The impact of PTAs on trade in Indonesia

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Abstract

We focus on whether signing preferential trade agreements (PTAs) is a solution to improve the balance of trade, specifically applied to the case of Indonesia's trade with forty-two other countries over 1989-2019. Using a gravity model of bilateral trade and the Poisson pseudo-maximum likelihood econometric technique, this research estimates the contractionary effects of some of the preferential agreements on both aggregate trade flows and their disaggregation by nine product groups. We find that partial scope agreements (PSAs) and collaboration with WTO member countries were beneficial for Indonesia. Further, trade partners with a higher level of internet penetration than Indonesia imported more products from this country. The analysis disaggregated by products generated similar results. If Indonesia pursued strategies based on comparative advantage then they could improve their trade balance within the ASEAN-Plus-One and AFTA partnerships.

Introduction

Do various types of PTAs similarly benefit both partners? The preliminary review of data for Indonesia, which covered the trade flows with its forty-two partners in 1989-2019, assessed a significant reduction in the balance of trade after signing some of the PTAs. Thus, in 1989-1992, Indonesia, in aggregate terms, ran a trade surplus with its future AFTA partners (Figure 1). Indonesia entered the AFTA in 1993 and reported trade deficit with its partners, estimated as an aggregate of all trade flows, since 2005 onward. Indonesia, as part of the ASEAN free trade zone, launched “ASEAN-Plus-One” FTAs with seven countries, such as China, Australia, Japan, etc. For example, the ASEAN-Plus-One agreement with the People’s Republic of China entered into force in 2005. In two years, the trade surplus with China reversed and Indonesia has reported a growing trade deficit with this country from 2007 onward (Figure 2).

Methods and Materials

This analysis uses four binary variables to denote various types of preferential trade agreements (PTA), grouped as follows: PTA1: AFTA (or intra-ASEAN trade); PTA2: ASEAN Plus-One, PTA3: -PSA; and PTA4: - no PTA (not having a PTA). In addition to generally controlled in gravity models, we also use the level of digitalization estimated as: 

$$\text{DIG}_{it} = \frac{\text{popularity of internet}}{\text{population of Indonesia}} - (1)$$

The Poisson pseudo-maximum likelihood (PPML) econometric technique is used to conduct data analysis. This method is described in Santos Silva and Tenreyro (2006). Thus, the model is described by the following equation (2):

$$\text{Dep}_{it} = a_0 + a_1 \text{Singapore GDP}_{-1} + a_2 \text{India GDP}_{-1} + a_3 \text{Dist}_{it} + a_4 \text{Pop}_{it-1} + a_5 \text{Pop}_{it-1} + a_6 \text{Exch}_{it-1} + a_7 \text{Dist}_{it} + a_8 \text{PTA}_{it} + a_9 \text{PTA}_{it} + a_{10} \text{PTA}_{it} + a_{11} \text{WTO}_{it} + a_{12} \text{Rem}_{it-1} + a_{13} \text{A}_{it} + e_{it}$$

Conclusions

Indonesia did not fully benefit from the potential that operating as a member of the AFTA may offer. The negative and insignificant coefficient associated with exports from Indonesia to the AFTA countries implies that the negative effect on exports is not systematic, and Indonesia has the potential to turn around the situation. The AFTA partners utilized the potential of Indonesian market much better which impacted the trade deficit of Indonesia.

Our analysis suggests that the trade with the ASEAN-Plus-One partners had the largest area for improvement, since the exports to these countries were directly and negatively affected by the terms of these agreements. Simultaneously, the imports from the ASEAN-Plus-One partner countries significantly grew.

Finally, not having PTAs with major partners was another significant contributor to the decline in Indonesian exports. If Indonesia pursued strategies based on comparative advantage then they could improve their trade balance with the ASEAN-Plus-One and AFTA partners.

References