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**Examen des questions relatives à l'appareil subsidiaire
de la Commission, y compris les activités des institutions
régionales: Commerce et investissement**

Chaînes de valeur mondiales, intégration régionale et développement durable: liens et implications politiques

Note du secrétariat

Résumé

Le présent document résume les résultats empiriques et universitaires récents des recherches menées sur les chaînes de valeur, y compris l'analyse de la politique menée par le secrétariat de la Commission économique et sociale pour l'Asie et le Pacifique (CESAP), tout en indiquant les implications politiques et en formulant des recommandations pour examen par les gouvernements de l'Asie et du Pacifique. Dans le document, d'autres mesures sont utilisées pour fournir des faits stylisés sur la participation des pays de la région Asie-Pacifique dans les chaînes de valeur régionales et mondiales. Les principaux facteurs qui contribuent à ces niveaux de participation font également l'objet d'un examen. De plus, le document étudie les relations entre les processus d'intégration régionale et les chaînes de valeur mondiales, en particulier les liens entre les différents types d'accords commerciaux préférentiels et l'évolution des chaînes de valeur mondiales. On y trouve également une analyse des perspectives offertes aux pays en développement de l'Asie et du Pacifique pour renforcer leur participation aux chaînes de valeur régionales et mondiales comme un moyen de réaliser les objectifs de développement durable. Les liens entre la durabilité des chaînes de valeur mondiales et les entreprises sont examinés, l'accent étant mis sur les petites et moyennes entreprises. Plus précisément, le document insiste sur les implications du développement et les défis à relever par les petites et moyennes entreprises dans le contexte de certains secteurs d'activité (la transformation agroalimentaire, l'habillement, le textile et les pièces pour véhicules automobiles). Les concepts d'économie circulaire et d'investissement social sont également étudiés dans le contexte de leur importance pour les chaînes de valeur mondiales et de leurs liens avec ces dernières.

L'analyse se conclut par un certain nombre d'options de politique pour les stratégies commerciales nationales et la conception des politiques économiques destinées à améliorer la compétitivité des entreprises et le contenu de la production à valeur ajoutée. Le document souligne qu'aucune solution simple et valable pour tous n'existe ou n'est souhaitable et qu'en fait, certains des facteurs pesant sur l'évolution dans ce domaine peuvent ne pas être déterminés par les responsables des politiques commerciales. Plusieurs initiatives à entreprendre par la CESAP sont soumises pour examen par la Commission.

* Document non traduit en français, à l'exception du résumé.

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I. Dynamics of global value chains

1. The term “global value chain” has been used to describe a sequence of the functional activities required in the process of value creation involving more than one country.¹ As a result of the expansion of these chains, business activities at different stages of value addition, such as research and development, design, production of parts, manufacturing assembly, marketing and branding, are located in different countries based on where they are most efficiently produced/supplied. Although the nature of global value chains may be sector-specific, they typically involve the movement of intermediate inputs through successive countries within the global network system of transnational corporations. The global production strategies of transnational corporations result in shifting the focus of global trade from trade in final consumer items (goods and services) to trade in intermediate inputs. According to the United Nations Conference on Trade and Development (UNCTAD),² “about 60 per cent of global trade, which today amounts to more than \$20 trillion, consists of trade in intermediate goods and services that are incorporated at various stages in the production process of goods and services for final consumption”.

2. The rapid pace of growth of global value chains in the previous two decades is associated with the significant reduction in international trade costs.³ A precondition for the international unbundling of production processes is that trade costs must be low enough to enable firms to utilize country-specific advantages related to cost efficiency or market access (figure 1).⁴

3. Trade costs include the whole range of expenses to a firm when bringing goods or services from where they are produced to where they are consumed. Other important costs related to global value chains are coordination costs as geographically dispersed activities have to be managed in a consistent way. A trade-cost reduction makes it profitable for firms that previously concentrated their production stages in one country to move some stages of the production process overseas. Firms that have already been internationally fragmenting their production are also likely to increase their trade in components when trade costs decline. Several factors have resulted in the reduction of trade costs during the previous two decades, including reduced transport and communication costs as a result of technological advances, trade and investment liberalization and regulatory and institutional reforms.

¹ There are also other terms related to the term “global value chains” and used interchangeably in economic literature. Some of them are “global production networks”, “disintegration of process”, “international production sharing”, “production fragmentation” and “international unbundling of production”. See *World Investment Report 2013* (Geneva, UNCTAD, 2013).

² Ibid., p.122.

³ In the case of goods, trade costs include land transport and port costs, freight and insurance costs, tariffs and duties, costs associated with non-tariff measures, and can be extended to also include mark-ups from importers, wholesalers and retailers. See K. De Backer and S. Microdot, “Mapping global value chains”, Organisation for Economic Co-operation and Development (OECD) Trade Policy Paper No. 159 (TAD/TC/WP(2012)6/FINAL) (Paris, OECD, 2013). In the case of services, transport costs are largely replaced with communication costs (although services can also be provided by natural persons that have to travel to the country where the consumer is located) and trade barriers are non-tariff measures.

⁴ A large body of literature contains discussion on factors influencing a firm’s decision to internationally fragment their production. See *Asia-Pacific Trade and Investment Report 2015* (Bangkok, ESCAP, 2015) for more details.

Figure 1
Main drivers of global value chains



Source: ESCAP.

II. Understanding the participation of Asia-Pacific economies in global value chains⁵

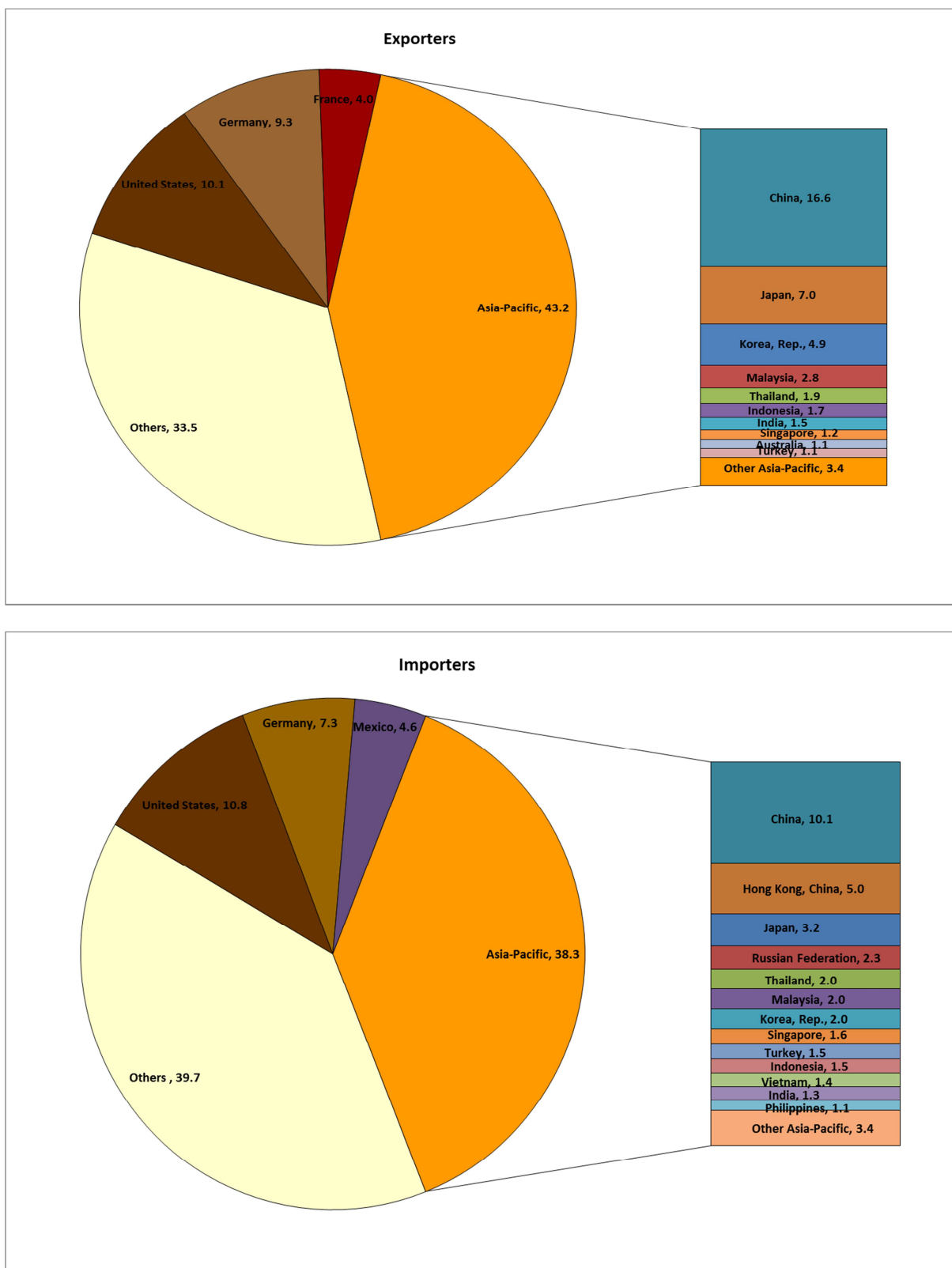
4. The use of descriptive statistics allows for the identification of several facts and trends as detailed below.

