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**Working Paper**

## APEC 2015: Global Value Chains and Services

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Philippine Institute for Development Studies  
*Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas*

## APEC 2015: Global Value Chains and Services

*Ramonette B. Serafica*

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# APEC 2015: GVCs and Services<sup>1</sup>

**Dr. Ramonette B. Serafica**



Philippine Institute for Development Studies

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<sup>1</sup> This paper is an output of the APEC 2015 Research Project commissioned by the Department of Foreign Affairs. The main objective of the project is to provide the analytical framework that will form part of the basis for the substantive priorities the Philippines will push for as APEC host economy in 2015. The project's main output is a set of policy studies with recommendations that can serve APEC 2015 purposes and can be used as inputs to the Philippine government's future development planning, strategizing, and visioning exercise in a post-2015 scenario.

# **APEC 2015: GVCs and Services**

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## **Abstract**

APEC 2015 provides an opportunity for the Philippines to advance its economic interests in services and contribute to regional integration by focusing on global value chains (GVCs) which are now believed to account for more than 50 percent of global trade. This paper looks at the GVC phenomenon and presents measures of GVC participation at the aggregate level. It then discusses the role of services in GVCs and proposes that further analytical work on services value chains in the Asia-Pacific region be undertaken. This will contribute to a better understanding of how individual economies can maximize GVC participation and how APEC can create the appropriate policy environment conducive to the growth of services value chains.

Keywords: APEC Philippine Hosting, APEC Services, Global Value Chains, Competitive Services

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## EXECUTIVE SUMMARY

World trade is increasingly dominated by global value chains.

- The value chain is the full range of activities that firms and workers perform to bring a product from its conception to end use and beyond. The activities that comprise a value chain can be contained within a single firm or distributed among different firms. Global value chains (GVCs) reflect the fact that activities that constitute a value chain have generally been carried out in inter-firm networks on a global scale.
- In APEC, Electrical and optical equipment is the most dominant GVC as indicated by the number of economies where this sector is the most important in terms of GVC participation.

Services are integral to GVCs

- Numerous services are involved in the production and sale of products, whether the final product is a good or a service.
- Services that complement production span a wide spectrum: most prominent are transport and warehousing, but banking and insurance, business services, professional services, and communication services are supplied at every stage of production. Services involved at both ends of the value chain include R&D and design in the conception stage, distribution networks, advertising and marketing services, or repair and maintenance facilities at the end of the chain.
- When the contribution of services embodied in goods and services is explicitly recognized, its share in total exports significantly increases compared to the traditional measure of trade that records gross flows of goods and services. For the APEC region, the share of services in total exports is 20.27 percent in gross terms but on a value added basis, the share of services almost doubles at 39.08 percent.

According to experts, services GVCs are still not as well understood as goods GVCs.

- Global value chains exist not only in the goods sectors but also in the services sector itself. In new business models services firms, like goods firms, are seeking to go up the value chain and to outsource non-core services functions.
- Although GVCs can make a contribution to development through direct GDP and employment gains and by providing opportunities for technology dissemination, skill building and industrial upgrading, these benefits are not automatic.
- It is important to know what determines the position and participation of economies in services GVCs and the kinds of policies that have an impact on the gains from GVCs.
- There is a need for more analytical work on services GVCs in APEC.

Recommendation for APEC 2015: Focus on services GVCs

- Advancing regional understanding and cooperation in services GVCs will help the Philippines maximize GVC participation especially in services where it has comparative advantage.

## Introduction: What are Global Value Chains?

Gereffi and Fernandez-Stark (2011) refer to the value chain as the full range of activities that firms and workers perform to bring a product from its conception to end use and beyond. The activities that comprise a value chain can be contained within a single firm or distributed among different firms. Global value chains reflect the fact that activities that constitute a value chain have generally been carried out in inter-firm networks on a global scale. See Table 1 with two perspectives on global value chains.

Table 1. Perspective on GVCs

	<b>International Business “Firm perspective”</b>	<b>Economics “Country perspective”</b>
<b>Defining concepts</b>	GVCs are defined by <i>fragmented</i> supply chains, with internationally dispersed tasks and activities <i>coordinated</i> by a lead firm (a TNC).	GVCs explain how exports may incorporate imported inputs; i.e. how exports include foreign and domestically produced <i>value added</i> .
<b>Scope</b>	GVCs are present predominantly in industries characterized by such supply chains, with typical examples including electronics, automotive and textiles (although the scope is widening to agriculture and food and offshore services, among others).	GVCs and value added trade, by design and by the necessities of statistical calculation, encompass <i>all trade</i> ; i.e. all exports and imports are part of a value chain.
<b>Role of investment and trade</b>	Investment and trade are complementary but alternative modes of international operation for firms; i.e. a firm can access foreign markets or resources by establishing an affiliate or through trade.	Investment is needed to build export capacity (i.e., it creates the factors of production required to generate value added exports); both investment and value added in exports are GDP contributors.

Source: Table IV.1 (UNCTAD 2013, p. 125)

According to UNCTAD (2013), TNC-coordinated GVCs account for some 80 per cent of global trade (in terms of gross exports). Trade linked to the international production networks of TNCs include intra-firm trade; Non-Equity Modes (NEMs) such as contract manufacturing, licensing, and franchising; and arm’s-length transactions involving at least one TNC. Backer and Miroudot (2013) estimate that on average, more than half of the value of exports is made up of products traded in the context of GVCs. Additionally, more than half of world manufactured imports are intermediate goods which include primary goods, parts and components, and semi-finished products) while more than 70% of world services imports are intermediate services.

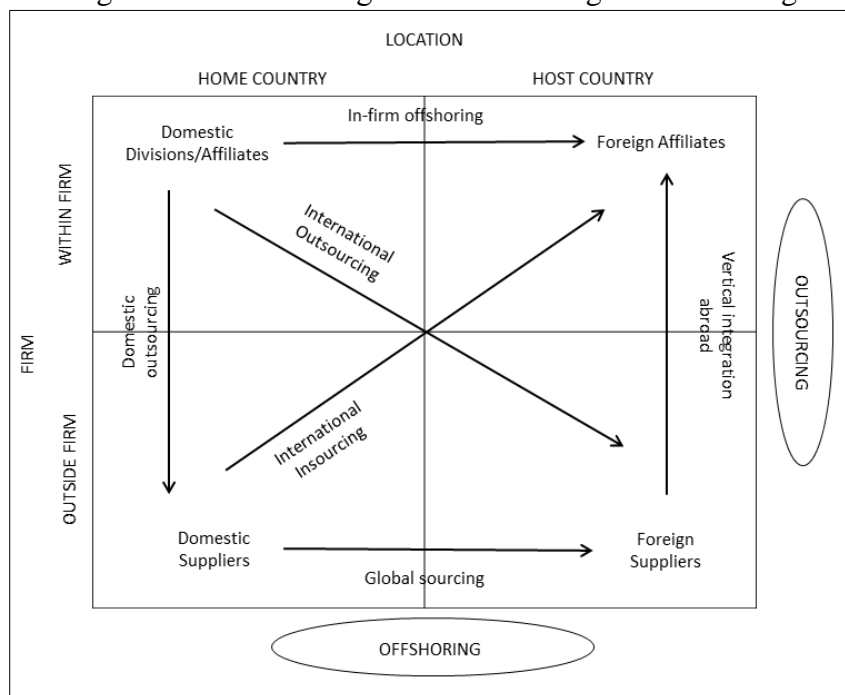


## Factors that affect GVC formation

As discussed in OECD (2013), the idea of a (global) value chain is also closely related to that of a supply chain, which refers to the total flow of physical goods from suppliers to ultimate users, and the broad integration of business processes along the supply chain, such as (inbound and outbound) logistics, inventory management, procurement, etc. Whereas the focus of supply chain management is on the cost and efficiency of the supply and the flow of materials from various suppliers to the final customer, the value chain has a broader objective, in that it tries to capture the determinants of the organization of (global) industries by incorporating elements from the literature on industrial organization, international business, and trade and competitiveness. Moreover, a value chain incorporates the idea of value being created (or added) throughout the chain and thus establishes a close link with economic performance.

Figure 1 illustrates the various possible business strategies that firms may undertake. In their quest to remain competitive, firms increasingly restructure their operations through the outsourcing and offshoring of activities. **Outsourcing** refers to the purchase of intermediate goods and services from outside specialist providers while **offshoring** refers to purchases by firms of intermediate goods and services from foreign providers. Offshoring includes both international outsourcing (where activities are contracted out to independent suppliers abroad) and international in-sourcing (the transfer of particular tasks within the firm to a foreign affiliate). The cross-border aspect of offshoring, i.e. the sourcing of goods and services from abroad, determines the increasingly global character of value chains. The decision to outsource a specific activity involves deciding whether to “make” or “buy”, i.e. to undertake the activity within the firm or to obtain it from an independent supplier. The decision to offshore is the result of the search for the optimal location for the activity.

Figure 1. Firm’s strategies of outsourcing and offshoring



Source: Based on OECD (2006), OECD (2007a) and Miroudot et al. (2009) as cited in OECD (2013, p. 18)

As the “make or buy” decision is increasingly global in scale, companies must seek to optimize geographical and organizational dispersion. With greater geographical and organizational distance the coordination and management costs generally rise as well. As empirical research has shown, firms are somewhat reluctant to source more complex or high-value activities externally since these are often considered strategic to a firm’s core business. Because of the risk of losing control of strategically important activities, firms prefer to offshore such activities to fully owned affiliates. In contrast, high-volume production that requires low skills or standard technologies are often relocated to external providers with cheaper or more efficient production capabilities (OECD 2013).

Appendix A lists some of the factors that affect location decisions. According to UNCTAD (2013) with the emergence and growth of GVCs the “classical” locational determinants for investment have changed depending on the requirements of the specific GVC activity. Governments are thus in a position to selectively target GVCs and GVC segments in line with their endowments and development objectives. In the R&D stage, the presence of research clusters is important while in the distribution and logistics stage of the value chain the availability of good quality transport is critical. However, many locational determinants are still relevant regardless of the specific value segment (e.g. a stable economic, political and social environment and robust commercial law and contract regimes). Similarly, business facilitation measures aimed at reducing “hassle” costs or supporting foreign affiliates or local firms are also important. Trade and investment policies are, at a general level, relevant to all value chain segments, although specific measures may be more important over one or another segment.

