

**MOUNTING INCENTIVES
FOR
NORTHEAST ASIAN ECONOMIC INTEGRATION**

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Deeper Northeast Asian integration is beneficial, overdue, and urgent. The region's major economies risk being sidelined by big-power politics and a deteriorating global trade environment. Together, they can become stronger and reap significant economic gains. But deeper integration will require bringing policies in line with rigorous norms and exposing sectors to greater competition. It will also depend on overcoming historical divisions. Whether all countries in Northeast Asia are ready for such changes is unclear, but the economic and political incentives continue to intensify.

At this writing, the global economic and trade environment are deteriorating. In a recent report, the World Bank noted that "financing conditions have tightened, industrial production has moderated, and trade tensions remain elevated. The recovery in emerging market and developing economies has stalled, and some countries have experienced significant financial stress. Downside risks have increased, including the possibility of disorderly financial market movements and escalating trade disputes." The outlook for trade and the global rules-based system has been damaged by repeated cycles of tit-for-tat tariff wars between the United States and partners ranging from China to NAFTA and the European Union.

This paper reviews the current structure of Northeast Asian economic relations and examines how cooperation within the region could address challenges emerging in the global environment. The first section reviews Northeast Asia's economic and geopolitical assets. The second examines challenges to integration, from regional political divisions to global economic turmoil. The third reviews data on regional trading and investment relationships and the fourth describes the consequences of integration initiatives. The paper concludes with observations on how progress in Northeast Asia could also advance the stability of the global economy.

1. Northeast Asia in the Global Economy

Northeast Asia includes countries with unusual global significance: China, due to its historical prominence and economic scale; Japan, a highly advanced economy that was the first in Asia to achieve

Western levels of prosperity; South Korea, a remarkable economic success story; and Russia, a vast country with ample resources and outsized military power. The region's smaller economies are less globally central but also distinctive. Mongolia is small, land-locked, resource-rich, and ready to exploit regional ties. North Korea is unusually backward and militarily dangerous due to its nuclear ambitions and proximity to Seoul. Altogether, Northeast Asia is home to 23 percent of the world's population and produces 26 percent of its GDP.¹

At the same time, Northeast Asia's troubled political history has long delayed the region's economic integration. That history includes wars, occupations and near-conflicts among most of the region's countries. These are partly the product of proximity, which often led to invasions, occupation, and conflict. Such histories are unfortunately common, and the Middle East and parts of Africa, among other regions, continue to suffer from their legacy. But as the experience of Europe suggests, dramatic improvements in relations are also possible. For now, enmities in Northeast Asia continue to hinder commercial relationships with potentially large economic benefits.

Due to these historical forces, as well as attractive trading opportunities with the complementary economies of the United States and Europe, in recent years Northeast Asia developed relations with the rest of the world more rapidly than with its neighbors. Japan, Korea, and to some extent China, have built especially strong ties with the United States, reflecting in part the wealth and scale of US markets. So far, these ties dampened incentives for relationships among Asian economies. Russia also has strong extra-regional ties with Europe, due to the western location of its economic center. Due to these interests, much of the region has prioritized extra-regional relationships over regional ones.

Yet global relationships are now especially vulnerable to an unsettled geopolitical environment. The United States and some European countries have turned in nationalist directions, adopting mercantilist trade policies and campaigns to slow or stop immigration. In doing so, they have weakened the rules and enforcement mechanisms of the global trading system. This context offers Northeast Asian economic integration unusual opportunities. As simulations results analyzed below suggest, stronger regional ties could yield significant economic benefits. In addition, they could help to ease long-standing historical tensions and increase the complementarity of the region's economies. They would also enhance the region's political clout and leverage in midst of global uncertainty.

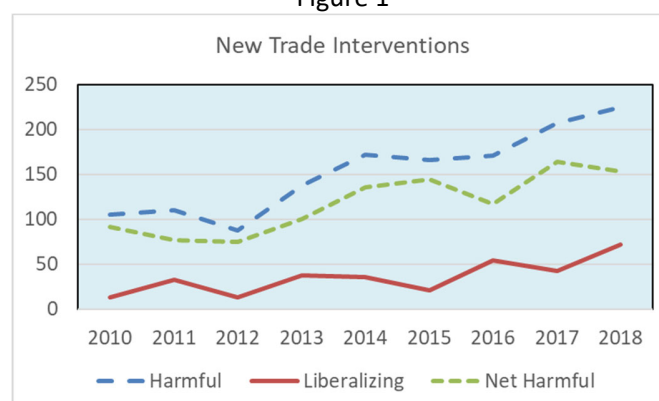
¹ Based on International Monetary Fund and United Nations statistics for 2018.

2. Changing Global Trade Environment

Since Donald Trump became US President in January 2017, the world trading system has changed more radically than at any time since 1948, when the Bretton-Woods institutions were established. The United States, arguably the architect of the multilateral system now administered by the World Trade Organization (WTO), has reversed course on many features of this framework. It has applied high, arbitrary tariffs to numerous products and countries, including its closest allies; it has shackled the WTO by undermining its dispute resolution system; and it has expressed disdain for the WTO and multilateral agreements. The Trump administration appears committed to a unilateral, mercantilist strategy, and shows little interest in the economic logic of a multilateral system. For now, many of its partner economies are simply trying to secure “least bad” outcomes through negotiations or exceptions from protectionist policies. (Exceptions are reasonably common, causing a rush to rent-seeking behavior in the United States.) The prospects for a rules-based trading system and its leadership are increasingly uncertain.

Although the Trump administration has intensified the headwinds facing international trade, it did not initiate the deterioration of the international trade environment. As Figure 1 shows, the number of harmful trade interventions monitored by the Global Trade Alert database doubled from around 100 at the time of Global Financial Crisis to more than 200 in 2018. But even before the financial crisis long-standing global trends that enabled trade to grow roughly twice as fast as GDP apparently stalled; since then, trade has generally grown more slowly than GDP, except for the United States in recent years under highly expansionary macroeconomic policies. The new trends are not fully understood but appear to be structurally based—perhaps explained by the maturation of internationally fragmented supply chains—rather than solely the result of protectionist policies (Constantinescu, Mattoo, Ruta, 2015).

Figure 1



Nevertheless, nationalist policies in the United States and elsewhere have intensified pressure on trade. The first result of the Trump trade regime is that investments in trade-related activities have become riskier. If the United States can suddenly abandon agreements and rules it had long supported, what partner can be trusted? These effects will be felt even after the Trump administration leaves power. Companies will want to bring supply chains closer to home to protect them from country risk. They will also find it safer to diversify trade across numerous partners, even if that is costly. And they will apply higher risk premia to investments in all trade-related activities, reducing the share of trade in economic activity.

A second result is that transactions between countries will depend increasingly on bilateral bargaining power. Given a weakened international regime that could protect countries from arbitrary bilateral leverage, economies that are small or have some asymmetric bilateral relationship with others will be forced to give away gains from trade. A kind of global bazaar will replace the rules-based market place, making international agreements transactional and ultimately far less efficient.