A. Global value chain-related trade opportunities in Asia and the Pacific seem to be concentrated in just 10 countries

5. The region represents a significant share in the global trade of global value chain products. In 2013, 43 per cent of global value chain intermediate exports worldwide came from the region, which accounted for 38 per cent of global value chain-intermediate imports globally in the same year. However, 90 per cent of these trade flows are concentrated in 10 countries, namely Australia, China, Japan, India, Indonesia, Malaysia, the Republic of Korea, Singapore, Thailand and Turkey (figure 2).

⁵ This document combines Sturgeon and Memodevic's (T.J. Sturgeon and O. Memodevic, "Mapping global value chains: intermediate goods trade and structural change in the world economy", Working paper 05/2010 (Vienna, United Nations Industrial Development Organization, 2010)) classification and the United Nations Broad Economic Categories Classification to examine global value chain-related trade in final and intermediate products of the agrofood, apparel and footwear, automotive, and electronics sectors using trade data available in the United Nations Comtrade database. The Sturgeon and Memodevic approach allows a distinction between global value chain-related products and general products on the basis of product differentiation. They adopt a concept of product differentiation, which not only focuses on the differentiation of final products but also includes customized intermediate inputs. Those inputs tend to be utilized in the production of differentiated final products.

Figure 2
Major exporters and importers of global value chain intermediate products, 2013
(Percentage share of total exports and imports)



Source: ESCAP.

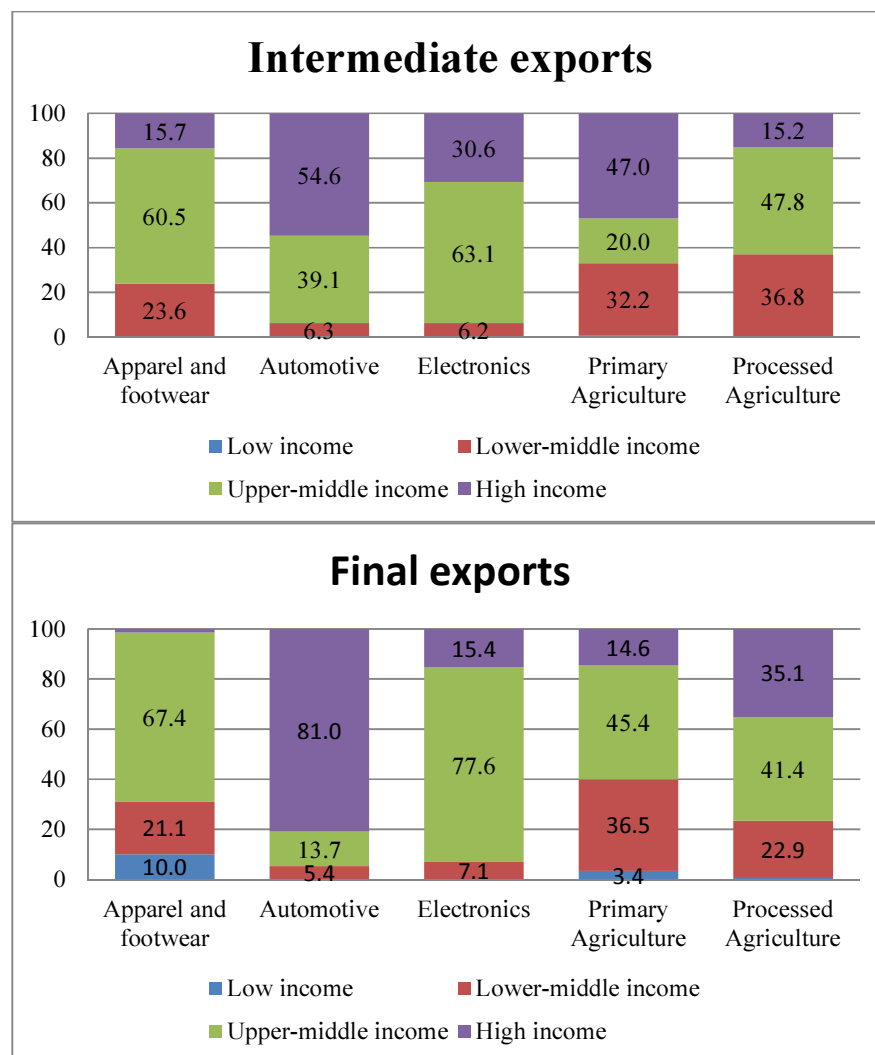
B. Spread of global value chains bypasses low income countries

6. Participating countries in global value chains are of varying development levels, but for the most part tend to be those that are at high- and middle-income levels, with low-income countries left out.

7. In general, global value chain exports of Asia and the Pacific are predominately electronics exported by the upper-middle income countries (figure 3). They are also prevalent in the exports of other product groups, but not automotive products, which are mainly exported by high-income developing countries. There also seems to be a division of labour between countries within each income group. For instance, within the group of upper-middle income countries, China is the most important exporter of the group (as well as the region), particularly in the exports of electronics. Turkey and Thailand have significant export shares, especially in the final exports of automotive and agriculture products. Malaysia is the largest exporter of processed agriculture intermediates, and also accounts for a considerable share of the exports of intermediate electronics. The low-income countries have a negligible share in most cases except for the final exports of apparel and footwear, mainly from Bangladesh and Cambodia.

Figure 3

Shares of Asia-Pacific income groups in global value chain exports by sector, 2013
(Percentage share of Asia-Pacific exports)



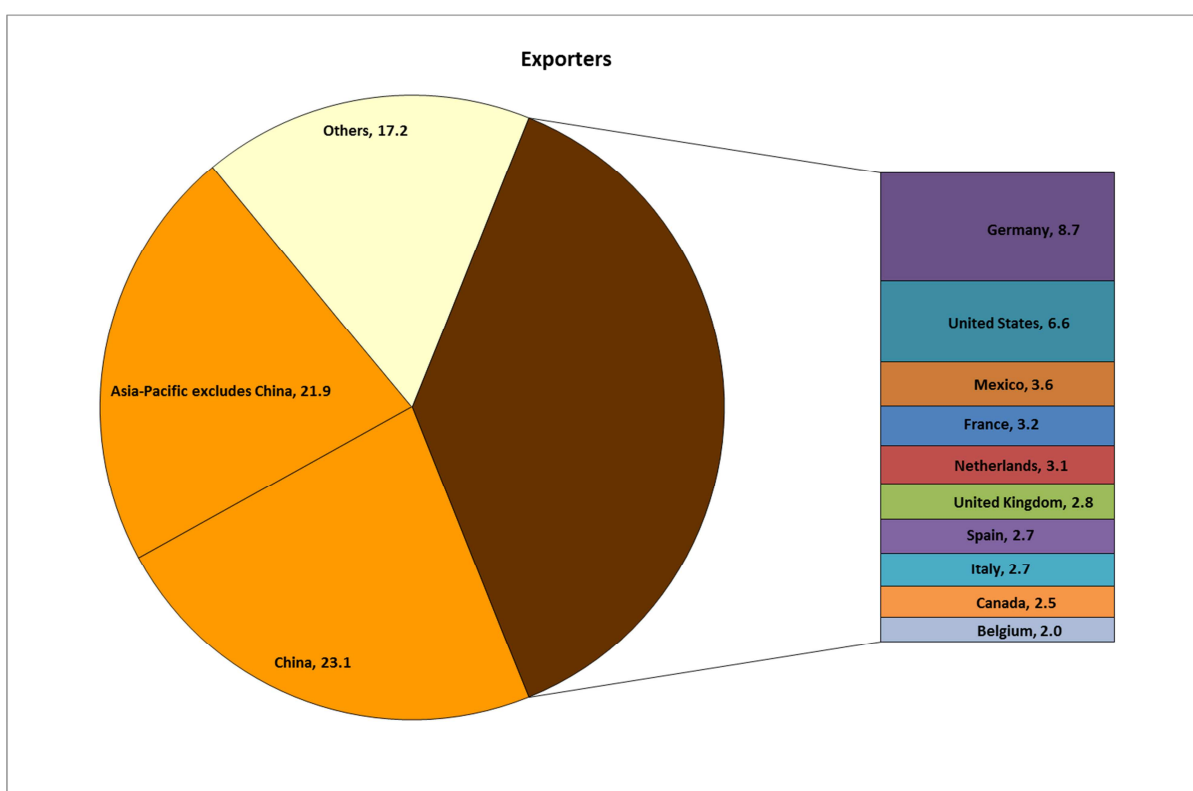
Source: ESCAP.

