Box Article 1

Global Value Chains and the Drivers of Exports in Malaysia[1]

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HIGHLIGHTS

- **Malaysia is deeply involved in Global Value Chains (GVCs), specialising in the final stages of the production process (backward linkage).**
- **High GVC participation has reduced the impact of exchange rate movement on Malaysia's exports.**
- **There should be a stronger policy imperative to spur companies to reduce reliance on a low-cost production strategy to remain competitive.**

Introduction

Malaysia has long maintained a high degree of openness to trade, with a trade to GDP ratio of 128% as at 2016 (world average: 88.5%). This openness facilitated the economy's deep integration into the Global Value Chain (GVC) as it started developing in earnest during the 1990s. The formation of GVC was motivated by the desire for efficiency gains, and led to stages of production becoming more dispersed across countries.

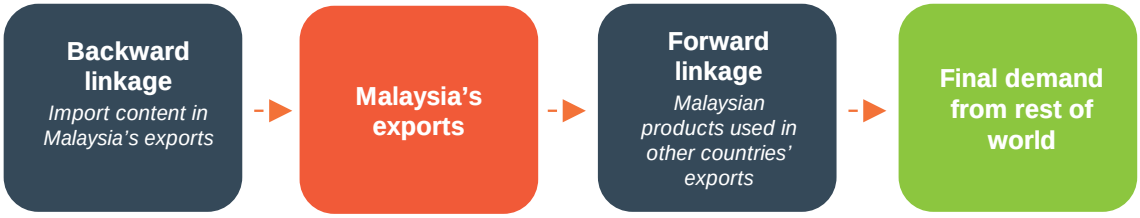
A consequence of GVC participation is a weaker link between exports and the exchange rate[2]. With trade within GVCs, exports have sizable imported inputs. A larger share of imported inputs reduces the effect of exchange rate movements. For example, an exchange rate depreciation raises the cost of imported inputs, hence limiting the exchange rate related revenue gains from export proceeds.

This Box Article identifies the extent of Malaysia's participation in GVCs, and how this influences the drivers of Malaysia's export volumes to its determinants – foreign demand, export prices and, in particular, the exchange rate.

Malaysia's participation in the Global Value Chain (GVC)

Diagram 1 shows the two main aspects of participation in the GVC. Backward linkages measure the use of imported inputs to produce goods for exports, while forward linkages reflect other economies' use of Malaysian products as inputs into their exports. Countries with higher forward linkages tend to specialise in the early stages of GVC, and vice versa for those with higher backward linkages.

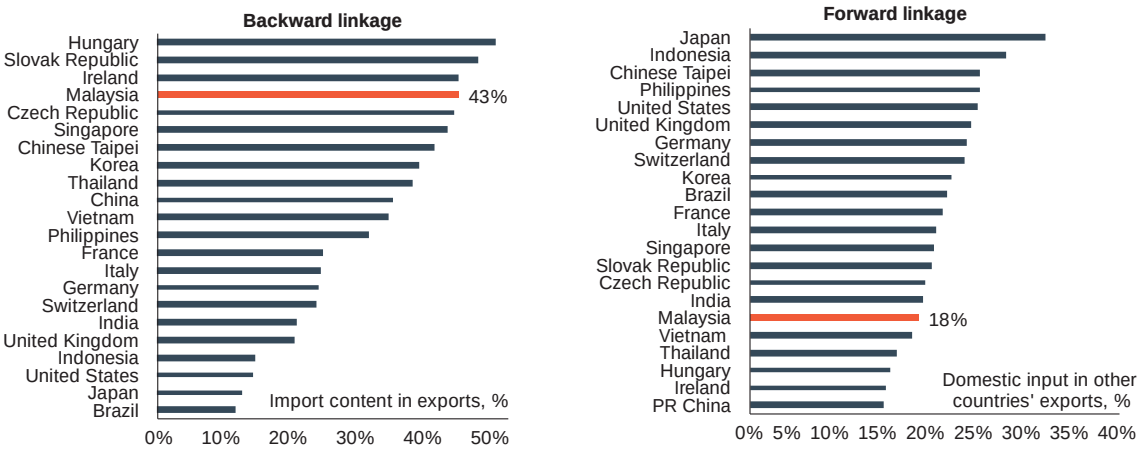
Diagram 1: Conceptual Chart of Malaysia's GVC Participation



[1] A technical version is forthcoming in the Bank Negara Malaysia Working Paper series.
[2] Ahmed et al (2015) and Ollivaud et al (2015).

To shed light on Malaysia's position in the GVC, Chart 1 illustrates the degree of backward and forward linkages for selected countries. Malaysia's backward linkage, as measured by the high import content of its exports of 43%, is amongst the highest in the region (e.g.: Singapore, Thailand, Chinese Taipei, Philippines, Indonesia and Korea). In comparison, Malaysia's forward linkages, measured by its products used in other economies' exports at 18%, is relatively lower. Together, this reflects Malaysia's specialisation in the end stages of GVCs.

Chart 1: Backward and Forward Linkages of Selected Economies (Avg. 2001-2012)



Source: OECD- WTO: Statistics on Trade Value-Added database, Bank Negara Malaysia

The Implications of Malaysia's role in GVC on Exports

To provide an understanding of the role of GVCs in influencing exports, a model of Malaysia's aggregate exports was estimated[3].The 4 drivers of exports considered are external demand, relative export price, the exchange rate and the import content of Malaysia's exports to capture Malaysia's backward linkages in the GVC[4]. The importance of each driver is shown in Chart 2.