A third result is the rise of rent-seeking. Businesses will adjust to new rules by seeking to influence the government—in order to get tax breaks, lower tariffs on imported inputs, and more protection for outputs. This will make political and administrative systems more corrupt, further undermining the transparency of trade and the efficiency of trade flows.

At the same time, the retreat from a rules-based global system has begun to encourage stronger regional relationships in Northeast Asia. China, Japan and Korea, which have been in the forefront of penetrating US markets and investing in the United States, have all found themselves to be a target in American attacks due to bilateral trade surpluses with the United States, and perhaps anti-Asian sentiments. In the short run, given their existing economic structures and political challenges, these countries cannot easily reorient themselves toward new regional partners, and so must seek accommodation with the United States. But their long-term interests argue for an economic strategy that reduces that dependence.

A more independent, regionally-oriented trade strategy has two further implications. Regional partnerships can hedge exposure to the United States and other external markets, all of which must now be considered politically risky. In addition, given US policy threats, a regional grouping can mount stronger countermeasures together than its members could individually. Thus, coalitions for a rules-based trading system could become an important objective of regional collaborations. This motive

underlies the adoption and likely expansion of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), and the acceleration of the Regional Comprehensive Economic Partnership negotiations.

3. Northeast Asia in World Trade and Investment

To understand the logic of Northeast Asian economic integration, it is useful to examine the major characteristics of the region's trade patterns. First, Northeast Asian trade is large. Overall, the region's exports in 2016 were USD3.5 trillion, representing nearly one-quarter (24 percent) of world trade of USD14.8 trillion (see Table 1). About 60 percent of these regional exports came from China, almost 1/3 from Japan and Korea together, and the rest from the region's three smaller economies.

Second, the Northeast Asia economy is interdependent, but not unusually so. The region's share of its own markets (18.0 percent) is somewhat greater than the share of all countries taken together (13.8 percent), as shown in Table 1. By this measure of interdependence, the region does not come close to Europe, North America, or even East Asia in its intensity of regional integration. The share of regionally-destined exports is relatively low for China (12.6 percent), very high for Mongolia (80.8 percent), and has intermediate values for Japan and Korea (25.7 and 31.0 percent, respectively). Imports (Table 2) are somewhat less significant globally, since the largest economies, China and Japan, have significant trade surpluses. The geographical distribution of Northeast imports is also less geographically skewed, with the shares of imports coming from world regions in similar patterns as observed for other importers.

Third, the region's trade reflects supply-chain patterns: China is the region's most important link to third markets outside the region, exporting finished goods and near-final-stage components especially to East Asia and North America, while Mongolia, Korea and Japan are regional suppliers with relatively high shares in Chinese markets. (The sixth country in the region, Korea DPR, does not report trade and cannot be included in several tables.) The supply chains that operate within Northeast Asia depend, to a significant extent, on China's access to global markets. Further information on the comparative advantages represented within this supply chain are provided in tables on the product composition of regional exports below.

These patterns emerged, in large part, in the last two decades. As Table 3 shows, what changed is not so much a region's interdependence, but the supply chain structure that lies underneath it. While Northeast Asia's share of world exports has increased from 9.7 to 13.8 percent between 2000 and 2016, its share of its own trade has grown much less rapidly, from 16.5 to 18.0 percent. In other words, the

region's interdependence remained constant while the region grew, becoming more important to other countries.

Below these aggregates, interesting structural changes are evident. Northeast Asia's share of Chinese exports declined from 22.4 to 12.6 percent, while its share of Japanese exports changed by the same amount in the *opposite* direction, growing from 12.9 to 25.7 percent. In effect, China became Northeast Asia's primary external link, while other economies became exporters to China.

Stability in interdependence, accompanied by significant internal changes in the roles of regional economies, is also evident in regional import data (Table 4). Northeast Asia's dependence on its own products increased very little from 2000 to 2016, from 25.3 to 26.2 percent. However, China's dependence on regional products *declined* sharply (from 32.5 to 21.6 percent), while Japan's *increased* similarly (from 21.2 to 31.8 percent). China's rapid growth has forced its economy to look beyond the region for export markets and import sources, and so China has become more important to the region's other economies as both an export destination and source of imports.

Data on the product composition of trade offer insights into the structure of interdependence. Table 5 provides detail on exports by SITC product classification, while Table 6 calculates indexes of Revealed Comparative Advantage. These are defined as country's share in a particular global product market, divided by the country's overall share in world exports. An "average" product, which has the same world market share as the country does, has an RCA index of 1.0. High index values point to sectors in which the country is especially successful, and low ones to uncompetitive sectors. Table 6 shows the highest 10% of index values in bold red numbers, and the lowest 10% in bold green numbers.

China's largest RCA values fall into two broad areas: technically sophisticated products such as telecommunications equipment and office and data processing machines, and labor-intensive consumer products, including textiles, apparel, travel goods and furniture. These are the final product exports that link China—and through it the Northeast Asia region—to consumer markets across the world including of course in the United States.

Japan's sectors with high comparative advantage are in specialized machinery for various industries and photographic equipment, and other machinery subsectors. Korea's strengths are also in machinery, but its strong sectors also include Iron and steel and to some extent IT—in Korea's case, however, Korean these represent technologically sophisticated inputs into the products that China eventually transforms into Chinese exports.

Mongolia's RCA results suggest an economy still in the early stages of industrialization. Its highest RCAs are in animal products, including textile fibers, and metal ores, crude fertilizer and coal. Its lowest areas of comparative advantage (with near zero RCA values) can be found in most machinery sectors. Russia also relies on primary exports—it has high RCA values for raw materials such as petroleum products and manufactured fertilizers—but also has advantages in the next stage of processing these products, including iron and steel and non-ferrous metals manufacturing.

The data suggest a reasonably integrated regional production system with varied stages of development helping to justify multinational supply chains. China acts as the region's extra-regional export platform, focused on both technologically sophisticated products as well as labor-intensive manufactures. Meanwhile, Japan has advantage in specialized industrial machinery, in part targeting high tech manufacturing industries, and automobiles. Korea provides components in electronics and communications, as well as iron and steel and automobiles. Finally, Mongolia and Russia provide raw materials, focused particularly on energy and metals.

4. Current Integration Initiatives

Several multilateral initiatives are underway to promote integration in the Northeast Asian region. However, these initiatives do not correspond exactly to the definition of the Northeast Asian region used in this paper. Some involve a subset of Northeast Asian countries, while others exclude significant parts of Northeast Asia. These initiatives also vary in momentum; some have already resulted in agreements, while others are “placeholder” processes that could gain speed in the future, assuming joint interests evolve into active collaboration due changes in external conditions or political leadership. These efforts testify, at a minimum, to deepening awareness of the value of Northeast Asian economic relationships and offer benchmark estimates of their economic effects.