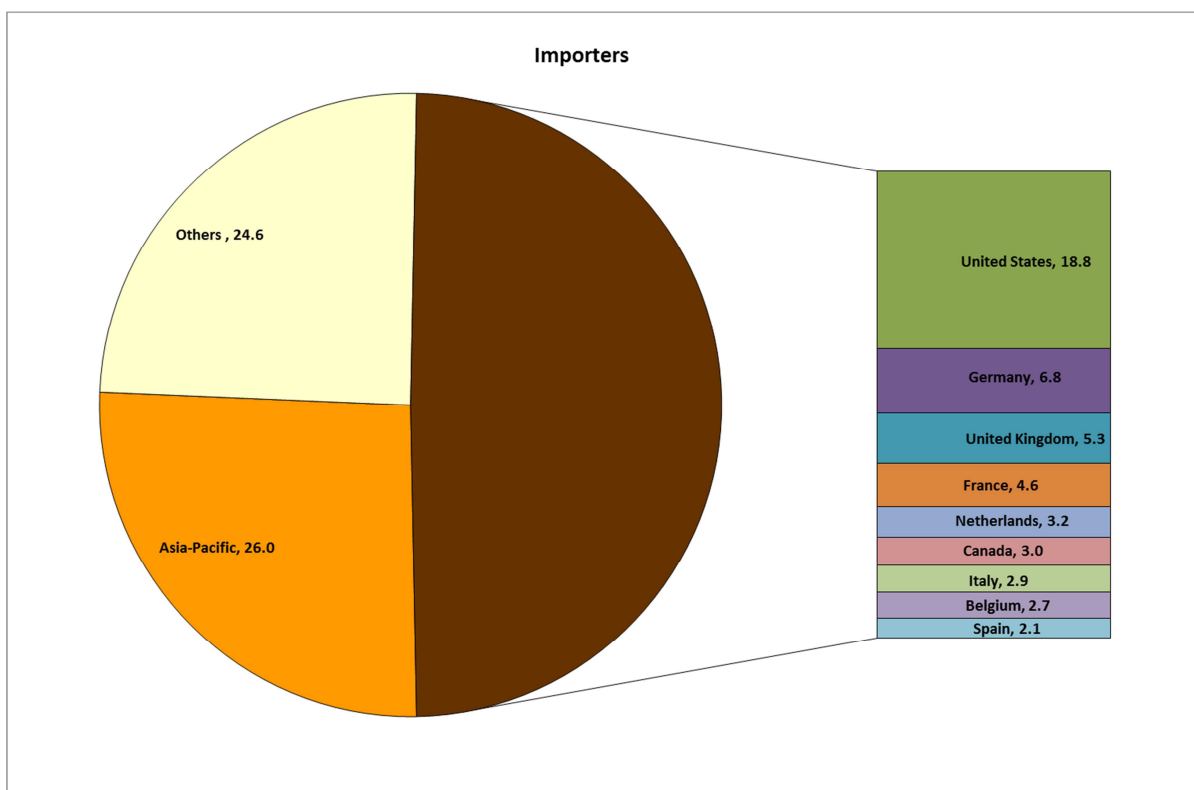
C. Demand for final goods continues to come mainly from traditional markets, but there had been a notable shift towards Asia and the Pacific

8. While it is clear that Asia-Pacific economies have served as an important export-processing platform for global value chain products, final demand still comes mainly from developed countries outside the region. The region's imports of global value chain-final products accounted for just 26 per cent of the world imports in 2013 (figure 4). In contrast, about 45 per cent of global value chain-related exports of final products worldwide came from Asia and the Pacific in that year, with exports from China representing half of the region's final exports.

Figure 4

Major exporters and importers of global value chain final products, 2013
(Percentage share of total exports and imports)



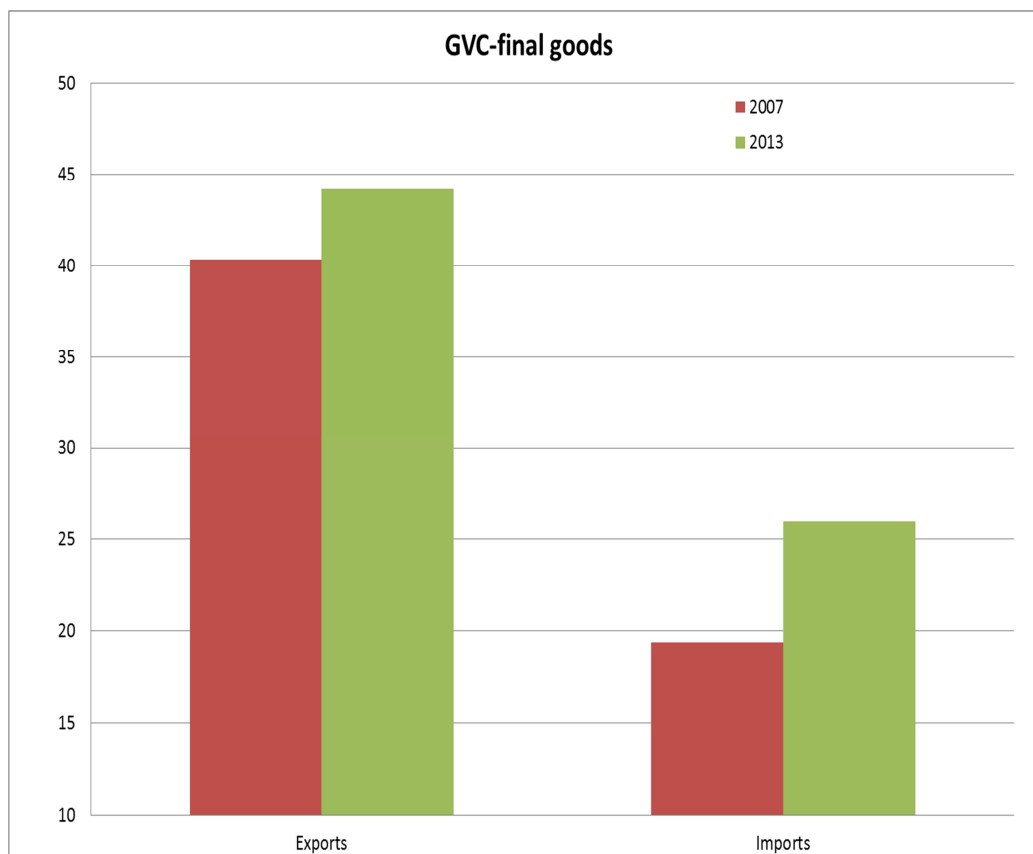


Source: ESCAP.

9. The 2008/2009 economic crisis in developed countries has accelerated a global demand shift from the United States of America and the European Union towards developing economies. In 2013, the Asia-Pacific region significantly increased its stake in final imports, by seven percentage points, from 19 per cent in 2007 to 26 per cent (figure 5). Exporters in developed countries are also aware of the drop in demand at home, and are shifting their focus to emerging markets. The Spanish group Inditex (Zara) is an example of this. In 2009, the group opened new retail outlets in China, India, Kazakhstan, the Republic of Korea and the Russian Federation with the aim of improving its financial performance after the financial crisis.

Figure 5

Shares of Asia and the Pacific in world trade of global value chain final products, before and after the 2008-2009 global economic crisis
(Percentage share)



Source: ESCAP.

D. Demand shifts trigger changes in structure of global value chain intermediate trade

10. Shifts in global demand appear to have triggered a restructuring of global value chain intermediate trade. For instance, there has been a significant drop in demand for electronics products from the United States and European countries, especially in intermediate products since 2007.⁶ Automotive intermediates have been less affected, owing to robust demand from rapidly growing developing economies. As a result, the share of electronics in global trade of intermediate products dropped significantly from 53 per cent in 2006 to 25.5 per cent in 2013, while the share of the automotive sector increased from 29.5 per cent to 42 per cent during those years.

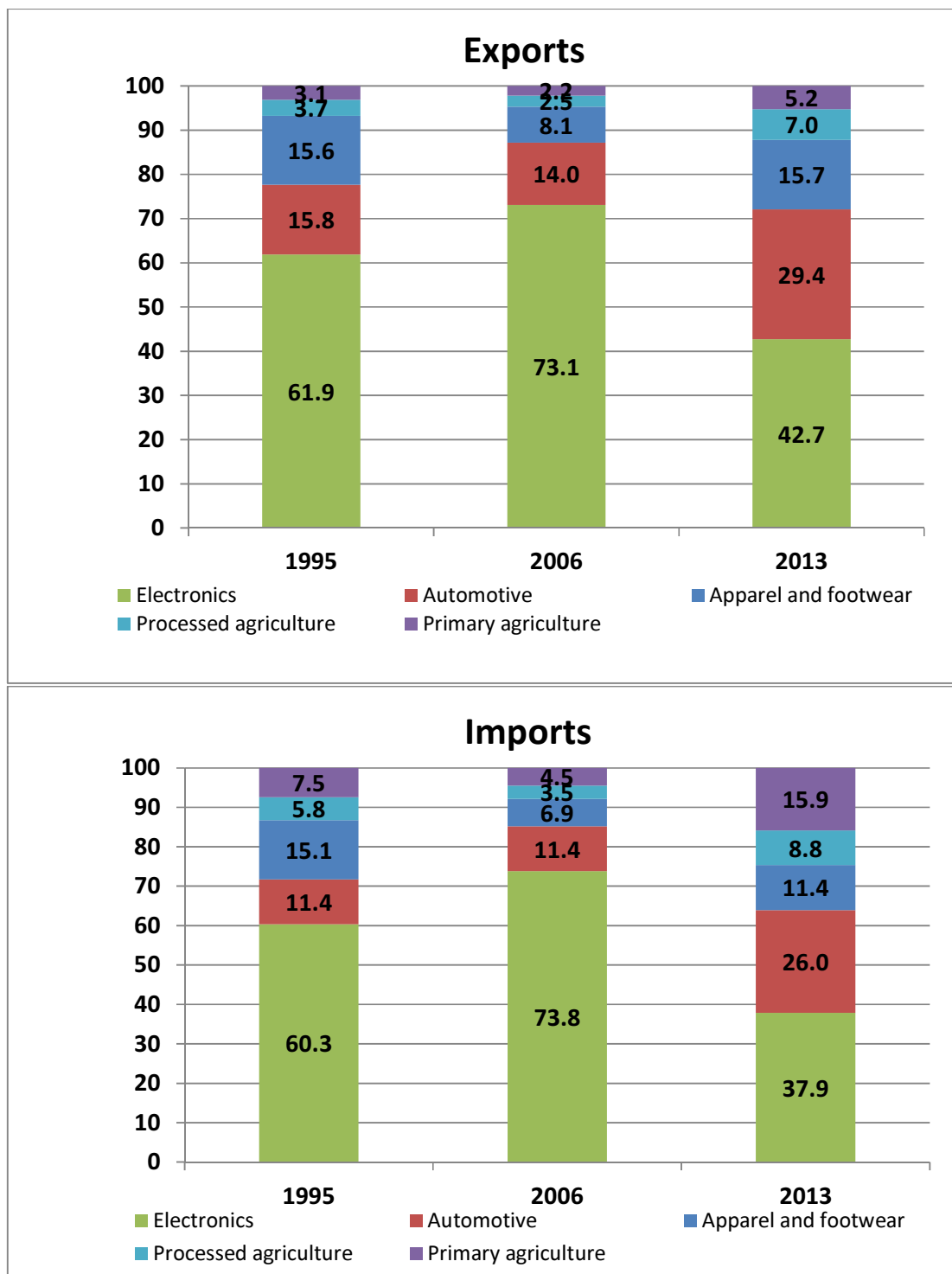
11. Those global shifts have been reflected in the export structures of Asia and the Pacific. In 2013, the share of intermediate electronics in the region's total intermediate exports dropped to 43 per cent from 73 per cent in 2006 while the import share decreased even more to 38 per cent from 74 per cent

