Facelifting and Extending the GTAP-FDI Model based on New Datasets of FDI and FAS with an Application on the Investment Facilitation for Development

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Abstract In this paper, we present an economic impact assessment of the Joint Initiative on Investment Facilitation for Development (IFD) based on an extension of the GTAP-FDI model and new data on foreign direct investment (FDI) and foreign affiliate sales (FAS). We proceed in four steps. First, we update and extend earlier work collecting FDI and FAS data suitable for CGE modelling. Second, we estimate counterfactual estimates of changes in ad valorem equivalent (AVE) costs of multinational activity associated with the IFD. Third, we facelift and extend the existing GTAP-FDI model with a tighter link between FDI and FAS. Fourth, we conduct counterfactual experiments on the impact of the IFD. The model is extended in a number of important ways. First, we modify the allocation of FDI such that there is an economic link between FDI and affiliate sales. More specifically, a CET is introduced for the allocation of FDI between different destinations as well as a capital accumulation equation for FDI capital as a function of FDI flows. Second, we allow for a more flexible cost structure of foreign affiliate sales such that foreign affiliates are more skill intensive and foreign affiliates source more intermediates from their home country than domestic firms. Third, we allow for a more flexible sales structure such that foreign affiliates sell a larger share of their goods back to the home country. Finally, the new model is calibrated based on novel FDI and affiliate sales data, estimated for 2017 (GTAP11) with various extensions to the existing approaches used for the GTAP-FDI model as well as a correction for profit shifting.

Keywords: Computable General Equilibrium Modelling; Foreign Direct Investment; Multinational Firms

JEL codes: C68, F21, F23