China, Japan, Korea Trilateral Process

The drive for deeper Northeast Asian integration must begin with joint interest by the region's three most powerful countries: China, Japan and South Korea. China is both Japan's and Korea's largest trade partner. Although China's main export partners are the United States and Europe, Japan and Korea also play prominent roles in its trade. Despite significant political differences, these countries have inched closer to recognizing their mutual economic importance. While their leaders had been meeting regularly in the margins of ASEAN plus Three summits, they initiated an ad-hoc trilateral meeting as the global financial crisis deepened in 2008. After several subsequent summits a formal trilateral secretariat was

organized in 2011. In 2012 the leaders signed a Trilateral Agreement focused on investment, with the expectation that it would be followed by a China-Japan-Korea (CJK) trade agreement. But later in 2012 political relations between China and Japan deteriorated and summits were suspended for several years.

Summits were held again in 2015 and 2018 and recent initiatives by the Chinese and Japanese governments, including visits by Chinese Premier Li Keqiang to Japan and Japanese Prime Minister Shinzo Abe to China in 2018 eased tensions between the two countries. Meanwhile, the US-China trade war has drawn in Japan as the US attempts to discourage the development of China's advanced sectors and technology companies such as Huawei. Thus, the while relations among the largest Northeast Asian countries appear to be improving, the outlook for deeper relationships remains uncertain. A visit by Chinese President Xi is expected for 2019 and, perhaps in anticipation, Premier Li Keqiang has recently reiterated interest in concluding a CJK trade agreement.²

As the simulations reported below will show, the liberalization of trade among China, Japan and Korea would account for a large part of the benefits associated with the RCEP agreement and with CPTPP enlargements that include all three of these countries. Among them, only China and Korea have an existing trade agreement, and that is relatively limited in scope. Although the long-term economic benefits of a CJK agreement are powerful, the extensive integration of these large economies would involve structural changes that would require considerable political will.

CPTPP and RCEP Initiatives

In contrast to the early stages of CJK discussions, the CPTPP and RCEP trade agreements have been either concluded or are already under serious negotiation. These initiatives began in a more positive international trade environment than exists today. Negotiations of the Trans-Pacific Partnership, which foresaw an eventual agreement spanning most of Northeast Asia (the Free Trade Agreement of the Asia Pacific, or FTAAP), began in 2009 and was concluded in 2016. All this ended when the United States withdrew from the TPP shortly after President Trump took office. But other member countries nevertheless met to express continued interest in the agreement within weeks after the US withdrawal. A series of high-level meetings followed and at the November 2017 APEC meetings in Vietnam the 11 remaining members agreed to the 'core elements' of a new agreement based on the TPP text. The now-renamed Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) was signed in

² "Premier Li urges China-Japan-South Korea FTA talks," CGTN, 15 March 2019.

March 2018 in Santiago, Chile. With six signatories having ratified the agreement, it went into effect on December 30, 2018.³

The CPTPP agreement only includes Japan among the Northeast Asian countries, but it is likely to add Korea in a future expansion. It is open to accepting additional members, and from time to time Chinese membership has been discussed. The CPTPP agreement is seen by APEC as a potential pathway to the FTAAP, which would also include Russia. However, there have been no discussions so far of including Mongolia or North Korea.

The CPTPP sets high standards, including nearly complete elimination of tariffs and substantially more rigorous provisions on trade rules than are included in WTO agreements. Some provisions of the original TPP were suspended in the CPTPP, including measures advocated primarily by the United States such as market access for express carriers, extension of copyrights, extension of patents in case of delays and eight-year data-exclusivity protection for biosimilar drugs.⁴ The omission of these requirements may improve incentives for some countries to join. However, the standards of the CPTPP remain generally high, making it an unlikely template for general Northeast Asian integration in the short run.

The RCEP agreement is the culmination of three decades of Asia-centered integration efforts, although it entered formal negotiations only in 2012. RCEP includes three of Northeast Asia's major economies: China, Japan and Korea. Although launched by the ASEAN process,⁵ China has played an important role in the negotiations (Petri and Plummer 2014). RCEP's Principles envision "a modern, comprehensive, high-quality and mutually beneficial economic partnership agreement ... [to] cover trade in goods, trade in services, investment, economic and technical cooperation, intellectual property, competition, dispute settlement" (ASEAN 2012). But the Principles also stress flexibility, so RCEP will include special and differential treatment for developing country members and is likely to avoid areas such as labor and environmental standards.

The pace of RCEP negotiations, however, has been very slow. Even after trade ministers pledged to endorse a "substantial conclusion" of RCEP on months before the end of 2018, the best their final meeting could do is announce "substantial progress." Impediments to a conclusion include tariff

³ As of the end of 2018, seven countries had ratified the CPTPP agreement: Mexico, Japan, Singapore, New Zealand, Canada, Australia, Vietnam.

⁴ Jun Yamazaki, "'TPP 11' to freeze drug data protection demanded by US," *Nikkei Asian Review*, August 31, 2017.

⁵ ASEAN stands for Association of Southeast Asian Nations. "ASEAN centrality" is enshrined in the process and members of RCEP must have a free trade area in place with ASEAN.

concessions by India, which offered to eliminate only 80 per cent of tariffs on traded goods compared with 92 per cent by other economies. India, in turn, is asking for significant liberalization of the temporary movement of professional workers.⁶

Despite these frustrations, most regional policy makers continue to argue for the conclusion of RCEP, potentially the largest and most sophisticated agreement ever negotiated by developing economies. It would offer a platform for integrating an unusually diverse region—a laboratory for bridging differences among economies with vastly different comparative advantages and economic systems.

Modeling the Effects of Trade Agreements

This section provides estimates of the effects of removing trade and investment barriers under different trade policy scenarios. The analysis is based on studies previously conducted by a team of researchers including the author, focusing initially on the TPP agreement, but subsequently on configurations that reflect the 11-member CPTPP agreement and its expansion to 16 and 17 members. The studies also examined the implication of RCEP, in the 16-member format currently under negotiation.

Four scenarios are compared below:

- CPTPP. This 11-country agreement, already in effect, includes the members of the original TPP except for the United States. Its provisions are essentially those negotiated in the TPP, except for those explicitly suspended. Because the agreement represents a smaller share of the world economy than the TPP did, its implementation is also assumed to be narrower, providing more limited spillover benefits to trade partners that are not CPTPP members.
- CPTPP16. This agreement envisions the expansion of the 11-member CPTPP with the addition of Korea, Indonesia, Philippines, Taiwan and Thailand. The provisions are as for the CPTPP scenario, including spillover benefits to non-CPTPP16 members. All five additional economies have expressed interest in the joining the CPTPP.

⁶ Asit Ranhan Mishra, “RCEP meeting in September likely to discuss India’s proposal on services pact,” Live Mint, August 18, 2017, www.livemint.com/Politics/8X13ma2MORx1LgImfDrc6N/RCEP-meeting-in-September-likely-to-discuss-Indias-proposal.html.