⁶ The findings seem to be consistent with that of Milberg and Winkler (W. Milberg and D. Winkler, "Trade crisis and recovery: restructuring of global value chains", Policy Research Working Paper 5294 (Washington, D.C., World Bank, 2010). They observe that the share of trade among developing countries jumped to 50 per cent of world intermediate goods trade in 2009 compared to about 25 per cent in 2000.

(figure 6) The greater reduction of the import share compared with the export share could imply that assembling countries, such as China, have increasingly diversified their production towards upstream activities, and, hence, rely less on imported parts and components. This has put pressure on other Asia-Pacific countries to upgrade and adjust their positions in accordance with shifting global value chain dynamics.

Figure 6

Structure of intermediate trade by Asia-Pacific countries, 1995-2013
(Percentage share of total exports and imports)



Source: ESCAP.

III. Regional dimension of global value chain development

A. Regional integration initiatives are driving and are being driven by global value chains

12. The expansion of global value chains has opened opportunities for deeper integration in Asia and the Pacific by allowing countries to pursue division of labour and specialization (by tasks). For instance, technology-intensive parts and components of electronics products are produced in relatively advanced countries, such as Japan and the Republic of Korea, while assembling different intermediates into finished products is being undertaken in emerging economies, such as China and Viet Nam. The regional nature of global value chains has been confirmed by research using intercountry input-output tables. For instance, Baldwin points out that much of the value-added distribution in global value chains globally tends to be within regional blocs that are broadly defined as “Factory Europe”, “Factory North America” and “Factory Asia”.⁷ De Backer and Yamano indicate that around three quarters of the intermediates embodied in exports of the European Union are sourced within Europe.⁸ Similarly, Canada and Mexico are heavily oriented towards other North American Free Trade Agreement countries; more than 50 per cent of the imported intermediates embodied in their exports originate in the North American Free Trade Agreement zone.

13. The regional nature of global value chains may be related to the role played by trade costs. Countries are sourcing intermediates from relatively nearby countries to minimize transportation costs, which are key in efforts to cut trade-cost-related infrastructure and services, such as logistics, transportation, information and communications technology (ICT) and streamlined custom clearance. More efficient financial and insurance services have helped reduce trade costs. Regional integration agreements may partly reduce trade costs between countries within a region, especially if such agreements facilitate deep integration beyond market access. In other words, integration agreements that include liberalization of services trade, investment provisions, intellectual property rights protection and the harmonization of standards and regulations makes cross-border production more efficient.

14. While it is difficult to quantify the depth of integration agreements, there is evidence of a positive association between having regional integration agreements and the growing interconnected production and trade between member countries.⁹

⁷ R. Baldwin, “Global supply chains: why they emerged, why they matter, and where they are going”, in *Global Value Chains in a Changing World*, D.K. Elms and P. Low, eds. (Geneva, World Trade Organization, 2013), pp. 13-59. Available from www.wto.org/english/res_e/booksp_e/aid4tradeglobalvalue13_e.pdf.

⁸ K. de Backer and N. Yamano, “International comparative evidence on global value chains”, OECD Science, Technology and Industry Working Paper 2012/3 (DSTI/DOC(2012)3) (Paris, 2012). Available from [www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/DOC\(2012\)3&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/DOC(2012)3&docLanguage=En).

⁹ For example, R.C. Johnson and G. Noguera, “Fragmentation and trade in value added over four decades”, NBER Working Paper No. 18186 (Cambridge, M.A., National Bureau of Economic Research, 2012); K. Hayakawa and N. Yamashita, “The role of preferential trade agreements (PTAs) in facilitating global production networks”, IDE Discussion Paper No. 280 (Chiba, Japan, Institute of Developing Economies, 2011); J. Blyde, A. Graziano and C. Volpe Martincus, “Economic integration agreements and production fragmentation: evidence on the extensive margin”, *Applied Economics Letters*, 25 November 2014; and G. Orefice and N. Rocha, “Deep integration and production networks: an empirical analysis”, *The World Economy*, vol. 37, No. 1, pp. 106-136.

15. However, there is also the possibility of reverse causality. Orefice and Rocha¹⁰ find that the higher levels of trade in global value chains raise the likelihood of signing more comprehensive agreements, especially among Asian countries and among countries with different development levels. For instance, following the implementation of North America Free Trade Agreement and the signature of the Mexico-EU Free Trade Agreement, Japanese automobile manufacturers found themselves in a disadvantaged position and pushed their Government to sign a free trade agreement with Mexico. In addition, Japanese free trade agreements often include beyond-the-border issues, which help to improve the efficiency of international production networks, such as trade facilitation, investment protection and facilitation, technical cooperation and international financial policy cooperation.¹¹

B. Intraregional trade plays an increasing role in the development of global value chains in the region

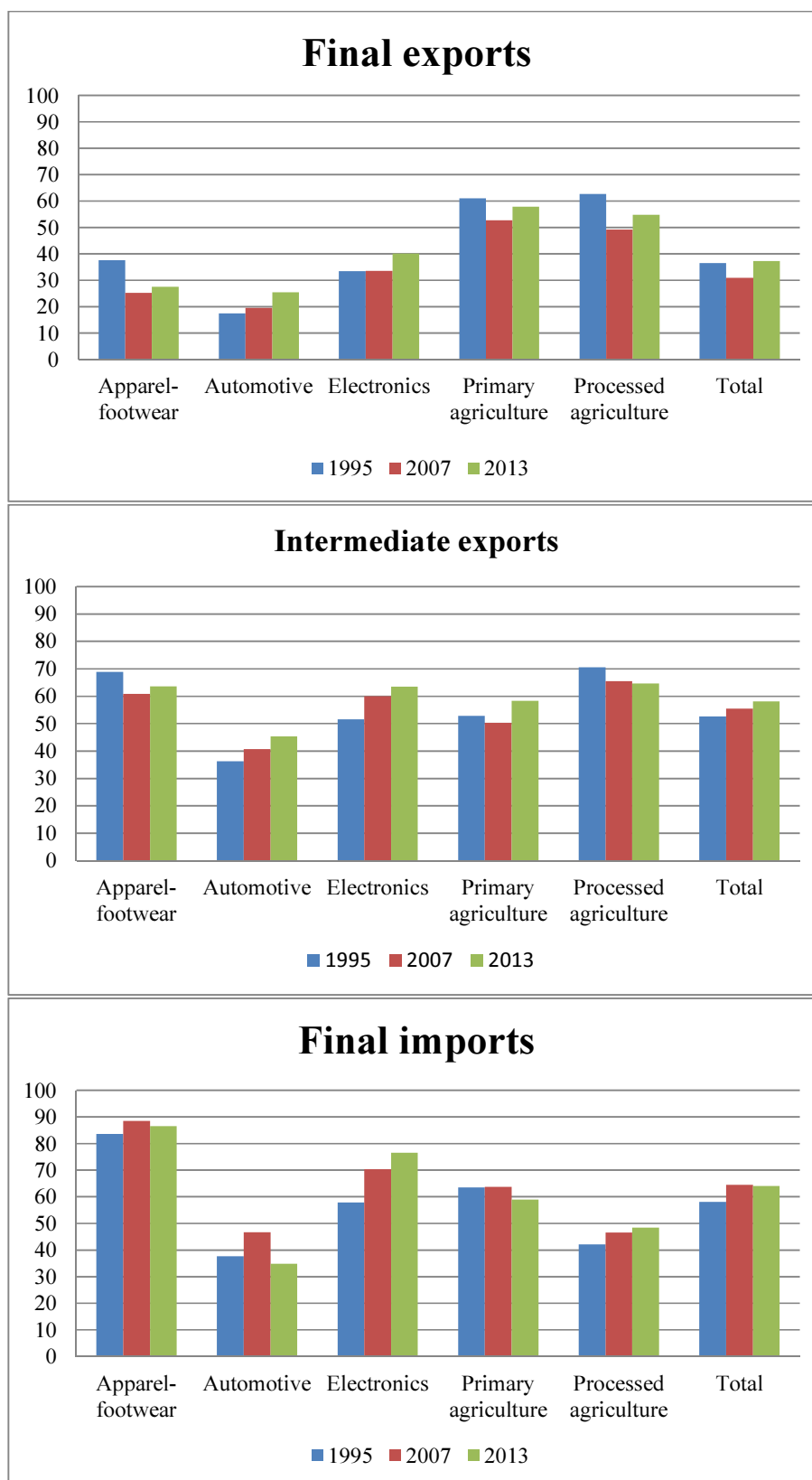
16. With intraregional trade, especially trade in intermediates, now an important and growing element of global value chain-related trade, regional integration could enhance participation in global value chains among countries in Asia and the Pacific. The share of intraregional exports in total intermediate exports by Asia-Pacific countries grew from 52.6 per cent in 1995 to 58 per cent in 2013. Global value chain-related production in Asia and the Pacific relies heavily on intraregional intermediate imports. In 2013, more than 65 per cent of the global value chain intermediate imports of Asia and Pacific countries came from countries within the region. The regional import intensity was particularly high for apparel and footwear and electronics with shares of intraregional intermediate imports at 91.5 per cent and 82 per cent, respectively (figure 7). The regional import intensity was moderate for automotive and processed agriculture, of which the regional intermediate imports were 60 per cent and 55 per cent, respectively, in 2013. In contrast, the regional intensity was relatively low for primary-agriculture imports, at 22 per cent.

