



Australian
National
University

Working Papers in Trade and Development

Global Production Sharing and Asian Trade Patterns: Implications for the Regional Comprehensive Economic Partnership (RCEP)'

Prema-chandra Athukorala

August 2014

Working Paper No. 2014/16

*Arndt-Corden Department of Economics
Crawford School of Public Policy
ANU College of Asia and the Pacific*

This Working Paper series provides a vehicle for preliminary circulation of research results in the fields of economic development and international trade. The series is intended to stimulate discussion and critical comment. Staff and visitors in any part of the Australian National University are encouraged to contribute. To facilitate prompt distribution, papers are screened, but not formally refereed.

Copies may be obtained at WWW Site
<http://www.crawford.anu.edu.au/acde/publications/>

Global Production Sharing and Asian Trade Patterns: Implications for the Regional Comprehensive Economic Partnership (RCEP)

Prema-chandra Athukorala

Arndt Corden Department of Economics
Crawford School of Public Policy
Australian National University
prema-chandra.athukorala@anu.edu.au

Abstract

This paper documents and analyzes emerging trade patterns in Asia, with special reference to the implications of global production sharing with a view to informing the policy debate on forming the Regional Comprehensive Economic Partnership (RCEP). The analysis reveals that the degree of dependence of RCEP countries on this new form of global division of labour is much larger compared to Europe and North America. Global production sharing has certainly strengthened economic interdependence among the countries in the region, but the dynamism of the regional cross-border production networks depends inexorably on global, rather than regional, trade in final goods. The findings of this paper make a strong case for a global, rather than a regional, approach to trade and investment policy making.

Key words: Free trade agreement, regional economic cooperation, ASEAN, global production sharing, trade patterns

JEL Codes: F13, F14, F13, O53

Forthcoming in Rajat Katuria and Neetika Kaushal (eds), *Global Economic Cooperation: Views from G20*, Springer Verlag.

Global Production Sharing and Asian Trade Patterns: Implications for the Regional Comprehensive Economic Partnership (RCEP)

INTRODUCTION

A distinguishing feature of the Asian approach to economic liberalization during the last three decades of the twentieth century was that it occurred predominantly on a unilateral and multilateral basis. In a significant departure from this non-discriminatory policy posture, in the first decade of the New Millennium, Asia joined the global rush to signing free trade agreements (FTAs) (Ravenhill 2014, Kawai and Wignaraja 2013). By 2013, Asian countries had concluded 126 bilateral and plurilateral FTAs and were negotiating a further 56 agreements. The proliferation of FTAs has, however, giving rise to concerns in recent years that the overlapping and complex web of FTAs, the so-called Asian 'FTA noodle bowl', may run counter to the original expectation of promoting trade and investment. There is evidence that actual rate of utilization of trade preferences offered by the FTAs are dismally low because of the stringent rules of origin¹ and complex tariff structures, which raise trade cost, and that the administrative discretion involved in granting concessions nurtured by these complexities is likely to distort trade patterns. Consequently, there has been a new emphasis in the trade policy debate in the region on the consolidation of multiple FTAs into a region-wide FTA. At its 2011 Annual Summit, the Association of Southeast Asian Nations (ASEAN) adopted guiding principles and a negotiation time table for amalgamating the six 'ASEAN+1 FTAs' (that is, the free trade agreements ASEAN has signed with China, Japan, Korea, India, Australia and New Zealand), and other bilateral FTAs involving individual ASEAN member countries, to form a consolidated trading bloc called the Regional Comprehensive Economic Partnership (RCEP). The stated aim is to form this mega trading agreement involving the 16 member countries by 2015.

¹ The utilization rates of tariff concessions provided under the existing FTAs range from about 5% to 20% across different product categories (Ravenhill 2014; Athukorala and Kohpaiboon 2011).

The purpose of this paper is to analyze the emerging patterns of international trade in Asia, with a view to informing the debate on the formation of RCEP. The paper aims to add new insight into the debate by examining the implications of the process of global production sharing—the breakup of the production processes into geographically separated stages²—for understanding the on-going process of economic integration in the region. While trade in parts and components and final assembly taking place within production networks (“network trade”) has generally grown faster than total world trade, the degree of dependence of the countries in the Asia–Pacific region on this new form of international specialization is proportionately even larger than elsewhere in the world. Network trade has certainly strengthened economic interdependence among countries in the region, with the People’s Republic of China (PRC) playing a pivotal role as the premier center of final assembly.

It is widely held in the debate on the formation of RCEP that Asia, in particular East Asia, has become increasingly economically integrated over the years through the rapid expansion of manufacturing trade. This view is rooted in the ‘standard’ trade data analysis, which is based on the conventional notion of horizontal specialization — that trade takes place in goods that are produced from start to finish in a given country. It has largely ignored the on-going process of global production sharing and the resulting trade complementarities among countries at the global level. Global production sharing opens up opportunities for countries to specialize in different slices (different tasks) of the production process depending on their relative cost advantage and other relevant economic fundamentals. Consequently, parts and components are now exchanged across borders of the countries in the region at a faster rate than final goods. Conventional trade flow analysis can yield an unbiased picture of regional economic integration only if component trade and final trade follow the same geographic patterns. If component trade has a distinct intra-regional bias, as one would reasonably anticipate in the context of growing network trade in the region, then the conventional trade flow analysis is bound to yield a misleading picture in regards to the relative importance of intra-regional trade versus global trade for growth dynamism in the region. This is because growth based on

² An array of alternative terms have been used to describe this phenomenon, including ‘international production fragmentation’, ‘vertical specialization’, ‘slicing the value chain’ and ‘outsourcing’.

assembly activities depends on the demand for final goods, which in turn depends largely on extra-regional demand. The degree of understatement of the importance of extra-regional demand is likely to increase over time as more complex production networks are created with an ever increasing number of interacting countries.