Global value chains exist not only in the goods sectors but also in the services sector itself. In new business models services firms, like goods firms, are seeking to go up the value chain and to outsource non-core services functions (PECC and ADBI 2011). Similar to that of goods, services are being disaggregated and traded as separate “tasks”, thus creating value chains on their own. In a services value chain, any activity or cluster of activities can either become a core competence or can be outsourced from the parent firm. Many of these activities (for example business back-office and data processing services) can also be off-shored in locations abroad, leading to new competitive opportunities for specialization and for the participation of emerging suppliers in these tasks. As in the case of goods, the objective of services firms is to engage in increasingly higher value-adding “tasks”, namely design, R&D, innovation – or logistics and marketing/ brand development. Although there has been little research to date on services value chains, services experts believe that such chains are being created in a variety of service sectors, including banking, tourism and possibly also education and health services, as well as IT and business processing services (Stephenson in WEF 2012).

## GVC participation of APEC economies

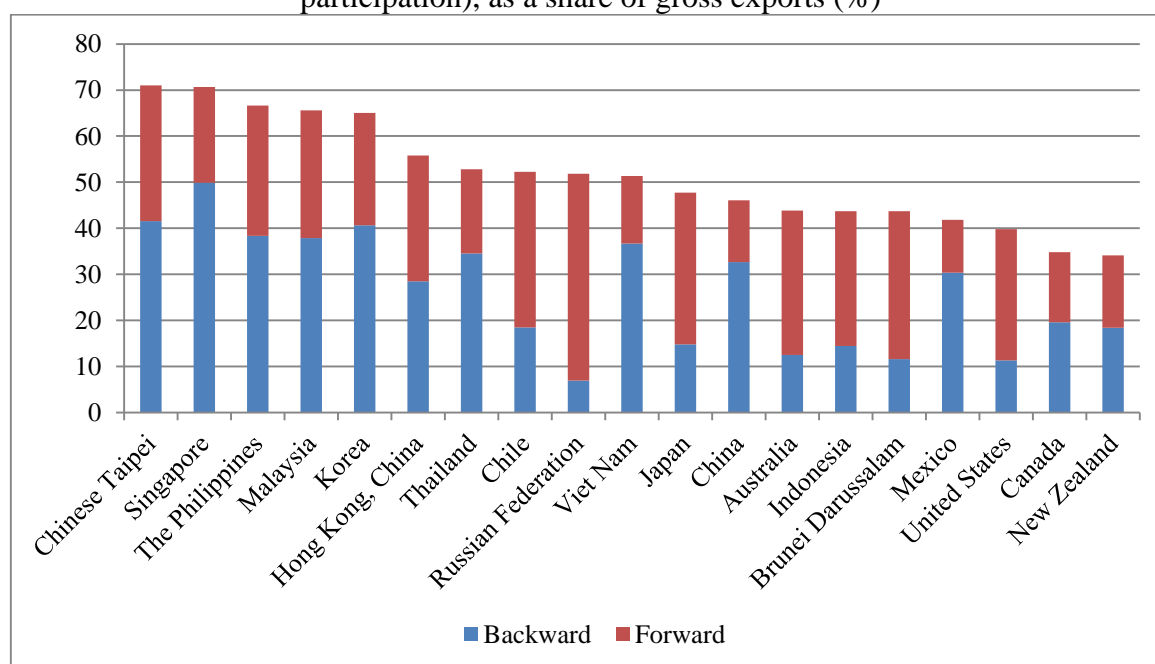
This section presents indicators of GVCs from the OECD Value Chains Indicators - May 2013 and discussed in Backer and Miroudot (2013). Papua New Guinea and Peru are not included in the database.

### Participation in GVCs based on the share of exports involved in a vertically fragmented production process

The extent to which APEC economies are involved in a vertically fragmented production is measured by its participation index. It is the sum of its backward participation or upstream links (the extent to which its exports use imported intermediate inputs) and its forward participation or downstream links (the extent to which it supplies intermediate goods and services used in other countries' exports).

Figure 2 presents the GVC participation (from highest to lowest) of APEC economies in 2009. The index is expressed as a percentage of gross exports and indicates the share of foreign inputs (backward participation) and domestically produced inputs used in third countries' exports (forward participation). Backer and Miroudot (2013, p. 12) note that this indicator is not based on value-added trade. As domestically produced inputs can incorporate some of the foreign inputs and some foreign inputs can incorporate domestic value added exported in an earlier stage of the value chain, there is an overlap and potentially some double-counting. Chinese Taipei has the highest total GVC participation although Singapore and Russia had the highest backward and forward participation, respectively. Economies that export a large share of natural resources typically have high forward participation shares.

Figure 2. GVC participation index in APEC economies (2009) Foreign inputs (backward participation) and domestically-produced inputs used in third countries' exports (forward participation), as a share of gross exports (%)



Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

The participation indices (backward and forward) of APEC economies in each of the sectoral GVCs are reported in Appendix B. The sectoral GVC participation indices add up to the economy's GVC participation index. As shown in Table 2, Electrical and optical equipment is the most dominant GVC in APEC as indicated by the number of economies where this sector is the most important in terms of GVC participation. The next is Mining and Quarrying.

Table 2. Most important GVC in an economy (i.e. sector with highest share in GVC participation of APEC economy), 2009

AUS – Mining and quarrying	MEX – Electrical and optical equipment
BD – Mining and quarrying	NZ – Food products and beverages
CDA – Mining and quarrying	RP – Electrical and optical equipment
CHL – Mining and quarrying	RUS – Mining and quarrying
PRC – Electrical and optical equipment	SIN – Electrical and optical equipment
CHK – Wholesale and retail trade; hotels and restaurants	CT – Electrical and optical equipment
INA – Mining and quarrying	THA – Electrical and optical equipment
JPN – Electrical and optical equipment	US – Chemicals and non-metallic mineral products
KOR – Electrical and optical equipment	VN – Textiles, leather and footwear
MAS – Electrical and optical equipment	

Source: Author's compilation based on OECD Value Chains Indicators - May 2013

(<http://stats.oecd.org/>). See Appendix B.

The Philippines and Brunei Darussalam are the two economies with the most exposure (the highest index of GVC participation relative to other economies) in Electrical and Optical Equipment and Mining and Quarrying, respectively. Hong Kong, China has the most number of sectors where its GVC participation is highest (as a share of its gross exports) among APEC economies and these are all in services sectors. Next would be Viet Nam which has the highest participation in Agriculture, Food products and beverages, and Textiles, leather and footwear. See Table 3.

Table 3. APEC economy most exposed in a particular GVC (i.e. economy with highest GVC participation in sector), 2009

Agriculture - VN	Transport equipment – KOR
Mining and quarrying – BD	Manufacturing n.e.c; recycling – THA
Food products and beverages – VN	Electricity, gas and water supply – RUS
Textiles, leather and footwear – VN	Construction – RUS
Wood, paper, paper products, printing and publishing – CHL	Wholesale and retail trade; hotels and restaurants – CHK
Chemicals and non-metallic mineral products – SIN	Transport and storage; post and telecommunications – CHK
Basic metals and fabricated metal products – AUS	Financial intermediation – CHK
Machinery and equipment n.e.c – MAS	Business services – CHK
Electrical and optical equipment – RP	Other services – NZ

Source: Author's compilation based on OECD Value Chains Indicators - May 2013

(<http://stats.oecd.org/>). See Appendix B.

## **The position of a country in the value chain based on the distance to final demand**

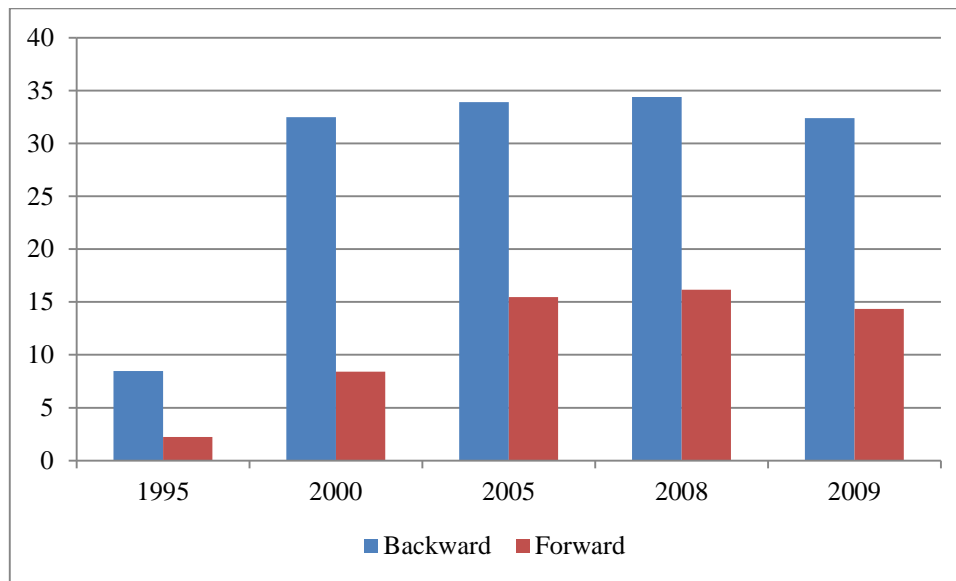
Another measure of GVC participation at the aggregate level is the distance to final demand. A country can be upstream or downstream, depending on its specialization. Countries upstream produce the raw materials or intangibles involved at the beginning of the production process (e.g. research, design), while countries downstream do the assembly of processed products or specialize in customer services. Starting from one industry in a given country, the index measures how many stages of production are left before the goods or services produced by this industry reach final consumers. High values of the index are associated with industries that are more involved in upstream activities, while lower values reflect industries specialized in downstream activities and therefore, closer to final consumption. Appendix C shows the distance to final demand of APEC economies in various industries.

As Backer and Miroudot (2013) point out, once the position and participation of countries in the GVC have been identified, the next step is to understand what determines this position and participation. Moreover, it is important to know which policies have a positive or negative impact on the gains expected from GVCs. They add that a better understanding of where countries are positioned (upstream or downstream) will have implications on several policy areas, such as: trade policy (what is the actual cost of protectionist measures?); trade and employment (how much of local employment is linked to the global economy?); national competitiveness and growth (what are the sources of national competitiveness?); upgrading and development (what are the possibilities to “move up the value chain”?); and global systemic risks (how vulnerable is the economy to global supply chain disruptions?).