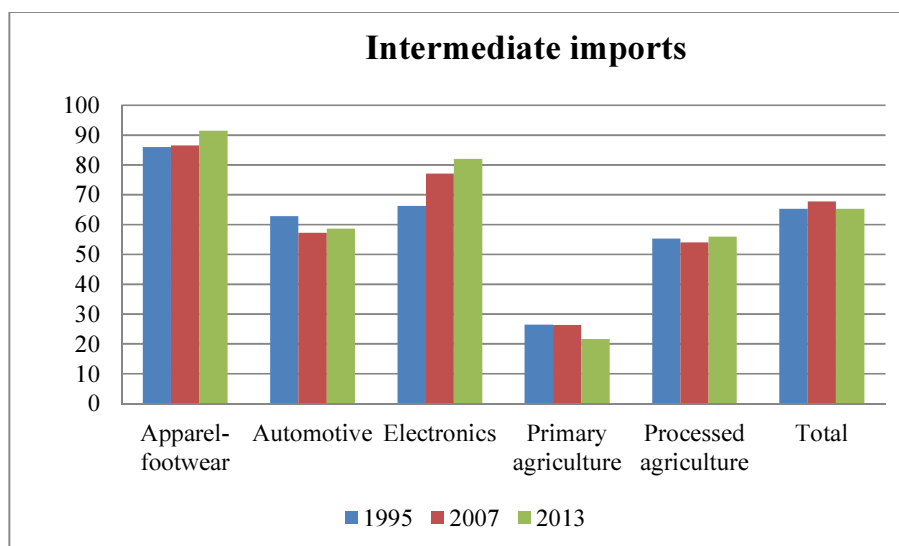
17. With regard to final products, the regional export intensity of global value chain final exports from Asia and the Pacific increased rapidly from 30.7 per cent in 2007 to 37 per cent in 2013. It is expected that the regional trade intensity will become even stronger if the region becomes a global growth pole. However, the opportunities for rising intraregional trade in final products will differ across sectors. The sectors that have a relatively high potential to benefit from the global demand shift towards Asia and the Pacific include apparel-footwear and electronics, which have a high share of intraregional imports at 86.5 per cent and 76.6 per cent of total final imports, respectively. These shifts of global final demand towards large developing countries in the region also add to the importance of regional integration, especially for smaller developing countries in the region.

¹⁰ G. Orefice and N. Rocha, "Deep integration and production networks: an empirical analysis", *The World Economy*, vol. 37, No. 1, pp. 106-136.

¹¹ A. Jerzewska, "Japan's FTAs as tools for achieving companies' commercial interests: do Japanese corporations need a region-wide trade liberalization treaty?", *Asian Regional Integration Review*, vol. 3 (March 2011), pp.1-17.

Figure 7
Shares of intraregional trade, 1995-2013
(Percentage share of total exports and imports)





Source: ESCAP.

18. Corresponding with the rising intraregional trade intensity of global value chains in Asia and the Pacific is growing intraregional trade among non-high income countries (South-South trade). Between 1995 and 2013, increasing dependence of low-income countries exports on middle-income markets, especially the upper-middle income countries, is evident (see table). Exports from low-income Asia-Pacific to the upper-middle income countries in the region accounted for more than 66 per cent of their intraregional intermediate exports and 33 per cent of their intraregional final exports in 2013, a dramatic increase by 58 and 23 percentage points, respectively, from the export shares in 1995. Similarly, upper-middle income Asia-Pacific countries as a group have become a major destination for intraregional exports from other income groups, with shares of about 40.6 per cent to 53 per cent of the high-income countries' intraregional exports, 36.6 per cent to 46 per cent of those of the lower-middle income group, and 11.7 per cent to 18.9 per cent of the exports from the same group. In contrast, intraregional exports to the region's high-income countries have grown at a much slower rate. As a result, the share of total intraregional exports to high-income countries, though still significant, has dropped considerably by about 10.6 to 39.1 percentage points during the periods.

19. The impacts of regional integration on global value chain-related exports of the region are systematically investigated using gravity modelling. ESCAP research finds that regional trade agreements have a positive association with global value chain-related exports of Asia-Pacific countries. Discounting other factors, global value chain export opportunities are much higher if countries have a regional trade agreement with each other. The agreement's effects seem to be larger for intermediate exports than for final exports. In addition, the impacts on intraregional exports appear to be stronger than exports to the rest of the world.¹²

¹² Estimated coefficients of the regional trade agreement dummy variables show that there seems to be a positive association between a regional trade agreement membership dummy and bilateral export flows. The sizes of estimated coefficients suggest that, given other things remaining constant, having a regional trade agreement with a respective partner significantly enhances the export opportunity by up to 80 per cent for final exports and 109 per cent for intermediate exports. For intraregional exports, the impacts could reach 108 per cent and 120 per cent for final and intermediate exports, respectively.

Table
Intraregional exports of global value chain products by country income level groups, 2013 and changes from 1995
(Percentage of intraregional exports)

Importer	Final goods				Intermediate goods			
	High	Upper-middle	Lower-middle	Low	High	Upper-middle	Lower-middle	Low
Exporter								
High income	45.1	40.6	12.6	1.6	26.9	53.0	19.0	1.0
Changes from 1995 (percentage points)	-30.0	23.3	6.2	0.6	-25.6	15.6	10.1	-0.1
Upper-middle income	74.4	11.7	11.8	2.1	58.0	18.9	18.0	5.1
Changes from 1995 (percentage points)	-20.3	9.1	9.8	1.5	-22.4	7.2	11.8	3.4
Lower-middle income	43.7	36.6	16.1	3.6	30.0	46.0	14.4	9.7
Changes from 1995 (percentage points)	-39.1	27.2	10.4	1.6	-38.1	24.5	8.5	5.1
Low income	50.6	32.9	16.4	0.0	12.7	66.2	20.4	0.7

Source: ESCAP.

20. However, given the global nature of global value chains, regional approaches to liberalization may have limited benefits without improving the connectivity of a country with global trade partners through unilateral or multilateral trade and investment liberalization and facilitation. ESCAP research finds that the reduction of trade barriers from the perspectives of both exporters and importers seem to be associated with an increase in global value chain-related exports from Asia-Pacific countries. The reductions of tariffs in exporting countries, in particular seem to have a strong effect compared with the impact of similar reductions in importing countries. This may imply that unilateral trade liberalization of an exporting country is an important strategy for increasing its global-related exports. In addition, trade facilitation through the improvement of ICT, logistics and transportation systems, and removing behind-the-border obstacles could enhance global value chain-related trade between countries. Therefore, the pursuit of bilateral and regional integration agreements without domestic reforms of trade and investment policy, in particular trade facilitation, will not be sufficient to make a country a major player in global value chains.

21. In addition, the impacts of regional trade agreements appear to be particularly strong for enhancing exports to trading partners that are non-high-income countries, mostly other developing countries.¹³ A possible explanation of the relatively high impact on exports to developing countries' markets is that import restrictions, such as most-favoured-nation tariffs, in high-income (North) countries have already been reduced to a very low level. In contrast, there is still room for regional trade agreements to result in a profitable margin of preference on trade between developing countries whose applied import tariffs remain above average provided that those agreements have strong commitments and are broad in scope and coverage.