A meaningful analysis of trade patterns, therefore, requires systematic separation of parts and components (henceforth ‘components’) from final (assembled) products in reported trade data. This is done in this paper through a careful disaggregation of trade data based on Revision 3 of the Standard International Trade Classification (SITC., Rev 3) extracted from the United Nations trade data reporting system (US Comtrade database).³ For the purpose of the study, Asia is defined to encompass the economies of South and East Asia. East Asia includes Japan, and developing East Asia (DEA), which covers the newly industrialized economies (NIEs) in North Asia (South Korea, Taiwan and Hong Kong), China and members of the Association of Southeast Asian Nations (ASEAN). Developing Asia (DA) refers to South and East Asia except Japan.

The next section examines trends and patterns of trade over time in aggregate and by major commodity groups, paying particular attention to the phenomenon of ‘network trade’ based on global production sharing. Central to the discussion in this section is the implications of network trade for the relative importance of intra-regional versus global economic integration. The following section probes the implications of Asia’s engagement in global production sharing for the potential trade gains from the formation of RCEP. The final section summarizes the key findings and draws out some general inferences.

TRADE PATTERNS

Over the past half a century, Asia has emerged as the third hub of world trade next to Europe and North America. The combined share of Asian countries in world non-oil exports recorded a three-fold increase over the past three decades, from 11.1% to 38.1%,

³ For details on the decomposition procedure, see Athukorala (2011).

between 1979–80 and 2011–12.⁴ By 2011–12, Asia’s share in world trade was nearly three times of that of the North America Free Trade Area (NAFTA) (12.8%) and higher than that of the 15 Western European member countries of the European Union (EU–15) (34.2%). East Asia dominated this impressive export growth story, accounting for over 95% of the total regional trade. In the 1960s and 1970s, Japan dominated the region’s trade, accounting for over half of total exports and imports. Next came the four ‘Tigers’: Korea, Taiwan, Hong Kong and Singapore. Over the past two decades, the rise of China has been the dominant factor behind this structural shift in world trade in favour of Asia.

Within East Asia, the combined world export share of ASEAN countries increased from 2.0% in 1979–80 to 7.4% in 2011–12, but these countries still account for less than a fifth of total Asian trade. Notwithstanding some export expansion in recent years, South Asia still accounts for a mere 2.1% of total world trade, equivalent to less than 5% of Asia’s total trade. Among the nine largest DEA economies only Hong Kong, Indonesia and the Philippines have smaller world trade shares than India, which is by far the dominant South Asian economy. China’s world export share in 2011–12 (13.5%) was almost 7 times larger than that of India.

Rapid export growth in Asia, mainly driven by the DEA group, has been underpinned by a pronounced shift in export structure away from primary commodities and toward manufactures. By 2011/12 manufactures accounted for nearly 90% of total non-oil exports from Asia, up from 54.4% three decades ago.

Within manufacturing, machinery and transport equipment (SITC 7) (henceforth referred to as ‘machinery’), in particular the sub-category of information and communication technology (ICT) products (broadly SITC 75, 76 and 77), have played a pivotal role in this structural shift. The rapid growth of manufacturing trade in these products has been driven by the deep integration of East Asian countries into the global production networks. The share of developing countries in total network exports increased from 22.0% in 1992–93 to 46.5% in 2011–2012, driven primarily by the

⁴ Throughout the paper trade magnitudes are measured in current US dollars. Inter-temporal comparison is done using two-year averages relating to the end points of the period under study so as to reduce the impact of year-to-year fluctuations of trade flows. Data on oil and gas (SITC 3) trade is excluded from the commodity coverage to avoid distortions in trade patterns resulting from sharp periodic changes in prices of these products.

growing importance of East Asian countries in global production sharing. The share of East Asia increased from 32.2% in 1992–1993 to 42.2% in 2011–2012.

At the early phase of joining global production networks (in the 1960s and 1970s), Asian countries' engagement in network trade was predominantly a two-way exchange with the home countries of the multinational enterprises (MNE) engaged in production sharing. Parts and components were brought to these countries for assembly, and the assembled parts and components were then re-exported to the home country to be incorporated in final products. From about the mid-1980s MNEs began to disperse different segments of component assembly among countries in the regions to reap gains from inter-country differences in wages and rental costs. As the regional supply networks of components became firmly established, final assembly of an increasingly broad range of electronics and electrical goods (such as computers, cameras, TV sets and motor cars) was moved to East Asian locations. Thus by the late 1980s, this process had created a new regional division of labour based on differences in relative wage and skill requirements in different stages of the production process.

When China began to emerge as a major trading nation in late 1980s, there was a growing concern in policy circles in Southeast Asia, and in other Asian countries, that competition from China could crowd out their export opportunities. Initially, the 'China fear' in the region was mainly related to export competition in standard light manufactures (clothing, footwear, sporting goods, etc.), but soon this pessimistic view became pervasive as China began to rapidly integrate into global production networks in electrical and electronics products through an unprecedented increase in foreign direct investment in these industries. The rapid increase in China's world market share in these product lines, coupled with some anecdotal evidence of MNEs operating in Southeast Asian countries relocating to China, led to a serious concern about possible erosion of the role of Southeast Asian countries in global production networks.