## **The Philippines in GVCs**

As presented in Table 2, Electrical and optical equipment is the most important GVC for the Philippines based on the sector's share in the country's GVC participation index. Moreover, compared to other APEC economies, the country's GVC participation in this sector is the highest. As can be seen in Figure 5 below, the country's participation in the GVC for Electrical and optical equipment jumped significantly in 2000. Moreover, forward participation (downstream link whereby domestically produced inputs are used in third countries' exports) also increased in 2000 and 2005 but it has remained relatively stable since then.

Figure 3. GVC participation index in Electrical and optical equipment (Philippines) Foreign inputs (backward participation) and domestically-produced inputs used in third countries' exports (forward participation), as a share of gross exports (%)



Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

GVC participation of the Philippines in the other sectors is not significant and the source varies. For example, in Agriculture, Mining and Chemicals, the downstream link is greater than the upstream link whereas the reverse is true in Textiles and in Transport equipment. In Services and Services-related GVCs domestically produced inputs used in other countries' exports outweigh imported intermediate inputs used for exports. See Table 4.

Table 4. GVC participation index in various sectors (Philippines 2009) Foreign inputs (backward participation) and domestically-produced inputs used in third countries' exports (forward participation) in GVCs (2009), as a share of gross exports (%)

Sector	Backward	Forward	TOTAL
<b>Agriculture</b>	0.081	0.308	0.388
<b>Mining and quarrying</b>	0.120	0.402	0.521
<b>Food products and beverages</b>	0.059	0.173	0.232
<b>Textiles, leather and footwear</b>	1.222	0.164	1.387
<b>Wood, paper, paper products, printing and publishing</b>	0.070	0.124	0.194
<b>Chemicals and non-metallic mineral products</b>	0.308	0.643	0.951
<b>Basic metals and fabricated metal products</b>	0.189	0.315	0.504
<b>Machinery and equipment n.e.c</b>	0.378	0.095	0.473
<b>Electrical and optical equipment</b>	32.389	14.329	46.718
<b>Transport equipment</b>	0.839	0.285	1.124
<b>Manufacturing n.e.c; recycling</b>	0.055	0.077	0.132
<b>Electricity, gas and water supply</b>	0.000	0.651	0.651
<b>Construction</b>	0.000	0.107	0.107

<b>Wholesale and retail trade; hotels and restaurants</b>	1.139	5.206	6.345
<b>Transport and storage; post and telecommunications</b>	1.156	1.683	2.839
<b>Financial intermediation</b>	0.144	0.975	1.119
<b>Business services</b>	0.220	2.672	2.892
<b>Other services</b>	0.000	0.072	0.072
<b>Total</b>	38.370	28.279	66.649

Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

The “upstreamness” of the Philippines or its distance to final demand in various industries are shown in Appendix C. As shown in the graph for electrical and optical equipment, the most important GVC for the Philippines, other APEC economies, namely: Korea, Singapore, Malaysia, and Chinese Taipei are further up in the value chain relative to the Philippines.

## Services and GVCs

According to Low (2013), services figure in almost every activity in an economy and its pervasiveness makes services key determinants of competitiveness and the productivity of capital and labour. Moreover, numerous other services are involved in the production and sale of products, whether the final product is a good or a service. Services have therefore been sometimes referred to as the glue that holds supply chains together and ensures that they function in a fluid manner. Additionally, they are also part of many production and sales processes. Modern communication and transport technologies have enhanced the tradability of services which has facilitated their incorporation in supply chain production as traded inputs. The incorporation or bundling of services into composite products is referred to in the business literature as “modularization” and is not unlike what the economics literature refers to as trade in tasks.

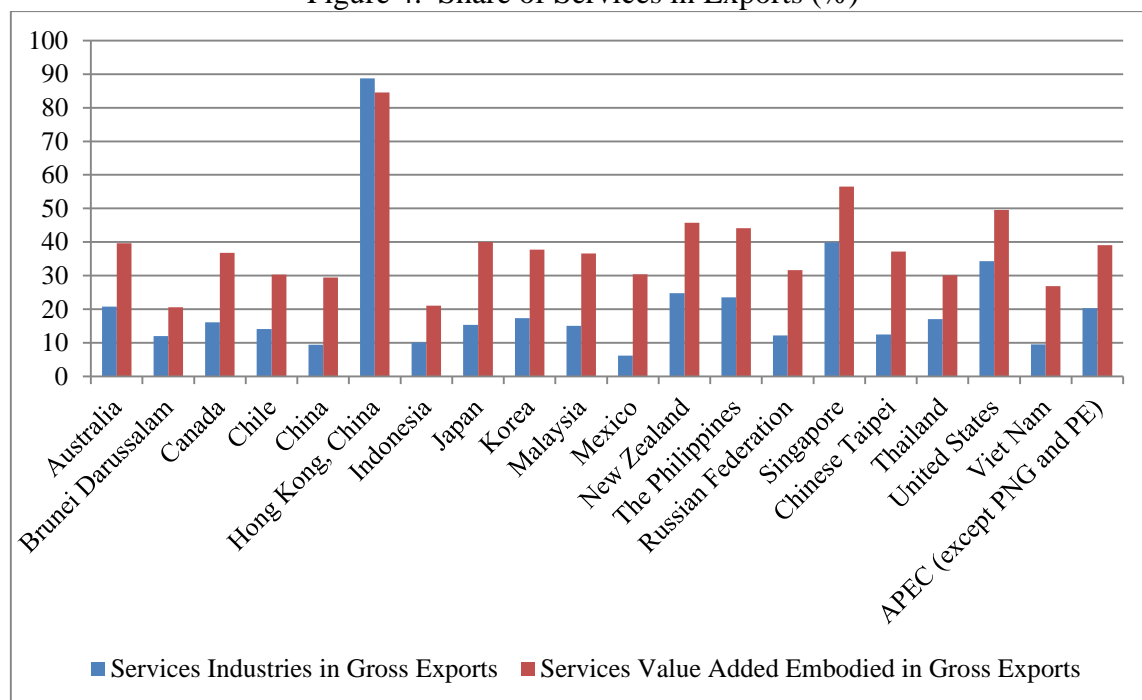
Product level analysis as presented in Low (2013) reveals that a significant portion of the value of a good is attributable to services. For example, in the case of a jacket made in China and sold in the US which could retail by as much as USD 429, only 9 per cent of the retail price is associated with making the jacket (i.e. manufacturing costs including labor and materials), with the remainder due to “invisible” assets. Upstream sources of value are likely to include design, intellectual property, branding, and so on. Downstream elements include advertising, marketing and retailing. In the case of a Nokia95 phone, the parts (including processors, memories, integrated circuits, display and camera) account for 33 per cent of the product and assembly only account for 2 per cent. The remaining two-thirds of the product is accounted for by Nokia’s internal support services (31 per cent), licenses (4 per cent), distribution (4 per cent), retailing (11 per cent) and operating profit (16 per cent).

To reflect the increased use of services in manufacturing, both in terms of production processes and sales, the Swedish National Board of Trade has coined the term “servicification”. For example, Sandvik Tooling is a high-technology engineering group whose operations are in tools and tooling systems for metalworking, in mining and constructing and in material

technology. A 2010 study shows that the company needs 40 different services to deliver the products to its customers worldwide. Moreover, the company also supplies around 15 services themselves (Swedish National Board of Trade 2013a). The study illustrates the servicification phenomenon whereby goods producing companies increasingly buy, produce, sell and export services. As mentioned earlier, global value chains in services exist as well. The Swedish video game Minecraft is one example of this development. The game is produced by Mojang in Stockholm and is sold digitally all over the world. Parts of the game production, distribution and many support services are managed outside of Sweden (National Board of Trade 2013b).

When the contribution of services embodied in goods and services is explicitly recognized, its share in total exports significantly increases compared to the traditional measure of trade that records gross flows of goods and services. Figure 4 below shows the share of services in total exports for APEC members (except Papua New Guinea and Peru which are not included in the TiVA database) using the two measures. For the APEC region, the share of services in total exports is 20.27 percent in gross terms but on a value added basis, the share of services almost doubles at 39.08 percent.

Figure 4. Share of Services in Exports (%)



Note: “Services Industries in Gross Exports” include exports from Wholesale and retail trade; Hotels and restaurants; Transport and storage, post and telecommunication; Financial intermediation; Business services; and Other services. “Services Value Added Embodied in Gross Exports” include Direct domestic service industry value added content of gross exports; Indirect domestic services content of gross exports (originating from domestic intermediates); Re-imported domestic services value added content of gross exports; and Foreign services value added content of gross exports.

Source: OECD-WTO Trade in Value Added (TiVA) - May 2013 (<http://stats.oecd.org/>)

Looking at trade in value-added terms reveals the importance of services in the export competitiveness of all industries. Given that services provided in-house (e.g. R&D, finance, legal) are not even included in the estimation of trade in value added terms which capture embodied services (i.e. the intermediate services that are used the production of goods and



services), the significance of services would even be higher. It is not surprising then that some of the critical factors that are relevant to location decisions of TNCs as presented in Appendix A are services-related. Box 1 highlights how particular services are needed in GVCs and the implication for trade and investment policy to improve inefficiencies in services markets.

Box 1. The role of services in GVCs and implication for policy

Services that complement production span a wide spectrum: most prominent are transport and warehousing, but banking and insurance, business services, professional services, and communication services are supplied at every stage of production. Services involved at both ends of the value chain include R&D and design in the conception stage, distribution networks, advertising and marketing services, or repair and maintenance facilities at the end of the chain.

While some of the costs associated with services inputs (in particular transport costs) depend on the quality of infrastructure, facilitating trade in the value chain also requires efficient services markets. Pro-competitive domestic regulations and the liberalization of services ensure the efficient functioning of the logistics chain.

An implication is that gains from trade in GVCs are magnified if the development of global production networks goes hand-in-hand with a liberalization of services trade. With increased openness, more efficient infrastructure services improve the reliability of import and export flows and thus promote participation in GVCs.