- CPTPP17. This agreement explores the addition of China to the 16-member TPP. The provisions are as for the CPTPP scenario.
- RCEP. This simulation assumes liberalization provisions based on the reports of the negotiations completed so far. These include weaker tariff reductions than were included in ASEAN-plus-one agreements, a limited positive list approach in services, investment provisions with significant carve-outs, and modest improvements in intellectual property rules.⁷

This estimates are derived using the computable general equilibrium (CGE) model used by Petri and Plummer (2016) and Petri, Plummer and Zhai (2012) to estimate the economic impacts of the TPP and other trade agreement scenarios.⁸ The model has an extensive publication history and documentation of its components is available on the website www.asiapacifictrade.org.

The model comprises 24 regions and within each of these 18 economic sectors. It computes prices and production levels for each sector in each economy and region, as well as a full matrix of bilateral trade flows by sector. In addition, it calculates aggregate results for production (GDP), real income, wages and profits, total exports and imports, and other familiar economic indicators.

The parameters of the model include taxes, transport costs and trade barriers that affect the flows of goods and services. Simulations are carried out by first computing a solution for a baseline configuration of trade barriers, including current barriers and future barriers already agreed. Alternative solutions are then computed for trade barriers consistent with new agreements. Finally, economic impacts are calculated as the difference between these solutions.

CGE models have become increasingly sophisticated over time but are nevertheless criticized for underestimating economic changes from large agreements (Kehoe, 2005), missing important effects such as increases in productivity, and overstating policy effects by assuming complete, rather than partial liberalization (Productivity Commission, 2010). Several innovations in the model address these concerns. A new trade model is used incorporating productivity differences among firms; trade

⁷ These assumptions are based on previously cited sources as well as conversations with individuals familiar with the policy process. For a compendium of ongoing reports on the RCEP negotiations, see <https://aric.adb.org/fta/regional-comprehensive-economic-partnership>.

⁸ The underlying data and results of this model, including its prior applications, are on the website: www.asiapacifictrade.org.

agreements are assumed to eliminate only a part of pre-agreement barriers; and the effects of policies are calculated only as incremental changes beyond those committed in previous agreements.

Simulation Results

The simulations reported here explore agreements involving different subsets of Northeast Asian countries. They are compared primarily using real income measures, that is, the additional income that would have to be given to the consumers of a country to compensate them for giving up a trade agreement in Table 7 (“equivalent variation”). These measures are very similar to real output (GDP), but the two diverge when output prices and consumer prices evolve differently. Each simulation tracks the path of variables over time, from 2015 to 2030. Income changes are reported as *sustained additions* to income once a policy scenario is fully implemented in 2030. In other words, a 1 percent increase in 2030 incomes represents a similar, permanent addition to incomes in subsequent years. Data are reported in constant 2015 US dollars.

The first column of results in Table 7 examines the CPTPP agreement with 11 countries. Overall, this scenario generates global income gains of USD147 billion, or 0.1 percent of world income in 2030 (and a similar percentage thereafter). Japan is the only Northeast Asian country in the CPTPP and its income would rise by USD46 billion. China and Korea are excluded, and so would suffer trade diversion losses of USD10 billion and USD3 billion, respectively. These reflect losses in competitiveness relative to Japan, which gains preferential access to other CPTPP markets. Russia, although excluded, would be unaffected; its trade diversion losses would be offset by additional demand for its raw-material exports to CPTPP members. Mongolia and North Korea are not tracked by the model but are members of the “rest of the world” group, as a whole, is largely unaffected.

The second column of Table 7 addresses the expansion of the CPTPP with five economies, all of which have expressed interest in joining. Indeed, some preliminary discussions have been already held. This group would have two Northeast Asian members, Japan and Korea. Global gains would be USD449 billion, with large gains for Japan (USD98 billion) and Korea (USD84 billion), which together represent a significant portion of the increased global impact of the agreement. Note that Japan and Korea have no current bilateral trade agreement, so the rigorous provisions of the CPTPP16 would substantially enhance their bilateral relationship. The CPTPP16 offer gains in the same range as the original TPP agreement which included the United States.

The third column of Table 7 adds China to the CPTPP membership, yielding a CPTPP17. This agreement would include all three of Northeast Asia's major economies and the relationships among them result in a major part of total benefits. World income gains are now calculated as USD1,225 billion, nearly three times as high as in CPTPP16. The global incremental gain beyond the CPTPP16 is USD776 billion, and more than 2/3 of this difference (USD530) is accounted for by higher real incomes in the three Northeast Asian countries. Chinese gains would be particularly large: USD378, about half of the global incremental increase from the CPTPP16. The agreement would give China preferential access to large international markets.

China has indicated interest in the TPP when it was in negotiation, but the actual CPTPP agreement would conflict with current Chinese policies in many areas. For example, CPTPP provisions call for market neutrality of state-owned enterprises, access to government procurement, demanding intellectual property enforcement, liberal access for investors, and other prescriptions that differ substantially from current Chinese policy. These areas have also emerged as key topics in the bilateral negotiations between China and the United States and those agreements may eventually bring Chinese policies closer to CPTPP norms. Indeed, it can be argued that the current bilateral negotiations between China and the United States build on CPTPP rules, making the multilateralization of the bilateral commitments more likely and much more beneficial in the future (Petri and Plummer, 2019).

While the CPTPP17 is attractive from the viewpoint of global economic growth, it is not likely to be realized in the near term. Indeed, several members of the CPTPP have granted forms of access that they may not be willing to grant in an agreement that also includes China. The CPTPP17 illustrates, however, the huge potential for Northeast Asian integration built around the interactions of China, Japan and Korea.

The fourth column of Table 7 is RCEP. This agreement would be more productive than the CPTPP, but less beneficial than its two expanded variants. RCEP, like CPTPP17, includes China, Japan and Korea. RCEP is likely to have less rigorous rules than the CPTPP (based on projections, since the negotiations have not yet been concluded), so its global benefit will be USD286 billion, less than a quarter of the CPTPP17. Since all RCEP countries already have bilateral trade deals, incremental gains would depend on achieving substantially new liberalization. However, since India is part of RCEP and holds very conservative views on liberalization, incremental liberalization in RCEP is likely to be limited. The three

Northeast Asian countries in RCEP would gain USD182 billion compared to USD659 billion under CPTPP17 (these values are not directly shown in the Table 7).

Trade policy affects income primarily by changing trade and investment. Thus, there is reason to expect correlation between income effects and the export and import effects under the policy options. The trade results are reported in Table 8. (Only exports are shown; because the balance of trade is fixed under the model's long-term assumptions, export and import increases are the same.)

