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**Policy Issue Note:**

**Developments in the Region's Trade in Value-Added  
&  
Updates on the Region's Exposure to U.S. Trade Actions**

**ASEAN+3 Macroeconomic Research Office (AMRO)**  
Singapore

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## Background

Over the past several decades, global value chains (GVCs) have expanded rapidly, providing the impetus for economic growth in many small and open developing economies, including in the region.

- The expansion in GVCs reflects, among other things, technological advancements and improved global logistics, which have enabled small and open developing economies to participate and reap the benefits of globalisation.
- In the ASEAN+3 region, the steady expansion in GVC participation (Figure 1) has led to efficiency gains in the supply chain of production. By harnessing each others' complementarities and comparative advantages, **GVCs have linked regional economies closer through trade and investment.**

While the region has benefited from GVCs and in the process, integration with global markets, GVCs have also become a key transmission channel for the propagation of real sector shocks:

- Intra-regional trade share in the ASEAN+3 region has increased significantly since the 1990s, mainly driven by China and the rise of "factory Asia." In terms of intra-regional trade intensity, the region has the highest reading, surpassing even that of the European Union (Figure 2).
- In view of the close intra-regional trade linkages, **GVCs that are oriented towards demand outside the region (mainly in traditional third markets such as the U.S. and Europe) have the potential to propagate real sector risks**, as seen during the Global Financial Crisis 2008-09 when demand in Western economies collapsed.
- Apart from demand factors, border barriers (such as tariffs, and other trade protectionism measures) can also impose costs on traders, given that goods cross national borders many times, first as inputs and then as intermediate or final products. Tariffs, no matter how small, could be repeated along GVCs, translating into significant total costs for traders and potentially weighing on trade activity.

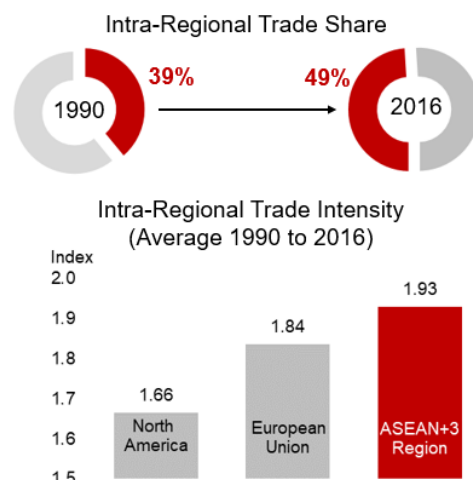
**Figure 1**  
GVC Participation Index for the ASEAN+3 Region



Notes: GVC participation index is the sum of backward and forward linkages. The index is expressed as the average share of regional exports. Backward GVC participation captures the extent to which domestic firms use foreign intermediate value added for exporting activities in a given country. Forward GVC participation captures the extent to which a given country's exports are used by firms in partner countries as inputs into their own exports.

Source: OECD TiVA, AMRO staff estimates.

**Figure 2**  
Intra-Regional Trade Share and Trade Intensity



Notes: ASEAN+3 trade intensity index is the ratio of intra-regional trade share to the share of the region's global trade. Intra-regional trade intensity index is the ratio of intra-regional trade share to the share of world trade with the region, calculated using total trade data.

Source: IMF DOTS, AMRO staff calculations.

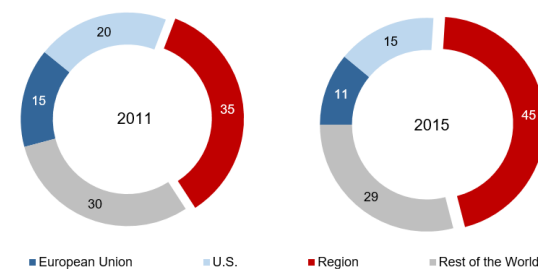
## Recent Developments in The Region's Trade in Value-Added

The OECD has just published its updated statistics on trade in value-added (TiVA)<sup>1</sup> (up to 2015 from 2011 previously).

Our new estimates show the following:

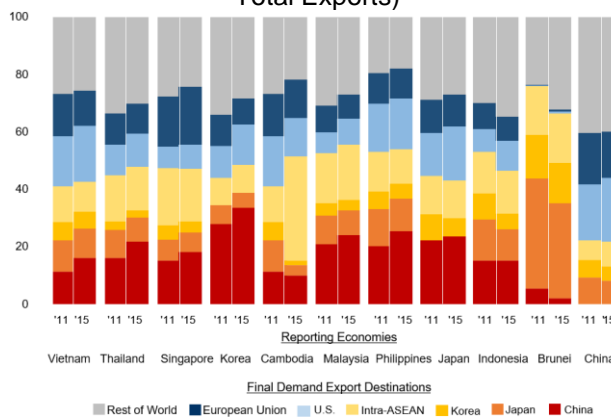
- The region's favorable fundamentals, such as a **growing middle class and rapid urbanization**, have underpinned the **structural shifts in demand**, as shown by **growing intra-regional final consumption and absorption of value-added exports within the region** (Figure 3).
- While traditional demand from third markets (U.S. and European Union) remains important, **the ASEAN+3 region has become a key source of final demand in itself, accounting for 45 percent of total exports**.
  - For several manufacturing exporters (Vietnam, Thailand, Korea, Cambodia and Malaysia), the share of regional final demand has increased since 2011 (Figure 4).
  - For commodity exporters (Brunei, Indonesia), the share of foreign final demand (from the rest of the world) has increased significantly, indicating diversification in export markets. For other economies, the shares have remained relatively unchanged.
- The impact of protectionism on GVCs that are oriented towards demand outside the region **could be partially cushioned by** the lower reliance on traditional markets to drive regional economic growth.

**Figure 3**  
Region's Value-Added Exports  
(% Share by Major Destinations)



Source: OECD, AMRO staff calculations.

**Figure 4**  
Share of the Region in Value-Added Exports  
of Selected ASEAN+3 Economies  
(% Share of Reporting Economies  
Total Exports)



Source: OECD, AMRO staff calculations.

<sup>1</sup> Given that 70 percent of international trade reflects mostly cross border production via GVCs (OECD, 2018), it is common to examine trade statistics based on value-added concept.

## The Region's Exposure to U.S. Trade Actions – An Update<sup>2</sup>

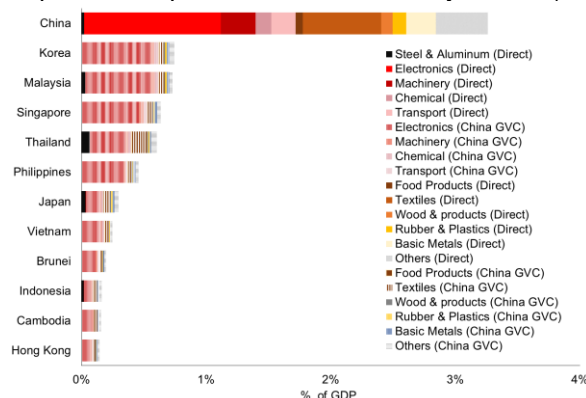
Using the 2015 TiVA, we re-estimate the export exposure of the region (including the spillover effects via GVCs) on U.S. trade actions targeted directly at China's exports,<sup>3</sup> but which exclude potential U.S. trade actions on auto exports affecting Japan and Korea. The results suggest that:

- China's export exposure to U.S. trade actions is larger, estimated at **3.3 percent of GDP, compared with 2.6 percent in 2011** (Figure 5).
- The exposure of the region (excluding China), amounts to at most, **one percent of respective economies' GDP**. In the 2011 TiVA, the exposure of the region was almost **one percentage point higher – or about two percent** of respective economies' GDP.<sup>4</sup>

It shows that the spillover from the U.S.-China trade conflict to the rest of region has diminished partly reflecting the restructuring of the GVCs even though **intra-regional trade has grown strongly, because much of the increase in intraregional trade is driven by final demand, especially consumption by the rapidly rising middle class within the region.**

**Figure 5**  
**Regional Export Exposure**  
**(Including the Spillover Effects via GVCs) on**  
**U.S. Trade Actions Targeted Directly at**  
**China's Exports**

(Re-estimated using TiVA 2015 and excluding planned imposition of auto tariffs by the U.S)



Notes: In order to assess the net impact of tariffs, the foreign value-added of targeted exports is deducted from total exports. For example, the direct impact of U.S. Section 301 investigations on China's exports (solid red bars) excludes foreign value-added of Chinese electronics, machinery, chemicals and some transport equipment exports. This foreign value-added, where they are sourced from the economies in the region, are added to the impact on exports of those economies as spillovers through GVCs.

Source: OECD, AMRO staff estimates.

<sup>2</sup> This represents an update to the estimates in the December 2018 AREO presented to the AFCDM+3. The updated estimates will be discussed further in the April 2019 AREO.

<sup>3</sup> Refers to trade actions implemented so far, by the U.S. on China; (1) 25 percent import tariffs on USD50 billion worth of Chinese high tech manufactured goods, and (2) 10 percent import tariffs on USD200 billion worth of Chinese goods ranging from mineral to food to textiles. For details, see the following link: <https://ustr.gov/sites/default/files/enforcement/301Investigations/Tariff%20List-09.17.18.pdf>

<sup>4</sup> This estimate includes the earlier planned imposition of auto tariffs by the U.S. Excluding this auto tariffs, the estimates are at most about 1.5 percent of respective economies' GDP.