In the **transport sector** for example, there are gains to be realized from a reduction of border frictions and regulatory costs. According to Deardoff (2001) these gains are achieved by harmonizing regulations applying to domestic and foreign providers, adopting similar procedures and equipment in different countries, and removing inefficient delays (e.g. unloading and reloading trucks at the border). The smooth provision of transport services then lowers the cost of internationally sourced inputs for a wide range of industries.

Similar benefits for export competitiveness arise from the increased openness of **business services** to trade and FDI. The gains in this area primarily accrue to technology intensive

industries such as machinery, motor vehicles, chemicals and electric equipment (Francois and Woerz, 2008).

More open and competitive **telecommunication** sectors would also increase the productivity and competitiveness of manufacturing firms, by improving Internet penetration rates and encouraging investments in better information technology (IT) infrastructure. At the same time, they would favor the development of services value chains in sectors such as computer services, finance or tourism.

Another key link in GVCs is provided by **distribution services**. “Buyer-driven” GVCs for which global retailers organize the supply chain (Gereffi, 1994) are particularly relevant for small-scale agricultural producers, for whom finding international partners, obtaining information about foreign markets and complying with standards and procedures to import and export are among the main obstacles to participation in GVCs. Global retailers are often the most accessible means of entering global markets for these producers as they typically provide assistance to their suppliers. The efficiency and competitiveness of the retail and wholesale sector however can be hampered by regulatory barriers to entry and foreign investment (Reisman and Vu, 2012). These behind-the-border barriers reduce the gains from trade and fragmentation for agricultural and manufacturing suppliers further up the value chain.

Source: OECD (2013, pp 99-100)

In terms of services value chains, Drake-Brockman and Stephenson (2012) highlight key implications for development policy. First, the value chain story is not only about large global enterprises and increasingly it is SMEs in the services sector which are most engaged in global value chains. They note that services activities are usually less capital intensive than manufacturing ones and require less physical infrastructure, an advantage for countries with limited physical and financial capital. However, there is still very limited literature to help understand the workings of supply chains in services and how SMEs can best access them. Second, the division of world trade into components or “tasks” offers developing countries new opportunities to integrate into world markets. It is not necessary to try to compete along the entire line of services activities along a value chain but instead it may be easier and less costly to capture one or more of the “tasks”. In the case of offshoring services in particular, developing countries with a strong educational infrastructure have a competitive advantage compared with the developed countries as they can offer advantages in terms of low cost and an educated labor force.

## Interest of the Philippines in Services and Implication for APEC 2015

The growing prominence of global value chains has added a new urgency to develop competitive services so that the country can increase its participation in various GVCs and enjoy bigger gains by way of higher value added, more jobs, and greater productivity improving spillover effects. Whether in goods value chains where services play an integral role or in services value chains, participation and upgrading rely on competitive services.

According to UNCTAD (2013) although GVCs can make a contribution to development through direct GDP and employment gains and by providing opportunities for technology dissemination, skill building and industrial upgrading, these benefits are not automatic. Moreover, there are other risks. The GDP contribution of GVCs can be limited if countries capture only a small share of the value added created in the chain and/or remain locked into relatively low value added activities. In addition, environmental impacts and social effects, including on working conditions, occupational safety and health, and job security, can be negative. The potential “footlooseness” of GVC activities and increased vulnerability to external shocks pose further risks. Countries need to carefully weigh the benefits and costs of GVC participation and of proactive policies to promote GVCs or GVC-led development strategies, in line with their specific situation and factor endowments. Gaining access to GVCs and realizing upgrading opportunities requires a structured approach that includes embedding GVCs in industrial development policies (e.g. targeting GVC tasks and activities); enabling GVC growth by creating an enabling trade and investment environment and by putting in place infrastructural prerequisites; and building productive capacities in local firms and skills in the local workforce. Moreover, to lessen the risks involved in GVC participation, there must be a strong environmental, social and governance framework, with strengthened regulation and enforcement as well as capacity-building support to local firms for compliance.

APEC 2015 provides an opportunity for the Philippines to develop its GVC strategies particularly in relation to services value chains. There are currently GVC-related initiatives in APEC as indicated by the following proposed activities reported in the Committee on Trade and Investment (CTI) Chair’s Report at SOM1 2014:

- A proposal by China to develop an APEC Strategic Blueprint for Advancing Global Value Chains Development through Asia-Pacific Partnership and an APEC Dialogue on GVC Collaboration;
- China’s proposal on the establishment of a Database based on Input-Output Table for GVC and Trade in Value-Added among APEC Members;
- Korea’s intention to circulate a proposal on exploring SMEs’ participation in GVCs at SOM2; and
- A study by Japan and the APEC Policy Support Unit (PSU) on the “Comprehensive Analysis on Enhanced Resiliency of Cross-Border Value Chains”

Moreover, there are two proposals on GVCs tabled in CTI under Next Generation Trade and Investment Issues (NGeTI) which focus on services. These are (i) Promoting Open and Competitive Services Markets to Support the Growth of Global Value Chains proposed by Australia (co-sponsored by Japan and United States) which would involve a trade policy

dialogue and the adoption of high level policy statement and (ii) Manufacturing Related Services in Supply Chains/Value Chains proposed by Japan (co-sponsored by United States) which would involve the identification of barriers to trade in the manufacturing-related services and an action plan to remove the barriers.

Building on the initiatives in 2014 which involve services in goods GVCs, the Philippines during its chairmanship could focus on services value chains. According to experts global services value chains are not as well understood as goods value chains. Thus, analytical work and possibly a workshop could be undertaken to deepen the understanding of services value chains in APEC. Given the Philippines' comparative advantage in Other business services and in Computer and information services, advancing regional cooperation in services value chains could further strengthen our export position in these activities.

Analytical work could involve case studies of existing services value chains in the region. According to Gereffi and Fernandes-Stark (2011), there are four basic dimensions of GVC analysis: (1) an **input-output structure**, which identifies the main activities/segments in a global value chain and the structure of companies under each segment of the value chain; (2) the **geographic scope**, which identifies the lead firms in each segment of the value chain within particular countries thus informing the country-level positions within the chain; (3) a **governance structure** where governance is defined as the “authority and power relationships that determine how financial, material and human resources are allocated and flow within a chain”; and (4) an **institutional framework** which identifies how local, national and international conditions and policies shape the globalization in each stage of the value chain. An additional element of GVC analysis is “**upgrading**” which focuses on the strategies used by countries, regions, and other economic stakeholders to maintain or improve their positions in the global economy. Economic upgrading is defined as firms, countries or regions moving to higher value activities in GVCs in order to increase the benefits (e.g. security, profits, value-added, capabilities) from participating in global production.

The results from these activities would complement measures of GVC participation at the aggregate level and provide insights and lessons for individual economies in creating or joining global value chains in services. Guiding principles on trade and investment policies conducive to the growth of services value chains could also be developed and adopted in APEC.

## References

Backer, K. D. and S. Miroudot (2013), “Mapping Global Value Chains”, OECD Trade Policy Papers, No. 159, OECD Publishing. <http://dx.doi.org/10.1787/5k3v1trgnbr4-en> OECD

Drake-Brockman, Jane and Sherry Stephenson (2012). Implications for 21st Century Trade and Development of the Emergence of Services Value Chains (<http://www.ictsd.org/downloads/2012/11/implications-for-21st-century-trade-and-development-of-the-emergence-of-services-value-chains.pdf>)

Gereffi, G. and K. Fernandez-Stark (2011). “Global Value Chain Analysis: A Primer”, Center on Globalization, Governance & Competitiveness (CGGC), Duke University, North Carolina, USA.

Low, Patrick. (2013). “The role of services in global value chains.” In D. Elms and P. Low, eds, Global Value Chains in a Changing World. Geneva: WTO.

OECD (2013), Interconnected Economies: Benefiting from Global Value Chains, OECD Publishing. <http://dx.doi.org/10.1787/9789264189560-en>

PECC Economic Cooperation Council (PECC) & the Asian Development Bank Institute (ADBI) (2011) Services Trade Approaches for the 21<sup>st</sup> Century.

National Board of Trade (2013a). Global Value Chains and Services – An Introduction, National Board of Trade, Sweden.

National Board of Trade (2013b). Minecraft Brick by Brick A Case Study of a Global Services Value Chain , National Board of Trade, Sweden.

UNCTAD (2013). World Investment Report 2013 Global Value Chains: Investment and Trade for Development

World Economic Forum (WEF) (2012). The Shifting Geography of Global Value Chains Implications for Developing Countries and Trade Policy

## APPENDIX A. Key locational determinants for GVC tasks and activities, selected examples

GVC segment or stage	Economic determinants	Policy determinants and business facilitation
<i>All stages</i>		
	<ul style="list-style-type: none"> <li>• Economic, political, social stability</li> <li>• Suitability of characteristics of available labor force (cost, skill level, language proficiency, education, science and technology competences)</li> <li>• Distance and access to market or next stage in value chain Availability and quality of transport and logistics infrastructure (for goods exports)</li> <li>• Presence and capabilities of locally based firms</li> </ul>	<ul style="list-style-type: none"> <li>• Trade restrictions and promotions</li> <li>• Investment policy</li> <li>• Stable commercial law and contract enforcement regimes</li> <li>• General business facilitation (e.g. cost of doing business, hassle costs)</li> <li>• Business facilitation to support foreign affiliates (e.g. investment promotion, aftercare, provision of social amenities)</li> <li>• Business facilitation to support local firms (e.g. local enterprise development, schemes to upgrade quality, productivity, capabilities of local firms, start-up incentives, support for standards of working conditions and corporate social responsibility (CSR) in local firms)</li> </ul>
<i>Knowledge creation stage</i>		
Innovation and R&D	<ul style="list-style-type: none"> <li>• National innovation system</li> <li>• Suitability and characteristics of available labor force (cost, education, science and technology competences)</li> <li>• Presence of research clusters</li> </ul>	<ul style="list-style-type: none"> <li>• Government R&amp;D policy</li> <li>• Intellectual property regime</li> <li>• Policies towards sale of intellectual property (IP) by local firms (“pure” in-licensing of technology)</li> <li>• Laws governing contract research and licensing contracts</li> <li>• Investment incentives</li> <li>• Science and technology parks</li> </ul>
Design and branding	<ul style="list-style-type: none"> <li>• Location-specific consumer preferences (for local/regional-market oriented goods and services)</li> <li>• Suitability and characteristics of available labor force (cost, education, marketing competences)</li> <li>• Design, creativity clusters</li> </ul>	<ul style="list-style-type: none"> <li>• IP regime</li> <li>• Policies towards sale of IP by local firms (“pure” in-licensing of brands, trademarks, etc.)</li> <li>• Investment incentives</li> <li>• Design centers and institutional support</li> </ul>
<i>Main operational stages</i>		