This fear of 'China crowding out the rest' has not materialized, however. On the contrary, China's rise as a final assembler of electrical and electronics goods has enhanced its trade complementarity with the other countries in East Asia that are involved in component production/assembly in the global value chain. While there has

been a significant contraction in final assembly of consumer electronics and electrical goods in these countries as an outcome of competitive pressures from China, their exports of parts and components to China have increased at a much faster rate (Athukorala 2009 & 2011).

Table 1 presents comparative statistics on the share of network trade in total manufacturing exports and imports at the country and country group levels. It is evident that the share of network trade is much higher in East Asia than in all other regions of the world. In 2011–2012, exports within production networks accounted for 61.7% of total manufacturing exports in East Asia, compared to the world average of 51.2%. The patterns observed on the export and import sides of the ASEAN are strikingly similar, reflecting growing cross-border trade within production networks. Within East Asia, ASEAN countries stand out for their heavy dependence on network trade. These products accounted for over two-thirds of total manufacturing exports of these countries, up from 57% in the early 1990s. The share of network products in total manufacturing exports from all RCEP countries increased from 51.4 to 60.9 between 1992–93 and 2011–12.

IMPLICATION FOR RCEP

An important structural change in Asian trade patterns resulting from the growing importance of network trade is that parts and components account for a much larger share in intra-regional trade of these countries compared to their shares in world trade and trade with EU and NAFTA (Table 2). In 2011–12, parts and components accounted for nearly 60% of intra-regional exports in RCEP compared 23.4% in total world exports of these countries. The pattern of component intensity of intra-regional trade is strikingly similar in exports and imports, reflecting the growing importance of cross-border trade in parts and components among countries within regional production networks and the region's reliance on the rest of the world as a market for final goods. The conventional trade-flow analysis which does not distinguish between components and final goods is, therefore, bound to yield a misleading picture regarding the relative importance of intra-regional trade, as compared to global trade, for growth dynamism in East Asia.

Table 1: Share of network products in manufacturing trade, 1992–93 and 2011–12 (%)

	Parts and components		Final assembly		Total network products	
	1992–93	2011–12	1992–93	2011–12	1992–93	2011–12
(a) Exports						
East Asia	20.2	36.4	31.6	25.3	51.8	61.7
Japan	23.9	36.2	44.5	29.1	68.4	65.3
Developing East Asia (DEA)	17.3	38.5	21.8	24.7	39.1	63.2
China	7.4	20.5	13.7	36.8	21.1	57.3
Taiwan	24.7	44.7	17.6	20.9	42.3	65.6
Republic of Korea	18.1	43.2	22.2	25.5	40.3	68.7
ASEAN	22.7	59.2	34.1	10.1	56.8	69.2
Indonesia	3.8	19.5	5.6	18.0	9.3	37.5
Malaysia	27.7	65.5	40.7	13.2	68.4	78.7
The Philippines	32.9	71.2	20.5	16.3	53.4	87.5
Singapore	29.0	49.5	45.9	18.0	74.9	67.5
Thailand	14.1	44.5	29.0	21.4	43.1	65.9
Viet Nam	---	12.03	---	7.5	---	19.5
South Asia	2.3	8.1	2.9	4.2	5.1	12.3
India	3.0	10.4	3.4	3.7	6.4	14.1
Australia & New Zealand	32.6	26.4	34.5	25.8	33.6	26.14
RCEP countries	20.1	35.8	31.3	25.1	51.4	60.9
Developed countries	20.4	25.2	28.5	23.6	48.9	48.8
Developing countries	14.6	35.2	21.8	18.4	36.4	53.6
World	19.3	28.2	26.3	23.0	45.5	51.2
(b) Imports						
East Asia	27.2	42.0	17.2	19.8	44.4	61.8
Japan	19.3	22.2	19.3	39.9	38.6	62.1
Developing East Asia	29.0	44.4	16.7	17.3	45.8	61.7
China	20.4	42.0	14.0	21.7	34.4	63.7
Taiwan	29.5	36.7	18.0	19.0	47.5	55.7
Republic of Korea	30.1	35.3	14.6	14.0	44.7	49.3
ASEAN	36.0	47.8	18.4	16.2	54.4	64.0
Indonesia	27.0	22.8	9.2	34.8	36.1	57.6
Malaysia	40.5	55.0	20.2	17.0	60.7	72.0
The Philippines	32.6	62.3	15.0	16.3	47.6	78.6
Singapore	39.9	51.0	21.9	26.7	61.8	77.7
Thailand	30.6	41.0	15.6	7.2	46.2	48.2
Viet Nam	---	19.1	---	9.6	---	28.7
South Asia	16.6	23.8	12.9	16.5	29.5	40.3
India	17.5	22.9	10.6	17.0	28.1	39.9
Australia & New Zealand	24.2	24.5	34.5	35.3	58.7	59.8
RCEP countries	26.9	41.3	17.1	19.1	44.0	60.4
Developed countries	22.6	23.4	25.2	27.8	47.8	51.2
Developing countries	11.9	33.6	28.6	19.8	40.4	53.4
World	19.6	27.3	26.2	24.4	45.7	51.7

Note: ... data not available

Source: Compiled from UN Comtrade database, and Trade Data CD-ROM, Council for Economic Planning and Development, Taipei (for data on Taiwan)

Table 2: Share of parts and components in bilateral trade flows, 2011–12 (%)