Export effects are similar in direction to income effects but are about twice as large in absolute terms. Since about two-thirds of income effects are caused by the liberalization of trade, the rough size of global income effects (USD1,225 billion) that is attributable to trade is USD817 billion ($=2/3 \times 1,225$). These world income effects are caused by a USD3,112 increase in trade (see Table 8). In effect, each dollar of additional world trade leads to about 26 cents of additional world income. This ratio summarizes complex interactions within the model, including productivity gains that result from the expansion of productive firms within sectors, and the shift of labor and other resources from less efficient importing sectors to more efficient exporting ones.

In conclusion, each of these integration scenarios turns out to be quite beneficial for its members, and those that include all three major Northeast Asian economies turn out to be especially productive. In general, excluded economies lose if their economic structure is competitive with those of members. For example, the United States would see its income and trade experience losses under all three CPTPP scenarios, with export losses of USD10 billion, 22 billion and 48 billion, respectively.

However, losses do not necessarily result from regional liberalization. So, for example, the United States would gain under RCEP, since it supplies products to countries whose economies expand due to that agreement. In addition, the United States would pay less for products that will be more productively made due to RCEP, albeit the gains would amount only to USD1 billion. Northeast Asian countries excluded from smaller CPTPP variants would experience similar losses. For example, China would lose in the CPTPP and CPTPP16 scenarios, but would gain substantially from CPTPP17 and RCEP. As in these examples, losses in third countries are generally small. In all agreements examined, global effects are positive, and the gains recorded by participants reflect mainly gains due to trade creation, and not by trade diversion from third parties.

5. Conclusions

Northeast Asia contains three of the world's largest trading nations, China, Japan and Korea. These countries are closely connected with each other and also spread the benefits of international linkages to smaller regional economies through supply-chains and resources for direct investments. Nevertheless, Northeast Asia is not as closely integrated as other major trading zones. The most likely explanation lies in historical divisions that continue to plague regional politics.

Meanwhile, the global trade environment has been thrown into chaos as the United States has abandoned the multilateral trading system it has long championed. Although some US concerns about faults in the system are justified, America's unilateral solutions pose an unprecedented threat to the future of efficient trade among major economies. This context, in turn, provides strong incentives for deeper integration in Northeast Asia, potentially overcoming the political divisions that have long stood in its way.

From an economic viewpoint, the benefits of Northeast Asian regional integration are high. In two policy scenarios that would unite the region's three leading economies—RCEP and an expanded version of the CPTPP agreement—these benefits could range from USD182 billion to USD695 billion for the three economies, and additional significant gains for countries that join them in their trade zone. Achieving these benefits, to be sure, would require the region to commit itself to broad, collaborative efforts to overcome political and economic challenges.

The path to Northeast Asian integration requires agreement among China, Japan and Korea. These countries are continuing to approach each other cautiously—they achieved a trilateral investment treaty in 2012 but have not made steady progress since. It's unclear whether formal cooperation will be easier to finalize in free-standing negotiations or in a regional context such as the CPTPP or RCEP, but mutual efforts to overcome their differences are critical.

Greater economic integration in Northeast Asia could have wide-ranging ramifications not just for the region but also for multilateral institutions and the global trading system. If Asian cooperation provides a way forward, it is bound to gain support from other world regions, and potentially even from the United States under new leadership. The stakes are as high as the potential benefits.

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TABLE 1. EXPORTS, 2016

TO:	FROM:	World	Northeast Asia	China	Japan	Korea, Rep.	Mongolia	Russia
USD Billions								
	Northeast Asia	2,038.1	635.7	264.1	165.4	153.8	4.0	48.4
	China	1,032.6	270.2	0.0	113.8	124.4	3.9	28.0
	Japan	478.8	163.0	129.3	0.0	24.4	0.0	9.4
	Korea DPR	3.1	2.9	2.8	0.0	0.0	0.0	0.1
	Korea Rep	348.6	150.0	93.7	46.2	0.0	0.0	10.0
	Mongolia	3.1	2.4	1.0	0.3	0.2	0.0	0.9
	Russia	171.9	47.3	37.3	5.1	4.8	0.0	0.0
	East Asia (other)	1,861.7	875.4	595.0	148.3	124.7	0.0	7.3
	North America	2,301.9	635.2	413.2	139.0	73.1	0.0	9.8
	Europe	4,893.8	589.8	338.3	73.7	46.8	0.9	130.0
	Others	3,659.9	792.2	486.9	118.4	97.0	0.0	89.9
	World	14,755.5	3,528.4	2,097.6	644.9	495.4	4.9	285.5
Percent of total								
	Northeast Asia	13.8	18.0	12.6	25.7	31.0	80.8	17.0
	China	7.0	7.7	0.0	17.6	25.1	79.3	9.8
	Japan	3.2	4.6	6.2	0.0	4.9	0.3	3.3
	Korea DPR	0.0	0.1	0.1	0.0	0.0	0.0	0.0
	Korea Rep	2.4	4.3	4.5	7.2	0.0	0.2	3.5
	Mongolia	0.0	0.1	0.0	0.0	0.0	0.0	0.3
	Russia	1.2	1.3	1.8	0.8	1.0	1.0	0.0
	East Asia (other)	12.6	24.8	28.4	23.0	25.2	0.7	2.6
	North America	15.6	18.0	19.7	21.6	14.8	0.3	3.4
	Europe	33.2	16.7	16.1	11.4	9.5	17.7	45.5
	Others	24.8	22.5	23.2	18.4	19.6	0.4	31.5
	World	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: WITS Comtrade, extracted August 21, 2018.

TABLE 2. IMPORTS, 2016

FROM:	TO:	World	Northeast Asia	China	Japan	Korea, Rep.	Mongolia	Russia
<i>USD Billions</i>								
Northeast Asia		3,757.4	731.4	343.1	192.9	143.1	2.4	49.9
China		2,234.2	282.7	0.0	156.6	87.0	1.0	38.1
Japan		722.9	200.1	145.7	0.0	47.5	0.3	6.7
Korea DPR		2.9	2.5	2.5	0.0	0.0	0.0	0.0
Korea Rep		520.3	189.3	159.0	25.0	0.0	0.2	5.1
Mongolia		4.7	3.7	3.6	0.0	0.0	0.0	0.0
Russia		272.4	53.0	32.3	11.3	8.6	0.9	0.0
East Asia (other)		1,549.7	498.8	297.4	129.6	62.8	0.2	8.8
North America		1,753.6	291.1	153.5	78.4	47.3	0.2	11.8
Europe		4,889.1	404.8	208.0	75.0	51.9	0.4	69.5
Others		3,683.6	860.5	586.0	131.0	101.1	0.2	42.2
World		15,633.5	2,786.6	1,587.9	606.9	406.2	3.3	182.3
<i>Percent of total</i>								
Northeast Asia		24.0	26.2	21.6	31.8	35.2	72.8	27.4
China		14.3	10.1	0.0	25.8	21.4	31.1	20.9
Japan		4.6	7.2	9.2	0.0	11.7	9.9	3.7
Korea DPR		0.0	0.1	0.2	0.0	0.0	0.0	0.0
Korea Rep		3.3	6.8	10.0	4.1	0.0	5.9	2.8
Mongolia		0.0	0.1	0.2	0.0	0.0	0.0	0.0
Russia		1.7	1.9	2.0	1.9	2.1	25.9	0.0
East Asia (other)		9.9	17.9	18.7	21.4	15.5	5.6	4.8
North America		11.2	10.4	9.7	12.9	11.7	4.8	6.5
Europe		31.3	14.5	13.1	12.4	12.8	11.2	38.1
Others		23.6	30.9	36.9	21.6	24.9	5.7	23.2
World		100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: WITS Comtrade, extracted August 21, 2018.

