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Global Trade Analysis Project

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The economic impact of the Russian import ban

Zornitsa Kutlina-Dimitrova, Badri G. Narayanan

Abstract: The aim of this paper is to provide an economic analysis of the Russian embargo from 7 August 2014 on certain agricultural food products from the EU, the US, Norway, Canada and Australia. For this purpose the paper will use a twofold approach. In the first place different modelling techniques will be used to estimate the impact of the import ban on key macroeconomic variables and across sectors. In addition, the paper will examine the most recent monthly trade statistics to see if the model predictions about aggregate and sectoral trade developments are in line with real trade data. The modelling techniques used in the papers are: general equilibrium modelling, general-partial equilibrium modelling and partial equilibrium closure of the standard GTAP-model. This approach aims at analyzing the economic impact by comparing the predictions of different models and specifications while using the same scenario so as to better underline and stress differences in results due to model calibration and partial versus general equilibrium effects. The modelling simulations are based on the latest available GTAP database 9 which reflects the world economy in 2011.

Our preliminary results based on the standard GTAP model suggest that the Russian ban may lead to a marginal decrease in total Extra-EU exports of 0.12%; the sectors most negatively affected by the ban in relative terms are 'vegetables and fruits' (30%), 'other meat' (15%), 'dairy products' (11.5%) and 'cattle meat' (9.4%) sectors. These results suggest that although exports to Russia in the affected sectors decline sharply, European companies succeed in redirecting substantial part of their exports to third countries and to other European countries. Further, EU's exports of manufacturing, other agricultural sectors and services rise slightly, due to an overall price decrease in the EU comprising a decrease of prices of endowments and intermediate inputs for firms likewise.

In terms of aggregate exports changes due to the Russian import ban for Australia, Canada, Norway, the US and the rest of the world, the impact on their total exports is fairly limited as results are visible only at two digit percent change levels. In relative terms the most affected country is Norway as its total aggregate exports decrease by 0.04% or \$69 million. In absolute terms the import ban affects the US the most as total exports decline by almost \$200 million. The simulation results indicate that the aggregate 'rest of the world' would experience a negligible increase in total exports due to trade diversion effects of the import ban.

These CGE results will be compared upon results from the disaggregated PE-GE model developed by Narayanan, Hertel and Horridge (2010) using the same scenario. This would enable tracking economy-wide effects to HS6-level sectors. The uniqueness of this analysis lies in the combination of virtues of both a detailed sectoral PE model and a broad based CGE model. Apart from being able to capture the richness of disaggregated data in general,

this approach has a few specific advantages; firstly, the heterogeneity in tariffs is well represented in this framework; secondly, this averts the false competition issue, which results from the possibility that countries may trade with each other at a highly disaggregated sector level while appearing to compete with each other at an aggregated scale; finally and perhaps most importantly from a policy viewpoint, one can observe the detailed sectoral level decomposition of economy wide welfare effects in this framework. By comparing the two models, we can infer the extent to which this disaggregated detail matters for the policy in question.

Finally a partial equilibrium closure of the standard GTAP model would be chosen by using the same scenario as above mentioned to assess the economic impact of the Russian embargo in order to gain valuable insights about the bounds of the expected results. The modelling part of the paper will be complemented by a sensitivity analysis of the main parameters in order to increase the credibility of the results.

In terms of the analysis of most recent trade statistics we observed a very good fit between the GTAP model predictions and real trade data. Analyzing COMEXT monthly data, there has been a sharp decline in extra-EU exports of the banned products to Russia. The decline amounts to 85% (the embargo decree entered into force on 7 August but the whole month was included in the calculations) and is calculated as a percent change between July 2014 (the month before the import ban took place) and September 2014 (the latest available COMEXT monthly data). The impact of the Russian embargo leads also to a decrease in total extra-EU exports of these lines by 9.4%. At the same time extra-EU exports of these lines to rest of the world minus Russia increase by almost 2%. Correcting for seasonal effects leads to an adjusted decrease of 80% in extra-EU exports to Russia, a decline of 6.6% for total EU exports and an increase of 4% in extra-EU exports to rest of the world minus Russia of the affected lines.

Another interesting observation is gained by using these results for inferring the impact on total Extra-EU trade knowing the share of these lines in total Extra-EU exports. Simple transposition of the observed changes in total exports of the affected lines shows that the impact of the ban on total Extra-EU exports is estimated to be a decline of 0.16% and by taking the seasonal adjustment value of the change in total Extra-EU exports of the affected lines to 0.12%, which is precisely the change in total Extra-EU exports simulated by the standard GTAP model.

Table of content

1. Introduction
2. Background information of the import ban
3. Modelling simulations
 - 3.1 Modelling the Russian embargo by using the standard GTAP model
 - 3.2 Modelling the Russian embargo by using the PE-GE model
 - 3.3 Modelling the Russian embargo by using a partial equilibrium closure of the GTAP model
4. Inferring the import ban impact from recent official statistics
5. Conclusions and remarks