Reporting country	Destination					
	Developing East Asia	ASEAN	RCEP	NAFTA	EU15	World
<i>(a) Exports¹</i>						
East Asia (EA)	61.2	55.5	58.6	25.1	24.2	35.1
Japan	52.0	47.9	41.5	31.5	31.0	35.1
Developing East Asia (DEA)	57.9	65.2	52.1	22.7	21.5	34.0
China (PRC)	42.6	48.7	45.2	17.1	16.2	25.5
Korea	63.5	63.7	67.8	36.6	25.7	43.8
Taiwan	50.5	61.2	62.3	35.0	38.2	44.2
ASEAN10	61.4	56.0	68.2	32.1	33.8	44.3
NAFTA	49.8	67.9	46.5	28.8	30.5	32.3
EU15	34.8	46.5	31.5	22.1	22.5	23.4
<i>(b) Imports¹</i>						
East Asia (EA)	52.7	68.3	61.7	54.7	33.4	42.3
Japan	34.2	44.9	34.2	41.0	19.2	20.1
Developing East Asia (DEA)	59.5	74.3	63.5	40.3	32.6	44.3
China (PRC)	59.2	74.0	58.2	40.1	31.5	44.2
Korea	38.1	55.7	34.0	38.9	22.9	31.9
Taiwan	58.3	68.8	46.7	40.2	28.2	38.6
ASEAN10	56.4	66.8	63.3	67.5	41.5	48.8
NAFTA	26.0	40.5	28.4	36.3	26.1	29.2
EU15	22.8	37.9	26.0	34.1	22.2	23.5

Note: 1. EA: East Asia, DEA: Developing East Asia; ASEAN6: the six main ASEAN countries; EU15: 15 member countries of the European Union; NAFTA: countries in the North American Free Trade Agreement (USA, Canada and Mexico); RCEP: countries in the Regional Comprehensive Economic Partnership initiated by ASEAN.

Source: Compiled from UN Comtrade database, and Trade Data CD-ROM, Council for Economic Planning and Development, Taipei (for data on Taiwan)

To illustrate this point, intra-regional trade shares estimated using ‘reported’ (standard) trade data, as well as these data after netting out parts and components, are reported in Table 3. The table covers trade in Asia, RCEP and two sub-regions therein which relate to contemporary Asian policy debates on regional economic integration. Data for NAFTA and EU-15 are reported for comparative purposes. Estimates are given for total trade (imports + exports) as well as for exports and imports separately in order to illustrate possible asymmetries in trade patterns resulting from Asia’s increased engagement in fragmentation-based international exchange.

Table 3: Intra-regional shares of manufacturing trade: Total, parts and components, and final trade, 1992–93 and 2011–12¹(%)

	Developing East Asia	ASEAN	RCEP	NAFTA	EU15
(a) Total trade					
Exports					
1992–93	38.2	20.7	47.2	44.4	61.2
2011–12	34.5	18.2	48.2	48.1	56.8
Imports					
1992–93	34.9	15.5	58.2	36.3	64.1
2011–12	46.2	20.8	66.5	32.0	57.8
Trade (exports + imports)					
1992–93	36.5	17.8	53.2	39.9	62.6
2011–12	40.3	20.3	56.8	38.4	57.5
(b) Parts and Components					
Exports					
1992–93	42.6	30.3	50.2	43.5	62.3
2011–12	53.8	25.2	62.2	46.9	55.9
Imports					
1992–93	35.3	20.2	65.9	39.5	58.0
2011–12	50.9	23.1	67.8	39.9	55.2
Trade					
1992–93	38.7	24.1	57.0	41.4	60.1
2011–12	52.2	23.4	64.0	43.2	55.5
(c) Final Goods ²					
Exports					
1992–93	36.8	16.1	36.2	44.7	60.9
2011–12	28.3	15.9	37.4	48.7	57.0
Imports					
1992–93	34.7	12.9	33.2	35.3	65.6
2011–12	38.2	21.2	39.2	40.3	58.5
Trade					
1992–93	35.6	14.3	35.3	39.4	63.3
2011–12	34.3	18.3	38.4	42.1	57.3

Note: 1. Intra-regional trade shares have been calculated excluding bilateral flows between China and Hong Kong. DEA: Developing East Asia; ASEAN6: the six main ASEAN countries; EU15: 15 member countries of the European Union; NAFTA: countries in the North American Free Trade Agreement (USA, Canada and Mexico); RCEP: countries in the Regional Comprehensive Economic Partnership initiated by ASEAN.

2. Total (reported) trade (a) net of parts and components (b).

Source: Compiled from UN Comtrade database, and Trade Data CD-ROM, Council for Economic Planning and Development, Taipei (for data on Taiwan)

Trade patterns depicted by the 'reported' trade data affirm the prevailing perception that RCEP countries, in particular East Asian countries, have become increasingly integrated through merchandise trade. In 2011-12, intra-regional trade accounted for 58.2% of total manufacturing trade of RCEP countries, up from 53.2% in 1992-93. The level of intra-regional trade in RCEP in 2011-2012 was much higher than that of NAFTA (38.4%) and comparable to that of EU-15 (57.5%). For developing East Asia (Asia excluding Japan) and ASEAN the ratios are lower than the aggregate regional figure, but they have increased at a much faster rate. The intra-regional trade share of ASEAN has been much lower compared to the other two sub-regions.

However the picture changes significantly when components are netted out: the intra RCEP share in final trade in 2011-12 was 38.4%, which was only marginally higher compared to 1992-93 (35.3%). The estimates based on unadjusted data and data on final trade are also vastly different for Developing East Asia and ASEAN. Both the level of trade in the two given years and the change over time in intra-regional trade shares are significantly lower for estimates based on final trade. Interestingly, we do not observe such a difference in estimates for NAFTA and EU.