Broadly, the findings show that external demand is the most important driver, accounting for an average of 29% of export volume growth (Table 1). This is not surprising and reflects the fact that exports are driven predominantly by global demand conditions. Relative export price is also a key factor with an average contribution of 26%. The ringgit exchange rate plays a supporting role, accounting for an average 14% of export volume growth.

Chart 3 illustrates how backward linkages reduce the effects of the exchange rate on Malaysia's exports. The combined exchange rate effect is split into the stand-alone exchange rate effect (dark blue bars) and its interaction with backward linkages within the GVC (red bars). The results show that the exchange rate effect on exports are dampened by up to 45% when accounting for the economy's high degree of backward linkages. Intuitively, this implies that the increased cost of imported inputs from a depreciated exchange rate reduces the associated revenue gains from higher export proceeds by an average of 45%.

[3] An error correction model (ECM) was estimated to capture the roles of demand and each price component in driving export volume growth in both the short- and long-run, while also capturing the persistence of the exchange rate movement in the transmission mechanism. This was done using data from 2000 to 2016.

[4] External demand is the weighted GDP of Malaysia's top 30 export partners. Relative export price refers to the ratio of Malaysia's export price to global export price, and the ringgit exchange rate refers to the USD/MYR exchange rate, which also includes its interaction with backward linkage. Forward linkage is not included as Malaysia's input used in other countries' exports is directly captured in the exports data.

Table 1:

Contribution of the Determinants of Export Volume Growth (Average 2005-2016)

Determinants	Contribution (%)
External Demand	29
Relative Export Price	26
Exhange Rate (USD/MYR) *(inc. its interaction with backward linkages)*	14
Others	31

Source: Bank Negara Malaysia

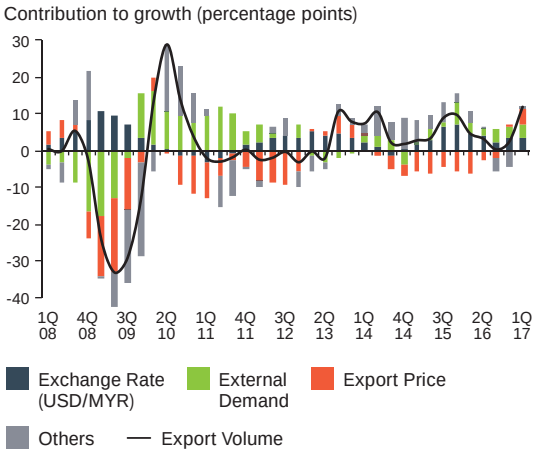
Table 2:

GVC and the Exchange Rate Effect

Determinants	Contribution (ppt)
Exchange rate *(A)*	4.2
Exchange rate interacted with *GVC (B)*	1.9
Final exhange rate effect* *(C = A - B)*	2.3
Offsetting effect *(%) (B / A)*	45%

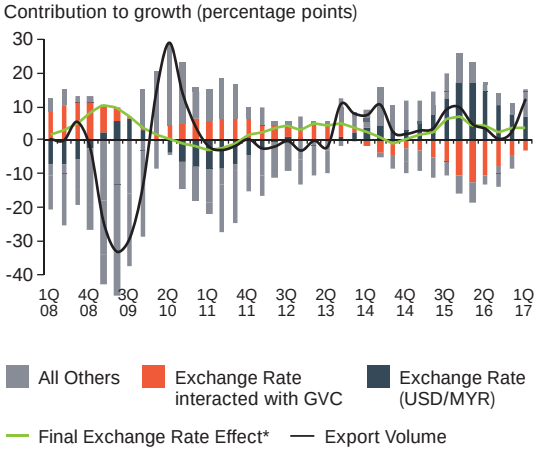
Source: Bank Negara Malaysia
* The Final Exchange effect (C) is the difference between the Exchange Rate (A) and its interaction with GVC (B).

Chart 2: Drivers of Export Volume Growth



Source: Bank Negara Malaysia

Chart 3: Drivers of Export Volume Growth



Source: Bank Negara Malaysia

Conclusion and Broader Policy Implication

Malaysia's deep integration in the GVC has implications on the drivers of its exports. While external demand remains the most important driver of exports, integration into the GVC has reduced the sensitivity of the exchange rate on exports. The exchange rate contribution has been larger in recent years, in line with depreciation of the ringgit exchange rate. Going forward, exports growth will be supported mainly by foreign demand, as global economic conditions continue to improve and the ringgit exchange rate stabilises. At the broader level, the analysis also illustrates that Malaysia is no longer able to compete on cost. This is evident from the negative contribution from relative export price to exports growth since the Global Financial Crisis (Chart 3). There should therefore be a stronger policy imperative to develop industries which produce niche products that do not rely on a low-cost production strategy to be competitive.

References

Ollivaud, P., E. Rusticelli and C. Schwellnus (2015), "The Changing Role of the Exchange Rate for Macroeconomic Adjustment", OECD Economics Department Working Papers, No. 1190, OECD Publishing, Paris.

Swarnali Ahmed, Maximiliano Appendino and Michele Ruta (2015), "Global Value Chains and the Exchange Rate Elasticity of Exports", IMF Working Paper.