

Localising Data in a Globalised World

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Abstract:

Data flows are regulated by countries both when data are transferred leading to cross-border data flow restrictions and when data are stored corresponding respectively with cross-border data flow restrictions and data localisation requirements. These restrictions and requirements can both limit international trade by raising the costs of transferring and storing data and promote international trade by fostering trust of people whose data are stored and transferred. In this paper we construct stylized scenarios of changes in data flow policies to analyse the impact on trade, production, shifts in comparative advantage, and real income of such policies. We employ the firm heterogeneity version of WTO's Global Trade Model expanded with a willingness to pay module to capture changes in trust. The costs of cross-border data transfer restrictions are modelled as a mix of iceberg and fixed trade costs based on business survey answers on the share of the respective costs. The costs of data localisation requirements are modelled as demand shifts towards more ICT services combined with adverse productivity shocks, reflecting a suboptimal allocation of tasks between the use of ICT services and other intermediate inputs and between domestic and imported services. The costs are calibrated based on business questionnaires and OECD's digital services trade restrictiveness index (DSTRI). Trust modelled as willingness to pay is modelled based on the impact of regulations on sales estimated from business questionnaires. As counterfactual experiments we explore changes towards settings with no regulation, open safeguards, pre-approved safeguards, and ad-hoc authorisation.

Keywords: data flow restrictions, data localization, Melitz model