The intra-regional shares calculated separately for imports and exports clearly show a notable asymmetry in the degree of regional trade integration in East Asia. Unlike in the EU and NAFTA, in Asia and RCEP the increase over time in the intraregional trade ratio (both measured using unadjusted data and data for final trade) has emanated largely from the rapid increase in intra-regional imports; the expansion in intra-regional exports has been consistently slower. The dependence of RCEP countries (and the country sub-groups therein) on extra-regional markets (in particular those in NAFTA and EU) for export-led growth is far greater than is revealed by the standard intra-regional trade ratios commonly used in the debate on regional economic integration. For instance, in 2011-12 only 48.2% of total RCEP manufacturing exports was absorbed within the region, compared to an intra-regional share of 66.5% in total manufacturing imports. This asymmetry is also clearly seen for the developing East Asian countries and ASEAN.

This asymmetry in intra-regional trade in RCEP reflects the unique nature of the involvement of Japan and the PRC in regional production networks. From about the late 1980s, Japan's manufacturing trade relations with the rest of East Asia have been predominantly in the form of using the region as an assembly base for meeting demand in the region and, more importantly, for exporting to the rest of the world. The emergence of the PRC as a leading assembly center within regional production networks since the early 1990s further amplified this trade asymmetry. That is, the PRC is importing parts and components from the other East Asia countries to assemble final products, which are predominantly destined for markets in the rest of the world (Athukorala 2009).

Interestingly, the degree of the asymmetry between intra-regional shares of import and exports is much smaller when parts and components are netted out. This is understandable given the multiple border-crossing of parts and components within regional production networks. Both the level of trade in the given years and the change over time in intra-regional trade shares are significantly lower for estimates based on final trade. Interestingly, we do not observe such a difference in estimates for NAFTA and the EU.

What are the implications of these findings for the contemporary policy debate on the formation of RCEP? In particular, is the newfound fondness of countries in the region for RCEP consistent with the objective of maximizing gains from the ongoing process of international product fragmentation? Our analysis vividly demonstrates that even though the intra-regional trade in expanding extra-regional trade is much more important for continued growth dynamism in Asia global trade also remains important for growth dynamism. In particular, growth based on assembly activities in the region depends on the demand for final goods, which is largely contingent on the extra-regional growth. This dependence has in fact increased over the years. Thus the rising importance of global production sharing seems to have strengthened, rather than weakened, East Asia's link with the wider global economy.

The proponents of RCEP argue that reduction/removal of tariff under the RCEP has the potential to improve the competitiveness of the countries in the region, within global production networks, in their trade with the countries in the rest of the world. In theory, this is especially true for network trade that is postulated to be relatively more

sensitive to tariff changes compared to the conventional ‘horizontal’ trade (that is trade in goods produced entirely within a given country) (Yi 2003). In network trade normally a tariff is incurred each time a good-in-process crosses a border. Consequently, a one percentage point reduction in tariff leads to a decline in the cost of production of a vertically integrated good by a multiple of this initial reduction, in contrast to the cost of a normal (horizontal) traded good. Tariff reduction may also make it more profitable for goods that were previously produced entirely in one country to become vertically specialised.

This argument, however, has to be taken with two important caveats. First, all of the key players in production networks in Asia (PRC; Japan; the Republic of Korea; the five original ASEAN member countries, Hong Kong; and Taiwan, Australia) are signatories of the Information Technology Agreement (ITA), a multilateral agreement of the WTO, which came into effect in 2006. The ITA participants are committed to eliminating tariffs on a most-favoured nation (MFN) basis, so even non-ITA signatories that are members of WTO will enjoy duty free access to these products (Menon 2013). This means that products covered under this agreement (broadly the products belonging to the SITC chapters 75, 76 and 77), accounting for over 45% of total intra-regional trade of RCEP, are already free of duty. This is the single most important product group in the intra-regional trade of this group of countries.

Second, there is the complex issue of the role of rules of origin (RoOs) in determining the actual trade liberalisation outcome of RCEP (or any other FTA, for that matter). It is true that there are still significantly high tariffs (by the average developed-country standards) in RCEP countries on a number of non-ICT products, in particular automobiles, consumer electronics and non-electrical machinery.⁵ However, in reality, the effectiveness of RCEP (or any other preferential trading agreement) in reducing/eliminating these tariffs would depend crucially on the nature of rules of origin built into it (Krishna 2006; Athukorala and Kohpaiboon 2011). Trade-distorting effects of

⁵ Most of the firms involved in export-oriented production in these industries in all these countries are located in export processing zones (EPZs), and non-EPZ firms enjoy import duty exemptions under duty-drawback and bonded warehouse schemes (Menon 2013). But, on economic efficiency grounds, tariff reduction/removal, which is uniformly and automatically applicable to both import-competing and export-oriented firms, is unambiguously superior to these ‘administered’ selective measures of trade opening.

rules of origin are presumably more detrimental to fragmentation-based trade than to conventional final-goods trade, because of the inherent difficulties in defining the 'product' for duty exemption, and because of the transaction costs associated with the quantification of the amount of value added in production coming from various sources. As already noted the actual rate of unification of the tariff concessions under the existing FTAs is very low because of rules of origin complications. As Urata (2013) has convincingly argued in an assessment of the commitments of trade liberalisation in ongoing RCEP negotiations, there is little room for optimism regarding the final outcome of reconciliation and simplifications of RoOs of the existing FTAs.