TABLE 3. Northeast Asia's Share of Partners' Exports, 2000-2016

PARTNER	2000	2005	2010	2015	2016
World	9.7	11.9	14.2	13.8	13.8
Northeast Asia	16.5	19.8	19.9	17.6	18.0
China	22.4	17.5	14.1	12.1	12.6
Japan	12.9	22.1	28.6	25.4	25.7
Korea DPR					
Korea Rep	23.1	31.6	32.8	31.8	31.0
Mongolia	60.3	57.4		88.0	80.8
Russia	7.6	7.2	11.0	16.6	17.0

Source: WITS Comtrade, extracted August 21, 2018.

TABLE 4. Northeast Asia's Share of Partners' Imports, 2000-2016

PARTNER	2000	2005	2010	2015	2016
World	18.5	21.1	23.4	24.3	24.0
Northeast Asia	25.3	29.9	28.3	27.2	26.2
China	32.5	32.1	26.7	23.2	21.6
Japan	21.2	27.0	28.5	32.5	31.8
Korea DPR					
Korea Rep	29.1	34.8	34.3	33.8	35.2
Mongolia	72.4	72.1		76.8	72.8
Russia	5.7	17.3	24.7	25.6	27.4

Source: WITS Comtrade, extracted August 21, 2018.

		NEA	China	Japan	Korea, Rep.	Mongolia	Russia
00	Live animals except fish	1,394	1,303	43	3	5	39
01	Meat & preparations	6,861	5,953	312	180	48	368
02	Dairy products & eggs	1,171	543	106	225	0	297
03	Fish/shellfish/etc.	58,363	41,730	4,297	4,057	0	8,278
04	Cereals/cereal preparations	12,491	3,017	1,098	1,000	2	7,373
05	Vegetables and fruit	51,185	48,179	607	1,360	101	938
06	Sugar/sugar prep/honey	5,944	4,359	251	1,004	4	326
07	Coffee/tea/cocoa/spices	9,123	7,039	529	568	2	986
08	Animal feed except unmilled cereals	8,299	6,176	197	394	8	1,525
09	Miscellaneous food products	13,552	7,260	2,237	3,278	4	773
11	Beverages	7,911	4,361	1,189	1,794	4	563
12	Tobacco/manufactures	5,404	2,572	311	1,717	6	798
21	Hide/skin/fur, raw	387	60	185	12	26	104
22	Oil seeds/oil fruits	2,772	1,750	19	5	49	948
23	Crude/synthetic/rec rubber	12,634	999	4,803	4,472	0	2,361
24	Cork and wood	13,868	1,775	315	71	0	11,706
25	Pulp and waste paper	5,929	228	2,600	232	0	2,868
26	Textile fibres	10,719	5,169	2,107	2,627	752	64
27	Crude fertilizer/mineral	8,591	5,339	1,008	499	138	1,607
28	Metal ores/metal scrap	24,525	577	9,179	1,805	6,310	6,655
29	Crude animal/vegetable material n.e.s.	11,979	9,793	693	1,237	39	217
32	Coal/coke/briquettes	27,083	4,334	252	1	2,897	19,600
33	Petroleum and products	371,823	41,509	20,384	57,187	1,012	251,731
34	Gas natural/manufactured	14,490	3,121	288	876	0	10,205
35	Electric current	4,199	2,913	0	0	1	1,285
41	Animal oil/fat	412	318	72	18	1	4
42	Fixed veg oils/fats	3,290	570	135	80	1	2,503
43	Animal/veg oils processed	667	406	142	57	0	62
51	Organic chemicals	148,417	63,281	37,172	43,504	0	4,460
52	Inorganic chemicals	43,690	24,221	7,691	8,248	0	3,531
53	Dyeing/tanning/color mat	25,198	10,141	9,391	5,353	0	313
54	Pharmaceutical products	38,772	24,040	9,370	4,611	0	751
55	Perfume/cosmetic/ cleaning etc. preparations	33,420	12,135	8,816	11,454	1	1,013
56	Manufactured fertilizers	21,073	9,860	204	543	0	10,465
57	Plastics in primary form	87,271	21,363	25,009	38,906	5	1,988
58	Plastics non-primary form	57,939	21,608	22,441	13,291	0	600
59	Chemical material/products n.e.s.	62,528	29,262	24,477	7,931	3	856
61	Leather manufactures	5,636	3,471	232	1,616	42	274
62	Rubber manufactures n.e.s.	53,324	28,889	13,857	8,667	16	1,895
63	Cork/wood manufactures	27,444	24,184	223	142	1	2,894
64	Paper/paperboard/article	49,922	32,693	8,891	5,573	0	2,766
65	Textile yarn/fabric/art.	212,529	177,573	14,409	19,963	21	563
66	Non-metal mineral manuf.	108,934	77,385	16,210	5,972	1	9,366
67	Iron and steel	212,215	96,767	53,147	41,999	2	20,300
68	Non-ferrous metals	108,452	39,128	23,773	19,674	194	25,683

69	Metal manufactures n.e.s.	194,198	142,681	22,067	26,379	27	3,043
71	Power generating equipment	143,133	64,675	53,705	17,550	40	7,163
72	Industry special machine	192,854	61,450	93,162	37,056	103	1,083
73	Metalworking machinery	41,275	11,528	22,524	7,080	2	141
74	Industrial equipment n.e.s.	296,418	177,914	76,755	39,442	11	2,296
75	Office/data processing machines	397,068	344,738	27,940	23,934	0	456
76	Telecommunications etc. equipment	653,483	543,108	30,756	77,706	2	1,911
77	Electrical equipment	911,256	512,555	174,509	220,917	3	3,271
78	Road vehicles	488,853	110,883	260,703	113,593	94	3,580
79	Railway/tramway equipment	144,089	51,830	31,161	59,080	70	1,948
81	Building fixtures etc.	68,149	65,458	293	2,125	3	269
82	Furniture/furnishings	112,247	107,483	1,896	2,506	0	362
83	Travel goods/handbag/etc.	47,524	46,758	126	595	2	43
84	Apparel/clothing/access	308,794	302,323	1,265	4,760	87	358
85	Footwear	86,531	85,059	133	1,137	3	199
87	Scientific/etc. instrument	216,877	101,278	56,915	56,489	1	2,194
88	Photographic equipment/clocks	70,758	32,168	27,010	11,447	0	132
89	Miscellaneous manufactures n.e.s.	297,605	254,663	25,179	15,979	16	1,768
93	UN Special Code	163,422	7,733	80,425	125	0	75,139
96	UN Special Code	8	1	0	1	0	6
97	Coin non gold non current	24,219	2,512	16,287	2,552	1,517	1,351
	Total	6,850,586	3,934,155	1,331,483	1,042,659	13,676	528,614