Raw materials and agricultural inputs	<ul style="list-style-type: none"> <li>• Availability of natural resources, including relevant raw materials, agricultural (land, water)</li> <li>• Availability and quality of utility services (electricity, water)</li> <li>• Low-cost labor</li> <li>• Presence and capabilities of locally based producers of raw material inputs</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental policy</li> <li>• Trade restrictions and promotions, Generalized System of Preferences (GSP) and other Preferential Trade Agreements (PTAs)</li> <li>• Policies pertaining to foreign ownership, lease and exploitation/operations of natural resources, including land</li> <li>• Land tenure system, approaches to traditional rights to land, other resources</li> <li>• Privatization policies</li> <li>• Laws governing contract farming</li> <li>• Customs and border procedures</li> </ul>
Manufactured goods, including parts and subassemblies	<ul style="list-style-type: none"> <li>• Basic infrastructure and utility availability and costs (energy, water, telecommunications)</li> <li>• Industrial clusters</li> <li>• Suitability and characteristics of available labor force (cost, skill level)</li> </ul>	<ul style="list-style-type: none"> <li>• Trade restrictions and promotions, GSP and other PTAs</li> <li>• Customs and border procedures and trade facilitation</li> <li>• Policy supporting skills development</li> <li>• Laws governing contract manufacturing</li> <li>• Customs and border procedures</li> <li>• Industrial parks and export processing zones (EPZs)</li> <li>• Investment promotion, including one-stop shops, image building exercises and facilitation services</li> <li>• Schemes to develop and upgrade capabilities of local firms</li> </ul>
<b><i>Distribution and support services</i></b>		
Distribution and Logistics	<ul style="list-style-type: none"> <li>• Availability and quality of transport and logistics infrastructure</li> <li>• Availability, quality and cost of inputs (transport, communications, energy)</li> <li>• Networks of locally based distribution and logistics companies in relevant industries (e.g. wholesaling, storage, distribution, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Policies pertaining to foreign ownership, lease and operations in “strategic” industries</li> <li>• Infrastructure development policies</li> <li>• Customs and border procedures</li> <li>• Regional infrastructure connectivity and corridors</li> </ul>

<p>Services (e.g. HQ, IT, human resources, legal, auditing)</p>	<ul style="list-style-type: none"> <li>• Availability and quality of telecom infrastructure and services</li> <li>• Low-cost labor</li> <li>• Suitability and characteristics of available labor force (cost, language proficiency, education)</li> </ul>	<ul style="list-style-type: none"> <li>• Services trade restrictions and promotions</li> <li>• Policy supporting skills development through education, science and technology competences</li> <li>• Tax policy</li> <li>• Confidentiality and data protection laws</li> <li>• Laws governing services outsourcing contracts</li> <li>• Schemes to develop and upgrade capabilities of local firms</li> <li>• "Liveability" of location (especially for expatriate senior staff)</li> </ul>
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Source: Table IV.5 UNCTAD 2013 p.145



## APPENDIX B. GVC Participation Index of APEC Economies (2009)

	AUS	BD	CDA	CHL	PRC	CHK	INA	JPN	KOR	MAS	MEX	NZ	RP	RUS	SIN	CT	THA	US	VN
Agriculture	1.339	0.408	1.327	2.050	0.705	0.013	1.926	0.132	0.075	3.297	0.505	3.150	0.388	1.039	0.016	0.147	1.203	0.881	6.821
Mining and quarrying	16.557	34.011	6.745	21.882	0.817	0.000	13.602	0.053	0.121	7.836	4.284	1.555	0.521	19.345	0.000	0.260	0.541	0.958	10.546
Food products and beverages	1.197	0.094	0.790	3.033	0.734	0.020	2.508	0.234	0.347	1.087	0.712	5.186	0.232	0.198	0.515	0.163	2.248	0.640	5.507
Textiles, leather and footwear	0.269	3.002	0.267	0.289	3.824	0.011	2.573	0.395	1.602	0.880	0.861	1.549	1.387	0.092	0.135	1.603	3.418	0.312	14.176
Wood, paper, paper products, printing and publishing	0.450	0.068	1.562	4.457	1.148	0.028	1.763	0.753	0.611	1.437	0.347	2.976	0.194	1.014	0.361	0.386	0.970	1.246	1.555
Chemicals and non-metallic mineral products	2.146	1.723	4.460	5.145	5.728	3.020	7.321	6.858	12.236	8.504	2.552	2.948	0.951	6.925	18.043	13.934	6.652	7.353	1.390
Basic metals and fabricated metal products	6.294	0.123	4.436	1.309	4.127	0.163	1.981	5.759	5.317	1.894	3.570	2.480	0.504	5.542	1.287	5.303	2.482	2.277	0.891
Machinery and equipment n.e.c	0.914	0.000	1.146	0.595	3.357	0.387	2.028	2.436	2.757	6.447	1.107	0.635	0.473	1.417	3.316	1.939	0.991	1.804	0.689
Electrical and optical equipment	0.445	0.073	1.820	0.053	17.030	3.042	3.021	9.060	20.416	20.407	15.604	0.953	46.718	0.605	18.333	31.871	22.426	4.731	1.926
Transport equipment	0.553	0.017	4.986	0.462	1.637	0.265	0.721	5.059	7.900	0.559	7.032	0.554	1.124	0.516	1.688	1.463	1.851	2.748	0.539
Manufacturing n.e.c; recycling	0.178	0.057	0.545	0.085	1.652	0.028	0.528	1.391	0.401	0.265	1.241	0.235	0.132	0.080	0.288	0.686	2.143	0.549	0.939
Electricity, gas and water supply	0.485	0.050	0.373	0.004	0.333	0.357	0.147	0.960	0.587	0.352	0.135	0.468	0.651	2.317	0.365	0.773	0.472	0.287	0.155
Construction	0.523	0.130	0.098	0.097	0.062	0.158	0.202	0.287	0.077	0.385	0.009	0.247	0.107	0.179	0.190	0.101	0.013	0.152	0.000
Wholesale and retail trade; hotels and restaurants	2.013	1.413	1.881	2.620	2.302	20.307	1.660	4.326	2.801	5.045	2.152	3.499	6.345	5.761	8.004	5.974	3.064	3.002	3.696
Transport and storage; post and	4.398	0.763	1.271	5.860	0.804	11.827	2.058	4.687	5.100	3.759	0.537	3.685	2.839	3.664	9.864	2.383	3.655	2.752	1.429
Financial intermediation	1.194	0.522	0.416	0.986	0.614	5.773	0.275	1.617	0.864	1.871	0.421	0.711	1.119	0.544	3.593	1.064	0.203	2.324	0.323
Business services	4.148	0.848	1.896	2.934	0.853	9.572	0.589	3.185	3.526	1.506	0.706	2.317	2.892	1.761	4.297	2.171	0.443	7.222	0.660
Other services	0.708	0.419	0.758	0.352	0.331	0.821	0.820	0.558	0.291	0.041	0.017	0.956	0.072	0.827	0.362	0.771	0.044	0.593	0.106
TOTAL PARTICIPATION INDEX	43.809	43.72	34.778	52.213	46.059	55.793	43.724	47.748	65.028	65.573	41.79	34.102	66.649	51.826	70.655	70.992	52.818	39.832	51.348

Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

Legend:

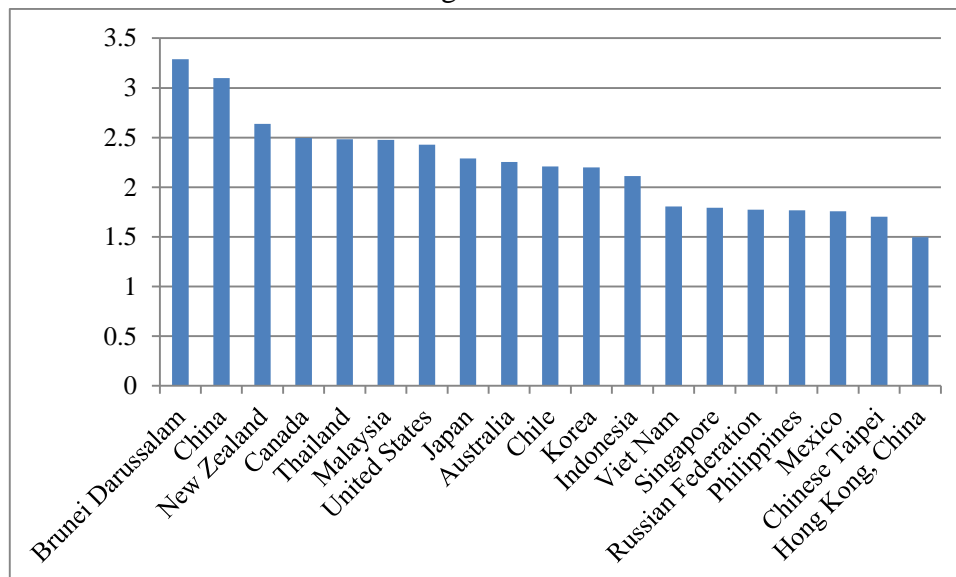
Most important GVC in an economy (sector has highest share in GVC participation of APEC economy)

APEC economy most exposed in a particular GVC (economy with highest GVC participation in sector)

