

## **Reply to Referee Report-1**

**We would like to thank the anonymous referee for providing some useful observations regarding our paper titled China's economic integration with the Greater Mekong Sub-region: an empirical analysis by a panel dynamic gravity model(<http://www.economics-ejournal.org/economics/discussionpapers/2018-44>).**

**Below, we respond to the referee report we received:**

Our aim here is to briefly respond to the five specific points raised in the anonymous referee report-1.

There are, no doubt, several standard determinants of measuring the trade relationships in the literature of the gravity model. Studying all the standard determinants in a single paper is neither possible nor desirable.

However, The economic rise of China is a global phenomenon(Paul, 2016; Z. Wang, 2017). Trade is an important factor that contributed enormously to the global rise of China. In our empirical study, therefore, we have identified a plethora of factors affecting the trade integration between China and the GMS countries. We have analyzed the determinants in the context of the 'Belt and Road Initiative (BRI).

Since 1978 economic reforms, China began to open up its economic system to the outside world. The availability of data is a prime consideration in empirical analysis of China's trade due mainly to its long period of isolation and closed socialist nature of the economy. Several analysts are of the view that the BRI has emerged as a key feature of China's international economic policy(Chaisse & Matsushita, 2018; Liu, Tang, Chen, & Poznanska, 2017; Y. Wang, 2018). This Initiative is also expected to become 'a key determinant of the direction not only of China's future , but of the world's future'(Nordin & Weissmann, 2018).Given that time and context, we have placed China's trade integration with its five neighboring economies from the global-regional and domestic national perspectives of the BRI. Moreover, we have estimated the impact of China's accession to the World Trade Organization (WTO) on its export flows. These are the interesting elements that have contributed to the economic integration China with the Greater Mekong Sub-regional (GMS) economies. Currently, there is neither a single research paper nor a book-length study on the subject of China-GMS trade study by means of the dynamic panel gravity model. That's why, our paper would be a small attempt in filling the research gap and generating further academic interests in the fields of economic integration and bilateral trade.

We agree on the reviewer's point that a 'typical trade gravity models captures trade between trading partners in a dyadic framework'. But, there are new developments in the gravity models. Recent literature has emphasized on the need to study the determinants of exports equations. It is convincingly argued that 'both developed and developing countries formulate policies to increase their exports, to increase their quality, technology, and value added of exported products and to gain competitive advantage in world market'(Bayar, 2018; Bayudan-Dacuyucuy & Lim, 2016).

Under the gravity framework, there are instances of several empirical studies that focused exclusively on the determinants of the exports; such as, Hungary (Erdey & Pöstényi, 2017), Cambodia (Soeng & Cuyvers, 2017), Pakistan (Atif, Haiyun, & Mahmood, 2016), and Bangladesh (Mohammad Mafizur, 2010). This type of research with regard to the contextual analysis of China is lacking in the literature. Moreover, the study of Chinese exports is significant for twofold reasons. First, the government of China has acknowledged the slow pace of export growth in recent time. This economic slowdown is likely to have a negative effects on the exports flows of China's trading partners, leading the analysts to call for new growth models (Blagrove & Vesperoni, 2018). Therefore, the government has introduced a series of policy programs to accelerate its export trade. We have referred to the Chinese policy document titled 13<sup>th</sup> 5-year plan (2016-2020) in our paper. Second, China is a classic model for export-led growth hypothesis (Liang, 2008; Mah, 2007)

When lagged values of the dependent variable are used as explanatory variables, the fixed-effects estimator is consistent only to the extent that the time dimension of the panel (T) is large (see, B. Baltagi, *Econometric Analysis of Panel Data*, 2nd Edition, 2001, p. 130). We are aware of the issue of Nickel biases in dynamic models with fixed effects (Nickell, 1981). As suggested, including the lagged dependent variable gives rise to dynamic panel data model but this lagged dependent variable will be correlated with the error term in the fixed effects specification. This bias diminishes with increasing T. As our time horizon (24) is rather long, we get rid of the problem of endogeneity and biases. Furthermore, the issue of small sample size in panel data got research attention from the scholars (Taylor, 1980) Bhargana and Sargan (1983) addressed the problems of estimating dynamic models from panel data covering short time periods (Bhargava & Sargan, 1983). They observed,

In any event, since the treatment of individual effects as fixed parameters leads to estimation procedures which are inconsistent insofar as the number of time periods for which the data are available is small, the random effects model has a central role to play in the estimation of dynamic models from panel data (p.1635).

The selection of explanatory variables is, however, an old problem in econometrics. With regard to the problem, an economist (Amemiya, 1980) suggested as follows:

Selection of regressors should be based on economic-theoretic considerations as well as on statistical evidence (p.331).

Last but not the least, we will revise the paper in accordance with the referee's valuable suggestions provided. Again, we thank the anonymous reviewer for reading the paper carefully. We also would like to record our gratitude to the editor, editorial members and all staffs.

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