¹³ *Asia-Pacific Trade and Investment Report 2015* (Bangkok, ESCAP, 2015).

IV. Mainstreaming sustainable development into global value chains

22. Given the increasing role of global value chains in trade and investment expansion and production restructuring in the region, it is important to view their impact on sustainable development. It is also necessary to identify the conditions and actions required by Governments and businesses participating in global value chains that would make them contribute positively to sustainable development, as well as also make them sustainable. Sometimes those required conditions or actions are conflicting, indicating that a compromise among the three dimensions of sustainable development, namely economic efficiency, social inclusivity and environmental sustainability, might be necessary. When a compromise is needed, Government intervention is generally necessary.

A. Impact of global value chains on sustainable development, both positive and negative

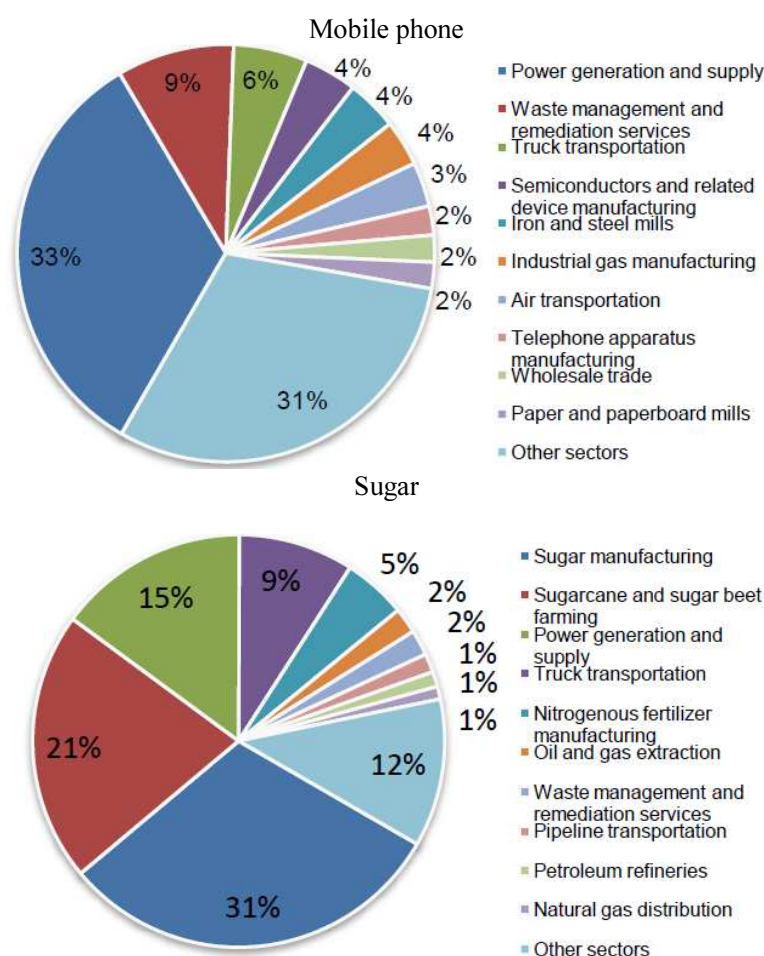
23. Global value chains that have been leveraged by the increasing flows of foreign direct investment (FDI) are expected to have both positive and negative effects on the three pillars of sustainable development. The aim of global value chains is to enhance economic efficiency throughout production networks with the purpose of maximizing outputs and minimizing costs and, hence, optimizing profits. They are also intended to facilitate access to key markets and resources at both national and global levels. Such strategies and actions, however, may create both positive and negative effects on the society at large.

24. Though global value chains may hamper the development of nascent smaller local firms in developing countries as a result of rapid market penetration of transnational corporations through FDI inflows, they can also facilitate inclusive development in the region. In particular, smaller firms, more specifically export-oriented small and medium-sized enterprises and supporting industry small and medium-sized enterprises, could gain access to networks by establishing links with large enterprises or even with other small and medium-sized enterprises within the global value chains. Notably, global value chains help to boost the value-added activities of affiliated small and medium-sized enterprises in international trade by providing an established market. Given the importance of such enterprises for employment, including of women, global value chains, therefore, contribute to inclusive development in a country. In addition, private standards imposed and technology transfer and training provided by lead enterprises in the global value chain to local suppliers could improve the capacity of small and medium-sized enterprises.

25. Figure 8 presents the carbon footprints of two major global value chain products, mobile phones and sugar. While these two products have different structures of carbon emissions, both of them produce carbon from a variety of activities throughout their global value chains. Those activities are conducted by a number of independent or related firms that participate in the global value chain with a variety of roles, such as manufacturing and power supply. It follows that climate change, one of the most crucial issues of the sustainable development agenda,¹⁴ may not be addressed adequately without reviewing the entire networks of global value chains and their detailed carbon emission structures.

¹⁴ See www.un.org/en/ga/president/65/issues/sustdev.shtml.

Figure 8
Carbon footprint by product



Source: World Economic Forum, *Supply Chain Decarbonization: The Role of Logistics and Transport in Reducing Supply Chain Carbon Emissions* (Geneva, 2009).

26. In this regard, lead enterprises driving global value chains can also enhance the awareness of other participating firms on climate change and facilitate the adoption and implementation of climate-smart technologies and related initiatives. Many firms, particularly small and medium-sized enterprises in developing countries, often do not consider climate change as an immediate business concern, which is mainly due to their limited resources and managerial capacity. They do not typically have a low-carbon strategy unless they are in an energy-intensive business or have a stake in presenting a clean and green image. However, end-consumers, namely the general public, particularly in the developed world, have begun to purchase products/services that are classified and labelled as low-carbon or climate-smart, and/or purchase them from firms actively engaged in clean and green practices. This will ultimately compel small and medium-sized enterprises to align themselves with those demands, through the lead firms of global value chains that are receiving customer feedback directly and significantly.¹⁵

¹⁵ J.H. Lee, J.S. Kim and S. Maliphol, *Innovation System Diagnosis and STI Strategy Development for Least Developed Countries: Case of Lao PDR* (Seoul, Science and Technology Policy Institute, 2011).

B. What motivates firms to embark on improving the sustainability of their global value chains?

27. Motivations for enhancing sustainability in global value chains reflect the benefits anticipated from addressing these issues. Scholars, such as Porter and Kramer,¹⁶ suggest a number of motives for business to integrate the sustainability concept into their global value chain. They include moral obligation, environment and community stewardship, licence to operate, reputation, risk management, financial gains and innovation. Similarly, Brammer, Hoejmoose and Millington¹⁷ identify the following motives for firms to engage in sustainable global value chain management: a desire to maintain customers or to attract new customers; desire to manage supply chain risks or disruptions; goal to comply with regulations and legislation; and managing a firm's reputation. These motivations might be broadly characterized in nature as: (a) "defensive" or "reactive"; or (b) positive" or "pro-active".

28. It is noteworthy, however, that neither environmental concerns nor social issues, such as community-related issues and labour conditions are principal reasons for businesses to engage in sustainable global value chain management. In this connection, consumers are identified as the most significant stakeholder, followed by Government. Also significantly, the general public, pressure groups and non-governmental organizations also play a strong role in encouraging firms to engage in sustainable global value chain management.

C. Corporate sustainability drives the sustainability of global value chains

29. In the business world, sustainable global value chain management has thus far been addressed by the concept and practices of corporate sustainability, or its close cousins, such as corporate social responsibility, corporate citizenship, business ethics and responsible business practices or conduct. Corporate sustainability is a loose concept that has many interpretations, but typically it has economic, legal, social and environmental dimensions,¹⁸ which are more or less in line with the three dimensions of sustainable development. Economic responsibility is arguably the most fundamental goal of business entities, followed by the legal responsibility that each firm has to act within the given legal framework regulated by the Government. However, society is increasingly expecting a higher level of social and environmental responsibility from business. This has prompted businesses to adopt corporate sustainability as part of the strategic management of their operations, which includes global value chains. As such, corporate sustainability, in particular of lead firms in global value chains, is important for ensuring sustainability of global value chains and sustainable development in the more general sense.

¹⁶ M. Porter and M.R. Kramer, "Strategy and society: the link between competitive advantage and corporate social responsibility", *Harvard Business Review*, vol. 84, No. 12 (2006).

¹⁷ S. Brammer, S. Hoejmoose and A. Millington, *Managing Sustainable Global Supply Chains: A Systematic Review of the Body of Knowledge* (London, Ontario, Network for Business Sustainability, 2011). Available from <http://nbs.net/wp-content/uploads/nbs-systematic-review-supply-chains.pdf>.

¹⁸ B. Carroll, "A history of corporate social responsibility: concepts and practices", in *The Oxford Handbook of Corporate Social Responsibility*, Andrew Crane and others, eds. (Oxford, Oxford University Press, 2008) pp. 19-46. Available from www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199211593.001.0001/oxfordhb-9780199211593-e-002.