Source: WITS Comtrade, extracted August 20, 2018

TABLE 6. REVEALED COMPARATIVE ADVANTAGE, 2016 (1 = COUNTRY AVERAGE)

		NEA	China	Japan	Korea, Rep	Mongolia	Russia
00	Live animals except fish	0.2	0.3	0.0	0.0	0.3	0.1
01	Meat & preparations	0.1	0.2	0.0	0.0	0.4	0.1
02	Dairy products & eggs	0.0	0.0	0.0	0.0	0.0	0.1
03	Fish/shellfish/etc.	0.9	1.1	0.3	0.4	0.0	1.6
04	Cereals/cereal preparation	0.2	0.1	0.1	0.1	0.0	1.5
05	Vegetables and fruit	0.5	0.8	0.0	0.1	0.5	0.1
06	Sugar/sugar prep/honey	0.3	0.4	0.1	0.3	0.1	0.2
07	Coffee/tea/cocoa/spices	0.2	0.3	0.1	0.1	0.0	0.3
08	Animal feed except unmilled cereals	0.3	0.3	0.0	0.1	0.1	0.6
09	Miscellaneous food products	0.4	0.4	0.3	0.6	0.1	0.3
11	Beverages	0.2	0.2	0.1	0.3	0.0	0.2
12	Tobacco/manufactures	0.3	0.3	0.1	0.7	0.2	0.6
21	Hide/skin/fur, raw	0.1	0.0	0.2	0.0	2.7	0.3
22	Oil seeds/oil fruits	0.1	0.1	0.0	0.0	0.6	0.3
23	Crude/synthetic/rec rubber	0.8	0.1	1.5	1.8	0.0	1.9
24	Cork and wood	0.4	0.1	0.1	0.0	0.0	4.8
25	Pulp and waste paper	0.3	0.0	0.6	0.1	0.0	1.6
26	Textile fibres	0.7	0.6	0.7	1.2	25.2	0.1
27	Crude fertilizer/mineral	0.6	0.7	0.4	0.2	5.1	1.5
28	Metal ores/metal scrap	0.2	0.0	0.4	0.1	24.6	0.7
29	Crude animal/veg mater n.e.s.	0.6	0.8	0.2	0.4	0.9	0.1
32	Coal/coke/briquettes	0.7	0.2	0.0	0.0	35.0	6.1
33	Petroleum and products	0.9	0.2	0.2	0.9	1.2	7.5

34	Gas natural/manufactured	0.2	0.1	0.0	0.1	0.0	1.7
35	Electric current	0.4	0.5	0.0	0.0	0.0	1.6
41	Animal oil/fat	0.2	0.3	0.2	0.1	0.1	0.0
42	Fixed veg oils/fats	0.1	0.0	0.0	0.0	0.0	1.1
43	Animal/veg oils processed	0.1	0.1	0.1	0.1	0.0	0.2
51	Organic chemicals	1.0	0.7	1.3	1.9	0.0	0.4
52	Inorganic chemicals	1.2	1.1	1.1	1.5	0.0	1.2
53	Dyeing/tanning/color mat	0.8	0.6	1.6	1.1	0.0	0.1
54	Pharmaceutical products	0.2	0.2	0.2	0.1	0.0	0.0
55	Perfume/cosmetic/cleaning etc. preparations	0.5	0.3	0.7	1.1	0.0	0.2
56	Manufactured fertilizers	1.2	1.0	0.1	0.2	0.0	7.8
57	Plastics in primary form	0.8	0.3	1.1	2.2	0.0	0.2
58	Plastics non-primary form	1.0	0.7	2.1	1.6	0.0	0.1
59	Chemical material/prods n.e.s.	0.7	0.6	1.4	0.6	0.0	0.1
61	Leather manufactures	0.5	0.5	0.1	0.9	1.8	0.3
62	Rubber manufactures n.e.s.	1.0	0.9	1.3	1.0	0.1	0.5
63	Cork/wood manufactures	0.9	1.4	0.0	0.0	0.0	1.2
64	Paper/paperboard/article	0.7	0.8	0.6	0.5	0.0	0.5
65	Textile yarn/fabric/art.	1.8	2.6	0.6	1.1	0.1	0.1
66	Non-metal mineral manuf.	1.0	1.2	0.8	0.4	0.0	1.1
67	Iron and steel	1.4	1.1	1.8	1.8	0.0	1.8
68	Non-ferrous metals	0.8	0.5	0.9	1.0	0.8	2.6
69	Metal manufactures n.e.s.	1.2	1.6	0.7	1.1	0.1	0.2
71	Power generating equipment	0.9	0.7	1.7	0.7	0.1	0.6
72	Industry special machine	1.2	0.6	2.9	1.5	0.3	0.1
73	Metalworking machinery	1.2	0.6	3.3	1.3	0.0	0.1
74	Industrial equipment n.e.s.	1.1	1.1	1.4	0.9	0.0	0.1
75	Office/data processing machines	1.9	2.9	0.7	0.8	0.0	0.0
76	Telecommunications etc. equipment	2.2	3.2	0.5	1.7	0.0	0.1
77	Electrical equipment	1.4	1.4	1.4	2.3	0.0	0.1
78	Road vehicles	0.8	0.3	2.2	1.2	0.1	0.1
79	Railway/tramway equipment	0.9	0.6	1.0	2.5	0.2	0.2
81	Building fixtures etc.	2.0	3.3	0.0	0.4	0.1	0.1
82	Furniture/furnishings	1.5	2.4	0.1	0.2	0.0	0.1
83	Travel goods/handbag/etc.	1.8	3.1	0.0	0.2	0.0	0.0
84	Apparel/clothing/access	1.6	2.7	0.0	0.2	0.2	0.0
85	Footwear	1.5	2.6	0.0	0.1	0.0	0.0
87	Scientific/etc. instrument	1.2	1.0	1.6	2.1	0.0	0.2
88	Photographic equipment/clocks	1.3	1.0	2.5	1.4	0.0	0.0
89	Miscellaneous manufactures n.e.s.	1.2	1.7	0.5	0.4	0.0	0.1
93	UN Special Code	0.7	0.1	1.7	0.0	0.0	4.1
96	UN Special Code	0.1	0.0	0.0	0.0	0.0	0.7
97	Coin non gold non current	0.2	0.0	0.7	0.1	6.1	0.1
		1.0	1.0	1.0	1.0	1.0	1.0

Source: WITS Comtrade, extracted August 20, 2018. Red: 10% highest RCA, green: 10% lowest RCA,

