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The welfare and sectoral adjustment effects of mega-regional trade agreements on ASEAN countries

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ABSTRACT

The U.S. withdrawal from the Trans-Pacific Partnership (TPP) has had an influence on the prospects of mega-regional trade agreements (MRTAs). In the Asian Pacific, negotiations for the Regional Comprehensive Economic Partnership (RCEP) might accelerate. In addition, ministers from the 11 other TPP signatories have confirmed their intention to proceed with the TPP without U.S. participation. Using a dynamic computable general equilibrium (CGE) model, we estimate welfare and sectoral output adjustment effects of alternative sequencings of MRTAs on ASEAN countries. Welfare gains for ASEAN countries under the scenario led by the RCEP, followed by RCEP + Taiwan and a Free Trade Area of the Asia-Pacific (FTAAP), are greater than or equal to those under the scenario led by TPP sans US, followed by an enlarged TPP and an FTAAP. When the two scenarios are assumed to develop at the same time, welfare gains of the RCEP and TPP-11 countries are found to be less than the sum of the gains under the first two scenarios. For a number of ASEAN countries, output expansion of textiles and apparel and/or electronic equipment is significant.

1. Introduction

Until the U.S. withdrawal from the Trans-Pacific Partnership (TPP) in January 2017, the Asia-Pacific region was moving toward consolidations of bilateral free trade agreements (FTAs). Combining smaller FTAs would enlarge the welfare gains from increased trade creation and mitigate the cost of different rules of origin associated with a large number of FTAs (e.g. Kawai & Wignaraja, 2009; Itakura & Lee, 2012). Negotiations for the Regional Comprehensive Economic Partnership (RCEP) among the ten ASEAN countries, Australia, China, India, Japan, Korea and New Zealand started in 2013 and might accelerate amid the U.S. withdrawal from the TPP. In addition, ministers from the 11 other TPP signatories have confirmed their intention to proceed with the TPP without U.S. participation. By implementing the TPP sans US or "TPP-11", the member countries will keep the option for a future U.S. participation (Schott, 2016; Solís, 2016). Furthermore, while it may still be a long way to realize a Free Trade Area of the Asia-Pacific (FTAAP), APEC leaders agreed to consider the eventual realization of FTAAP at the APEC Summit in Lima, November 2016.

The objective of this paper is to estimate welfare and sectoral output adjustment effects of alternative sequencings of mega-regional trade agreements (MRTAs) on ASEAN countries using a dynamic computable general equilibrium (CGE)

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model. We offer four possible sequencings of MRTAs in the Asia-Pacific. The first is the implementation of the 16-member RCEP, followed by RCEP + Taiwan and an FTAAP. The second is the realization of 11-member TPP sans US, followed by an enlarged TPP and an FTAAP. The third is a more hypothetical scenario in which the implementation of the TPP including the United States as a member is considered for a comparison. Finally, a simultaneous development of the first and second sequencings is considered.

A number of studies have quantified the effects of plurilateral FTAs and/or MRTAs in the Asia-Pacific region using a CGE model (e.g., Cheong, 2013; Kawasaki, 2015; Lee, Owen, & van der, Mensbrugghe, 2009; Li & Whalley, 2014; Petri Plummer, & Zhai, 2012; Petri, Plummer, & Zhai, 2014; Petri & Plummer, 2016; World Bank, 2016). Using a dynamic CGE model, Lee et al. (2009) find that a reduction in administrative and technical barriers and a fall in the trade and transport margins have greater effects on economic welfare of member countries than tariff elimination. Cheong and Tongzon (2013) and Kawasaki (2015) show that real GDP gains will be larger under the RCEP than under the TPP. In both studies Singapore and Vietnam's income gains are relatively large, particularly under the RCEP. Malaysia's income gains are also large in Kawasaki's (2015) study. Li and Whalley (2014) demonstrate that China's participation in the TPP would significantly benefit China and moderately increase economic welfare of other TPP members.

Petri et al. (2012)'s study is the first to compare Trans-Pacific (or TPP) track and Asian track FTAs. They assume that a China-Japan-Korea FTA is implemented before an East Asian FTA and an FTAAP under the Asian track. They find that by far Vietnam is the largest beneficiary under both tracks. Several countries' welfare gains are found to be larger under the TPP track than under the Asian track. In a subsequent study, Petri, Plummer, and Zhai (2014) assume that the TPP will expand from 12 to 17 members to include China, Indonesia, Korea, the Philippines and Thailand.[1] Using more recent data and estimates on nontariff barriers (NTBs), Petri and Plummer (2016) updates Petri et al. (2012)'s study. Economic welfare of the 12 TPP members, expressed as percent change from the baseline in 2030, ranges from 0.5% in the United States to 8.1% in Vietnam. World Bank's (2016) results are similar, as smaller and more open member countries (e.g. Vietnam and Malaysia) are expected to attain relatively large welfare gains.

An overview of the model and data is given in the next section, followed by descriptions of the baseline and policy scenarios in Section 3. In Section 4 assessments of welfare and sectoral output adjustment effects are offered. Concluding remarks are provided in the final section.

2. Analytical framework and data

2.1. Overview of the dynamic GTAP model

The numerical simulations undertaken for this study are derived from the dynamic GTAP model, described in detail by Ianchovichina and McDougall (2012). This model extends the comparative static framework of the standard GTAP model developed by Hertel (1997) to the dynamic framework by incorporating international capital mobility and capital accumulation. The dynamic GTAP model allows international capital mobility and capital accumulation, while it preserves all the features of the standard GTAP, such as constant returns to production technology, perfectly competitive markets, and product differentiation by countries of origin, in keeping with the so-called Armington assumption.[2] At the same time, it enhances the investment theory by incorporating international capital mobility and ownership. In this way it captures important FTA effects on investment and wealth that are missed by a static model.

In the dynamic GTAP model, each of the regions is endowed with fixed physical capital stock owned by domestic firms. The physical capital is accumulated over time with new investment. This dynamics are driven by net investment, which is sourced from regional households' savings. The savings in one region are invested directly in domestic firms and indirectly in foreign firms, which are in turn reinvested in all regions. The dynamics arising from positive savings in one region is related to the dynamics from the net investment in other regions. Overall, at the global level, it must hold that all the savings across regions are completely invested in home and overseas markets.

In the short run, an equalization of the rates of return seems unrealistic, and there exist well-known empirical observations for "home bias" in savings and investment. These observations suggest that capital is not perfectly mobile, causing some divergence in the rates of return across regions. The dynamic GTAP model allows inter-regional differences in the rates of return in the short run, which will be eventually equalized in the very long run. It is assumed that differences in the rates of return are attributed to the errors in investors' expectations about the future rates of return. During the process, these errors are gradually adjusted to the actual rate of return as time elapses, and eventually they are eliminated and a unified rate of return across regions can be attained. Income accruing from the ownership of the foreign and domestic assets can then be appropriately incorporated into total regional income.

[1] It might be more reasonable to assume, however, that China's participation in the TPP comes after the other countries' accession because it is expected to take longer to meet the high standards of the TPP, including competition policy, government procurement and intellectual property rights.

[2] See Armington (1969). The model uses a nested CES structure, where at the top nested level, each agent chooses to allocate aggregate demand between domestically produced goods and an aggregate import bundle, while minimizing the overall cost of the aggregate demand bundle. At the second level, aggregate import demand is allocated across different trading partners, again using a CES specification, wherein the aggregate costs of imports are minimized.

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