.7	71.3	71.9	72.4	73.0	73.5
Cambodia	0.6	0.5	0.4	0.2	3.9	5.5	7.0	9.0	10.8	12.7	14.6
Indonesia	0.8	0.8	3.9	7.0	6.5	5.7	29.1	25.1	30.1	35.0	39.9
Malaysia	44.0	49.8	55.6	61.4	64.7	64.7	65.5	69.3	71.6	73.9	76.2
Philippines	10.1	10.1	10.1	10.1	18.9	22.9	26.9	31.7	36.4	41.0	45.6
Singapore	76.4	79.2	82.0	84.8	87.7	86.0	88.0	89.7	91.0	92.3	93.6
Thailand	7.5	9.4	11.4	13.4	18.4	22.7	33.8	36.2	41.6	47.0	52.4
Vietnam	12.5	12.5	12.5	12.5	15.6	17.1	18.6	20.3	22.0	23.7	25.4
Max	76.42	79.21	82.00	84.79	87.70	86.00	88.00	89.66	90.98	92.30	93.62
Min	0.64	0.50	0.36	0.22	3.94	5.53	7.00	8.99	10.85	12.71	14.56
Max-Min	75.8	78.7	81.6	84.6	83.8	80.5	81.0	80.7	80.1	79.6	79.1
CAREC											
Kazakhstan	17.0	20.0	23.2	44.0	52.6	55.0	58.8	61.7	64.8	67.9	71.0
Kyrgyzstan	2.4	2.8	3.2	3.6	6.3	7.7	12.0	13.1	15.2	17.4	19.6
Mongolia	7.7	7.7	7.7	7.7	14.0	14.0	29.0	29.2	34.0	38.9	43.8
Pakistan	8.0	8.0	8.0	8.0	8.3	8.3	13.2	12.4	13.4	14.5	15.6
Tajikistan	0.2	0.2	0.2	0.2	2.0	4.3	7.2	8.4	10.2	12.1	13.9
Max	17.00	20.00	23.19	44.00	52.60	55.00	58.80	61.67	64.77	67.87	70.97
Min	0.21	0.21	0.21	0.21	2.00	4.30	7.23	8.43	10.24	12.05	13.87
Max-Min	16.8	19.8	23.0	43.8	50.6	50.7	51.6	53.2	54.5	55.8	57.1
		•	•	•	•	•	•	•	•	•	•

Indicator: 5) Average intraregional proportion of household with access to internet Households with internet access, percent

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam											
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.00	0.00	0.04	0.08	0.03	0.00	0.27	0.20	0.24	0.28	0.32
Malaysia	0.57	0.63	0.68	0.72	0.73	0.74	0.72	0.75	0.76	0.77	0.78
Philippines	0.12	0.12	0.12	0.12	0.18	0.22	0.25	0.28	0.32	0.36	0.39
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.09	0.11	0.14	0.16	0.17	0.21	0.33	0.34	0.38	0.43	0.48
Vietnam	0.16	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Regional average	0.28	0.29	0.30	0.32	0.32	0.33	0.39	0.39	0.41	0.42	0.44
CAREC											
Kazakhstan	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kyrgyzstan	0.13	0.13	0.13	0.08	0.09	0.07	0.09	0.09	0.09	0.10	0.10
Mongolia	0.45	0.38	0.33	0.17	0.24	0.19	0.42	0.39	0.44	0.48	0.52
Pakistan	0.46	0.39	0.34	0.18	0.12	0.08	0.12	0.07	0.06	0.04	0.03
Tajikistan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional average	0.41	0.38	0.36	0.29	0.29	0.27	0.33	0.31	0.32	0.32	0.33

Note: Data for Brunei Darussalam is not available

Indicator: 6) Average intraregional share of female population with financial institution or mobile money account

Account ownership at a financial institution or with a mobile money service provider, female (percent of population aged 15+)

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam											
Cambodia	3.7	3.7	9.3	20.1	20.3	20.5	20.7	21.1	21.5	21.9	22.2
Indonesia	13.1	19.2	25.3	37.5	37.5	37.5	37.5	44.4	51.4	58.3	62.5
Malaysia	58.1	63.1	68.1	78.1	78.1	78.1	78.1	80.3	82.5	84.7	86.0
Philippines	32.3	33.7	35.1	37.4	37.6	37.9	38.1	38.5	38.9	39.3	39.5
Singapore	98.9	98.2	97.5	96.0	96.0	96.1	96.1	96.2	96.3	96.4	96.5
Thailand	71.7	72.6	73.6	75.4	75.4	75.4	75.4	77.6	79.8	82.0	83.3
Vietnam	14.5	18.9	23.3	36.2	34.1	32.0	29.9	29.9	29.9	29.9	29.5
Max	98.93	98.21	97.50	95.98	96.02	96.07	96.12	96.22	96.31	96.41	96.47
Min	3.71	3.71	9.31	20.09	20.29	20.50	20.70	21.11	21.53	21.94	22.20
Max—Min	95.2	94.5	88.2	75.9	75.7	75.6	75.4	75.1	74.8	74.5	74.3
CAREC											
Kazakhstan	39.8	43.7	47.7	53.7	54.6	55.6	56.5	58.4	60.3	62.2	63.4
Kyrgyzstan	1.1	3.9	8.9	11.0	14.9	18.9	22.9	30.9	38.9	46.8	51.9
Mongolia	78.8	82.4	86.0	92.5	92.9	93.2	93.6	94.3	95.0	95.7	96.1
Pakistan	2.3	3.0	3.6	4.0	4.4	4.8	5.3	6.2	7.0	7.9	8.5
Tajikistan	2.0	2.1	4.5	4.5	2.5	9.1	15.7	28.9	42.1	55.3	63.8
Max	78.75	82.36	85.98	92.51	92.86	93.21	93.56	94.25	94.95	95.65	96.10
Min	1.10	2.14	3.58	3.97	2.48	4.84	5.28	6.15	7.03	7.90	8.46
Max—Min	77.7	80.2	82.4	88.5	90.4	88.4	88.3	88.1	87.9	87.8	87.6

Note: Data for Brunei Darussalam is not available

Normalized values

ASEAN	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam											
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.10	0.16	0.18	0.23	0.23	0.22	0.22	0.31	0.40	0.49	0.54
Malaysia	0.57	0.63	0.67	0.76	0.76	0.76	0.76	0.79	0.82	0.84	0.86
Philippines	0.30	0.32	0.29	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Singapore	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thailand	0.71	0.73	0.73	0.73	0.73	0.73	0.73	0.75	0.78	0.81	0.82
Vietnam	0.11	0.16	0.16	0.21	0.18	0.15	0.12	0.12	0.11	0.11	0.10
Regional average	0.40	0.43	0.43	0.45	0.45	0.44	0.44	0.46	0.48	0.50	0.51
CAREC											
Kazakhstan	0.50	0.52	0.54	0.56	0.58	0.57	0.58	0.59	0.61	0.62	0.63
Kyrgyzstan	0.00	0.02	0.06	0.08	0.14	0.16	0.20	0.28	0.36	0.44	0.50
Mongolia	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Pakistan	0.02	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Tajikistan	0.01	0.00	0.01	0.01	0.00	0.05	0.12	0.26	0.40	0.54	0.63
Regional average	0.31	0.31	0.32	0.33	0.35	0.36	0.38	0.43	0.47	0.52	0.55

Note: Data for Brunei Darussalam is not available



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