United States tend to have low total trade to GDP because of their large domestic markets. A better proxy would be the average applied most favored nation (MFN) tariff rate, which directly measures trade barriers.

- FDI openness—the author uses the ratio of FDI inflow stock to GDP as the proxy for FDI openness. As the focus of the paper is the export of auto parts and components, a more appropriate proxy would be the ratio of FDI inflow stock for the manufacturing sector to GDP. In other words, FDI stocks in the agriculture and service sectors should be excluded.

- Competitiveness—the author uses exchange rate as the proxy for a country’s export competitiveness. This is misleading as no country can maintain long-term competitiveness by keeping its currency undervalued. The author should either find a more appropriate proxy for competitiveness—for example, the revealed comparative advantage index (RCA)—or simply refer to the variable as “real exchange rate”.

**On Indonesia being a laggard**

The paper also shows, by means of using country dummy variables in the regression, that Indonesia lags behind other Asian countries in the participation in the global production network of auto parts and components. The author attributes the lag to the country’s restrictive FDI policy, high trade cost, and low labor quality. In particular, Indonesia’s FDI policy is criticized as creating uncertainty because of its frequent changes. The paper, however, does not describe Indonesia’s trade and investment policies related to the auto sector and explain why they are bad for the sector in sufficient detail.

It would also be useful to mention briefly a more recent development in the auto sector in Indonesia. During the past five years, the number of cars produced in Indonesia has grown quickly, passing the level of 1 million cars per year in 2012. Behind this development are direct investments by Japanese and Korean assemblers and parts makers. When these manufactures reach their efficient scales, Indonesia may no longer lag behind other countries in the participation in the global production network.

**Comments by Woong Lee, on Globalization of the Automotive Industry: Is Indonesia Missing Out?**

**Woong Lee:** Dr. Soejachmoen explores the link between fragmentation exports and their determinants in the automotive industry. In particular, she seeks to find why Indonesia is
lagging behind its export performance in the global production network, compared with other competitors, such as Thailand. In her empirical analysis, using unbalanced panel data of 98 countries with 20-year periods, she estimates a model of fragmentation based on Jones and Kierzkowski (1990). She chooses a fixed-effects model, although she does not perform a panel fixed-effects regression but a least square dummy variable (LSDV) due to the fact that there are time-invariant variables: trade cost and infrastructure condition. The results show that the determinants on exports of parts and components (P&C) are different between developed and developing countries. More importantly, when the sample is restricted to Asian countries, the main determinants tend to be changed except labor costs, in comparison with the cases for developed and developing countries. The estimates for labor costs are statistically significant in all cases, regardless of sample categorization. The role of labor costs has the most weight in the case of developed countries and there is not much distinction between developing countries and Asian countries in terms of their magnitude.

The author concludes that FDI openness of the Asian countries is the most important determinant and that labor quality in Indonesia is left behind because of the relatively more restrictive foreign investment policies, higher trade costs, and remaining high protection in the automotive sector, as well as the low education level, which hampers the absorption capacity in technology.

I was a reviewer of this paper at the Asian Economic Panel meeting held in Seoul in March 2014. This paper shows significant improvement since then, and I am sure that it will make a valuable contribution to the literature. Nevertheless, as usual, no paper is perfect and a reviewer’s job is to assist and provide as many comments as possible to improve a paper. Therefore, I made several comments and suggestions.

First, there is a logical gap between the results from estimation and the implication on Indonesia. I recommend that the author make a reasonable classification for Indonesia in a footnote, so that readers can focus on the results for Asian countries.

More importantly, the author should utilize her main empirical findings to explain why Indonesia is missing out. Although readers focus on the results from Asian countries, it is not easy to elicit that the empirical results are fully applicable to Indonesia’s case. Concerning this issue, the author should add a couple of figures or tables to support Indonesia’s situation, in comparison with other Asian countries (especially ASEAN countries), on foreign investment policy, trade cost, protection level, and education level.

In estimation, to deal with time-invariant variables, the author could use the Hausman-Taylor method. This estimation method allows the simultaneous use of a panel fixed-effects model and to control time-invariant variables. The author can add one table...
including results from the Hausman-Taylor method as robustness checks. If the results are different from those of LSDV, then I suggest that the author adopt the results from the Hausman-Taylor method.

In the last column of Table 4, it is a little confusing whether all countries or only ASEAN 4 dummies are included. And the base for country dummies is not mentioned so that readers cannot evaluate how the estimates for Indonesia and Thailand dummies are different, in comparison with other countries. I think that the author easily handles this issue. Also in Table 4, \( \ln X_{\text{Cost}} \) represents log of trade cost (export cost) but this is not mentioned in the paper.

Lastly, in Table 2, we see that Indonesia’s rank has improved in car production over time and that the gap became much smaller between Indonesia and Thailand, especially in 2014. I am not sure whether this may distort the results on Indonesia. Perhaps the author could add reasonable explanations for this to the paper.

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