Both

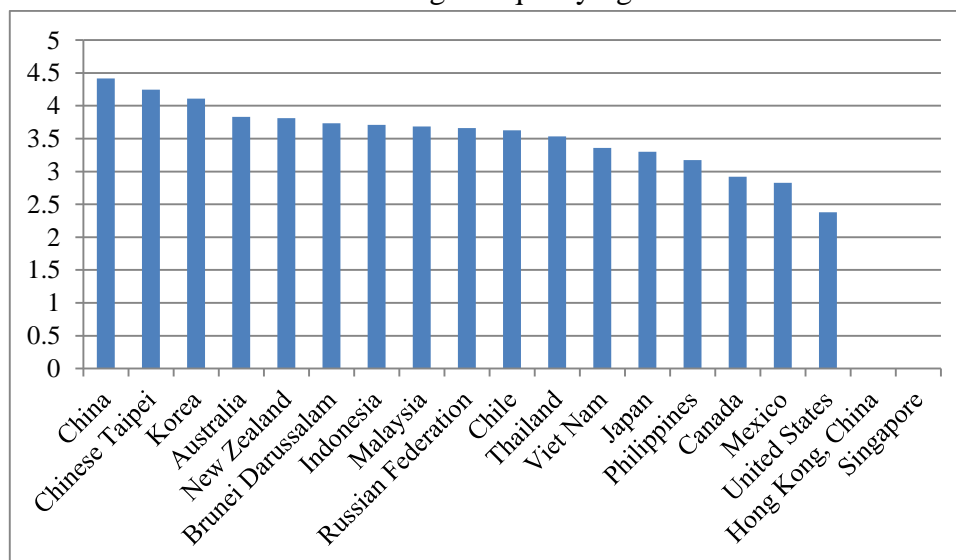
## APPENDIX C. Index of distance to final demand of APEC Economies in various industries (2009)

### Agriculture



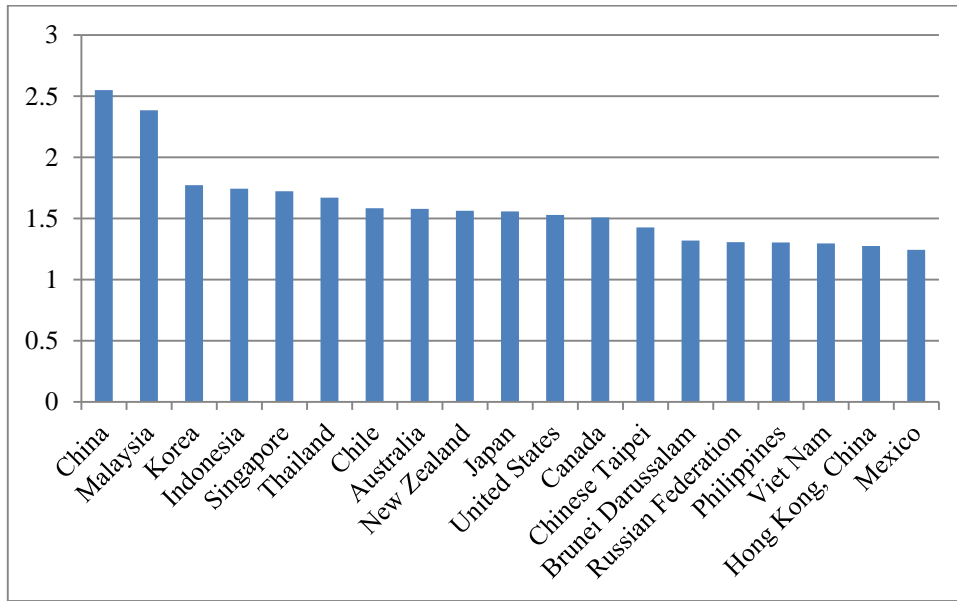
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Mining and quarrying



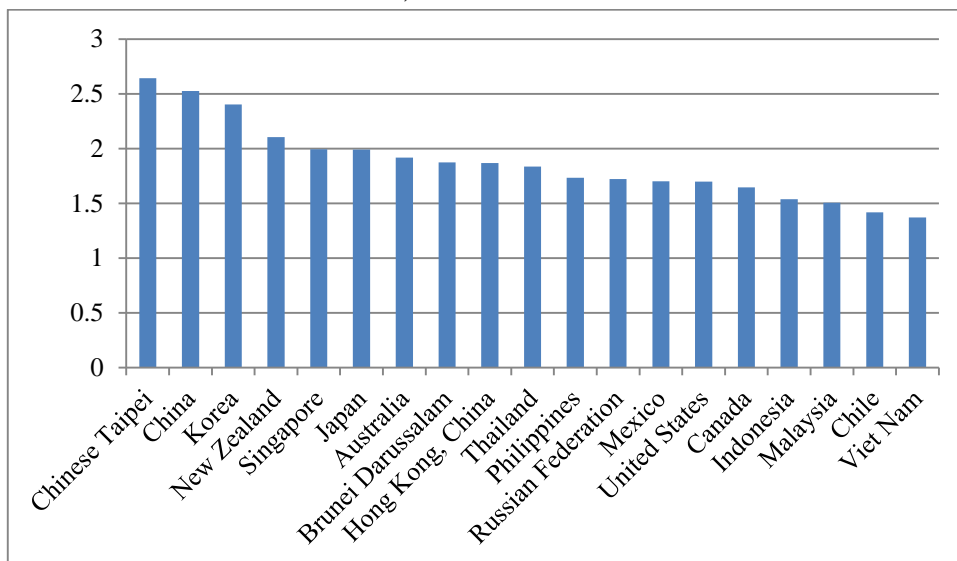
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Food products and beverages



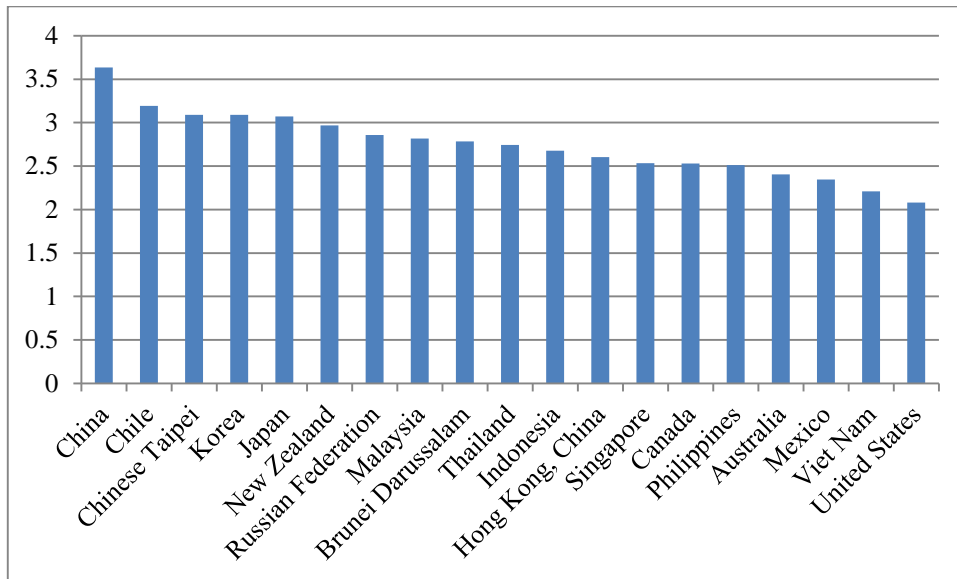
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Textiles, leather and footwear



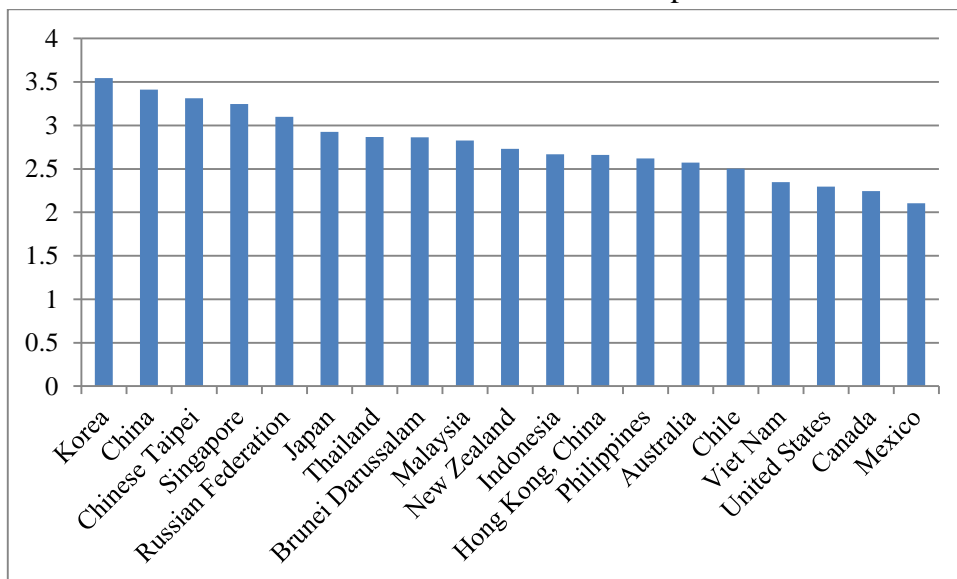
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Wood, paper, paper products, printing and publishing



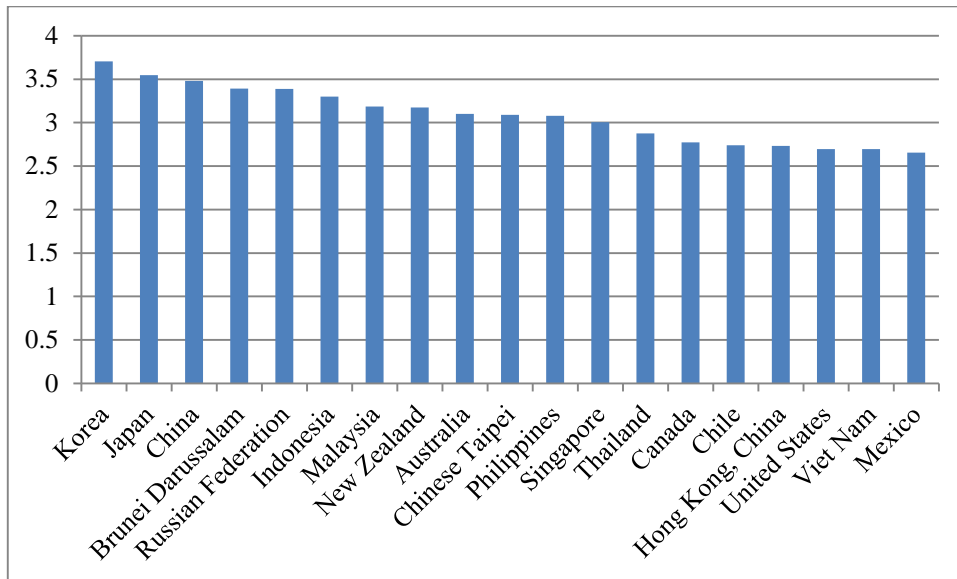
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Chemicals and non-metallic mineral products