Recently, seven RCEP member countries (Singapore, Brunei, New Zealand, Australia, Vietnam, Malaysia and Japan) have entered the negotiation process for joining the US-led Trans-Pacific Partnership (TPP) (Ravenhill 2014, Dupont 2013). Even though the US is by far the single largest destination of exports from these countries, joining TPP is unlikely to bring in significant trade gains for these countries, in particular for Singapore, Vietnam and Malaysia. The trade-stimulating effect of TPP could be even smaller compared to RCEP mainly because the country coverage of TPP does not include China, the premier assembly centre within the regional production networks in Asia. As we have already discussed, the dynamism of parts and component trade in Asia depends significantly on exports of final goods from China to the US and other global markets.

CONCLUDING REMARKS

Global production sharing has become an integral part of the economic landscape of East Asia. Trade in parts and components, and final assembly, within production networks have been expanding more rapidly than conventional final-goods trade. The degree of dependence on this new form of international specialization is proportionately larger in Asia, particularly in East Asia, compared to North America and Europe. A highly important recent development in the international fragmentation of production has been the rapid integration of China into the regional production networks. China's imports of components from the other developing East Asia countries and Japan have grown rapidly, in line with the rapid expansion of manufacturing exports from China to extra-regional markets, mostly to North America and the European Union.

The evidence harnessed in this paper supports the view that, in a context where global production sharing is becoming the symbol of economic globalization, the standard trade flow analysis leads to misleading inferences about the patterns and degree of trade integration among nations. Booming networks have resulted in a rapid increase in intra-regional trade in Asia. This does not, however, mean that the process has contributed to lessening the region's dependence on the global economy. On the contrary, the region's growth dynamism based on vertical specialisation is deeply dependent on its extra-regional trade in final goods, and this dependence has in fact *increased* over the years. Put simply, increased participation in global production sharing has made Asia increasingly dependent on extra-regional trade for its growth dynamism. Policy initiatives in the domain of intra-regional trade integration run the risk of hindering the growth dynamism of these countries, unless this new dimension of global integration is not specifically taken into account.

To benefit from the new opportunities for trade expansion through the fragmentation-based division of labour, the best policy choice appears to be non-discriminatory multilateral and unilateral liberalization; the ongoing process of product fragmentation seems to have strengthened the case for a global, rather than a regional, approach to trade and investment policymaking. An effective approach to redressing the complexity that the 'spaghetti bowl' of FTAs creates for international trade would involve a two-pronged strategy of systematically fitting the FTAs into the WTO system, and reducing the distortionary preference margins created by the web of FTAs through multilateral tariff reductions. The indications are that the proposed REPC is bound to fall well short of achieving this objective.

References

- Athukorala, Prema-chandra (2009) ‘The Rise of China and East Asian Export Performance: Is the Crowding-out Fear Warranted?’, *World Economy*, 32(2), 234–
- Athukorala, Prema-chandra and Archanun Kohpaiboon (2011), ‘Australia–Thai Trade: Has the Free Trade Agreement Made a Difference?’, *Australian Economic Review*, 44(4), 1–11.
- Athukorala, Prema-chandra and Archanun Kohpaiboon (2012), ‘Intra-Regional Trade in Asia: The Decoupling Fallacy, Crisis, and Policy Challenge’, in Masahiro Kawai, Mario B. Lamberte, and Yung Chul Park (eds), *The Regional Financial Crisis and Asia: Implications and Challenges*, New York: Oxford University Press, 95–106.
- Dupont, Cedric (2013), ‘ASEAN+, RCEP and TPP: A Clash of Integration Concepts’, in Baldwin, Richard E. Masahiro Kawai, and Ganeshan Wignaraja (eds), *The Future of the World Trading System: An Asian: Asian Perspectives*, Asian Development Bank Institute, Tokyo, and Centre for Economic Policy Research, London, 107–119.
- Jones, Ronald W. & Henryk Kierzkowski (2001), ‘Globalization and the consequences of international fragmentation’, in R. Dornbusch, G. Calvo & M. Obstfeld (eds), *Money, factor mobility and trade: the festschrift in honor of Robert A. Mundell*, Cambridge, Mass.: MIT Press, 365–381.
- Kawai, Masahiro and Ganesh Wignaraja (2013), ‘Patterns of Free Trade Agreements in Asia’, *Policy Studies No 65*, Honolulu: East West Centre.
- Krishna, Kala (2006), ‘Understanding rules origin’, in Cadot, O., A. Estevadeordal, A. Suwa-Eisenmann and T. Verdier (eds), *The Origin of Goods: Rules of Origin in Regional Trading Agreements*, Oxford: Oxford University Press, pp. 19–34.
- Menon, Jayant (2013), ‘Can FTAs Support the Growth or Spread of International Production Networks in Asia?’, *Trade and Development Working paper No. 2013/06*, Arndt–Corden Department of Economics, Australian National University, Canberra.
- Ravenhill, John (2014), ‘The Political Economy of Asia–Pacific Trade Agreements’, in Indrajit Kaur and Nirvikar Singh(eds), *The Handbook of The Economics of the Pacific Rim*, New York: Oxford University Press, 314–332..
- Urata, Shujiro (2013), ‘Construction of RCEP by Consolidating ASEAN+1 FTAs’, in Baldwin, Richard E. Masahiro Kawa, and Ganeshan Wignaraja (eds), *The Future of the World Trading System: An Asian: Asian Perspectives*, Asian Development Bank Institute, Tokyo, and Centre for Economic Policy Research, London, 99 107
- Yi, Kei-Mu (2003), ‘Can Vertical Specialization Explain the Growth of World Trade?’, *Journal of Political Economy*, 111(1): 52–102.