30. Corporate sustainability also requires effective stakeholder engagement or management. Global value chains typically network a number of entities or individuals, such as manufacturers, suppliers, distributors, regulators, financial and service providers as well as customers and consumers, both domestically and across borders. Corporate sustainability suggests that, instead of only striving for larger returns to its shareholders, a responsible enterprise takes into account the interests of all its stakeholders, such as employees, suppliers, dealers, local communities and the country as a whole.¹⁹

D. Involvement of small and medium-sized enterprises in global value chains is crucial for sustainable development

31. Compared with their larger counterparts, small and medium-sized enterprises often do not prioritize sustainability issues and thus tend have a weak link with the sustainable development agenda unless they are specifically involved in sectors that have a direct link with sustainability issues, such as renewable energy, recycling or waste management. As small and medium-sized enterprises are key players in global value chains, it is important to identify and address the challenges they face in ensuring sustainability.²⁰ Apart from meeting sustainability challenges, participating firms in global value chains must be able to meet an increasing number of stringent standards, conformity requirements and certifications. Intense global value chain-based competition in markets is forcing prices down, while driving up the requirements for production, technological and management capabilities of participating firms. This is creating a difficult competitive environment for small and medium-sized enterprises that often do not possess these capabilities.

32. Global value chains potentially could provide opportunities for small and medium-sized enterprise to access international markets and help them upgrade capabilities over time. Depending on the level of sustainability of the lead firm, global value chains would also help small and medium-sized enterprises to upgrade sustainability. In particular, small and medium-sized enterprises can enter into supplier relationships with larger enterprises in the framework of global value chains, such as subcontracting arrangements,²¹ and can specialize in a limited set of activities and outputs within the framework of global value chains, while accessing large regional and global markets. This would allow such firms to better organize their production and improve their technologies and skills. At the same time, global value chains also create a more demanding environment, which require small and medium-sized enterprises to work in a more formal manner and upgrade not only their production methods, but also their sustainable management practices.

33. These and other challenges for small and medium-sized enterprises can best be understood within the context of specific industry value chains that have particular relevance for regional economies.

¹⁹ H.L.J. Johnson, *Business in Contemporary Society: Framework and Issues* (Belmont, C.A., Wadsworth Publishing Company, 1971).

²⁰ This issue is particularly relevant to three of the proposed sustainable development goals: goal 8 “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”, goal 9 “build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” and goal 10 “reduce inequality within and among countries”. See www.un.org/en/ga/president/65/issues/sustdev.shtml.

²¹ Outsourcing production to small and medium-sized enterprises also increases the profitability of lead firms as they can allocate their resources to their core competencies and higher value-added activities. Subcontracting may also lead to improvements in technology and proper planning of the resources of small and medium-sized enterprises.

1. Agribusiness

34. The agribusiness sector has been one of the most vibrant growth sectors internationally, with many of its products sourced from developing economies in Asia and the Pacific. The dominance of large retailers/supermarkets that control the agroproduct brands and product standards and requirements, as well as access to regional and global markets for agroproducts imported from developing economies, threatens the exclusion of suppliers unable to meet the new requirements. However, it also offers significant opportunities for suppliers that can do so. For example, the trend towards product differentiation, such as organic produce, driven both by the tastes of global consumers and the strategies of retailers for higher revenue, is producing significant opportunities for qualified small and medium-sized enterprises to serve niche markets that are regional or even global in nature. Furthermore, outsourcing by global retailers of technically sophisticated activities, such as bar coding, labelling and the preparation of ready-to-eat food, provide important opportunities for small and medium-sized enterprises to upgrade within the agribusiness global value chains.

2. Garments and apparel

35. The garment and apparel industry, which is one of the oldest and largest export sectors, and a classic “starter” industry for export-oriented industrialization, has played a key role in the development of small and medium-sized enterprises. It represents a typical buyer-driven value chain/network, with a highly competitive and widely dispersed global industry structure, including regional and local competitors. Entry barriers are relatively low for most “assembly” garment factories, but they increase with movement up the global value chain from textiles to fibres. Two key factors shape the structure and dynamics of the garment and apparel global value chains: (a) pressure to meet stringent international standards, labour and environmental; and (b) demands from global buyers for cheaper products, higher quality and shorter lead times. Increasing concentration of production in economies with the capability for “full package production,” for example, in Bangladesh, Cambodia, China and India, has been observed.

3. Automotive parts

36. The automotive parts industry comprises a complex group of firms of very different sizes, types and geographic scope, which produce an enormous variety of products, ranging from very simple parts to technologically complex systems. The potential for local sourcing is particularly high, owing to the large number, size and weight of components and materials required by the sector. For the small and medium-sized enterprises equipped to participate even at the lowest tiers of production, the automotive parts industry can offer significant opportunities to access regional and global markets. In Asia and the Pacific, cost competitiveness of the automotive parts industry is often based less on productivity and more on low factor input costs, which are rising in many countries, such as the higher costs of labour and land. The key challenge for automotive parts suppliers in the region is to improve productivity and sustainability and lower costs in order to maintain or improve their competitive performance within automotive global value chains.

37. The discussions so far strongly suggest that for small and medium-sized enterprises to participate effectively in global value chains, several forms of technical assistance is required, including skills development in areas such as marketing, sales, technology and sustainability. While lead firms, often transnational corporations, have provided such assistance to their small and

medium-sized enterprise suppliers with the aim to increase efficiency and sustainability throughout the global value chain, government intervention is also required to force small and medium-sized enterprises to meet high international product and process standards. Such interventions would improve the quality of the products of small and medium-sized enterprises, the efficiency and sustainability of production processes and ultimately expand business opportunities. In particular, Governments can reduce red tape, develop infrastructure, improve both business and general education, and provide the necessary legal and regulatory framework.

E. The circular economy concept can enhance environmental sustainability across global value chains

38. Since the late 1970s, the circular economy has attracted attention as a vibrant economic model to replace traditional linear production systems, such as the *take, make and dispose model*.²² It emphasizes the efficient use of resources and energy, the recycling of used goods and materials or waste and the sustainability of integrated product value chains, even across borders. A circular economy can potentially cover a wide range of global value chains and integrate all of them into a non-linear, or circular, production system in order to optimize the efficiency of resources and production used in the system rather than seeking efficiency of individual components or functions separately within the value chain.²³

39. The practices of a circular economy are focused mainly on resource efficient production and distribution, such as cleaner production, recycling of parts and products, waste management, biomedical feedstock, integrated resource planning and eco-industrial park development, which work towards lowering the consumption of natural resources and energy, reducing greenhouse gas emissions and enhancing recycling.²⁴ The global materials saving by the actions of a circular economy is estimated at more than a trillion dollars a year.²⁵

40. Government policies that support the enhancement of resource efficient measures throughout global value chains can drive changes for eco-efficient manufacturing, spur greater sustainability across the entire life cycle of products and, thus, encourage a shift towards a circular economy. Since the 1990s, countries such as China, Japan, the Republic of Korea and Singapore, have taken the lead in adopting legislation aimed at integrating circular economy concepts into their national development strategies. Other countries in the region, such as India, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam, are partially implementing or planning to apply circular policies (such as a legal framework for waste management). In most developing countries, however, the development of a circular economy policy and associated legislative frameworks may take years and initially require the implementation of specific laws dealing with various issues, such as packaging, product design, materials and recycling.

²² Michael Braungart and William McDonough, *Cradle to Cradle: Remaking the Way We Make Things* (New York, North Point Press, 2002).

²³ The 3R (reduce, reuse and recycle) policies for waste management are often viewed as the practices of the circular economy.

²⁴ United Nations Environment Programme, "Circular economy: an alternative model for economic development" (December 2006). Available from www.unep.fr/shared/publications/pdf/DTIx0919xPA-circulareconomyEN.pdf.

²⁵ World Economic Forum, *Towards the Circular Economy: Accelerating the Scale-up across Global Supply Chains*, (Geneva, 2014).

F. Social investment in global value chains is an important driver of global value chain sustainability

41. A special form of corporate sustainability is social or impact investment. Social investment typically prioritizes social and environmental concerns in commercial investment decisions to allow for an acceptable rate of return on the investment. By insisting on social investment practices, shareholders (or investors in a business) can also put pressure on the business to operate responsibly and ethically in order to ensure business sustainability and continuity.²⁶ In this sense, social investment has the potential to promote sustainability throughout global value chains.

42. Social responsibility indices, such as the Dow Jones Sustainability Index²⁷ in the United States and the FTSE4GOOD Index²⁸ in the United Kingdom of Great Britain and Northern Ireland, provide information about the sustainability practices of individual companies, so their shareholders can make their decision on social investment by tracking sustainability records easily.²⁹ Furthermore, the United Nations launched a set of principles for responsible investment³⁰ that serve as guidelines for investors and include economic, social and environmental considerations in investment practices. The principles provide a menu of possible actions for incorporating the agenda into mainstream investment decision-making on global value chains.

G. Expanding the uptake of sustainability instruments and practices from individual firms and integrating them into global value chains

43. Sustainability instruments for business have also taken centre stage in global value chain frameworks. Among the most prevalent sustainability instruments are the United Nations Global Compact,³¹ OECD guidelines for multinational enterprises,³² ISO 26000³³ and the International Labour Organization Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policies.^{34,35} With increasing levels of globalization, each country is expected to adopt those international instruments and effectively link them with their national regulatory framework.

