The Pattern of Foreign Direct Investment and International Trade: A Study of 30 OECD Countries from 1981 to 2015

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Abstract. This paper is a macroeconomic study investigating the causality of foreign direct investment and international trade. The research is based on 30 OECD countries from 1981 to 2015 and using data collected from official annual time series data. To interpret the causality in each country, we added six country profile factors to cooperate analysis whether different country profile factors would change the causality. The main findings indicate that there is a bi-direction always exists if the country has either pure high-ranking level of all the country profile factors or they have a pure of the low ranking level of country profile factors.

Keywords: FDI · International trade · OECD

1 Introduction

The primary purpose of this working paper is to measure the causality of foreign direct investment and international trade: whether they are 'complementary' to each other, or they could 'substitute' for each other. We will analysis 30 countries in OECD by using vector autoregression model; the endogenous variables of VAR model consist of FDI inward, FDI outward, export, import; and the exogenous variable in this model will be GDP at a constant price in 2005. To interpret the relationship between foreign direct investment and international trade, we will separate it into two parts: one is to analyze the effect of global trade on FDI, and the other one is to measure the impact of FDI on international trade. There will be four key relationships are including the effect of import on FDI inward, the impact of FDI inward on import, the effect of export on FDI outward, and the effect of FDI outward on export. The model will use in the paper showed below:

$$\begin{pmatrix} FDIN_t \\ FDIO_t \\ X_t \\ M_t \end{pmatrix} = C \begin{pmatrix} \phi_{11} \\ \phi_{21} \\ \phi_{31} \\ \phi_{41} \end{pmatrix} + \prod \begin{pmatrix} FDIN_{t-1} \\ FDIO_{t-1} \\ X_{t-1} \\ M_{t-1} \end{pmatrix} + Exogenous Variables + \begin{pmatrix} \mu_{1t} \\ \mu_{2t} \\ \mu_{3t} \\ \mu_{4t} \end{pmatrix} \quad (1)$$

2 Contribution and Conclusion

The contribution of this paper is that we add five country profiles to analysis the regression result to explain the relationship between FDI and international trade. These profiles are including government institutions, market sophistication, knowledge input, knowledge and technology output, and product market regulations. We also use FDI regulatory restriction to divided 30 countries into two groups. There are 11 countries in the first group, which means they have a strict FDI restriction. The remaining 19 countries have a less FDI regulatory restriction is in the second group. Moreover, we use 'Y' indicate if one country has a strong comparative advantage in this sector; 'N' indicates if a country has a comparative weakness advantage than other OECD countries in this sector. Moreover, 'Y*' means this country has a relatively strong comparative advantage (the score above the average), and 'N*' means this country has a relative weakness comparative advantage (the score below the average). We found that the more factors the country has and also under the less FDI regulatory restriction, this country has a more robust relationship between FDI and international trade.

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