Working Papers in Trade and Development
List of Papers (as at 2014)

- 11/01 BUDY P RESOSUDARMO and SATOSHI YAMAZAKI, 'Training and Visit (T&V) Extension vs. Farmer Field School: The Indonesian'
- 11/02 BUDY P RESOSUDARMO and DANIEL SURYADARMA, 'The Effect of Childhood Migration on Human Capital Accumulation: Evidence from Rural-Urban Migrants in Indonesia'
- 11/03 PREMA-CHANDRA ATHUKORALA and EVELYN S DEVADASON, 'The Impact of Foreign Labour on Host Country Wages: The Experience of a Southern Host, Malaysia'
- 11/04 PETER WARR, 'Food Security vs. Food Self-Sufficiency: The Indonesian Case'
- 11/05 PREMA-CHANDRA ATHUKORALA, 'Asian Trade Flows: Trends, Patterns and Projections'
- 11/06 PAUL J BURKE, 'Economic Growth and Political Survival'
- 11/07 HAL HILL and JUTHATHIP JONGWANICH, 'Asia Rising: Emerging East Asian Economies as Foreign Investors'
- 11/08 HAL HILL and JAYANT MENON, 'Reducing Vulnerability in Transition Economies: Crises and Adjustment in Cambodia'
- 11/09 PREMA-CHANDRA ATHUKORALA, 'South-South Trade: An Asian Perspective'
- 11/10 ARMAND A SIM, DANIEL SURYADARMA and ASEP SURYAHADI, 'The Consequences of Child Market Work on the Growth of Human Capital'
- 11/11 HARYO ASWICAHYONO and CHRIS MANNING, 'Exports and Job Creation in Indonesia Before and After the Asian Financial Crisis'
- 11/12 PREMA-CHANDRA ATHUKORALA and ARCHANUN KOHPAIBOON, 'Australia-Thailand Trade: Has the FTA Made a Difference?'
- 11/13 PREMA-CHANDRA ATHUKORALA, 'Growing with Global Production Sharing: The Tale of Penang Export Hub'
- 11/14 W. MAX CORDEN, 'The Dutch Disease in Australia: Policy Options for a Three-Speed Economy'
- 11/15 PAUL J BURKE and SHUHEI NISHITATENO, 'Gasoline prices, gasoline consumption, and new-vehicle fuel economy: Evidence for a large sample of countries'
- 12/01 BUDY P RESOSUDARMO, ANI A NAWIR, IDA AJU P RESOSUDARMO and NINA L SUBIMAN, 'Forest Land use Dynamics in Indonesia'
- 12/02 SHUHEI NISHITATENO, 'Global Production Sharing in the Japanese Automobile Industry: A Comparative Analysis'
- 12/03 HAL HILL, 'The Best of Times and the Worst of Times: Indonesia and Economic Crises'
- 12/04 PREMA-CHANDRA ATHUKORALA, 'Disaster, Generosity and Recovery: Indian Ocean Tsunami'

- 12/05 KYM ANDERSON, 'Agricultural Trade Distortions During the Global Financial Crisis'
- 12/06 KYM ANDERSON and MARKUS BRUCKNER, 'Distortions to Agriculture and Economic Growth in Sub-Saharan Africa'
- 12/07 ROBERT SPARROW, ELLEN VAN DE POEL, GRACIA HANDIWIDJAJA, ATHIA YUMNA, NILA WARDA and ASEP SURYAHADI, 'Financial Consequences of Ill Health and Informal Coping Mechanisms in Indonesia'
- 12/08 KYM ANDERSON, 'Costing Global Trade Barriers, 1900 to 2050'
- 12/09 KYM ANDERSON, WILL MARTIN and DOMINIQUE VAN DER MENSBRUGGHE, 'Estimating Effects of Price-distorting Policies Using Alternative Distortions Databases'
- 12/10 W. MAX CORDEN, 'The Dutch Disease in Australia: Policy Options for a Three-Speed Economy' (revised version of Trade & Development Working Paper 2011/14)
- 12/11 KYM ANDERSON, 'Policy Responses to Changing Perceptions of the Role of Agriculture in Development'
- 12/12 PREMA-CHANDRA ATHUKORALA and SHAHBAZ NASIR, 'Global Production Sharing and South-South Trade'
- 12/13 SHUHEI NISHITATENO, 'Global Production Sharing and the FDI-Trade Nexus: New Evidence from the Japanese Automobile Industry'
- 12/14 PREMA-CHANDRA ATHUKORALA, 'Sri Lanka's Trade Policy: Reverting to Dirigisme?'
- 12/15 PREMA-CHANDRA ATHUKORALA and SISIRA JAYASURIYA, 'Economic Policy Shifts in Sri Lanka: The Post-conflict Development Challenge'
- 12/16 PREMA-CHANDRA ATHUKORALA and JUTHATHIP JONGWANICH, 'How Effective are Capital Controls? Evidence from Malaysia'
- 12/17 HAL HILL and JAYANT MENON, 'Financial Safety Nets in Asia: Genesis, Evolution, Adequacy, and Way Forward'
- 12/18 KYM ANDERSON, GORDON RAUSSER and JOHAN SWINNEN, 'Political Economy of Public Policies: Insights from Distortions to Agricultural and Food Markets'
- 13/01 KYM ANDERSON, 'Agricultural Price Distortions: Trends and Volatility, Past and Prospective'
- 13/02 PREMA-CHANDRA ATHUKORALA and SWARNIM WAGLÉ, 'Export Performance in Transition: The Case of Georgia'
- 13/03 JAYANT MENON and THIAM HEE NG, 'Are Government-Linked Corporations Crowding out Private Investment in Malaysia?'
- 13/04 RAGHBENDRA JHA, HARI K. NAGARAJAN & KOLUMUM R. NAGARAJAN, 'Fiscal Federalism and Competitive Bidding for Foreign Investment as a Multistage Game'
- 13/05 PREMA-CHANDRA ATHUKORALA, 'Intra-Regional FDI and Economic Integration in South Asia: Trends, Patterns and Prospects'.
- 13/06 JAYANT MENON, 'Can FTAs Support the Growth or Spread of International Production Networks in Asia?'