Table 7. Real Income Effects of Alternative Integration Initiatives, 2030

Region/economy	GDP 2030	USD billions, 2015 prices				Percent change from baseline			
		CPTPP	CPTPP16	CPTPP17	RCEP	CPTPP	CPTPP16	CPTPP17	RCEP
Americas	39,569	49	72	138	2	0.1	0.2	0.3	0.0
Canada	2,717	22	29	55	0	0.8	1.1	2.0	0.0
Chile	463	3	5	11	0	0.7	1.1	2.5	0.0
Colombia	684	0	0	0	0	0.0	0.0	0.0	0.0
Mexico	2,169	16	33	74	0	0.7	1.5	3.4	0.0
Peru	442	10	11	17	0	2.2	2.5	3.9	0.0
United States	25,754	-2	-6	-17	1	0.0	0.0	-0.1	0.0
Latin America nie	7,341	0	-1	-2	0	0.0	0.0	0.0	0.0
Asia	50,659	69	316	959	253	0.1	0.6	1.9	0.5
Brunei	31	1	1	2	0	2.6	3.7	5.8	0.9
China	27,839	-10	-53	325	101	0.0	-0.2	1.2	0.4
Hong Kong	461	1	1	12	2	0.2	0.3	2.5	0.4
India	5,487	-4	-16	-38	57	-0.1	-0.3	-0.7	1.0
Indonesia	2,192	-1	18	22	1	-0.1	0.8	1.0	0.0
Japan	4,924	46	98	206	56	0.9	2.0	4.2	1.1
Korea	2,243	-3	84	128	24	-0.1	3.8	5.7	1.1
Malaysia	675	21	36	64	6	3.1	5.4	9.4	0.9
Philippines	680	0	13	20	1	0.0	1.9	2.9	0.2
Singapore	485	13	19	30	2	2.7	3.8	6.2	0.4
Taiwan	776	0	60	108	-3	0.0	7.8	13.9	-0.4
Thailand	812	-5	30	42	3	-0.6	3.6	5.1	0.3
Vietnam	497	11	25	41	2	2.2	5.1	8.2	0.5
ASEAN nie	283	0	0	-1	1	0.0	-0.1	-0.2	0.2
Asia nie	3,272	0	-1	-1	0	0.0	0.0	0.0	0.0
Oceania	2,854	15	22	31	7	0.5	0.8	1.1	0.2
Australia	2,590	12	17	24	5	0.5	0.7	0.9	0.2
New Zealand	264	3	5	7	2	1.1	2.0	2.6	0.6
Rest of World	40,720	14	39	97	23	0.0	0.1	0.2	0.1
Africa (Sub-Saharan)	4,068	0	-1	-2	1	0.0	0.0	0.0	0.0
Europe	23,189	12	22	51	16	0.0	0.1	0.2	0.1
EMENA	10,001	2	15	40	5	0.0	0.1	0.4	0.0
Russia	3,371	0	2	7	1	0.0	0.1	0.2	0.0
ROW	90	0	0	0	0	0.1	0.0	0.1	0.1
WORLD	133,801	147	449	1,225	286	0.1	0.3	0.9	0.2
<i>Memorandum</i>									
Income (members)		15,257	21,961	49,800	49,003				
Δ (members)		157	432	1,174	261	1.0	2.0	2.4	0.5
Δ (non-members)		-10	17	50	24	0.0	0.0	0.1	0.0

Source: authors' simulations from Petri and Plummer (2019).

Table 8. Export Effects of Alternative Integration Initiatives, 2030

Region/economy	Exports 2030	USD Billions, 2015 prices				Percent change from baseline			
		CPTPP	CPTPP16	CPTPP17	RCEP	CPTPP	CPTPP16	CPTPP17	RCEP
Americas	7,068	72	103	210	-1	1.0	1.5	3.0	0.0
Canada	835	39	56	112	-1	4.6	6.7	13.4	-0.1
Chile	147	6	8	21	-1	4.3	5.7	14.2	-0.5
Colombia	120	0	0	0	0	0.1	0.0	-0.1	0.0
Mexico	670	23	45	99	-2	3.5	6.7	14.7	-0.2
Peru	135	12	15	25	0	9.0	10.8	18.3	-0.2
United States	3,906	-10	-22	-48	3	-0.3	-0.6	-1.2	0.1
Latin America nie	1,255	1	1	3	0	0.1	0.1	0.2	0.0
Asia	12,905	172	874	2,824	668	1.3	6.8	21.9	5.2
Brunei	16	1	1	1	0	3.5	4.9	7.8	0.9
China	4,976	-9	-44	1,136	259	-0.2	-0.9	22.8	5.2
Hong Kong	357	1	1	-2	-1	0.2	0.2	-0.5	-0.3
India	1,360	-3	-13	-28	132	-0.2	-1.0	-2.1	9.7
Indonesia	446	-3	49	76	17	-0.6	11.1	17.1	3.8
Japan	1,190	97	225	508	136	8.1	18.9	42.7	11.4
Korea	1,089	-6	203	352	62	-0.6	18.7	32.4	5.7
Malaysia	491	42	71	128	17	8.6	14.4	26.1	3.4
Philippines	184	0	29	51	4	-0.2	16.0	27.6	2.2
Singapore	470	29	33	43	3	6.2	7.0	9.1	0.6
Taiwan	506	0	170	309	-7	-0.1	33.6	61.2	-1.5
Thailand	561	-7	68	119	24	-1.3	12.0	21.1	4.3
Vietnam	357	31	84	131	17	8.8	23.5	36.8	4.9
ASEAN nie	93	0	-1	-3	4	-0.4	-1.5	-3.0	3.9
Asia nie	810	1	0	2	1	0.1	-0.1	0.2	0.1
Oceania	673	28	45	74	17	4.2	6.6	10.9	2.5
Australia	589	23	37	64	14	4.0	6.3	10.8	2.4
New Zealand	84	5	8	10	3	5.8	9.2	11.9	3.1
Rest of World	15,503	14	10	4	-7	0.1	0.1	0.0	0.0
Africa (Sub-Saharan)	883	1	0	2	1	0.1	0.0	0.3	0.1
Europe	9,706	8	-7	-38	-9	0.1	-0.1	-0.4	-0.1
EMENA	4,021	4	14	34	1	0.1	0.3	0.8	0.0
Russia	851	1	2	7	1	0.1	0.3	0.8	0.1
ROW	43	0	0	0	0	0.3	-0.2	-0.6	-0.1
WORLD	36,149	287	1,032	3,112	677	0.8	2.9	8.6	1.9
<i>Memorandum</i>									
Exports (members)		4,984	7,769	16,651	11,905				
Δ (members)		308	1,102	3,184	692	6.2	14.2	19.1	5.8
Δ (non-members)		-22	-70	-72	-15	-0.1	-0.2	-0.4	-0.1

Source: authors' simulations from Petri and Plummer (2019).