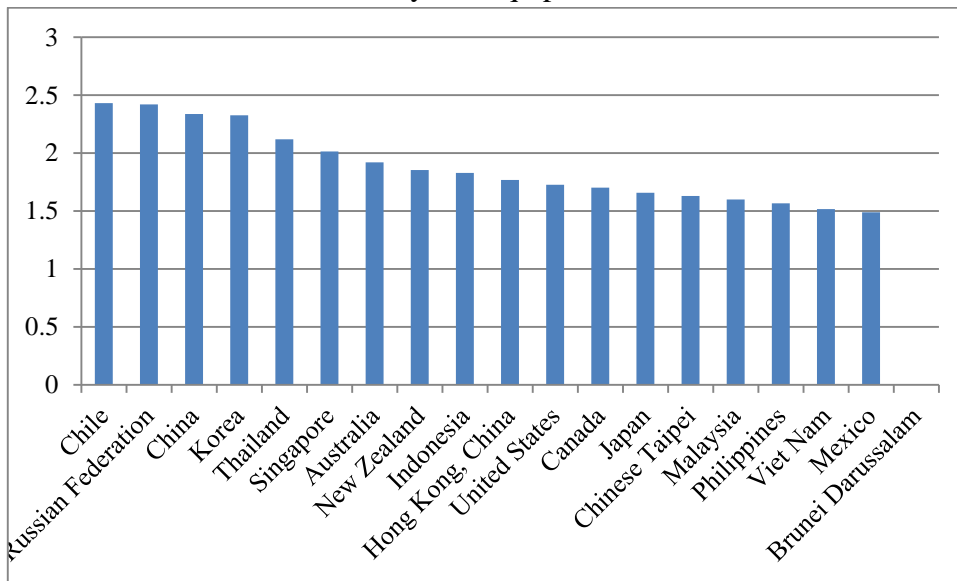
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Basic metals and fabricated metal products



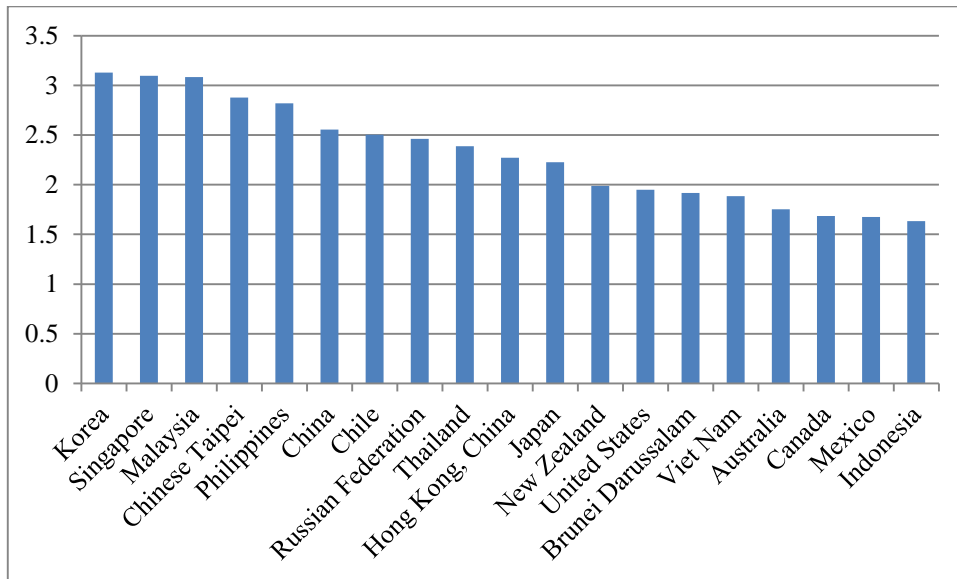
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Machinery and equipment n.e.c



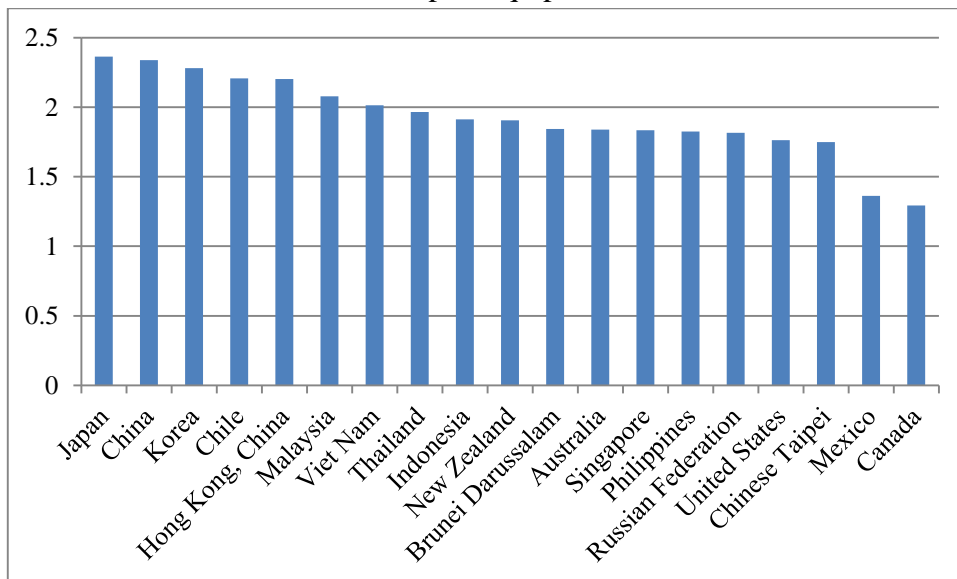
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Electrical and optical equipment



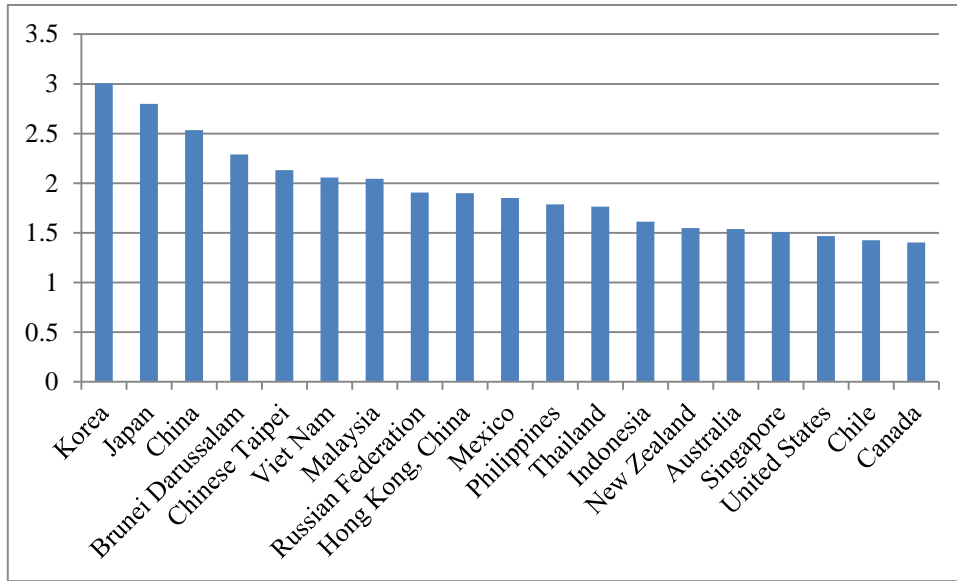
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Transport equipment



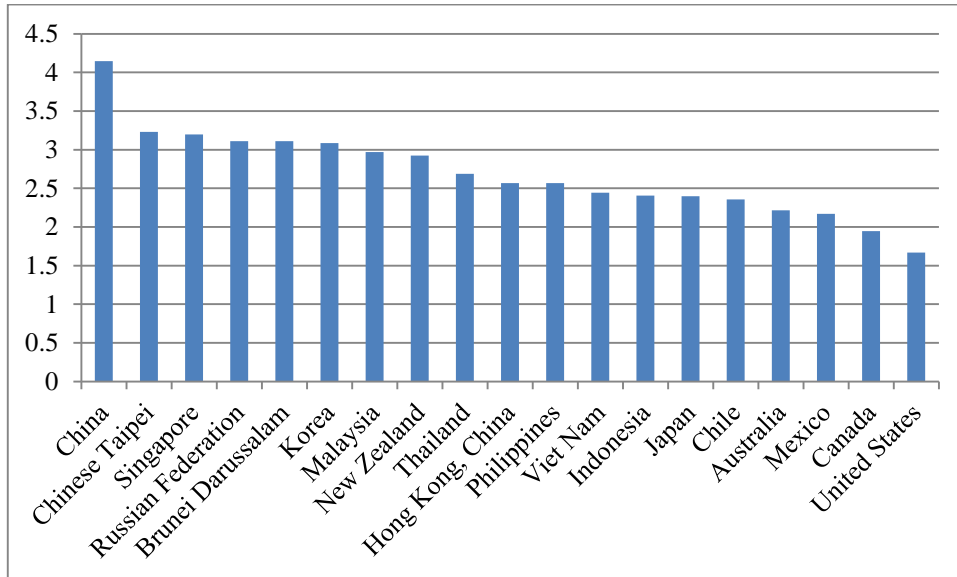
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Manufacturing n.e.c; recycling