44. The planning, measurement and appraisal of sustainability initiatives are commonly referred to as sustainability (or corporate social responsibility) reporting. In recent years sustainability reporting has raised considerable

²⁶ Economic and Social Commission for Asia and the Pacific, *Creating Business and Social Value: The Asian Way to Integrate CSR into Business Strategies* (United Nations publication, Sales No. E.10.II.F.18).

²⁷ www.sustainability-indices.com/.

²⁸ www.ftse.com/products/indices/FTSE4Good.

²⁹ M. Abe, "Developments in the concept of corporate social responsibility (CSR)", in *From Corporate Social Responsibility to Corporate Sustainability: Moving the Agenda forward in Asia and the Pacific*, Studies in Trade and Investment No. 77, ST/ESCAP/2658 (Bangkok, ESCAP, 2013).

³⁰ www.unpri.org/.

³¹ www.unglobalcompact.org/.

³² www.oecd.org/corporate/mne/.

³³ www.iso.org/iso/home/standards/iso26000.htm.

³⁴ www.ilo.org/dyn/normlex/en/f?p=1000:62:0::NO:62:P62_LIST_ENTRIE_ID:2453910:NO.

³⁵ Economic and Social Commission for Asia and the Pacific, *Creating Business and Social Value: The Asian Way to Integrate CSR into Business Strategies* (United Nations publication, Sales No. E.10.II.F.18).

interest in business and academic communities although its roots, such as social audit and non-financial accounting, go back to the 1940s.³⁶ As a form of measurement of environmental protection, labour relations, human rights records, outstanding legal issues and community relations, sustainability reporting is a natural evolutionary step in the operationalization of sustainability initiatives and, in essence, represents a managerial effort to measure, monitor and evaluate a company's sustainability performance. In that regard, sustainability reporting is an attempt to enhance a company's accountability to its stakeholders with respect to sustainability objectives and programmes. For example, the "triple bottom line" corporate reporting framework has gained popularity among a number of leading firms. The framework incorporates economic, social and environmental aspects of reporting and facilitates corporate sustainability activities through the efficient use of economic capital while simultaneously building and using social and natural capital. The Global Reporting Initiative³⁷ and the United Nations Global Compact are two of the major initiatives of sustainability reporting at the global level. However, large enterprises are the main participants in sustainability reporting; no global value chain-wide reporting is presently available.

45. Many argue that the three dimensions of sustainable development should be secured within core business activities, including the development of global value chains, and add value to corporate success.³⁸ Generally speaking, there are two ways for businesses to implement sustainability in global value chains.

46. The traditional approach is that companies deliver a sustainability programme, often seen as charity, which is separate from their core operations. In other words, the core business focuses on maximizing shareholder value, while the sustainability programme addresses specific sustainable development issues and targets stakeholders. Some scholars, including Porter and Kramer,³⁹ have been skeptical of sustainability initiatives and point out that they may not be successful unless mainstream companies, namely large firms and transnational corporations, accept that sustainability reporting is critical to the company's and global value chain's performance. Another point is that sustainability initiatives can be just a marketing tool to raise a business' own brand image and reputation, which are core corporate motives.⁴⁰

47. The other approach, which is gaining increased attention, demands the full integration of sustainability throughout global value chains in order to minimize negative impacts and maximize positive impacts resulting from global value chain activities on society and the environment. Such integration requires complying with codes of conduct, labour standards and environmental standards, which should be reviewed and strengthened over time but must be

³⁶ A.B. Carroll and G.W. Beiler, "Landmarks in the evolution of the social audit", *Academy of Management Journal*, vol. 18, No. 3 (1975), pp. 589-599.

³⁷ www.globalreporting.org/Pages/default.aspx.

³⁸ P. Newell and J.G. Frynas, "Beyond CSR? Business, poverty and social justice: an introduction", *Third World Quarterly*, vol. 28, No. 4 (2007), pp. 669-681; and A.B. Carroll, "A history of corporate social responsibility: concepts and practices", in *The Oxford Handbook of Corporate Social Responsibility*, Andrew Crane and others, eds. (Oxford, Oxford University Press, 2008), pp. 19-46.

³⁹ M.E. Porter and M.R. Kramer, "Strategy and society: the link between competitive advantage and corporate social responsibility", *Harvard Business Review*, vol. 84, No. 12 (2006).

⁴⁰ Ibid.

part of the daily operations of all participating enterprises in global value chains. In short, business can make a greater positive impact on society and the environment by streamlining corporate sustainability practices into their core operations throughout global value chains than through isolated sustainability programmes. However, such integration also requires a number of success factors, such as clear guidance from and strong commitment of shareholders, understanding of the principles of social (or impact) investment, strong stakeholder engagement, close coordination and effective governance among the participating firms and adequate reporting systems.

48. When a firm operates in or procures from other countries, such as developing countries where laws and regulations are different and standards are not compatible with those in the home country of the firm, managing sustainability initiatives throughout the global value chain becomes more challenging in terms of governance, assessment and information management, such as cross border enterprise resource planning. The difficulty in tracing back entire production processes and distribution networks, which comprises a number of independent firms, reveals numerous risk factors critical to global value chain strategy and management.

V. Policy implications and the role of the secretariat: issues for consideration by the Commission

49. From the above analysis, the following is a summary of conclusions and policy implications for consideration by the Commission:

(a) Low-income countries need to become more involved in global value chains. This requires Government action at national and regional levels;

(b) Trade cost reduction is essential to enable countries to more effectively participate in global value chains and overcome geographical disadvantages. Given the same level of production costs, trade costs are the key determinant of a country's performance in global value chains. Trade reduction policies include trade facilitation, development of ICT infrastructure, improved logistics performance, regulatory transparency and other policies that reduce broader behind-the-border obstacles to trade;

(c) Regional economic integration agreements could be a catalyst to enhance global value chain participation of developing Asia-Pacific countries provided that they are deep in commitments and broad in scope and coverage. However, bilateral and regional integration agreements will have little effect without the implementation of necessary domestic trade reforms, in particular trade facilitation;

(d) The increasing global shift in demand for final products to developing countries in Asia and the Pacific may lead to deeper integration of the region in global value chains. In addition, the possibility for countries in the region to benefit from technological spillovers from high-value added activities may increase based on the prospect that research and designs as well as management may move to the region that is the major driver of final demand. However, on the negative side, the shift of final demand from North to South may lead to the changing nature of global value chain products. Final products demanded by developing countries may be less differentiated and of lower quality. In addition, final consumers in developing countries may be less sensitive to harmful environmental and social impacts from global value chain activities and products;

(e) Integration into global value chains could open the door to industrialization and economic development, but it does not ensure long-term

and sustainable economic development. Although countries participating in global value chains appear to be relatively successful in industrialization and in achieving high economic growth, for a country to reap the long-term benefits from global value chain participation, it is important to move towards higher value-added production activities and sectors supported by an enabling policy environment;

(f) It is envisaged that rapidly emerging global value chains can contribute to sustainable development by being sustainable themselves. In Asia and the Pacific, however, the link between sustainability frameworks currently in existence and global value chains has been weak and unclear and must be strengthened, while the lead firms should step up assistance to their small and medium-sized suppliers and other participating firms to improve efficiency and sustainability throughout the global value chain. At the same time, the principal stakeholders must be identified and engaged in sustainable global value chain development;

(g) Governments have a key responsibility to promote sustainable business practices within global value chains, in particular through: (i) the development and promotion of a sustainability index and sustainable global value chain reporting; (ii) adoption of social investment principles across global value chains; (iii) providing an enabling environment, including necessary legislation and regulation to level the playing field among firms; (iv) providing technical assistance to small and medium-sized enterprises, particularly those that are part or have potential to be part of global value chains to meet high international product and process standards; (v) providing incentives to FDI from transnational corporations that promote local supplier development and adopting internationally recognized sustainability instruments and tools; and (vi) developing mechanisms for effective stakeholder consultation and engagement in promoting global value chain sustainability;

(h) Establish a regional network among policymakers, business associations, experts and civil society organizations, such as consumer groups, to oversee global value chain development and related issues regularly;

(i) Review and amend trade policy and facilitation for the freer flows of recycled goods and waste products between countries and reduce related transaction costs;

(j) Implement tax related and other incentives to encourage more investment in circular economy solutions and sustainable technology development;

(k) Develop eco-industrial parks as pilot projects for a circular economy.

50. ESCAP as a regional agency could undertake the following initiatives:

(a) Develop a regional sustainability index;

(b) Undertake research and analysis in the following areas: (i) improving statistics and indicators of global value chain development; (ii) driving factors for participation of lower-income countries in global value chains; (iii) the integration of sustainable business practices into global value chain strategies, governance and management; (iv) required legal and policy framework to address sustainability in global value chains; and (v) the flows and amounts of materials and goods, including recycled goods and waste products;

(c) Report the results of its research and analysis to the countries and businesses concerned in appropriate forums, such as relevant committees and the Asia-Pacific Business Forum;

(d) Establish a regional framework for cooperation in developing sustainable value chains along the principles of the circular economy;

(e) Provide technical assistance through the strengthening of existing regional networks of experts, policymakers and practitioners and establish more effective connecting mechanisms among such networks (United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific, Asia-Pacific Research and Training Network on Trade, ESCAP Business Advisory Council and the Asia-Pacific Sustainable Business Network) to oversee and guide global value chain development and related issues.