- 13/07 PETER WARR and ARIEF ANSHORY YUSUF, 'World Food Prices and Poverty in Indonesia'.
- 13/08 PETER WARR & ARIEF ANSHORY YUSUF, 'Fertilizer Subsidies and Food Self-Sufficiency in Indonesia'.
- 13/09 MIA AMALIA, BUDY P. RESOSUDARMO, & JEFF BENNETT, 'The Consequences of Urban Air Pollution for Child Health: What does self reporting data in the Jakarta metropolitan area reveal?'
- 13/10 PREMA-CHANDRA ATHUKORALA, 'Global Production Sharing and Trade Patterns in East Asia'.
- 13/11 KYM ANDERSON, MAROS IVANIC & WILL MARTIN, 'Food Price Spikes, Price Insulation, and Poverty'.
- 13/12 MARCEL SCHRÖDER, 'Should Developing Countries Undervalue Their Currencies?'
- 13/13 PREMA-CHANDRA ATHUKORALA, 'How India Fits into Global Production Sharing: Experience, Prospects and Policy Options'.
- 13/14 PETER WARR, JAYANT MENON and SITTHIROTH RASPHONE, 'Public Services and the poor in Laos'.
- 13/15 SAMBIT BHATTACHARYYA and BUDY R. RESOSUDARMO, 'Growth, Growth Accelerations and the Poor: Lessons from Indonesia'
- 13/16 PREMA-CHANDRA ATHUKORALA and ARCHANUN KOPHAIBOON, 'Trade and Investment Patterns in Asia: Implications for Multilateralizing Regionalism'
- 13/17 KYM ANDERSON and ANNA STRUTT, 'Emerging Economies, Productivity Growth, and Trade with Resource-Rich Economies by 2030'
- 13/18 PREMA-CHANDRA ATHUKORALA and ARCHANUN KOHPAIBOON, 'Global Production Sharing, Trade Patterns and Industrialization in Southeast Asia'
- 13/19 HAL HILL, 'Is There a Southeast Asian Development Model?'
- 14/01 RAMESH CHANDRA PAUDEL, 'Economic Growth in Developing Countries: Is Landlockedness Destiny?'
- 14/02 ROSS McLEOD, 'The ill-fated currency board proposal for Indonesia'
- 14/03 ALIN HALIMATUSSADIAH, BUDY P. RESOSUDARMO AND DIAH WIDYAWATI, 'Social Capital to Induce a Contribution to Environmental Collective Action in Indonesia: An Experimental Method'
- 14/04 SHUHEI NISHITATENO and PAUL J. BURKE, 'The motorcycle Kuznets curve'
- 14/05 PREMA-CHANDRA ATHUKORALA, 'Sri Lanka's Post-conflict Development Challenge: Learning from the Past'
- 14/06 PREMA-CHANDRA ATHUKORALA, 'Industrialisation through State-MNC Partnership: Lessons from the Malaysia's National Car Project'
- 14/07 DELWAR HOSSAIN, 'Differential Impacts of Foreign Capital and Remittance Inflows on Domestic Savings in the Developing Countries: A Dynamic Heterogeneous Panel Analysis'

- 14/08 NOBUAKI YAMASHITA, TOSHIYUKI MATSUURA *and* KENTARO NAKAJIMA, 'Agglomeration effects of inter-firm backward and forward linkages: evidence from Japanese manufacturing investment in China'
- 14/09 SHUHEI NISHITATENO, 'Network Effects on Trade in Intermediate Goods: Evidence from the Automobile Industry'
- 14/10 KYM ANDERSON and ANNA STRUTT, 'Implications for Indonesia of Asia's Rise in the Global Economy'
- 14/11 KYM ANDERSON and ANNA STRUTT, 'Food security policy options for China: Lessons from other countries'
- 14/12 HAL HILL and JAYANT MENON, 'Cambodia: Rapid Growth in an Open, Post-Conflict Economy'
- 14/13 ALOYSIUS G. BRATA, PIET RIETVELD, HENRI L.F. DE GROOT, BUDY P. RESOSUDARMO and WOUTER ZANT, 'Living with the Merapi volcano: risks and disaster microinsurance'
- 14/14 HANS G. JENSEN and KYM ANDERSON, 'Grain price spikes and beggar-thy-neighbor policy responses: A global economywide analysis'
- 14/15 KYM ANDERSON, 'Contributions of the GATT/WTO to global economic welfare: Empirical evidence'.
- 14/16 PREMA-CHANDRA ATHUKORALA, 'Global Production Sharing and Asian Trade Patterns: Implications for the Regional Comprehensive Economic Partnership (RCEP)'.
- 14/17
- 14/18