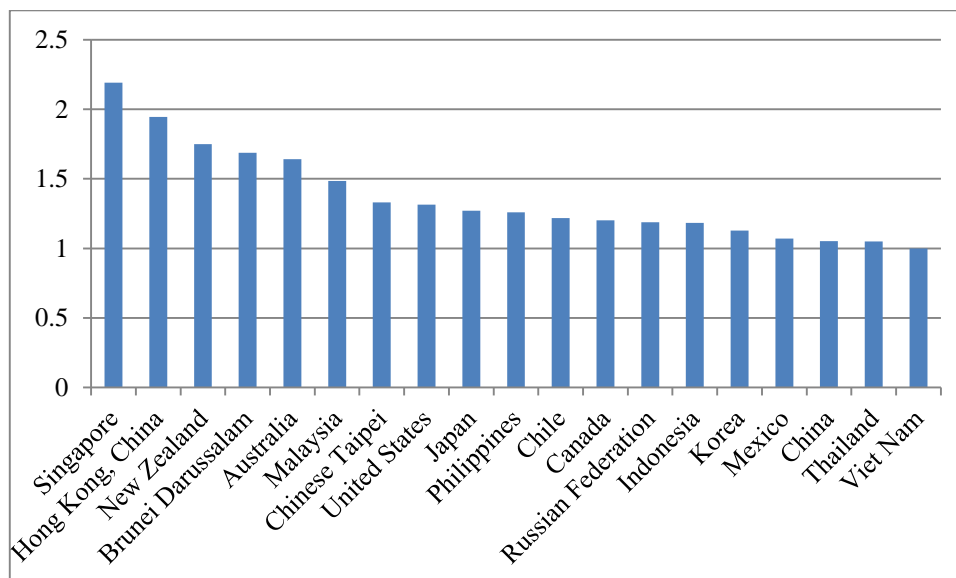
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Electricity, gas and water supply



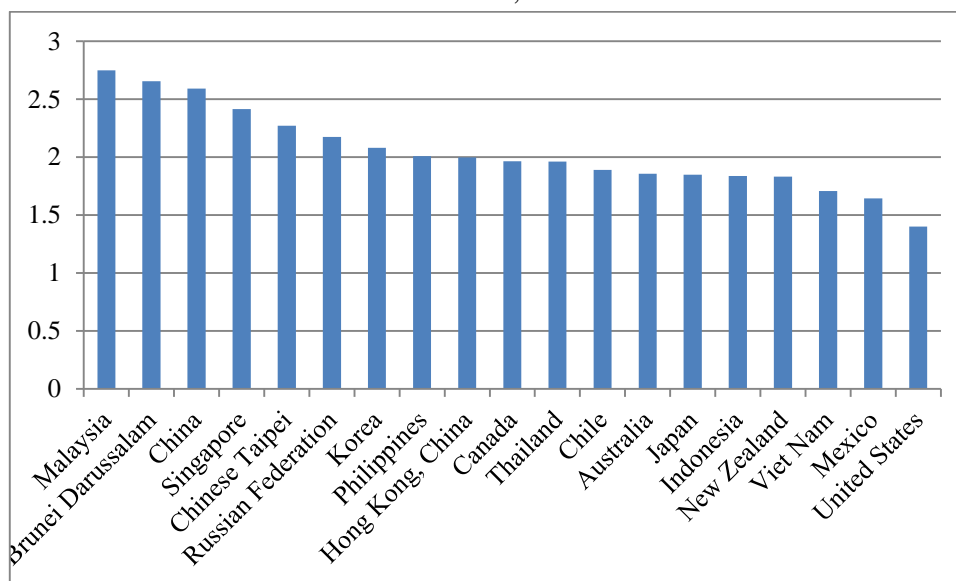
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Construction



Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

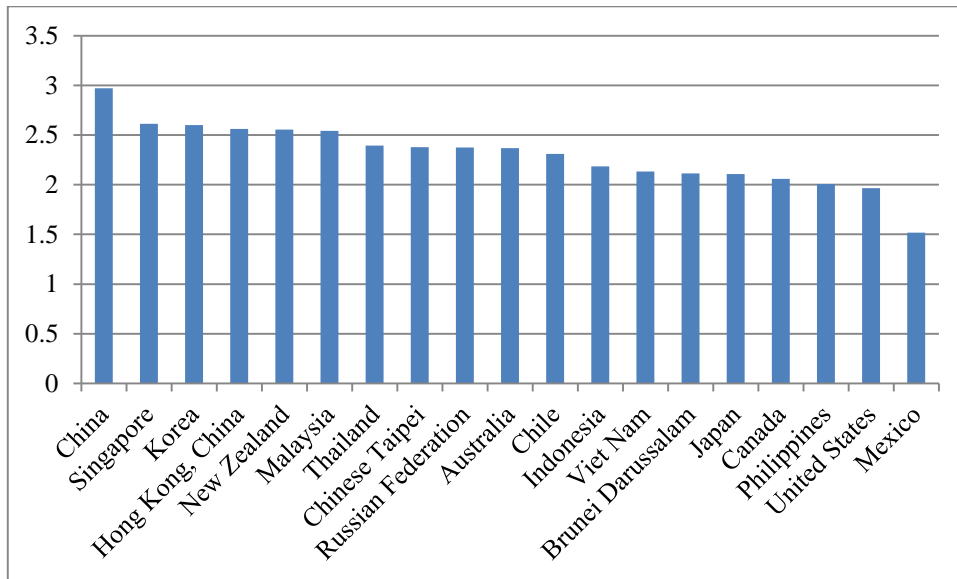
### Wholesale and retail trade; hotels and restaurants



Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

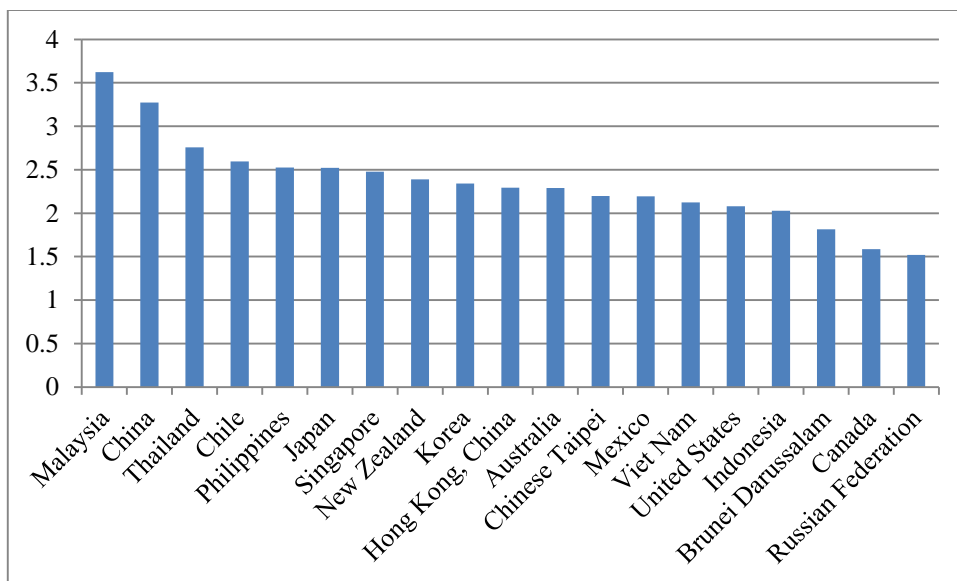


### Transport and storage; post and telecommunications



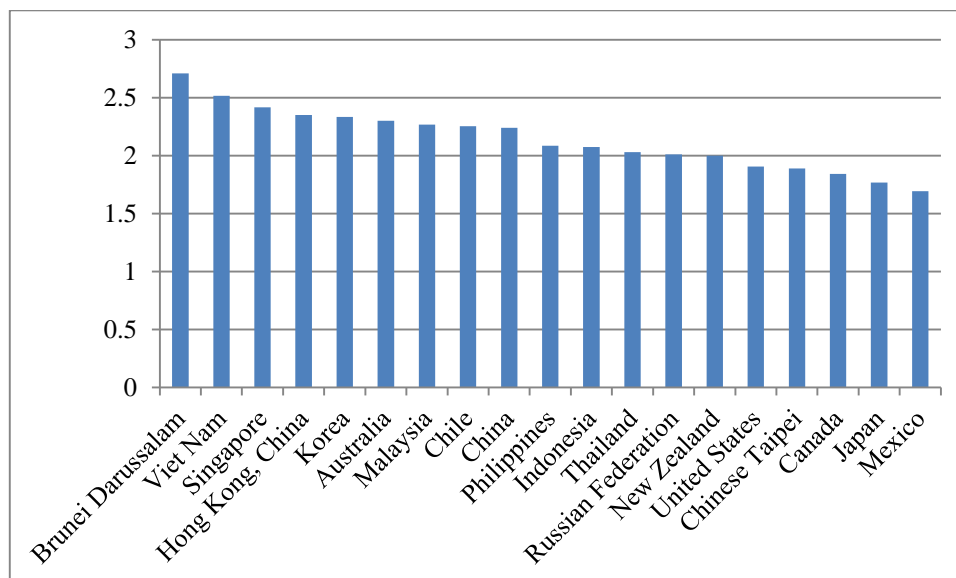
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Financial intermediation



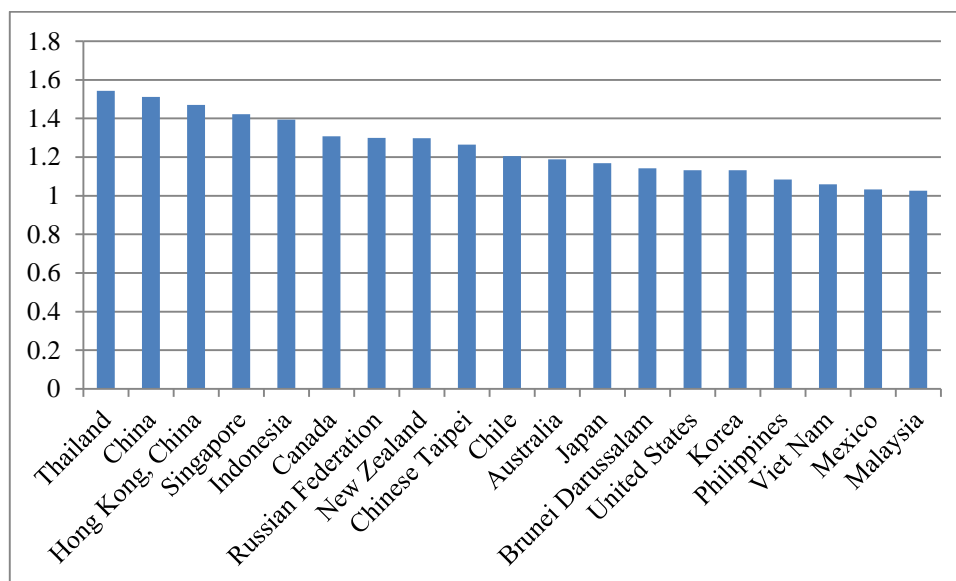
Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Business services



Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)

### Other services



Source: OECD Value Chains Indicators - May 2013 (<http://stats.oecd.org/>)